TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 5, 2019

Mr. Dan Mullins
Southerland Belle Oaks, LLC
665 Simonds Rd
Williamstown, Massachusetts 01267-2105

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Belle Oaks Ranch; Located approximately 1.2 miles south of Highway 46 on the east side of Blanco Road; ETJ of Bulverde, Texas

PLAN TYPE: Request for Modification of an Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN110597515; Additional ID No. 13000964

Dear Mr. Mullins:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the San Antonio Regional Office by Matkin-Hoover Engineering and Surveying on behalf of Southerland Belle Oaks, LLC on July 26, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected 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 Belle Oaks Ranch CZP was approved by letter dated March 12, 2019 for construction of 640 single-family residential homes with associated utilities, streets, two amenity centers, and drainage improvements within 874.52 acres with approximately 170.78 acres of impervious cover.

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 874.52 acres. It will include the construction of 615 single-family residential homes (approximately 10,000 square feet of impervious cover per unit) with associated utilities, streets, an amenity center, and drainage improvements. The impervious cover will be 174.14 acres (19.91 percent). According to a letter dated, December 17, 2018 signed by Mr. Robert Boyd, P.E. with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

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

SPECIAL CONDITIONS

I. 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 format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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.

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. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP 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.

6. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If 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 significantly reduced. 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).
10. 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.
11. 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.
12. 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.
13. 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. 5, above.

After Completion of Construction:

14. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone 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.

15. A Contributing Zone 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 Contributing Zone 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.
16. 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 Nima Ghahremani of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4034.

Sincerely,

Robert Sadlier, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/ng

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

cc: Mr. Garrett Keller, P.E., Matkin-Hoover Engineering and Surveying
Mr. Thomas Hornseth, P.E., Comal County
The Honorable Bill Krawietz, City of Bulverde
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. H. L. Saur, Comal Trinity Groundwater Conservation District

MATKIN-HOOVER ENGINEERING

Transmittal

Date: 07/26/19

Texas Commission of Environmental Quality

Attention: Edwards Aquifer Program

Address: 14250 Judson Rd San Antonio, TX 78233

Re: Belle Oaks Ranch CZP Site Plan

x For Approval x For Review ☐ Please Comment ☐ Please Reply ☐ For Your Information

ITEMS ATTACHED

Qty:	Description:
2	Transmittal
2	Modification of a Previously Approved Contributing Zone Plan Form
2	Contributing Zone Plan Application
2	Temporary Stormwater Application
2	Copies of Notice of intent
2	Agent Authorization Form
2	Application Fee Form
2	Check Payable to the "Texas Commission on Environmental Quality"
2	Core Data Form
1	USB with Full submittal saved as PDF

● Comments: If you have any questions please feel free to give me a call at (830) 249-0600 – Garrett D. Keller

Sent by: Garrett D. Keller

Job No. 2969.00

Post Office Box 54 1499 S. Main Boerne, Texas 78006 Phone 830.249.0600 Fax 830.249.0099

Modification of a Previously Approved Contributing Zone Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **Modification of a Previously Approved Contributing Zone Plan Form (TCEQ-10259)**

  Attachment A - Original Approval Letter and Approved Modification Letters
  Attachment B - Narrative of Proposed Modification
  Attachment C - Current site plan of the approved project

- **Contributing Zone Plan Application (TCEQ-10257)**
- **Storm Water Pollution Prevention Plan (SWPPP)**

  -OR-

- **Temporary Stormwater Section (TCEQ-0602)**
- **Copy of Notice of Intent (NOI)**
- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the "Texas Commission on Environmental Quality"**
- **Core Data Form (TCEQ-10400)**

MATKINHOOVER
ENGINEERING
& SURVEYING

July 26, 2019

Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Austin Regional Office
12100 Park 35 Circle
Austin, TX 78753

Re: Belle Oaks Ranch
Bulverde, Texas
Contributing Zone Plan

To Whom It May Concern:

Please find attached two (2) copies of the Belle Oaks Ranch Modification of a Previously Approved Contributing Zone Plan. This Modification has been prepared in accordance with the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

The previously approved contributing zone plan (CZP) for Belle Oaks Ranch consisted of 640 residential lots with a maximum of previous IC acreage 170.79 acres of impervious cover (19.53%) on a 874.52-acre tract of land. The purpose of this contributing zone plan (CZP) modification is to update the road and lot layout to reduce the total lots from 640 to 615.

Please review the attached Contributing Zone Plan information for the items it is intended to address, and if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($10,000.00) and fee application are included. If you have any questions regarding this information, please call our office.

Respectfully Submitted,
Matkin Hoover Engineering & Surveying
TBPE #4152

Garrett D. Keller, P.E.
President / COO

Attachments
cc: Belle Oaks Ranch Contributing Zone Plan Modification

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

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

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

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

1. Regulated Entity Name: Belle Oaks Ranch						**2. Regulated Entity No.:110597515**			
3. Customer Name: Southerland Belle Oaks, LLC						**4. Customer No.:605604115**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**			874.52
9. Application Fee:	$10,000		**10. Permanent BMP(s):**			None			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Cibolo Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	_X_	__	__	__
Region (1 req.)	__	_X_	__	__	__
County(ies)	__	_X_	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	_X_Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	_X_Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Garrett D. Keller, P.E. Print Name of Customer/Authorized Agent Signature of Customer/Authorized Agent 7/26/19 Date

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

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

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

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Garrett D. Keller

Date: July 26, 2019

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: Belle Oaks Ranch
   Original Regulated Entity Name: Belle Oaks Ranch
   Assigned Regulated Entity Number(s) (RN): 110597515
   Edwards Aquifer Protection Program ID Number(s): 13000825
   ☒ The applicant has not changed and the Customer Number (CN) is: 605604115
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

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

☐ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☐ Any development of land previously identified in a contributing zone plan as undeveloped.

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.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	874.52	874.52
Type of Development	Residential	Residential
Number of Residential Lots	640	615
Impervious Cover (acres)	170.78	174.14
Impervious Cover (%)	19.53	19.91
Permanent BMPs	None	None
Other	32.99	30.89

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	0	0
Other	0	0

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	0	0
Other	0	0

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Projec**t. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☒ 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. ☒ Acreage has not been added to or removed from the approved plan.
   ☐ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. ☒ 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.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 12, 2019

Mr. Dan Mullins
Southerland Belle Oaks, LLC
665 Simonds Rd
Williamstown, Massachusetts 01267

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Belle Oaks Ranch; Located south of Highway 46 on east side of Blanco Road; ETJ of Bulverde, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN110597515; Additional ID No. 13000825

Dear Mr. Mullins:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the San Antonio Regional Office by Matkin Hoover Engineering & Surveying on behalf of Southerland Belle Oaks, LLC on December 18, 2018. Final review of the CZP was completed after additional material was received on February 19, 2019 and March 8, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed project will have an area of approximately 874.52 acres. It will include the construction of 640 single-family residential homes with associated utilities, streets, two amenity centers, and drainage improvements. The impervious cover will be 170.78 acres (19.53 percent). According to a letter dated, December 17, 2018, signed by Mr. Robert Boyd, with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

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

SPECIAL CONDITIONS

I. 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 format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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.

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. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP 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.
6. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If 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 significantly reduced. 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).
10. 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.
11. 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.
12. 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.
13. 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. 5, above.

After Completion of Construction:

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

association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. A Contributing Zone 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 Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,

Robert Sadler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/JV

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625A

cc: Mr. Garrett Keller, P.E., Matkin Hoover Engineering & Surveying
Mr. Roland Ruiz, Edwards Aquifer Authority
The Honorable Bill Krawietz, City of Bulverde
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. H. L. Saur, Comal Trinity Groundwater Conservation District

BELLE OAKS RANCH
NARRATIVE OF PROPOSED MODIFICATION

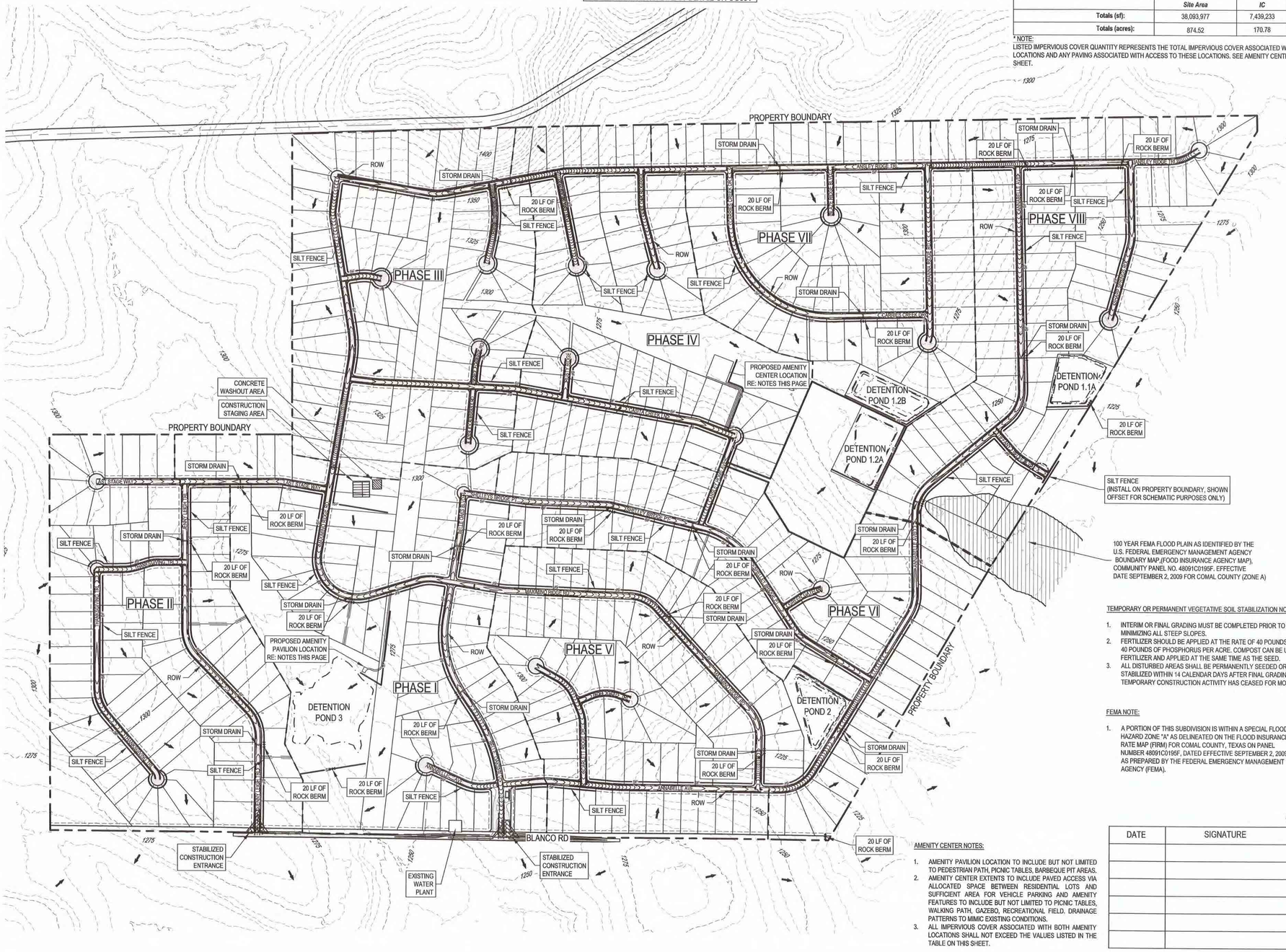
The subject property is located within the State of Texas, Comal County, lying within the City Limits of the City of Bulverde and being 4.7 miles Northwest of the City Center; also having a global position of 29°47'02.64" N., 98°30'59.97" W. The property is an 874.52-acre tract of land that is out of a "1156 acres of land" as described in Document 200006000204, Official Records of Comal County, Texas. The property is sided by open land to the north & east, Blanco Road to the west, and other homesteads on the south. A portion of this property or proposed development is located within Zone "A" of the U. S. Federal Emergency Management Agency (FEMA) Floodplain as denoted on FEMA Flood Insurance Agency Map (FIRM) Panel No. 48091C0195F, effective date September 2, 2009 for Comal County.

The most recently approved Contributing Zone Plan, approved March 12, 2019, consisted of 170.78 acres (19.53%) of impervious cover and a total of 640 residential lots. The purposed of the modification is to modify the Belle Oaks Ranch lot layout to reduce the total lot count, reconfigure the residential lots, slight adjustments to road alignments located within Phase 4, and incorporate improvements to the offsite intersection of Ammann Road and Blanco Road (located approximately 2,144 feet south of the project on Blanco Road). Upon completion, the proposed Belle Oaks Ranch site, having a total site acreage of 874.52 acres, will be divided into 615 residential 1.01 acre lots with 10,000 SF of impervious cover per lot, resulting in 174.14 acres (19.91%) of impervious cover.

Date: Mar 05, 2019, 3:51pm User ID: khackett

CONTRIBUTING ZONE SITE PLAN

LOT CONSTRUCTION NOTE FOR SWPPP:
EACH LOT SHALL INSTALL EROSION CONTROL MEASURES AND OBTAIN INDIVIDUAL SWPPP AS REQUIRED BY TCEQ FOR LOT CONSTRUCTION. REFER TO 'SINGLE FAMILY LOT - EROSION & SEDIMENT CONTROL PLAN' DETAIL ON CG851



874.52 AC On-Site Ultimate Developed Impervious Cover Calculation

Use	Quantity		I.C. / unit	Impervious Cover, (SF)
Residential Lots				
Residential	640	lots	9,300	5,952,000
Misc. Park/Street R.O.W.				
Blanco Road Improvements	124,000	sf	100%	124,000
Amenity Center / Pavilion *	50,000	sf	100%	50,000
Local Road (Includes Mailbox and Entry Pavement)	1,283,233	sf	100%	1,283,233
Miscellaneous (Drainage, Paths, etc.)	30,000	sf	100%	30,000
	Site Area		*IC*	*% IC*
Totals (sf):	38,093,977		7,439,233	19.53%
Totals (acres):	874.52		170.78	

* NOTE:
LISTED IMPERVIOUS COVER QUANTITY REPRESENTS THE TOTAL IMPERVIOUS COVER ASSOCIATED WITH BOTH AMENITY LOCATIONS AND ANY PAVING ASSOCIATED WITH ACCESS TO THESE LOCATIONS. SEE AMENITY CENTER NOTES ON THIS SHEET.

LEGEND

- PROPERTY BOUNDARY
- EXISTING 5' CONTOUR
- EXISTING 25' CONTOUR (1275)
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- 100 YEAR FEMA ZONE A
- PROPOSED CULVERT
- ROCK BERM
- FLOW ARROW
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT AREA
- PROPOSED ROAD PAVEMENT

SILT FENCE
(INSTALL ON PROPERTY BOUNDARY, SHOWN OFFSET FOR SCHEMATIC PURPOSES ONLY)

100 YEAR FEMA FLOOD PLAIN AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FOOD INSURANCE AGENCY MAP), COMMUNITY PANEL NO. 48091C0195F. EFFECTIVE DATE SEPTEMBER 2, 2009 FOR COMAL COUNTY (ZONE A)

AMENITY CENTER NOTES:

1. AMENITY PAVILION LOCATION TO INCLUDE BUT NOT LIMITED TO PEDESTRIAN PATH, PICNIC TABLES, BARBEQUE PIT AREAS.
2. AMENITY CENTER EXTENTS TO INCLUDE PAVED ACCESS VIA ALLOCATED SPACE BETWEEN RESIDENTIAL LOTS AND SUFFICIENT AREA FOR VEHICLE PARKING AND AMENITY FEATURES TO INCLUDE BUT NOT LIMITED TO PICNIC TABLES, WALKING PATH, GAZEBO, RECREATIONAL FIELD. DRAINAGE PATTERNS TO MIMIC EXISTING CONDITIONS.
3. ALL IMPERVIOUS COVER ASSOCIATED WITH BOTH AMENITY LOCATIONS SHALL NOT EXCEED THE VALUES LISTED IN THE TABLE ON THIS SHEET.

CONTRACTOR MUST HAVE A COPY OF THE CZP ON SITE AS REQUIRED BY TCEQ

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION SHOULD BE PROVIDED TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION SHOULD 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 WITH THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
3. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET IF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL.
4. PRIOR TO COMMENCING CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE SWPPP SECTION OF THE APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE 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.
5. 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).
6. 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.
7. 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).
8. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE AND STORED ON-SITE MUST HAVE PROPER E&S CONTROLS INSTALLED.
9. 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.
10. THE FOLLOWING RECORDS SHOULD 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.
11. THE HOLDER OF ANY APPROVED CONTRIBUTING ZONE PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
    - 11.1. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;
    - 11.2. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;
    - 11.3. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER AND HYDROLOGICALLY CONNECTED SURFACE WATER; OR
    - 11.4 ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED IN A CONTRIBUTING ZONE PLAN AS UNDEVELOPED.

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

TEMPORARY OR PERMANENT VEGETATIVE SOIL STABILIZATION NOTES:

1. INTERIM OR FINAL GRADING MUST BE COMPLETED PRIOR TO SEEDING, MINIMIZING ALL STEEP SLOPES.
2. FERTILIZER SHOULD BE APPLIED AT THE RATE OF 40 POUNDS OF NITROGEN AND 40 POUNDS OF PHOSPHORUS PER ACRE. COMPOST CAN BE USED INSTEAD OF FERTILIZER AND APPLIED AT THE SAME TIME AS THE SEED.
3. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE TEMPORARY CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 21 DAYS.

FEMA NOTE:

1. A PORTION OF THIS SUBDIVISION IS WITHIN A SPECIAL FLOOD HAZARD ZONE "A" AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR COMAL COUNTY, TEXAS ON PANEL NUMBER 48091C0195F, DATED EFFECTIVE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

SWPPP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

SCALE: 1"=400'
0 200' 400' 800' 800'

STATE OF TEXAS
GARRETT D. KELLER
111511
LICENSED PROFESSIONAL ENGINEER
3-8-19

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.288.2244
3300 SHELL ROAD SUITE 100
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

CONTRIBUTING ZONE SITE PLAN
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG801

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK
SHEET NO:	22

Z:\PROJECTS\2969 - Belle Oaks Ranch\C114 CZP OVERALL SITE PLAN.dwg

CONTRIBUTING ZONE SITE PLAN

1.4.2 Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagrams of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

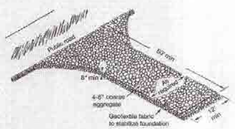


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

Materials:

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

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft², and Brindell hardness exceeding 140. 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 sheet 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 1-29), 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.

Common trouble points

(1) Inadequate runoff control – sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic – extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road edge.

(5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

Inspection and Maintenance Guidelines:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

1.4.18 Concrete Washout Areas

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- 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.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. 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.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

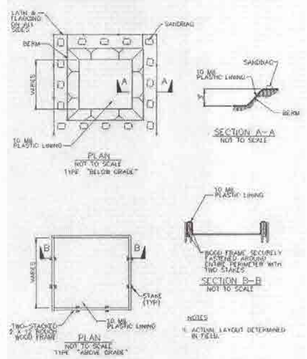


Figure 1-43 Schematics of Concrete Washout Areas

1.4.5 Rock Berms

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

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 sheet 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 1-28), 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.

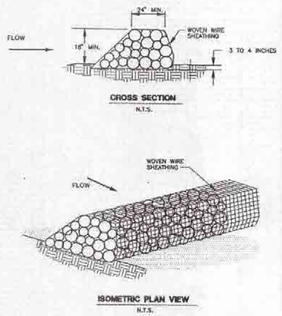


Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

Common Trouble Points:

(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)

(2) Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.

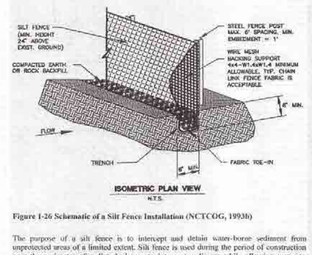


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Materials:

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

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

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

Installation:

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

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

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), sandbag 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.

Common Trouble Points:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.

(2) Fabric not seated securely to ground (runoff passing under fence)

(3) Fence not installed perpendicular to flow line (runoff escaping around sides)

(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

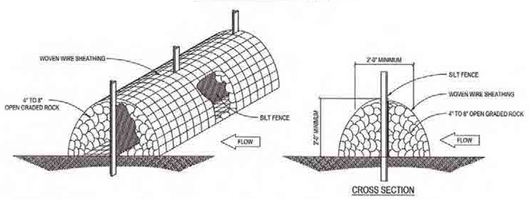
(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

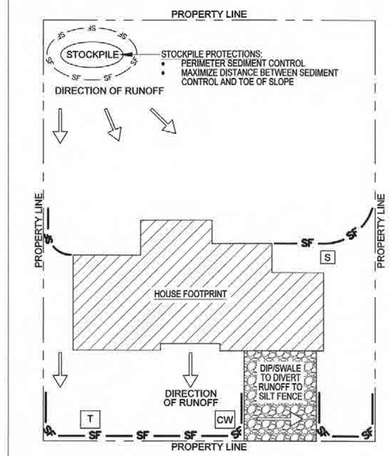
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

HIGH SERVICE ROCK BERM DETAIL



INSTALLATION NOTES:
1. LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
2. CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
3. PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
4. INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DETAIL [01_CG851].
5. PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
6. WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
7. SECURE WITH TIE WIRE.
8. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM NOTES:
1. USE ONLY OPEN GRADED ROCK 4-8 INCHES DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 1/32 INCH.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 12 INCHES, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.



LEGEND

— SF —	SEDIMENT CONTROLS (SILT FENCE, FIBER ROLLS, AND BERMS)
	CONSTRUCTION ENTRANCE (LOT ACCESS)
	DIRECTION OF SURFACE WATER RUNOFF
T	TRASH BIN
CW	DESIGNATED CONCRETE WASHOUT AREA
S	SANITARY FACILITY

CONTRACTOR/BUILDERS RESPONSIBILITY:
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO ANY LAND DISTURBANCE TO PREVENT EXCESSIVE SEDIMENT FROM LEAVING THE SITE.
2. CONTACT A T.C.E.Q. INSPECTOR TO ANSWER ANY QUESTIONS REGARDING SITE PLAN AND TO REVIEW A COMPLETED WORKSHEET.
3. PERIODIC INSPECTION AND MAINTENANCE ARE VITAL TO THE PERFORMANCE OF EROSION AND SEDIMENT CONTROLS. IT IS RECOMMENDED THAT ALL TEMPORARY EROSION CONTROLS BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL.
4. MAINTENANCE: ESC (EROSION SEDIMENT CONTROLS) SHOULD BE ROUTINELY INSPECTED AND MAINTAINED UNTIL SITE IS PERMANENTLY VEGETATED. SOMETIMES ROUTINE INSPECTIONS MAY SHOW A NEED FOR ADJUSTMENTS OR ADDITIONAL ESC'S.
5. CONTACT A T.C.E.Q. INSPECTOR WHEN CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION OR OTHER APPROVED METHODS.
6. REVEGETATE THE SITE: PREVENT EROSION ON INDIVIDUAL LOTS WITH GROUND COVER. EXISTING TREES AND VEGETATION SHOULD BE PROTECTED TO HELP MAINTAIN A STABLE GROUND SURFACE AND PREVENT LOSS OF VALUABLE TOPSOIL. EROSION CONTROL BLANKETS, MATTING AND MULCHES CAN HELP STABILIZE THE AREA UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE SITE NEEDS TO HAVE AT LEAST 80 PERCENT COVER OF PERMANENT VEGETATION BEFORE ESC'S CAN BE REMOVED.

COMPLIANCE CHECKLIST:
1. PERIMETER CONTROLS: INSTALL ESC'S (EROSION SEDIMENT CONTROLS) ALONG THE BACK OF THE CURB AND ALONG THE LOT LINE OF ADJACENT PROPERTIES, WHICH ARE DOWNHILL AND RECEIVE RUNOFF FROM YOUR LOT. FOLLOWING SIDEWALK INSTALLATION, ESC'S SHOULD BE REMOVED TO THE BACK OF THE SIDEWALK TO PREVENT SEDIMENT FROM REACHING THE SIDEWALK. MAINTAIN ESC'S TO ENSURE PROPER FUNCTION, INCLUDING REPAIR OR REPLACEMENT OF TORN, DEGRADED OR OTHERWISE INEFFECTIVE MATERIALS. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE PROTECTION.
2. STOCKPILES: INSTALL SEDIMENT CONTROLS AROUND STOCKPILES TO PREVENT SEDIMENT FROM REACHING THE STREET AND ADJACENT PROPERTIES. LOCATE STOCKPILES AWAY FROM THE STREET, PROPERTY LINES AND DRAINAGE WAYS.
3. LOT ACCESS: REQUIRED FOR EACH INDIVIDUAL LOT. MAINTAIN A SURFACE SUITABLE FOR PARKING AND UNLOADING TO PREVENT THE TRACKING OF MUD AND ROCK ONTO THE STREET. A MINIMUM 6-INCH DEPTH OF 3- TO 5-INCH AGGREGATE IS SUGGESTED. ALL VEHICLES THAT ACCESS THE LOT MUST USE THE CONSTRUCTION ENTRANCE. ANY SOILS THAT ARE TRUCKED ONTO THE STREET MUST BE REMOVED BY THE END OF THE DAY.
4. INTERMEDIATE CONTROL: LONG OR STEEP DRAINAGE PATHS MAY REQUIRE INTERMEDIATE OR INTERIOR ESC'S TO HELP SLOW THE FLOW OF RUNOFF. FAILURE OF PERIMETER CONTROLS DUE TO THE FORCE OF RUNOFF OFTEN DETERMINE THE NEED FOR INTERMEDIATE CONTROLS.
5. HOUSEKEEPING: PROVIDE ADEQUATE SANITARY FACILITIES AND TRASH/REFUSE BINS.

SINGLE FAMILY LOT - EROSION & SEDIMENT CONTROL PLAN
N.T.S.

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD, SUITE 105
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-10264000
TEXAS REGISTERED SURVEYING FIRM F-10264009

STATE OF TEXAS
GARRETT D. KELLER
111511
LICENSED PROFESSIONAL ENGINEER
12/11/18

REVISIONS:

CONTRIBUTING ZONE PLAN DETAILS
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG851

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

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

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

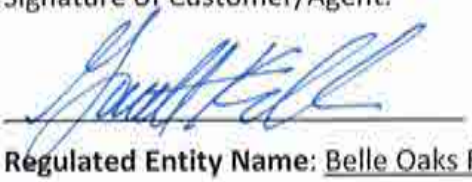
Signature

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

Print Name of Customer/Agent: Garrett D. Keller

Date: July 26, 2019

Signature of Customer/Agent:



Regulated Entity Name: Belle Oaks Ranch

Project Information

1. County: Comal
2. Stream Basin: Cibolo Creek
3. Groundwater Conservation District (if applicable): Comal Trinity GCD
4. Customer (Applicant):

   Contact Person: Dan Mullins
   Entity: Southerland Belle Oaks, LLC.
   Mailing Address: 665 Simonds Rd
   City, State: Williamstown, MA Zip: 01267-2105
   Telephone: 512-847-5263 Fax: 830-885-5248
   Email Address: dmullins@southlp.com

5. Agent/Representative (If any):

Contact Person: Garrett D. Keller
Entity: MatkinHoover Engineering
Mailing Address: 8 Spencer Road, Suite 100
City, State: Boerne, TX Zip: 78006
Telephone: 830-249-0600 Fax: 830-249-6309
Email Address: gkeller@matkinhoover.com

6. Project Location:

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

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

The property begins approximately 1.2 miles south of HWY 46 on the east side of Blanco Road with approximately 1.1 miles of frontage on Blanco Road.

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

9. ☒ **Attachment B - USGS Quadrangle Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

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

11. Existing project site conditions are noted below:

☐ Existing commercial site
☐ Existing industrial site

☒ Existing residential site
☒ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☒ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. The type of project is:

☒ Residential: # of Lots: 615
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 874.52 Acres

    Total disturbed area: 175.00 Acres

14. Estimated projected population: 1,538

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops	6,240,000	÷ 43,560 =	143.25
Parking	0	÷ 43,560 =	0
Other paved surfaces	1,345,500	÷ 43,560 =	30.89
Total Impervious Cover	7,585,500	÷ 43,560 =	174.14

Total Impervious Cover 174.14 **÷ Total Acreage** 874.52 **X 100 =** 19.91**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

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

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

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

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

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

21. Pavement Area:

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

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

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

23. ☐ 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

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

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A

26. Wastewater will be disposed of by:

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

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

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

☐ Sewage Collection System (Sewer Lines):

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

☐ Existing.
☐ Proposed.

☒ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

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

    Site Plan Scale: 1" = 400'.

35. 100-year floodplain boundaries:

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

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____.

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

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

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

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

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

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

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

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

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

☒ N/A

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

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

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

☒ N/A

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

☒ N/A

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

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

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

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

51. 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 I - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

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

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

52. ☒ **Attachment J - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

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

☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

53. ☒ **Attachment K - BMPs for On-site Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☒ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

54. ☒ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☒ N/A

55. ☒ **Attachment M - 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, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☒ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

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

    ☒ N/A

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

    ☒ N/A

58. ☒ **Attachment P - Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.

    ☒ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☐ 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.

60. ☐ 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.

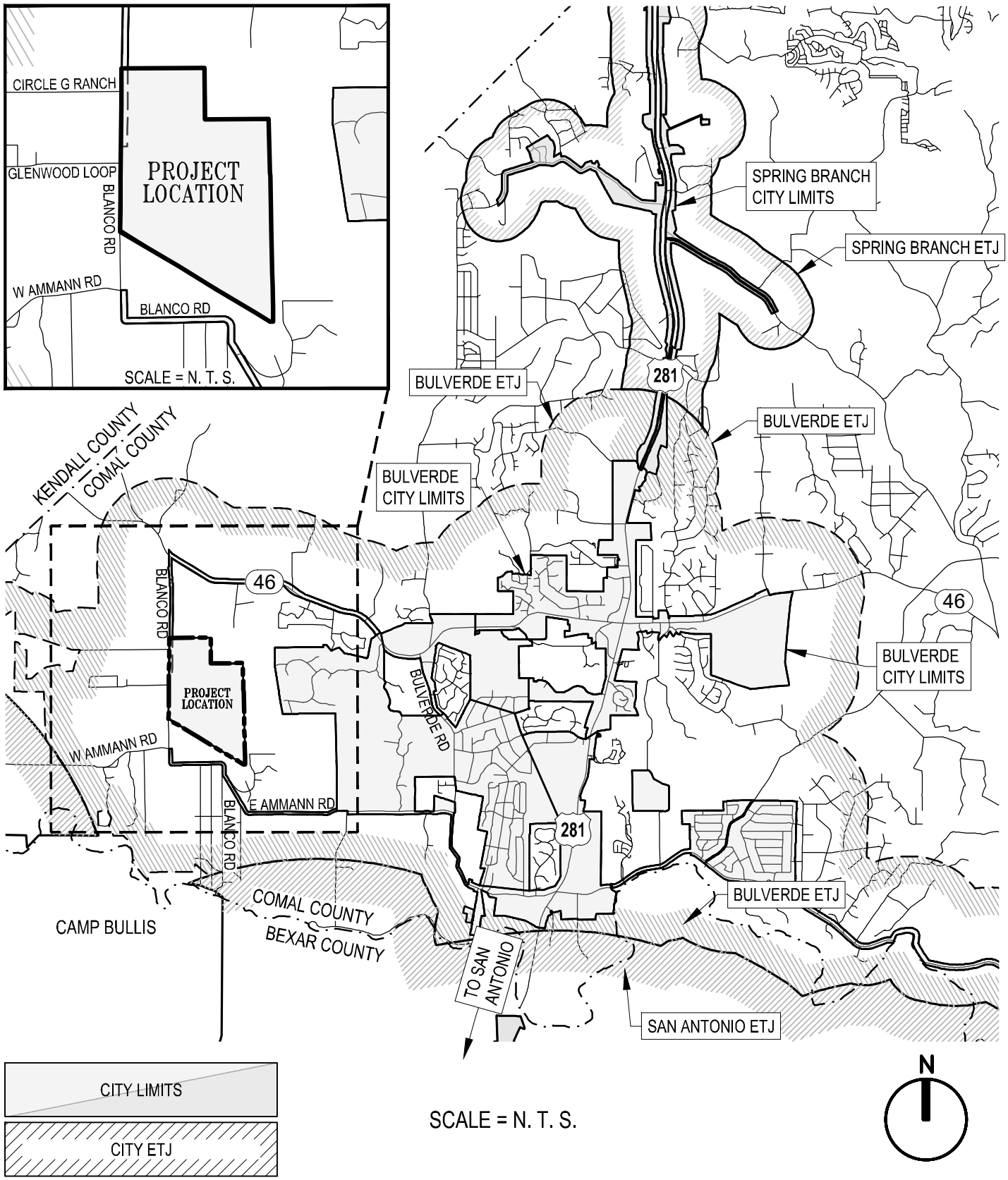
Administrative Information

61. ☒ 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.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☐ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.



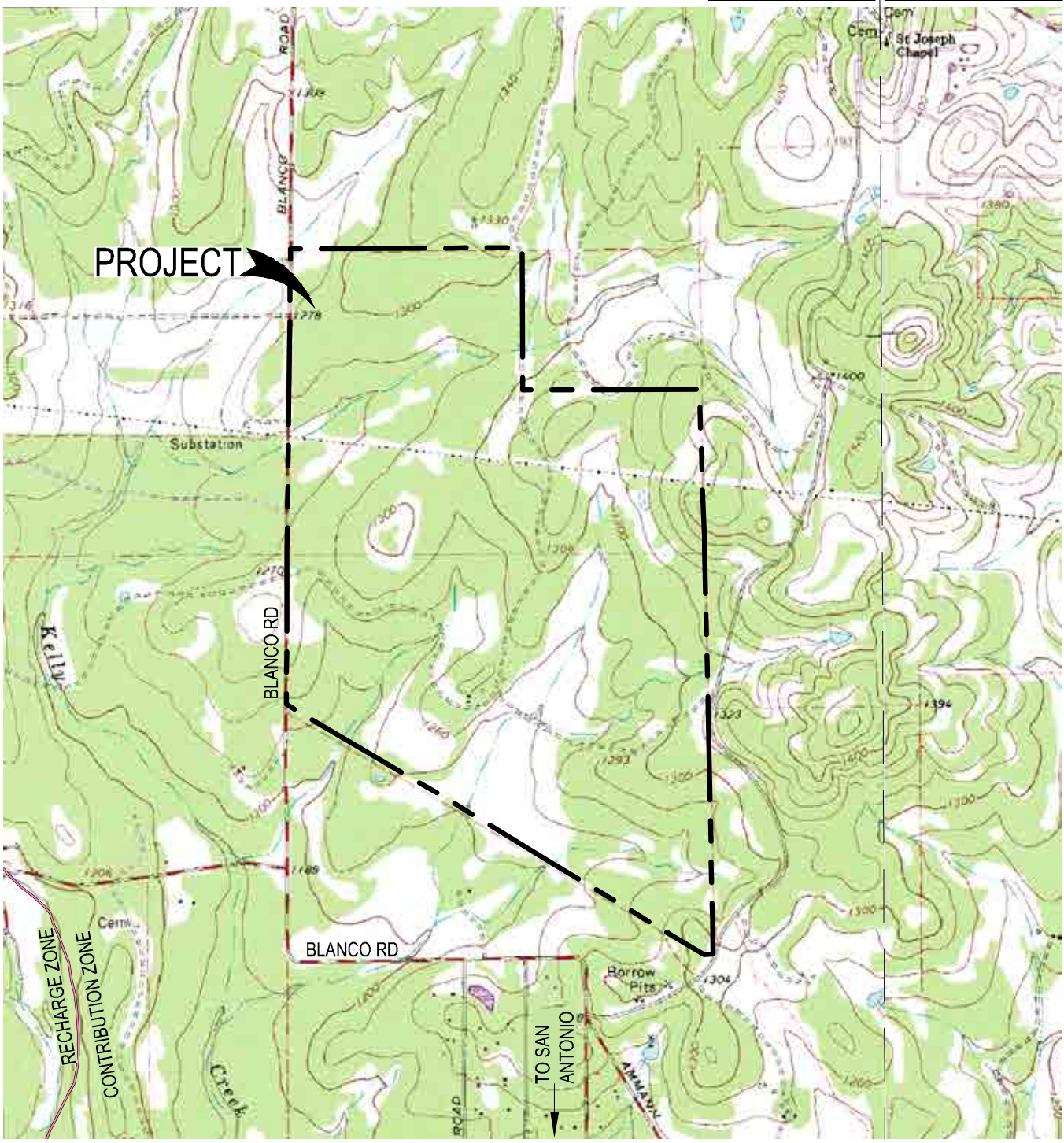
Date: Jul 16, 2019, 5:07pm User ID: khackett

Z:\PROJECTS\2969 - Belle Oaks Ranch\CZP\MODIFICATION TO CZP\03 - CZP Application\CAD\ATTACHMENT A - LOCATION MAP.dwg

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
3303 SHELL ROAD SUITE 100
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

LOCATION MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

JOB NO.	2969.00
DATE	JULY 2019
DESIGNED	K. HACKETT
CHECKED	K. HACKETT
SHEET ID	ATTACHMENT A
SHEET #	1 OF 1



N

SCALE: 1"=2000'

0 1000' 2000' 3000' 4000'

Date: Jul 16, 2019, 4:39pm User ID: khackett

USGS QUADRANGLE: BERGHEIM AND ANHALT

ATTACHMENT B

This document is released for REVIEW PURPOSES ONLY, NOT FOR CONSTRUCTION and was prepared under the authorization of Garrett D. Keller, Registered Professional Engineer, State of Texas, Registration No. 111511.

Z:\PROJECTS\2969 - Belle Oaks Ranch\CZP\MODIFICATION TO CZP\03 - CZP Application\CAD\ATTACHMENT B - USGS QUADRANGLE MAP.dwg

MATKINHOOVER ENGINEERING & SURVEYING

8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600

3303 SHELL ROAD SUITE 100
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244

CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

USGS QUADRANGLE MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

JOB NO.	2969.00
DATE	JULY 2019
DESIGNED	K. HACKETT
CHECKED	K. HACKETT
SHEET ID	ATTACHMENT B
SHEET #	1 OF 1

The subject property is located within the State of Texas, Comal County, lying within the City Limits of the City of Bulverde and being 4.7 miles Northwest of the City Center; also having a global position of 29°47'02.64" N., 98°30'59.97" W. The property is an 874.52-acre tract of land that is out of a "1156 acres of land" as described in Document 200006000204, Official Records of Comal County, Texas. The property is sided by open land to the north & east, Blanco Road to the west, and other homesteads on the south.

The project site is predominantly undeveloped and has historically been used for agriculture and livestock resources. There is one (approximately 5,000 square foot [ft^2]) existing home site located on the property with a dirt road creating less than 1% impervious cover. The existing home will have a lot created around it, leaving it and all existing homestead appurtenances intact during development with only the road demolished.

The proposed development will consist of as many as 615 low-density, single family residential tracts averaging approximately 1.01 acres in size. For this impervious cover calculation, it was assumed that each single-family lot will ultimately consist of 10,000.00 ft^2 of impervious cover or 6,150,000.00 total square feet. Blanco Road will require improvements to add turn lanes for the development which results in 30,749 ft^2 of impervious cover. The proposed roadways will consist of 1,282,251.00 ft^2 of paved surface. 90,000.00 square feet have been allocated to these impervious cover calculations to account for an amenity center. 30,000 ft^2 has been calculated to account for any impervious portion of the 5 detention ponds designed exclusively for flood mitigation. The total impervious cover including buildings and paved structures is estimated at 7,585,500.00 square feet or 174.14 acres (19.91%) of impervious cover. These estimates are considered conservative and fully developed conditions are expected to contain less impervious cover than these estimates.

The Belle Oaks Ranch proposed development is considered low-density, single family residential containing 174.14 acres of impervious cover. This falls under 20% of the total site area and therefore this Contributing Zone Plan is exempt from permanent BMPs.

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

- Soil erosion due to the clearing of the site
- Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons from asphalt paving operations
- Miscellaneous trash and litter from construction operations and material wrappings

Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site after construction include:

- Fertilizers, herbicides, and pesticides from agricultural operations
- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings
- Dirt and dust that may fall off vehicles
- Miscellaneous trash and litter

The total project acreage of this site is 874.52 acres. The general slopes of the site split the site into 4 major watersheds and has primarily been used for agricultural purposes. Upon completion, the site will consist of an estimated 19.91% impervious cover.

The SCS method with a type III rainfall distribution was utilized. Time of concentration values were established using Technical Release-55 and curve numbers used for these calculations are from the City of Bulverde Drainage Criteria Manual. HEC-HMS 4.2.1 was used to calculate the storm water runoff for the 100-year storm event. Below is a summary of the pre-developed and post –developed runoff:

CP-1

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	79.9	772.024	**2,187.4**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.9	773.496	**1,928.9**

CP-2

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.6	227.811	**844.7**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	83.7	226.326	**827.5**

CP-3

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.2	787.153	**2,836.1**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	82.5	788.769	**2,801.9**

CP-4

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	78.9	238.295	**635.3**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	79.8	236.680	**599.6**

See Attached Letter on next page

Comal County

OFFICE OF COMAL COUNTY ENGINEER

December 17, 2018

Mr. Garrett Keller, P.E.
Matkin-Hoover
e-mail: gkeller@matkinhoover.com

Re: Belle Oaks Ranch Suitability Letter within Comal County, Texas

Dear Mr. Keller:

In accordance with TAC §213.24(8)(B), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the requirements for on-site sewage facilities.

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

Sincerely,

Robert Boyd, P.E.
Comal County Assistant Engineer

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

Date: Jul 26, 2019, 12:33pm User ID: khackett

CONTRIBUTING ZONE SITE PLAN

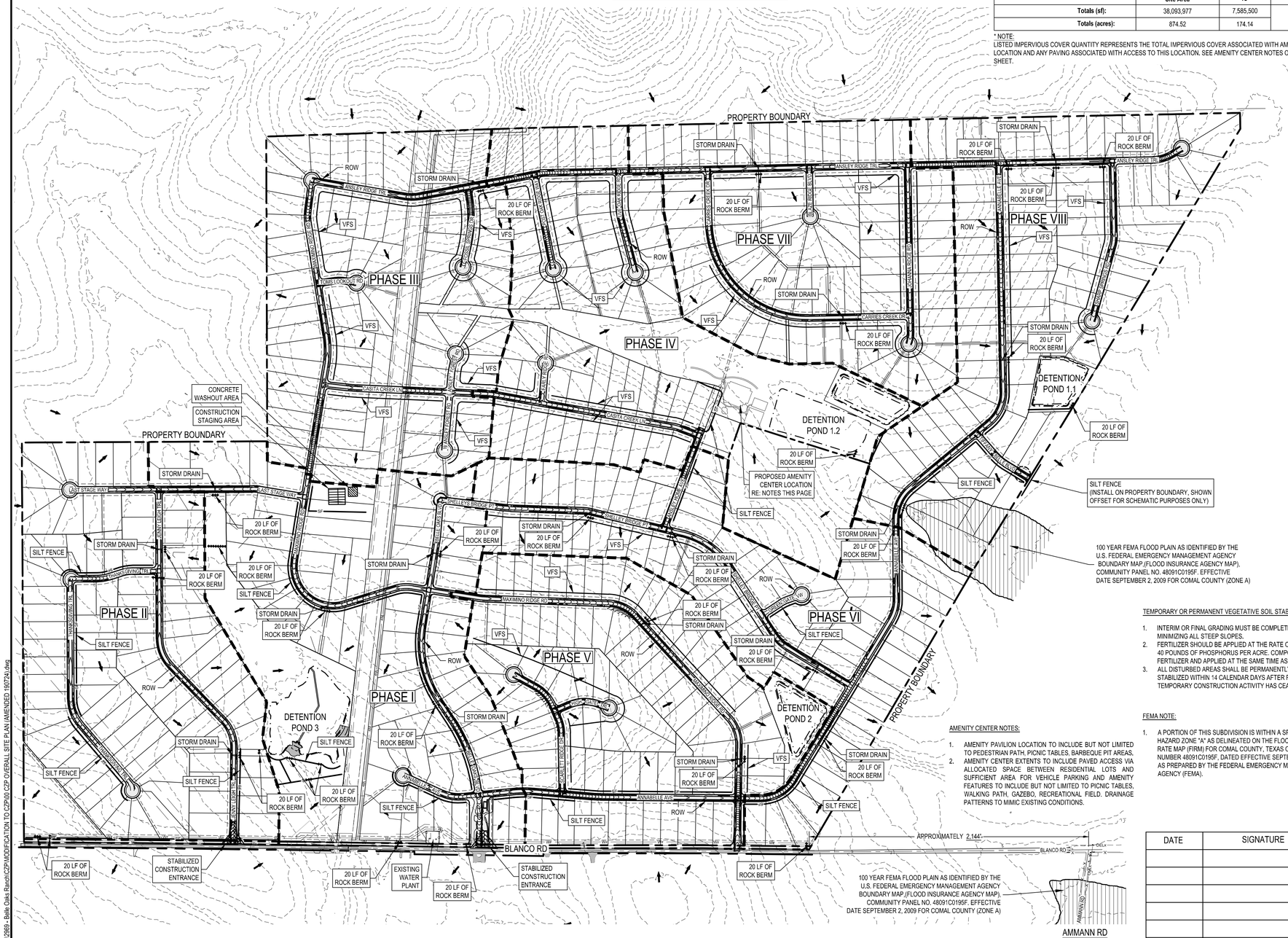
874.52 AC On-Site Ultimate Developed

Impervious Cover Calculation

Use	Quantity		I.C. / unit	Impervious Cover, (SF)
Residential Lots				
Residential	615	lots	10,000	6,150,000
Misc. Park/Street R.O.W.				
Blanco Road Improvements	30,749	sf	100%	30,749
Ammann Road Improvments	2,500	sf	100%	2,500
Amenity Center / Pavilion	90,000	sf	100%	90,000
Local Road (Includes Mailbox and Entry Pavement)	1,282,251	sf	100%	1,282,251
Miscellaneous (Drainage, Paths, etc.)	30,000	sf	100%	30,000
	Site Area		***IC***	***% IC***
Totals (sf):	38,093,977		7,585,500	19.91%
Totals (acres):	874.52		174.14	

* NOTE:
LISTED IMPERVIOUS COVER QUANTITY REPRESENTS THE TOTAL IMPERVIOUS COVER ASSOCIATED WITH AMENITY LOCATION AND ANY PAVING ASSOCIATED WITH ACCESS TO THIS LOCATION. SEE AMENITY CENTER NOTES ON THIS SHEET.

LOT CONSTRUCTION NOTE FOR SWPPP:
EACH LOT SHALL INSTALL EROSION CONTROL MEASURES AND OBTAIN INDIVIDUAL SWPPP AS REQUIRED BY TCEQ FOR LOT CONSTRUCTION. REFER TO 'SINGLE FAMILY LOT - EROSION & SEDIMENT CONTROL PLAN' DETAIL ON CG851



LEGEND

- PROPERTY BOUNDARY
- EXISTING 5' CONTOUR
- EXISTING 25' CONTOUR (1275)
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- 100 YEAR FEMA ZONE A
- PROPOSED CULVERT
- ROCK BERM
- FLOW ARROW
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT AREA
- PROPOSED ROAD PAVEMENT
- TEMPORARY NATURAL VFS

N

SCALE: 1"=400'
0 200' 400' 600' 800'

CONTRACTOR MUST HAVE A COPY OF THE CZP ON SITE AS REQUIRED BY TCEQ

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION SHOULD BE PROVIDED TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION SHOULD 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 WITH THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
3. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET IF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL.
4. PRIOR TO COMMENCING CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE SWPPP SECTION OF THE APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE 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.
5. 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).
6. 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.
7. 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).
8. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE AND STORED ON-SITE MUST HAVE PROPER E&S CONTROLS INSTALLED.
9. 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.
10. THE FOLLOWING RECORDS SHOULD 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.
11. THE HOLDER OF ANY APPROVED CONTRIBUTING ZONE PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

11.1. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;

11.2. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;

11.3. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER AND HYDROLOGICALLY CONNECTED SURFACE WATER; OR

11.4 ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED IN A CONTRIBUTING ZONE PLAN AS UNDEVELOPED.

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

TEMPORARY OR PERMANENT VEGETATIVE SOIL STABILIZATION NOTES:

1. INTERIM OR FINAL GRADING MUST BE COMPLETED PRIOR TO SEEDING, MINIMIZING ALL STEEP SLOPES.
2. FERTILIZER SHOULD BE APPLIED AT THE RATE OF 40 POUNDS OF NITROGEN AND 40 POUNDS OF PHOSPHORUS PER ACRE. COMPOST CAN BE USED INSTEAD OF FERTILIZER AND APPLIED AT THE SAME TIME AS THE SEED.
3. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE TEMPORARY CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 21 DAYS.

FEMA NOTE:

1. A PORTION OF THIS SUBDIVISION IS WITHIN A SPECIAL FLOOD HAZARD ZONE "A" AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR COMAL COUNTY, TEXAS ON PANEL NUMBER 48091C0195F, DATED EFFECTIVE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

AMENITY CENTER NOTES:

1. AMENITY PAVILION LOCATION TO INCLUDE BUT NOT LIMITED TO PEDESTRIAN PATH, PICNIC TABLES, BARBEQUE PIT AREAS.
2. AMENITY CENTER EXTENTS TO INCLUDE PAVED ACCESS VIA ALLOCATED SPACE BETWEEN RESIDENTIAL LOTS AND SUFFICIENT AREA FOR VEHICLE PARKING AND AMENITY FEATURES TO INCLUDE BUT NOT LIMITED TO PICNIC TABLES, WALKING PATH, GAZEBO, RECREATIONAL FIELD, DRAINAGE PATTERNS TO MIMIC EXISTING CONDITIONS.

SWPPP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

STATE OF TEXAS
GARRETT D. KELLER
111511
LICENSED
PROFESSIONAL ENGINEER
7-26-19

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900

CONTRIBUTING ZONE SITE PLAN
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG801

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK
SHEET NO:	

Z:\PROJECTS\2969 - Belle Oaks Ranch\CZP\MODIFICATION TO CZP\00 CZP OVERALL SITE PLAN (AMENDED 190724).dwg

CONTRIBUTING ZONE SITE PLAN

1.4.2 Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagram of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

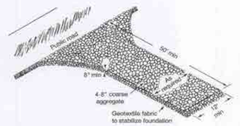


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

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 1-29), 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.

Common trouble points

(1) Inadequate runoff control – sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic – extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road edge.

(5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

Inspection and Maintenance Guidelines:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

1.4.18 Concrete Washout Areas

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- 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.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. 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.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

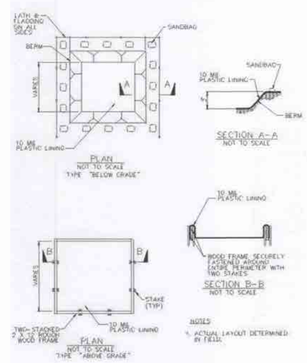


Figure 1-43 Schematics of Concrete Washout Areas

1.4.5 Rock Berms

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

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 1-28), 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.

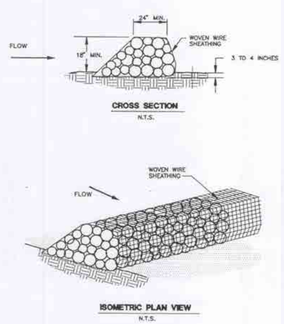


Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

Common Trouble Points:

(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)

(2) Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.

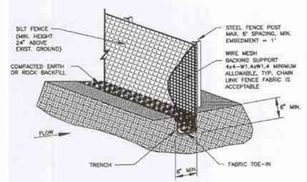


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

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.

Common Trouble Points:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.

(2) Fabric not sealed securely to ground (runoff passing under fence)

(3) Fence not installed perpendicular to flow line (runoff escaping around sides)

(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

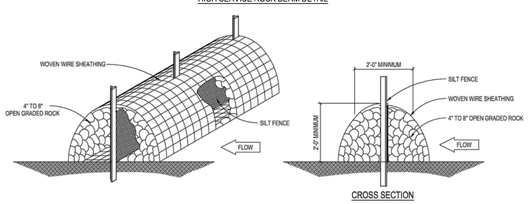
(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

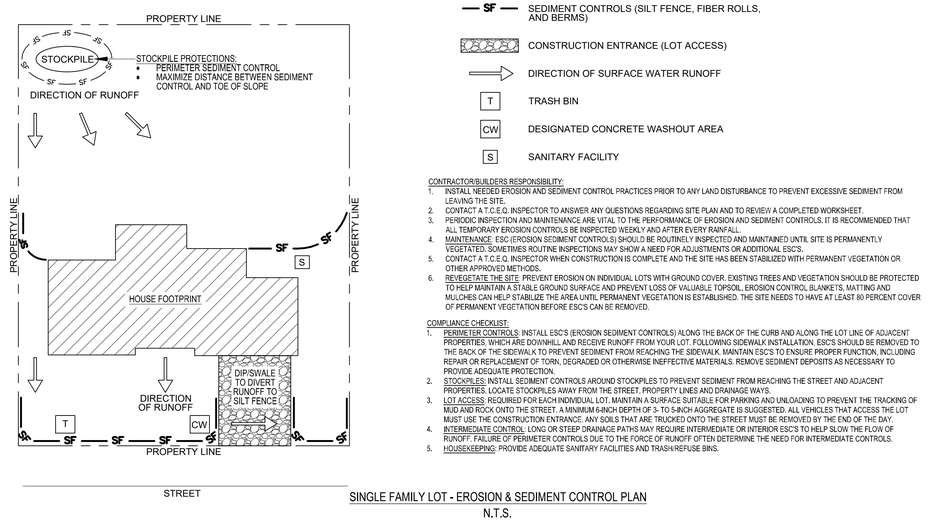
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

HIGH SERVICE ROCK BERM DETAIL



INSTALLATION NOTES:
1. LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
2. CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
3. PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
4. INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DETAIL [01, CG851].
5. PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
6. WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
7. SECURE WITH TIE WIRE.
8. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM NOTES:
1. USE ONLY OPEN GRADED ROCK 4-8 INCHES DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 1/32 INCH.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 12 INCHES, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.



SINGLE FAMILY LOT - EROSION & SEDIMENT CONTROL PLAN
N.T.S.

LEGEND

- SF — SEDIMENT CONTROLS (SILT FENCE, FIBER ROLLS, AND BERMS)
- CONSTRUCTION ENTRANCE (LOT ACCESS)
- DIRECTION OF SURFACE WATER RUNOFF
- T — TRASH BIN
- CW — DESIGNATED CONCRETE WASHOUT AREA
- S — SANITARY FACILITY

CONTRACTOR/BUILDERS RESPONSIBILITY:
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO ANY LAND DISTURBANCE TO PREVENT EXCESSIVE SEDIMENT FROM LEAVING THE SITE.
2. CONTACT A T.C.E.Q. INSPECTOR TO ANSWER ANY QUESTIONS REGARDING SITE PLAN AND TO REVIEW A COMPLETED WORKSHEET.
3. PERIODIC INSPECTION AND MAINTENANCE ARE VITAL TO THE PERFORMANCE OF EROSION AND SEDIMENT CONTROLS. IT IS RECOMMENDED THAT ALL TEMPORARY EROSION CONTROLS BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL.
4. MAINTENANCE: ESC (EROSION SEDIMENT CONTROLS) SHOULD BE ROUTINELY INSPECTED AND MAINTAINED UNTIL SITE IS PERMANENTLY VEGETATED. SOMETIMES ROUTINE INSPECTIONS MAY SHOW A NEED FOR ADJUSTMENTS OR ADDITIONAL ESC'S.
5. CONTACT A T.C.E.Q. INSPECTOR WHEN CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION OR OTHER APPROVED METHODS.
6. REVEGETATE THE SITE: PREVENT EROSION ON INDIVIDUAL LOTS WITH GROUND COVER. EXISTING TREES AND VEGETATION SHOULD BE PROTECTED TO HELP MAINTAIN A STABLE GROUND SURFACE AND PREVENT LOSS OF VALUABLE TOPSOIL. EROSION CONTROL BLANKETS, MATTING AND MULCHES CAN HELP STABILIZE THE AREA UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE SITE NEEDS TO HAVE AT LEAST 80 PERCENT COVER OF PERMANENT VEGETATION BEFORE ESC'S CAN BE REMOVED.

COMPLIANCE CHECKLIST:
1. PERIMETER CONTROLS: INSTALL ESC'S (EROSION SEDIMENT CONTROLS) ALONG THE BACK OF THE CURB AND ALONG THE LOT LINE OF ADJACENT PROPERTIES. WHICH ARE DOWNHILL AND RECEIVE RUNOFF FROM YOUR LOT. FOLLOWING SIDEWALK INSTALLATION, ESC'S SHOULD BE REMOVED TO THE BACK OF THE SIDEWALK TO PREVENT SEDIMENT FROM REACHING THE SIDEWALK. MAINTAIN ESC'S TO ENSURE PROPER FUNCTION, INCLUDING REPAIR OR REPLACEMENT OF TORN, DEGRADED OR OTHERWISE INEFFECTIVE MATERIALS. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE PROTECTION.
2. STOCKPILES: INSTALL SEDIMENT CONTROLS AROUND STOCKPILES TO PREVENT SEDIMENT FROM REACHING THE STREET AND ADJACENT PROPERTIES. LOCATE STOCKPILES AWAY FROM THE STREET, PROPERTY LINES AND DRAINAGE WAYS.
3. LOT ACCESS: REQUIRED FOR EACH INDIVIDUAL LOT. MAINTAIN A SURFACE SUITABLE FOR PARKING AND UNLOADING TO PREVENT THE TRACKING OF MUD AND ROCK ONTO THE STREET. A MINIMUM 6-INCH DEPTH OF 3- TO 5-INCH AGGREGATE IS SUGGESTED. ALL VEHICLES THAT ACCESS THE LOT MUST USE THE CONSTRUCTION ENTRANCE. ANY SOILS THAT ARE TRUCKED ONTO THE STREET MUST BE REMOVED BY THE END OF THE DAY.
4. INTERMEDIATE CONTROL: LONG OR STEEP DRAINAGE PATHS MAY REQUIRE INTERMEDIATE OR INTERIOR ESC'S TO HELP SLOW THE FLOW OF RUNOFF. FAILURE OF PERIMETER CONTROLS DUE TO THE FORCE OF RUNOFF OFTEN DETERMINE THE NEED FOR INTERMEDIATE CONTROLS.
5. HOUSEKEEPING: PROVIDE ADEQUATE SANITARY FACILITIES AND TRASH/REFUSE BINS.

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCE ROAD SUITE 100
BUDA, TEXAS 78610
OFFICE: 512.868.2244
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900

GARRETT D. KELLER
111611
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

REVISIONS:

CONTRIBUTING ZONE PLAN DETAILS
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG851

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK
SHEET NO:	

There are approximately 973.303 acres of watershed upgradient from the site. The upgradient area is composed of approximately 95% fair woods and grass area and 5% rural (homestead) development. There is minimal offsite impervious cover to account for. Existing vegetation will be used to prevent pollution of surface water, ground water, or stormwater.

The proposed land use for this site is low-density residential and has less than 20% impervious cover. All areas with impervious cover within the project limits will be treated by the existing vegetation.

BELLE OAKS RANCH
BMPs FOR SURFACE STREAMS

No permanent BMPs will be required for this development. This development is a low-density single family residential with less than 20% impervious cover and does not require permanent BMPs. The existing vegetation will provide water-quality protection by reducing the amount of sediment, organic matter, and pesticides, in the runoff and before the runoff enters the offsite surface water. The impact of the proposed construction is minimal to the site.

Not Applicable – The proposed land use for this project is for low-density residential development and has less than 20% impervious cover. Therefore, this site is exempt from permanent BMP's.

Not Applicable – The proposed land use for this project is for low-density residential development and has less than 20% impervious cover. Therefore, this site is exempt from permanent BMP's.

BELLE OAKS RANCH
MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Contamination of surface streams will be kept at a minimum during construction by implementing temporary BMPs such as silt fencing and rock berms. A NOI will be filed 48 hours prior to the start of any construction and temporary BMPs will be installed as shown on the Contributing Zone Site Plan within this submittal. After construction, the natural vegetation will be used to treat storm water runoff and minimize surface stream contamination.

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: July 26, 2019

Signature of Customer/Agent:

Regulated Entity Name: Belle Oaks Ranch

Project Information

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:

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

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

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

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

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

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

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

BELLE OAKS RANCH
SPILL RESPONSE ACTIONS

General Response Actions

1. All leaks and spills should be cleaned immediately.
2. Rags, mops, and absorbent material may all be used to cleanup a spill.
3. If these materials are used to clean a hazardous material, then they must be disposed of as hazardous waste.
4. Never hose down or bury dry material spills.

Minor Spills

If a minor spill occurs (typically small quantities of oil, gasoline, etc.) the following actions should be taken.

1. Contain the spread of the spill
2. Recover spilled materials
3. Clean the contaminated area and properly dispose of contaminated materials

Semi-Significant Spills

If a semi-significant spill occurs the following actions should be taken.

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

If a significant or hazardous spill occurs in reportable quantities the following actions should be taken.

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 contactor should notify the National Response Center at 1-800-424-8802.
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.

BELLE OAKS RANCH
POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination that may occur are:

- Oil, grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
- Miscellaneous trash and litter from construction workers and material wrappings
- Construction debris
- Excess application of fertilizers, herbicides, and pesticides

Preventative measures that will be taken to reduce contamination are:

- Vehicle maintenance will be performed within the construction staging area
- Trash containers will be placed throughout the site to encourage proper trash disposal if necessary
- Construction debris will be monitored daily by the contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis
- Fertilizers, herbicides, and pesticides will be applied only when necessary and in accordance with manufacturer's directions

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 1

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-3.2)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 1	WS-P-2.1	WS-P-3.2	WS-P-3.3
Ponds	0.46	1.15	0.00
Roads	1.50	3.37	3.46
Utilities	0.45	1.01	1.04
Total	2.41	5.53	4.50

Roads and Utility Construction Phase 2

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-3.2)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 2	WS-P-3.2	WS-P-3.3	WS-P-4.2
Ponds	0.00	0.00	0.00
Roads	5.52	0.64	0.76
Utilities	1.66	0.19	0.23
Total	7.18	0.83	0.99

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 3

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 3	WS-P-1.2a	WS-P-2.1	WS-P-3.2
Ponds	0.46	0.00	0.00
Roads	5.65	0.89	0.88
Utilities	1.70	0.27	0.26
Total	7.81	1.16	1.14

Roads and Utility Construction Phase 4

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 4	WS-P-1.2a	WS-P-1.2c	WS-P-2.1
Ponds	0.00	0.00	0.00
Roads	5.06	0.29	0.54
Utilities	1.52	0.09	0.16
Total	6.58	0.38	0.70

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 5

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-2.1)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 5	WS-P-2.1	WS-P-3.3
Ponds	0.00	0.00
Roads	6.88	0.45
Utilities	2.06	0.14
Total	8.94	0.59

Roads and Utility Construction Phase 6

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-2.1)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 6	WS-P-1.2c	WS-P-2.1	WS-P-2.2
Ponds	0.00	0.00	0.00
Roads	0.93	4.39	2.50
Utilities	0.28	1.32	0.75
Total	1.21	5.71	3.25

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 7

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2b)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 7	WS-P-1.1a	WS-P-1.2a	WS-P-1.2b	WS-P-1.2c
Ponds	0.46	0.00	0.46	0.00
Roads	0.41	2.27	4.41	0.12
Utilities	0.12	0.68	1.32	0.04
Total	0.99	2.95	6.19	0.16

Roads and Utility Construction Phase 8

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.1a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 8	WS-P-1.1a	WS-P-1.2c	WS-P-1.3
Ponds	0.00	0.00	0.00
Roads	5.94	1.29	0.83
Utilities	1.78	0.39	0.25
Total	7.72	1.68	1.08

a. All upgradient stormwater entering the site will be treated by the BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site. See a list of these BMPs in section "b."

b. The BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site are:

i. **Temporary Construction Entrance/Exit** – The installation of a stabilized construction entrance/exit will reduce the dispersion of sediment from the site. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.2 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

ii. **Silt Fence** – The erection of silt fence along the boundary of construction activities will provide temporary erosion and sedimentation control. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.3 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iii. **Rock Berm** – The use of rock berms throughout the site will provide temporary erosion and sedimentation control. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.5 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iv. **Construction Staging Area** – The construction staging area will provide on-site pollution prevention.

v. **Concrete Truck Washout Pit** – A concrete truck washout pit aids in the final cleanup and prevents unnecessary discharge of concrete residue from contaminating the storm water runoff. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.18 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

c. Silt fence and rock berms (see section "b") will be used to prevent sediment-laden runoff from entering sensitive features on this site and surface streams off the site.

d. The flow to the natural sensitive features on this site, to a maximum practical extent, will not be disturbed. No clearing, excavation or grading will occur within the buffer zone of the sensitive feature. If another naturally-occurring sensitive feature is identified during construction all activity will be stopped and the contractor should notify TCEQ.

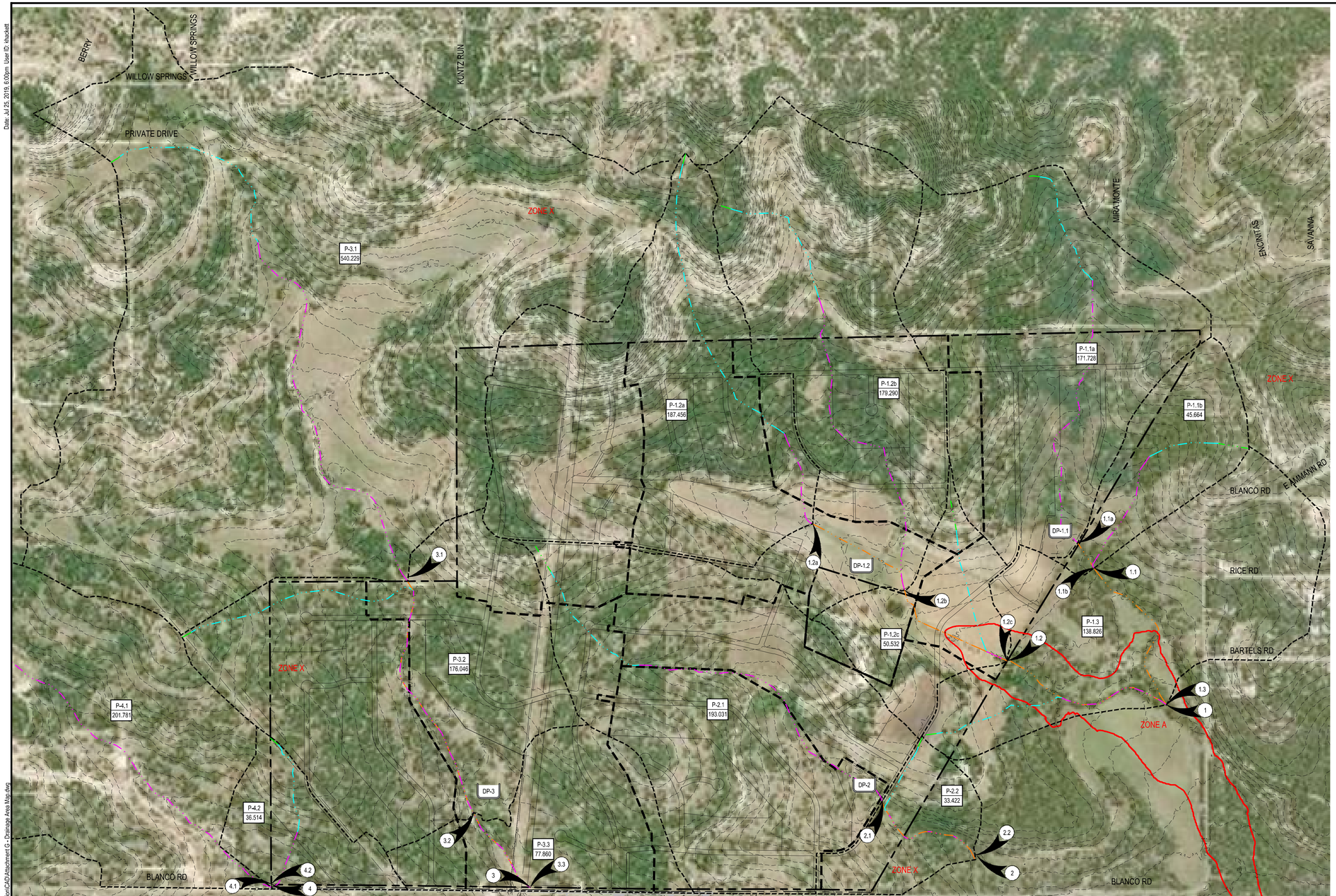
BELLE OAKS RANCH
STRUCTURAL PRACTICES

Structural practices installed to prevent the runoff of pollutants from exposed areas of the site are:

- Silt fence
- Stabilized Construction Entrance/Exit
- Construction Staging Area
- Concrete Truck Washout Pit
- Rock Berm

For the majority of the disturbed soil within the limits of this project, silt fence will capture and hold sediment laden runoff.

Since part of this site is located within the floodplain, placement of these structure practices within the floodplain should be avoided.



LEGEND

- PROPERTY BOUNDARY
- EXISTING 5' CONTOUR — 1270
- EXISTING 25' CONTOUR — 1275
- WATERSHED BOUNDARY
- SHEET FLOW
- SHALLOW FLOW
- CHANNEL FLOW
- REACH
- COMPUTATION POINT (X.X)

WATERSHED IDENTIFICATION (X-X)
WATERSHED AREA (AC) (X.XXX)

N

SCALE: 1"=500'
0 250' 500' 750' 1000'
SHEET SIZE: 24" x 36"

This document is released for REVIEW PURPOSES ONLY, NOT FOR CONSTRUCTION and was prepared under the authorization of Garrett D. Keller, Registered Professional Engineer, State of Texas, Registration No. 111511, DATE: July 2019

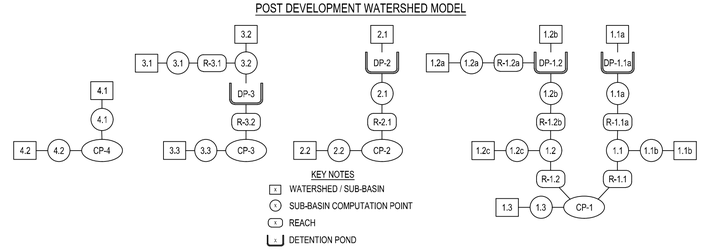
REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900
330 SHELL ROAD SUITE 1
CIBOLO, TEXAS 78108
OFFICE: 512.868.2244

DRAINAGE AREA MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) STATEMENT: A PORTION OF THIS TRACT OF LAND FALLS WITHIN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY THE FEMA, NATIONAL FLOOD INSURANCE PROGRAM. A PORTION OF THIS PRIORITY LIES WITHIN ZONE A, DEFINED AS "NO BASE FLOOD ELEVATIONS DETERMINED" & ZONE X, "AREAS OF 0.2% ANNUAL CHANCE FLOOD.." PER FIRM PANEL 48091C0195F, EFFECTIVE DATE SEPTEMBER 2, 2009.

POST DEVELOPMENT WATERSHED MODEL



KEY NOTES
- (X) WATERSHED / SUB-BASIN
- (X) SUB-BASIN COMPUTATION POINT
- (X) REACH
- DETENTION POND
- (X) WATERSHED COMPUTATION POINT

ATTACHMENT "G"

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK
SHEET NO:	

BELLE OAKS RANCH
INSPECTION AND MAINTENANCE FOR BMPs

Designated and qualified person(s) shall inspect Pollution Control Measures every seven days and within 24 hours after a storm event. An inspection report that summarized the scope of the inspection, names and qualifications of personnel conducting the inspection, date of inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water T.P.D.E.S. Plan. A copy of the inspection report form is provided as page 3 of this attachment. Inspection and Maintenance Guidelines are as follows:

Construction Entrance:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Silt Fence:

(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Temporary/Permanent Vegetation:

(1) Permanent vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
(3) If the vegetated cover is less than 80%, the area should be reseeded.

Rock Berm:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

BELLE OAKS RANCH
INSPECTION AND MAINTENANCE FOR BMPs

INSPECTION REPORT

Approved Inspection intervals:

i. Conducted once every 7 days AND within 24 hours after rainfall event greater than 0.5 inch

PROJECT NAME _____
REPORT # _____ DATE _____
INSPECTOR _____ TITLE _____
REASON FOR INSPECTION (CHECK ONE) Weekly ____ Or ½" Rain ____
DATE OF LAST RAINFALL _____ AMOUNT _____

SITE CONDITIONS:

EROSION AND SEDIMENTATION CONTROLS	IN CONFORMANCE		EFFECTIVE	
Concrete Washout Area		Yes/No/Na		Yes/No
Construction Entrance		Yes/No/Na		Yes/No
Permanent Vegetation		Yes/No/Na		Yes/No
Silt Fence		Yes/No/Na		Yes/No
Rock Berm		Yes/No/Na		Yes/No

RECOMMENDED REMEDIAL ACTIONS:

COMMENTS:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

INSPECTOR: _____ DATE: _____

BELLE OAKS RANCH
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Soil stabilization practices will be used to reduce the amount of erosion from the site. Only the areas essential for immediate construction should be cleared. This will keep a buffer zone around the area of construction as these areas will remain undisturbed until construction begins there.

Interim soil stabilization areas are determined in the field. Temporary vegetation will be used as an aid to control erosion on critical sites during establishment period of protective vegetation when construction is temporarily ceased.

Stabilization practices should be installed according to the following rules:

- Stabilization measures shall be initiated as soon as practical 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 temporarily or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practical.

- In areas experiencing droughts where the initiation of stabilization measure 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 practical.

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

I Annabelle Ansley McGee
Print Name

Owner
Title - Owner/President/Other

of Belle Oaks Ranch, Ltd.
Corporation/Partnership/Entity Name

have authorized Dan Mullins
Print Name of Agent/Engineer

of Southerland Belle Oaks, LLC
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:

Annabelle D. McGee — July 15, 2019

Applicant's Signature — Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Annabelle McGee 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 15th day of July, 2019

LINDA REYES WASHINGTON NOTARY PUBLIC STATE OF TEXAS ID 12543899 EXP 09-19-2021

LRW

NOTARY PUBLIC

Linda Reyes Washington

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 19, 2021

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

I Dan Mullins,
Print Name

Authorized Signer,
Title - Owner/President/Other

of Southerland Belle Oaks, LLC,
Corporation/Partnership/Entity Name

have authorized Matkin Hoover Engineering
Print Name of Agent/Engineer

of Matkin Hoover Engineering
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

July 16, 2019
Date

THE STATE OF TEXAS §

County of COMAL §

BEFORE ME, the undersigned authority, on this day personally appeared DAN MULLINS 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 17 day of JULY, 2019.

BRITTANY KNOWLTON
Notary Public, State of Texas
Comm. Expires 05-29-2022
Notary ID 131579040

NOTARY PUBLIC

BRITTANY KNOWLTON
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5-29-2022

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Belle Oaks Ranch
Regulated Entity Location: Bulverde, Texas
Name of Customer: Southerland Belle Oaks, LLC
Contact Person: Garrett D. Keller Phone: 830-249-0600
Customer Reference Number (if issued):CN 605604115
Regulated Entity Reference Number (if issued):RN 110597515

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☒ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	874.52 Acres	$ 10,000
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 7/26/19

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN **605604115**		RN **110597515**

SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* | *If new Customer, enter previous Customer below:*

Southerland Belle Oaks, LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0803088977	32068033946		

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: LLC

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

13. Independently Owned and Operated?
☒ Yes ☐ No

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

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

15. Mailing Address: 665 Simonds Rd

City	Williamstown	State	MA	ZIP	01267	ZIP + 4	2105

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	dmullins@southlp.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 847-5263		( ) -

SECTION III: Regulated Entity Information

21. 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

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

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

Belle Oaks Ranch

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County	Comal							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The property begins approximately 1.2 miles south of HWY 46 on the east side of Blanco Road with approximately 1.1 miles of frontage on Blanco Road.

26. Nearest City	State	Nearest ZIP Code
Bulverde	TX	78163

27. Latitude (N) In Decimal:	29.783731		28. Longitude (W) In Decimal:	-98.516944	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	47	01.43	98	31	1.00

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

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

34. Mailing Address:	110 River Crossing Blvd. Suite 1							
	City	Spring Branch	State	TX	ZIP	78070	ZIP + 4	6273

35. E-Mail Address:	dmullins@southlp.com

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(210) 859-7244		( ) -

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. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Garrett Keller	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 249-0600		(830) 249-0099	GKeller@MatkinHoover.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Matkin Hoover Engineering & Surveying	Job Title:	President / Project Manager
Name *(In Print)* :	Garrett Keller, P.E.	Phone:	(830) 249-0600
Signature:		Date:	7/11/19

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 12, 2019

Mr. Dan Mullins
Southerland Belle Oaks, LLC
665 Simonds Rd
Williamstown, Massachusetts 01267

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Belle Oaks Ranch; Located south of Highway 46 on east side of Blanco Road; ETJ of Bulverde, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN110597515; Additional ID No. 13000825

Dear Mr. Mullins:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the San Antonio Regional Office by Matkin Hoover Engineering & Surveying on behalf of Southerland Belle Oaks, LLC on December 18, 2018. Final review of the CZP was completed after additional material was received on February 19, 2019 and March 8, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed project will have an area of approximately 874.52 acres. It will include the construction of 640 single-family residential homes with associated utilities, streets, two amenity centers, and drainage improvements. The impervious cover will be 170.78 acres (19.53 percent). According to a letter dated, December 17, 2018, signed by Mr. Robert Boyd, with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

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

SPECIAL CONDITIONS

I. 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 format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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.

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. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP 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.
6. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If 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 significantly reduced. 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).
10. 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.
11. 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.
12. 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.
13. 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. 5, above.

After Completion of Construction:

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

association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. A Contributing Zone 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 Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,

Robert Sadler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/JV

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625A

cc: Mr. Garrett Keller, P.E., Matkin Hoover Engineering & Surveying
Mr. Roland Ruiz, Edwards Aquifer Authority
The Honorable Bill Krawietz, City of Bulverde
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. H. L. Saur, Comal Trinity Groundwater Conservation District

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

MATKIN-HOOVER ENGINEERING

Transmittal

Date: 12/18/2018

Texas Commission of Environmental Quality

Attention: Edwards Aquifer Program

Address: 14250 Judson Rd San Antonio, TX 78233

Re: Belle Oaks Ranch CZP Site Plan

x For Approval x For Review ☐ Please Comment ☐ Please Reply ☐ For Your Information

ITEMS ATTACHED

Qty:	Description:
2	Transmittal
2	Contributing Zone Plan Checklist
2	Executive Summary Letter
2	Edwards Aquifer Cover Page
2	Contributing Zone Plan Application
2	Temporary Stormwater Section
2	Copies of Notice of Intent
2	Agent Authorization Forms
2	Application Fee Form
2	Check Payable to the "Texas Commission on Environmental Quality"
2	Core Data Form
1	CD with Full submittal saved as PDF

● Comments: If you have any questions please feel free to give me a call at (830) 249-0600 – Garrett D. Keller

Sent by: Garrett D. Keller

Job No. 2969.00

Post Office Box 54 1499 S. Main Boerne, Texas 78006 Phone 830.249.0600 Fax 830.249.0099

Contributing Zone Plan Checklist

☑ **Edwards Aquifer Application Cover Page (TCEQ-20705)**

☑ **Contributing Zone Plan Application (TCEQ-10257)**

- ☑ Attachment A - Road Map
- ☑ Attachment B - USGS Quadrangle Map
- ☑ Attachment C - Project Narrative
- ☑ Attachment D - Factors Affecting Surface Water Quality
- ☑ Attachment E - Volume and Character of Stormwater
- ☑ Attachment F - Suitability Letter from Authorized Agent (if OSSF is proposed)
- ☐ Attachment G - Alternative Secondary Containment Methods (if AST with an alternative method of secondary containment is proposed)
- ☐ Attachment H - AST Containment Structure Drawings (if AST is proposed)
- ☐ Attachment I - 20% or Less Impervious Cover Declaration (if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site)
- ☑ Attachment J - BMPs for Upgradient Stormwater
- ☑ Attachment K - BMPs for On-site Stormwater
- ☑ Attachment L - BMPs for Surface Streams
- ☑ Attachment M - Construction Plans
- ☑ Attachment N - Inspection, Maintenance, Repair and Retrofit Plan
- ☐ Attachment O - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs
- ☑ Attachment P - Measures for Minimizing Surface Stream Contamination

☐ **Storm Water Pollution Prevention Plan (SWPPP)**

-OR-

☑ **Temporary Stormwater Section (TCEQ-0602)**

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

☐ **Copy of Notice of Intent (NOI)**

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

- ☑ **Application Fee Form (TCEQ-0574)**
- ☑ **Check Payable to the "Texas Commission on Environmental Quality"**
- ☑ **Core Data Form (TCEQ-10400)**

MATKINHOOVER
ENGINEERING
& SURVEYING

December 17, 2018

Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Austin Regional Office
12100 Park 35 Circle
Austin, TX 78753

Re: Belle Oaks Ranch
Bulverde, Texas
Contributing Zone Plan

To Whom It May Concern:

Please find attached two (2) copies of the Belle Oaks Ranch Contributing Zone Plan. This Contributing Zone Plan has been prepared in accordance with the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

This Contributing Zone Plan applies to an 874.52 acre tract approximately 1.2 miles south of HWY 46 on the east side of Blanco Road with approximately 1.1 miles of frontage on Blanco Road in Bulverde, Texas.

Please review the attached Contributing Zone Plan information for the items it is intended to address, and if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($10,000.00) and fee application are included. If you have any questions regarding this information, please call our office.

Respectfully Submitted,
Matkin Hoover Engineering & Surveying
TBPE #4152

Garrett Keller, P.E.
President / COO

Attachments
cc: Belle Oaks Ranch Contributing Zone Plan

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

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

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

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

1. Regulated Entity Name: Belle Oaks Ranch						**2. Regulated Entity No.:**			
3. Customer Name: Southerland Belle Oaks, LLC						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		874.52	
9. Application Fee:	$10,000		**10. Permanent BMP(s):**			None			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Cibolo Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	_X_	__	__	__
Region (1 req.)	__	_X_	__	__	__
County(ies)	__	_X_	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	_X_Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	_X_Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
Garrett D. Keller, P.E. Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 12/10/18

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

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Garrett D. Keller

Date: December 17, 2018

Signature of Customer/Agent:

Regulated Entity Name: Belle Oaks Ranch

Project Information

1. County: Comal
2. Stream Basin: Cibolo Creek
3. Groundwater Conservation District (if applicable): Comal Trinity GCD
4. Customer (Applicant):

   Contact Person: Dan Mullins
   Entity: Southerland Belle Oaks, LLC.
   Mailing Address: 665 Simonds Rd
   City, State: Williamstown, MA Zip: 01267-2105
   Telephone: 512-847-5263 Fax: 830-885-5248
   Email Address: dmullins@southlp.com

5. Agent/Representative (If any):

Contact Person: Garrett D. Keller
Entity: MatkinHoover Engineering
Mailing Address: 8 Spencer Road, Suite 100
City, State: Boerne, TX Zip: 78006
Telephone: 830-249-0600 Fax: 830-249-6309
Email Address: gkeller@matkinhoover.com

6. Project Location:

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

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

The property begins approximately 1.2 miles south of HWY 46 on the east side of Blanco Road with approximately 1.1 miles of frontage on Blanco Road.

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

9. ☒ **Attachment B - USGS Quadrangle Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

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

11. Existing project site conditions are noted below:

☐ Existing commercial site
☐ Existing industrial site

☒ Existing residential site
☒ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☒ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. The type of project is:

☒ Residential: # of Lots: 640
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 874.52 Acres

    Total disturbed area: 175.00 Acres

14. Estimated projected population: 1,600

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops	6,002,000	÷ 43,560 =	137.79
Parking	0	÷ 43,560 =	0
Other paved surfaces	1,437,233	÷ 43,560 =	32.99
Total Impervious Cover	7,439,233	÷ 43,560 =	170.78

Total Impervious Cover 170.78 **÷ Total Acreage** 874.52 **X 100 =** 19.53**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

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

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

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

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

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

21. Pavement Area:

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

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

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

23. ☐ 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

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

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A

26. Wastewater will be disposed of by:

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

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

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

☐ Sewage Collection System (Sewer Lines):

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

☐ Existing.
☐ Proposed.

☒ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

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

    Site Plan Scale: 1" = 400'.

35. 100-year floodplain boundaries:

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

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____.

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

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

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

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

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

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

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

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

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

☒ N/A

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

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

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

☒ N/A

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

☒ N/A

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

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

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

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

51. 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 I - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

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

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

52. ☐ **Attachment J - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

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

☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

53. ☐ **Attachment K - BMPs for On-site Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☒ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

54. ☐ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☒ N/A

55. ☐ **Attachment M - 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, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☒ N/A

56. ☐ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

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

    ☒ N/A

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

    ☒ N/A

58. ☐ **Attachment P - Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.

    ☒ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☐ 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.

60. ☐ 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.

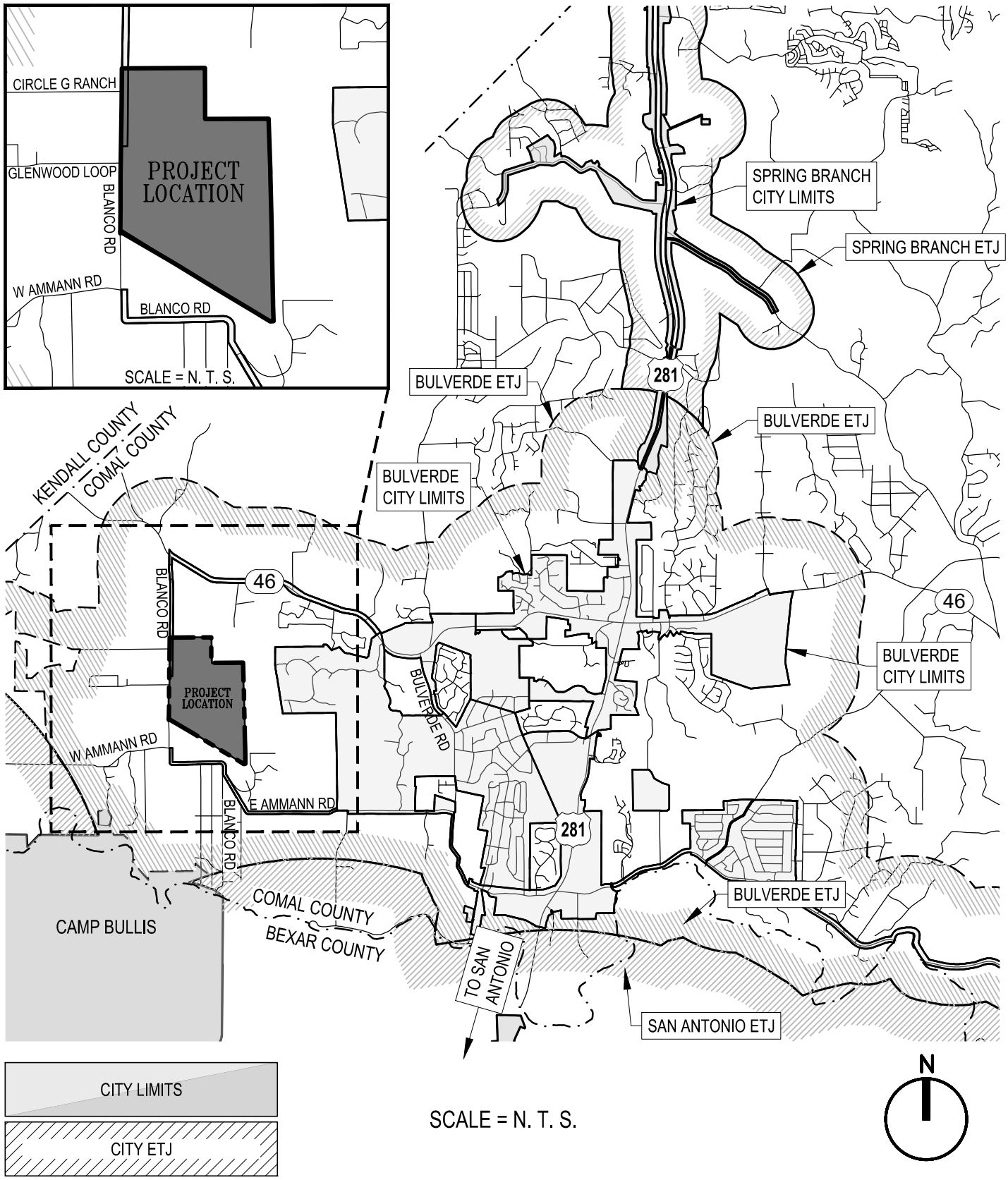
Administrative Information

61. ☒ 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.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☐ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.



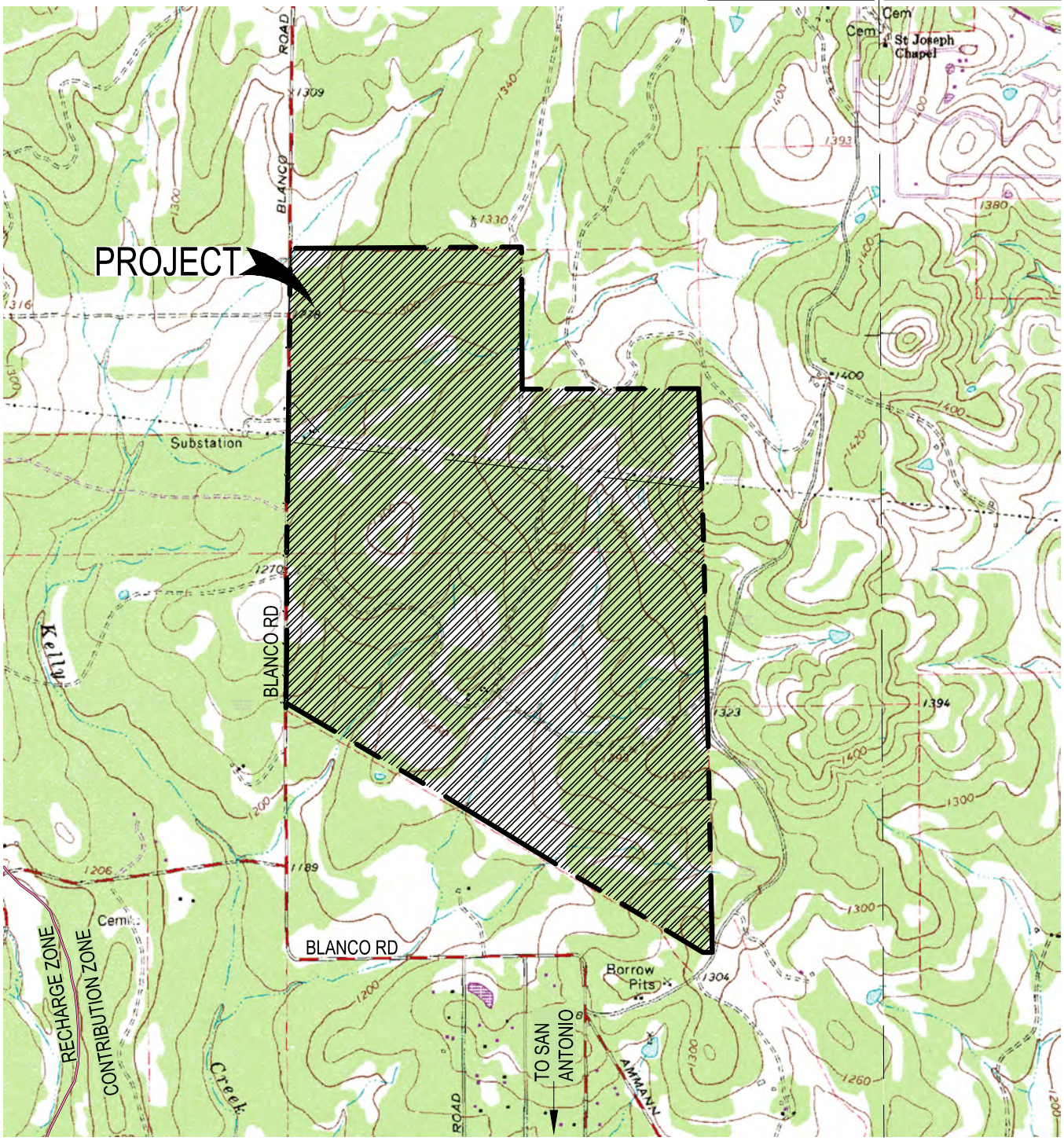
Date: Dec 11, 2018, 11:08am User ID: khackett

Z:\PROJECTS\2969 - Belle Oaks Ranch\CZP\02 - CZP Application\CAD\ATTACHMENT A - LOCATION MAP.dwg

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
3303 SHELL ROAD SUITE 100
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

LOCATION MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

JOB NO.	2969.00
DATE	DECEMBER 2018
DESIGNED	K. HACKETT
CHECKED	K. HACKETT
SHEET ID	ATTACHMENT A
SHEET #	1 OF 1



USGS QUADRANGLE: BERGHEIM AND ANHALT

ATTACHMENT B

This document is released for REVIEW PURPOSES ONLY, NOT FOR CONSTRUCTION and was prepared under the authorization of Garrett D. Keller, Registered Professional Engineer, State of Texas, Registration No. 111511.

Date: Dec 11, 2018, 11:10am User ID: khackett

Z:\PROJECTS\2969 - Belle Oaks Ranch\CZP\02 - CZP Application\CAD\ATTACHMENT B - USGS QUADRANGLE MAP.dwg

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
3303 SHELL ROAD SUITE 100
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

USGS QUADRANGLE MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

JOB NO.	2969.00
DATE	DECEMBER 2018
DESIGNED	K. HACKETT
CHECKED	K. HACKETT
SHEET ID	ATTACHMENT B
SHEET #	1 OF 1

BELLE OAKS RANCH
PROJECT NARRATIVE

The subject property is located within the State of Texas, Comal County, lying within the City Limits of the City of Bulverde and being 4.7 miles Northwest of the City Center; also having a global position of 29°47'02.64" N., 98°30'59.97" W. The property is an 874.52-acre tract of land that is out of a "1156 acres of land" as described in Document 200006000204, Official Records of Comal County, Texas. The property is sided by open land to the north & east, Blanco Road to the west, and other homesteads on the south.

The project site is predominantly undeveloped and has historically been used for agriculture and livestock resources. There is one (approximately 5,000 square foot [ft^2]) existing home site located on the property with a dirt road creating less than 1% impervious cover. The existing home will have a lot created around it, leaving it and all existing homestead appurtenances intact during development with only the road demolished.

The proposed development will consist of as many as 640 low-density, single family residential tracts averaging approximately 1.01 acres in size. For this impervious cover calculation, it was assumed that each single-family lot will ultimately consist of 9,300.00 ft^2 of impervious cover or 5,952,000.00 total square feet. Blanco Road will require improvements to add turn lanes for the development which results in 124,000 ft^2 of impervious cover. The proposed roadways will consist of 1,283,233.00 ft^2 of paved surface. 50,000.00 square feet have been allocated to these impervious cover calculations to account for an amenity center. 30,000 ft^2 has been calculated to account for any impervious portion of the 5 detention ponds designed exclusively for flood mitigation. The total impervious cover including buildings and paved structures is estimated at 7,439,233.00 square feet or 170.78 acres (19.53%) of impervious cover. These estimates are considered conservative and fully developed conditions are expected to contain less impervious cover than these estimates.

With proposed [impervious cover] improvements to the site falling under 20% of the total site area, and proposed development classified as low-density, single family residential; this Contributing Zone Plan would like to seek exemption from permanent BMPs.

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

- Soil erosion due to the clearing of the site
- Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons from asphalt paving operations
- Miscellaneous trash and litter from construction operations and material wrappings

Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site after construction include:

- Fertilizers, herbicides, and pesticides from agricultural operations
- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings
- Dirt and dust that may fall off vehicles
- Miscellaneous trash and litter

The total project acreage of this site is 874.52 acres. The general slopes of the site split the site into 4 major watersheds and has primarily been used for agricultural purposes. Upon completion, the site will consist of an estimated 19.84% impervious cover.

The SCS method with a type III rainfall distribution was utilized. Time of concentration values were established using Technical Release-55 and curve numbers used for these calculations are from the City of Bulverde Drainage Criteria Manual. HEC-HMS 4.2.1 was used to calculate the storm water runoff for the 100-year storm event. Below is a summary of the pre-developed and post –developed runoff:

CP-1

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	79.9	789.916	**2,187.4**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.9	789.916	**1,928.9**

CP-2

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.6	226.326	**844.7**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	83.7	226.326	**827.5**

CP-3

Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	81.2	787.153	**2,836.1**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	82.5	788.769	**2,801.9**

CP-4

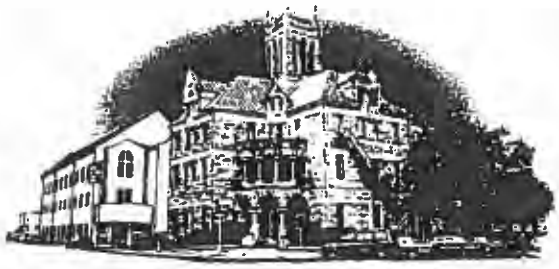
Pre-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	78.9	238.295	**635.3**

Post-Development Runoff:

	CN	Area (acres)	Runoff (cfs)
Q_{100}	79.8	236.680	**599.6**

See Attached Letter on next page



Comal County

OFFICE OF COMAL COUNTY ENGINEER

December 17, 2018

Mr. Garrett Keller, P.E.
Matkin-Hoover
e-mail: gkeller@matkinhoover.com

Re: Belle Oaks Ranch Suitability Letter within Comal County, Texas

Dear Mr. Keller:

In accordance with TAC §213.24(8)(B), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the requirements for on-site sewage facilities.

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

Sincerely,

Robert Boyd, P.E.
Comal County Assistant Engineer

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

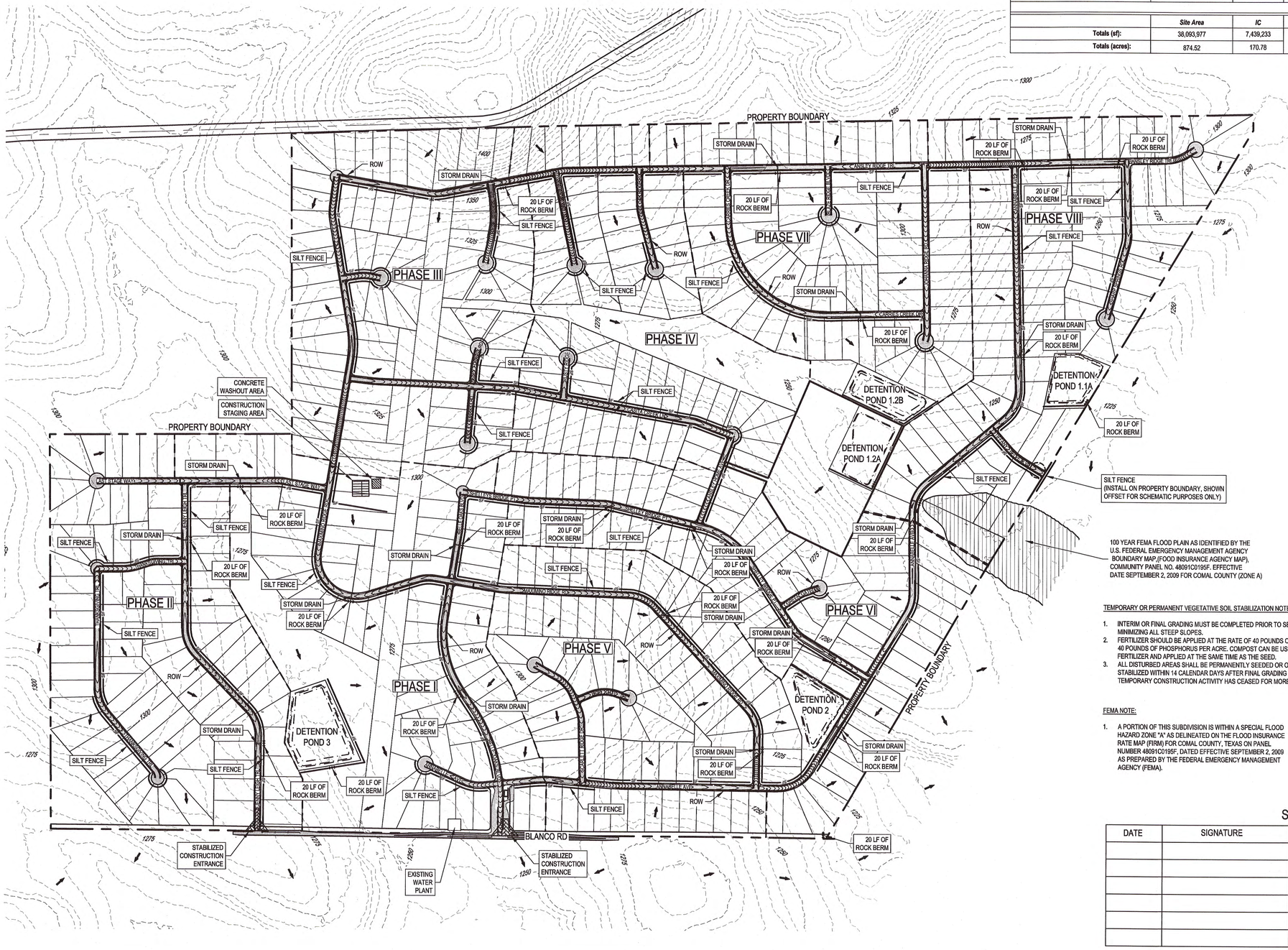
Date: Dec 17, 2018, 3:55pm User ID: khackett

CONTRIBUTING ZONE SITE PLAN

LOT CONSTRUCTION NOTE FOR SWPPP:
EACH LOT SHALL INSTALL EROSION CONTROL MEASURES AND OBTAIN INDIVIDUAL SWPPP AS REQUIRED BY TCEQ FOR LOT CONSTRUCTION.

874.52 AC On-Site Ultimate Developed
Impervious Cover Calculation

Use	Quantity		I.C. / unit	Impervious Cover, (SF)
Residential Lots				
Residential	640	lots	9,300	5,952,000
Misc. Park/Street R.O.W.				
Blanco Road Improvements	124,000	sf	100%	124,000
Amenity Center	50,000	sf	100%	50,000
Local Road (Includes Mailbox and Entry Pavement)	1,283,233	sf	100%	1,283,233
Miscellaneous (Drainage, etc.)	30,000	sf	100%	30,000
	Site Area		*IC*	*% IC*
Totals (sf):	38,093,977		7,439,233	19.53%
Totals (acres):	874.52		170.78	



SILT FENCE
(INSTALL ON PROPERTY BOUNDARY, SHOWN OFFSET FOR SCHEMATIC PURPOSES ONLY)

100 YEAR FEMA FLOOD PLAIN AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP,(FOOD INSURANCE AGENCY MAP), COMMUNITY PANEL NO. 48091C0195F. EFFECTIVE DATE SEPTEMBER 2, 2009 FOR COMAL COUNTY (ZONE A)

TEMPORARY OR PERMANENT VEGETATIVE SOIL STABILIZATION NOTES:

1. INTERIM OR FINAL GRADING MUST BE COMPLETED PRIOR TO SEEDING, MINIMIZING ALL STEEP SLOPES.
2. FERTILIZER SHOULD BE APPLIED AT THE RATE OF 40 POUNDS OF NITROGEN AND 40 POUNDS OF PHOSPHORUS PER ACRE. COMPOST CAN BE USED INSTEAD OF FERTILIZER AND APPLIED AT THE SAME TIME AS THE SEED.
3. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE TEMPORARY CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 21 DAYS.

FEMA NOTE:

1. A PORTION OF THIS SUBDIVISION IS WITHIN A SPECIAL FLOOD HAZARD ZONE "A" AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR COMAL COUNTY, TEXAS ON PANEL NUMBER 48091C0195F, DATED EFFECTIVE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

LEGEND

- PROPERTY BOUNDARY
- EXISTING 5' CONTOUR
- EXISTING 25' CONTOUR (1275)
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- 100 YEAR FEMA ZONE A
- PROPOSED CULVERT
- ROCK BERM
- FLOW ARROW
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT AREA
- PROPOSED ROAD PAVEMENT

N

SCALE: 1"=400'
0 200' 400' 600' 800'

STATE OF TEXAS
GARRETT D. KELLER
111511
LICENSED
PROFESSIONAL ENGINEER
11-18

REVISIONS:

CONTRACTOR MUST HAVE A COPY OF THE CZP ON SITE AS REQUIRED BY TCEQ

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION SHOULD BE PROVIDED TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION SHOULD 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 WITH THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
3. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET IF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL.
4. PRIOR TO COMMENCING CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE SWPPP SECTION OF THE APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE 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.
5. 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).
6. 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.
7. 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).
8. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE AND STORED ON-SITE MUST HAVE PROPER E&S CONTROLS INSTALLED.
9. 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.
10. THE FOLLOWING RECORDS SHOULD 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.
11. THE HOLDER OF ANY APPROVED CONTRIBUTING ZONE PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
    - 11.1. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;
    - 11.2. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;
    - 11.3. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER AND HYDROLOGICALLY CONNECTED SURFACE WATER; OR
    - 11.4 ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED IN A CONTRIBUTING ZONE PLAN AS UNDEVELOPED.

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

SWPPP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9545 | SURVEYING FIRM F-10024000
3303 SHELL ROAD SUITE 100
RICHMOND, TEXAS 77469
OFFICE: 512.868.2244

CONTRIBUTING ZONE SITE PLAN
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG801

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK

Z:\PROJECTS\2969 - Belle Oaks Ranch\C13 2969\01 CZP OVERALL SITE PLAN CG801.dwg

CONTRIBUTING ZONE SITE PLAN

1.4.2 Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagrams of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

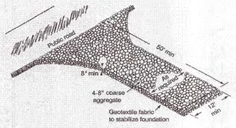


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

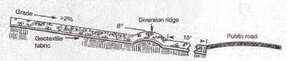


Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

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 1-29), 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.

Common trouble points

(1) Inadequate runoff control – sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic – extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road edge.

(5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

Inspection and Maintenance Guidelines:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

1.4.18 Concrete Washout Areas

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- 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.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. 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.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

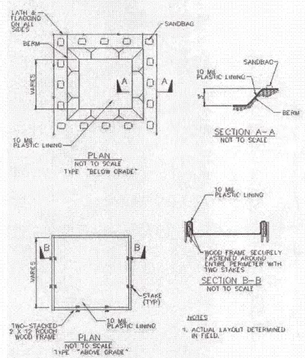


Figure 1-43 Schematics of Concrete Washout Areas

1.4.5 Rock Berms

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

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 1-28), 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.

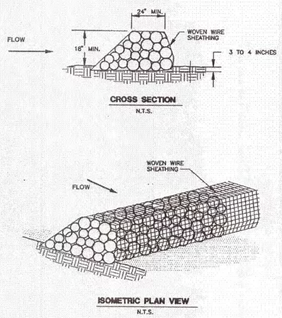


Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

Common Trouble Points:

(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)

(2) Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.

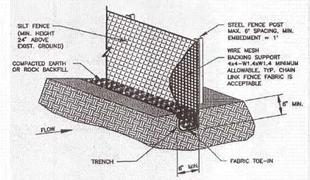


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

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.

Common Trouble Points:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.

(2) Fabric not seated securely to ground (runoff passing under fence)

(3) Fence not installed perpendicular to flow line (runoff escaping around sides)

(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

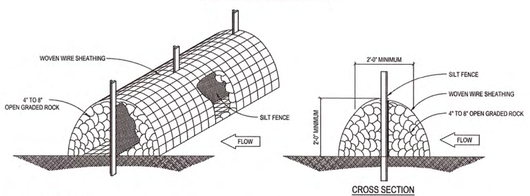
(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

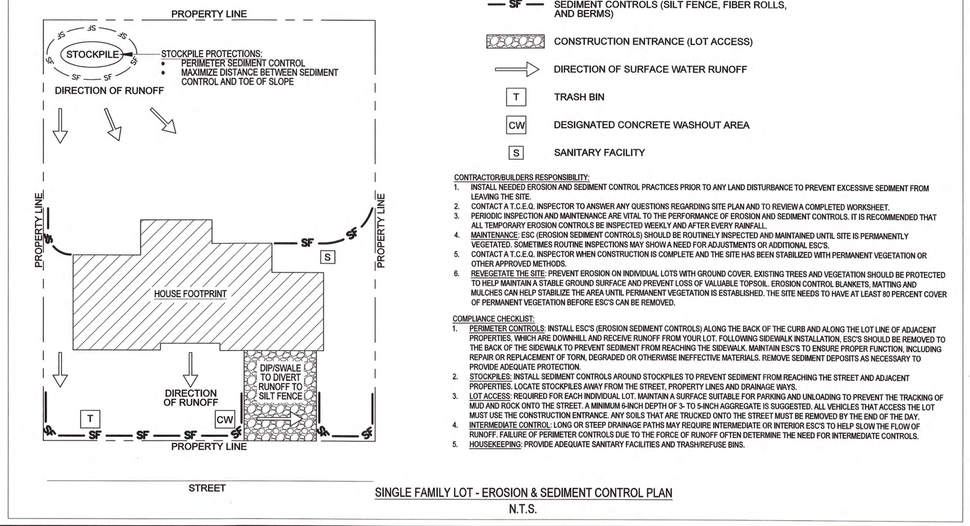
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

HIGH SERVICE ROCK BERM DETAIL



INSTALLATION NOTES:
1. LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
2. CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
3. PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
4. INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DETAIL [01, CG851].
5. PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
6. WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
7. SECURE WITH TIE WIRE.
8. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM NOTES:
1. USE ONLY OPEN GRADED ROCK 4-8 INCHES DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 1/32 INCH.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 12 INCHES, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.



LEGEND

— SF — SEDIMENT CONTROLS (SILT FENCE, FIBER ROLLS, AND BERMS)

CONSTRUCTION ENTRANCE (LOT ACCESS)

DIRECTION OF SURFACE WATER RUNOFF

T TRASH BIN

CW DESIGNATED CONCRETE WASHOUT AREA

S SANITARY FACILITY

CONTRACTOR/BUILDERS RESPONSIBILITY:
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO ANY LAND DISTURBANCE TO PREVENT EXCESSIVE SEDIMENT FROM LEAVING THE SITE.
2. CONTACT A T.C.E.Q. INSPECTOR TO ANSWER ANY QUESTIONS REGARDING SITE PLAN AND TO REVIEW A COMPLETED WORKSHEET.
3. PERIODIC INSPECTION AND MAINTENANCE ARE VITAL TO THE PERFORMANCE OF EROSION AND SEDIMENT CONTROLS. IT IS RECOMMENDED THAT ALL TEMPORARY EROSION CONTROLS BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL.
4. MAINTENANCE: ESC (EROSION SEDIMENT CONTROLS) SHOULD BE ROUTINELY INSPECTED AND MAINTAINED UNTIL SITE IS PERMANENTLY VEGETATED. SOMETIMES ROUTINE INSPECTIONS MAY SHOW A NEED FOR ADJUSTMENTS OR ADDITIONAL ESC'S.
5. CONTACT A T.C.E.Q. INSPECTOR WHEN CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION OR OTHER APPROVED METHODS.
6. REVEGETATE THE SITE: PREVENT EROSION ON INDIVIDUAL LOTS WITH GROUND COVER. EXISTING TREES AND VEGETATION SHOULD BE PROTECTED TO HELP MAINTAIN A STABLE GROUND SURFACE AND PREVENT LOSS OF VALUABLE TOPSOIL. EROSION CONTROL BLANKETS, MATTING AND MULCHES CAN HELP STABILIZE THE AREA UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE SITE NEEDS TO HAVE AT LEAST 80 PERCENT COVER OF PERMANENT VEGETATION BEFORE ESC'S CAN BE REMOVED.

COMPLIANCE CHECKLIST:
1. PERIMETER CONTROLS: INSTALL ESC'S (EROSION SEDIMENT CONTROLS) ALONG THE BACK OF THE CURB AND ALONG THE LOT LINE OF ADJACENT PROPERTIES, WHICH ARE DOWNHILL AND RECEIVE RUNOFF FROM YOUR LOT. FOLLOWING SIDEWALK INSTALLATION, ESC'S SHOULD BE REMOVED TO THE BACK OF THE SIDEWALK TO PREVENT SEDIMENT FROM REACHING THE SIDEWALK. MAINTAIN ESC'S TO ENSURE PROPER FUNCTION, INCLUDING REPAIR OR REPLACEMENT OF TORN, DEGRADED OR OTHERWISE INEFFECTIVE MATERIALS. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE PROTECTION.
2. STOCKPILES: INSTALL SEDIMENT CONTROLS AROUND STOCKPILES TO PREVENT SEDIMENT FROM REACHING THE STREET AND ADJACENT PROPERTIES. LOCATE STOCKPILES AWAY FROM THE STREET, PROPERTY LINES AND DRAINAGE WAYS.
3. LOT ACCESS: REQUIRED FOR EACH INDIVIDUAL LOT. MAINTAIN A SURFACE SUITABLE FOR PARKING AND UNLOADING TO PREVENT THE TRACKING OF MUD AND ROCK ONTO THE STREET. A MINIMUM 6-INCH DEPTH OF 3- TO 5-INCH AGGREGATE IS SUGGESTED. ALL VEHICLES THAT ACCESS THE LOT MUST USE THE CONSTRUCTION ENTRANCE. ANY SOILS THAT ARE TRUCKED ONTO THE STREET MUST BE REMOVED BY THE END OF THE DAY.
4. INTERMEDIATE CONTROL: LONG OR STEEP DRAINAGE PATHS MAY REQUIRE INTERMEDIATE OR INTERIOR ESC'S TO HELP SLOW THE FLOW OF RUNOFF. FAILURE OF PERIMETER CONTROLS DUE TO THE FORCE OF RUNOFF OFTEN DETERMINE THE NEED FOR INTERMEDIATE CONTROLS.
5. HOUSEKEEPING: PROVIDE ADEQUATE SANITARY FACILITIES AND TRASH/REFUSE BINS.

SINGLE FAMILY LOT - EROSION & SEDIMENT CONTROL PLAN
N.T.S.

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
3301 SHELL ROAD SUITE 103
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-10024000

STATE OF TEXAS
GARRETT D. KELLER
111511
LICENSED PROFESSIONAL ENGINEER
12/17/18

REVISIONS:

CONTRIBUTING ZONE PLAN DETAILS
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

CG851

JOB NO. 2969.00
DESIGNED BY: KWH
DRAWN BY: RRA
CHECKED BY: GDK

There are approximately 973.303 acres of watershed upgradient from the site. The upgradient area is composed of approximately 95% fair woods and grass area and 5% rural (homestead) development. There is minimal offsite impervious cover to account for. Existing vegetation will be used to prevent pollution of surface water, ground water, or stormwater.

The proposed land use for this site is low-density residential and has less than 20% impervious cover. All areas with impervious cover within the project limits will be treated by the existing vegetation.

BELLE OAKS RANCH
BMPs FOR SURFACE STREAMS

No permanent BMPs will be required for this development. This development is a low-density single family residential with less than 20% impervious cover and does not require permanent BMPs. The existing vegetation will provide water-quality protection by reducing the amount of sediment, organic matter, and pesticides, in the runoff and before the runoff enters the offsite surface water. The impact of the proposed construction is minimal to the site.

Not Applicable – The proposed land use for this project is for low-density residential development and has less than 20% impervious cover. Therefore, this site is exempt from permanent BMP's.

Not Applicable – The proposed land use for this project is for low-density residential development and has less than 20% impervious cover. Therefore, this site is exempt from permanent BMP's.

BELLE OAKS RANCH
MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Contamination of surface streams will be kept at a minimum during construction by implementing temporary BMPs such as silt fencing and rock berms. A NOI will be filed 48 hours prior to the start of any construction and temporary BMPs will be installed as shown on the Contributing Zone Site Plan within this submittal. After construction, the natural vegetation will be used to treat storm water runoff and minimize surface stream contamination.

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

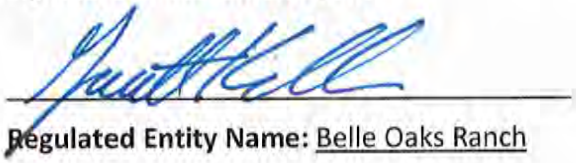
Signature

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

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: December 10, 2018

Signature of Customer/Agent:



Regulated Entity Name: Belle Oaks Ranch

Project Information

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:

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

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

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

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

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

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

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

BELLE OAKS RANCH
SPILL RESPONSE ACTIONS

General Response Actions

1. All leaks and spills should be cleaned immediately.
2. Rags, mops, and absorbent material may all be used to cleanup a spill.
3. If these materials are used to clean a hazardous material, then they must be disposed of as hazardous waste.
4. Never hose down or bury dry material spills.

Minor Spills

If a minor spill occurs (typically small quantities of oil, gasoline, etc.) the following actions should be taken.

1. Contain the spread of the spill
2. Recover spilled materials
3. Clean the contaminated area and properly dispose of contaminated materials

Semi-Significant Spills

If a semi-significant spill occurs the following actions should be taken.

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

If a significant or hazardous spill occurs in reportable quantities the following actions should be taken.

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 contactor should notify the National Response Center at 1-800-424-8802.
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.

BELLE OAKS RANCH
POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination that may occur are:

- Oil, grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
- Miscellaneous trash and litter from construction workers and material wrappings
- Construction debris
- Excess application of fertilizers, herbicides, and pesticides

Preventative measures that will be taken to reduce contamination are:

- Vehicle maintenance will be performed within the construction staging area
- Trash containers will be placed throughout the site to encourage proper trash disposal if necessary
- Construction debris will be monitored daily by the contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis
- Fertilizers, herbicides, and pesticides will be applied only when necessary and in accordance with manufacturer's directions

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 1

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-3.2)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 1	WS-P-2.1	WS-P-3.2	WS-P-3.3
Ponds	0.46	1.15	0.00
Roads	1.50	3.37	3.46
Utilities	0.45	1.01	1.04
Total	2.41	5.53	4.50

Roads and Utility Construction Phase 2

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-3.2)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 2	WS-P-3.2	WS-P-3.3	WS-P-4.2
Ponds	0.00	0.00	0.00
Roads	5.52	0.64	0.76
Utilities	1.66	0.19	0.23
Total	7.18	0.83	0.99

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 3

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 3	WS-P-1.2a	WS-P-2.1	WS-P-3.2
Ponds	0.46	0.00	0.00
Roads	5.65	0.89	0.88
Utilities	1.70	0.27	0.26
Total	7.81	1.16	1.14

Roads and Utility Construction Phase 4

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 4	WS-P-1.2a	WS-P-1.2c	WS-P-2.1
Ponds	0.00	0.00	0.00
Roads	5.06	0.29	0.54
Utilities	1.52	0.09	0.16
Total	6.58	0.38	0.70

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 5

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-2.1)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 5	WS-P-2.1	WS-P-3.3
Ponds	0.00	0.00
Roads	6.88	0.45
Utilities	2.06	0.14
Total	8.94	0.59

Roads and Utility Construction Phase 6

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-2.1)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 6	WS-P-1.2c	WS-P-2.1	WS-P-2.2
Ponds	0.00	0.00	0.00
Roads	0.93	4.39	2.50
Utilities	0.28	1.32	0.75
Total	1.21	5.71	3.25

BELLE OAKS RANCH
SEQUENCE OF MAJOR ACTIVITIES

Roads and Utility Construction Phase 7

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.2b)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of flood management ponds. (See table for disturbed areas)
4. Construction of roads. (See table for disturbed areas)
5. Trenching and installation of utilities. (See table for disturbed areas)
6. Establishment of permanent soil stabilization on disturbed areas.
7. Removal of Temporary BMP's.

Phase 7	WS-P-1.1a	WS-P-1.2a	WS-P-1.2b	WS-P-1.2c
Ponds	0.46	0.00	0.46	0.00
Roads	0.41	2.27	4.41	0.12
Utilities	0.12	0.68	1.32	0.04
Total	0.99	2.95	6.19	0.16

Roads and Utility Construction Phase 8

1. Mobilization of the contractor's equipment. (0.5 acres disturbed in WS-P-1.1a)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms), disturbed area included in road construction below.
3. Construction of roads. (See table for disturbed areas)
4. Trenching and installation of utilities. (See table for disturbed areas)
5. Establishment of permanent soil stabilization on disturbed areas.
6. Removal of Temporary BMP's.

Phase 8	WS-P-1.1a	WS-P-1.2c	WS-P-1.3
Ponds	0.00	0.00	0.00
Roads	5.94	1.29	0.83
Utilities	1.78	0.39	0.25
Total	7.72	1.68	1.08

a. All upgradient stormwater entering the site will be treated by the BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site. See a list of these BMPs in section "b."

b. The BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site are:

i. **Temporary Construction Entrance/Exit** – The installation of a stabilized construction entrance/exit will reduce the dispersion of sediment from the site. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.2 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

ii. **Silt Fence** – The erection of silt fence along the boundary of construction activities will provide temporary erosion and sedimentation control. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.3 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iii. **Rock Berm** – The use of rock berms throughout the site will provide temporary erosion and sedimentation control. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.5 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

iv. **Construction Staging Area** – The construction staging area will provide on-site pollution prevention.

v. **Concrete Truck Washout Pit** – A concrete truck washout pit aids in the final cleanup and prevents unnecessary discharge of concrete residue from contaminating the storm water runoff. See CG 801 of the CZP Site Plan which contains a copy of Section 1.4.18 from the Edwards Aquifer Rules: Technical Guidance on Best Management Practices for materials, installation, common trouble points, inspection and maintenance.

c. Silt fence and rock berms (see section "b") will be used to prevent sediment-laden runoff from entering sensitive features on this site and surface streams off the site.

d. The flow to the natural sensitive features on this site, to a maximum practical extent, will not be disturbed. No clearing, excavation or grading will occur within the buffer zone of the sensitive feature. If another naturally-occurring sensitive feature is identified during construction all activity will be stopped and the contractor should notify TCEQ.

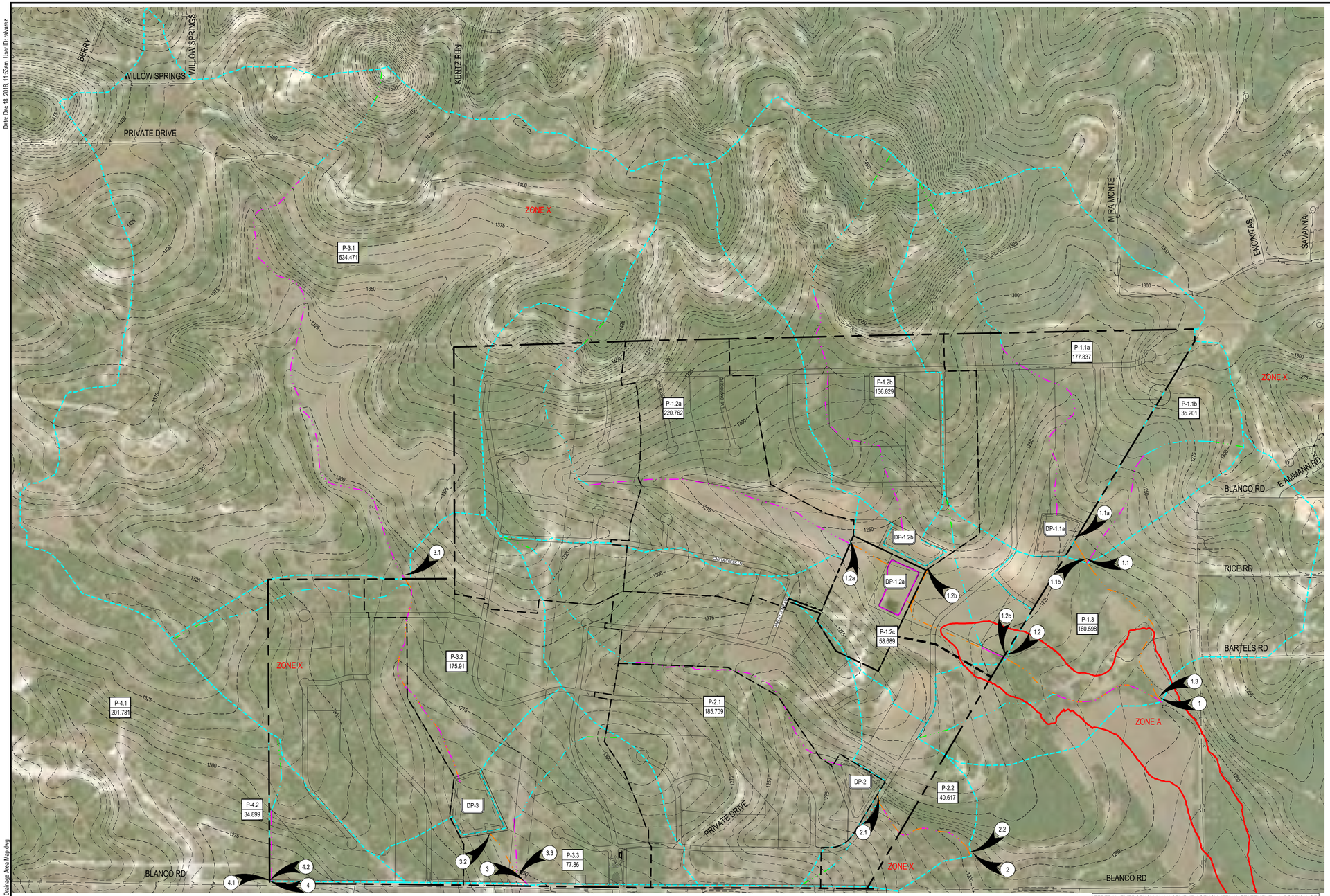
BELLE OAKS RANCH
STRUCTURAL PRACTICES

Structural practices installed to prevent the runoff of pollutants from exposed areas of the site are:

- Silt fence
- Stabilized Construction Entrance/Exit
- Construction Staging Area
- Concrete Truck Washout Pit
- Rock Berm

For the majority of the disturbed soil within the limits of this project, silt fence will capture and hold sediment laden runoff.

Since part of this site is located within the floodplain, placement of these structure practices within the floodplain should be avoided.



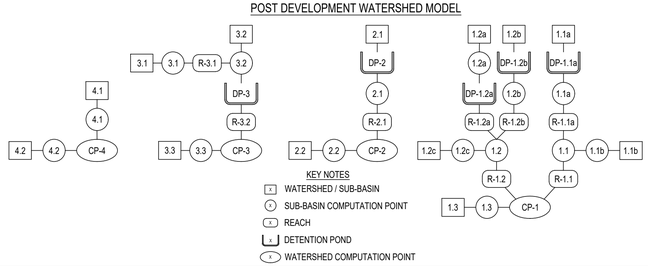
LEGEND

- PROPERTY BOUNDARY
- EXISTING 5' CONTOUR — 1270
- EXISTING 25' CONTOUR — 1275
- ROAD CENTERLINE
- WATERSHED BOUNDARY
- PROPOSED DRAINAGE EASEMENT
- SHEET FLOW
- SHALLOW FLOW
- CHANNEL FLOW
- REACH
- COMPUTATION POINT — X.X
- SLOPE ARROW

WATERSHED IDENTIFICATION X-X
WATERSHED AREA (AC) X.XXX

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) STATEMENT: A PORTION OF THIS TRACT OF LAND FALLS WITHIN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY THE FEMA, NATIONAL FLOOD INSURANCE PROGRAM. A PORTION OF THIS PRIORITY LIES WITHIN ZONE A, DEFINED AS "NO BASE FLOOD ELEVATIONS DETERMINED" & ZONE X, "AREAS OF 0.2% ANNUAL CHANCE FLOOD..." PER FIRM PANEL 48091C0195F, EFFECTIVE DATE SEPTEMBER 2, 2009.

POST DEVELOPMENT WATERSHED MODEL



KEY NOTES
- X WATERSHED / SUB-BASIN
- X SUB-BASIN COMPUTATION POINT
- X REACH
- DETENTION POND
- X WATERSHED COMPUTATION POINT

SCALE: 1"=500'
0 250' 500' 750' 1000'
SHEET SIZE: 24" x 36"

This document is released for REVIEW PURPOSES ONLY, NOT FOR CONSTRUCTION and was prepared under the authorization of Garrett D. Keller, Registered Professional Engineer, State of Texas, Registration No. 111511. DATE: December 2018

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | LS SURVEYING FIRM F-10024900
3303 SHELL ROAD SUITE 103
SAN ANTONIO, TEXAS 78218
OFFICE: 512.868.2244

DRAINAGE AREA MAP
FOR
BELLE OAKS RANCH
BULVERDE, TEXAS

ATTACHMENT "G"

JOB NO.	2969.00
DESIGNED BY:	KWH
DRAWN BY:	RRA
CHECKED BY:	GDK

BELLE OAKS RANCH
INSPECTION AND MAINTENANCE FOR BMPs

Designated and qualified person(s) shall inspect Pollution Control Measures every seven days and within 24 hours after a storm event. An inspection report that summarized the scope of the inspection, names and qualifications of personnel conducting the inspection, date of inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water T.P.D.E.S. Plan. A copy of the inspection report form is provided as page 3 of this attachment. Inspection and Maintenance Guidelines are as follows:

Construction Entrance:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Silt Fence:

(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Temporary/Permanent Vegetation:

(1) Permanent vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
(3) If the vegetated cover is less than 80%, the area should be reseeded.

Rock Berm:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

BELLE OAKS RANCH
INSPECTION AND MAINTENANCE FOR BMPs

INSPECTION REPORT

Approved Inspection intervals:

i. Conducted once every 7 days AND within 24 hours after rainfall event greater than 0.5 inch

PROJECT NAME _____
REPORT # _____ DATE _____
INSPECTOR _____ TITLE _____
REASON FOR INSPECTION (CHECK ONE) Weekly ____ Or ½" Rain ____
DATE OF LAST RAINFALL _____ AMOUNT _____

SITE CONDITIONS:

EROSION AND SEDIMENTATION CONTROLS	IN CONFORMANCE		EFFECTIVE	
Concrete Washout Area		Yes/No/Na		Yes/No
Construction Entrance		Yes/No/Na		Yes/No
Permanent Vegetation		Yes/No/Na		Yes/No
Silt Fence		Yes/No/Na		Yes/No
Rock Berm		Yes/No/Na		Yes/No

RECOMMENDED REMEDIAL ACTIONS:

COMMENTS:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

INSPECTOR: _____ DATE: _____

BELLE OAKS RANCH
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Soil stabilization practices will be used to reduce the amount of erosion from the site. Only the areas essential for immediate construction should be cleared. This will keep a buffer zone around the area of construction as these areas will remain undisturbed until construction begins there.

Interim soil stabilization areas are determined in the field. Temporary vegetation will be used as an aid to control erosion on critical sites during establishment period of protective vegetation when construction is temporarily ceased.

Stabilization practices should be installed according to the following rules:

- Stabilization measures shall be initiated as soon as practical 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 temporarily or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practical.

- In areas experiencing droughts where the initiation of stabilization measure 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 practical.

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

I Annabelle Ansley McGee,
Print Name

Owner,
Title - Owner/President/Other

of Belle Oaks Ranch, Ltd.,
Corporation/Partnership/Entity Name

have authorized Dan Mullins
Print Name of Agent/Engineer

of Southerland Belle Oaks, LLC
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:

Annabelle Q. McGee 12/10/18

Applicant's Signature Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Annabelle McGee 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 10th day of December 2018.

LINDA REYES WASHINGTON NOTARY PUBLIC STATE OF TEXAS ID 12543699 EXP. 09-19-2021

NOTARY PUBLIC

Linda Reyes Washington

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 19, 2021

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

I Dan Mullins,
Print Name

Authorized Signer,
Title - Owner/President/Other

of Southerland Belle Oaks, LLC,
Corporation/Partnership/Entity Name

have authorized MatkinHoover Engineering
Print Name of Agent/Engineer

of MatkinHoover Engineering
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

Dec 14, 2018
Date

THE STATE OF Tx §

County of Kendall §

BEFORE ME, the undersigned authority, on this day personally appeared Dan Mullins 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 14 day of December, 2018

RANDI L. MATTER
Notary ID #126401838
My Commission Expires
June 23, 2021

NOTARY PUBLIC

Randi L. Matter
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: June 23, 2021

RESOLUTION BY THE DIRECTOR
OF
AMERICAN LAND PARTNERS, INC.,
a Delaware Corporation

Pursuant to the terms of the Corporation code of the State of Delaware, the undersigned, being the Director of American Land Partners, Inc., a Delaware corporation, hereby adopts the following resolution:

RESOLVED, that Jay Patterson or Dan Mullins shall each be and hereby are authorized to sign documents on behalf of American Land Partners, Inc., a Delaware corporation, as Manager of Southerland Belle Oaks, LLC, a Delaware limited liability company, on behalf of Southerland Belle Oaks, LLC, in connection with the development and sale of 868.59 acres, located in Comal County, Texas, including, without limitation, to execute Deeds, Settlement Statements, Owner's Affidavits, Plats of Survey, Covenants & Restrictions, and any other related documents deemed necessary.

Dated: ~~March~~ April 2, 2018

DIRECTOR:

By: _____
Harry S. Patten

RECEIVED
TCEQ-R13 (EAPP)
DEC 18 2018
SAN ANTONIO

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Belle Oaks Ranch
Regulated Entity Location: Bulverde, Texas
Name of Customer: Southerland Belle Oaks, LLC
Contact Person: Garrett D. Keller Phone: 830-249-0600
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☒ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	879.52 Acres	$10,000
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: Garrett Keller Date: 12/10/18

TCEQ-0574 (Rev. 02-24-15)

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

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

SECTION II: Customer Information

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

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Southerland Belle Oaks, LLC	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0803088977	32068033946		

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other		☐ Sole Proprietorship	☒ Other: LLC

12. Number of Employees	13. Independently Owned and Operated?
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ Yes ☐ No

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

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:	665 Simonds Rd						
	City	Williamstown	State	MA	ZIP	01267	ZIP + 4	2105

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	dmullins@southlp.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 847-5263		( ) -

SECTION III: Regulated Entity Information

21. 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

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

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

Belle Oaks Ranch

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County	Comal							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The property begins approximately 1.2 miles south of HWY 46 on the east side of Blanco Road with approximately 1.1 miles of frontage on Blanco Road.

26. Nearest City	State	Nearest ZIP Code
Bulverde	TX	78163

27. Latitude (N) In Decimal:	29.783731		28. Longitude (W) In Decimal:	-98.516944	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	47	01.43	98	31	1.00

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

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

34. Mailing Address:	110 River Crossing Blvd. Suite 1							
	City	Spring Branch	State	TX	ZIP	78070	ZIP + 4	6273

35. E-Mail Address:	dmullins@southlp.com

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(210) 859-7244		( ) -

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. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Garrett Keller	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 249-0600		(830) 249-0099	GKeller@MatkinHoover.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Matkin Hoover Engineering & Surveying	Job Title:	President / Project Manager
Name*(In Print)* :	Garrett Keller, P.E.	Phone:	(830) 249-0600
Signature:	Garrett Keller	Date:	12/11/18