TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 25, 2009

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Star Canyon Subdivision (East of FM 2722); Located approximately 3.5 miles north of Highway 46 on the east side of FM 2722; New Braunfels, Texas
TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2780.01; Investigation No. 726235; Regulated Entity No. RN105483366

Dear Mr. Sallman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP modification for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy, Inc. on behalf of LBC Partners, Ltd. on February 3, 2009. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The actual overall Star Canyon development consists of land on both sides of FM 2722, 605.40 acres on the west side of FM 2722 and 178.10 acres on the east side of FM 2722. This approval letter pertains to the 178.10 acre portion on the east side of FM 2722.

The 178.10 acre single family residential project was originally approved by letter dated June 5, 2008. The project consisted of 85 one acre minimum lots with supporting streets and utilities. The impervious cover proposed was 20.44 acres (11.48 percent). Project wastewater disposal was by on-site sewage

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facilities. Since the single-family residential project was not to have more than 20 percent impervious cover, an exemption from permanent BMPs was approved.

PROJECT DESCRIPTION

The proposed single family residential project will have an area of approximately 185.9 acres. It will include the addition of 7.8 acre portion of FM 2722 right-of-way (for pavement widening for the proposed turning lanes to the subdivision) as part of the project site increasing the site area from 178.1 to 185.9 acres. The increase in impervious cover from the original approval (20.44 acres) to the modification (24.06 acres) is 3.62 acres (11.48 to 12.94 percent). Project wastewater will be disposed of by on-site sewage facilities. According to a letter dated March 14, 2008, 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

Since this single-family low density residential project will not have more than 20 percent impervious cover, an exemption from permanent BMPs is approved. A number of detention ponds will be constructed around the development to satisfy municipal stormwater requirements.

GEOLOGY

According to the geologic assessment included with the application, two small portions of the site lie over the Walnut and the upper Glen Rose formations with the majority of the site lying over the Kainer formation. Eighteen (18) geologic and manmade features were identified on site. According to the Geologic Assessment Table (TCEQ-0585) contained in the application only one feature (S-20) was assessed as sensitive (described below).

The San Antonio Regional Office did not conduct a site assessment during the review of this WPAP modification.

SENSITIVE FEATURE

A natural buffer zone was proposed for the swallow hole (feature S-20). A natural buffer, which extends from the limits of the feature will be provided for feature S-20 and is detailed in the WPAP application. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffers. The natural buffers shall be maintained in accordance with the signed Inspection, Maintenance Plan submitted with the WPAP application.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 5, 2008.

II. 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.

III. This approval letter is being issued for regulated activities (as defined in Chapter 213) and for best management practices presented in the application. This approval does not constitute a water right permit or authorization from the TCEQ Dam Safety Program. Failure to obtain all necessary authorizations could result in enforcement actions. For more information on Water Rights Permits, please refer to:

http://www.tceq.state.tx.us/permitting/water_supply/water_rights/wr_amiregulated.html

For more information on the Dam Safety program, please refer to:

http://www.tceq.state.tx.us/compliance/field_ops/dam_safety/damsafetyprog.html

STANDARD CONDITIONS

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

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

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

7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio

Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

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

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

During Construction:

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

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

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

13. One well exists on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

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.

After Completion of Construction:

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.

If you have any questions or require additional information, please contact Agnieszka Hobson of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4075.

Sincerely,

Mark R. Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MRV/AMH/eg

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

cc: Mr. John J. Moy Jr., P.E., Pawelek & Moy, Inc.
Mr. James Klein, City of New Braunfels
Mr. Thomas H. Hornseth, P.E., Comal County
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 8, 2012

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Star Canyon Subdivision (West of FM 2722); located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 2781.05; Investigation No. 1009379; Regulated Entity No. RN105483382

Dear Mr. Sallman:

On May 25, 2012, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011
December 1, 2011	June 5, 2012

May 25, 2012	December 5, 2012

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on December 5, 2012. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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

Sincerely,

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

LMB/MI/eg

cc: Mr. John J. Moy, Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 25, 2014

Mr. Stephen Sallman
LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, TX 75206

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Star Canyon Subdivision; Located on FM 2722, 3.5 miles north of State Highway 46 on the west side; New Braunfels, Texas

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

Investigation No. 1139269; Regulated Entity No. RN105483382; Additional ID No. 13-13121201

Dear Mr. Sallman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy, Inc. on behalf of LBC Partners, Ltd. on December 12, 2013. Final review of the WPAP Modification was completed after additional material was received on February 14, 2014, March 7, 2014, and March 21, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Star Canyon Subdivision was originally approved on June 5, 2008 for the construction of 346 single family units, and driveways. The total site area was 605.4 acres with an impervious cover of 80.42 acres (13.28%).

PROJECT DESCRIPTION

The proposed residential development will have an area of approximately 585.58 acres. It will include the construction of 457 residential lots. The impervious cover of the project will be 110.22 acres (18.82 percent). The maximum impervious cover for those lot sizes between one and three acres will be 8,000 square feet while lots that are less than one acre will have a maximum of 5,000 square feet of impervious cover.

Project wastewater will be disposed of by conveyance to the proposed Star Canyon Wastewater Treatment Facility.

PERMANENT POLLUTION ABATEMENT MEASURES

This single-family residential project will not have more than 20 percent impervious cover.

GEOLOGY

According to the geologic assessment, included with the application, the kirschberg evaporate, dolomitic and basal nodular members of the Edwards Group-Kainer Formation are exposed at the site. The project geologist mapped forty two features within the 619.6 acre site. Eight (8) sensitive features were identified by the project geologists; seven (7) were identified as geological features and one (1) was identified as a manmade feature. The San Antonio Regional Office site assessment conducted on March 13, 2014 revealed that the site was generally as described in the application.

Sensitive Features

Natural buffers will be provided for natural sensitive features S-6, S-11, S-12, S-13, S-14, S-17, and S-30. No regulated activities (such as construction or soil disturbing activities) will take place within the 200 foot natural vegetative buffers encircling each feature. Physical barriers and sediment controls such as fencing, rock berms and/or silt fences are required around the perimeters of these buffers prior to the 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 modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 5, 2008.

STANDARD CONDITIONS

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

contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

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

During Construction:

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

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

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

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

PROJECT DESCRIPTION

The proposed residential development will have an area of approximately 585.58 acres. It will include the construction of 457 residential lots. The impervious cover of the project will be 110.22 acres (18.82 percent). The maximum impervious cover for those lot sizes between one and three acres will be 8,000 square feet while lots that are less than one acre will have a maximum of 5,000 square feet of impervious cover.

Project wastewater will be disposed of by conveyance to the proposed Star Canyon Wastewater Treatment Facility.

PERMANENT POLLUTION ABATEMENT MEASURES

This single-family residential project will not have more than 20 percent impervious cover.

GEOLOGY

According to the geologic assessment, included with the application, the kirschberg evaporate, dolomitic and basal nodular members of the Edwards Group-Kainer Formation are exposed at the site. The project geologist mapped forty two features within the 619.6 acre site. Eight (8) sensitive features were identified by the project geologists; seven (7) were identified as geological features and one (1) was identified as a manmade feature. The San Antonio Regional Office site assessment conducted on March 13, 2014 revealed that the site was generally as described in the application.

Sensitive Features

Natural buffers will be provided for natural sensitive features S-6, S-11, S-12, S-13, S-14, S-17, and S-30. No regulated activities (such as construction or soil disturbing activities) will take place within the 200 foot natural vegetative buffers encircling each feature. Physical barriers and sediment controls such as fencing, rock berms and/or silt fences are required around the perimeters of these buffers prior to the 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 modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 5, 2008.

STANDARD CONDITIONS

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

contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

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

During Construction:

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

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

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

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact 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

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625

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

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

LMB/MR/eg

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Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

March 21, 2014

Ms. Monica Reyes
TCEQ San Antonio Regional Office – Region 13
14250 Judson Rd.
San Antonio, Texas 78233-4480

Re: Response to TCEQ Comments dated March 14, 2014
Edwards Aquifer, Comal County
NAME OF PROJECT: Star Canyon Subdivision; Located on FM 2722, 3.5 miles north of State Highway 46 on the left side; Texas.
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan Modification (WPAPMOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Investigation No. 1139269; Regulated Entity No. RN105483382; Additional ID No. 13-13121201

Dear Ms. Reyes,
Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated March 14, 2014 for the above mentioned project. P&M has taken the following actions with regards to the comments:

Geologic Assessment Section:

Comment	Response
1	Frost GeoSciences has updated the Geologic Assessment Table, TCEQ-0585-Table, and S-14 has been changed to a 45 evaluation total is now considered a sensitive feature. A 200ft buffer zone has been added to this feature and is shown on the revised Site Plan, Sheet S1.
2	Frost GeoSciences has updated the Geologic Assessment Table, TCEQ-0585-Table, and S-42 is now considered a solution cavity.

Site Map Exhibits:

3	The Site Plan has been updated and a 200ft buffer zone has been added to sensitive feature S-14.

Please call if you have questions regarding these responses. Thank you for your assistance.

Sincerely,

John J. Moy, Jr., P.E.

Attachments:
- Revised TCEQ-0585-Table (from Frost GeoSciences)
- Revised Sheet S1 of 2

cc: Mr. Stephen Sallman – LBC Partners, Ltd.

F:\1210.02 - STAR CANYON\DWG\WPAP-MOD\TCEQCOMMENTS\TCEQRESPONSELETTER-03-21-14.DOC

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

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1	2*	3*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT³)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	> 40	< 1.6	> 1.6	
S-13	29° 47 43.635'	98° 14 15.021'	SW	30	Kek	3	6	1	-	-	-	-	F/C	15	45		45		X	Streambed
S-14	29° 47 43.635'	98° 14 13.821'	SW	30	Kgr	1	2	0.5	-	-	-	-	O/F/C	15	45		45		X	Streambed
S-15	29° 47 55.395'	98° 13 40.100'	SC	20	Kek	1	5	3	-	-	-	-	O/F/C	10	30	30		X		Hillside
S-16	29° 47 55.514'	98° 13 53.301'	C	30	Kek	2	5	4	-	-	-	-	O/F	5	35	35		X		Cliff
S-17	29° 47 4.934'	98° 13 49.101'	F/O[FRZ]	30	Kek	60	90	-	N 20°	10	cl	0.2	O/F/C	25	55		55		X	Streambed
S-21	29° 47 14.776'	98° 13 59.771'	O[VR]	5	Kek	20	20	-	-	-	10	0.16	O/F	5	10	10		X		Hillside
S-22	29° 47 14.253'	98° 13 59.297'	SC	20	Kek	2	1	2	-	-	-	-	O/F	5	25	25		X		Hillside
S-23	29° 47 23.946'	98° 13 44.399'	O[VR]	5	Kek	20	50	-	-	-	5	0.33	O/F	5	10	10		X		Hillside
S-24	29° 47 23.132'	98° 13 41.106'	O[VR]	5	Kek	20	30	-	-	-	5	0.33	O/F	5	10	10			X	Streambed
S-25	29° 47 22.429'	98° 13 40.519'	SC	20	Kek	3	1	2	-	-	-	-	O/F	10	30	30			X	Streambed
S-26	29° 47 28.625'	98° 13 44.475'	O[VR]	5	Kek	10	100	-	-	-	7	0.16	O/F	5	10	10			X	Streambed
S-27	29° 47 28.728'	98° 13 45.554'	O[VR]	5	Kek	20	100	-	-	-	10	0.42	O/F	5	10	10		X		Hillside

*DATUM 1983 North American Datum (NAD83)

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

8A INFILLING

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

Signature _____ Date December 9, 2013 Sheet 2 of 4

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1	2*	3*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT³)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	> 40	< 1.6	> 1.6	
S-28	29° 47 24.004"	98° 14 28.125"	SC	20	Kck	2	2	1	-	-	-	-	O/F	10	30	30		X		Hillside
S-29	29° 47 26.940"	98° 14 24.639"	SF	20	Kck	20	20	-	-	-	-	-	O/F	10	30	30		X		Hillside
S-30	29° 47 40.313"	98° 14 11.316"	C	30	Kck	5	4	4	-	-	-	-	O/V	10	40		40		X	Streambed
S-31	29° 47 50.984"	98° 13 40.243"	SC	20	Kck	7	1	5	-	-	-	-	O/F	15	35	35			X	Streambed
S-32	29° 47 53.075"	98° 13 58.927"	SC	20	Kck	2	1	3	-	-	-	-	O/F	10	30	30		X		Hillside
S-42	29° 47 9.096"	98° 13 56.153"	SC	20	Kck	1	1.5	2	-	-	-	-	F	10	30	30		X		Hillside
S-43	29° 47 24.711"	98° 13 59.795"	CD	5	Kck	14	10	0.33	-	-	-	-	F	5	10	10		X		Hillside
S-63	29° 47 14.038"	98° 13 2.333"	O/FRZ	30	Kck	30	120	-	-	-	1	0.2	F	5	35	35			X	Streambed
S-64	29° 47 59.450"	98° 13 45.723"	O/FRZ	30	Kck	10	12	-	-	-	1	0.3	N	5	35	35		X		Hillside
S-65	29° 47 13.162"	98° 13 34.742"	O/FRZ	30	Kck	5	120	-	-	-	1	0.25	F	5	35	35		X		Hillside
S-66	29° 47 10.466"	98° 13 34.688"	SC	20	Kck	1.5	1	1	-	-	-	-	O/F	5	25	25		X		Hillside
S-67	29° 47 5.079"	98° 13 35.735"	O/FRZ	30	Kck	20	30	-	-	-	1	0.25	O/F	5	35	35		X		Hillside

*DATUM 1983 North American Datum (NAD83)

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

8A INFILLING	
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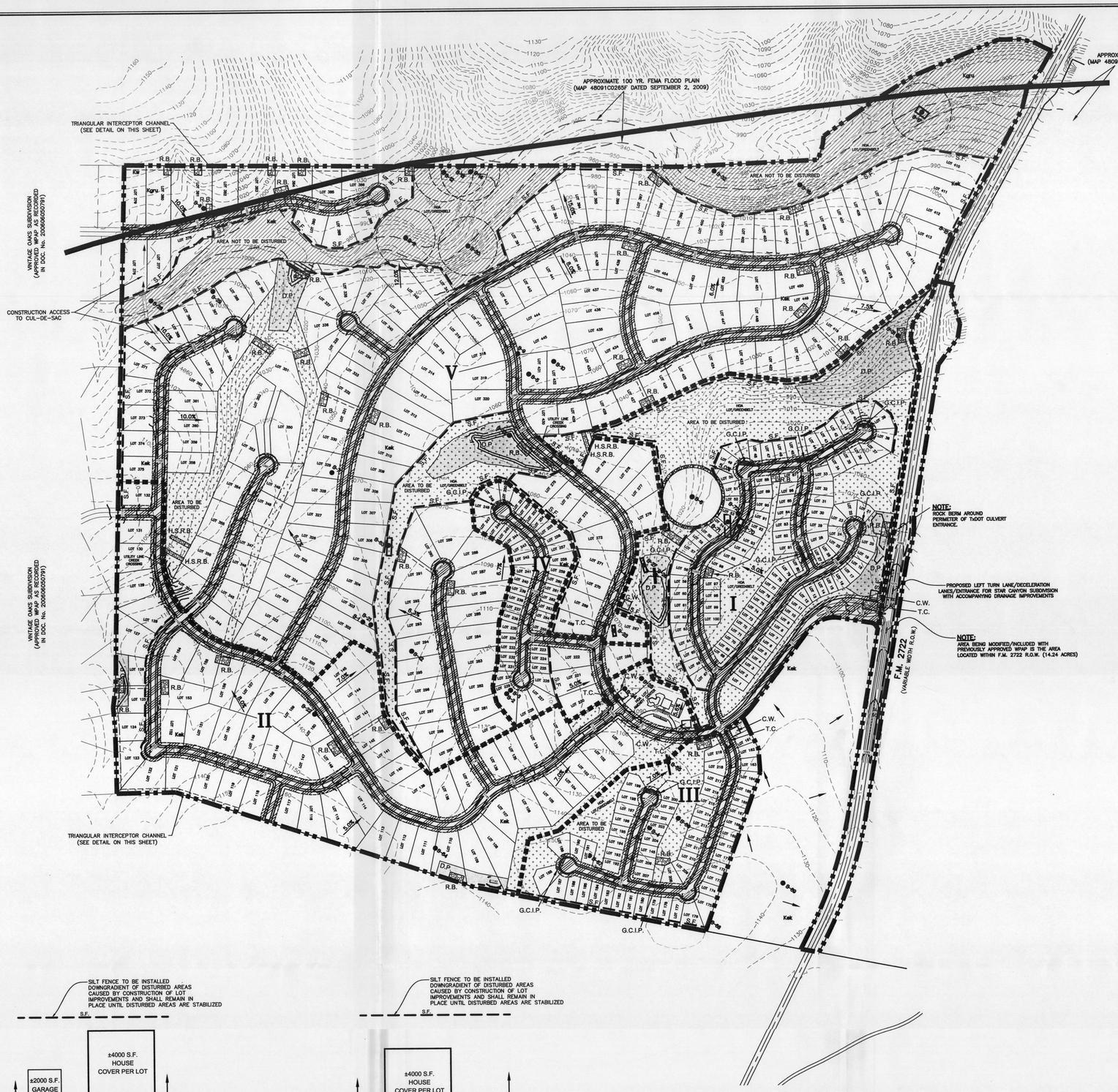
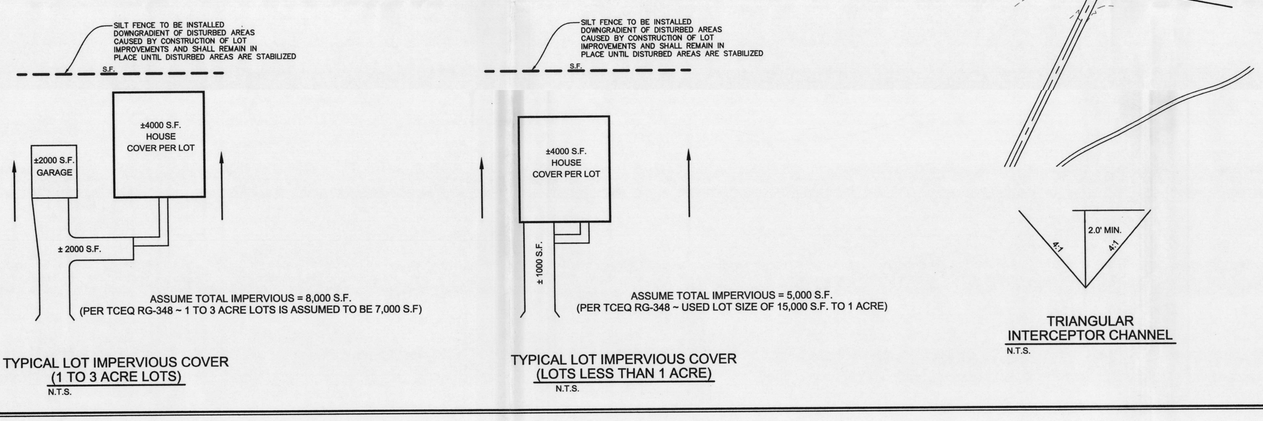
Signature _____ Date December 9, 2013 Sheet 3 of 4

STATE OF TEXAS
Steve M. Frost
Geology
License No. 3151
LICENSED PROFESSIONAL GEOSCIENTIST





TYPICAL LOT IMPERVIOUS COVER
(1 TO 3 ACRE LOTS)
N.T.S.

TYPICAL LOT IMPERVIOUS COVER
(LOTS LESS THAN 1 ACRE)
N.T.S.

TRIANGULAR INTERCEPTOR CHANNEL
N.T.S.

LEGEND

- D.P. — APPROXIMATE LOCATION OF DETENTION PONDS
- S-00 — GEOLOGIC FEATURE
- Kek — EDWARDS KAINER LIMESTONE
- Kw — WALNUT FORMATION
- Kgru — UPPER GLENN ROSE LIMESTONE
- FORMATION CONTACT
- 200' / S-00 — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE.
- H.S.R.B. — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE w/TEMPORARY HIGH SERVICE ROCK BERM AROUND PERIMETER.
- S.F. — SILT FENCE
- R.B. — ROCK BERM
- H.S.R.B. — HIGH SERVICE ROCK BERM
- G.C.I.P. — GRAVEL CURB INLET PROTECTION
- T.C. — TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- C.W. — CONCRETE WASHOUT
- AREA NOT TO BE DISTURBED
- AREAS TO BE DISTURBED (PROPOSED R.O.W.'s & UTILITY EASEMENTS w/SOIL STABILIZATION)
- POTENTIAL AREAS TO BE DISTURBED (POTENTIAL CHANNEL IMPROVEMENTS OR BRUSH CLEARING w/SOIL STABILIZATION WHERE ROCK IS NOT ENCOUNTERED)
- SITE BOUNDARY
- I — POSSIBLE PHASE

NOTE: HIGH SERVICE ROCK BERM SHALL BE LOCATED OUTSIDE OF THE 200 FT. BUFFER ZONE AND NOT WITHIN IT.

GRAPHIC SCALE
300 0 150 300
(IN FEET)
1 inch = 300 ft.

NOTE:
THE PROPOSED CONTOURS SHOWN WITHIN THE SUBDIVISION (i.e. OUTSIDE OF TxDOT R.O.W.) WERE PROVIDED BY THE OWNER.

NATIVE BUFFER ZONE NOTE:
BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF A BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.

SOIL STABILIZATION NOTE
WHERE CHANNEL IMPROVEMENTS ARE SHOWN LEADING TO THE STREAMBEDS AND CREEKS (SHOWN AS "AREAS TO BE DISTURBED"), AND ROCK IS NOT ENCOUNTERED AT THE PROPOSED FINAL GRADE OF THE CHANNEL, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THIS VEGETATIVE STABILIZATION PROCEDURE SHALL BE CONSTRUCTED IN THE AREAS WHERE THE FLOW VELOCITIES ARE LESS THAN 6 FEET PER SECOND (FPS) AND ROCK IS NOT ENCOUNTERED AT THE FINAL SURFACE. IN AREAS WHERE SOIL IS PRESENT AT THE FINAL SURFACE AND FLOW VELOCITIES ARE GREATER THAN 6 FPS, ROCK RIPRAP, TYPE 'R' (PER TXDOT ITEM 432) SHALL BE APPLIED TO THE DISTURBED AREAS OF THE CHANNELS FOR FINAL SOIL STABILIZATION PURPOSES. THIS PROCEDURE SHALL BE IMPLEMENTED UPON FINAL EXCAVATION AND GRADING ACTIVITY OF THE CHANNELS/SWALES. IN OTHER AREAS SHOWN AS "AREAS TO BE DISTURBED" (RIGHT OF WAYS, UTILITY EASEMENTS, BRUSH CLEARING, ETC.) VEGETATIVE PROCEDURES MENTIONED PREVIOUSLY SHALL APPLY WHERE ROCK IS NOT ENCOUNTERED, WITH THE AREAS OF CONCENTRATED FLOW FOLLOWING THE PREVIOUSLY MENTIONED GUIDELINES REGARDING FLOW VELOCITIES.

VELOCITY CONTROL NOTE
AT THE POINTS WHERE PROPOSED CHANNELS/SWALES SHOWN IN THE "AREAS TO BE DISTURBED" DISCHARGE INTO THE STREAMBEDS/CREEKS AND THE FLOW VELOCITIES ARE GREATER THAN 6 FEET PER SECOND, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THESE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

●● NOTE ●●
THIS SITE WILL BE USED FOR A LOW DENSITY SINGLE-FAMILY DEVELOPMENT AND HAS 20% OR LESS IMPERVIOUS COVER. THEREFORE, NO OTHER PERMANENT BMP'S WITH SUPPORTING CALCULATIONS ARE REQUIRED/PRESENT.

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

IMPERVIOUS COVER OF PROPOSED PROJECT	SQ. FT.	SQ. FT./ACRE	ACRES
STRUCTURES/ROOFTOPS (457 RESIDENTIAL LOTS)	3,050,000	÷ 43,560 =	70.02
STREETS & SIDEWALKS (WITHIN SUBDIVISION)	1,620,445	÷ 43,560 =	37.20
AMENITY CENTER IMPROVEMENTS (WITHIN SUBDIVISION)	84,506	÷ 43,560 =	1.94
F.M. 2722 IMPROVEMENTS (WITHIN TxDOT RIGHT OF WAY)	46,290	÷ 43,560 =	1.06
TOTAL IMPERVIOUS COVER	4,801,241	÷ 43,560 =	110.22
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			18.82%

TOTAL SITE ACREAGE (605.40 Ac.(ORIGINAL SITE) + 14.24 Ac. TxDOT R.O.W. - 34.06 Ac. FUTURE WASTE WATER TREATMENT FACILITY) = 585.58 AC.

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 625-2563
FIRM No. F-9862
JOHN J. MOY JR. 87833 LICENSED PROFESSIONAL ENGINEER

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

SITE PLAN FOR STAR CANYON SUBDIVISION - MODIFICATION
COMAL COUNTY, TEXAS

REVISIONS

DESCRIPTION	DATE
ADDRESSED TCEQ COMMENTS - ADDED PROPOSED CONTOURS	2/14/14
ADDRESSED TCEQ COMMENTS - REMOVED WASTE WATER TREATMENT FACILITY	3/6/14
ADDRESSED TCEQ COMMENTS - ADDED 200 FT BUFFER ZONE AROUND S-14	3/21/14

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

S1 OF 2

F:\1210.02 - Star Canyon\dwg\S1.dwg 2014/03/19 10:43am Administrator

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 30, 2014

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

NAME OF PROJECT: Star Canyon Subdivision (West of FM 2722); Located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas.

TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Investigation No. 1134591 Regulated Entity No. RN105483382, Additional ID No. 13-13120302

Dear Mr. Sallman:

On December 3, 2013, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2,2011	December 5, 2011
December 1, 2011	June 5, 2012
May 25, 2012	December 5, 2012
November 30, 2012	June 5, 2013

Integrated WATER Services, Inc.

P.O. Box 9570
Avon, CO 81620

January 23, 2014

Mr. Michael Isley, P.E.
Texas Commission on Environmental Quality
San Antonio Regional Office
14250 Judson Rd.
San Antonio, TX 78233-4480

Dear Mr. Isley,

Thank you for reviewing the application for Approval of an Organized Sewage Collection System for the Star Canyon Development. I am enclosing a response to the issues stated in your fax transmittal dated January 16, 2014. Additionally, we have revised Form 0582 and the Engineering Report per the revisions stated below.

1. *"It is noted that N/A has been entered for Item 12 in Form 0582 but that the HDPE piping will be installed with curvature which is appropriate given the HDPE piping used arrives at the site in coils. Since PVC piping will be utilized for the private service laterals and that those design elements are not required to be submitted nor approved by the TCEQ, please confirm that the PVC piping will not be flexed."* The PVC piping will not be flexed. The PVC will be installed with proper welded fittings and bedded in sand. The fittings will match angles as needed for pipe connections. Please note SCS plan set for HDPE connection details.

2. *"Given that private service lateral designs are not required to be submitted to the TCEQ for review, please address what entity will prepare the calculations for buoyancy, interceptor tank sizing, etc. and which entity will receive the designs for private service laterals and approve of them."* IWS has completed the design for interceptor tank sizing in accordance with the requirements of the TCEQ. The tank manufacturer will be required to submit buoyancy calculations on the interceptor tank. The designs will be submitted to Canyon Lake Water Service Company CLWSC, the service provider and the Comal County Health Inspector for approval.

3. *"Infiltration and Inflow will need to be determined for the runs of gravity piping leading to the interceptor tank and accounted for in the sizing of the STEP system in accordance with New Braunfels Utilities specifications. Please address and revise."* The lateral sewer connection from the house to the STEP tank shall have no mechanical joints. A maximum 15 feet of solid pipe shall be run from the house to the STEP tank connection. Connections on both ends shall be PVC solvent welded pipe connection with no leakage.

4. *"The Wastewater Treatment Plant must receive TCEQ permits and be constructed prior to putting the STEP system into service. Pump and haul to treatment is not permissible."* We are

Integrated WATER Services, Inc.

aware of this requirement. Construction Plans and Specification were submitted to TCEQ for approval on Tuesday, January 14th, 2014. We have included the submittal document for your reference.

5. *"Please address if the STEP system and its components will be designed for 50 year structural life."* The STEP system and its components have been designed for a 50 year structural life.

6. *"In the Temporary Stormwater drawing(s), reliance should not be limited to only rock berms but linear measures whether fiber rolls or silt fence at the source area should be implemented."* Silt fence is shown on the downhill slope of all areas disturbed during construction activities. Rock berms were only located in areas where concentrated flow is anticipated. Please see the sheet titled Sewer Collection System Site Plan (Sheet 1).

7. *"The plan should discuss how access to private property owners private sewer laterals will be implemented by written service agreements or other written methods"* CLWSC will maintain the private side of the system. There will be a written service agreement between CLWSC and the homeowner.

8. *"On Form 0582 (Item 24) it indicates that both "no water lines within 9 feet of sewer lines" and that "water line crossing with sewer lines are listed in the table". Please revise form and resubmit."* Form has been updated and resubmitted.

Hopefully this addresses all of the issues. Please review the revised documents at your earliest convenience. We look forward to hearing back from you. Please call or email with any other questions or comments.

Sincerely,

Jamie L. Miller

Jamie L. Miller
Principal Engineer
Integrated Water Services
Office 303-993-3713

Organized Sewage Collection System (SCS) Application
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(c), Effective June 1, 1999

REGULATED ENTITY NAME: Star Canyon Development

X **ATTACHMENT A – SCS Engineering Design Report.** This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

CUSTOMER INFORMATION (if different than customer information provided on core data form)

1. The entity and contact person responsible for providing the required engineering **certification** of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

Contact Person: Stephen Sallman
Entity: LBC Partners, Ltd.
Mailing Address: 4925 Greenville Ave #1020
City, State: Dallas, TX Zip: 75206
Telephone: 214-368-0238 Fax: 214-368-0812

The appropriate regional office must be informed of any changes in this information within 30 days of the change.

2. The engineer responsible for the **design** of this sewage collection system is:

Contact Person: Jamie L. Miller
Texas Licensed Professional Engineer's Number: 105600
Entity: Integrated Water Services, Inc.
Mailing Address: P.O. Box 9570
City, State: Avon, CO Zip: 81620
Telephone: 303-993-3713 Fax: 303-862-8823

PROJECT DESCRIPTION

3. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

X Residential: # of single-family lots: 200
__ Multi-family residential units: _____
__ Commercial
__ Industrial
__ Off-site system (not associated with any development)
__ Other: _____

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

100 % Domestic	56,400 gallons/day
_____ % Industrial	_____ gallons/day
_____ % Commingled	_____ gallons/day
_____ Total	56,400 gallons/day

5. Existing and anticipated infiltration/inflow is 0 gallons/day. This will be addressed by Infiltration/inflow is not anticipated due to construction materials and methods

6. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

__ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached at the end of this application.
X The WPAP application for this development was submitted to the TCEQ on 12/12/13, but has not been approved.
__ A WPAP application is required for an associated project, but it has not been submitted.
__ There is no associated project requiring a WPAP application.

7. Pipe description: Phase 1

Pipe Diameter (Inches)	Linear Feet[1]	Pipe Material[2]	Specifications[3]
4"	890	HDPE - SDR 9	AWWA M55
3"	4,101	HDPE - SDR 9	AWWA M55
2"	1,284	HDPE - SDR 9	AWW5 M55
Total Linear Feet	6,275	HDPE - SDR 9	AWW5 M55

1) Include stub-outs. Do not include private service laterals.
2) If PVC, state SDR value.
3) ASTM / ANSI / AWWA specification and class numbers should be included.

8. The following Wastewater Treatment Plant (WWTP) Star Canyon Wastewater Treatment Facility (name) will receive project wastewater for treatment and disposal. This WWTP is an **EXISTING/PROPOSED** (circle one) facility.

9. All components of this sewage collection system will comply with:

X The City of New Braunfels Utilities standard specifications.
X Other. Specifications are provided directly behind this page. Spec attached for HDPE pipe

10. __ No force main(s) and/or lift station(s) are associated with this sewage collection system.
X A force main(s) and/or lift station(s) is associated with this sewage collection system and the Lift Station/Force Main System application is included with this application.

ALIGNMENT

11. N/A There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

12. X Joint Deflection - The maximum allowable joint deflection is the lesser of the following three alternatives:
__ equal to 5°; or
X 80% of the manufacturer's recommended maximum deflection; or
__ 80% of the appropriate ASTM, AWWA, ANSI or nationally-established standard for joint deflection.

13. N/A There are no deviations from straight alignment in this sewage collection system without manholes.
__ **ATTACHMENT B - Justification and Calculations for Deviation in Straight Alignment Without Manholes.** Justification for deviations from straight alignment in this sewage collection system without manholes is provided in **ATTACHMENT B** at the

end of this form.

X For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

MANHOLES AND CLEANOUTS

14. Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below:

Line	Shown on Sheet	Station	Manhole or Clean-out?
B1	Of	28+18.44	Clean-out
B2	Of	7+86.08	Clean-out
B(iii)	Of	20+75.98	Clean-out
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		

15. N/A Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. N/A The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

N/A **ATTACHMENT C – Justification for Variance from Maximum Manhole Spacing.** The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. Justification for any variance from the maximum spacing provided as **ATTACHMENT C** at the end of the form must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. N/A All manholes will be monolithic, cast-in-place concrete.
— The owner/developer of this project is requesting the use of pre-cast manholes. The manufacturer's specifications and construction drawing, showing the method of sealing the joints, are attached.

SITE PLAN

Items 18 through 23 must be included on the Site Plan.

18. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 100 '.

19. The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stubouts (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

X The location of all lateral stub-outs are shown and labeled.
__ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

X The entire water distribution system for this project is shown and labeled.
__ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
__ There will be no water lines associated with this project.

22. 100-year floodplain:

X After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
__ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Line	Sheet	Station		Station
	of		to	
	of		to	
	of		to	
	of		to	

23. 5-year floodplain:

X After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
__ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Line	Sheet	Station		Station
	of		to	
	of		to	
	of		to	
	of		to	

Items 24 through 31 must be included on the Plan and Profile sheets.

24. X All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

__ There will be no water line crossings.

__ There will be no water lines within 9 feet of proposed sewer lines.

Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
A	8+75	Crossing		2'
B(iii)	15+50	Crossing		2'
B(ii)	5+75	Crossing		2'

25. Vented Manholes:

X **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

__ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

__ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

__ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located in the 100-year floodplain. No vented manholes will be used.

Line	Manhole	Station	Sheet
			of
			of
			of
			of
			of
			of

26. Drop manholes:

X — There are no drop manholes associated with this project.
— Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Line	Manhole	Station	Sheet
			of
			of
			of
			of
			of
			of

27. Sewer line stub-outs (For proposed extensions):

X — The placement and markings of all sewer line stub-outs are shown and labeled.
— No sewer line stub-outs are to be installed during the construction of this sewage collection system.

28. Lateral stub-outs (For proposed private service connections):

X — The placement and markings of all lateral stub-outs are shown and labeled.
— No lateral stub-outs are to be installed during the construction of this sewage collection system.

29. Minimum flow velocity (From APPENDIX A)

N/A Assuming pipes are flowing full, all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

30. Maximum flow velocity/slopes (From APPENDIX A)

X Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.

N/A **ATTACHMENT D – Calculations for Slopes for Flows Greater Than 10.0 Feet Per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are provided in **ATTACHMENT D** at the end of this form.

Line	Profile Sheet	Station		Station	FPS	% Slope	Erosion/Shock Protection
	of		to				
	of		to				
	of		to				
	of		to				

31. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

— Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.

— Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.

ADMINISTRATIVE INFORMATION

32. X The **final plans and technical specifications** are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

33. Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Standard Details	Shown on Sheet
Lateral stub-out marking [**REQUIRED**]	SCS1 of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) [**REQUIRED**]	N/A of
Alternate method of joining lateral to existing SCS line for potential future connections [**REQUIRED**]	N/A of
Typical trench cross-sections [**REQUIRED**]	CU501 of
Bolted manholes [**REQUIRED**]	N/A of
Sewer Service lateral standard details [**REQUIRED**]	SCS-1 of SCS
Clean-out at end of line [**REQUIRED, if used**]	SCS-2 of SCS

Baffles or concrete encasement for shock/erosion protection [**REQUIRED, if flow velocity of any section of pipe >10 fps**]	N/A of
Detail showing Wastewater Line/Water Line Crossing [**REQUIRED, if crossings are proposed**]	cu501 of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [**REQUIRED, if Flexible Pipe is used**]	N/A of
Drop manholes [**REQUIRED, if a pipe entering a manhole is more than 24 inches above manhole invert**]	N/A of

34. X All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

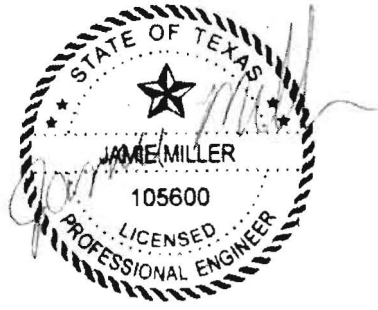
35. X All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

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

37. X Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **ORGANIZED SEWAGE COLLECTION SYSTEM APPLICATION** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Place engineer's seal here:



Jamie L. Miller
Print Name of Licensed Professional Engineer

Signature of Licensed Professional Engineer

1/23/14
Date

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

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

Integrated WATER Services, Inc.

RECEIVED
FEB 06 2014
COUNTY ENGINEER

P.O. Box 9570
Avon, CO 81620

January 10, 2014

Mr. Louis C. Herrin III, P.E.
TCEQ - MC 148
P. O. Box 13087
Austin, Texas 78711-3087

Re: Chapter 217.6 Summary Transmittal Letter

Permittee: LBC Partners, Ltd.
Permit Number: WW0015037001
Project Name: Star Canyon Wastewater Treatment Facility
County(s): Comal County
Grant No.: N/A

Dear Mr. Herrin:

The purpose of this letter is to provide the Texas Commission on Environmental Quality (TCEQ) with the information necessary to comply with the requirements of §217.6(c) of the TCEQ's rules entitled, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS." The necessary information includes:

1. Integrated Water Services, Inc (IWS) completed the design of the wastewater treatment system. Matkin Hoover completed the design of the effluent storage pond. Alamo City Designs completed the design of the spray irrigation disposal field.

2. Integrated Water Services - Jamie L. Miller, P.E. 303-993-3713; 830-862-8823

3. LBC Partners, Ltd. is the current owner of the project. Canyon Lake Water Service Company will operate and maintain the project.

4. IWS is requesting a variance from Chapter 217 for the treatment system technology. We are proposing an innovative nonconforming technology to be used to treat the wastewater. We are requesting the use of a textile packed bed media filter to meet the required effluent limits as specified in the discharge permit. Details are provided in the engineering report and plans and specifications. All other components meet the requirements of Chapter 217.

Integrated WATER Services, Inc.

5. Per number 4 above, we are requesting the use of a textile packed bed media filter manufactured by Orenco Systems, Inc. Detailed information on the system are included in the engineering report.

6. The plans and specifications which describe the project identified in this letter are in substantial compliance with all the requirements of Chapter 217 (or 317 if chosen in '4'). b.) Except as disclosed in item (Insert '4', '5' or '4 and 5' in this spot as pertinent to the project.) of this letter, the plans and specifications which describe the project identified in this letter are in substantial compliance with all the requirements of Chapter 217 (or 317 if chosen in '4'). Any deviations from Chapter 217 (or 317 if chosen in '4') which are a part of the project are based on the best professional judgment of the professional engineer who prepared the project plans, specifications and final engineering design report for this project.

7. Star Canyon Development is located in Comal County. Final build-out will consist of 200 residential units. The proposed WWTF is designed to treat the first phase of development (100 units). Provisions are included for the final phase of development. The proposed flows for phase 1 are 28,200 gallons per day. Wastewater characteristics and effluent limits are summarized in the engineering report. The design includes a 4.54 million gallon effluent storage pond and 10.5 acres of spray disposal area (phase 1). Design plans for the WWTF, pond and Spray disposal area is included with this submittal.

If you have any questions regarding this project, please contact Jamie Miller at 303-993-3713; 303-862-8823 (fax)

Sincerely,

Jamie L. Miller
PE Number 105600
Texas Firm Number 15238

cc: TCEQ Region 13 Water Program Manager, 14250 Judson Rd., San Antonio, TX 7823-4480

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

Edwards Aquifer Protection Plan Extension Request

Star Canyon Subdivision
(West of FM 2722)
Comal County, Texas

by
PAWELEK & MOY, INC.
Project No. 0709.02

December 02, 2013

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

Edwards Aquifer Protection Plan Extension Request

X Extension Request for a Water Pollution Prevention Plan (*TCEQ-10260)*

X ATTACHMENT A - Approval Letter or Extension Approval

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400*)

Extension Request for an
Edwards Aquifer Protection Plan
Relating to 30 TAC §213.4(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)

Customer (Applicant):	LBC Partners, Ltd.	
Contact Person:	Stephen L. Sallman	
Entity:	LBC Partners, Ltd.	
Mailing Address:	4925 Greenville Avenue, Suite 1020	
City, State:	Dallas, Texas	Zip: 75206
Telephone:	(214) 368-0238	FAX: (214) 368-0812
Agent:	Pawelek & Moy, Inc.	
Contact Person:	John J. Moy, Jr., P.E.	
Mailing Address:	130 W. Jahn St.	
City, State:	New Braunfels, Texas	Zip: 78130
Telephone:	(830) 629-2563	FAX: (830) 629-2564

2. X **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
   Date of letter: July 11, 2013
   Expiration date: December 5, 2013

3. X This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. X A completed fee form is attached. The fee for a six-month extension of time is $150.

John Moy
Print Name of Customer/Agent

Signature of Customer/Agent

12/02/13
Date

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

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

Attachment 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 11, 2013

Mr. Stephen L. Sallman
LBC Partners, LTD.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

NAME OF PROJECT: Star Canyon Subdivision (West of FM 2722); Located approximately 3-5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program File No. 2781.07, Investigation No. 1099203
Regulated Entity No.: RN105483382; Additional ID No.: 13-13060301

Dear Mr. Sallman:

On June 3, 2013, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011
December 1, 2010	June 5, 2012
May 25, 2012	December 5, 2012

November 30, 2012	June 5, 2013
June 3, 2013	December 5, 2013

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on December 5, 2013. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards aquifer Protection Plan validated.

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

Sincerely,

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

LMB/DP/eg

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

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

I Stephen L. Sollman,
Print Name

Manager,
Title - Owner/President/Other

of LBC Advisors LLC general partner of LBC Partners, Ltd
Corporation/Partnership/Entity Name

have authorized John Moy
Print Name of Agent/Engineer

of Pawelek & Moy, Inc
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L Sallman, Mgr. 11/25/13
Applicant's Signature Date

THE STATE OF Texas §
County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 25th day of NOV, 2013.

Tamara Miguez
NOTARY PUBLIC

TAMARA MIGUEZ
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7-29-2014

TAMARA J MIGUEZ
My Commission Expires
July 29, 2014

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision (West of FM 2722)
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential		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	1	Each	$ 150.00

Signature

12/02/13
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TEXAS 75206
(214) 368-0238

BANK OF TEXAS, N.A.
DALLAS, TEXAS
32-1432/1110

1182

11/25/2013

PAY TO THE ORDER OF TCEQ $ **150.00

One Hundred Fifty and 00/100********** DOLLARS

TCEQ

MEMO WPAP Extension Fee

AUTHORIZED SIGNATURE

⑈001182⑈ ⑆111014325⑆ ⑈8091637064⑈

1182

TCEQ PRE DEV COSTS	WPAP Extension Fee (Star Canyon)	11/25/2013	150.00

LBC-BOTx (MM)	WPAP Extension Fee	150.00

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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 EAPP Extension Request

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

☒ Yes ☐ No Extension Request for an Edwards Aquifer Protection Plan (WPAP)

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 603336405		RN 105483382

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)*

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

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

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

21. Independently Owned and Operated?
☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

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

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

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

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

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

35. Description to Physical Location:			
36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John Moy	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629-2563	-	(830)629-2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Prnt)*:	John Moy	Phone:	(830)629-2563
Signature:	John Moy	Date:	12/02/13

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 13, 2013

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Star Canyon Subdivision, located west of FM2272, New Braunfels, Texas

PLAN TYPE: Application for Approval of a Water Pollution Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN105483382
EAPP Additional ID: 13-13121201

Dear Mr. Hornseth:

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

Please forward your comments to this office by January 13, 2014.

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

Sincerely

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

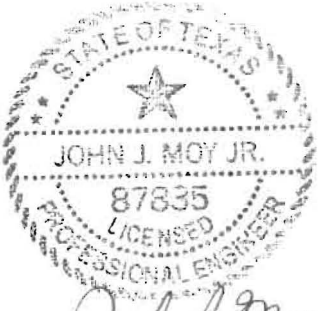
Modification of a Previously Approved Water Pollution Abatement Plan

Star Canyon Subdivision – Modification

Comal County, Texas

by

PAWELEK & MOY, INC.
Project No. 1210.02



John J Moy Jr. P.E.
12/11/13

December 2013

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

Modification of a Previously Approved Plan Checklist

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

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

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

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

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

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

Modification of a Previously Approved Plan Checklist (continued)

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400)*

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

REGULATED ENTITY NAME: Star Canyon Subdivision - Modification
COUNTY: Comal STREAM BASIN: Little Bear Creek & Elm Creek

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Stephen L. Sallman
Entity: LBC Partners, Ltd.
Mailing Address: 4925 Greenville Avenue, Suite 1020
City, State: Dallas, Texas Zip: 75206
Telephone: (214) 368-0238 FAX: (214) 368-0812

Agent/Representative (If any):

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

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

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

The project site is located on FM 2722, 3.5 miles north of State Highway 46 on the left (west) side.

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

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

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

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

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

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

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

footage of all collection system lines.

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

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

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

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

__ TCEQ cashier

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

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

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

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

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

John Moy

Print Name of Customer/Agent

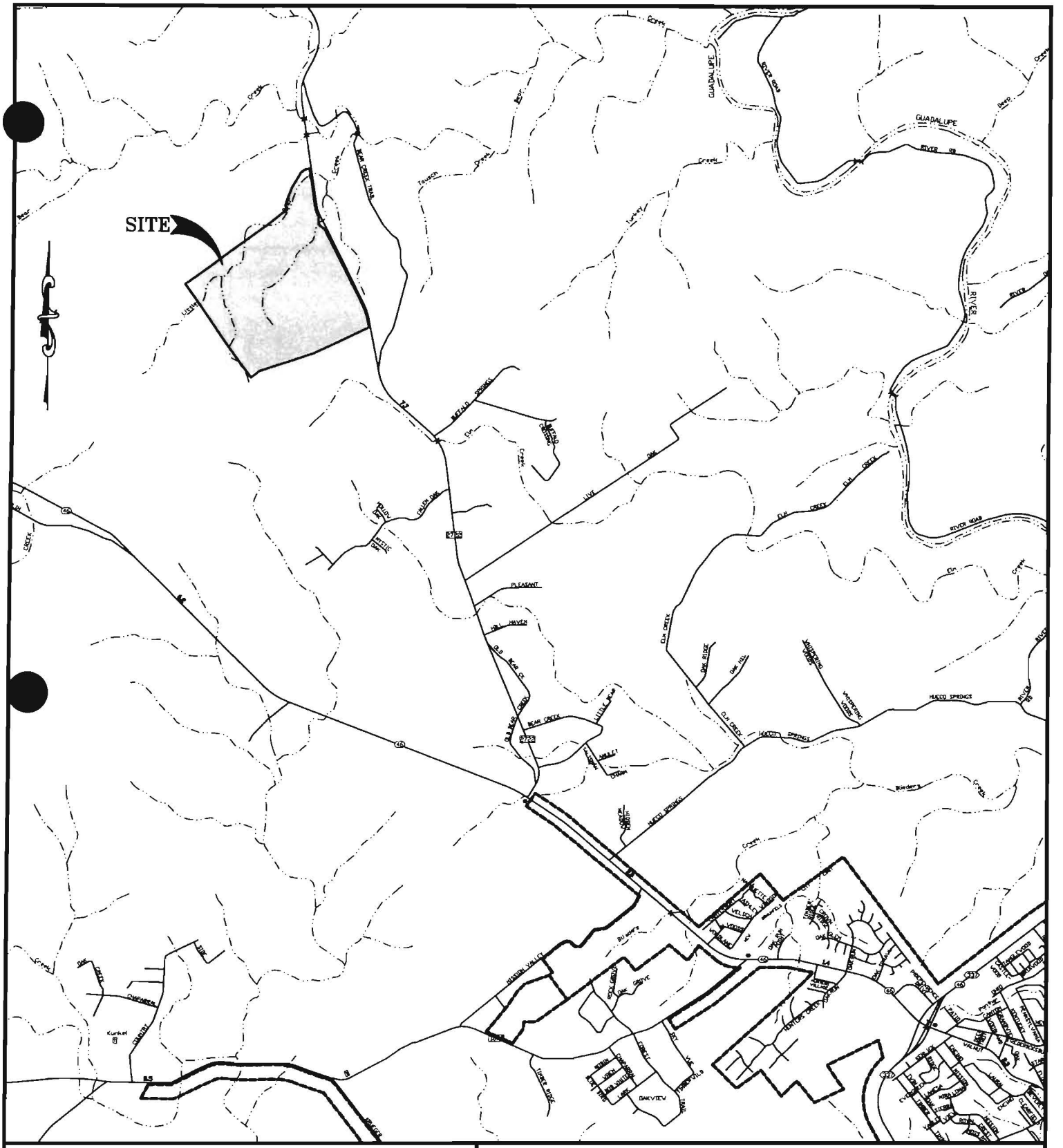
Signature of Customer/Agent

12/11/13

Date

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

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



LOCATION MAP

SCALE: 1" = 5,000'

ATTACHMENT A
ROAD MAP

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

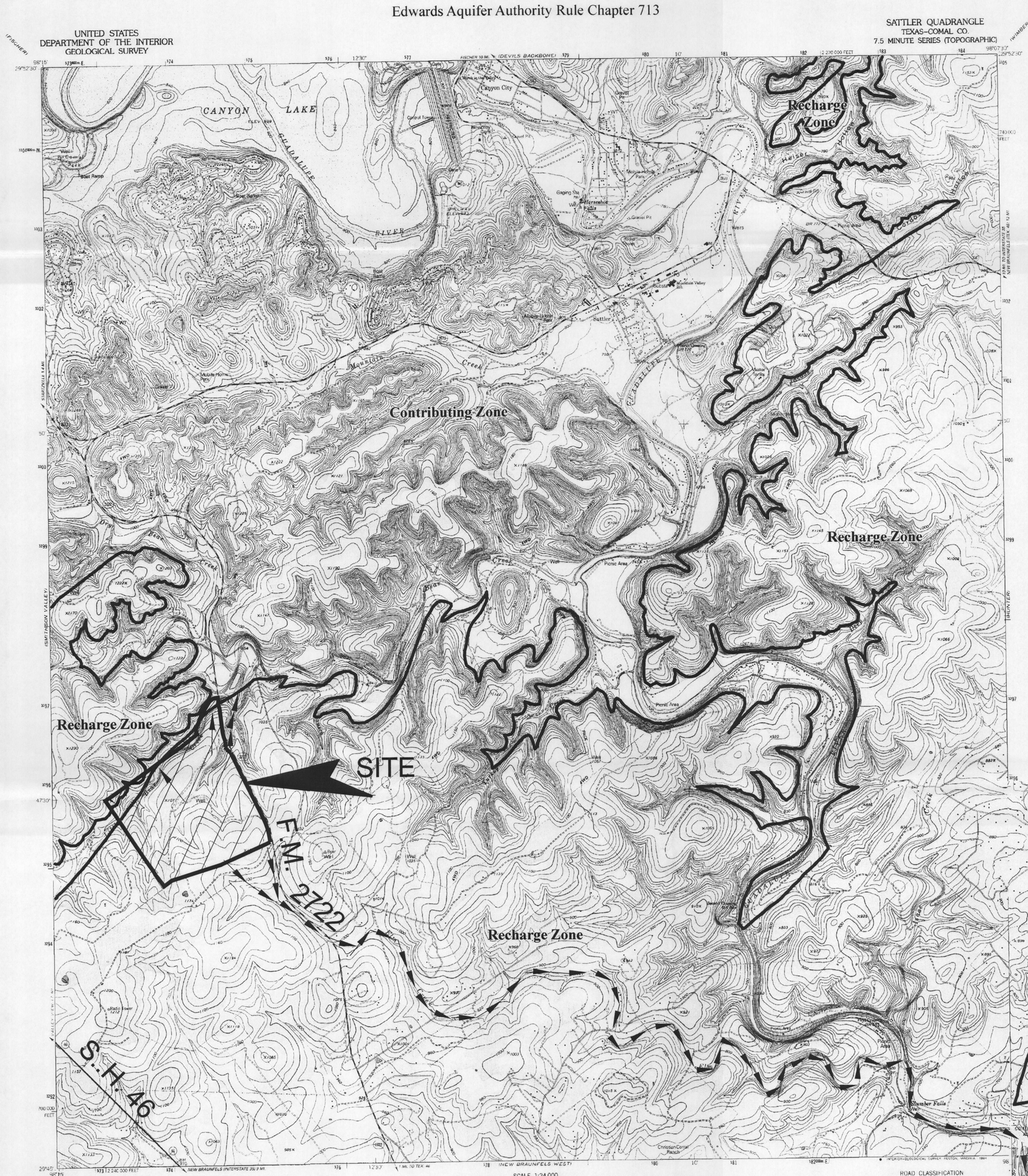
TECHNICIAN:	D.G.III	DATE:	DECEMBER 2013
JOB NO.	1210.02	SHEET:	R1

ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP

Edwards Aquifer Recharge Zone Map

Edwards Aquifer Authority Rule Chapter 713



Last revision date of the Recharge Zone Boundary for this Quadrangle Map: March 1974

GENERAL INFORMATION FORM

7. Attachment C – Project Description

The project site is located along FM 2722 approximately 3.5 miles north of the intersection of FM 2722 and State Highway 46. The proposed site pertaining to this application is a 605.4 acre tract of land located on the west side of FM 2722 (Previously approved WPAP, see attached approval letter in Modification of Previously Approved Plan section) and 14.2 acres of FM 2722 right-of-way (now included for the proposed turning lanes, drainage improvements and entrance into the subdivision) for a total project site of 619.6 acres.

Specifically this Modification addresses the proposed additional impervious cover located within FM 2722 Right of Way (i.e. the turning lanes, the entrance/driveway and associated drainage improvements) and the proposed additional impervious cover associated with the residential portion the site that contains lots less than 1 acre to be served by a proposed wastewater treatment facility, as well as the proposed wastewater treatment facility itself. The previously approved Impervious Cover was 80.42 acres (13.28%) and the proposed impervious cover will be 112.87 acres (18.22%).

Therefore, this application is for a 605.4 acre tract of land that will be developed into a 457 lot residential subdivision which contains a Home Owners Association Amenity Center, a wastewater treatment facility for the lots under one acre, and 14.2 acres of FM 2722 right-of-way (which includes the pavement widening for the proposed turning lanes, entrance/driveway and associated drainage improvements) for a total project site of 619.6 acres. The entire subdivision will be served by a public water supply system and the lots that will not be served by the proposed wastewater treatment facility will be a minimum of 1 acre (43,560 sf) and will contain an On-Site Sewage Facility (OSSF) per Comal County/State standards. The overall developed project will consist of less than 20% impervious cover, therefore no permanent structural BMP's will need to be installed. The permanent BMP's around the naturally-occurring sensitive features found on the site will be a native vegetation buffer zone a minimum of 200 feet around each feature. This native vegetation buffer zone will be delineated on the recorded plat for each unit, where applicable, and will be labeled as a restricted no building zone.

Geologic Assessment Form

(Provided by Frost GeoSciences)

Geologic Site Assessment (WPAP)

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

Star Canyon Subdivision Modification

619.6 Acres

New Braunfels, Texas

FROST GEOSCIENCES CONTROL # FGS-E13253

December 9, 2013

Prepared exclusively for

LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Frost GeoSciences

Geotechnical ▪ Construction Materials
Forensics ▪ Environmental

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

Frost GeoSciences
Geotechnical • Construction Materials
Forensics • Environmental

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

December 9, 2013

LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Attn: Mr. Stephen Sallman

Re: Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
619.6 Acres
New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-E13253

Dear Sir:

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

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

Sincerely,
Frost GeoSciences, Inc.

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

Distribution: (1) LBC Partners, Ltd.
(5) Pawelek & Moy, Inc.

Table of Contents

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

REGULATED ENTITY NAME: Star Canyon Subdivision Modification, 619.6 Acres

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

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

PROJECT INFORMATION

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

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort Association	C/D	1 to 2
Eckrant-Rock Outcrop Complex	D/D	0 to 2
Comfort-Rock Outcrop Complex	D/D	0 to 2
Bracken-Rock Outcrop-Real Complex	C/D/D	0 to 2

* Soil Group Definitions (Abbreviated)

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

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

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

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

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

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

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

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

Applicant's Site Plan Scale	1" = 300'
Site Geologic Map Scale	1" = 300'
Site Soils Map Scale (if more than 1 soil type)	1" = 1000'

6. Method of collecting positional data:

✓ Global Positioning System (GPS) technology.
✓ Other method(s). 2012 Aerial Photograph

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

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

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

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

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

✓ There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
__ The wells are not in use and have been properly abandoned.
__ The wells are not in use and will be properly abandoned.
✓ The wells are in use and comply with 16 TAC Chapter 76.
__ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: August 27-31, 2007 & December 1-3, 2013
Date(s)

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

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

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

(210) 372-1315
Telephone

(210) 372-1318
Fax

Signature of Geologist

December 9, 2013
Date

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

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

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

Stratigraphic Column

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

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1	2*	3*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT²)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	≥ 40	<1.6	≥1.6	
S-1	29° 47 14.656'	98° 13 59.921'	SC	20	Kek	1	1	1.5	-	-	-	-	O/F	10	30	30		X		Hillside
S-2	29° 47 16.456'	98° 13 48.381'	SC	20	Kek	0.25	0.25	1.5	-	-	-	-	O/F	10	30	30		X		Hillside
S-3	29° 47 15.556'	98° 13 48.561'	SC	20	Kek	2	2	2+	-	-	-	-	O/F/C	10	30	30		X		Hillside
S-4	29° 47 14.596'	98° 13 33.320'	SC	20	Kek	3	1	2.5	-	-	-	-	O/F	10	30	30		X		Hillside
S-5	29° 47 35.695'	98° 14 1.281'	SC	20	Kek	0.75	1	1.5	-	-	-	-	O/F	10	30	30		X		Hillside
S-6	29° 47 34.036'	98° 13 45.441'	C	30	Kek	4	12	4	-	-	-	-	O/F/C	25	55		55		X	Streambed
S-7	29° 47 21.736'	98° 14 11.961'	SC	20	Kek	1	1	2	-	-	-	-	O/F	10	30	30		X		Hillside
S-8	29° 47 31.035'	98° 14 21.121'	SC	20	Kgr	2	2	2	-	-	-	-	O/F	5	25	25		X		Hillside
S-9	29° 47 35.115'	98° 14 3.081'	SC	20	Kek	1	1	1.5	-	-	-	-	O/F	10	30	30		X		Hillside
S-10	29° 47 36.315'	98° 13 59.902'	SC	20	Kek	3	1	3	-	-	-	-	O/F/C	10	30	30		X		Hillside
S-11	29° 47 37.275'	98° 14 15.201'	SW	30	Kek	12	15	5	-	-	-	-	F/C	15	45		45		X	Streambed
S-12	29° 47 42.375'	98° 14 15.561'	SW	30	Kek	3	3.5	1.5	-	-	-	-	O/F/C	15	45		45		X	Streambed

* DATUM 1983 North American Datum (NAD83)

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

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

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

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Signature _____ Date December 9, 2013 Sheet 1 of 4

Steve M. Frost
Geology
License No. 315

Frost GeoSciences
Geotechnical • Construction Materials • Forensics • Environmental

TCEQ-0586-Table (Rev. 10-1-04)

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1	2*	3*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT²)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	> 40	<1.6	>1.6	
S-13	29° 47 43.635'	98° 14 15.021'	SW	30	Kek	3	6	1	-	-	-	-	F/C	15	45		45		X	Streambed
S-14	29° 47 43.635'	98° 14 13.821'	SW	30	Kgr	1	2	0.5	-	-	-	-	O/F/C	5	35	35			X	Streambed
S-15	29° 47 55.395'	98° 13 40.100'	SC	20	Kek	1	5	3	-	-	-	-	O/F/C	10	30	30		X		Hillside
S-16	29° 47 55.514'	98° 13 53.301'	C	30	Kek	2	5	4	-	-	-	-	O/F	5	35	35		X		Cliff
S-17	29° 47 4.934'	98° 13 40.101'	F/O/FW	30	Kek	60	90	-	N 20°	10	41	0.2	O/F/C	25	55		55		X	Streambed
S-21	29° 47 14.776'	98° 13 59.771'	O/VR	5	Kek	20	20	-	-	-	10	0.16	O/F	5	10	10		X		Hillside
S-22	29° 47 14.253'	98° 13 59.297'	SC	20	Kek	2	1	2	-	-	-	-	O/F	5	25	25		X		Hillside
S-23	29° 47 23.946'	98° 13 44.399'	O/VR	5	Kek	20	50	-	-	-	5	0.33	O/F	5	10	10		X		Hillside
S-24	29° 47 23.132'	98° 13 41.106'	O/VR	5	Kek	20	30	-	-	-	5	0.33	O/F	5	10	10			X	Streambed
S-25	29° 47 22.429'	98° 13 40.519'	SC	20	Kek	3	1	2	-	-	-	-	O/F	10	30	30			X	Streambed
S-26	29° 47 28.625'	98° 13 44.475'	O/VR	5	Kek	10	100	-	-	-	7	0.16	O/F	5	10	10			X	Streambed
S-27	29° 47 28.728'	98° 13 45.554'	O/VR	5	Kek	20	100	-	-	-	10	0.42	O/F	5	10	10		X		Hillside

* DATUM 1983 North American Datum (NAD83)

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

8A INFILLING

N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
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Signature _____ Date December 9, 2013 Sheet 2 of 4

Steve M. Frost
Geology
License No. 315

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1	2*	3*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10			11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT²)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY			CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	≥ 40		<1.6	≥1.6	
S-28	29° 47 24.004"	98° 14 28.125"	SC	20	Kek	2	2	1	-	-	-	-	O/F	10	30	30			X		Hillside
S-29	29° 47 26.940"	98° 14 24.639"	SF	20	Kek	20	20	-	-	-	-	-	O/F	10	30	30			X		Hillside
S-30	29° 47 40.313"	98° 14 11.316"	C	30	Kek	5	4	4	-	-	-	-	O/V	10	40		40			X	Streambed
S-31	29° 47 30.984"	98° 13 40.243"	SC	20	Kek	7	1	5	-	-	-	-	O/F	15	35	35				X	Streambed
S-32	29° 47 53.075"	98° 13 58.927"	SC	20	Kek	2	1	3	-	-	-	-	O/F	10	30	30			X		Hillside
S-42	29° 47 9.096"	98° 13 56.153"	C	20	Kek	1	1.5	2	-	-	-	-	F	10	30	30			X		Hillside
S-43	29° 47 24.711"	98° 13 50.795"	CD	5	Kek	14	10	0.33	-	-	-	-	F	5	10	10			X		Hillside
S-63	29° 47 14.038"	98° 13 2.333"	O^BRZ	30	Kek	30	120	-	-	-	1	0.2	F	5	35	35				X	Streambed
S-64	29° 47 59.450"	98° 13 45.723"	O^BRZ	30	Kek	10	12	-	-	-	1	0.3	N	5	35	35			X		Hillside
S-65	29° 47 13.162"	98° 13 34.742"	O^BRZ	30	Kek	5	120	-	-	-	1	0.25	F	5	35	35			X		Hillside
S-66	29° 47 10.466"	98° 13 34.688"	SC	20	Kek	1.5	1	1	-	-	-	-	O/F	5	25	25			X		Hillside
S-67	29° 47 5.079"	98° 13 35.735"	O^BRZ	30	Kek	20	30	-	-	-	1	0.25	O/F	5	35	35			X		Hillside

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Signature _____ Date December 9, 2013 Sheet 3 of 4

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Star Canyon Subdivision Modification, 619.6 Acres FGS-E13253

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						X	Y	Z		10						< 40	≥ 40	<1.6	≥1.6	
S-68	29° 47 5.276"	98° 13 24.933"	MB	30	Kek	0.75	0.75	2.5	-	-	-	-	N	5	35	35		X		Hillside
S-69	29° 47 10.882"	98° 13 22.655"	SC	20	Kek	0.65	0.5	1.75	-	-	-	-	N	10	30	30		X		Hillside
S-70	29° 47 27.915"	98° 13 40.923"	SCZ	30	Kek	35	150	-	-	-	-	-	O/F	5	35	35		X		Hillside
S-71	29° 47 27.144"	98° 13 42.270"	OVRZ	30	Kek	40	155	-	-	-	8+	-	F	5	35	35		X		Hillside
S-72	29° 47 29.773"	98° 13 42.101"	SC	20	Kek	2 2	0 9	2.5	-	-	-	-	O/F	5	25	25		X		Hillside
S-103	29° 47 32.095"	98° 13 55.941"	MB	30	Kek	0.5	0.5	?	-	-	-	-	N	25	55		55	X		Hillside

* DATUM 1983 North American Datum (NAD83)

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Signature _____ Date December 9, 2013 Sheet 4 of 4

STATE OF TEXAS
Steve M. Frost
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LICENSED PROFESSIONAL GEOSCIENTIST

LOCATION

The project site consists of 619.6 acres of land located along and west of F.M. 2722 near the intersection of F.M. 2722 and Bear Creek Trail in Comal County, Texas. An overall view of the area is shown on copies of the site plan, a street map, the USGS Topographic Map, the Official Edwards Aquifer Recharge Zone Map, the Flood Insurance Rate Map (FIRM), a 1973 aerial photograph at a scale of 1"=1000', a geologic map, a 2012 aerial photograph at a scale of 1"=1000', and a 2012 aerial photograph at a scale of 1"=200M. Plates 1 through 9 in Appendix A.

METHODOLOGY

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

Frost GeoSciences, Inc. researched the geology of the area in the immediate vicinity of the project site. The research included, but was not limited to, the Geologic Assessment of Star Canyon Subdivision-West of 2722 FGS-07334 dated May 9, 2008, the Geologic Atlas of Texas, San Antonio Sheet, FIRM maps, Edwards Aquifer Recharge Zone Maps, USGS 7.5 Minute Quadrangle Maps, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the USGS Water-Resources Investigations Report 94-4117, and the USDA Soil Survey of Comal & Hays County, Texas.

After reviewing the available information, a field investigation was performed to verify any geologic or man-made potential recharge features identified in the 2008 Geologic Assessment. A 2012 aerial photograph, in conjunction with a hand held Garmin 72H Global Positioning System with an Estimated Potential Error ranging from 7 to 19 feet, was used to navigate around the property and identify the locations of potential recharge features, as

recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The locations of any potential recharge features noted in the field were identified with blue and white flagging. The flagging is numbered with the same potential recharge feature I.D. # that is used on the Site Geologic Map in Appendix C of this report. The Site Geologic Map indicating the limits of the project site is included in Appendix C. A copy of a 2012 aerial photograph at an approximate scale of 1"=200M, indicating the locations of the potential recharge features, is included on Plate 9 in Appendix A. The Geologic Assessment Form (Rev. 10-01-10), Stratigraphic Column and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included on pages 1-9 of this report.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

According to the USGS 7.5 Minute Quadrangle Map, Sattler, Texas Sheet (1994), the elevation of the project site ranges from near 880 feet in the northeastern corner of the project site adjacent to F.M. 2722 to near 1160 feet in the southwestern portion of the site. These elevations are calculated above mean sea level (AMSL). Overall, the surface runoff from the project site flows to the north and northeast into Little Bear Creek and its tributaries. An unimproved road and water well are located on the project site. F.M. 2722 is located along the eastern property line. A copy of the above referenced USGS 7.5 Minute Quadrangle Map indicating the location of the project site, is included in this report on Plate 3 in Appendix A.

Recharge / Transition Zone

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

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Comal County, Texas, Community Panel Number 48091C0265F (Revised 9/02/09) was reviewed to determine if the project site is located in areas prone to flooding. A review of the above-mentioned panel indicates that a portion of the project site is located within the 100 year floodplain. The project site is located within Zone A and Zone X. According to the panel legend, Zone A represents areas determined to be special flood hazard areas subject to inundation by the 1% annual chance of flood where no base flood elecations have been determined. Zone X represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the Comal County, Texas, FIRM map, indicating the location of the project site, is included in this report on Plate 5 in Appendix A.

Soils

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Comal & Hays County, Texas (1982), the project site is located on the Rumple-Comfort Association (RUD), the Comfort-Rock Outcrop Complex undulating (CrD), the Eckrant-Rock Outcrop Complex, steep (ErG), and the Brackett-Rock Outcrop-Real Complex, steep (BtG). A copy of the 1973 aerial photograph (approximate scale: 1"=1000') from the USDA Soil Survey of Comal & Hays County, Texas indicating the location of the project site and the soil types is included on Plate 6 in Appendix A.

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

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

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

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

The Brackett-Rock Outcrop-Real Complex (consists of shallow, loamy soils and rock outcrop on uplands in the Edwards Plateau Land Resources Area. Escarpments and high rounded hills and ridges and their slopes are characteristic of the areas. The Brackett soil makes up 20 to 55 percent of the complex, but on the average it makes up 35 percent. Rock Outcrop makes up to 10 to 46 percent, but the average is 25 percent. The Real soil makes up 10 to 30 percent, but the average is 20 percent. Typically, the surface layer of the bracket soil is grayish brown gravelly clay loam about 6 inches thick. The subsoil extends to a depth of 14 inches. It is light gray gravelly clay loam. The underlying material is weakly cemented limestone interbedded with this strata of pale yellow and very pale brown shaly clay. The soil is moderately alkaline and calcareous throughout. Typically, the Rock Outcrop is barren of soil except in narrow fractures in the rock. In some areas the rock is flat and has as much as 3 inches of soil material on the surface. Typically, the surface layer of the Real soil is very dark grayish brown gravelly clay loam about 12 inches thick. The upper part is about 20 percent, by volume, weakly cemented limestone gravel, and the lower part is about 60 percent. The underlying material is weakly cemented limestone. The soils in this complex are well drained. Surface runoff is rapid. Permeability is moderately slow in the Brackett soil and slow in the Real soil. Water erosion is a hazard. Seeps are common along the slopes after periods of heavy rains.

Narrative Description of the Site Geology

The project site consists of 619.6 acres of land located along and west of F.M. 2722 near the intersection of F.M. 2722 and Bear Creek Trail in Comal County, Texas. Two manmade features in bedrock and forty natural karst features were noted on the project site during the on site inspection. Based on a visual inspection of the ground surface the overall potential for fluid flow from the project site into the Edwards Aquifer appears to range from high to low.

Potential Recharge Features # S-1 through S-5, S-7 through S-10, S-15, S-22, S-25, S-28, S-31 through S-42, S-66, S-69, S-70, & S-72 consist of solution cavities. Some of these have been enhanced by a burrowing animal. No signs of rapid infiltration were observed

and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. These features did not extend deep into the ground and it did not appear that water frequently or rapidly enters the features. Frost GeoSciences, Inc., rates the relative infiltration of these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04) and the values are shown in column 10 in the Geologic Assessment Table on pages 4 through 7 of this report. FGS is of the opinion that these are not sensitive features.

Potential Recharge Features # S-6, S-16, and S-30 consist of caves. PRF S-6 appears to be a sensitive recharge feature. Frost GeoSciences, Inc., rates the relative infiltration of this feature as high on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 55 in column 10 in the Geologic Assessment Table on page 4 of this report. FGS is of the opinion that this is a sensitive feature. PRF's S-16 and S-30 appear to be discharge features and would not likely contribute to the recharge of the aquifer. Frost GeoSciences, Inc., rates the relative infiltration of these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04) and the values are shown in column 10 in the Geologic Assessment Table on pages 4 and 6 of this report. FGS is of the opinion that these are not sensitive features.

Potential Recharge Features # S-11 through S-14 consist of swallets. In the original geologic assessment it was noted that despite recent rainfall, no water was observed pooled in PRF S-11. PRF's S-12 and S-13 had water flowing into them and would disappear into the feature only to reappear downstream. PRF S-14 had water flowing into it that would disappear. Frost GeoSciences, Inc., rates the relative infiltration of these features as high on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). These features score a 45 in column 10 in the Geologic Assessment Table on pages 4 and 5 of this report. FGS is of the opinion that these are sensitive features.

Potential Recharge Features # S-17, S-21, S-23, S-24, S-26, S-27, S-63 through S-65, S-67, and S-71 consist of rock outcrops with either fractured limestone or vuggy rock. PRF S-17

consists of a fractured limestone outcrop and appears to be a sensitive recharge feature. This feature also coincides with the location of a fault noted in the research. Frost GeoSciences, Inc., rates the relative infiltration of this feature as high on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 55 in column 10 in the Geologic Assessment Table on page 5 of this report. FGS is of the opinion that this is a sensitive feature. The remaining PRF's associated with Rock Outcrops (O^{VR} or O^{FR}) do not appear to show evidence of rapid infiltration. Frost GeoSciences, Inc., rates the relative infiltration of these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04) and the values are shown in column 10 in the Geologic Assessment Table on pages 4 through 7 of this report. FGS is of the opinion that these are not sensitive features.

Potential Recharge Feature # S-68 is a manmade feature in bedrock. PRF S-68 appears to be a post hole for a fence. Frost GeoSciences, Inc., rates the relative infiltration of this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 35 in column 10 in the Geologic Assessment Table on page 7 of this report. FGS is of the opinion that this is not a sensitive feature.

Potential Recharge Features # S-103 consist of a manmade feature in bedrock. PRF S-103 is a water well that is used for agricultural purposes. Frost GeoSciences, Inc., rates the relative infiltration of this feature as high on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 55 in column 10 in the Geologic Assessment Table on page 7 of this report. FGS is of the opinion that this is a sensitive feature.

Potential Recharge Features # S-104 consist of a fault. PRF S-104 is a fault identified on the Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000). Frost GeoSciences, Inc., rates the relative infiltration of this feature as high on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 55 in column 10 in the Geologic Assessment Table on page 7 of this report. FGS is of the opinion that this is a sensitive feature.

The overall vegetative cover on the project site consists of Ashe juniper (*Juniperus ashei*), Live Oak (*Quercus virginiana*) and Texas Persimmon (*Diospyros texana*) with Hackberry (*Celtis sp.*), mesquite, prickly pear cactus, and a moderate to dense stand of native grasses. The variations in the vegetative cover across the project site are visible in the 2012 aerial photographs on Plates 8 and 9 in Appendix A and in the site visit photographs included in Appendix B. Some hand clearing has taken place along the proposed right-of-ways that are not indicated on these aerial photographs.

According to the USGS 7.5 Minute Quadrangle Map, New Braunfels West, Texas Sheet (1988), the elevation of the project site ranges from near 880 to near 1160 feet. These elevations are calculated above mean sea level (AMSL). According to topographic data obtained from Pawelek & Moy, Inc., the elevation on the project site ranges from 890 feet in the northeastern corner of the project site to 1160 feet near the southwestern property corner. A copy of the site plan, indicating the boundary of the project site and the elevations, is included on Plate 1 in Appendix A and on the Site Geologic Map in Appendix C of this report.

According to the Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000), the project site is covered by the Cretaceous Edwards kainer Limestone (Kek), the Walnut Formation (Kw) (Basal Nodular Member of the Edwards Kainer Limestone), and the Upper Glenn Rose Limestone (Kgru). Based on our site inspection FGS is of the opinion that the project site is located on the Kirschberg Evaporite, Dolomitic, and Basal Nodular Members of the Cretaceous Edwards Kainer Limestone and the Cretaceous Upper Glenn Rose Limestone.

The Kirschberg Evaporite Member consists of a highly altered crystalline limestone, and chalky mudstone with chert. Boxwork voids with neospar and travertine frame is a common feature. Extensive cavernous development within this unit is probable. Overall thickness ranges from 50 to 60 feet.

The Dolomitic Member of the Edwards Kainer Limestone consists of mudstone to grainstone with crystalline limestone and chert. This member is massively bedded and light gray with abundant fossils of Toucasia. Karst features within this member are typically related to structure or bedding planes. Overall thickness ranges from 110 to 130 feet.

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

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

This geologic map indicates a fault through the northern portion of the project site along Little Bear Creek. This fault marks the boundary between the Recharge Zone and the Transition Zone. A copy of the Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000), indicating the location of the project site, is included on Plate 7 in Appendix A.

BEST MANAGEMENT PRACTICE (BMP)

Based on a visual inspection of the ground surface the overall potential for fluid flow from the project site into the Edwards Aquifer appears to range from low to high. The potential always exists to encounter subsurface features that lack a surface expression. Frost GeoSciences, Inc. recommends that construction personnel be informed of the potential to encounter subsurface karst features during excavating activities. Construction personnel should also be informed of the proper protocol to follow in the event that a solution cavity and/or cave is encountered during the excavation and development of the property.

DISCLAIMER

This report has been prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04) by a Licensed Texas Professional Geoscientist. All areas of the project site were carefully inspected for features that could contribute to the recharge of the Edwards Aquifer, however, this survey cannot preclude the presence of subsurface karst features that lack surface expression. This report is not intended to be a definitive investigation of all possible geologic or karst features at this site. All conclusions, opinions and recommendations for Best Management Practices (BMP's) in this report are based on information obtained while researching the project and on the site conditions at the time of our field investigation.

This report has been prepared for and may be relied upon by LBC Partners, Ltd. and Pawelek & Moy, Inc. This report is based on available known records, a visual inspection of the project site and the work generally accepted for a Geologic Assessment TAC §213.5(b)(3), effective June 1, 1999.

REFERENCES

1) USGS 7.5 Minute Quadrangle Map, Sattler, Texas Sheet (1994).

2) Official Edwards Aquifer Recharge Zone Map, Sattler, Texas Sheet (1996).

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

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

5) Federal Emergency Management Agency (FEMA), Bexar County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel 48091C0265F (9/02/09) FEMA, Washington D.C.

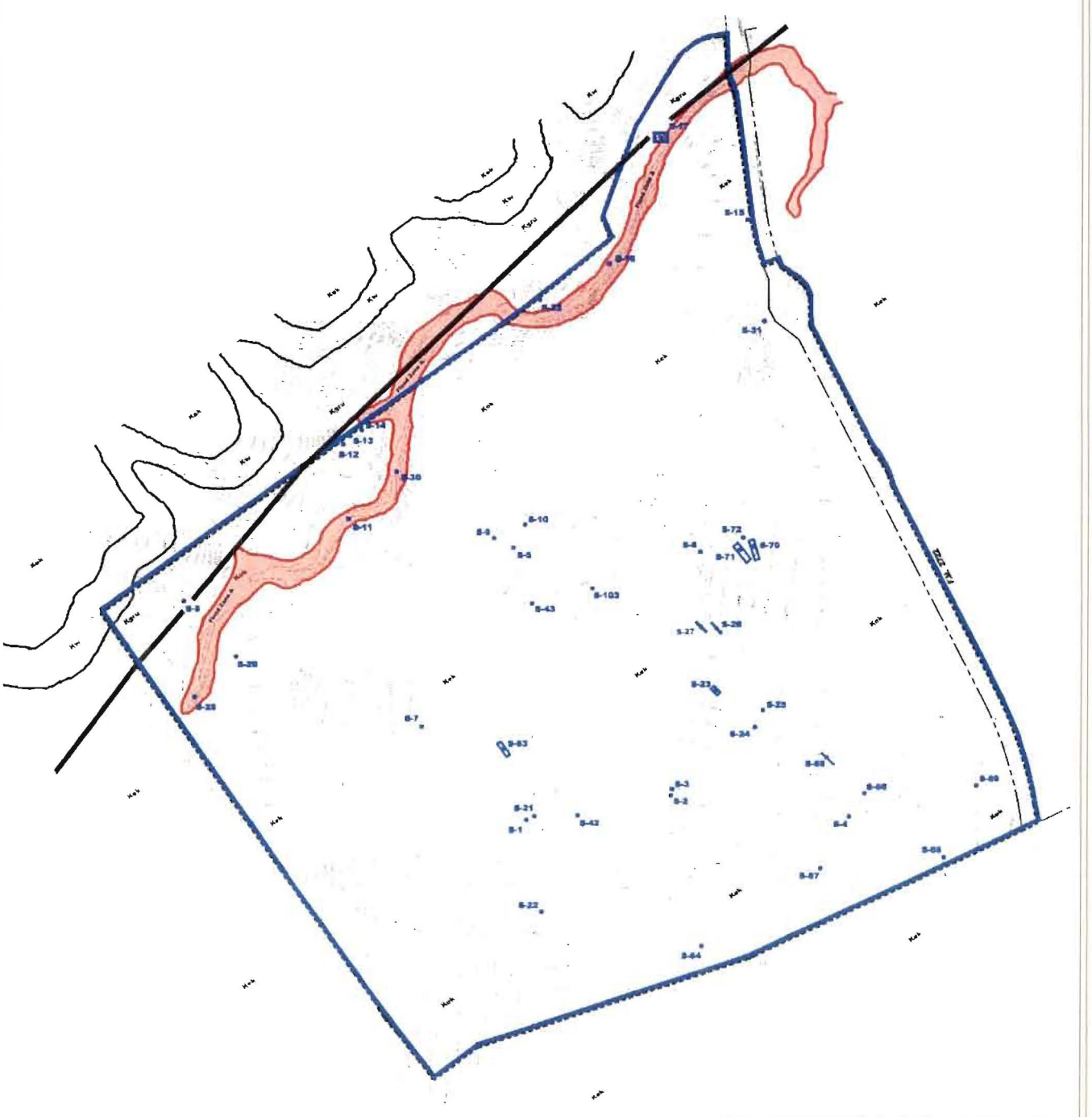
7) USDA Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas (1982).

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

Appendix A

Site Location Plates

Frost GeoSciences



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

Site Plan

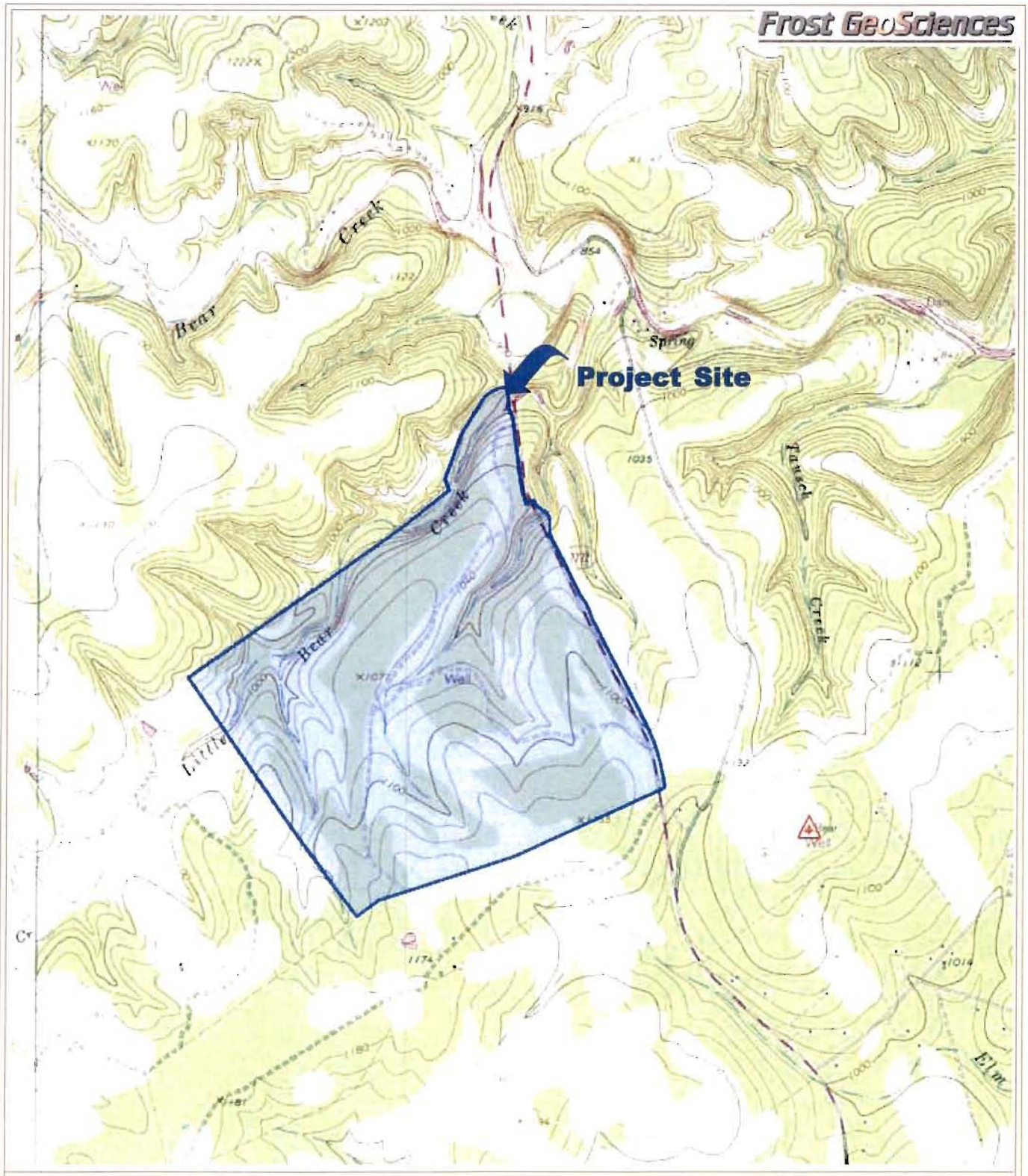
PROJECT NO.: FGS-E13253

DATE: December 9, 2013

Frost GeoSciences

PROJECT NAME:	Street Map	
Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Star Canyon Subdivision Modification New Braunfels, Texas	PROJECT NO.: FGS-E13253	DATE: December 9, 2013

Frost GeoSciences

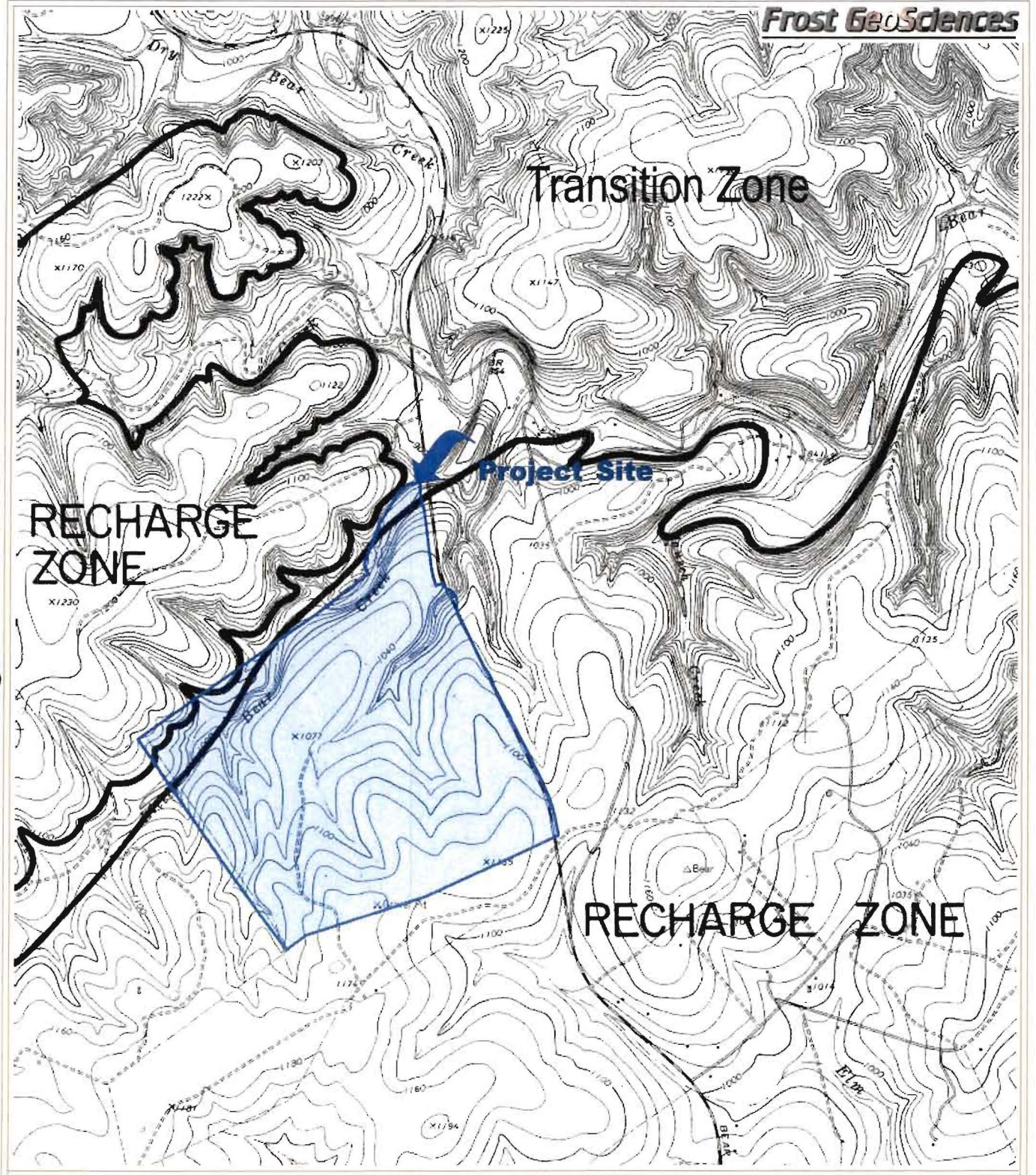


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

U.S.G.S. 7.5 Minute Quadrangle Map
Sattler, Texas Sheet (1994)

PROJECT NO.: FGS-E13253

DATE: December 9, 2013

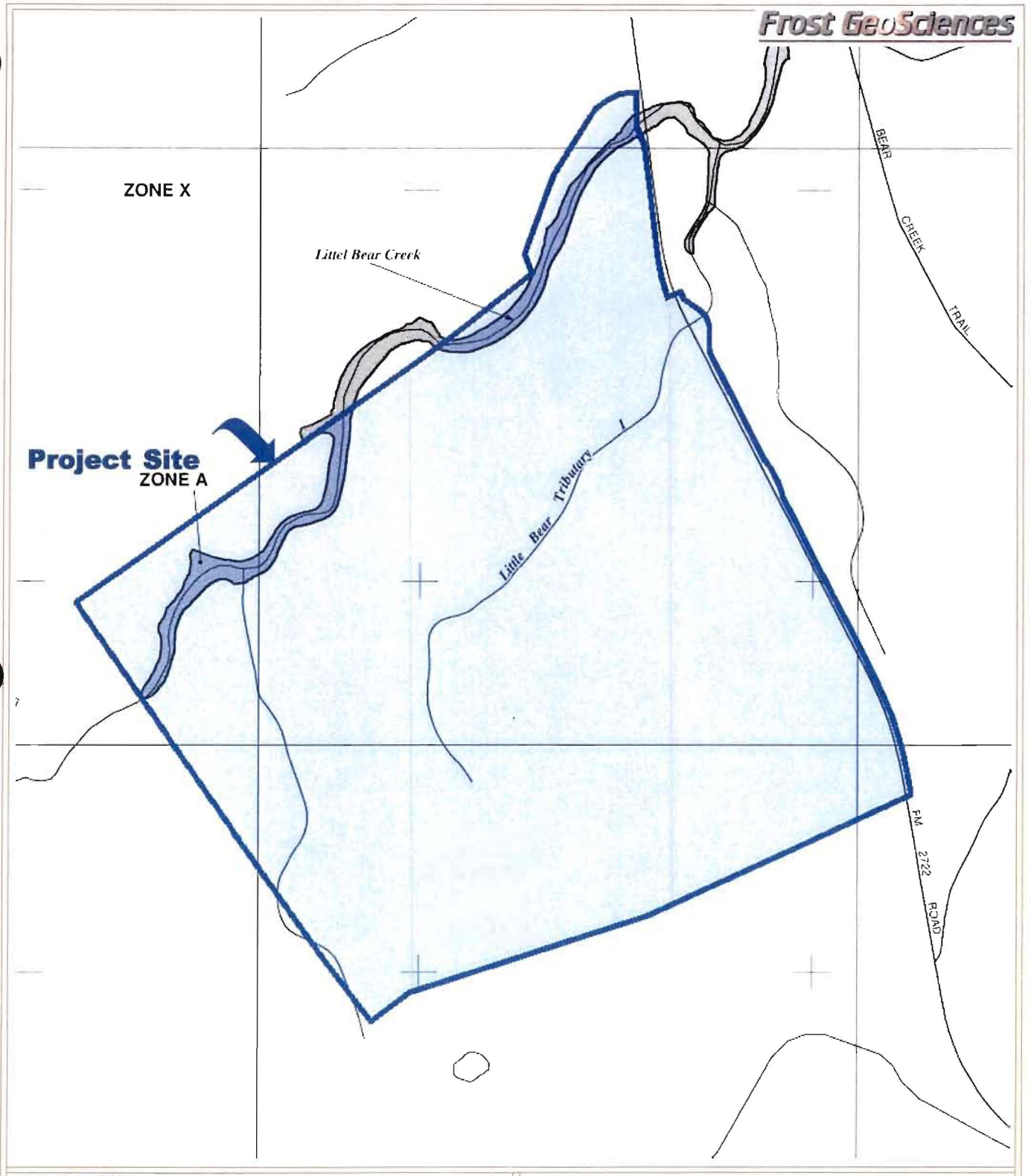


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

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

PROJECT NO.: FGS-E13253

DATE: December 9, 2013

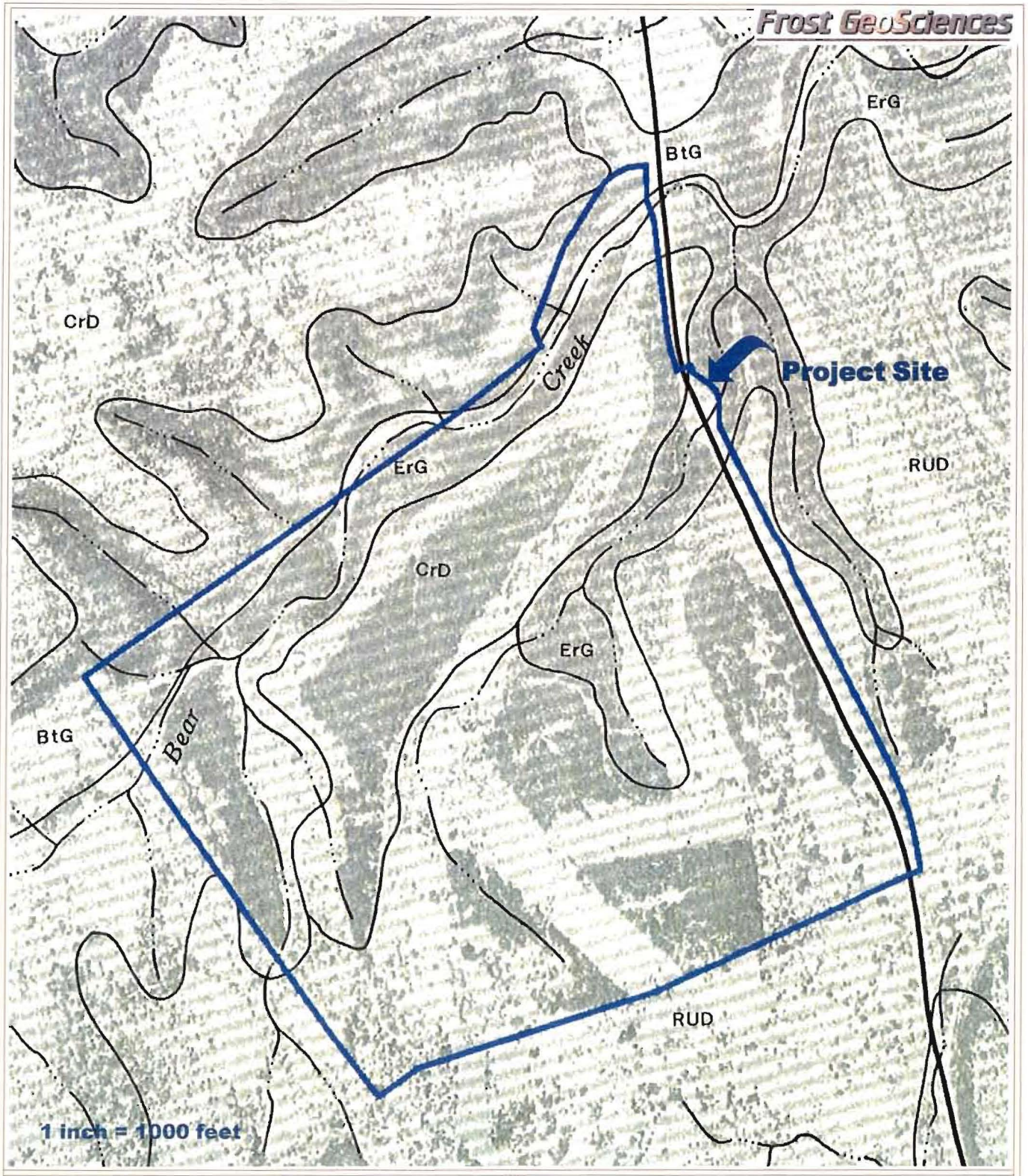


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

Flood Insurance Rate Map (FIRM)
Community Panel # 48091C0265F
(Revised 9/02/09)

PROJECT NO.: FGS-E13253

DATE: December 9, 2013

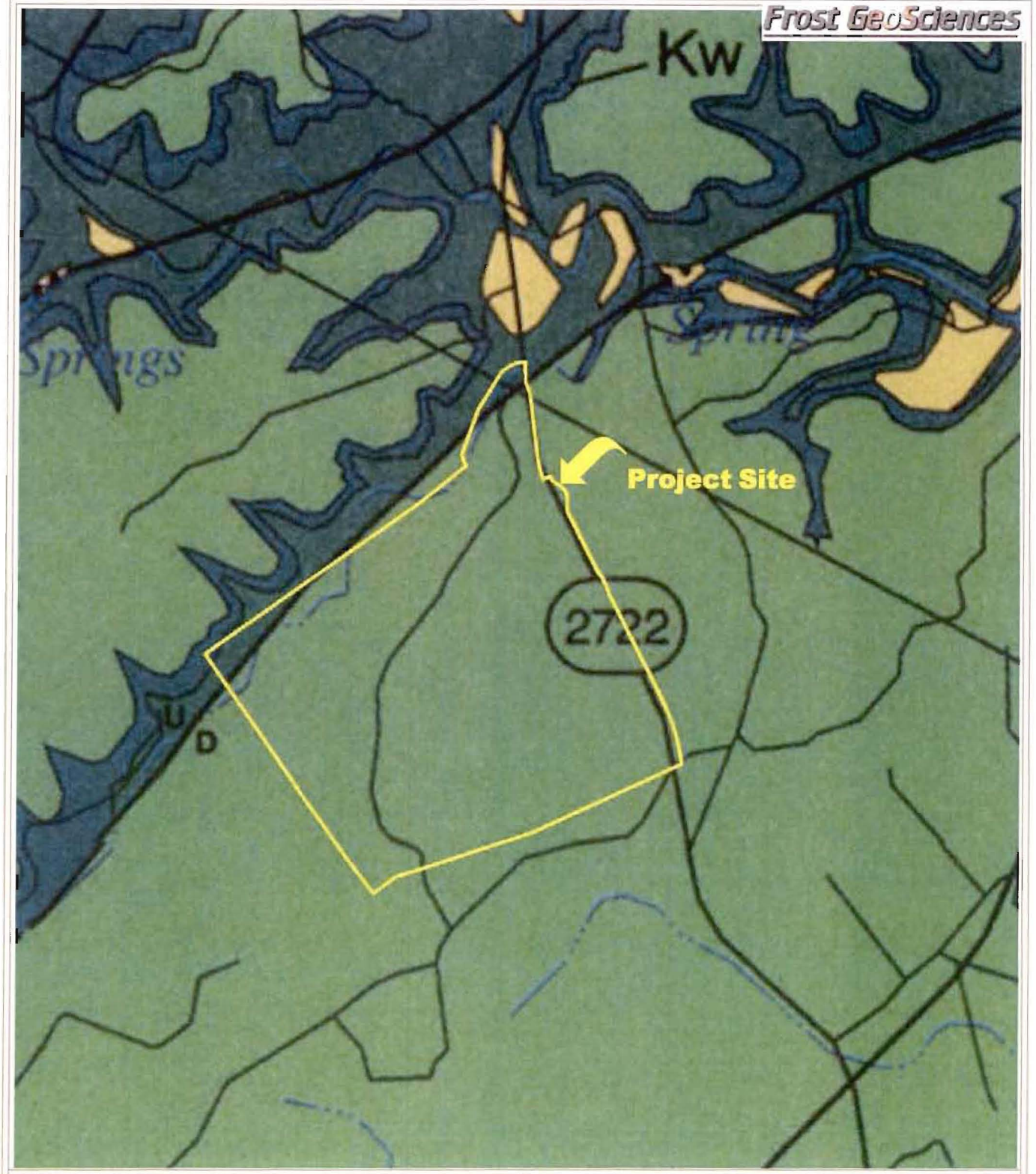


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

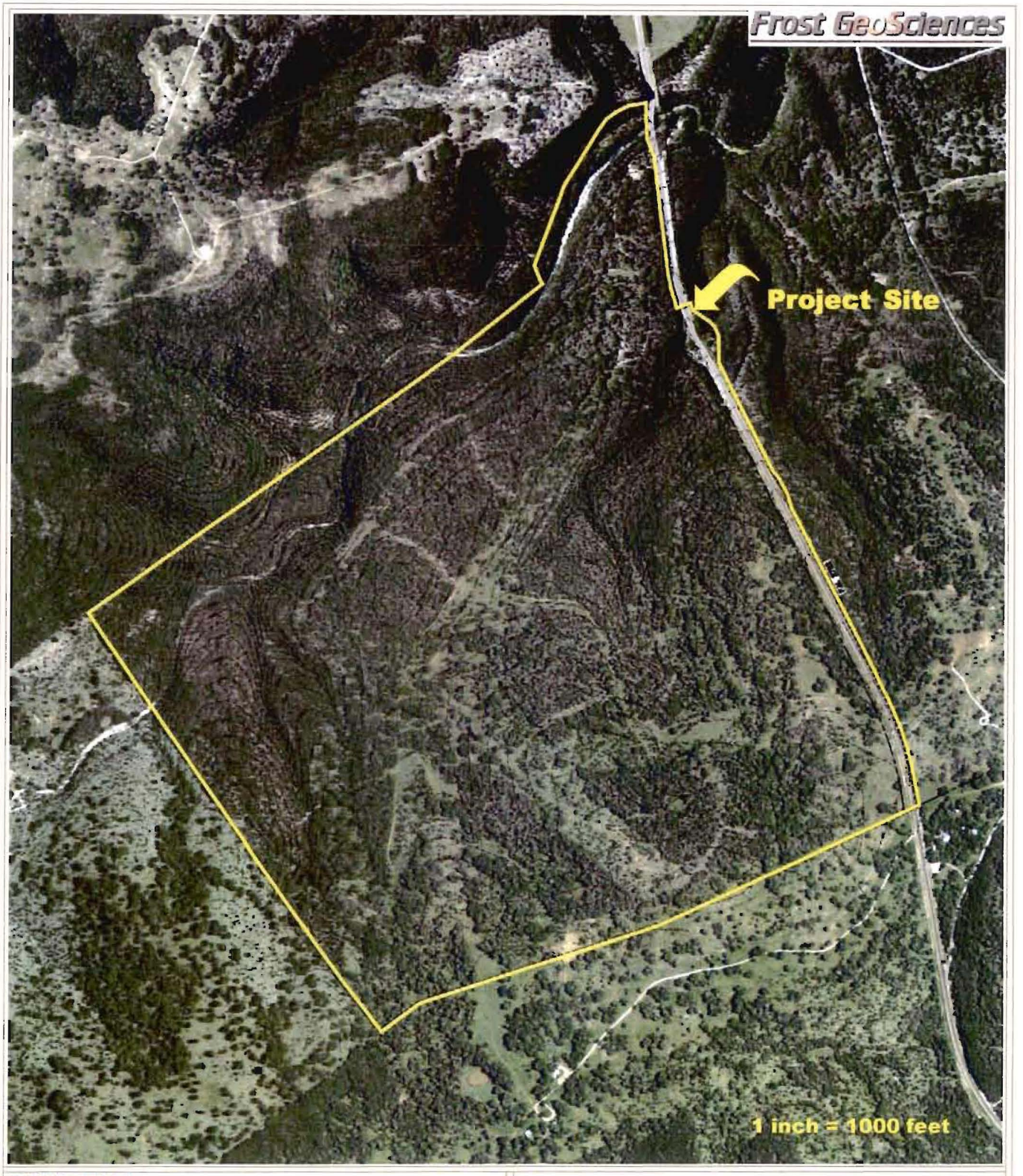
1973 Aerial Photograph
United States Department of Agriculture

PROJECT NO.: FGS-E13253

DATE: December 9, 2013



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Star Canyon Subdivision Modification New Braunfels, Texas	Bureau of Economic Geology Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)
PROJECT NO.: FGS-E13253	**DATE:** December 9, 2013



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

2012 Aerial Photograph
National Agricultural Imagery Program

PROJECT NO.:	DATE:
FGS-E13253	December 9, 2013

Frost GeoSciences

PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Star Canyon Subdivision Modification
New Braunfels, Texas

2012 Aerial Photograph with PRF's
National Agricultural Imagery Program

PROJECT NO.: FGS-E13253

DATE: December 9, 2013

Appendix B

Site Inspection Photographs

Photo #1 – Photo view shows sensitive feature S-06.

Photo #2 – Photo view shows sensitive feature S-11.

Photo #3 – Photo view shows sensitive feature S-12.

Photo #4 – Photo view shows sensitive feature S-13.

Photo #5 – Photo view shows feature S-14.

Photo #6 – Photo view shows sensitive feature S-17.

Photo #7 – Photo view shows sensitive feature S-30.

Photo #15 – Photo shows feature S-15, a solution cavity, located along the boundary of the project site.

Photo #16 – Photo shows a typical solution cavity observed on the project site.

Photo #17 – Photo shows a typical solution cavity observed on the project site.

Photo #18 – Photo shows a typical solution cavity observed on the project site.

Photo #19 – Photo shows S-67 fractured rock zone. Photo shows 2 to 4 inch fractures filled with organics and clay material.

Photo #20 – Photo shows typical vegetation observed on the project site.

Photo #21 – Photo shows typical vegetation observed on the project site.

Photo #22 – Photo shows typical vegetation observed on the project site.

Photo #23 – Photo shows typical vegetation observed on the project site.

Photo #24 – Photo shows a view across the project site from a high point on the project site.

Photo #25 – Photo shows S-63 fractured rock zone. Photo shows exposed bedrock with 2-inch fractures filled with clay and other fines.

Photo #26 – Photo shows S-67 fractured rock zone. Photo shows 2 to 4 inch fractures filled with organics and clay material.

Photo #27 – Photo shows several typical animal burrows along solution-enlarged fractures.

Photo #28 – Photo shows several typical animal burrows along solution-enlarged fractures.

Photo #29 – Photo shows feature S-70 fractured rock zone.

Photo #30 – Photo shows feature S-68.

Photo #31 – Photo shows feature S-72.

Photo #32 – Photo shows feature S-71 vuggy fracture rock zone.

Photo #29 – Photo shows feature S-103, a water well observed on the western portion of the project site.

Photo #30 – Photo shows feature S-103, a water well observed on the western portion of the project site.

Photo #31 – Photo shows feature S-2, a solution cavity.

Photo #32 – Photo shows feature S-3, a solution cavity.

Photo #33 – Photo shows feature S-4, a solution cavity.

Photo #34 – Photo shows feature S-5, a solution cavity.

Photo #35 – Photo shows feature S-7, a solution cavity.

Photo #36 – Photo shows feature S-8, a solution cavity.

Photo #37 – Photo shows feature S-9, a solution cavity.

Photo #38 – Photo shows feature S-10, a solution cavity.

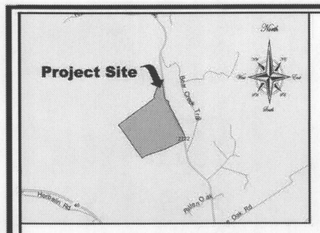
Photo #39 – Photo shows feature S-7, a solution cavity.

Photo #40 – Photo shows feature S-25, a solution cavity found in a streambed.

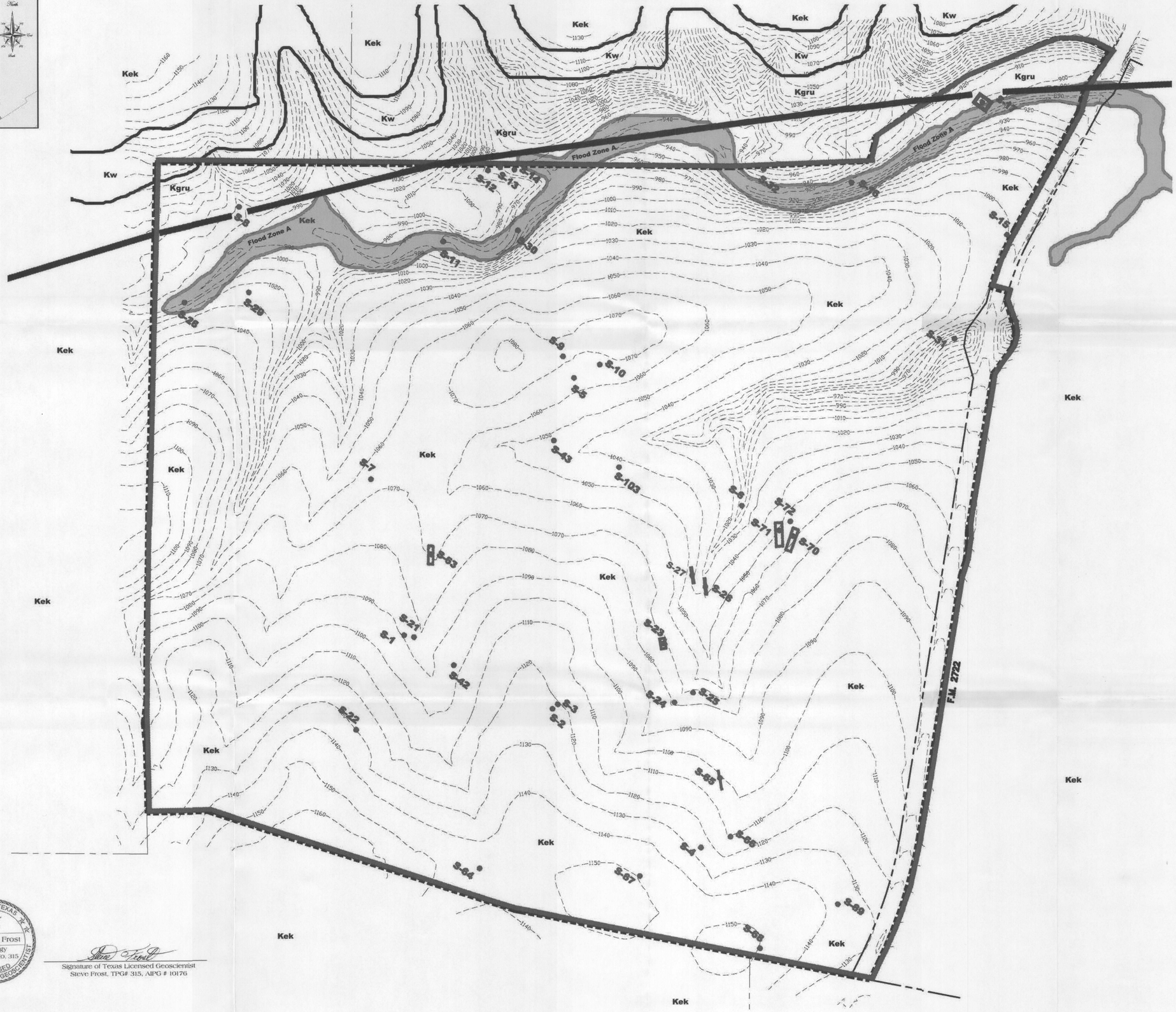
Photo #41 – Photo shows feature S-31, a solution cavity observed in a streambed.

Appendix C

Site Geologic Map



Location Map



Frost GeoSciences
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Environmental & Geologic Consulting
SDVOSB • VBE • DIBE • SBE
13402 Western Oak Dr. • Helotes, Texas 78023
Phone: 210-372-1115 • Fax 210-372-1318

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for the
Star Canyon Subdivision Modification
619.6 Acres
New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-E13253

Legend

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

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

Floodplain Information Obtained From
FIRM: Flood Insurance Rate Map
Comal County, Texas: Panel # 48091C0265F, Revised 9/02/09

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

North

Graphic Scale

300 0 150 300 600

(In Feet)

1 inch = 300 feet
Representative Fraction 1:3600

Contour Interval - 1 foot

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

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

Modification of a Previously Approved Plan

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

1. Current Regulated Entity Name: Star Canyon Subdivision - Modification
   Original Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)
   Assigned Regulated Entity Numbers (RN): 1) 105483382, 2) _____, 3) _____

   X The applicant has not changed and the Customer Number (CN) is: CN 603336405
   ___ The applicant has changed. A new Core Data Form has been provided.

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

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

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

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

WPAP Modification Summary	Approved Project	Proposed Modification
Acres	605.4	619.6
Type of Development	Residential	Residential
Number of Residential Lots	346	457
Impervious Cover (acres)	80.42	112.87
Impervious Cover (%)	13.28%	18.22%
Permanent BMPs	NA - Less than 20%	NA - Less than 20%
Other	Impervious Cover Exemption	Impervious Cover Exemption Proposed

SCS Modification Summary	Approved Project	Proposed Modification
Linear Feet	NA	NA
Pipe Diameter	NA	NA
Other	NA	NA

AST Modification Summary	Approved Project	Proposed Modification
Number of ASTs	NA	NA
Volume of ASTs	NA	NA
Other	NA	NA

UST Modification Summary	Approved Project	Proposed Modification
Number of USTs	NA	NA
Volume of USTs	NA	NA
Other	NA	NA

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

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

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

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

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

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

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

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

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

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

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

John Moy
Print Name of Customer/Agent

Signature of Customer/Agent

12/11/13
Date

Attachment A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 5, 2008

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Star Canyon Subdivision (West of FM 2722); Located approximately 3.5 miles north of Highway 46 on the west side of FM 2722, 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
Edwards Aquifer Protection Program ID No. 2781.00; Investigation No. 640169; Regulated Entity No. RN105483382

Dear Mr. Sallman:

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 Pawelek & Moy, Inc. on behalf of LBC Partners, Ltd. on March 24, 2008. Final review of the WPAP was completed after additional material was received on May 20, 2008 and June 2, 2008. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The actual overall Star Canyon development consists of land on both sides of FM 2722, 605.40 acres on the west side of FM 2722 and 178.10 acres on the east side of FM 2722. This approval letter pertains to the 605.40 acre portion on the west side of FM 2722.

PROJECT DESCRIPTION

The proposed single family residential project will have an area of approximately 605.4 acres. It will include 346, one acre minimum, lots and two amenity centers with supporting streets and utilities. The impervious cover will be 80.42 acres (13.28 percent). Project wastewater will be disposed of by on-site sewage facilities. According to a letter dated, March 14, 2008, 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

Since this single-family residential project will not have more than 20 percent impervious cover, an exemption from permanent BMPs is approved. A number of detention ponds are placed around the site to satisfy municipal stormwater requirements.

GEOLOGY

According to the geologic assessment (GA) included with the application, two small portions of the site lie over the Walnut and the upper Glen Rose formations with the majority of the site lying over the Kainer formation. Forty-two (42) geologic and manmade features were identified onsite. According to the Geologic Assessment Table (TCEQ-0585) contained in the application there were six sensitive features identified (described below). In the geologist opinion, the overall potential for fluid flow from the site into the Edwards Aquifer appears to range from low to intermediate.

The San Antonio Regional Office site assessment conducted on May 15, 2008 revealed that the overall assessments of the features found onsite were in general agreement with those of the submitted GA and that the drainage areas and set backs for the sensitive features, described below, appeared to meet the criteria set forth in RG-348 (2005), Section 5.

SENSITIVE FEATURE

Natural buffers were proposed for six sensitive features. The buffer size is generally based on the drainage area for each sensitive feature. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffers. The natural buffers shall be maintained in accordance with the signed Inspection, Maintenance Plan submitted with the WPAP application.

The setbacks are described in the following table.

Identification No.	Name/Description	Buffer Description
S-6	Cave	200 feet in all directions from the limits of the feature
S-30	Cave	200 feet in all directions from the limits of the feature
S-11	Swallow Hole	200 feet in all directions from the limits of the feature
S-12	Swallow Hole	200 feet in all directions from the limits of the feature
S-13	Swallow Hole	200 feet in all directions from the limits of the feature
S-14	Swallow Hole	200 feet in all directions from the limits of the feature

SPECIAL CONDITIONS

I. Since this project will not have more than 20 percent impervious cover, an exemption from 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. Depending on the facts and circumstance of the project, the applicant may also be required to obtain additional TCEQ authorizations such as a water rights permit and/or approval from the TCEQ Dam Safety program prior to beginning construction. Failure to obtain all the necessary authorizations could result in enforcement actions. For more information on Water Rights permits, please refer to
http://www.tceq.state.tx.us/permitting/water_supply/water_rights/wr_amiregulated.html
For more information on the Dam Safety program, please refer to
http://www.tceq.state.tx.us/compliance/field_ops/dam_safety/damsafetyprog.html

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 application.

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

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

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

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

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

During Construction:

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

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

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

13. One well exists on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

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.

After Completion of Construction:

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.

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

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/JA/eg

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

cc: Mr. John J. Moy Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas H. Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
Mr. Al Segovia, South Texas Watermaster
TCEQ Central Records, Building F, MC212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 11, 2013

Mr. Stephen L. Sallman
LBC Partners, LTD.
4925 Greenville Avenue, Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

NAME OF PROJECT: Star Canyon Subdivision (West of FM 2722); Located approximately 3-5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program File No. 2781.07, Investigation No. 1099203
Regulated Entity No.: RN105483382; Additional ID No.: 13-13060301

Dear Mr. Sallman:

On June 3, 2013, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011
December 1, 2010	June 5, 2012
May 25, 2012	December 5, 2012

November 30, 2012	June 5, 2013
June 3, 2013	December 5, 2013

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on December 5, 2013. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards aquifer Protection Plan validated.

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

Sincerely,

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

LMB/DP/eg

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

PAWELEK & MOY, INC.
130 W. Jahn Street
New Braunfels, Texas 78130
tel: 830-629-2563 fax: 830-629-2564

DATE: 12/02/13

JOB NO. 0709.02

PROJECT TITLE: Star Canyon Extension ~ WPAP

TO: TCEQ

ATTN:

The following documents were:

___ sent to you via _____ X delivered by John Moy ___ picked up by _____

Number of Copies	Description
1	Original Extension Request
4	Copies of " "
1	Check to TCEQ ~ $150.00

'RECEIVED TCEQ'
2013 DEC -3 AM 8:44
SAN ANTONIO REGION

These are sent as checked below:

✓ For approval
___ For your use
___ As requested
___ For construction
___ For review and comment
___ For Bids Due _____

REMARKS:

Copies to:

Signed: John Moy

Received by: Cynthia Vega

MODIFICATION OF A PREVIOUSLY APPROVED PLAN

5. Attachment B – Narrative of Proposed Modification

This Modification is for the proposed additional impervious cover located within FM 2722 Right of Way (i.e. the turning lanes, the entrance/driveway and associated drainage improvements) and the proposed additional impervious cover associated with the residential portion the site that contains lots less than 1 acre to be served by a proposed wastewater treatment facility, as well as the proposed wastewater treatment facility itself. The previously approved Impervious Cover was 80.42 acres (13.28%) and the proposed impervious cover is now 112.87 acres (18.22%).

Therefore, this Modification is to include an additional 14.2 acre portion of FM 2722 right-of-way in the project site increasing the project site from 605.4 acres to 619.6 acres. The increase in impervious cover from the approved plan (80.42 acres) to the modification (112.87 acres) is 32.45 acres. The impervious cover of the overall developed project increased from 13.28% to 18.22% which is less than 20%, therefore no structural BMP's will need to be installed. The previously approved permanent BMP around the sensitive features found on the site will be a native vegetative buffer zone a minimum of 200 feet around the feature and this will not be modified. This native vegetative buffer zone will be delineated on the recorded plat and will be labeled as a restricted no building zone.

ATTACHMENT C

CURRENT SITE PLAN OF THE APPROVED PROJECT

LEGEND

U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE / PREPARED BY NATIONAL WETLANDS INVENTORY
- PUBHh — PALUSTRINE / UNCONSOLIDATED BOTTOM / PERMANENTLY FLOODED / DIKED/IMPOUNDED
- R4SBA — RIVERINE / INTERMITTENT / STREAM BED / TEMPORARILY FLOODED

- D.P. — DETENTION POND
- S-00 — GEOLOGIC FEATURE
- 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE.
- H.S.R.B. (PH I) — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE w/TEMPORARY HIGH SERVICE ROCK BERM AROUND PERIMETER. (PHASE No.)
- S.F. (PH I) — SILT FENCE (PHASE No.)
- R.B. (PH I) — ROCK BERM (PHASE No.)
- H.S.R.B. (PH I) — HIGH SERVICE ROCK BERM (PHASE No.)
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- AREA NOT TO BE DISTURBED
- AREAS TO BE DISTURBED (PROPOSED R.O.W.'s & UTILITY EASEMENTS w/SOIL STABILIZATION)
- AREAS TO BE DISTURBED (PROPOSED CHANNEL IMPROVEMENTS/BRUSH CLEARING w/SOIL STABILIZATION WHERE ROCK IS NOT ENCOUNTERED)
- SPRINGS

NOTE: HIGH SERVICE ROCK BERM SHALL BE LOCATED OUTSIDE OF THE 200 FT. BUFFER ZONE AND NOT WITHIN IT.

SOIL STABILIZATION NOTE

WHERE CHANNEL IMPROVEMENTS ARE SHOWN LEADING TO THE STREAMBEDS AND CREEKS (SHOWN AS "AREAS TO BE DISTURBED"), AND ROCK IS NOT ENCOUNTERED AT THE PROPOSED FINAL GRADE OF THE CHANNEL, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THIS VEGETATIVE STABILIZATION PROCEDURE SHALL BE CONSTRUCTED IN THE AREAS WHERE THE FLOW VELOCITIES ARE LESS THAN 6 FEET PER SECOND (FPS) AND ROCK IS NOT ENCOUNTERED AT THE FINAL SURFACE. IN AREAS WHERE SOIL IS PRESENT AT THE FINAL SURFACE AND FLOW VELOCITIES ARE GREATER THAN 6 FPS, ROCK RIPRAP, TYPE 'R' (PER TXDOT ITEM 432) SHALL BE APPLIED TO THE DISTURBED AREAS OF THE CHANNELS FOR FINAL SOIL STABILIZATION PURPOSES. THIS PROCEDURE SHALL BE IMPLEMENTED UPON FINAL EXCAVATION AND GRADING ACTIVITY OF THE CHANNELS/SWALES. IN OTHER AREAS SHOWN AS "AREAS TO BE DISTURBED" (RIGHT OF WAYS, UTILITY EASEMENTS, ETC.) VEGETATIVE PROCEDURES SHALL APPLY WHERE ROCK IS NOT ENCOUNTERED, WITH THE AREAS OF CONCENTRATED FLOW FOLLOWING THE PREVIOUSLY MENTIONED GUIDELINES REGARDING FLOW VELOCITIES.

VELOCITY CONTROL NOTE

AT THE POINTS WHERE THE PROPOSED CHANNELS/SWALES SHOWN IN THE "AREAS TO BE DISTURBED" DISCHARGE INTO THE STREAMBEDS/CREEKS AND THE FLOW VELOCITIES ARE GREATER THAN 6 FEET PER SECOND, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THESE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

•• NOTE ••

THIS SITE WILL BE USED FOR A LOW DENSITY SINGLE-FAMILY DEVELOPMENT (1 ACRE OR GREATER LOTS) WITH TWO RESIDENTIAL AMENITY CENTERS AND HAS 20% OR LESS IMPERVIOUS COVER. THERFORE, NO OTHER PERMANENT BMP'S WITH SUPPORTING CALCULATIONS ARE REQUIRED/PRESENT.

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
STRUCTURES/ROOFTOPS (RESIDENTIAL & AMENITY CENTERS)	2,427,445	÷ 43,560 =	55.73
PARKING & STREETS	981,887	÷ 43,560 =	22.54
OTHER PAVED SURFACE (SIDEWALKS, DRAINAGE & BASKETBALL COURT)	93,892	÷ 43,560 =	2.15
TOTAL IMPERVIOUS COVER	3,503,224	÷ 43,560 =	80.42
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			13.28 %

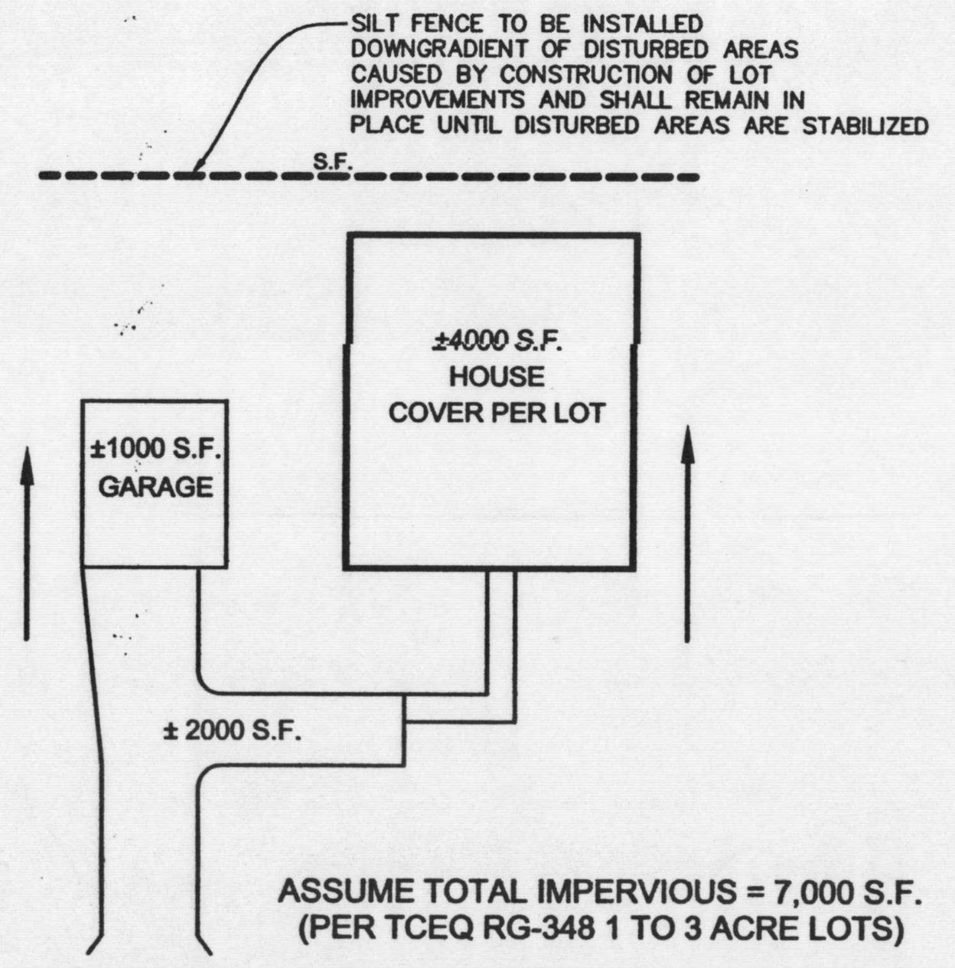
TOTAL SITE ACREAGE = 605.4 AC.

IMPERVIOUS COVER SUMMARY FOR THE AMENITY CENTERS / HOA LOTS

LOT No.	DESCRIPTION	SQ. FT.	
1001	STRUCTURES / ROOFTOPS	3,615	17,250 S.F.
	PARKING	13,417	
	SIDEWALK	218	
1005	STRUCTURES / ROOFTOPS	1,830	25,047 S.F.
	PARKING	8,668	
	SIDEWALK	7,362	
	BASKETBALL COURT	7,187	
	TOTAL IMPERVIOUS COVER:	42,297 S.F.	

TOTAL IMPERVIOUS COVER SUMMARY

DESCRIPTION		SQ. FT.	
STRUCTURES/ ROOFTOPS	AMENITY CENTERS	5,445	2,427,445 S.F.
	RESIDENTIAL (346 LOTS)	2,422,000	
PARKING & STREET	PARKING (AMENITY CENTERS)	22,085	981,887 S.F.
	STREETS	959,802	
OTHER PAVED/ IMPERVIOUS SURFACES	SIDEWALKS (AMENITY CENTERS)	7,580	93,892 S.F.
	BASKETBALL COURT	7,187	
	DRAINAGE	79,125	
	TOTAL IMPERVIOUS COVER:	3,503,224 S.F.	

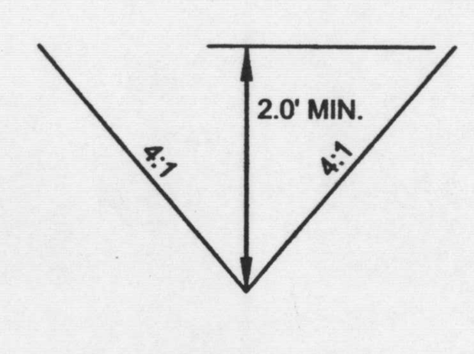


ASSUME TOTAL IMPERVIOUS = 7,000 S.F.
(PER TCEQ RG-348 1 TO 3 ACRE LOTS)

TYPICAL LOT IMPERVIOUS COVER
N.T.S.

NATIVE BUFFER ZONE NOTE:

BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF THE BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.



TRIANGULAR INTERCEPTOR CHANNEL
N.T.S.

WATER POLLUTION ABATEMENT PLAN
FOR
STAR CANYON SUBDIVISION
(WEST OF F.M. 2722)
COMAL COUNTY, TEXAS

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

130 W. Jahn Street
New Braunfels, Texas 78130
tel: (830) 629-2563
fax: (830) 629-2564

STATE OF TEXAS — JOHN J. MOY JR. — 87835 — LICENSED PROFESSIONAL ENGINEER
P.E. Rev. 6/2/08

OWNER:
LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TEXAS 75206

REVISIONS

DATE	DESCRIPTION
5/14/08	UPDATED PER TCEQ COMMENTS
6/2/08	UPDATED PER TCEQ COMMENTS

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: MARCH 2008
JOB NO.: 0709.02

CURRENT SITE PLAN

S1 OF ~~X~~ 1

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

REGULATED ENTITY NAME: Star Canyon Subdivision - Modification

REGULATED ENTITY INFORMATION

1. The type of project is:
   - X Residential: # of Lots: 457
   - ___ Residential: # of Living Unit Equivalents: ___
   - ___ Commercial
   - ___ Industrial
   - X Other: Homeowners Association Amenity Lot & Wastewater Treatment Facility

2. Total site acreage (size of property): 619.6 acres

3. Projected population: 1143

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops (457 Res. Lots)	3,050,000	÷ 43,560 =	70.02
~~Parking~~ (Streets & Sidewalks, Amenity Ctr., Wastewater T.F.)	1,820,488	÷ 43,560 =	41.79
Other paved surfaces (FM 2722 Improvements)	46,290	÷ 43,560 =	1.06
Total Impervious Cover	4,916,778	÷ 43,560 =	112.87
Total Impervious Cover ÷ Total Acreage x 100 =			18.22%

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

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

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

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

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

9. Length of Right of Way (R.O.W.): ____ feet.
Width of R.O.W.: ____ feet.
L x W = _____ Ft² ÷ 43,560 Ft²/Acre = ____ acres.

10. Length of pavement area: ____ feet.
Width of pavement area: ____ feet.
L x W = _____ Ft² ÷ 43,560 Ft²/Acre = ____ acres.
Pavement area ____ acres ÷ R.O.W. area ____ acres x 100 = ___% impervious cover.

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

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

X % Domestic	137,100 gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL 137,100 gallons/day

15. Wastewater will be disposed of by:

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

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

X (See Note at end) 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. (Note: There are lots less than 1 acre that will be served by a SCS)

X Sewage Collection System (Sewer Lines):

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

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

__ The SCS was previously submitted on _____.

The SCS was submitted with this application.

X 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 Star Canyon Wastewater (name) Treatment Plant. The treatment facility is: Treatment Facility

existing.

X proposed.

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 300 '.

18. 100-year floodplain boundaries

X 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):
Community Panel 48091C0265F, Dated September 02, 2009 of the Flood Insurance Rate Map for Comal County, Texas.

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

X The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.
(Overall existing flow configuration will be the same for the roads and amenity site)

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

X There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

__ The wells are not in use and have been properly abandoned.

__ The wells are not in use and will be properly abandoned.

X The wells are in use and comply with 16 TAC §76. (For Livestock Purposes- See next Page)

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

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

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

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

__ **ATTACHMENT D - Exception to the Required Geologic Assessment**. An exception to the Geologic Assessment requirement is requested and explained at the end of this form.

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

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

WATER POLLUTION ABATEMENT PLAN APPLICATION

20. Water Well Information

The water well shown as feature S-103 on the Site Plan (Sheet S-1) is an existing water well that is being used for livestock purposes (State Well Number = 6815703). Directly behind this sheet is the state well report which shows that this is a Glen Rose Limestone well that was drilled in 1984. Per original TCEQ approval letter dated June 5, 2008 "One Well exists on the 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".

Subject: Emailing: TWDB Well Data Online Query

Date: Thu, 28 Feb 2008 13:20:52 -0600

From: "Robin Tremallo" <rtremallo@edwardsaquifer.org>

To: johnmoy711@sbcglobal.net

<<TWDB Well Data Online Query.htm>>

HTML Attachment

TWDB Groundwater Database Query Result

REPORTED WATER WELL DATA ON STATE WELL NUMBER = 6815703

Query for another State Well Number: Submit

| Water Quality | Infrequent Constituent | Water Level | 5 Day Water Level | Well Casing | Remarks | Driller's Report |

*For a complete explanation, click here to read the TWDB Groundwater Data System Data Dictionary.

Field	Value	*Explanation
STATE WELL NUMBER	6815703	
COUNTY CODE	91	Comal County, Texas
BASIN	18	Guadalupe River Basin
ZONE	1	
REGION NUMBER	11	
PREVIOUS WELL NUMBER		
LATITUDE	294731	DMS (in decimal degrees: 29.791944)
LAT DEC	29.7919444	
LONGITUDE	981354	DMS (in decimal degrees: -98.231667)
LONG DEC	-98.2316667	
OWNER 1	James Beal	
OWNER 2		
DRILLER 1	Kutscher Drilling	
DRILLER 2	Co.	
SOURCE OF COORDINATES	1	

AQUIFER CODE	218GLRS	GLEN ROSE LIMESTONE
AQUIFER ID1	28	Trinity Aquifer
AQUIFER ID2		
AQUIFER ID3		
ELEVATION	1040	feet
ELEVATION MEASUREMENT METHOD	M	INTERPOLATED FROM TOPO MAP
ALPHA CODE		
DATE DRILLED	09 1984	
WELL TYPE	W	Withdrawal of Water
WELL DEPTH	225	feet
SOURCE OF DEPTH	D	DRILLER'S LOG
TYPE OF LIFT	S	SUBMERSIBLE PUMP
TYPE OF POWER	E	ELECTRIC MOTOR
HORSEPOWER		
PRIMARY WATER USE	S	STOCK
SECONDARY WATER USE		
TERTIARY WATER USE		
WATER LEVEL AVAILABLE	M	Click here for water level data
WATER QUALITY AVAILABLE	N	
WELL LOGS AVAILABLE	D	
OTHER DATA AVAILABLE	C	
DATE COLLECTED OR UPDATED	10141998	
REPORTING AGENCY	01	TWDB or Predecessor Agency
WELL SCHEDULE IN FILE	Y	
CONTRUCTION METHOD	C	Cable-tool
COMPLETION	X	Open Hole
CASING MATERIAL	P	PVC, Fiberglass, other Plastic
SCREEN MATERIAL		

Groundwater Database Disclaimer

The Groundwater Database (GWDB) of the Texas Water Development Board (TWDB) contains information about more than 123,500 water well, spring, and oil/gas test sites in Texas including associated water level and water quality data. Because data collection methods and data maintenance have varied and evolved over the years, the information in the GWDB has a range of accuracy that the user needs to be aware of. See Explanation of Groundwater Data for information on the sources of information and level of accurracy in the document.

The TWDB is providing information via this Web site as a public service. Except where noted, all of the

information provided is believed to be accurate and reliable; however, the Texas Water Development Board (TWDB) assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. **PLEASE NOTE** that users of this Web site are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via this Web site. TWDB specifically disclaims any and all liability for any claims or damages that may result from providing the Web site or the information it contains, including any Web sites maintained by third parties and linked to the TWDB Web site. TWDB makes no effort to verify independently, and does not exert editorial control over information on pages outside of the www.twdb.state.tx.us domain and its sub-domains. It is the user's responsibility to take precautions to ensure that whatever is selected is free of such items as viruses, worms, Trojan horses and other items of a destructive nature.

For additional information or answers to questions concerning the TWDB GWDB contact Roger Quincy at (512) 936-0833 or Janie Hopkins at (512) 936-0841.

You can download Groundwater Database Reports in ASCII text files from this link. The files are organized by Texas counties.

This page is maintained by WIID Staff
Last updated on 10/29/2007 2:14:20 PM

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

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

26. X Surface waters (including wetlands).

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

ADMINISTRATIVE INFORMATION

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

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

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

John Moy
Print Name of Customer/Agent

Signature of Customer/Agent

12/11/13
Date

WATER POLLUTION ABATEMENT PLAN APPLICATION

7. Attachment A – Factors Affecting Water Quality

The various items of construction involved with this project will consist of site clearing, grading, utility service lines, street construction and building structures for this 619.6 acre project site. Through these various phases of construction there will be disturbance of the existing site which are factors that could affect the surface water and groundwater quality. However, to assist in the preservation of the quality of surface water exiting the site during construction, temporary pollution controls will be installed. Some possible sources of contamination during construction would be from equipment or various pieces of machinery in the form of oil or fuel. Containment and cleanup for these types of contaminants is addressed in the Temporary Pollution Control section of this application.

After construction is complete and the site has been built, the factors affecting water quality will be residential in nature and will include runoff from rooftops, streets, driveways/sidewalks and greenbelt areas. Additionally, chemicals that may be present, which will also be of a residential nature, may include household pesticides and fertilizers for lawns and landscaping purposes only. The stormwater leaving these residential impervious areas will flow across vegetated areas (i.e. lawns, natural and revegetated channels, etc.) which will provide treatment of possible pollutants prior to leaving the site.

13. Attachment B – Volume and Character of Stormwater

The stormwater runoff generated from this site will consist of streets, rooftops, driveways/sidewalks, and greenbelt areas. The runoff will be of a domestic nature and may contain small amounts of fertilizers, suspended solids, household pesticides and oils that would be associated with residential use. This is a low density single family development with less than 20% impervious cover. Therefore, no structural permanent Best Management Practices are required to capture a specific volume of storm water runoff. However, in association with Comal County drainage regulations, detention ponds will be used for stormwater management across the site which will allow for sedimentation of solids and aid in the overall water quality (maintenance of the these detention ponds will be the responsibility of the Star Canyon Homeowner's Association). The average Pre-Construction runoff coefficient for the site is Cpre = 0.38 and the average Post-Construction runoff coefficient is Cpost = 0.46 (See Drainage Area Map in the Temporary Stormwater Section).

ATTACHMENT C

SUITABILITY LETTER

FROM

AUTHORIZED AGENT

Comal County

OFFICE OF COMAL COUNTY ENGINEER

December 10, 2013

Mr. John Moy, P.E.
Pawelek & Moy, Inc.
130 W. Jahn Street
New Braunfels, TX 78130

Re: Star Canyon West On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. Moy:

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 March 10, 2008:

- The Geologic Assessment, prepared by Frost GeoSciences, Inc.
- The Water Pollution Abatement Plan, prepared by Pawelek & Moy, Inc.

Areas that are not Suitable

The Geologic Assessment identified 7 recharge features as sensitive. The Water Pollution Abatement Plan gave the following Permanent Pollution Abatement Measures to prevent pollutants from entering said features:

Feature ID	Latitude	Longitude	Permanent Pollution Abatement Measure
S-6	29°47'34.036"	98°13'45.441"	200' Buffer
S-11	29°47'37.275"	98°14'15.201"	200' Buffer
S-12	29°47'42.375"	98°14'15.561"	200' Buffer
S-13	29°47'43.635"	98°14'15.021"	200' Buffer
S-17	29°47'4.934"	98°13'49.101"	200' Buffer
S-30	29°47'40.313"	98°14'11.316"	200' Buffer
S-103	29°47'32.095"	98°13'55.941"	See TAC §285.91(X)

In accordance with the Water Pollution Abatement Plan, the areas within these 200' buffers are not suitable for the use of private sewage facilities.

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

- All lots within Star Canyon Subdivision are subject to the terms and conditions of TAC §285.40-42;
- A Permit to Construct is required from Comal County before an OSSF can be constructed in Star Canyon Subdivision;
- A License to Operate is required from Comal County before an OSSF can be operated in Star Canyon Subdivision;
- That an application for a water pollution abatement plan, as defined in TAC §213, has been made, whether it has been approved, and if any restrictions or conditions have been placed on that approval; and
- Minimum separation distances, as outlined in Table 10 of TAC §285.91, from the sensitive recharge features listed above.

Furthermore, 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.

Finally, on a separate matter, according to TAC §285.4(c), persons proposing residential subdivisions within Comal County and using on-site sewage facilities (OSSFs) for sewage disposal are required to submit planning materials for the residential subdivision to Comal County. The planning materials shall be prepared by a professional engineer or professional sanitarian and shall include an overall site plan, topographic map, 100-year floodplain map, soil survey, location of water wells, locations of easements as identified in TAC §285.91(10) (relating to Tables), a complete report detailing the types of OSSFs to be considered and their compatibility with area-wide drainage and groundwater, and a comprehensive drainage plan. Comal County also asks for an existing improvements sketch and gate combination(s) in order to adequately inspect the site for use of OSSFs for sewage disposal. We have included Comal County's *Application for Licensing Authority Recommendation for Private Sewerage Facilities for a Proposed Subdivision* for your use.

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
Betty Lien, Comal County Subdivision Coordinator

attachment a/s

Greg W. Johnson, P.E.

170 Hollow Oak
New Braunfels, Texas 78132
830/905-2778

October 9, 2007

Alan Taylor
Warner Group, Inc.
4925 Greenville Ave., Suite 1020
Dallas, TX 75206

RE: Soil survey & OSSF compatibility
Beal Ranch at Bear Creek - F.M. 2722
Comal County, Texas

TYPE SOILS AND DRAINAGE

This location was surveyed for soil types and their compatibility with development and installation of septic systems. Tested soils have a moderate to high clay content and are a part of the Brackett-Rock outcrop-Real complex (BtG), Comfort-Rock outcrop complex(CrD), undulating, and Eckrant-Rock outcrop complex, steep with moderate to steeply sloping (6%-30%) and moderately well drained. The soil profile consists of a brown clay/clay loam with medium blocky structure to 8"-20"over over massive limestone. Additionally, a small part of this tract where residences will be located the tested soils have a moderate clay content and are a part of the Sunev, clay loam (1%-3% slopes) having brown clay loam with medium blocky structure to 12"-36" over tan silty loam caliche 24"-60".

OSSF TYPES

Since the site has shallow to moderate depth soils with a moderate clay content with fair soil absorption characteristics, a variety of septic systems are suitable depending on each lot. Recommended On Site Sewage Facilities (OSSF) for this site are aerobic treatment plants with spray or drip irrigation, or low pressure dosing fields. Terracing may be required on some lots to support the septic systems. Adequate space is available for any of the referenced OSSF's and their respective replacement areas.

The water service to each lot must be routed in such a way to provide a minimum of 10' separation from any part of each OSSF.

Respectfully yours,

Greg W. Johnson, P.E

OSSF Sizing

Water usage and field requirements:

3 Bedroom Residence Q = 240 GPD
4 Bedroom Residence Q = 300 GPD
5 Bedroom Residence Q= 360 GPD

Septic Tank Sizing for Low Pressure Dosing Drainfield

3 BR Tank Size = 750 gallon Dual Compartment
4 BR Tank Size = 1000 gallon Dual Compartment
5 BR Tank Size = 1250 gallon Dual Compartment

Drip Irrigation and Low Pressure Dosing
A = Q/Ra Ra = 0.2 g/sf (Type III Soil)
3 BR A = 240/0.2 = 1200 sf.
4 BR A = 300/0.2 = 1500 sf.
5 BR A = 360/0.2 = 1800 sf.

A = Q/Ra Ra = 0.1 g/sf (Type IV Soil)
3 BR A = 240/0.2 = 1200 sf.
4 BR A = 300/0.2 = 1500 sf.
5 BR A = 360/0.2 = 1800 sf.

Aerobic Treatment Plant (Spray Irrigation)
A = Q / Ri Ri = 0.064 g/sf
3 BR A = 240/0.064 = 3750 sf.
4 BR A = 300/0.064 = 4688 sf.
5 BR A = 360/0.064 = 5625 sf.

ON-SITE SEWERAGE FACILITY
SOIL EVALUATION REPORT INFORMATION

Date Soil Survey Performed: **October 09, 2007**

Site Location: **Beal Ranch at Bear Creek on F.M. 2722**

Proposed Excavation Depth: **0"-36"**

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.
Locations of soil boring or dug pits must be shown on the site drawing.
For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.
Describe each soil horizon and identify any restrictive features on the form. Indicate depths where features appear.

SOIL BORING NUMBER **1-10**

Depth (Feet)	Texture Class	Soil Texture	Gravel Analysis	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
0						
1						
2	8"-20"	Type III/IV	CLAY LOAM/ CLAY	<30%	NO	L.S. @ 8"-20"	BROWN
3						
4						
5						

SOIL BORING NUMBER **11-13**

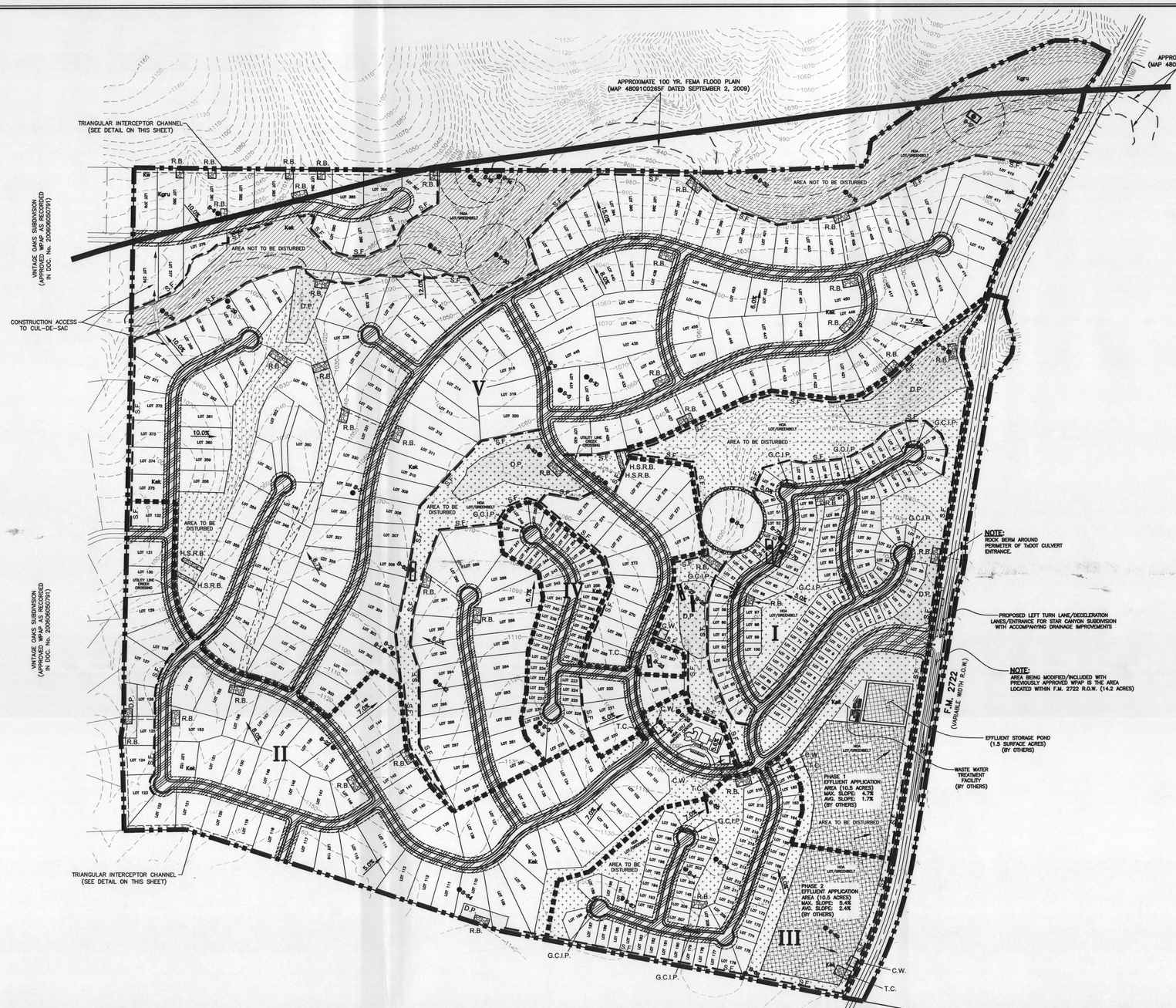
Depth (Feet)	Texture Class	Soil Texture	Gravel Analysis	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
0						
1						
2	12"-36"	TYPE III	CLAY LOAM	<30%	NO	BROWN
3					LIMESTONE @ 24"-60"	
4	24"-60"	TYPE III	SILTY LOAM			TAN CALICHE
5						

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.

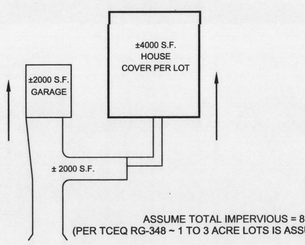
Greg W. Johnson, P.E. 67587, S.E. 11561

10/09/2007
Date

SITE PLAN



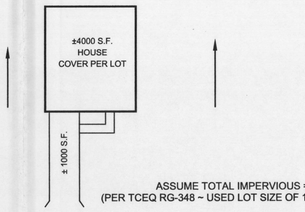
SILT FENCE TO BE INSTALLED DOWNGRADIENT OF DISTURBED AREAS CAUSED BY CONSTRUCTION OF LOT IMPROVEMENTS AND SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED



ASSUME TOTAL IMPERVIOUS = 8,000 S.F.
(PER TCEQ RG-348 ~ 1 TO 3 ACRE LOTS IS ASSUMED TO BE 7,000 S.F)

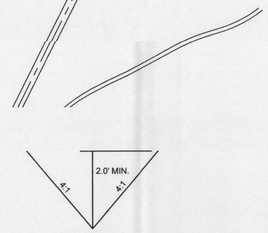
TYPICAL LOT IMPERVIOUS COVER (1 TO 3 ACRE LOTS)
N.T.S.

SILT FENCE TO BE INSTALLED DOWNGRADIENT OF DISTURBED AREAS CAUSED BY CONSTRUCTION OF LOT IMPROVEMENTS AND SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED



ASSUME TOTAL IMPERVIOUS = 5,000 S.F.
(PER TCEQ RG-348 ~ USED LOT SIZE OF 15,000 S.F. TO 1 ACRE)

TYPICAL LOT IMPERVIOUS COVER (LOTS LESS THAN 1 ACRE)
N.T.S.



TRIANGULAR INTERCEPTOR CHANNEL
N.T.S.

LEGEND

- D.P. — APPROXIMATE LOCATION OF DETENTION PONDS
- S-00 — GEOLOGIC FEATURE
- Kek — EDWARDS KAINER LIMESTONE
- Kw — WALNUT FORMATION
- Kgru — UPPER GLENN ROSE LIMESTONE
- FORMATION CONTACT
- 200' / S-00 — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE.
- H.S.R.B. 200' / S-00 — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE w/TEMPORARY HIGH SERVICE ROCK BERM AROUND PERIMETER.
- S.F. — SILT FENCE
- R.B. — ROCK BERM
- H.S.R.B. — HIGH SERVICE ROCK BERM
- G.C.I.P. — GRAVEL CURB INLET PROTECTION
- T.C. — TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- C.W. — CONCRETE WASHOUT
- AREA NOT TO BE DISTURBED
- AREAS TO BE DISTURBED (PROPOSED R.O.W.'s & UTILITY EASEMENTS w/SOIL STABILIZATION)
- POTENTIAL AREAS TO BE DISTURBED (POTENTIAL CHANNEL IMPROVEMENTS OR BRUSH CLEARING w/SOIL STABILIZATION WHERE ROCK IS NOT ENCOUNTERED)
- SITE BOUNDARY
- I — POSSIBLE PHASE

GRAPHIC SCALE
300 0 150 300
(IN FEET)
1 inch = 300 ft.

NOTE: HIGH SERVICE ROCK BERM SHALL BE LOCATED OUTSIDE OF THE 200 FT. BUFFER ZONE AND NOT WITHIN IT.

NATIVE BUFFER ZONE NOTE:

BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF A BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.

SOIL STABILIZATION NOTE

WHERE CHANNEL IMPROVEMENTS ARE SHOWN LEADING TO THE STREAMBEDS AND CREEKS (SHOWN AS "AREAS TO BE DISTURBED"), AND ROCK IS NOT ENCOUNTERED AT THE PROPOSED FINAL GRADE OF THE CHANNEL, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THIS VEGETATIVE STABILIZATION PROCEDURE SHALL BE CONSTRUCTED IN THE AREAS WHERE THE FLOW VELOCITIES ARE LESS THAN 6 FEET PER SECOND (FPS) AND ROCK IS NOT ENCOUNTERED AT THE FINAL SURFACE. IN AREAS WHERE SOIL IS PRESENT AT THE FINAL SURFACE AND FLOW VELOCITIES ARE GREATER THAN 6 FPS, ROCK RIPRAP, TYPE 'R' (PER TXDOT ITEM 432) SHALL BE APPLIED TO THE DISTURBED AREAS OF THE CHANNELS FOR FINAL SOIL STABILIZATION PURPOSES. THIS PROCEDURE SHALL BE IMPLEMENTED UPON FINAL EXCAVATION AND GRADING ACTIVITY OF THE CHANNELS/SWALES. IN OTHER AREAS SHOWN AS "AREAS TO BE DISTURBED" (RIGHT OF WAYS, UTILITY EASEMENTS, BRUSH CLEARING, ETC.) VEGETATIVE PROCEDURES MENTIONED PREVIOUSLY SHALL APPLY WHERE ROCK IS NOT ENCOUNTERED, WITH THE AREAS OF CONCENTRATED FLOW FOLLOWING THE PREVIOUSLY MENTIONED GUIDELINES REGARDING FLOW VELOCITIES.

VELOCITY CONTROL NOTE

AT THE POINTS WHERE PROPOSED CHANNELS/SWALES SHOWN IN THE "AREAS TO BE DISTURBED" DISCHARGE INTO THE STREAMBEDS/CREEKS AND THE FLOW VELOCITIES ARE GREATER THAN 6 FEET PER SECOND, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THESE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

◆◆ NOTE ◆◆

THIS SITE WILL BE USED FOR A LOW DENSITY SINGLE-FAMILY DEVELOPMENT AND HAS 20% OR LESS IMPERVIOUS COVER. THEREFORE, NO OTHER PERMANENT BMP'S WITH SUPPORTING CALCULATIONS ARE REQUIRED/PRESENT.

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

IMPERVIOUS COVER OF PROPOSED PROJECT	SQ. FT.	SQ. FT./ACRE	ACRES
STRUCTURES/ROOFTOPS (457 RESIDENTIAL LOTS)	3,050,000	÷ 43,560 =	70.02
STREETS & SIDEWALKS (WITHIN SUBDIVISION)	1,620,445	÷ 43,560 =	37.20
AMENITY CENTER IMPROVEMENTS (WITHIN SUBDIVISION)	84,506	÷ 43,560 =	1.94
WASTE WATER TREATMENT FACILITY (WITHIN SUBDIVISION)	115,537	÷ 43,560 =	2.65
F.M. 2722 IMPROVEMENTS (WITHIN TxDOT RIGHT OF WAY)	46,290	÷ 43,560 =	1.06
TOTAL IMPERVIOUS COVER	4,916,778	÷ 43,560 =	112.87
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			18.22%

TOTAL SITE ACREAGE (605.4 Ac.(ORIGINAL SITE) + 14.2 Ac. TxDOT R.O.W.) = 619.6 AC.

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

STATE OF TEXAS — JOHN LAMOY JR. — 87635 — REGISTERED PROFESSIONAL ENGINEER — 12/11/13

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

SITE PLAN FOR STAR CANYON SUBDIVISION - MODIFICATION

COMAL COUNTY, TEXAS

REVISIONS

DESCRIPTION	DATE

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

S1 OF 2

F:\1210.02 - Star Canyon\dwg\S1.dwg, 2013/12/11 5:43pm, Administrator

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:

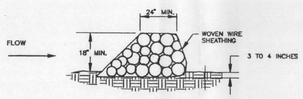
    A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

    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;

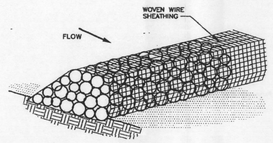
    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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.



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

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

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

Installation:

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

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

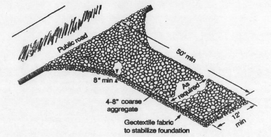
(3) Place the rock along the sheathing as shown in the diagram (Figure 1-1), to a height not less than 18".

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

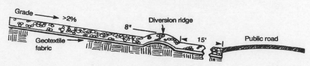
(5) Berm should be built along the contour at zero percent grade or as near as possible.

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

ROCK BERM DETAIL
N.T.S.



Schematic of Temporary Construction Entrance/Exit



Cross-section of a Construction Entrance/Exit

Materials:

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

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

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2, a mullen burst rating of 140 lb/in^2, and an equivalent opening size greater than a number 50 sieve.

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

Installation:

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

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

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

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

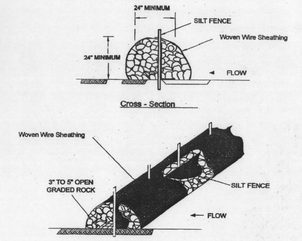
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

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

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

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

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



Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft^2, and Brindell hardness exceeding 140. Rebar (either #5 or #6) may also be used to anchor the berm.

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

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

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

Installation:

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

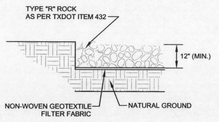
(2) Install the silt fence along the center of the proposed berm placement, as with a normal silt fence described in Section 2.4.3.

(3) Place the rock along the sheathing on both sides of the silt fence as shown in the diagram (Figure 1-1), to a height not less than 24 inches. Clean, open graded 3-5" diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rock may be used.

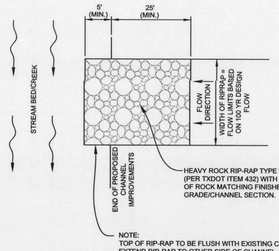
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.

(5) The high service rock berm should be removed when the site is revegetated or otherwise stabilized or it may remain in place as a permanent BMP if drainage is adequate.

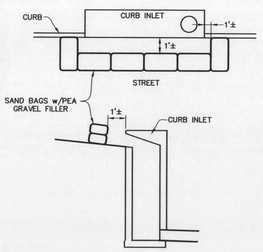
HIGH SERVICE ROCK BERM DETAIL
N.T.S.



ROCK RIPRAP DETAIL
N.T.S.



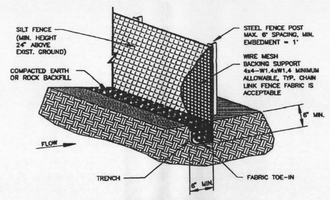
TYPICAL VELOCITY CONTROL DETAIL
N.T.S.



INSPECTION AND MAINTENANCE GUIDELINES:

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3". REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING
5. STRUCTURE SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

GRAVEL CURB INLET PROTECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

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

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

Installation:

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

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

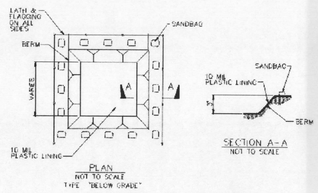
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill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

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

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

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

SILT FENCE DETAIL
N.T.S.



FOR ONSITE WASHOUT:

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

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

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

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

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

6) SEE TCEQ RG-348 SECTION 1.4.1B CONCRETE WASHOUT AREAS FOR ANY ADDITIONAL INFORMATION.

CONCRETE WASHOUT DETAIL
N.T.S.

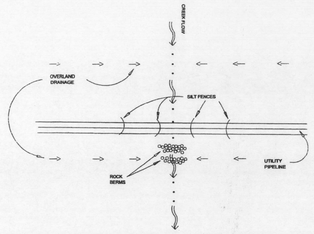


Figure 1-1 Utility Line Creek Crossing (LCRA, 1998)

INSTALLATION:

(1) Unless prior approval is received from TCEQ, utility line creek crossings should be made perpendicular to the creek flowline.

(2) If baseflow is present, TCEQ personnel should be consulted, as it may be necessary to divert or pump water around the construction area.

(3) Every effort should be made to keep the zone of immediate construction free of surface water. For construction in the creek channel, a pipe of adequate size to divert normal stream flow should be provided around the construction area. Diversion may be by pumping or gravity flow using temporary dams

(4) Where water must be pumped from the construction zone, discharges should be in a manner that will not cause scouring or erosion. All discharges shall be on the upstream or upslope side of emplaced erosion control structures. If discharges are necessary in easily erodible areas, a stabilized, energy-dissipating discharge apron shall be constructed of riprap with minimum stone diameter of 6 inches and minimum depth of 12 inches. Size of the apron in linear dimensions shall be approximately 10 times the diameter of the discharge pipe.

(5) Before any trenching, install two high service rock berms at 100-ft spacing across *the channel (perpendicular to the flowline) downstream of the* proposed trench. These berms should be located between 100 and 300 feet downstream of the proposed trench. Lay pipe or other utility line and bury as soon as possible after trenching.

(6) After installation is complete (or at the end of work day, if installation cannot be completed by end of day), install silt fencing along trench line on either side of creek at 25-ft intervals, as shown in Figure 1-1.

(7) Material excavated from the trench in the creek channel should not be deposited on the channel banks. Excavation should be hauled out of the channel or used in backfill of open trench. No loose excavated material should be left in the channel at the end of a work day

(8) A concrete cap should be placed over buried pipe within the creek, and the streambed should be restored to proper grade.

(9) Revegetate the disturbed area using appropriate native or adapted grass species applied either with hydromulch at twice the normal application rate or incorporated with erosion protection matting.

UTILITY LINE CREEK CROSSING DETAIL
N.T.S.

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

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

WATER POLLUTION ABATEMENT PLAN
GENERAL NOTES & DETAILS
FOR
STAR CANYON SUBDIVISION - MODIFICATION
COMAL COUNTY, TEXAS

REVISIONS		
DESCRIPTION	DATE	

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

S2 OF 2

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

REGULATED ENTITY NAME: Star Canyon Subdivision - Modification

POTENTIAL SOURCES OF CONTAMINATION

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

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

__ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year.

__ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

__ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

X Fuels and hazardous substances will not be stored on-site.

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

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

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

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

SEQUENCE OF CONSTRUCTION

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

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

X 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. (Silt Fences, Rock Berms and Curb Inlet Protection will be used)

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

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

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

John Moy

Print Name of Customer/Agent

Signature of Customer/Agent

12/11/13

Date

TEMPORARY STORMWATER SECTION

2. Attachment A – Spill Response Actions

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

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

RG-348
Revised July 2005

Complying with the Edwards Aquifer Rules

Technical Guidance on Best Management Practices

Field Operations Division

printed on recycled paper

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

1.4.16 Spill Prevention and Control

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

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

Education

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

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

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

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

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

General Measures

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

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

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

(4) Train employees in spill prevention and cleanup.

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

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

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

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

(5) Contain the spread of the spill.

(6) Recover spilled materials.

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

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

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

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

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

Vehicle and Equipment Maintenance

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

5. Attachment C – Sequence of Major Activities

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

Sequence No.	Description of Soil Disturbing Activity	Estimated Area to be Disturbed by each Activity (Acres ~ Total)
1	Clearing/Grubbing (Streets & Utilities)	91
2	Clearing/Excavation/Grading (Channel Improvements & Underbrushing/Clearing HOA Areas, Wastewater Treatment Facility/Effluent Areas)	115
3	Installation of Underground Utility Service	35
4	Structures (Residential & Amenity Center Lots)	72

Note the estimated areas to be disturbed in the above table reflect the total areas which will be constructed in five units of development.

7. Attachment D – Temporary Best Management Practices and Measures

The Temporary Best Management Practices (TBMP) that will be used for this development are rock berms, silt fences, high service rock berms, temporary construction entrance/exits, concrete washout areas and curb inlet protection in accordance with the Site Plan and phase of development. The temporary controls will be installed by and maintained by the contractor during construction. The controls shall be removed by the contractor when vegetation is established on all exposed or disturbed areas.

The temporary controls (i.e. rock berms, silt fences, high service rock berms, temporary construction entrance/exits and concrete washout areas) shall be in place prior to construction activities. These temporary measures will remain in place throughout the clearing and grubbing, excavation and grading and underground utility service installation. Upon completion of the utility and street construction, silt fences shall be installed down gradient of all proposed residential home sites, the amenity site and wastewater treatment facility to prevent any sediment

from leaving the individual lots or disturbed areas. Depending on the phase of construction, the temporary construction entrance/exit shall be relocated as shown on the Site Plan and will be removed just prior to final pavement placement.

a. Stormwater that is flowing upstream of the site, in the Little Bear Creek, will continue to pass through the project limits in its current path and flow characteristics. The other stormwater that originates upgradient of the project site will be allowed to enter the property but then be intercepted by triangular interceptor channels. The flow in the interceptor channels will then be directed around the disturbed areas and rock berms will be installed in these channels to control sediment from the disturbed areas. The rock berms will slow the velocity of the water and allow the sediment to settle out. Once the sediment has been deposited to a temporary device, it will be the contractors responsibility to remove the sediment that builds up after significant rainfall events. The interceptor channels will be vegetated in the final control of the site.
b. The stormwater that originates on-site will be controlled and filtered by rock berms and silt fences on the downgradient side of the areas of disturbance, and also by curb inlet protection located in front of the curb inlets. The rock berms, silt fences and inlet protection will reduce the velocity of the water and allow the sediment to settle out and be trapped by the control device. After a significant rainfall event, it will be the contractor's responsibility to remove the sediment and debris that is captured.
c. The BMP's will prevent pollutants from entering surface streams, sensitive features, or the aquifer by capturing the silts and sediments through the utilization of the previously mentioned control devices such as silt fences, rock berms, curb inlet protection and high service rock berms. These devices are located such that they capture the silts and sediment prior to entering the surface streams, sensitive features, etc. where they would otherwise be carried downstream. The settlement of the silts and sediment is due to the reduction of the velocity of the water.
d. There are six naturally-occurring sensitive features located on the site, features S-6, S-11, S-12, S-13, S-17 and S-30. Features S-11, S-12, S-13, S-17 and S-30 fall in the Little Bear Creek which has been labeled an area of no disturbance and are being protected on the uphill side by silt fences and rock berms. S-6 is located in a smaller tributary which is being protected by a natural vegetative buffer zone where no disturbance is permitted and a high service rock berm, due to this feature being located in close proximity to a proposed detention pond/soil disturbing area. The natural drainage patterns to these sensitive features will be maintained and protected during construction through these temporary measures. There are no naturally-occurring sensitive features being proposed to be sealed.

9. Attachment F – Structural Practices

The structural practices that will be used for temporary erosion/sediment control for this development are rock berms, silt fences, high service rock berms, curb inlet protection, temporary construction entrance/exits and a concrete washout area. Additionally, interceptor channels will be utilized along portions of the site where upgradient flow enters the property. These channels will be used to divert stormwater away from areas of disturbance and on the outflow of these interceptor channels there will be temporary rock berms installed. As mentioned previously, the rock berms will allow the silts and sediment to settle out prior to discharging into surface streams or sensitive features.

10. Attachment G – Drainage Area Map

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

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

A. Rock Berm Inspection and Maintenance Guidelines:

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

B. Silt Fence Inspection and Maintenance Guidelines:

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

C. High Service Rock Berm Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) All sediment shall be removed when buildup reaches 6 inches.
3) Repair any damaged wire sheathing.
4) The berm shall be reshaped as necessary during the inspection process.
5) If the berm does not function as intended due to damage or silt accumulation, it shall be replaced.
6) The rock berm shall be left in place until all upstream disturbed areas are stabilized and the accumulated silt has been removed.

D. Temporary Construction Entrance/Exit:

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

E. Concrete Washout Area Inspection and Maintenance Guidelines:

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

F. Inlet Protection Inspection and Maintenance Guidelines:

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

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

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes

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

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

Maintenance Required for Temporary Construction Entrance/Exit:

_____

_____

_____

To Be Performed by:_____ On or Before:_____

SILT FENCE
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Silt Fence:

_____

_____

_____

To Be Performed by:_____ On or Before:_____

ROCK BERMS

INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Rock Berms:

_____

_____

_____

To Be Performed by:_____ On or Before:_____

HIGH SERVICE ROCK BERMS

INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for High Service Rock Berms:

_____

_____

_____

To Be Performed by:_____ On or Before:_____

CONCRETE WASHOUT AREA

INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Concrete Washout Area:

_____

_____

_____

To Be Performed by:_____ On or Before:_____

CURB INLET PROTECTION
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Silt Fence:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

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

A. Temporary Stabilization

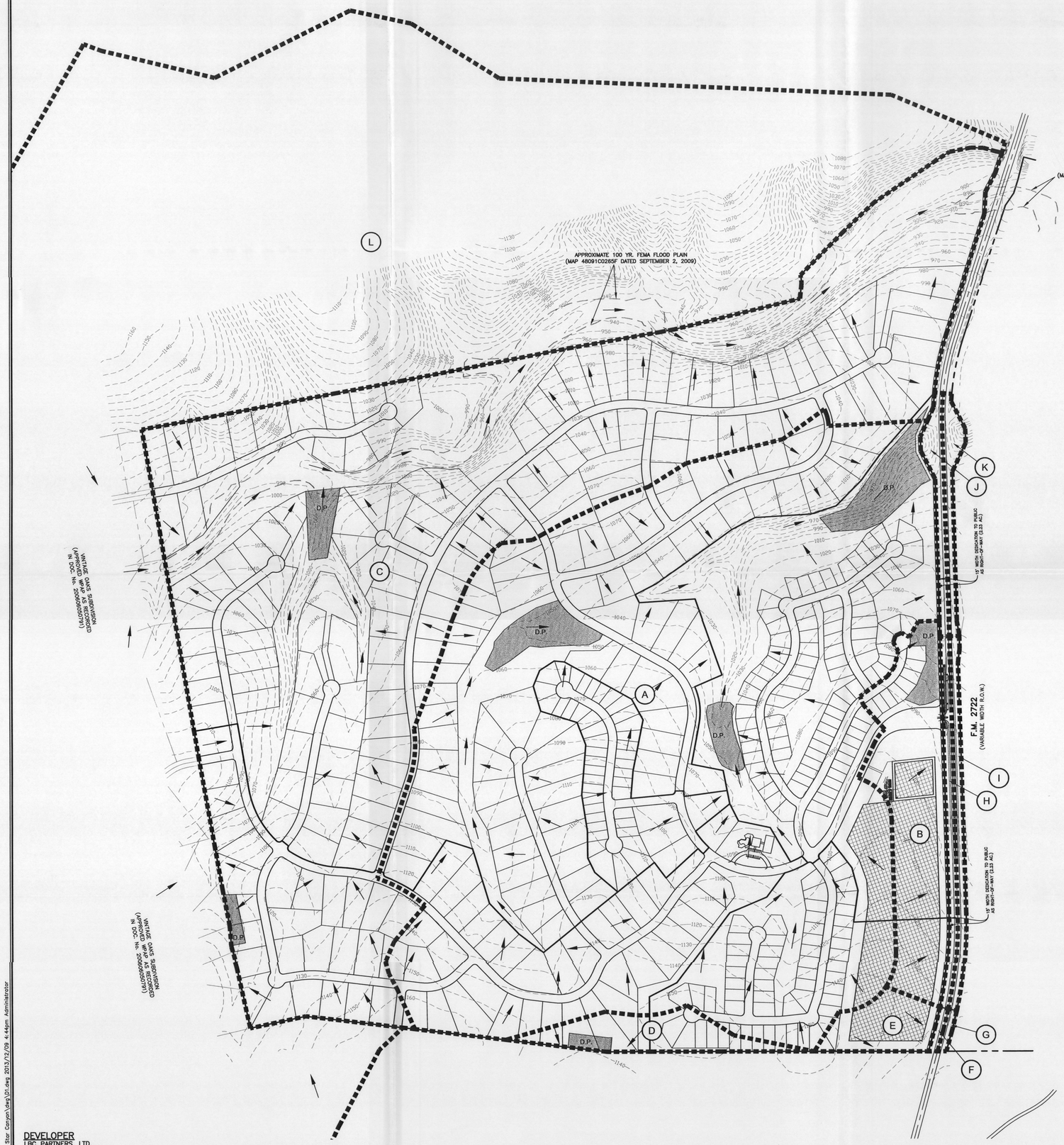
No bare ground exposed during construction will be left to stabilize naturally. Any disturbed area where construction activities have ceased, permanently or temporarily, the contractor shall initiate temporary stabilization of the area by the use of seeding and mulching within 14 days, except in areas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

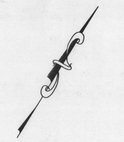
B. Permanent Stabilization

All disturbed portions of the site where construction activity permanently ceases shall be stabilized with permanent seed no later than 14 days after the last construction activity. The permanent seed mix shall consist of Bermuda Grass, Green Sprangletop and Buffalo Grass with straw or cedar mulch applied on the final layer in accordance with TxDOT Item 164 – Seeding for Erosion Control. Depending on the growing season at the time of construction, the mixture and application rates may be modified. It shall be the contractor's responsibility to provide watering bi-weekly for the seeded areas for a period of 45 calendar days.

ATTACHMENT G

MASTER DRAINAGE AREA MAP





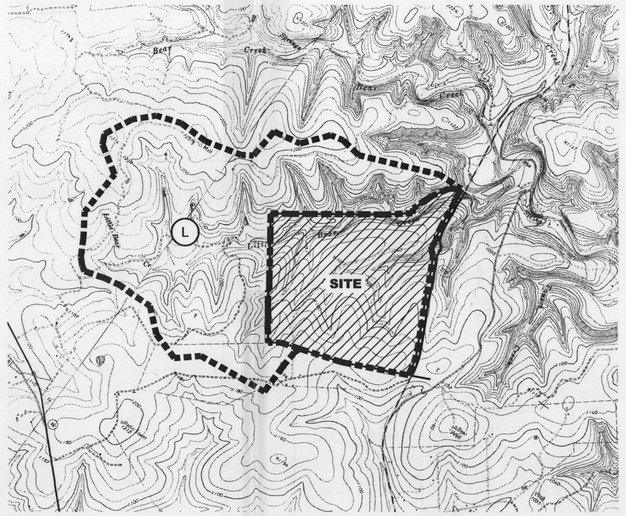
(IN FEET)
1 inch = 300 ft.

LEGEND

- D.P. — APPROXIMATE LOCATION OF PROPOSED DETENTION POND
- 1000 — EXISTING CONTOURS
- DRAINAGE AREA BOUNDARY (PROPOSED DEVELOPMENT)
- (A) — DRAINAGE AREA
- FLOW DIRECTION

DRAINAGE AREA DESIGNATION	DRAINAGE AREAS (acres)
A	297.80
B	24.70
C	268.50
D	8.30
E	6.10
F	0.40
G	0.40
H	3.70
I	3.60
J	3.10
K	3.00
L	1190.60

DRAINAGE AREA DESIGNATION	COMPOSITE RUNOFF COEFFICIENT OF SITE
A-E(exist-site)	0.38
A-E(dev.-site)	0.46



OVERALL OFFSITE DRAINAGE AREAS
SCALE: 1" = 2000'

DEVELOPER
LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TEXAS 75206
(214)368-0238

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

STATE OF TEXAS — JOSEPH J. MOY JR. — 87535 — REGISTERED PROFESSIONAL ENGINEER
12/11/13

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

DRAINAGE AREA MAP
FOR
STAR CANYON SUBDIVISION - MODIFICATION
COMAL COUNTY, TEXAS

REVISIONS

DATE	DESCRIPTION

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

D1

F:\1210.02 - Star Canyon\dwg\01.dwg 2013/12/09 4:44pm Administrator

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

REGULATED ENTITY NAME: Star Canyon Subdivision - Modification

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

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

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

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

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

   _____

   _____

   _____

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

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

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

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

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

5. N/A The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be

recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

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

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

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

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

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

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

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

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

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

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

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

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

X The permanent sealing of or diversion of flow from a naturally-occurring "sensitive"

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

__ **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

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

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

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

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

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

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

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

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

of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

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

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

John Moy

Print Name of Customer/Agent

Signature of Customer/Agent

12/11/13

Date

PERMANENT STORMWATER SECTION

6. Attachment B- BMP's for Upgradient Stormwater

Permanent BMP's or measures are not required due to the location of this site in relation to the surrounding properties. There are two concentrated low points that enter the site from the west which is runoff from an adjacent low density single family residential subdivision (Vintage Oaks Subdivision). There is also runoff from the north which drains onto this site but it is located on the opposite side of Little Bear Creek where minimal disturbance is planned and no channel improvements in the creek are being proposed. At certain locations where upgradient flow does enter the site, permanent interceptor drains are being installed with permanent vegetation.

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

There are no permanent BMP's required for this project site due to this being a low density single family development with a total impervious cover of 20% or less. There are six naturally-occurring sensitive features present on the site with 200-ft. natural buffer zones being required around these features. Temporary BMP's will be installed downstream of all disturbed areas during construction and then be removed upon final stabilization.

8. Attachment D- BMP's for Surface Streams

The proposed Temporary BMP's for this site will consist of rock berms, a high service rock berm, silt fences, temporary construction entrances/exits, concrete washout areas and curb inlet protection. Due to this development consisting of less than 20% impervious cover, no other BMP's are required. However, as previously mentioned, there are 200-ft. native buffer zones being implemented around the naturally-occurring sensitive features. Feature S-6 is being protected during construction by a high service rock berm which will be installed prior to any construction activity. The remaining naturally-occurring sensitive features (S-11, S-12, S-13, S-17 and S-30) are being protected by silt fences and rock berms, upgradient of the features, which will be removed upon final stabilization of the disturbed areas but permanent buffer zones will remain in place.

13. Attachment I – Measures for Minimizing Surface Stream Contamination

Due to this being a low density single family development with less than 20% impervious cover, permanent BMP's are not required. At the points where newly constructed channels discharge into natural streambeds or creeks, a heavy rock riprap (Type "R" per TxDOT Item 432) will be used to dissipate any flow velocities greater than 6 feet per second. Majority of the surface water will be entering the natural drainage ways in a sheet-flow manner off the rear the proposed residential lots. Water entering in this manner will not have an adverse impact on the receiving streambeds or creeks.

Attachment "G"

Maintenance Plan and Schedule
for
Sensitive Feature Buffer Zones

PROJECT NAME Star Canyon Subdivision

SITE LOCATION On FM 2722, 3.5 Miles north of State Highway 46 on the left (west) side.

Sensitive Feature Buffer Zone Inspection and Maintenance

Buffer zones around a sensitive recharge feature or cluster of contiguous point recharge features shall be maintained in a natural state to the maximum extent possible. This implies a construction-free zone. When all or a portion of the buffer for a sensitive feature is located within the yard of a residential tract, it shall be separated by a barrier, such as a fence, from conventional landscaping and maintained in the natural state. The "Natural State" of a buffer will typically be a combination of dense native grasses, shrubs and trees.

Introduction of ornamental turf or landscaping within a natural buffer zone is prohibited because this type of activity would require soil amendments, frequent maintenance, and application of fertilizers, pesticides and herbicides. The existing soil structure and vegetation are compatible with pre-existing recharge conditions and shall require little maintenance. Therefore the following inspection and maintenance is recommended:

4 – Times Per Year
The buffer zone shall be checked for accumulation of any debris and trash. The debris and trash shall be removed manually to the maximum extent possible without soil disturbance and compromising the integrity of the natural buffer zone. All large debris and trash shall be removed at a minimum of four times per year.

Responsible Party for Maintenance LBC Partners, Ltd.

Address 4925 Greenville Ave., Suite 1020

City, State Zip Dallas, Texas 75206

Telephone Number (214) 368-0238

Signature of Responsible Party Stephen L Sallman Mgr. 12/4/13
Date

Print Name of Responsible Party Stephen L. Sallman

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

I Stephen L. Sallman,
Print Name

Manager,
Title - Owner/President/Other

of LBC Advisors LLC general partner of LBC Partners, Ltd
Corporation/Partnership/Entity Name

have authorized John Moy
Print Name of Agent/Engineer

of Pawelek & Moy, Inc
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L. Sallman, Mgr. 11/25/13

Applicant's Signature Date

THE STATE OF Texas §

County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 25th day of Nov., 2013.

Tamara Miguez

NOTARY PUBLIC

TAMARA MIGUEZ

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7-29-2014

NOTARY PUBLIC STATE OF TEXAS

TAMARA J MIGUEZ
My Commission Expires
July 29, 2014

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision - Modification
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722.
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	619.6	Acres	$ 10,000.00
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
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

12/11/13
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TEXAS 75206
(214) 368-0238

BANK OF TEXAS, N.A.
DALLAS, TEXAS
32-1432/1110

1183

11/25/2013

PAY TO THE ORDER OF TCEQ | $**10,000.00

Ten Thousand and 00/100********** DOLLARS

TCEQ

MEMO WPAP Modification Fee

AUTHORIZED SIGNATURE

⑈001183⑈ ⑆111014325⑆ ⑈8091637064⑈

1183

TCEQ PRE DEV COSTS	WPAP Modification Fee (Star Canyon)	11/25/2013	10,000.00

LBC-BOTx (MM)	WPAP Modification Fee	10,000.00

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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 WPAP Modification

2. Attachments ☒ Yes ☐ No

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

WPAP Modification - S.A. File No. 2781.00

3. Customer Reference Number *(if issued)*

CN 603336405

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number *(if issued)*

RN 105483382

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)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

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

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

21. Independently Owned and Operated? ☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

Star Canyon Subdivision - Modification

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

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

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

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

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

35. Description to Physical Location:	

36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John Moy	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629-2563	-	(830)629-2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John Moy	Phone:	(830)629-2563
Signature:	John Moy	Date:	12/11/13

RECEIVED

MAR 20 2014

COUNTY ENGINEER

GENERAL INFORMATION FORM

7. **Attachment C – Project Description**

The project site is located along FM 2722 approximately 3.5 miles north of the intersection of FM 2722 and State Highway 46. The proposed site pertaining to this application is a 605.4 acre tract of land located on the west side of FM 2722 (Previously approved WPAP see attached approval letter in Modification of Previously Approved Plan section) plus 14.24 acres of FM 2722 right-of-way (now included for the proposed turning lanes, drainage improvements and entrance into the subdivision) and a reduction of 34.06 acres for a future waste water treatment facility (which will be covered by a separate Water Pollution Abatement Plan) for a total project site of 585.58 acres.

Specifically this Modification addresses the proposed additional impervious cover located within FM 2722 Right of Way (i.e. the turning lanes, the entrance/driveway and associated drainage improvements) and the proposed additional impervious cover associated with the residential portion of the site that contains lots less than 1 acre to be served by a proposed wastewater treatment facility. The previously approved Impervious Cover was 80.42 acres (13.28%) and the proposed impervious cover will be 110.22 acres (18.82%).

Therefore, this application is for a 571.34 acre tract of land that will be developed into a 457 lot residential subdivision which contains a Home Owners Association Amenity Center and 14.24 acres of FM 2722 right-of-way (which includes the pavement widening for the proposed turning lanes, entrance/driveway and associated drainage improvements) for a total project site of 585.58 acres. The entire subdivision will be served by a public water supply system and the lots that will not be served by the proposed wastewater treatment facility will be a minimum of 1 acre (43,560 sf) and will contain an On-Site Sewage Facility (OSSF) per Comal County/State standards. The overall developed project will consist of less than 20% impervious cover, therefore no permanent structural BMP's will need to be installed. The permanent BMP's around the naturally-occurring sensitive features found on the site will be a native vegetation buffer zone a minimum of 200 feet around each feature. This native vegetation buffer zone will be delineated on the recorded plat for each unit, where applicable, and will be labeled as a restricted no building zone.

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MAR 20 2014

COUNTY ENGINEER

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

1. Current Regulated Entity Name: Star Canyon Subdivision - Modification
Original Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)
Assigned Regulated Entity Numbers (RN): 1) 105483382, 2) _____, 3) _____

X The applicant has not changed and the Customer Number (CN) is: CN 603336405
___ The applicant has changed. A new Core Data Form has been provided

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

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

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

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

WPAP Modification Summary	Approved Project	Proposed Modification
Acres	605.4	585.58
Type of Development	Residential	Residential
Number of Residential Lots	346	457
Impervious Cover (acres)	80.42	110.22
Impervious Cover (%)	13.28%	18.82%
Permanent BMPs	NA - Less than 20%	NA - Less than 20%
Other	Impervious Cover Exemption	Impervious Cover Exemption Proposed

SCS Modification Summary	Approved Project	Proposed Modification
Linear Feet	NA	NA
Pipe Diameter	NA	NA
Other	NA	NA

AST Modification Summary	Approved Project	Proposed Modification
Number of ASTs	NA	NA
Volume of ASTs	NA	NA
Other	NA	NA

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

REGULATED ENTITY NAME: Star Canyon Subdivision - Modification

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MAR 20 2014
COUNTY ENGINEER

REGULATED ENTITY INFORMATION

1. The type of project is:
   - X Residential: # of Lots: 457
   - ___ Residential: # of Living Unit Equivalents: ___
   - ___ Commercial
   - ___ Industrial
   - X Other: Homeowners Association Amenity Lot

2. Total site acreage (size of property): 585.58 acres

3. Projected population: 1143

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops (457 Res. Lots)	3,050,000	÷ 43,560 =	70.02
~~Parking~~ (Streets & Sidewalks, and Amenity Ctr.)	1,704,951	÷ 43,560 =	39.14
Other paved surfaces (FM 2722 Improvements)	46,290	÷ 43,560 =	1.06
Total Impervious Cover	4,801,241	÷ 43,560 =	110.22
Total Impervious Cover ÷ Total Acreage x 100 =			18.82%

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

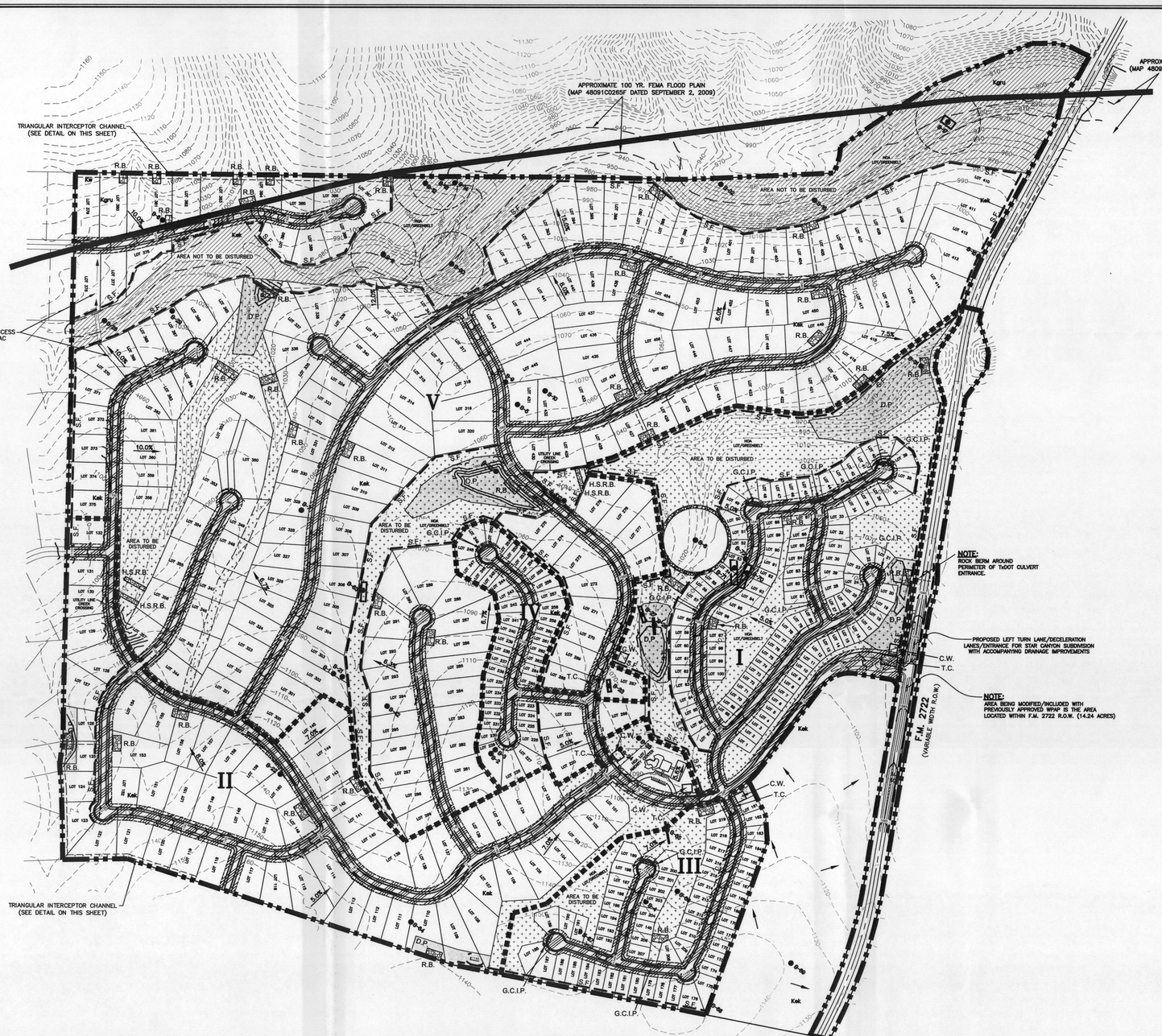
6. X Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY

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

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

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



LEGEND

- D.P. — APPROXIMATE LOCATION OF DETENTION PONDS
- S-00 — GEOLOGIC FEATURE
- Kek — EDWARDS KAINER LIMESTONE
- Kw — WALNUT FORMATION
- Kgru — UPPER GLENN ROSE LIMESTONE
- FORMATION CONTACT
- 200' / S-00 — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE.
- H.S.R.B. — 200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE w/TEMPORARY HIGH SERVICE ROCK BERM AROUND PERIMETER.
- S.F. — SILT FENCE
- R.B. — ROCK BERM
- H.S.R.B. — HIGH SERVICE ROCK BERM
- G.C.I.P. — GRAVEL CURB INLET PROTECTION
- T.C. — TEMPORARY CONSTRUCTION ENTRANCE/EXIT
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- AREA NOT TO BE DISTURBED
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- POTENTIAL AREAS TO BE DISTURBED (POTENTIAL CHANNEL IMPROVEMENTS OR BRUSH CLEARING w/SOIL STABILIZATION WHERE ROCK IS NOT ENCOUNTERED)
- SITE BOUNDARY
- I — POSSIBLE PHASE

GRAPHIC SCALE
300 0 150 300
(IN FEET)
1 inch = 300 ft.

RECEIVED
MAR 20 2014
COUNTY ENGINEER

NOTE: HIGH SERVICE ROCK BERM SHALL BE LOCATED OUTSIDE OF THE 200 FT. BUFFER ZONE AND NOT WITHIN IT.

NOTE:
THE PROPOSED CONTOURS SHOWN WITHIN THE SUBDIVISION (i.e. OUTSIDE OF TxDOT R.O.W.) WERE PROVIDED BY THE OWNER.

NATIVE BUFFER ZONE NOTE:
BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF A BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.

SOIL STABILIZATION NOTE
WHERE CHANNEL IMPROVEMENTS ARE SHOWN LEADING TO THE STREAMBEDS AND CREEKS (SHOWN AS "AREAS TO BE DISTURBED"), AND ROCK IS NOT ENCOUNTERED AT THE PROPOSED FINAL GRADE OF THE CHANNEL, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THIS VEGETATIVE STABILIZATION PROCEDURE SHALL BE CONSTRUCTED IN THE AREAS WHERE THE FLOW VELOCITIES ARE LESS THAN 6 FEET PER SECOND (FPS) AND ROCK IS NOT ENCOUNTERED AT THE FINAL SURFACE. IN AREAS WHERE SOIL IS PRESENT AT THE FINAL SURFACE AND FLOW VELOCITIES ARE GREATER THAN 6 FPS, ROCK RIPRAP, TYPE 'R' (PER TXDOT ITEM 432) SHALL BE APPLIED TO THE DISTURBED AREAS OF THE CHANNELS FOR FINAL SOIL STABILIZATION PURPOSES. THIS PROCEDURE SHALL BE IMPLEMENTED UPON FINAL EXCAVATION AND GRADING ACTIVITY OF THE CHANNELS/SWALES. IN OTHER AREAS SHOWN AS "AREAS TO BE DISTURBED" (RIGHT OF WAYS, UTILITY EASEMENTS, BRUSH CLEARING, ETC.) VEGETATIVE PROCEDURES MENTIONED PREVIOUSLY SHALL APPLY WHERE ROCK IS NOT ENCOUNTERED, WITH THE AREAS OF CONCENTRATED FLOW FOLLOWING THE PREVIOUSLY MENTIONED GUIDELINES REGARDING FLOW VELOCITIES.

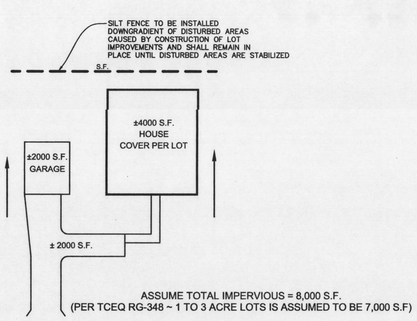
VELOCITY CONTROL NOTE
AT THE POINTS WHERE PROPOSED CHANNELS/SWALES SHOWN IN THE "AREAS TO BE DISTURBED" DISCHARGE INTO THE STREAMBEDS/CREEKS AND THE FLOW VELOCITIES ARE GREATER THAN 6 FEET PER SECOND, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THESE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

•• NOTE ••
THIS SITE WILL BE USED FOR A LOW DENSITY SINGLE-FAMILY DEVELOPMENT AND HAS 20% OR LESS IMPERVIOUS COVER. THEREFORE, NO OTHER PERMANENT BMP'S WITH SUPPORTING CALCULATIONS ARE REQUIRED/PRESENT.

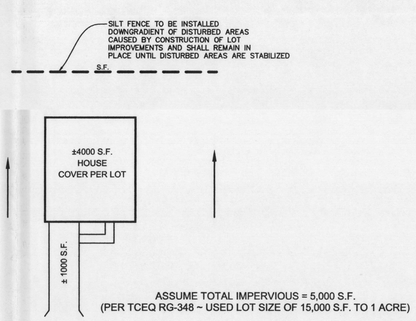
THE AMOUNT AND TYPE OF IMPERVIOUS COVER EXPECTED AFTER CONSTRUCTION ARE SHOWN BELOW:

IMPERVIOUS COVER OF PROPOSED PROJECT	SQ. FT.	SQ. FT./ACRE	ACRES
STRUCTURES/ROOFTOPS (457 RESIDENTIAL LOTS)	3,050,000	÷ 43,560 =	70.02
STREETS & SIDEWALKS (WITHIN SUBDIVISION)	1,620,445	÷ 43,560 =	37.20
AMENITY CENTER IMPROVEMENTS (WITHIN SUBDIVISION)	84,506	÷ 43,560 =	1.94
F.M. 2722 IMPROVEMENTS (WITHIN TxDOT RIGHT OF WAY)	46,290	÷ 43,560 =	1.06
TOTAL IMPERVIOUS COVER	4,801,241	÷ 43,560 =	110.22
		TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =	18.82%

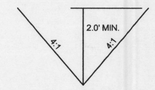
TOTAL SITE ACREAGE (605.40 Ac.(ORIGINAL SITE) + 14.24 Ac. TxDOT R.O.W. - 34.06 Ac. FUTURE WASTE WATER TREATMENT FACILITY) = 585.58 AC.



TYPICAL LOT IMPERVIOUS COVER
(1 TO 3 ACRE LOTS)
N.T.S.



TYPICAL LOT IMPERVIOUS COVER
(LOTS LESS THAN 1 ACRE)
N.T.S.



TRIANGULAR
INTERCEPTOR CHANNEL
N.T.S.

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

STATE OF TEXAS — JOHN J. MOY JR. — 87885 — REGISTERED PROFESSIONAL ENGINEER — 3/12/14

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

SITE PLAN FOR STAR CANYON SUBDIVISION - MODIFICATION
COMAL COUNTY, TEXAS

REVISIONS

DESCRIPTION	DATE
ADDRESSED TCEQ COMMENTS - ADDED PROPOSED CONTOURS	2/14/14
ADDRESSED TCEQ COMMENTS - REMOVED WASTE WATER TREATMENT FACILITY	3/6/14

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

S1 OF 2

F:\1210.02 - Star Canyon\dwg\S1.dwg 2014/03/06 4:21pm Administrator

RECEIVED TCEQ
2014 MAR -7 AM 8:26
SAN ANTONIO REGION

RECEIVED
MAR 20 2014
COUNTY ENGINEER

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

February 14, 2014

Ms. Monica Reyes
TCEQ San Antonio Regional Office – Region 13
14250 Judson Rd.
San Antonio, Texas 78233-4480

Re: Response to TCEQ Comments dated February 4, 2014
Edwards Aquifer, Comal County
NAME OF PROJECT: Star Canyon Subdivision; Located on FM 2722, 3.5 miles north of State Highway 46 on the left side; Texas.
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan Modification (WPAPMOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Investigation No. 1139269; Regulated Entity No. RN105483382; Additional ID No. 13-13121201

Dear Ms. Reyes,

Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated February 4, 2014 for the above mentioned project. P&M has taken the following actions with regards to the comments:

Water Pollution Abatement Plan Application (TCEQ-0584) Comments:

Comment	Response
1	1 to 3 acre Amenity Center Lot = 1 1 to 3 acre Residential Lots = 255 Residential Lots less than 1 acre = 202
2	Maximum Impervious Cover assumed for the 1 to 3 acre lots = 8,000 S.F. Maximum Impervious Cover assumed for the lots less than 1 acre = 5,000 S.F.

Temporary Stormwater Section (TCEQ-0602) Comments:

Comment	Response
1	As discussed with the TCEQ, the slope percents are shown on Sheet S1 of 2 and not shown on the Drainage Map D-1.
2	The proposed contours are now shown on Sheet S1 of 2.

Please call if you have questions regarding these responses. Thank you for your assistance.

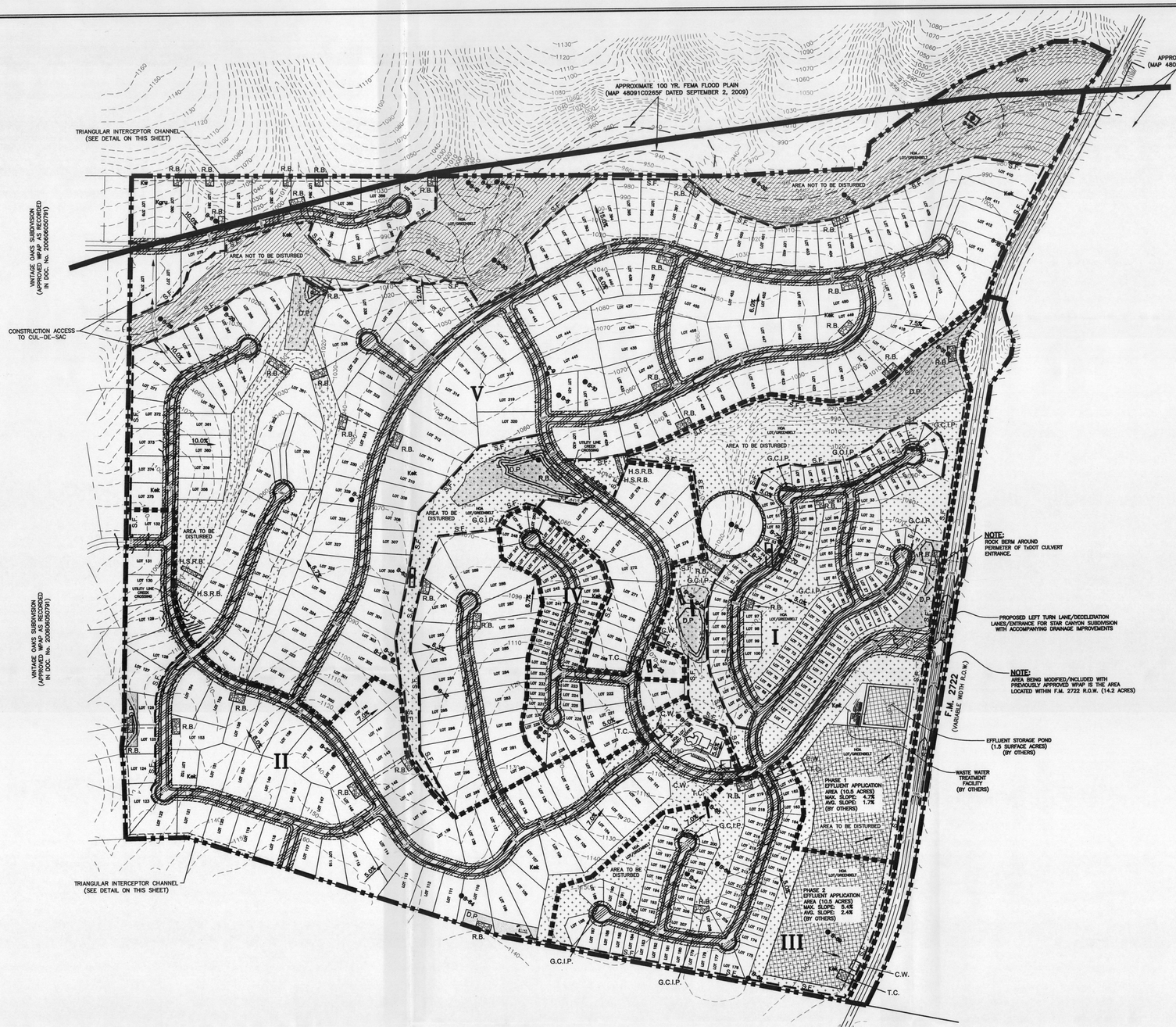
Sincerely,

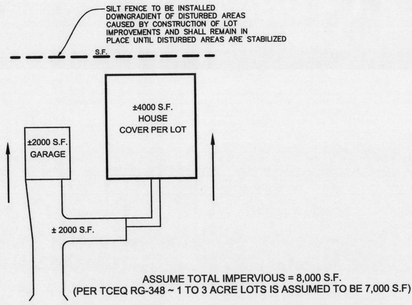
John J. Moy, Jr., P.E.

Attachments: Revised Sheet S1.

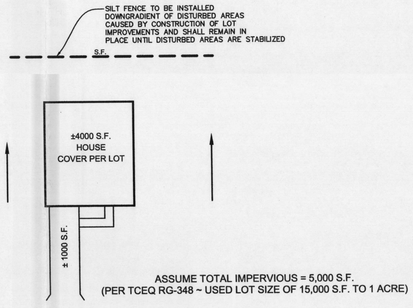
cc: Mr. Stephen Sallman – LBC Partners, Ltd.

F:\1210.02 - STAR CANYON\DWG\WPAP-MOD\TCEQCOMMENTS\TCEQCOMMENTS.DOC

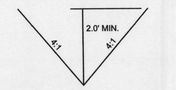




TYPICAL LOT IMPERVIOUS COVER
(1 TO 3 ACRE LOTS)
N.T.S.



TYPICAL LOT IMPERVIOUS COVER
(LOTS LESS THAN 1 ACRE)
N.T.S.



TRIANGULAR
INTERCEPTOR CHANNEL
N.T.S.

LEGEND

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- I — POSSIBLE PHASE

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(IN FEET)
1 inch = 300 ft.

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

IMPERVIOUS COVER OF PROPOSED PROJECT	SQ. FT.	SQ. FT./ACRE	ACRES
STRUCTURES/ROOFTOPS (457 RESIDENTIAL LOTS)	3,050,000	÷ 43,560 =	70.02
STREETS & SIDEWALKS (WITHIN SUBDIVISION)	1,620,445	÷ 43,560 =	37.20
AMENITY CENTER IMPROVEMENTS (WITHIN SUBDIVISION)	84,506	÷ 43,560 =	1.94
WASTE WATER TREATMENT FACILITY (WITHIN SUBDIVISION)	115,537	÷ 43,560 =	2.65
F.M. 2722 IMPROVEMENTS (WITHIN TxDOT RIGHT OF WAY)	46,290	÷ 43,560 =	1.06
TOTAL IMPERVIOUS COVER	4,916,778	÷ 43,560 =	112.87
		TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =	18.22%

TOTAL SITE ACREAGE (605.4 Ac.(ORIGINAL SITE) + 14.2 Ac. TxDOT R.O.W.) = 619.6 AC.

RECEIVED
FEB 21 2014
COUNTY ENGINEER

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 629-3563
FIRM No. F-9862

STATE OF TEXAS — JOHN J. MOY JR. — 87835 — LICENSED PROFESSIONAL ENGINEER — 2/14/14

OWNER:
LBC PARTNERS, LTD
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TX 75206

SITE PLAN FOR STAR CANYON SUBDIVISION - MODIFICATION
COMAL COUNTY, TEXAS

REVISIONS

DATE	DESCRIPTION
2/14/14	ADDRESSED TCEQ COMMENTS – ADDED PROPOSED CONTOURS

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: DECEMBER 2013
JOB NO.: 1210.02

S1 OF 2

F:\1210.02 – Star Canyon\dwg\S1.dwg 2014/02/14 1:26pm Administrator

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 25, 2012

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Star Canyon Subdivision (West of FM 2722); located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 2781.04; Investigation No. 974316; Regulated Entity No. RN105483382

Dear Mr. Sallman:

On December 1, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011
December 1, 2011	June 5, 2012

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on June 5, 2012. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/JA/eg

cc: Mr. John J. Moy, Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Edwards Aquifer Protection Plan Extension Request

X Extension Request for a Water Pollution Prevention Plan (*TCEQ-10260)*

X ATTACHMENT A - Approval Letter or Extension Approval

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400*)

Extension Request for an
Edwards Aquifer Protection Plan
Relating to 30 TAC §213.4(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)

Customer (Applicant):	LBC Partners, Ltd.		
Contact Person:	Stephen L. Sallman		
Entity:	LBC Partners, Ltd.		
Mailing Address:	4925 Greenville Avenue, Suite 1020		
City, State:	Dallas, Texas	Zip:	75206
Telephone:	(214) 368-0238	FAX:	(214) 368-0812
Agent:	Pawelek & Moy, Inc.		
Contact Person:	John J. Moy, Jr., P.E.		
Mailing Address:	130 W. Jahn St.		
City, State:	New Braunfels, Texas	Zip:	78130
Telephone:	(830) 629-2563	FAX:	(830) 629-2564

2. X **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
   Date of letter: January 19, 2011
   Expiration date: June 5, 2011

3. X This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. X A completed fee form is attached. The fee for a six-month extension of time is $150.

John J. Moy, Jr.
Print Name of Customer/Agent

Signature of Customer/Agent

5/31/11
Date

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

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

ATTACHMENT 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 19, 2011

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Star Canyon Subdivision (West of FM 2722), located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas
TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 2781.02, Investigation No. 885419, Regulated Entity Number: RN105483382

Dear Mr. Sallman:

On December 2, 2010, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration is enclosed.

Date of Original Approval:	June 5, 2008
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Date Extension Request Received	Date of Extension Expiration
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The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activity or approved plan for the regulated activity has changed. As understood, there will be no changes or

modifications to the originally approved plan. This request for extension expires on June 5, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

If you have any questions or require additional information, please contact Stacy Tanner of the Edwards Aquifer Protection Program with the San Antonio Regional Office at (210) 403-4078.

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/SMT/eg

cc: Mr. John J. Moy, Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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

I Stephen L. Sallman,
Print Name

Owner/Manager,
Title - Owner/President/Other

of LBC Partners, Ltd.,
Corporation/Partnership/Entity Name

have authorized John J. Moy, Jr., P.E.
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L. Sallman Mgr. 5/31/11

Applicant's Signature Date

THE STATE OF Texas §

County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 31st day of May, 2011.

Tamara Miguez

NOTARY PUBLIC

TAMARA MIGUEZ

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7-29-2014

NOTARY PUBLIC STATE OF TEXAS

TAMARA J MIGUEZ
My Commission Expires
July 29, 2014

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision (West of FM 2722)
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential		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	1	Each	$ 150.00

Signature

Date 5/31/11

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TX 75206
(214) 368-0238

HIGHLANDS BANK
DALLAS, TX 75225
32-2553/1110

1112

5/31/2011

PAY TO THE ORDER OF TCEQ $ **150.00

One Hundred Fifty and 00/100********** DOLLARS

TCEQ

MEMO WPAP Extension Fee

AUTHORIZED SIGNATURE

⑈001112⑈ ⑆111025534⑆ 2100072⑈

LBC PARTNERS, LTD. 1112

TCEQ 5/31/2011

PRE DEV COSTS:Eng/Survey/Staking	WPAP Extension Fee Invoice #053111	150.00

LBC-Highlands (Chkg) WPAP Extension Fee 150.00

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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 EAPP Extension Request

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

☒ Yes ☐ No Extension Request for an Edwards Aquifer Protection Plan (WPAP)

3. Customer Reference Number *(if issued)*

CN 603336405

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number *(if issued)*

RN 105483382

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)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)*

17. TX State Franchise Tax ID *(11 digits)*

18. DUNS Number *(if applicable)*

19. TX SOS Filing Number *(if applicable)*

20. Number of Employees

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

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:							
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:							
27. Telephone Number		28. Extension or Code		29. Fax Number *(if applicable)*			
( ) -				( ) -			
30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)		33. Secondary NAICS Code (5 or 6 digits)			
34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*							

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

35. Description to Physical Location:			
36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John J. Moy, Jr.	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629-2563	-	(830)629-2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830)629-2563
Signature:		Date:	5/31/11

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

Edwards Aquifer Protection Plan
Extension Request

Star Canyon Subdivision
(West of FM 2722)
Comal County, Texas

by
PAWELEK & MOY, INC.
Project No. 0709.02

November 29, 2011

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

Edwards Aquifer Protection Plan Extension Request

X Extension Request for a Water Pollution Prevention Plan (*TCEQ-10260)*

X ATTACHMENT A - Approval Letter or Extension Approval

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400*)

Extension Request for an
Edwards Aquifer Protection Plan
Relating to 30 TAC §213.4(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)

Customer (Applicant):	LBC Partners, Ltd.	
Contact Person:	Stephen L. Sallman	
Entity:	LBC Partners, Ltd.	
Mailing Address:	4925 Greenville Avenue, Suite 1020	
City, State:	Dallas, Texas	Zip: 75206
Telephone:	(214) 368-0238	FAX: (214) 368-0812
Agent:	Pawelek & Moy, Inc.	
Contact Person:	John J. Moy, Jr., P.E.	
Mailing Address:	130 W. Jahn St.	
City, State:	New Braunfels, Texas	Zip: 78130
Telephone:	(830) 629-2563	FAX: (830) 629-2564

2. X **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
   Date of letter: July 26, 2011
   Expiration date: December 5, 2011

3. X This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. X A completed fee form is attached. The fee for a six-month extension of time is $150.

John J. Moy, Jr.
Print Name of Customer/Agent

Signature of Customer/Agent

11/29/11
Date

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

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

ATTACHMENT 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 26, 2011

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Star Canyon Subdivision (West of FM 2722); located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 2781.03; Investigation No. 932613; Regulated Entity No. RN105483382

Dear Mr. Sallman:

On June 2, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on December 5, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/JA/eg

cc: Mr. John J. Moy, Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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

I Stephen L. Sallman,
Print Name

Owner/Manager,
Title - Owner/President/Other

of LBC Partners, Ltd.,
Corporation/Partnership/Entity Name

have authorized John J. Moy, Jr., P.E.,
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L. Sallman Mgr. 11/17/11

Applicant's Signature Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 17th day of November, 2011.

Debby Kirkland

NOTARY PUBLIC

DEBBY KIRKLAND
MY COMMISSION EXPIRES
September 26, 2013

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision (West of FM 2722)
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential		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	1	Each	$ 150.00

Signature

11/29/11
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TX 75206
(214) 368-0238

HIGHLANDS BANK
DALLAS, TX 75225
32-2553/1110

1118

11/22/2011

PAY TO THE ORDER OF TCEQ $**150.00

One Hundred Fifty and 00/100********** DOLLARS

TCEQ

MEMO WPAP Extension Fee

Tamara Uriegas
AUTHORIZED SIGNATURE

⑈001118⑈ ⑆111025534⑆ 2100072⑈

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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 EAPP Extension Request

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

☒ Yes ☐ No — Extension Request for an Edwards Aquifer Protection Plan (WPAP)

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 603336405		RN 105483382

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)*

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

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

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

21. Independently Owned and Operated?
☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

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

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

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

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

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

35. Description to Physical Location:	

36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John J. Moy, Jr.	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629-2563	-	(830)629-2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830)629-2563
Signature:	John J Moy Jr.	Date:	11/29/11

Edwards Aquifer Protection Plan Extension Request

X Extension Request for a Water Pollution Prevention Plan (*TCEQ-10260)*

X ATTACHMENT A - Approval Letter or Extension Approval

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400*)

ATTACHMENT 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 25, 2012

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Star Canyon Subdivision (West of FM 2722); located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 2781.04; Investigation No. 974316; Regulated Entity No. RN105483382

Dear Mr. Sallman:

On December 1, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011
December 1, 2011	June 5, 2012

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

I Stephen L. Sallman,
Print Name

Owner/Manager,
Title - Owner/President/Other

of LBC Partners, Ltd.,
Corporation/Partnership/Entity Name

have authorized John J. Moy, Jr., P.E.
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L Sallman Mgr. 5/23/12
Applicant's Signature Date

THE STATE OF Texas §
County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 23rd day of May, 2012.

Tamara Miguez
NOTARY PUBLIC

TAMARA MIGUEZ
Typed or Printed Name of Notary

TAMARA J MIGUEZ
My Commission Expires
July 29, 2014

MY COMMISSION EXPIRES: 7-29-2014

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision (West of FM 2722)
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential		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	1	Each	$ 150.00

Signature

5/24/12
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TEXAS 75206
(214) 368-0238

BANK OF TEXAS, N.A.
DALLAS, TEXAS
32-1432/1110

1143

5/23/2012

PAY TO THE ORDER OF TCEQ $ **150.00

One Hundred Fifty and 00/100********** DOLLARS

TCEQ

MEMO WPAP Extension Fee

AUTHORIZED SIGNATURE

⑈001143⑈ ⑆111014325⑆ ⑈8091637064⑈

1143

TCEQ PRE DEV COSTS	TCEQ Extension Fee (Star Canyon)	5/23/2012	150.00

RECEIVED
JUN 04 2012
COUNTY ENGINEER

LBC-BOTx (MM)	WPAP Extension Fee	150.00

TCEQ

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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: EAPP Extension Request

2. Attachments: ☒ Yes ☐ No

Describe Any Attachments: *(ex. Title V Application, Waste Transporter Application, etc.)*: Extension Request for an Edwards Aquifer Protection Plan (WPAP)

3. Customer Reference Number *(if issued)*: CN 603336405

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number *(if issued)*: RN 105483382

RECEIVED
JUN 04 2012
TY ENGINEER

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)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)*

17. TX State Franchise Tax ID *(11 digits)*

18. DUNS Number *(if applicable)*

19. TX SOS Filing Number *(if applicable)*

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

21. Independently Owned and Operated?
☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

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

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

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

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

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

35. Description to Physical Location:			
36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John J. Moy, Jr.	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629- 2563	-	(830)629- 2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830)629- 2563
Signature:	John J Moy Jr	Date:	5/24/12

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

Edwards Aquifer Protection Plan
Extension Request

Star Canyon Subdivision
(West of FM 2722)
Comal County, Texas

by
PAWELEK & MOY, INC.
Project No. 0709.02

November 29, 2011

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

Edwards Aquifer Protection Plan Extension Request

X Extension Request for a Water Pollution Prevention Plan (*TCEQ-10260)*

X ATTACHMENT A - Approval Letter or Extension Approval

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400*)

Extension Request for an
Edwards Aquifer Protection Plan
Relating to 30 TAC §213.4(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Star Canyon Subdivision (West of FM 2722)

Customer (Applicant):	LBC Partners, Ltd.	
Contact Person:	Stephen L. Sallman	
Entity:	LBC Partners, Ltd.	
Mailing Address:	4925 Greenville Avenue, Suite 1020	
City, State:	Dallas, Texas	Zip: 75206
Telephone:	(214) 368-0238	FAX: (214) 368-0812
Agent:	Pawelek & Moy, Inc.	
Contact Person:	John J. Moy, Jr., P.E.	
Mailing Address:	130 W. Jahn St.	
City, State:	New Braunfels, Texas	Zip: 78130
Telephone:	(830) 629-2563	FAX: (830) 629-2564

2. X **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
   Date of letter: July 26, 2011
   Expiration date: December 5, 2011

3. X This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. X A completed fee form is attached. The fee for a six-month extension of time is $150.

John J. Moy, Jr.
Print Name of Customer/Agent

Signature of Customer/Agent

11/29/11
Date

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

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

ATTACHMENT 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 26, 2011

Mr. Stephen L. Sallman
LBC Partners, Ltd.
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Star Canyon Subdivision (West of FM 2722); located approximately 3.5 miles north of Highway 46 on the west side of FM 2722; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 2781.03; Investigation No. 932613; Regulated Entity No. RN105483382

Dear Mr. Sallman:

On June 2, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	June 5, 2008
Date of Expiration:	June 5, 2010
Date Extension Request Received	Date of Extension Expiration
May 27, 2010	December 5, 2010
December 2, 2010	June 5, 2011
June 2, 2011	December 5, 2011

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on December 5, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/JA/eg

cc: Mr. John J. Moy, Jr., P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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

I Stephen L. Sallman,
Print Name

Owner/Manager,
Title - Owner/President/Other

of LBC Partners, Ltd.,
Corporation/Partnership/Entity Name

have authorized John J. Moy, Jr., P.E.
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Stephen L. Sallman, Mgr. 11/17/11

Applicant's Signature Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Stephen L. Sallman 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 17th day of November, 2011.

Debby Kirkland

NOTARY PUBLIC

DEBBY KIRKLAND
MY COMMISSION EXPIRES
September 26, 2013

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

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

NAME OF PROPOSED REGULATED ENTITY: Star Canyon Subdivision (West of FM 2722)
REGULATED ENTITY LOCATION: 3.5 Miles from S.H. 46 on FM 2722
NAME OF CUSTOMER: LBC Partners, Ltd.
CONTACT PERSON: Stephen L. Sallman PHONE: (214) 368-0238
(Please Print)

Customer Reference Number (if issued): CN 603336405 (nine digits)

Regulated Entity Reference Number (if issued): RN 105483382 (nine digits)

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size		Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks		Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential		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	1	Each	$ 150.00

Signature

11/29/11
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
DALLAS, TX 75206
(214) 368-0238

HIGHLANDS BANK
DALLAS, TX 75225
32-2553/1110

1118

11/22/2011

PAY TO THE ORDER OF TCEQ $**150.00

One Hundred Fifty and 00/100********** DOLLARS

TCEQ

MEMO WPAP Extension Fee

Tamara Mijares
AUTHORIZED SIGNATURE

⑈001118⑈ ⑆111025534⑆ 2100072⑈

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ 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: EAPP Extension Request

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

☒ Yes ☐ No — Extension Request for an Edwards Aquifer Protection Plan (WPAP)

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 603336405		RN 105483382

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)*

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

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

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

21. Independently Owned and Operated?
☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

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

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

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

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

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

35. Description to Physical Location:	

36. Nearest City	County	State	Nearest ZIP Code

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

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

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

SECTION IV: Preparer Information

40. Name:	John J. Moy, Jr.	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830)629-2563	-	(830)629-2564	johnmoy711@sbcglobal.net

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830)629-2563
Signature:	John J Moy Jr	Date:	11/29/11

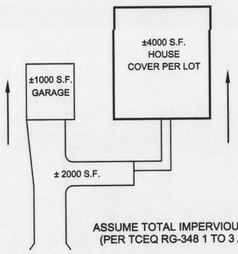
SCALE: 1" = 300'

LEGEND

U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE / PREPARED BY NATIONAL WETLANDS INVENTORY	PUBHh	PALUSTRINE / UNCONSOLIDATED BOTTOM / PERMANENTLY FLOODED / DIKED/IMPOUNDED
	R4SBA	RIVERINE / INTERMITTENT / STREAM BED / TEMPORARILY FLOODED
D.P.		DETENTION POND
+S-00		GEOLOGIC FEATURE
200' +S-00		200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE.
H.S.R.B. (PH I)		200 FT. MIN. NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE w/TEMPORARY HIGH SERVICE ROCK BERM AROUND PERIMETER. (PHASE No.)
S.F. (PH I)		SILT FENCE (PHASE No.)
R.B. (PH I)		ROCK BERM (PHASE No.)
H.S.R.B. (PH I)		HIGH SERVICE ROCK BERM (PHASE No.)
		TEMPORARY CONSTRUCTION ENTRANCE/EXIT
		AREA NOT TO BE DISTURBED
		AREAS TO BE DISTURBED (PROPOSED R.O.W.'s & UTILITY EASEMENTS w/SOIL STABILIZATION)
		AREAS TO BE DISTURBED (PROPOSED CHANNEL IMPROVEMENTS/BRUSH CLEARING w/SOIL STABILIZATION WHERE ROCK IS NOT ENCOUNTERED)
		SPRINGS

NOTE: HIGH SERVICE ROCK BERM SHALL BE LOCATED OUTSIDE OF THE 200 FT. BUFFER ZONE AND NOT WITHIN IT.

SILT FENCE TO BE INSTALLED DOWNGRADIENT OF DISTURBED AREAS CAUSED BY CONSTRUCTION OF LOT IMPROVEMENTS AND SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED

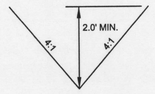


ASSUME TOTAL IMPERVIOUS = 7,000 S.F.
(PER TCEQ RG-348 1 TO 3 ACRE LOTS)

TYPICAL LOT
IMPERVIOUS COVER
N.T.S.

NATIVE BUFFER ZONE NOTE:

BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF THE BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.



TRIANGULAR
INTERCEPTOR CHANNEL
N.T.S.

◆◆ NOTE ◆◆

THIS SITE WILL BE USED FOR A LOW DENSITY SINGLE-FAMILY DEVELOPMENT (1 ACRE OR GREATER LOTS) WITH TWO RESIDENTIAL AMENITY CENTERS AND HAS 20% OR LESS IMPERVIOUS COVER. THERFORE, NO OTHER PERMANENT BMP'S WITH SUPPORTING CALCULATIONS ARE REQUIRED/PRESENT.

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
STRUCTURES/ROOFTOPS (RESIDENTIAL & AMENITY CENTERS)	2,427,445	÷ 43,560 =	55.73
PARKING & STREETS	981,887	÷ 43,560 =	22.54
OTHER PAVED SURFACE (SIDEWALKS , DRAINAGE & BASKETBALL COURT)	93,892	÷ 43,560 =	2.15
TOTAL IMPERVIOUS COVER	3,503,224	÷ 43,560 =	80.42
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			13.28 %

TOTAL SITE ACREAGE = 605.4 AC.

IMPERVIOUS COVER SUMMARY FOR THE AMENITY CENTERS / HOA LOTS

LOT No.	DESCRIPTION	SQ. FT.	
1001	STRUCTURES / ROOFTOPS	3,615	17,250 S.F.
	PARKING	13,417	
	SIDEWALK	218	
1005	STRUCTURES / ROOFTOPS	1,830	25,047 S.F.
	PARKING	8,668	
	SIDEWALK	7,362	
	BASKETBALL COURT	7,187	
	TOTAL IMPERVIOUS COVER:	42,297 S.F.	

TOTAL IMPERVIOUS COVER SUMMARY

DESCRIPTION		SQ. FT.	
STRUCTURES/ ROOFTOPS	AMENITY CENTERS	5,445	2,427,445 S.F.
	RESIDENTIAL (346 LOTS)	2,422,000	
PARKING & STREET	PARKING (AMENITY CENTERS)	22,085	981,887 S.F.
	STREETS	959,802	
OTHER PAVED/ IMPERVIOUS SURFACES	SIDEWALKS (AMENITY CENTERS)	7,580	93,892 S.F.
	BASKETBALL COURT	7,187	
	DRAINAGE	79,125	
	TOTAL IMPERVIOUS COVER:	3,503,224 S.F.	

PAWELEK & MOY, INC.
CIVIL ENGINEERING &
CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

130 W. John Street
New Braunfels, Texas 78130
tel: (830) 629-2563
fax: (830) 629-2564

STATE OF TEXAS · JOHN J. MOY JR. · 87835 · LICENSED PROFESSIONAL ENGINEER
Exp. 5/14/08

OWNER:
LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
SUITE 1020
DALLAS, TEXAS 75206

WATER POLLUTION ABATEMENT PLAN
FOR
STAR CANYON SUBDIVISION
(WEST OF F.M. 2722)
COMAL COUNTY, TEXAS

REVISIONS

DATE	DESCRIPTION
5/14/08	UPDATED PER TCEQ COMMENTS

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: MARCH 2008
JOB NO.: 0709.02

S1 OF 2

"RECEIVED TCEQ"
SAN ANTONIO
REGION
2008 MAY 14 PM 4:09

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:

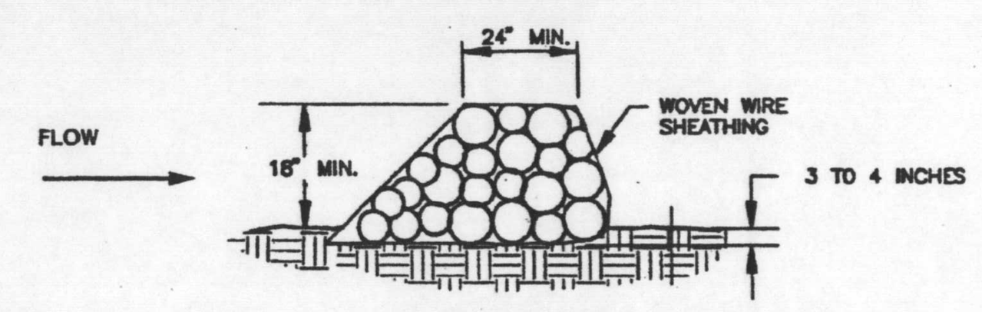
   A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

   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;

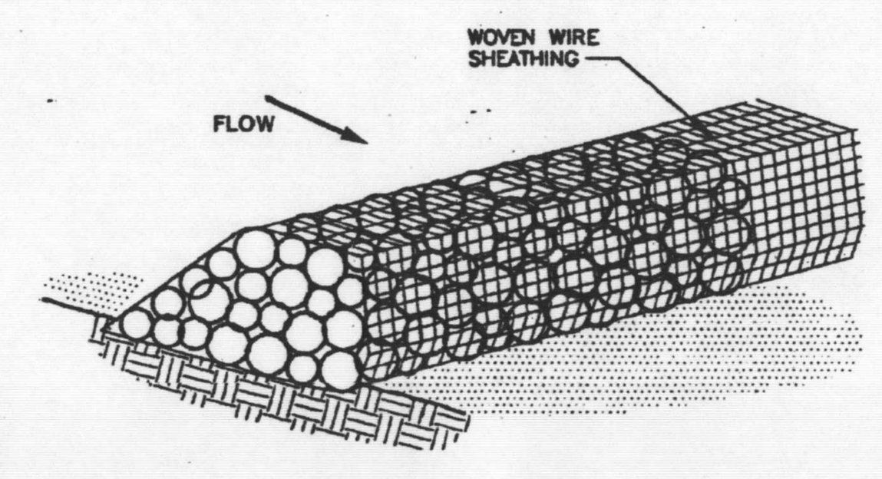
   C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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

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



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

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

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

Installation:

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

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

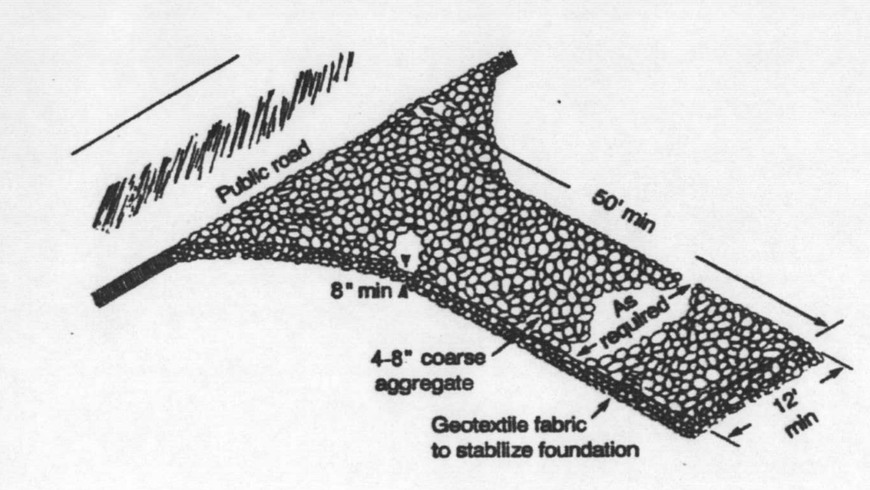
(3) Place the rock along the sheathing as shown in the diagram (Figure 1-1), to a height not less than 18".

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

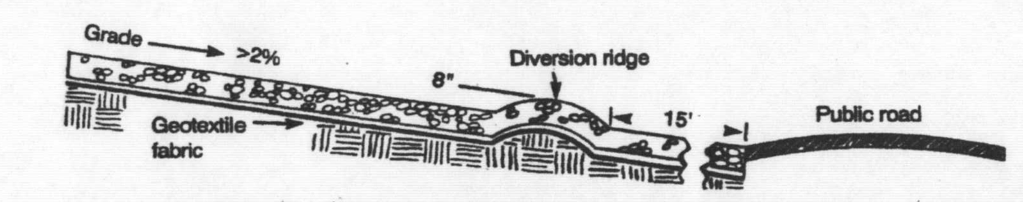
(5) Berm should be built along the contour at zero percent grade or as near as possible.

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

ROCK BERM DETAIL
N.T.S.



Schematic of Temporary Construction Entrance/Exit



Cross-section of a Construction Entrance/Exit

Materials:

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

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

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2, a mullen burst rating of 140 lb/in^2, and an equivalent opening size greater than a number 50 sieve.

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

Installation:

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

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

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

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

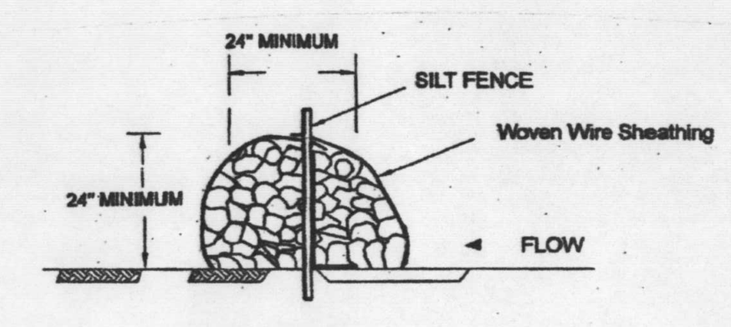
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

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

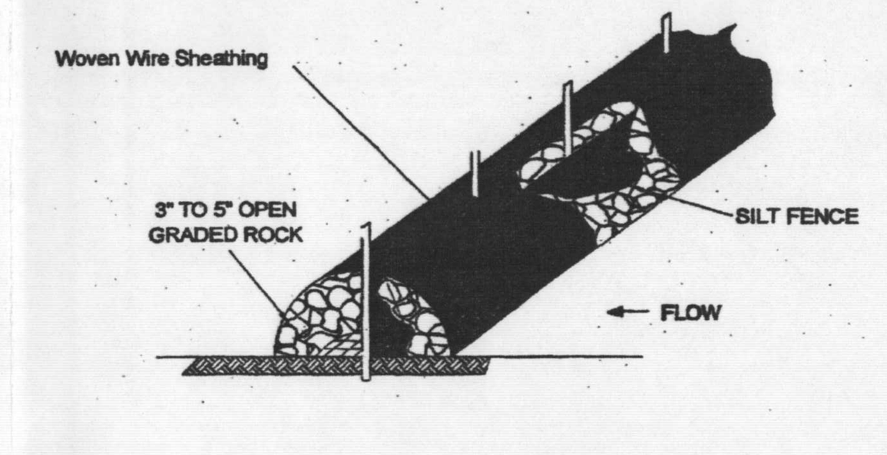
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

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

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



Cross - Section



Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft^2, and Brindell hardness exceeding 140. Rebar (either #5 or #6) may also be used to anchor the berm.

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

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

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

Installation:

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

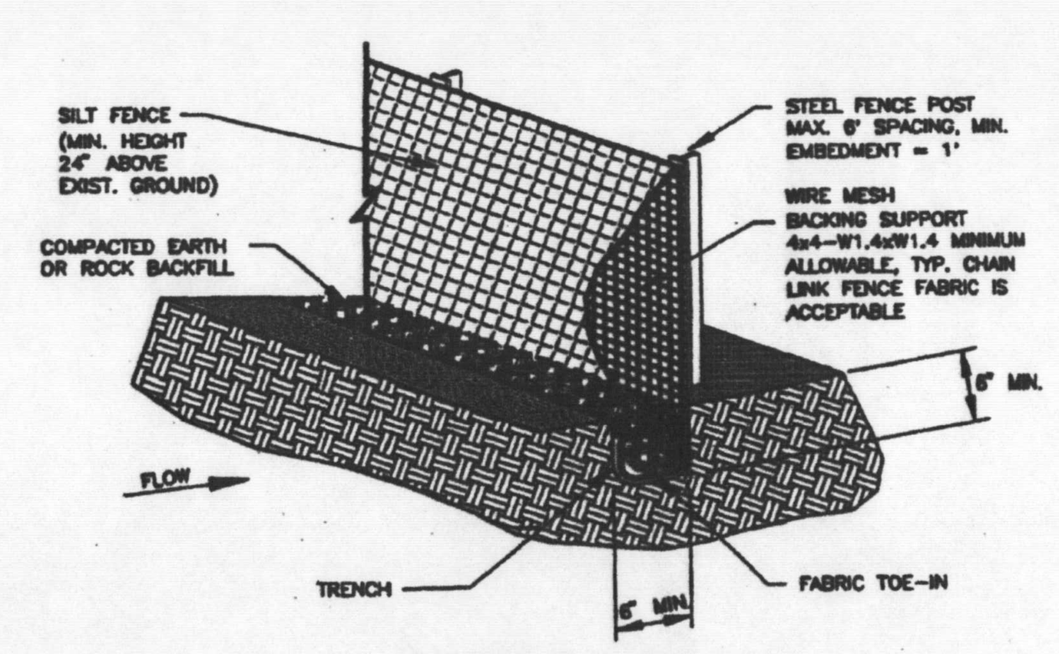
(2) Install the silt fence along the center of the proposed berm placement, as with a normal silt fence described in Section 2.4.3.

(3) Place the rock along the sheathing on both sides of the silt fence as shown in the diagram (Figure 1-1), to a height not less than 24 inches. Clean, open graded 3-5" diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rock may be used.

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

(5) The high service rock berm should be removed when the site is revegetated or otherwise stabilized or it may remain in place as a permanent BMP if drainage is adequate.

HIGH SERVICE ROCK BERM DETAIL
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

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

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

Installation:

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

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

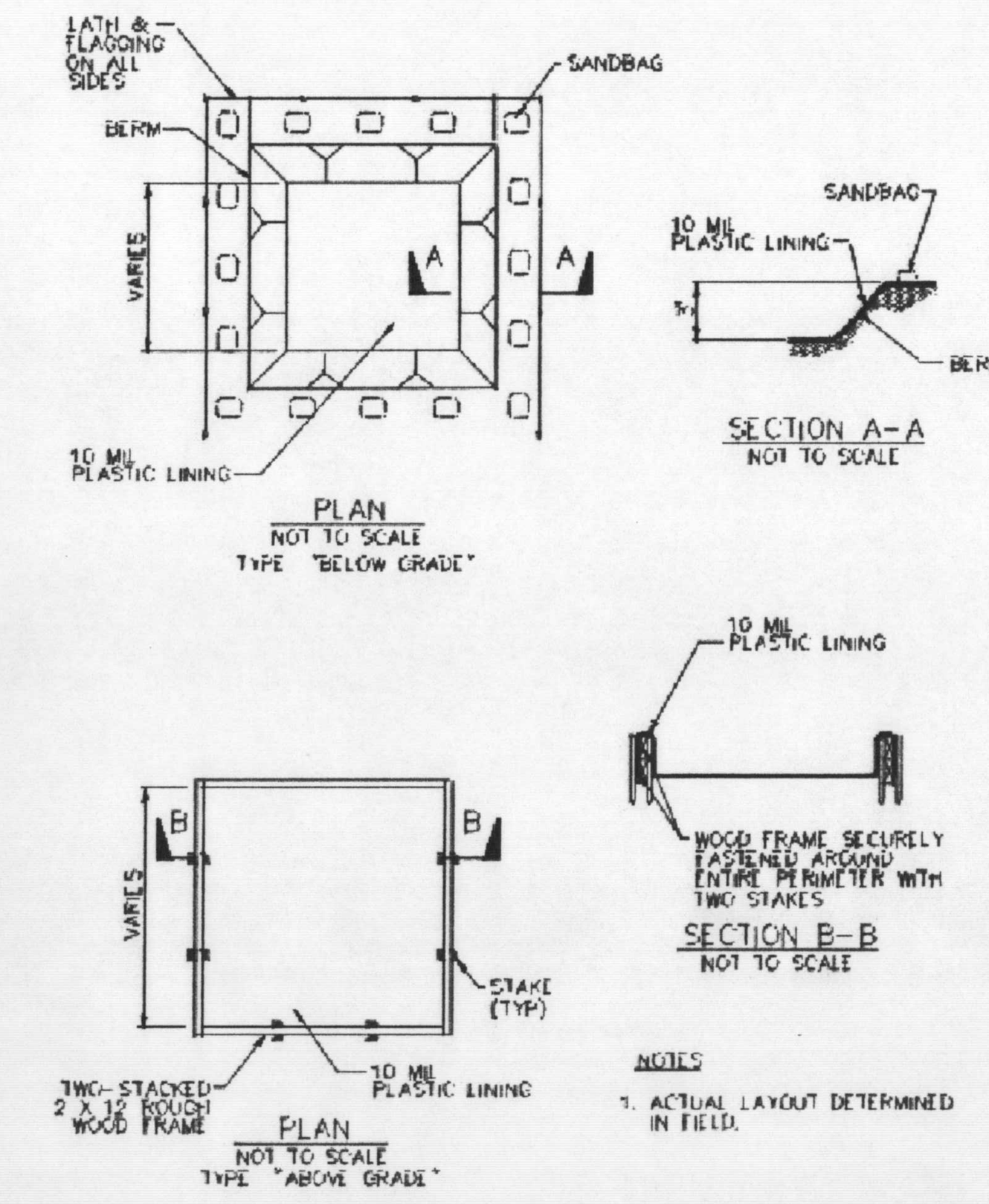
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill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

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

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

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

SILT FENCE DETAIL
N.T.S.



FOR ONSITE WASHOUT:

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

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

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

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

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

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

CONCRETE WASHOUT DETAIL
N.T.S.

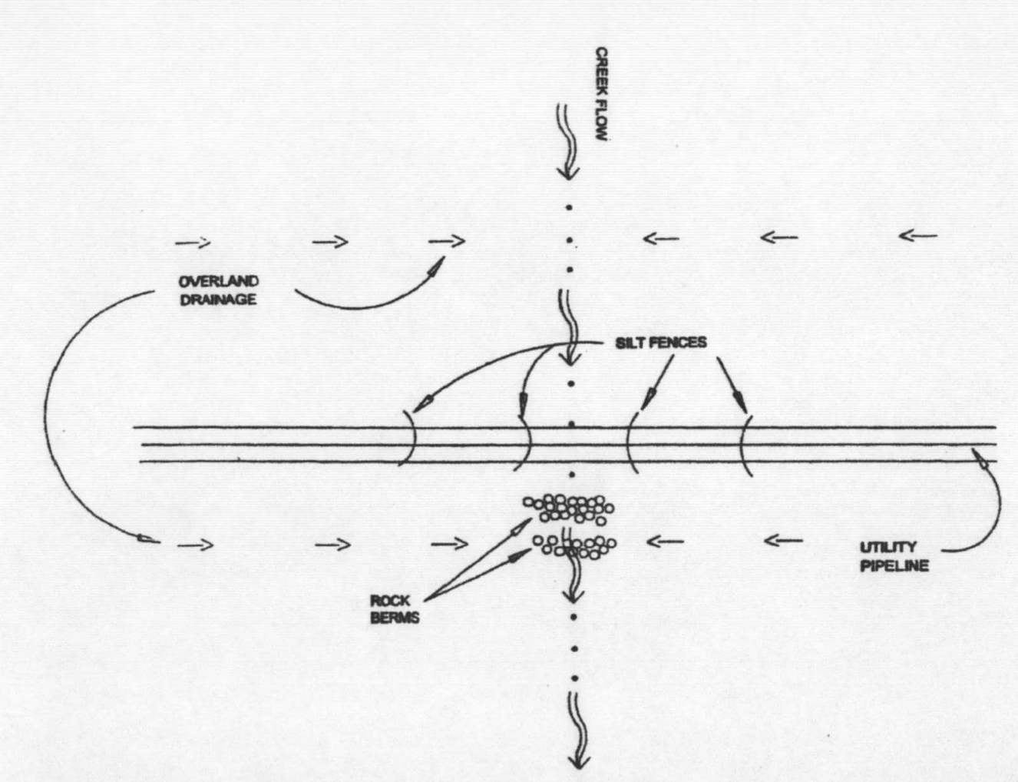


Figure 1-1 Utility Line Creek Crossing (LCRA, 1998)

INSTALLATION:

(1) Unless prior approval is received from TCEQ, utility line creek crossings should be made perpendicular to the creek flowline.

(2) If baseflow is present, TCEQ personnel should be consulted, as it may be necessary to divert or pump water around the construction area.

(3) Every effort should be made to keep the zone of immediate construction free of surface water. For construction in the creek channel, a pipe of adequate size to divert normal stream flow should be provided around the construction area. Diversion may be by pumping or gravity flow using temporary dams

(4) Where water must be pumped from the construction zone, discharges should be in a manner that will not cause scouring or erosion. All discharges shall be on the upstream or upslope side of emplaced erosion control structures. If discharges are necessary in easily erodible areas, a stabilized, energy-dissipating discharge apron shall be constructed of riprap with minimum stone diameter of 6 inches and minimum depth of 12 inches. Size of the apron in linear dimensions shall be approximately 10 times the diameter of the discharge pipe.

(5) Before any trenching, install two high service rock berms at 100-ft spacing across the channel (perpendicular to the flowline) downstream of the proposed trench. These berms should be located between 100 and 300 feet downstream of the proposed trench. Lay pipe or other utility line and bury as soon as possible after trenching.

(6) After installation is complete (or at the end of work day, if installation cannot be completed by end of day), install silt fencing along trench line on either side of creek at 25-ft intervals, as shown in Figure 1-1.

(7) Material excavated from the trench in the creek channel should not be deposited on the channel banks. Excavation should be hauled out of the channel or used in backfill of open trench. No loose excavated material should be left in the channel at the end of a work day

(8) A concrete cap should be placed over buried pipe within the creek, and the streambed should be restored to proper grade.

(9) Revegetate the disturbed area using appropriate native or adapted grass species applied either with hydromulch at twice the normal application rate or incorporated with erosion protection matting.

UTILITY LINE CREEK CROSSING DETAIL
N.T.S.

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

130 W. Jahn Street
New Braunfels, Texas 78130
tel: (830) 629-2563
fax: (830) 629-2564

STATE OF TEXAS
JOHN J. MOY JR.
87835
LICENSED PROFESSIONAL ENGINEER
Rev. 5/14/08 P.E.

OWNER:
LBC PARTNERS, LTD.
4925 GREENVILLE AVENUE
SUITE 1002
DALLAS, TX 75206

WATER POLLUTION ABATEMENT PLAN
GENERAL NOTES & DETAILS
FOR
STAR CANYON SUBDIVISION (WEST OF F.M. 2722)
COMAL COUNTY, TX

REVISIONS

DATE	DESCRIPTION
5/14/08	UPDATED PER TCEQ COMMENTS

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: FEBRUARY 2008
JOB NO.: 0709.02

GEOLOGIC ASSESSMENT (WPAP)

STAR CANYON SUBDIVISION
WEST OF FM 2722
COMAL COUNTY

FROST GEOSCIENCES, INC. PROJECT NO.: FGS-E07334 R-3
MAY 12, 2008

Prepared exclusively for

LBC Partners, LTD
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Frost GeoSciences

Construction Materials ▪ Forensics
Environmental ▪ Geotechnical

Frost GeoSciences
Construction Materials • Forensics
Environmental • Geotechnical

Frost Geosciences, Inc.
13402 Western Oak
Helotes, Texas 78023
Office (210)-372-1315
Fax (210)-372-1318

May 12, 2008

LBC Partners, LTD
4925 Greenville Ave., Suite 1020
Dallas, Texas 75206

Attn: Mr. Alan Taylor

SUBJECT:
Geologic Assessment
Star Canyon Subdivision
West of FM 2722
Comal County
FGS Project Nº FGS-E07334 R-3

Dear Mr. Taylor:

Frost GeoSciences, Inc., (FGS) is pleased to submit the enclosed Geologic Assessment completed for the above referenced project site as it relates to 30 TAC §213.5(b)(3), effective September 11, 2003. Our investigation was conducted, and this report was prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04).

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

We appreciate the opportunity to perform these services for LBC Partners, LTD. Please contact the undersigned if you have questions regarding this report.

Respectfully submitted,
Frost GeoSciences, Inc.

Steve Frost, P.G.
President

Copies Submitted: (1) Mr. Alan Taylor; LBC Partners, LTD
(10) Pawelek & Moy Engineers

TABLE OF CONTENTS

GEOLOGIC ASSESSMENT

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

REGULATED ENTITY NAME: Star Canyon Subdivision, West of FM 2722

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

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

PROJECT INFORMATION

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

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Brackett-Rock Outcrop-Real Complex, 8 to 30 percent slopes	C	0-3
Comfort-Rock Outcrop Complex, 1 to 8 percent slopes	C	0-3
Rumple-Comfort association, 1 to 8 percent slopes	C	0-3
Eckrant-Rock outcrop complex, 1 to 8 percent slopes	C	0-3

* Soil Group Definitions (Abbreviated)

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

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

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

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

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

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

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

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

Applicant's Site Plan Scale	1" = 300 '
Site Geologic Map Scale	1" = 300 '
Site Soils Map Scale (if more than 1 soil type)	1" = 300 '

6. Method of collecting positional data:

   _X_ Global Positioning System (GPS) technology.
   ____ Other method(s).

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

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

9. _X_ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

   ____ Geologic or manmade features were not discovered on the project site during the field investigation.

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

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

   _X_ There are __1__(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
   _____ The wells are not in use and have been properly abandoned.
   _____ The wells are not in use and will be properly abandoned.
   X (S-103) The wells are in use and comply with 16 TAC Chapter 76.

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

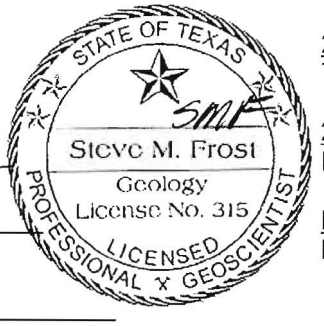
ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: August 27-31, 2007
Date(s)

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

Steve Frost, P.G.
Print Name of Geologist



210-372-1315
Telephone

210-372-1318
Fax

Signature of Geologist

May 12, 2008
Date

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

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

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

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: Star Canyon Subdivision (Western Portion)

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)	DOM	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' 13.860"	98° 13' 58.88"	SC	20	Kek	1	1	1.5	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-2	29° 47' 15.66"	98° 13' 47.34"	SC	20	Kek	0.25	0.25	1.5	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-3	29° 47' 14.76"	98° 13' 47.52"	SC	20	Kek	2	2	2+	-	-	-	-	OFC	10	30	X		YES		HILLSIDE
S-4	29° 47' 13.8"	98° 13' 32.28"	SC	20	Kek	3	1	2.5	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-5	29° 47' 33.9"	98° 14' 0.24"	SC	20	Kek	0.75	1	1.5	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-6	**29° 47' 33.24"**	**98° 13' 44.4"**	**C**	**30**	**Kek**	**4**	**12**	**4**	-	-	-	-	**OFC**	**25**	**55**		X		**YES**	**STREAMBED**
S-7	29° 47' 20.94"	98° 14' 10.92"	SC	20	Kek	1	1	2	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-8	29° 47' 30.24"	98° 14' 28.08"	SC	20	Kgr	2	2	2	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-9	29° 47' 34.32"	98° 14' 2.04"	SC	20	Kek	1	1	1.5	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-10	29° 47' 35.52"	98° 13' 58.86"	SC	20	Kek	3	1	3	-	-	-	-	OFC	10	30	X		YES		HILLSIDE
S-11	**29° 47' 36.48"**	**98° 14' 14.16"**	**SW**	**30**	**Kek**	**12**	**15**	**5**	-	-	-	-	**FC**	**15**	**45**		X		**YES**	**STREAMBED**
S-12	**29° 47' 41.58"**	**98° 14' 14.52"**	**SW**	**30**	**Kek**	**3**	**3.5**	**1.5**	-	-	-	-	**OFC**	**15**	**45**		X		**YES**	**STREAMBED**
S-13	**29° 47' 42.42"**	**98° 14' 13.98"**	**SW**	**30**	**Kek**	**6**	**3**	**1**	-	-	-	-	**FC**	**15**	**45**		X		**YES**	**STREAMBED**
S-14	**29° 47' 42.84"**	**98° 14' 12.78"**	**SW**	**30**	**Kgr**	**2**	**1**	**.5**	-	-	-	-	**OFC**	**15**	**45**		X		**YES**	**STREAMBED**
S-15	29° 47' 54.6"	98° 13' 39.06"	SC	20	Kek	1	5	3	-	-	-	-	OFC	10	30	X		YES		HILLSIDE
S-16	29° 47' 54.72"	98° 13' 52.26"	C	30	Kek	5	2	4	-	-	-	-	OFC	5	35	X		YES		CLIFF
S-17	**29° 48' 4.14"**	**98° 13' 48.06"**	OFR	5	Kek	90	60	-	100	-	<1	0.2	OFC	15	20	X			Yes	STREAMBED
S-21	29° 47' 13.980"	98° 13' 58.737"	OVR	5	Kek	20	20	-	-	-	10	0.16	OF	5	10	X		YES		HILLSIDE
S-22	29° 47' 13.457"	98° 13' 58.256"	SC	20	Kek	2	1	2	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-23	29° 47' 23.150"	98° 13' 43.359"	OVR	5	Kek	50	20	-	-	-	5	0.33	OF	5	10	X		YES		HILLSIDE
S-24	29° 47' 20.336"	98° 13' 40.066"	OVR	5	Kek	20	30	-	-	-	5	0.33	OF	5	10	X			YES	STREAMBED
S-25	29° 47' 21.633"	98° 13' 39.497"	SC	20	Kek	3	1	2	-	-	-	-	OF	10	30	X			YES	STREAMBED
S-26	29° 47' 27.829"	98° 13' 43.435"	OVR	5	Kek	100	10	-	-	-	7	0.16	OF	5	10	X			YES	STREAMBED
S-27	29° 47' 27.932"	98° 13' 44.514"	OVR	5	Kek	100	20	-	-	-	10	0.42	OF	5	10	X		YES		HILLSIDE
S-28	29° 47' 23.208"	98° 14' 27.084"	SC	20	Kek	2	2	1	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-29	29° 47' 26.145"	98° 14' 23.598"	SF	20	Kek	20	20	-	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-30	**29° 47' 39.518"**	**98° 14' 10.275"**	**C**	**30**	**Kek**	**5**	**4**	**4**	-	-	-	-	**OV**	**10**	**40**		X		**YES**	**STREAMBED**
S-31	29° 47' 50.189"	98° 13' 39.203"	SC	20	Kek	7	1	5	-	-	-	-	OF	15	35				YES	STREAMBED
S-32	29° 47' 52.280"	98° 13' 57.886"	SC	20	Kek	2	1	3	-	-	-	-	OF	10	30			YES		HILLSIDE
S-42	29° 47' 8.300"	98° 13' 55.112"	SC	20	Kek	1	1.5	2	-	-	-	-	F	10	30			YES		HILLSIDE
S-43	29° 46' 23.916"	98° 13' 58.754"	CD	5	Kek	14	10	0.33	-	-	-	-	F	5	10	X		YES		HILLSIDE
S-63	29° 47' 13.242"	98° 13' 1.294"	OFR	5	Kek	120	30	-	180	-	1	0.2	F	5	10	X			YES	STREAMBED
S-64	29° 46' 58.656"	98° 13' 44.683"	OFR	5	Kek	10	12	-	90	-	1	0.3	F	5	10	X		YES		HILLSIDE
S-65	29° 47' 12.366"	98° 13' 33.702"	OFR	5	Kek	120	5	-	90	-	1	0.25	F	5	10	X		YES		HILLSIDE

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: Star Canyon Subdivision (Western Portion Continued)

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)	DOM	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-66	29° 47' 9.670"	98° 13' 33.648"	SC	20	Kek	1.5	1	1	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-67	29° 47' 4.283"	98° 13' 34.695"	OFR	5	Kek	30	20	-	90	-	1	0.25	OF	5	10	X		YES		HILLSIDE
S-68	29° 47' 4.479"	98° 13' 23.893"	SC/MB	20	Kek	0.75	0.75	2.5	-	-	-	-	N	5	25	X		YES		HILLSIDE
S-69	29° 47' 10.086"	98° 13' 21.615"	SC	20	Kek	0.65	0.5	1.75	-	-	-	-	N	10	30	X		YES		HILLSIDE
S-70	29° 47' 27.120"	98° 13' 39.883"	OFR	5	Kek	150	35	-	Variable	-	-	-	OF	5	10	X		YES		HILLSIDE
S-71	29° 47' 26.348"	98° 13' 41.230"	OVR	5	Kek	155	40	-	-	-	8+	-	F	5	10	X		YES		HILLSIDE
S-72	29° 47' 28.978"	98° 13' 41.061"	SC	20	Kek	2.2	0.9	2.5	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-103	29° 47' 31.3"	98° 13' 54.9"	MB	30	Kek	.25	.25	?	-	-	-	-	N	5	35	X		YES		HILLSIDE

Datum: NAD 27

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, Floodplain, Streambed

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

Steve Frost P.G.

Date May 12, 2008

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

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: Star Canyon Subdivision (Eastern Portion)

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)	DOM	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-18	29° 48' 8.64"	98° 13' 36.72"	C	30	Kek	10	3	30	-	-	-	-	F,C	5	35	X			YES	STREAMBED
S-19	29° 47' 36.48"	98° 13' 9.12"	OFR	5	Kek	60	30	-	Variable	-	<1	0.2	OFC	5	10	X		YES		HILLSIDE
S-20	**29° 47' 31.8"**	**98° 13' 21.42"**	**SW**	**30**	**Kek**	**3**	**3**	**2**	**-**	**-**	-	-	**OFC**	**15**	**45**		X		**YES**	**STREAMBED**
S-33	29° 47' 58.380"	98° 13' 28.711"	SC	20	Kek	1	1	3	-	-	-	-	OF	10	30	X		YES		HILLSIDE
S-73	29° 47' 29.565"	98° 13' 19.267"	OFR	30	Kek	150	15	-	180	-	1	0.25	F	5	10	X			YES	STREAMBED
S-74	29° 47' 24.282"	98° 13' 21.319"	OFR	30	Kek	200	20	-	180	-	1	0.25	F	2	10	X			YES	STREAMBED
S-75	29° 47' 24.915"	98° 13' 28.711"	SC	20	Kek	1.25	0.9	1.1	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-76	29° 47' 36.383"	98° 13' 18.395"	SC	20	Kek	2	1	2	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-80	29° 47' 23.795"	98° 13' 15.885"	SC	20	Kek	2.45	1	2	-	-	-	-	OF	5	25	X		YES		HILLSIDE
S-81	29° 47' 26.023"	98° 13' 13.484"	OFR	5	Kek	200	35	-	-	-	1	0.25	FC	5	10	X		YES		HILLSIDE
S-82	29° 47' 24.358"	98° 13' 12.156"	OFR	5	Kek	100	35	-	-	-	-	-	FC	5	10	X		YES		HILLSIDE
S-83	29° 47' 16.632"	98° 13' 18.734"	OFR	5	Kek	150	25	-	-	-	-	-	FC	5	10	X			YES	STREAMBED
S-84	29° 48' 10.9"	98° 13' 35.6"	SC	20	Kek	1	1	1	-	-	-	-	N	10	30	X			YES	STREAMBED
S-85	29° 47' 34.1"	98° 13' 19.5"	OVR	5	Kek	80	100	2.5	-	-	20	0.1-0.75	N	5	10	X		YES		HILLSIDE
S-86	29° 47' 25.5"	98° 13' 18.3"	SC	20	Kek	1	0.5	2	-	-	-	-	OF	10	30	X			YES	STREAMBED
S-87	29° 47' 44.3"	98° 13' 20.3"	SC	20	Kek	3	1.5	1	-	-	-	-	OF	5	25	X		YES		HILLTOP
S-101	29° 47' 20.1"	98° 13' 10.08"	MB	30	Kek	0.25	0.25	?	-	-	-	-	N	5	35	X		YES		HILLSIDE
S-102	29° 47' 32.7"	98° 13' 15.48"	SC	20	Kek	1	1	1.5	-	-	-	-	OF	5	25	X		YES		HILLSIDE

Datum: NAD 27

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
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Cliff, Hilltop, Hillside, Floodplain, Streambed

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The information presented here complies with that document and is a true representation of the conditions observed in the field.
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Steve Frost P.G.

Date May 12, 2008

Sheet 1 of 1

STRATIGRAPHIC COLUMN

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/ permeability type
Upper Cretaceous	Upper confining unit		Taylor Group			CU	600	Clay; chalky limestone	Gray-brown clay; marly limestone	None	Low porosity/ low permeability
			Austin Group			CU; rarely AQ	130 – 150	White to light-tan to gray limestone	White, chalky limestone; *Pycnodonte aucella Inoceramus subquadratus*	None	Low porosity; rare water production from fractures/ low permeability
			Eagle Ford Group			CU	30 – 50	Brown, flaggy sandy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/ low permeability
			Buda Limestone			CU	40 – 50	Buff, light-gray, dense mudstone	Porcelaneous limestone	Minor surface karst	Low porosity/ low permeability
			Del Rio Clay			CU	50 – 60	Blue-green to yellow-brown clay	Fossiliferous; *Hymatogyra arietina*	None	None/primary upper confining unit
Lower Cretaceous	I	Edwards aquifer	Georgetown Formation			CU	40 – 60	Gray to light-tan, marly limestone	Marker fossil: *Waconella waconsis*	None	Low porosity/ low permeability
	II		Edwards Group	Person Formation	Cyclic and marine members, undivided (4)	AQ	0 – 70	Mudstone to packstone; *miliolid* grainstone; chert	Boxwork vugs; light tan, massive; some *Toucasia*, *Caprinid*, and *Chondrodonta*	Many caves; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding; one of the most porous and permeable; essentially absent in Travis County
	III				Leached and collapsed members, undivided (4)	AQ	30 – 80	Crystalline limestone; mudstone to wackestone to *miliolid* grainstone; chert; collapsed breccia	Light-gray, bioturbated iron-stained beds separated by massive limestone beds; *Toucasia*, *Chondrodonta*	Extensive lateral development; large rooms	Majority not fabric/ one of the most porous and permeable
	IV				Regional dense member (3)	CU	20 – 30	Light-tan, dense, argillaceous mudstone	Wispy iron-oxide stains; *Pleurompya knowltoni*, *Ceratostreon texanum*	None; only vertical fracture enlargement	Not fabric/ low permeability; vertical barrier
	V			Kainer Formation	Grainstone member (2)	AQ	45 – 60	Light-gray, *miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone; *Toucasia*, *Turritella*, and *Chondrodonta*	Few caves	Not fabric/ recrystallization reduces permeability
	VI				Kirschberg evaporite member (1)	AQ	65 – 75	Light-gray, crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame; *Cladophyllia* and *Turritella*	Probably extensive cave development	Majority fabric/ one of the most porous and permeable
	VII				Dolomitic member (1)	AQ	110 – 150	Mudstone to grainstone; crystalline limestone; chert	Massively bedded, light gray, *Toucasia* abundant; *Dictyoconus walnutensis*, *Caprinid*	Caves related to structure or bedding planes	Mostly not fabric; some bedding-plane fabric/ water-yielding; locally permeable
	VIII				Basal nodular member	Karst AQ; not karst CU	45 – 60	Shaly, fossiliferous, nodular limestone; mudstone; *miliolid* grainstone	Massive, nodular and mottled; *Ceratostreon texanum*, *Dictyoconus walnutensis*, and *Texigryphaea*	Few caves	Fabric/low permeability
	Lower confining unit		Upper member of the Glen Rose Limestone			CU; evaporite beds AQ	350 – 500	Yellowish-tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/ relatively impermeable

LOCATION

The project site is composed of two separate tracts of land that are divided by FM 2722 north of the intersection of FM 2722 and Bear Creek Trail in Comal County, Texas. The approximate center of the project site is located at N29° 47' 27.2" Latitude and W98° 13' 49.6" Longitude (NAD27).

METHODOLOGY

The Geologic Assessment was performed by employees of FGS under the supervision of Mr. Steve Frost, P.G., with FGS on August 27 - 31, 2007. FGS researched the geology of the area surrounding the two separate tracts of land that are divided by FM 2722 north of the intersection of FM 2722 and Bear Creek Trail in Comal County, Texas. The research included, but was not limited to, the Geologic Atlas of Texas, San Antonio Sheet, FEMA maps, Edwards Aquifer Recharge Zone Maps, USGS 7.5 Minute Quadrangle Maps, and the USDA Soil Survey of Bexar County, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or manmade potential recharge features. A transect spacing of approximately 150 feet, or less depending on vegetation thickness, was used to inspect the project site. A 2005 aerial photograph, in conjunction with a hand held Garmin eTrex Summit Global Positioning System with an Estimated Potential Error ranging from 10 to 18 feet, was used to navigate on the property and identify the locations of potential recharge features, as recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The Geologic Assessment Form, Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included on pages 1-4 of this report.

NARRATIVE DESCRIPTIVE OF SITE GEOLOGY

The project site is located on an area consisting of several level areas, steep hills, and drainages. The project site has a moderate to dense stand of vegetative cover consisting primarily of native grasses, Live Oak, Texas persimmon, Ash Juniper, Cedar Elm and Ash trees. Due to recent heavy rains the Site was covered in an extremely dense stand of grass that obstructed visual observation of the surface of the ground.

Underlying the soil cover are the Kainer formation, the Walnut formation, and the Upper Glen Rose formation. The majority of the project site lies over the Kainer formation. A fault trends approximately along the Little Bear Creek near the northern boundary of the project site according to the Geologic Map of the New Braunfels, Texas, 30 X 60 minute Quadrangle published by the University of Texas At Austin Bureau of Economic Geology (2000). On the southern side of the fault is the Kainer formation, and on the northern side is the Upper Glen Rose formation followed by the Walnut formation. According to the U.S.G.S. WRI 94-4117, the regional trend in the vicinity of the Site appears to be approximately 45°. The fractures noted in this report were either N 90 or N 180 and therefore were not awarded 10 points for being within 15 degrees of the regional trend of 45 degrees.

The Kainer formation is the lower unit of the Edwards Group and consists of limestone, dolomitic limestone, and dolomite. This unit is approximately 250 feet thick and thickens downdip toward the southeast. Grainstones and packstones are abundant in the upper part of the unit. In some places leached evaporitic strata and breccias are very distinct in the middle part of the unit. The lower part of the unit commonly comprises wackestones and packsontes having local argillaceous intervals. Cher occurs throughout the unit in varying amounts and is typically abundant. Honeycomb porosity is common. Current laminations and low-angle cross-stratification are also present.

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

The Walnut Formation consists of limestone, marl, and dolomitic limestone. This formation is often referred to as the Nodular Member of the Edwards Kainer Limestone and is a lower confining unit of the Edwards Aquifer. Fossils of Exogyra texana are common. Some honeycomb porosity exists. Overall thickness ranges from 30 to 50 feet.

No visible faulting was observed on the Site; however, according to the Geologic Map of the New Braunfels, Texas, 30 X 60 minute Quadrangle published by the University of Texas At Austin Bureau of Economic Geology (2000), a fault trends roughly along Little Bear Creek along the northern boundary of the Site. Visual indications of this fault could have been obstructed during field reconnaissance by dense vegetation and steep terrain associated with Little Bear Creek. The regional trend in the vicinity of the Site appears to be approximately 45°.

SITE SPECIFIC GEOLOGIC FEATURE DESCRIPTIONS

The project site is separated into two portions; the east side (portion of the project site east of FM 2722) and the west side (portion of the project site west of FM 2722). The discussion below identifies which portion of the project site features were discovered on, and provides a brief description of the feature. Sensitive features and their descriptions are shown in bold.

WESTERN PORTION OF THE PROJECT SITE

S-1 SC: Solution cavity: Wear caused by solution near the base of a cedar tree. Feature appears to be an animal burrow. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-2 SC: Solution cavity: Solution cavity is in weathered rock. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-3 SC: Solution cavity: Solution cavity is in weathered rock rock and has been filled with soil and organic material. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-4 SC: Solution cavity: Solution cavity is in weathered rock and has been filled with soil and organic material. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-5 SC: Solution cavity: Solution cavity is in weathered rock. Feature appears to be an animal burrow. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-6 C: Cave and Spring: Feature is located in a streambed and is scoured out and has rock overhangs on both sides of the stream. Water was observed seeping from a crack in the rock in the featute, but recharge potential

appears to be relatively low. The area of rock overhang is large enough for a person to enter. It appears likely that this "spring" only seeps when the water table is extremely high and after large amounts of rainfall. Since water was noted flowing from this feature it is likely that an interconnectedness exists between the surface and the Edwards Aquifer. However, this appears to be a discharge point, not a recharge point.

S-7 SC: Solution cavity: Solution cavity is in weathered rock. Feature appears to be an animal burrow. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-8 SC: Solution cavity: Solution cavity is in weathered rock and has been filled with soil and organic material. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-9 SC: Solution cavity: Solution cavity is in weathered rock and has been filled with soil and organic material. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. The feature did not extend deep into the ground and it did not appear that water frequently or rapidly enters the feature.

S-10 SC: Solution cavity: Solution cavity is in weathered rock. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-11 SW: Swallow hole: Feature is located in the streambed and appears to have been enlarged by scouring. No water was observed pooled in the feature despite recent rainfall.

S-12 SW: Swallow hole: Feature is located in the streambed and is fed by a small seep. Water disappears into the feature and then reappears downstream.

S-13 SW: Swallow hole: Feature is located in a small streambed along the northern boundary of the Site and is fed by a small seep. Water disappears into the

feature and then reappears downstream.

S-14 SW: Swallow hole: Feature is located in the same streambed downstream of S-13. Water disappears into the feature.

S-15 SC: Solution cavity: Solution cavity is in weathered rock along the eastern boundary of the west portion of the Site, along a road cut on WEST OF FM 2722. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-16 C: Cave: Cave is located in a rock cliff along Little Bear Creek and appeared to be primarily vertical with little horizontal relief. It is likely that the feature exists as a result of scouring by floodwater. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. It is likely that water only swirls in and out of the feature during flood events and does not percolate through the feature.

S-17 OFR: Outcrop of fractured bedrock: This outcrop consists of fractured bedrock in the bed of Little Bear Creek. One inch wide fractures were observed approximately every six feet. These fractures were infilled with soil. Fractures appeared to trend approximately 100°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-21 OVR: Outcrop of vuggy rock: Outcrop contains approximately ten vugs per square foot that are approximately two inches in diameter. Outcrop is approximately 20 feet by 20 feet. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-22 SC: Solution cavity: Solution cavity is at the base of a tree. Feature appears to be an animal burrow. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-23 OVR: Outcrop of vuggy rock: Outcrop contains approximately five vugs per square foot that are approximately four inches in diameter. Outcrop is approximately 50 feet by 20 feet. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-24 OVR: Outcrop of vuggy rock: Outcrop contains approximately five vugs per square foot that are approximately four inches in diameter. Outcrop is approximately 50 feet by 20 feet and is the head cut of a stream. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-25 SC: Solution cavity: Solution cavity is located in a streambed and appeared to be primarily vertical with little horizontal relief. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-26 OVR: Outcrop of vuggy rock: Outcrop contains approximately seven vugs per square foot that are approximately two inches in diameter. Outcrop is approximately 100 feet by 10 feet and is located in a streambed. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-27 OVR: Outcrop of vuggy rock: Outcrop contains approximately ten vugs per square foot that are approximately five inches in diameter. Outcrop is approximately 100 feet by 20 feet. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-28 SC: Solution cavity: Solution cavity is located on a hillside near a streambed. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-29 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock on an upland area of the Site. The fractures were random and did not have a dominate trend. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-30 C: Cave: Cave is located in the edge of a streambed and appears to be a result of scouring from floodwater. Recharge potential appears relatively low. An increase in vegetation was noted around the feature but is likely due to an increase is water availability.

S-31 SC: Solution cavity: Solution cavity is located on the edge of a streambed and appears to be the result of water scouring. The feature is primarily vertical with little horizontal relief. Soil was observed in the feature. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-32 SC: Solution cavity: Solution cavity is near the base of a tree. Feature appears to be an animal burrow. There were no obvious visual indications of rapid

infiltration of water into the Edwards Aquifer.

S-42 SC: Solution cavity: Solution cavity is at the base of a large rock. Feature is located on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-43 CD: Closed Depression: This hillside feature is a closed depression and is infilled with soil and water. This feature has likely been enlarged by animals and measures approximately 4" to 6" deep and 10'wide by 14' long. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-63 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a streambed on the Site. Fractures were approximately two inches wide, were found once every foot, and appeared to trend approximately 180°. The fractures were infilled with soil. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-64 OFR: Outcrop of fractured bedrock: Ourcrop consists of fractured bedrock in a hillside on the Site. Fractures were approximately three to four inches wide, were found once every foot, were infilled with clay, and appeared to trend approximately 90°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-65 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a hillside on the Site. Fractures were approximately three inches wide, were found once every foot, were infilled with clay, and appeared to trend approximately 90°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-66 SC: Solution cavity: Solution cavity is at the base of a large rock. Feature is located on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-67 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a hillside on the Site. Fractures were approximately three inches wide, were found once every foot, and appeared to trend approximately 90°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-68 SC: Solution cavity/Man made feature in bedrock: Solution cavity is an apparent posthole approximately nine inches in diameter and two and a half feet deep. There were no obvious visual indications of rapid infiltration of water

into the Edwards Aquifer.

S-69 SC: Solution cavity: Solution cavity located on a hillside. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-70 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock on an upland area of the Site. Fractures ranged from two to eight inches across and were observed approximately once every three feet. The fractures did not have a dominate trend. Some solution enlarged fractures were observed in this zone. Infilling of clay and organic materials was visible in the feature zone. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-71 OVR: Outcrop of vuggy bedrock: Outcrop consists of vuggy bedrock on a hillside on the Site. Approximately eight vugs were observed per square foot, and the vuggy rocks were consistent with a horizontal outcrop and as a result the trend will parallel the contours. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-72 SC: Solution cavity: Solution cavity located on a hillside and was observed to be infilled with clay. No signs of rapid infiltration were observed and the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer appears to be very low. No signs were observed that would indicate that water frequently or rapidly enters the feature.

S-103 MB: Man made feature in bedrock: Feature is a well. The well feeds a large metal cistern and a small concrete livestock trough.

EASTERN PORTION OF THE PROJECT SITE

S-18 C: Cave: Cave is located in a rock cliff along Little Bear Creek. A substantial amount of water was observed flowing from the cave. Man made improvements to the area immediately downstream of the cave and spring are designed to dam up water. Due to the danger associated with the amount of flowing water out of the discharge feature, FGS was not able to map the extent of PRF # S-18. There is no evidence to suggest that there is a connection between PRF # S-18 and other caves noted in the area.

S-19 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock on an upland area of the Site. Fractures ranged from two to eight inches across and were observed approximately once every three feet. The fractures did not have a dominate trend. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-20 SW: Swallow hole: Feature is located in a streambed. Feature appears to be partially infilled with gravel and rocks washed down the stream during heavy rainfall events.

S-33 SC: Solution cavity: Solution cavity is at the base of a large rock. Feature appears to be an animal burrow. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-73 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a streambed on the Site. Fractures were approximately 2-3 inches wide, were found once every foot, and appeared to trend approximately 180°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-74 OFR: OUtcrop of fractured bedrock: OUtcrop consists of fractured bedrock in a streambed on the Site. Fractures were approximately two to three inches wide, were found once every foot, and appeared to trend approximately 180°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-75 SC: Solution cavity: Solution cavity located on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-76 SC: Solution cavity: Solution cavity located on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-80 SC: Solution cavity: Solution cavity located on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-81 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a hillside on the Site. Fractures were approximately two to three inches wide, were found once every foot, and appeared to trend approximately 180°. The otucrop is a natural spring. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-82 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a hillside on the Site. The zone is a natural spring, and no dominate trend was observed. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-83 OFR: Outcrop of fractured bedrock: Outcrop consists of fractured bedrock in a streambed on the Site. The zone is a natural spring, and a trend of approximately 180° was observed. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-84 SC: Solution cavity: Solution cavity located in a streambed. Two openings were observed leading to the same cavity. One opening was 1' by 1' by 1' deep, with the other being 6" by 6" by 1' deep. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-85 OVR: Outcrop of vuggy rock: Outcrop contains approximately twenty vugs per square foot that are approximately one to eight inches in diameter. Outcrop is approximately 100 feet by 80 feet and has a dominate trend of approximately 270°. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-86 SC: Solution cavity: Solution cavity located in a streambed. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-87 SC: Solution cavity: Solution cavity located on a hilltop. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-101 MB: Man made feature in bedrock: Feature is a well. A windmill pumps water from the well and was operational at the time of FGSs field reconnaissance. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

S-102 SC: Solution cavity: Solution cavity is located between two large limestone rocks on a hillside. There were no obvious visual indications of rapid infiltration of water into the Edwards Aquifer.

*** The footprint of caves found on the project site were not depicted on the geologic map. The scale of the geologic map is 1"=300'. Because the footprints of the caves observed on the Site are so small (greatest dimension of 30 feet or less resulting in a drawing less than 1/10 of an inch long), the footprints would not be visible on the geologic site map at the current scale of 1"=300'. The caves on the project site were measured visually in the field during the site visits to the project site. In the instances where safety issues (rattlesnakes, large volumes of flowing water, or elevated locations of caves on cliff faces) were encountered, cave dimensions were measured from the safest, closest distance possible due to the listed safety concerns.

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

SOIL DESCRIPTION

The site has soil cover of approximately one to three feet, consisting of the following soil associations:

Brackett-Rock Outcrop-Real Complex, 8 to 30 percent slopes – The Brackett-Rock Outcrop-Real Complex consists of shallow, loamy soils and rock outcrop on uplands in the Edwards Plateau Land Resources Area. Escarpments and high rounded hills and ridges and their slopes are characteristic of the areas. The Brackett soil makes up 20 to 55 percent of the complex, but on the average it makes up 35 percent. Rock Outcrop makes up to 10 to 46 percent, but the average is 25 percent. The Real soil makes up 10 to 30 percent, but the average is 20 percent. Typically, the surface layer of the bracket soil is grayish brown gravelly clay loam about 6 inches thick. The subsoil extends to a depth of 14 inches. It is light gray gravelly clay loam. The underlying material is weakly cemented limestone interbedded with this strata of pale yellow and very pale brown shaly clay. The soil is moderately alkaline and calcareous throughout. Typically, the Rock Outcrop is barren of soil except in narrow fractures in the rock. In some areas the rock is flat and has as much as 3 inches of soil material on the surface. Typically, the surface layer of the Real soil is very dark grayish brown gravelly clay loam about 12 inches thick. The upper part is about 20 percent, by volume, weakly cemented limestone gravel, and the lower part is about 60 percent. The underlying material is weakly cemented limestone. The soils in this complex are well drained. Surface runoff is rapid. Permeability is moderately slow in the Brackett soil and slow in the Real soil. Water erosion is a hazard. Seeps are common along the slopes after periods of heavy rains.

Comfort-Rock Outcrop Complex, 1 to 8 percent slopes – The Comfort-Rock Outcrop Complex consists of shallow, clayey soils and Rock Outcrop on side slopes and on hilltops and ridgetops on uplands in the Edwards Plateau Land Resource Area. The Comfort Extremely Stony Clay makes up 49 to more than 95 percent of the complex, but on the average it makes up 70 percent. Rock Outcrop and areas of soil less than 4 inches deep make up 5 to 36 percent, but the average is 15 percent. Typically, the surface layer of the Comfort soil is dark brown extremely stony clay about 6 inches thick. Cobbles and stones as much as 4 feet across cover about 45 percent of the surface. The subsoil extends to a depth of 13 inches. It is dark reddish brown extremely stony clay. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The Comfort Soil is well drained. Surface runoff is slow to medium. Permeability is slow, and the available water capacity is very low. Water erosion is a slight hazard.

Rumple-Comfort association, 1 to 8 percent slopes - The Rumple-Comfort Association (RuD) consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. The surface layer of the Rumple Soil is dark reddish brown very cherty clay loam about 10 inches thick. Rounded chert and limestone cobbles and gravel cover about 20 percent of the surface. The subsoil to a depth of 14 inches is dark reddish-brown very cherty clay, and to a

depth of 28 inches it is dark reddish-brown extremely stony clay. The underlying material is indurated fractured limestone. The Comfort Soil is dark brown, neutral, extremely stony clay about 7 inches thick. The subsoil to a depth of 12 inches is dark reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated fractured limestone. The soil is noncalcareous throughout. The soils in this association are well drained. Surface runoff is medium, but varies due to the occurrence of caves, fracture zones, and sinks. Permeability is moderately slow. Water erosion is a moderate hazard.

Eckrant-Rock outcrop complex, 1 to 8 percent slopes - The Eckrant-Rock Outcrop Complex consists of shallow, clayey soils and rock outcrops on uplands in the Edwards Plateau Land Resource Area. The Eckrant Soil makes up 50 to 80 percent of the complex, but on the average it makes up 70 percent. Rock Outcrop makes up 9 to 30 percent of the complex, but the average is 20 percent. Typically, the surface layer of the Eckrant Soil is very dark gray extremely stony clay about 10 inches thick. It is about 35 percent, by volume, cobbles and stones in the upper part and about 75 percent, by volume, stones in the lower part. The underlying layer is indurated fractured limestone. The soil is moderately alkaline and noncalcareous throughout. Typically, the Rock Outcrop consists of barren exposures of indurated limestone. In a few areas as much as 4 inches of clayey soil material overlies the bedrock, and dark colored clay is in cracks and fractures. The Eckrant Soil is well drained. Surface runoff is rapid. Permeability is moderately slow, and the available water capacity is very low. Water erosion is a severe hazard.

RESEARCH

7.5 Minute Quadrangle Map Review

According to the USGS 7.5 Minute Quadrangle Map, Sattler, Texas, the elevation of the project site ranges from 1155 feet to 860 feet. These elevations are calculated above mean sea level (AMSL). Surface runoff from the project site flows generally towards the northeast into tributaries of Bear Creek. FM 2722 trends, generally north, through the project site. A water well is visible on the project site. Little Bear Creek trends from southwest to northeast along the northern boundary of the project site.

Recharge / Transition Zone Map Review

According to the Official Edwards Aquifer Recharge Zone Map, USGS 7.5 Minute Quadrangle, Sattler, Texas Map, the project site is located within the Recharge Zone of the Edwards Aquifer.

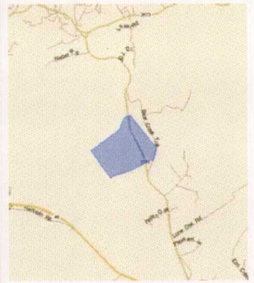
Floodplain Review

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Bexar County, Texas, Community Panel Number 4854630085C (Revised September 29, 1986) was reviewed. The majority of the project site is located in Zone C. Zone C consists of areas that are determined to be outside the 500-year floodplain. A portion of the project site along Little Bexar Creek is located in Zone A. Zone A is described as "Areas of 100 year flood; base elevations and flood hazard factors not determined".

REFERENCES

1. USGS 7.5 Minute Quadrangle Map, Sattler, Texas 1994.
2. Edwards Underground Water District Reference Map.
3. Official Edwards Aquifer Recharge Zone Map, Sattler, Texas.
4. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Comal County, Texas.
5. Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000).
6. Geologic Atlas of Texas, San Antonio Sheet (1982), Bureau of Economic Geology.
7. Federal Emergency Management Agency (FEMA), September 29, 1986, Comal County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel 4854630085C FEMA.
8. USDA Soil Conservation Service, Soil Survey website, http://websoilsurvey.nrcs.usda.gov/app/
9. TCEQ-0585-Instructions (Rev. 10-1-04). "Instructions to Geologists for Geologic"

FIGURES



Location Map

Recharge Zone

Kgr

Kek

Kw

S-84 (SC)
S-18 (C)
S-17 (FRZ)
S-15 (SC)
S-16 (C)
S-32 (SC)
S-31 (SC)
S-33 (SC)
S-13 (SW)
S-12 (SW)
S-14 (SW)
S-30 (C)
S-11 (SW)
S-10 (SC)
S-9 (SC)
S-5 (SC)
S-72 (SC)
S-71 (FRZ)
S-70 (SC/Z)
S-103 (MB)
S-6 (C)
S-43 (CD)
S-27 (DVR)
S-26 (DVR)
S-8 (SC)
S-29 (SF)
S-28 (SC)
S-23 (DVR)
S-25 (SC)
S-24 (DVR)
S-7 (SC)
S-63 (FRZ)
S-21 (DVR)
S-42 (SC)
S-3 (SC)
S-2 (SC)
S-1 (SC)
S-22 (SC)
S-64 (FRZ)
S-87 (SC)
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S-73 (FRZ)
S-85 (DVR)
S-102 (SC)
S-81 (FRZ)
S-20 (SW)
S-75 (SC)
S-74 (FRZ)
S-82 (FRZ)
S-80 (SC)
S-86 (SC)
S-83 (FRZ)
S-101 (MB)
S-65 (FRZ)
S-66 (SC)
S-69 (SC)
S-4 (SC)
S-67 (FRZ)
S-68 (SC/MB)
S-19 (FRZ)

U
D

Legend

Kw - Walnut Formation

Kgr - Glen Rose Formation

Kek - Kainer Formation

S-# - Potential Recharge Feature (Sensitive Features in Red)

(C) Cave

(SC) Solution Cavity

(SF) Solution-enlarged Fractures

(MB) Manmade Feature in Bedrock

(SW) Swallow Hole

(SH) Sinkhole

(CD) Non-karst Closed Depression

(Z) Zone, Clustered, or Aligned Features

Site Boundary

Intermittent Stream

Zone Boundary

Spring

Normal Fault
U = Upthrown Block
D = Downthrown Block

ZONE 'A'
100 Year Flood Plain

Geologic Formation Contact

Floodplain Information Obtained From: Flood Insurance Rate Map Comal County, Texas: Panel # 48546300085C (9/29/86)

Fault Information Obtained From: Geologic Map of New Braunfels, Texas 30 x 60 Minute Quadrangle (2000)

N
W E
S

Graphic Scale

300 150 0 150 300
(In Feet)

1 inch =300 feet
Representative Fraction : 1:3600

REVISIONS:
10/17/07 TAB
2/20/08 HS
4/2/08 HS

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Construction Materials • Forensics
Environmental • Geotechnical

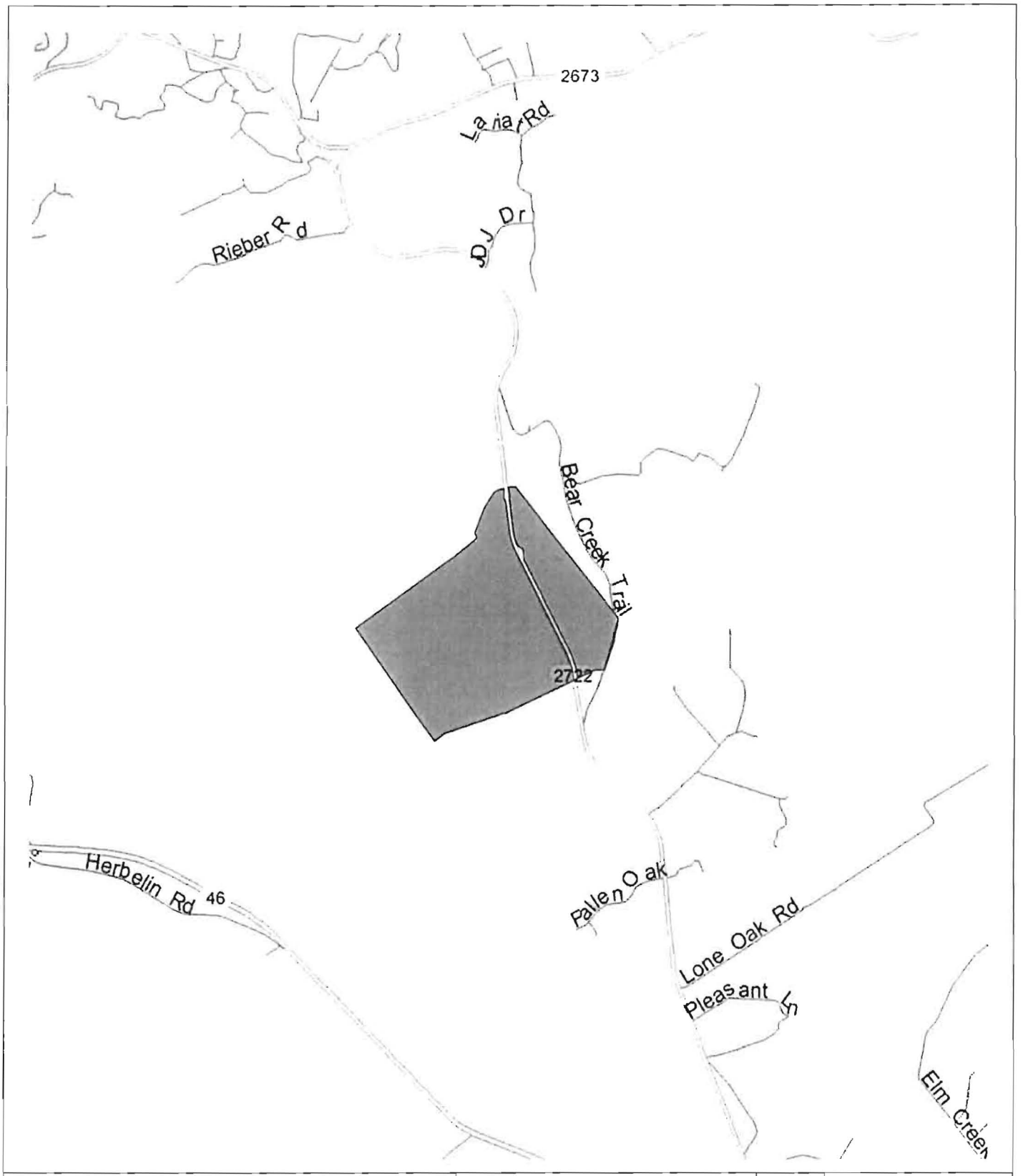
Site Geologic Map

Star Canyon Subdivision

(West of FM 2722)

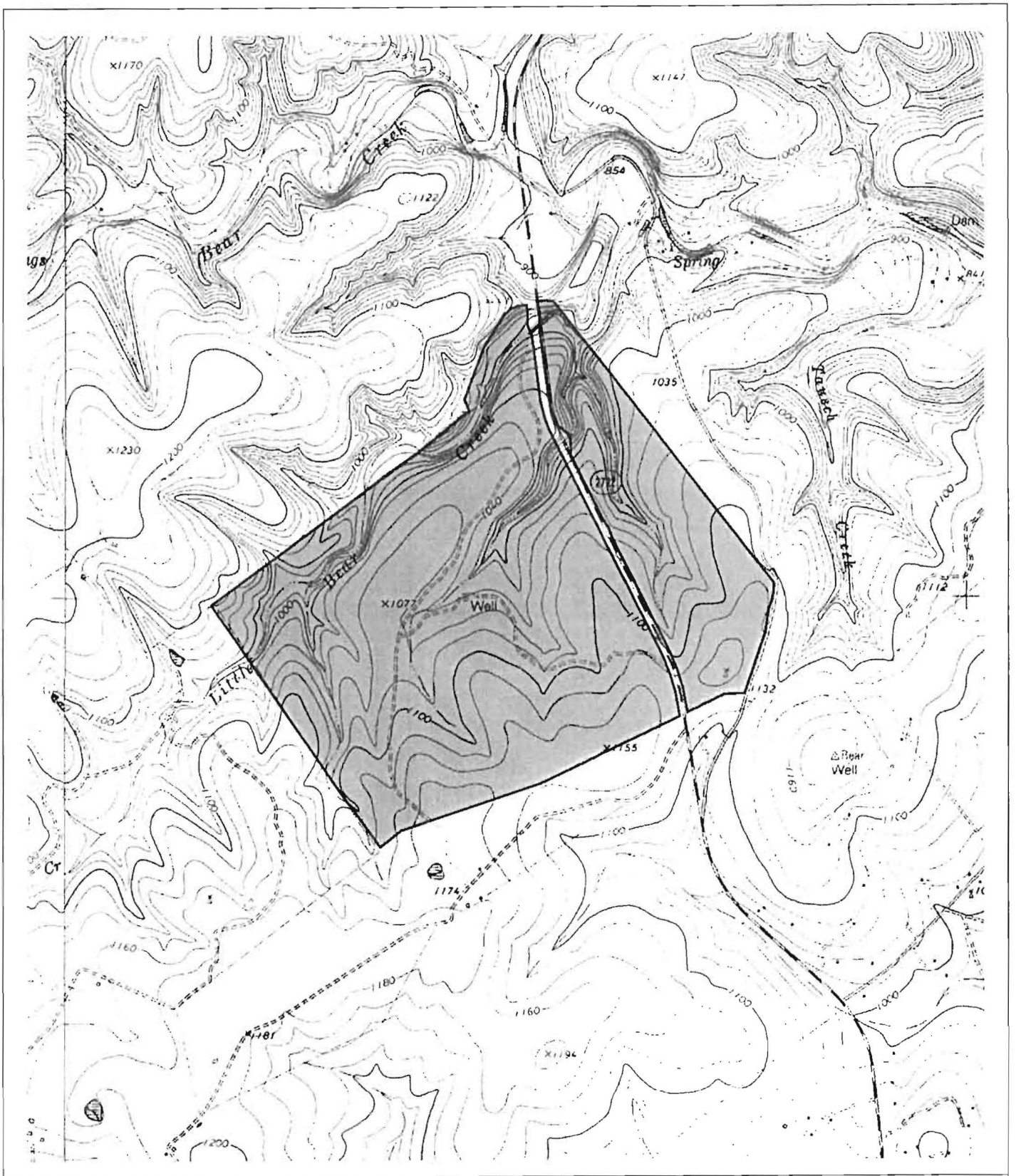
Site Geologic Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone

JOB NO. FGS-E07343 R2
DATE October 18, 2007
DESIGNER TAB
CHECKED TH DRAWN
SHEET 1 of 1



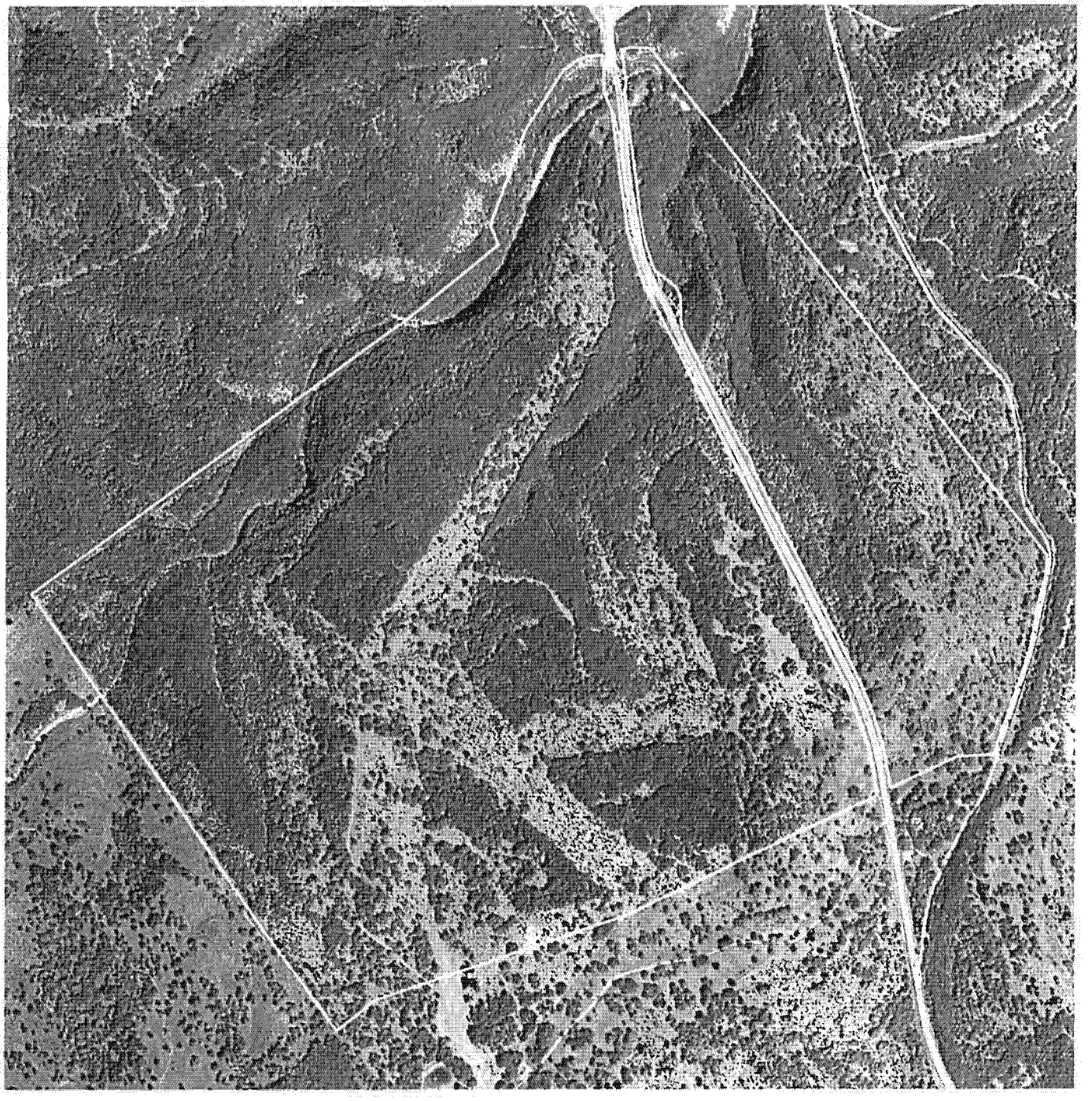
VICINITY MAP	DRAWING NOT TO SCALE	N↑	FIGURE 2

FGS Project Nº FGS-E07334 R-3

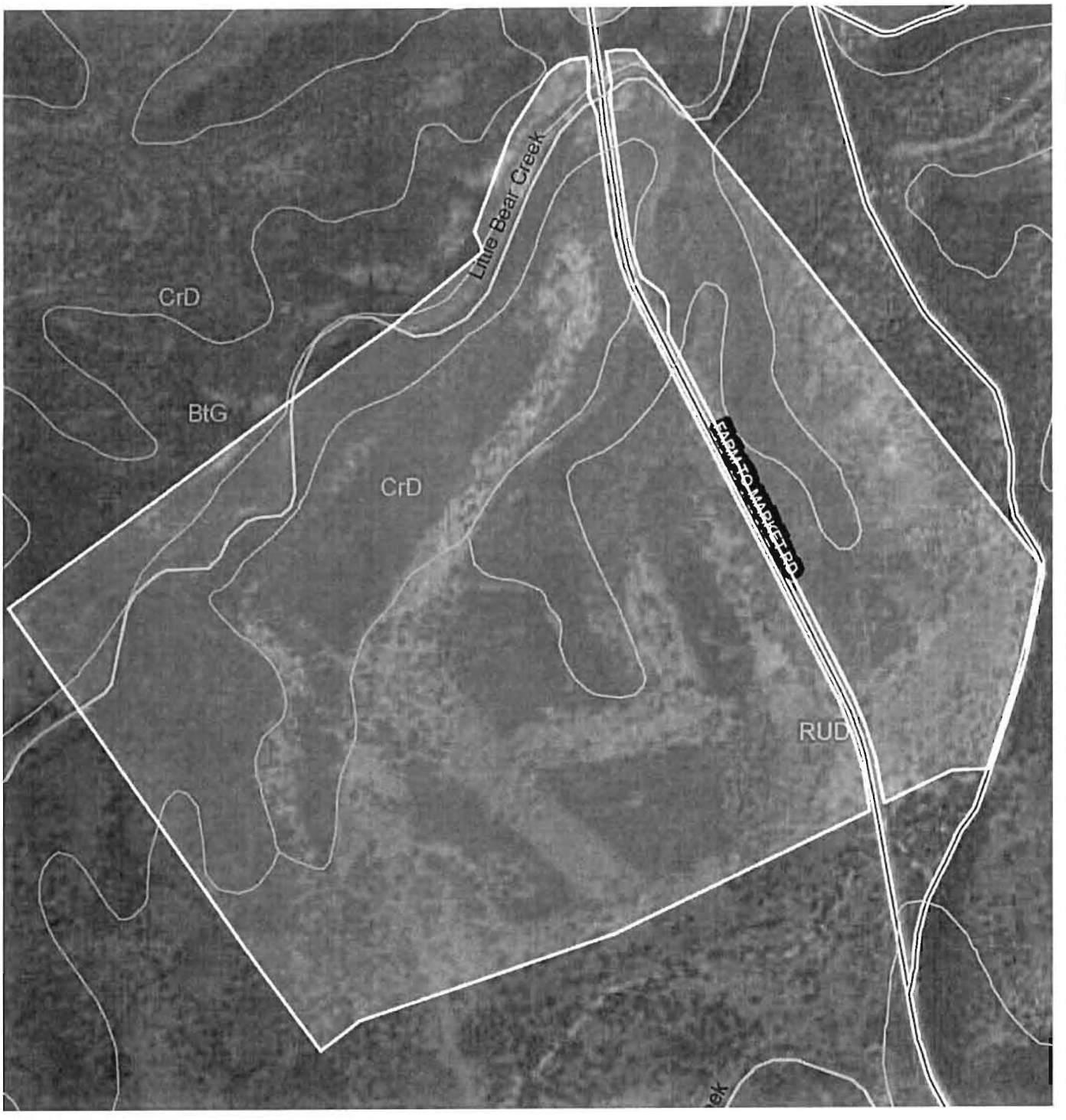


TOPOGRAPHIC MAP	DRAWING NOT TO SCALE	N↑	FIGURE 3

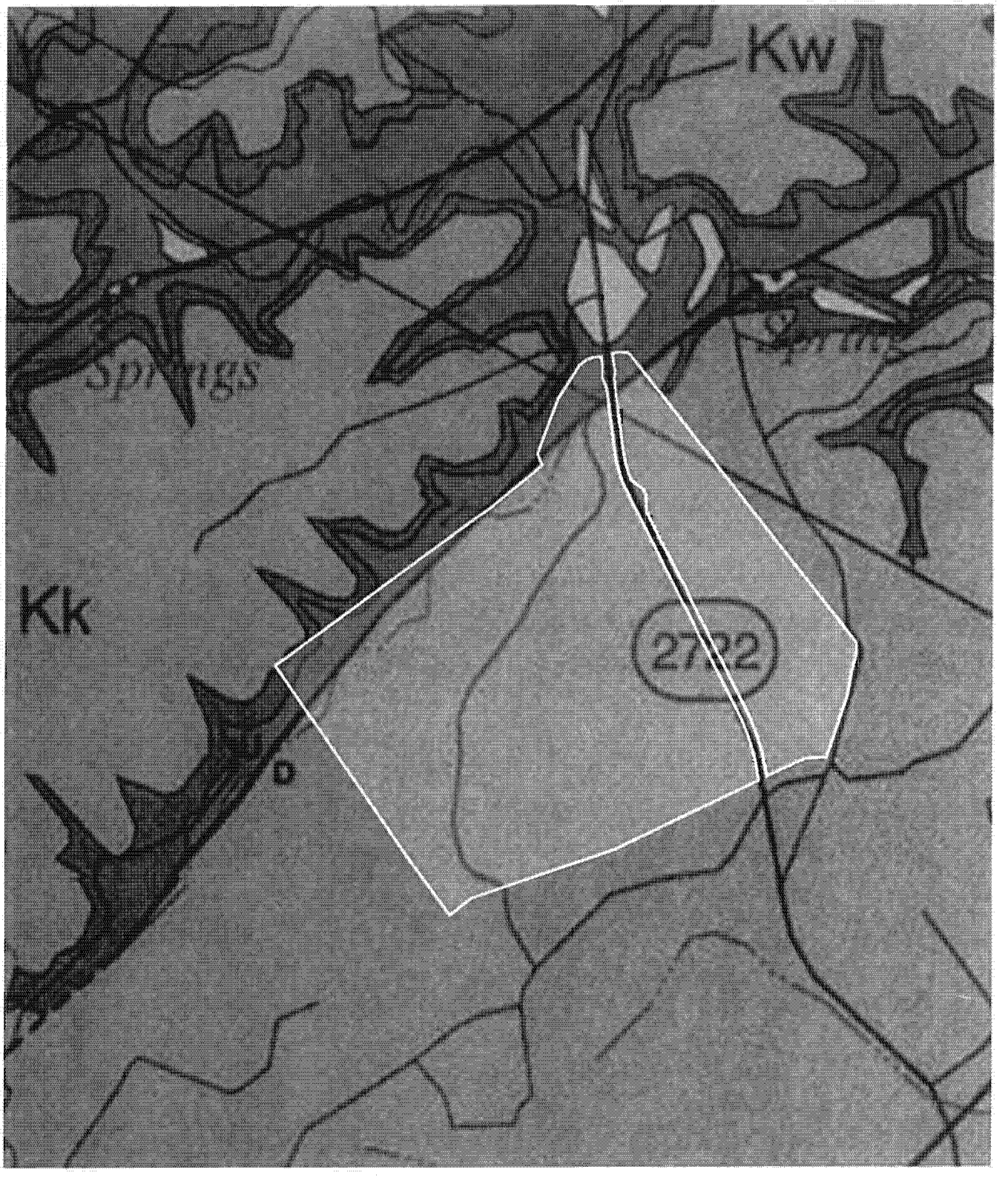
FGS Project Nº FGS-E07334 R-3



AERIAL PHOTOGRAPH	DRAWING NOT TO SCALE	N↑	FIGURE 4



SOILS MAP	DRAWING NOT TO SCALE	N↑	FIGURE 5



GEOLOGIC MAP New Braunfels Quadrangle	DRAWING NOT TO SCALE	N↑	FIGURE 6

APPENDIX A

SITE PHOTOGRAPHS

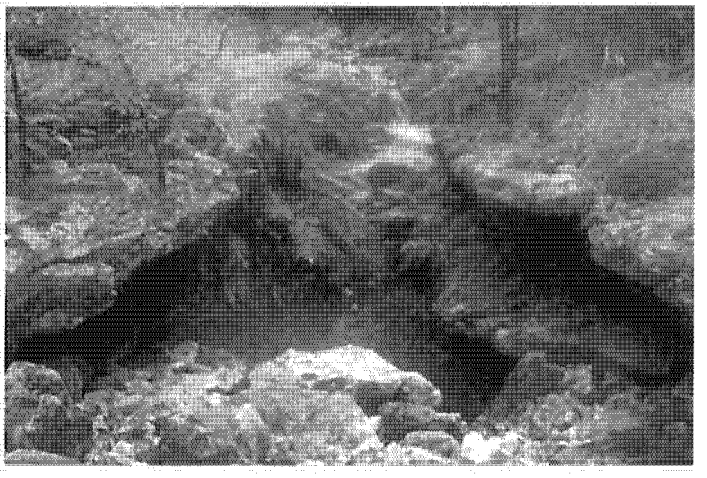


Photo #1 – Photo view shows sensitive feature S-06.

Photo #2 – Photo view shows sensitive feature S-11.

Photo #3 – Photo view shows sensitive feature S-12.

Photo #4 – Photo view shows sensitive feature S-13.

Photo #5 – Photo view shows sensitive feature S-14.

Photo #6 – Photo view shows feature S-17.

Photo #7 – Photo view shows sensitive feature S-30.

Photo #8 – Photo view shows feature S-18. The feature is shown discharging water.

Photo #9 – Photo shows a spring observed on the project site.

Photo #10 – Photo shows a spring observed on the project site.

Photo #11 – Photo shows a spring observed on the project site.

Photo #12 – Photo view shows feature S-19; an outcrop of fractured bedrock on the project site.

Photo #13 – Photo view shows a windmill associated with feature S-101, a water well observed on the project site.

Photo #14 – Photo view shows feature S-101 on the project site.

Photo #15 – Photo shows feature S-15, a solution cavity, located along the boundary of the project site.

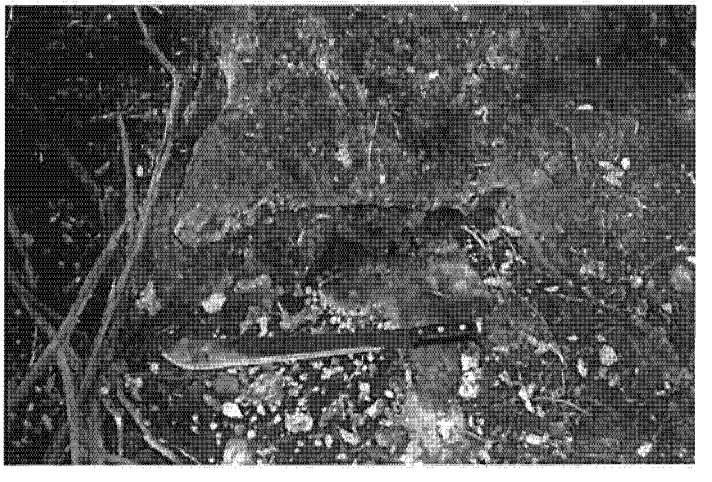


Photo #16 – Photo shows a typical solution cavity observed on the project site.

Photo #17 – Photo shows a typical solution cavity observed on the project site.

Photo #18 – Photo shows a typical solution cavity observed on the project site.

Photo #19 – Photo shows S-67 fractured rock. Photo shows 2 to 4 inch fractures filled with organics and clay material.

Photo #20 – Photo shows typical vegetation observed on the project site.

Photo #21 – Photo shows typical vegetation observed on the project site.

Photo #22 – Photo shows typical vegetation observed on the project site.

Photo #23 – Photo shows typical vegetation observed on the project site.

Photo #24 – Photo shows a view across the project site from a high point on the project site.

Photo #25 – Photo shows S-63 fractured rock. Photo shows exposed bedrock with 2-inch fractures filled with clay and other fines.

Photo #26 – Photo shows S-67 fractured rock. Photo shows 2 to 4 inch fractures filled with organics and clay material.

Photo #27 – Photo shows several typical animal burrows along solution-enlarged fractures.

Photo #28 – Photo shows several typical animal burrows along solution-enlarged fractures.

Photo #29 – Photo shows feature S-70 fractured rock outcrop.

Photo #30 – Photo shows feature S-68.

Photo #31 – Photo shows feature S-72.

Photo #32 – Photo shows feature S-71 vuggy fracture rock zone.

Photo #29 – Photo shows feature S-103, a water well observed on the western portion of the project site.

Photo #30 – Photo shows feature S-103, a water well observed on the western portion of the project site.

Photo #31 – Photo shows feature S-2, a solution cavity.

Photo #32 – Photo shows feature S-3, a solution cavity.

Photo #33 – Photo shows feature S-4, a solution cavity.

Photo #34 – Photo shows feature S-5, a solution cavity.

Photo #35 – Photo shows feature S-7, a solution cavity.

Photo #36 – Photo shows feature S-8, a solution cavity.

Photo #37 – Photo shows feature S-9, a solution cavity.

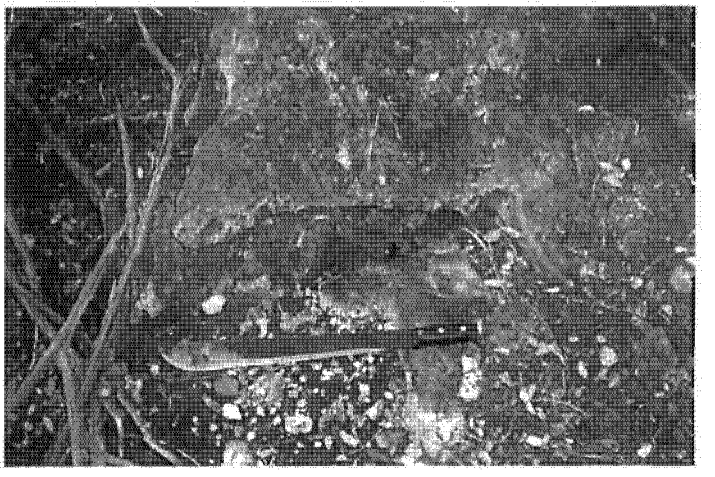


Photo #38 – Photo shows feature S-10, a solution cavity.

Photo #39 – Photo shows feature S-7, a solution cavity.

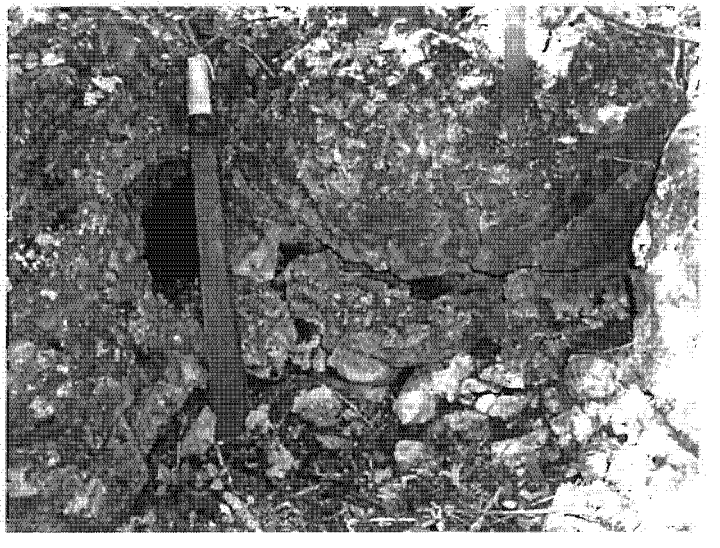


Photo #40 – Photo shows feature S-25, a solution cavity found in a streambed.