

**KINDER RANCH AGI,  
UNIT-3 (ENCLAVE)  
Contributing Zone Plan Application  
Modification**

September 2020

# KINDER RANCH AGI, UNIT-3 (ENCLAVE)

## Contributing Zone Plan Application Modification



*Caleb M. Chance*  
9/25/2020

September 2020

Texas Board of Professional Engineers, Firm Registration # 470

September 24, 2020

Mr. Robert Sadlier  
Texas Commission on Environmental Quality (TCEQ)  
Region 13  
14250 Judson Road  
San Antonio, Texas 78233-4480

Re: Kinder Ranch AGI, Unit-3 (Enclave)  
Contributing Zone Plan Modification Application

Dear Mr. Sadlier:

Please find attached one (1) original and one (1) copy of the Kinder Ranch AGI, Unit-3 (Enclave) Contributing Zone Plan Modification Application. This Contributing Zone Plan Modification Application has been prepared to be consistent with the regulations of the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

This Contributing Zone Plan Application applies to an approximate 53.42-acre site as identified by the project limits. Please review the 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 (\$6,500) and fee application are included. If you have questions regarding this information, please call our office.

Sincerely,  
Pape-Dawson Engineers, Inc.



Caleb Chance, P.E.  
Vice President

Attachments

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**EDWARDS AQUIFER  
APPLICATION  
COVER PAGE**

# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### Our Review of Your Application

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

### Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

### Technical Review

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

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

### Mid-Review Modifications

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

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

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

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

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

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

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

<b>1. Regulated Entity Name:</b> Kinder Ranch AGI, Unit-3					<b>2. Regulated Entity No.:</b> 105247993				
<b>3. Customer Name:</b> AGI Kinder Ranch, LTD					<b>4. Customer No.:</b> 604081448				
<b>5. Project Type:</b> (Please circle/check one)	New	Modification			Extension	Exception			
<b>6. Plan Type:</b> (Please circle/check one)	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	Residential		Non-residential			<b>8. Site (acres):</b>		53.42	
<b>9. Application Fee:</b>	\$6,500		<b>10. Permanent BMP(s):</b>			(2) Water Quality Basins, (3) 15' VFS			
<b>11. SCS (Linear Ft.):</b>	n/a		<b>12. AST/UST (No. Tanks):</b>			n/a			
<b>13. County:</b>	Bexar		<b>14. Watershed:</b>			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](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.

<b>Austin Region</b>			
<b>County:</b>	<b>Hays</b>	<b>Travis</b>	<b>Williamson</b>
Original (1 req.)	—	—	—
Region (1 req.)	—	—	—
County(ies)	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	<input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

<b>San Antonio Region</b>					
<b>County:</b>	<b>Bexar</b>	<b>Comal</b>	<b>Kinney</b>	<b>Medina</b>	<b>Uvalde</b>
Original (1 req.)	✓	—	—	—	—
Region (1 req.)	✓	—	—	—	—
County(ies)	✓	—	—	—	—
Groundwater Conservation District(s)	<input checked="" type="checkbox"/> Edwards Aquifer Authority <input checked="" type="checkbox"/> Trinity-Glen Rose	<input type="checkbox"/> Edwards Aquifer Authority	<input type="checkbox"/> Kinney	<input type="checkbox"/> EAA <input type="checkbox"/> Medina	<input type="checkbox"/> EAA <input type="checkbox"/> Uvalde
City(ies) Jurisdiction	<input type="checkbox"/> Castle Hills <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Helotes <input type="checkbox"/> Hill Country Village <input type="checkbox"/> Hollywood Park <input checked="" type="checkbox"/> San Antonio (SAWS) <input type="checkbox"/> Shavano Park	<input type="checkbox"/> Bulverde <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Garden Ridge <input type="checkbox"/> New Braunfels <input type="checkbox"/> Schertz	NA	<input type="checkbox"/> 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.

Caleb Chance, P.E.

Print Name of Customer/Authorized Agent

Signature of Customer/Authorized Agent

Date

9/25/2020

**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**

# 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: Caleb Chance, P.E.

Date: 9/24/2020

Signature of Customer/Agent:



Regulated Entity Name: Kinder Ranch AGI, Unit-3

## Project Information

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

Contact Person: Lloyd A. Denton, Jr.

Entity: AGI Kinder Ranch, LTD.

Mailing Address: 11 Lynn Batts Lane, Suite 100

City, State: San Antonio, Texas

Telephone: (210) 828-6131

Email Address: laddiedenton@bitterblue.com

Zip: 78218-3077

Fax: (210) 828-6137

5. Agent/Representative (If any):

Contact Person: Caleb Chance, P.E.

Entity: Pape-Dawson Engineers, Inc.

Mailing Address: 2000 NW Loop 410

City, State: San Antonio, Texas

Zip: 78213

Telephone: (210) 375-9000

Fax: (210) 375-9040

Email Address: cchance@pape-dawson.com

6. Project Location:

- The project site is located inside the city limits of \_\_\_\_\_.
- The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of San Antonio.
- 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.

From TCEQ's Regional Office, head north on Judson Road approximately 2.5 miles to Loop 1604. Travel west on Loop 1604 approximately 4.9 miles to U.S. Hwy 281. Head north on U.S. Hwy 281 approximately 6.8 miles to Bulverde Road. Proceed north on Bulverde Rd. approx. 2.4 miles to Kinder Parkway. Proceed west on Kinder Parkway 1.0 mile and the site is just to the left.

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: 166.5
- Residential: # of Living Unit Equivalents: \_\_\_\_\_
- Commercial
- Industrial
- Other: \_\_\_\_\_

13. Total project area (size of site): 53.42 Acres

Total disturbed area: 53.42 Acres

14. Estimated projected population: 666 (Based on an assumed four (4) persons per home)

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

**Table 1 - Impervious Cover**

<i>Impervious Cover of Proposed Project</i>	<i>Sq. Ft.</i>	<i>Sq. Ft./Acre</i>	<i>Acres</i>
Structures/Rooftops	802,375	÷ 43,560 =	18.42
Parking	0	÷ 43,560 =	0
Other paved surfaces	359,908	÷ 43,560 =	8.26
Total Impervious Cover	1,162,283	÷ 43,560 =	26.68

**Total Impervious Cover 26.68 ÷ Total Acreage 53.42 X 100 = 49.94% 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.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

21. Pavement Area:

Length of pavement area: \_\_\_\_\_ feet.

Width of pavement area: \_\_\_\_\_ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

Pavement area \_\_\_\_\_ acres  $\div$  R.O.W. area \_\_\_\_\_ acres  $\times 100 = \text{_____}\%$  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 Steven M. Clouse Water Recycling Center (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**

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
1			
2			
3			

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
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**

<i>Length (L)(Ft.)</i>	<i>Width(W)(Ft.)</i>	<i>Height (H)(Ft.)</i>	<i>L x W x H = (Ft3)</i>	<i>Gallons</i>

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" = 100'.
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): FEMA (Flood Insurance Rate Map for Bexar County, Texas and Incorporated Areas) Panel Number 48029C0130G, dated September 29, 2010.
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.

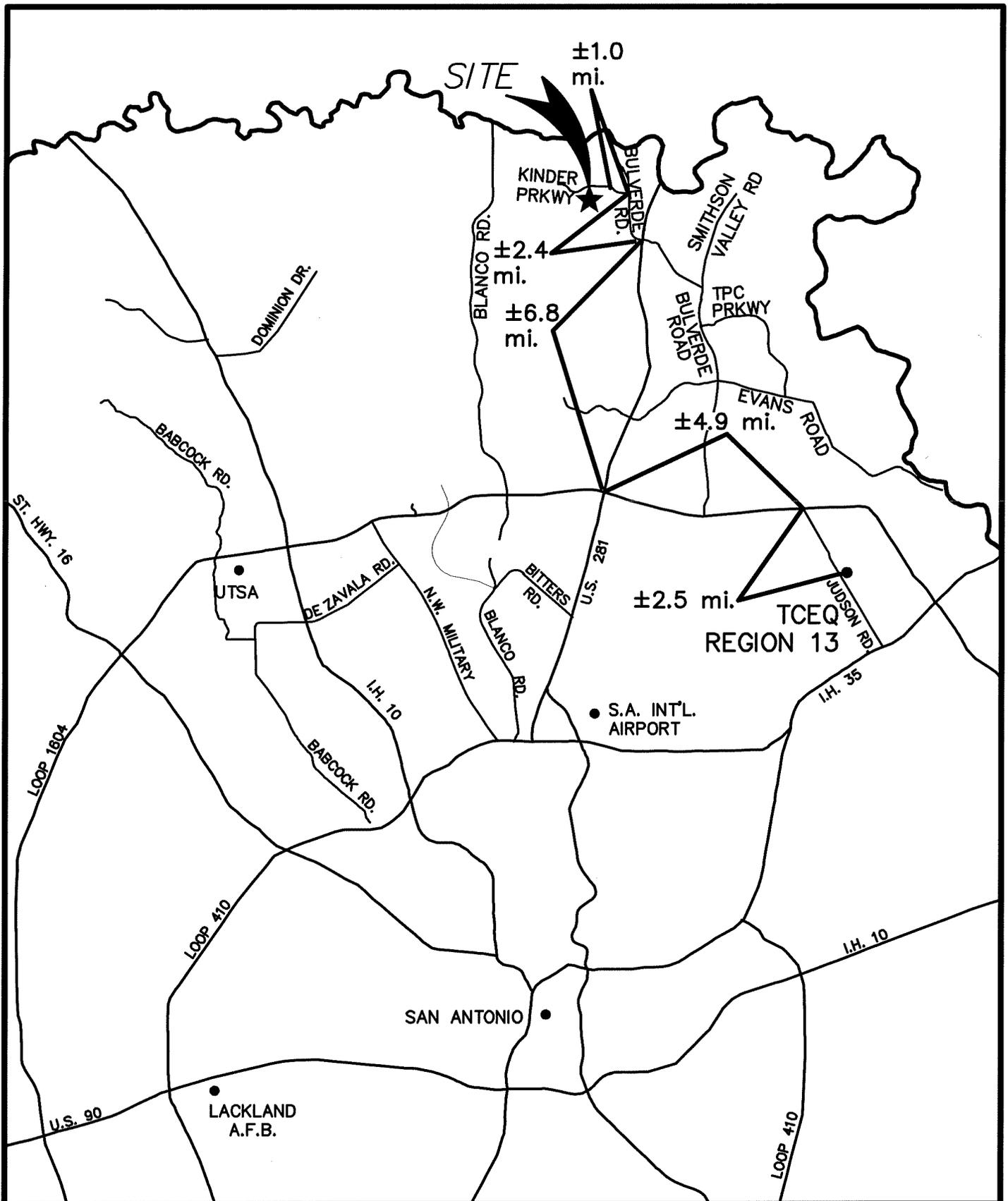
60.  A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development 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.

**ATTACHMENT A**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Modification



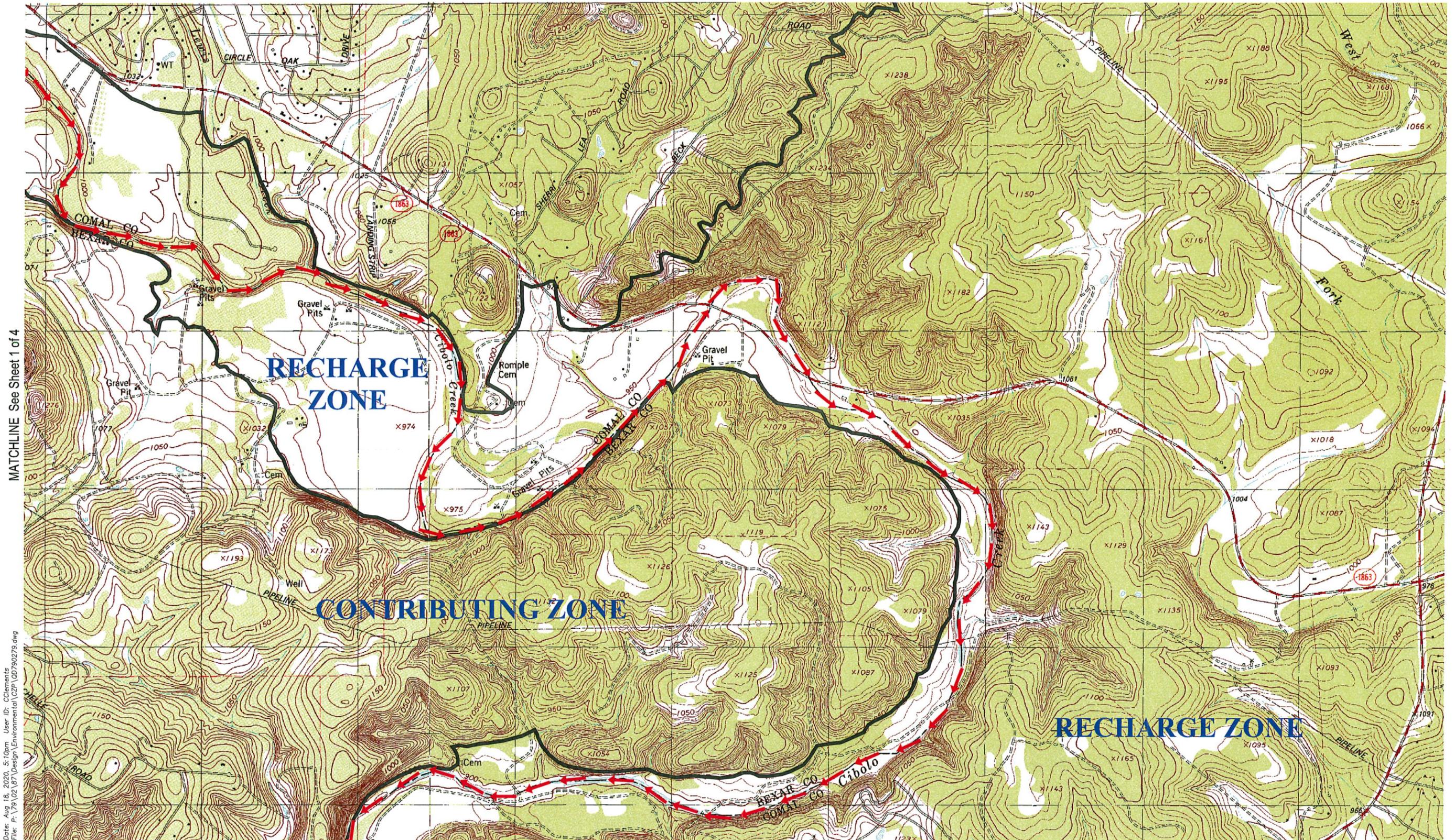
**ATTACHMENT B**



**KINDER RANCH AGI, UNIT-3**  
**Contributing Zone Plan Modification**



SCALE: 1" = 2000'



MATCHLINE See Sheet 1 of 4

Date: Aug 16, 2020, 5:10pm User ID: CClements  
 File: P:\79\02\187\Design\Environmental\CZP\00790279.dwg

MATCHLINE See Sheet 3 of 4

BULVERDE, TX QUAD; BATCAVE, TX QUAD;  
 LONGHORN, TX QUAD; SCHERTZ, TX QUAD  
 DRAINAGE FLOW → → →  
 Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP  
 Sheet 2 Of 4  
 ATTACHMENT B

**KINDER RANCH AGI, UNIT-3**  
**Contributing Zone Plan Modification**

MATCHLINE See Sheet 2 of 4



SCALE: 1" = 2000'



Date: Aug 16, 2020, 5:10pm User ID: CClements  
 File: P:\79\02\87\Design\Environmental\CZP\00790279.dwg

BULVERDE, TX QUAD; BATCAVE, TX QUAD;  
 LONGHORN, TX QUAD; SCHERTZ, TX QUAD  
 DRAINAGE FLOW → → →

Pape-Dawson Engineers, Inc.

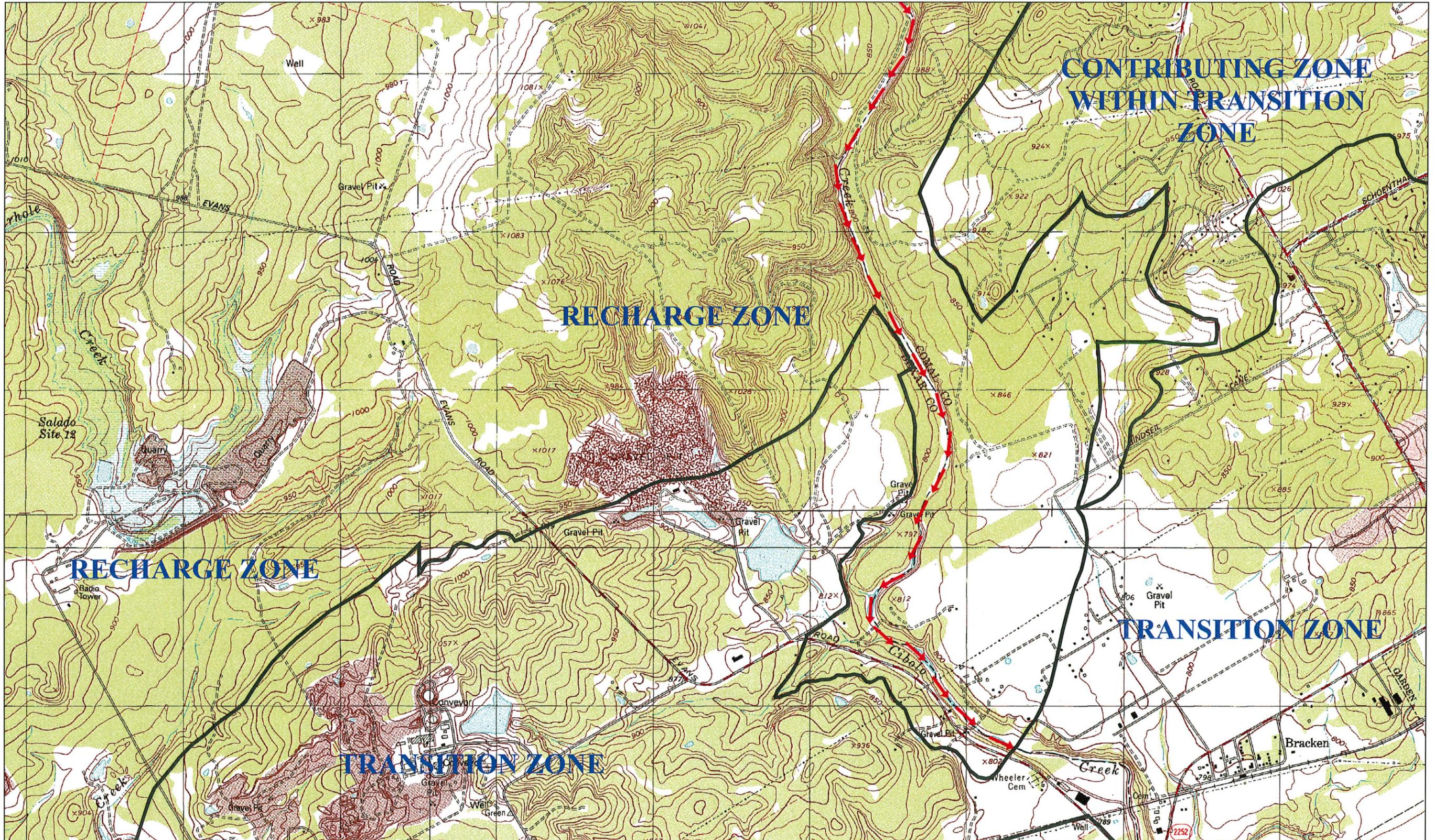
MATCHLINE See Sheet 4 of 4

USGS/EDWARDS RECHARGE ZONE MAP  
 Sheet 3 Of 4  
 ATTACHMENT B

**KINDER RANCH AGI, UNIT-3**  
**Contributing Zone Plan Modification**

MATCHLINE See Sheet 3 of 4

**N**  
 SCALE: 1" = 2000'



Date: Aug 18, 2020, 5:09pm User: ID: CClements  
 File: P:\79\02\187\Design\Environmental\CFP\00790279.dwg

BULVERDE, TX QUAD; BATCAVE, TX QUAD;  
 LONGHORN, TX QUAD; SCHERTZ, TX QUAD  
 DRAINAGE FLOW → → →  
 Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP  
 Sheet 4 Of 4  
 ATTACHMENT B

**ATTACHMENT C**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment C – Project Narrative

*The Kinder Ranch AGI, Unit-3 Contributing Zone Plan Modification I (CZP MOD I) proposes the construction of two (2) additional single-family residential units and increases the project limits from 16.18 acres to 53.42 acres. The project site is located outside the city limits of San Antonio, but within its extraterritorial jurisdiction in Bexar County, Texas. The entire site is located over the Edwards Aquifer Contributing Zone.*

*The Texas Commission on Environmental Quality (TCEQ) approved the Kinder Ranch AGI, Unit-3 Contributing Zone Plan (CZP) on June 20, 2018 (Additional ID No. 13000622). This permit approved the construction of utilities, drainage improvements, streets, sidewalks, driveways, and 37.5 residential seventy-foot (70') home lots, with and an existing water quality basin (13-13083001), one (1) interim vegetative filter strip and one (1) spreader berm as Permanent Best Management Practices (PBMPs). The total impervious cover proposed was 5.79 acres, or 35.78% of the 16.18 acre site. The approved Kinder Ranch AGI, Unit-3 Contributing Zone Plan also included a modification to the Kinder Parkway, Segment I (Additional ID No. 2682.00) CZP, as 0.39 acres were removed from the Kinder Parkway project limits for grading purposes. This acreage, which included 0.20 acres of impervious cover, was included in the approved Kinder Ranch AGI, Unit-3 CZP.*

*This CZP Modification proposes clearing, grading, construction of three (3) 15' engineered vegetative filter strips and two (2) batch detention water quality basins, excavation, installation of utilities, drainage improvements, and construction of streets, sidewalks, and homes with associated driveways. There are 129 single-family residential lots proposed for construction with the additional single-family residential units for a total of 166.5 lots overall. All proposed 129 homes will be seventy-foot (70') home lots averaging 4,800 SF of impervious cover per lot. This impervious cover figure includes house pad, driveway, and concrete patio. Approximately 20.89 additional acres of impervious cover are proposed with this modification, for a total of 26.68 acres or 49.94% of the 53.42-acre site.*

*Approximately 13.32 acres of proposed impervious cover and 4.93 acres of previously approved impervious cover will be directly treated by the Water Quality Basin "B" proposed with this modification, for a total of 18.25 acres of impervious cover. Additionally, approximately 0.22 acres of proposed impervious cover will be overtreated for in Basin "B." Approximately 6.47 acres of proposed impervious cover will be treated by the Water Quality Basin "C" proposed with this modification. The Water Quality Basins proposed with this modification will be Batch Detention Basins with a removal efficiency of 91% as assigned by TCEQ. Three (3) 15' wide engineered vegetative filter strips (VFS) will provide treatment for a total of 0.88 acres of proposed impervious cover. Approximately 0.74 acres of previously approved impervious cover will be treated by existing water quality basin "A" (13-13083001), and approximately 0.12 acres of previously approved impervious cover will be treated by the existing interim VFS (13000320). Please see the Treatment Summary table for more details.*

**KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)**

*The drainage areas for the project have been revised to accommodate the additional single family units being built. As a result, the previously approved spreader berm and interim VFS is being removed and the impervious cover previously treated by this interim VFS will be routed to and treated by the proposed batch detention basin "B".*

*All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality (TCEQ's) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.*

*Since this project is located entirely over the Edwards Aquifer Contributing Zone, a Geological Assessment was not conducted and is not required by 30 TAC 213 regulations. Therefore, no naturally-occurring sensitive features are known to exist on the site.*

*Potable water will be supplied by the San Antonio Water System (SAWS). The proposed development will generate approximately 33,300 gallons per day (average flow) of domestic wastewater. Wastewater will be disposed of by conveyance to the existing Dos Rios Water Recycling Center operated by SAWS.*

**ATTACHMENT D**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment D – Factors Affecting Surface Water Quality

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

- *Soil erosion due to the clearing of the site for roads, residential homes, and drainage structures.*
- *Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings.*
- *Hydrocarbons from asphalt paving operations.*
- *Miscellaneous trash and litter from construction workers and material wrappings.*
- *Construction debris.*
- *Concrete truck washout.*

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

- *Oil, grease, fuel and hydraulic fluid contamination from vehicle and maintenance equipment drippings; and*
- *Miscellaneous trash and litter.*

**ATTACHMENT E**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment E – Volume and Character of Stormwater

*Stormwater runoff will increase as a result of this development. For a 25-year storm event, the area draining to the Water Quality Basin “B” generates approximately 99.8 cfs, and the area draining to the Water Quality Basin “C” generates approximately 43.8 cfs. The runoff coefficient for the site changes from approximately 0.53 before development to 0.72 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code.*

**ATTACHMENT J**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment J – BMPs for Upgradient Stormwater

*No upgradient flow will cross the project limits. The flow generated by Kinder Parkway will remain within Kinder Parkway.*

**ATTACHMENT K**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment K – BMPs for Onsite Stormwater

*The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are:*

- *Three (3) proposed fifteen-foot (15') wide Engineered Vegetative Filter Strips (VFS) designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.*
- *Two (2) proposed batch detention Water Quality Basins "B" and "C" designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove at least 80% of the increase in Total Suspended Solids (TSS) from the site.*

**ATTACHMENT L**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment L – BMPs for Surface Streams

*There are no surface streams on or immediately adjacent to the site. Two (2) proposed batch detention Water Quality Basins “B” and “C” and three (3) proposed fifteen-foot (15’) wide Engineered Vegetative Filter Strips (VFS) are the Permanent Best Management Practices (PBMPs) for this site. The PBMPs were designed in accordance with the TCEQ’s Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.*

**ATTACHMENT M**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment M – Construction Plans

*The permanent BMP's for this CZP are two (2) proposed batch detention basins "B" and "C," one (1) approved Water Quality basin "A," one (1) approved spreader berm with associated interim fifty-foot (50') vegetative filter strip, and three (3) 15' engineered vegetative filter strips. Construction plans are provided in the Exhibits section of the report for reference. All PBMPs have been designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.*

**ATTACHMENT N**

**KINDER RANCH AGI, UNIT-3  
Permanent Pollution Abatement Measures**

**PERMANENT POLLUTION ABATEMENT MEASURES  
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES**

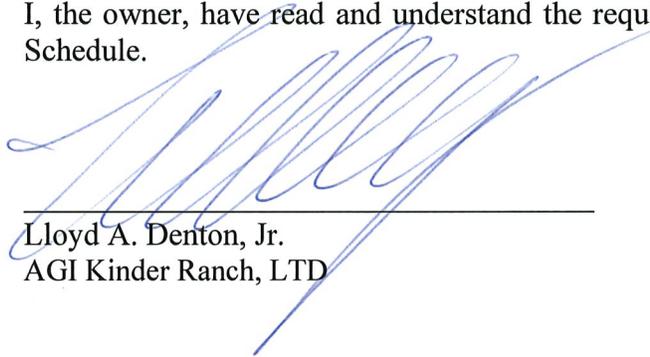
This document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abatement measures. Maintenance measures to be performed will be dependent on what permanent pollution abatement measures are incorporated into the project. The project specific water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated into a project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions but may not be altered without TCEQ approval.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

I understand that I am responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

  
\_\_\_\_\_  
Lloyd A. Denton, Jr.  
AGI Kinder Ranch, LTD

9-1-20  
\_\_\_\_\_  
Date

# KINDER RANCH AGI, UNIT-3

## Permanent Pollution Abatement Measures

### INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
After Rainfall										√				
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√	√

*\*At least one biannual inspection must occur during or immediately after a rainfall event.*

*√Indicates maintenance procedure that applies to this specific site*

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather related conditions but may not be altered without TCEQ approval.

*A written record should be kept of inspection results and maintenance performed.*

<u>Task No. &amp; Description</u>	<u>Included in this project</u>	
1. Check Depth of Vegetation	Yes	<del>No</del>
2. Check Depth of Silt Deposit in Basin	Yes	<del>No</del>
3. Removal of Debris and Trash	Yes	<del>No</del>
4. Cut-off Valve	Yes	<del>No</del>
5. Inlet Splash Pad	Yes	<del>No</del>
6. Underdrain System	Yes	<del>No</del>
7. Structural Integrity	Yes	<del>No</del>
8. Discharge Pipe	Yes	<del>No</del>
9. Drawdown Time	Yes	<del>No</del>
10. Vegetated Filter Strips	Yes	<del>No</del>
11. For Pump Stations	<del>Yes</del>	No
12. For Pump Stations	<del>Yes</del>	No
13. For Pump Stations	<del>Yes</del>	No
14. Visually Inspect Security Fencing for Damage or Breach	Yes	<del>No</del>
15. Recordkeeping Procedures for Inspections, Maintenance, Repairs, and Retrofits	Yes	<del>No</del>

# KINDER RANCH AGI, UNIT-3

## Permanent Pollution Abatement Measures

### MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

**Note:** Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.

1. Check Depth of Vegetation. Vegetation in the basin shall not exceed 18-inches in depth. When vegetation needs to be cut, it shall be cut to an approximately 4-inch height. *A written record will be kept of inspection results and maintenance performed.*
2. Check Depth of Silt Deposit in Basin. Top of cleanouts shall be set 4-inches above sand layer. When silt has accumulated to top of cleanouts, the silt shall be removed. The top two (2) inches of the sand media shall also be removed and replaced with clean silica-based washed sand meeting ASTM C33 specifications [0.0165 inch (#40 sieve) to 0.0469 inch (#16 sieve)]. Silt/sediment shall be cleared from the inlet structure at least every year and from the basin at least every five (5) years. Any sand discolored as a result of apparent impact by petroleum hydrocarbon or hazardous materials should also be removed and replace. *A written record will be kept of inspection results and maintenance performed.*
3. Removal of Debris and Trash. The basin and inlet structure shall be checked for the accumulation of debris and trash such as brush, limbs, leaves, paper cups, aluminum cans, plastic bottles etc. Accumulated trash and debris shall be raked or collected from the basin and inlet structure and disposed of properly. *A written record will be kept of inspection results and maintenance performed.*
4. Cut-off Valve. The cut-off valve shall be turned to confirm full opening and full closure. Prior to operating the valve, the valve setting shall be checked to determine the position to which the valve is to be returned (which should limit drawdown time of the basin between 24-hours and 48-hours). Count should be kept of number of turns to open and close the valve so that the valve can be reset to the starting position. Defects in the operation of the cut-off valve shall be corrected within 7 working days. *A written record will be kept of inspection results and maintenance performed.*

## KINDER RANCH AGI, UNIT-3 Permanent Pollution Abatement Measures

5. Inlet Splash Pad. The filter area around the inlet splash pad shall be checked for erosion and for the condition of the rock rubble. Erosion or disturbance of the rock rubble should be corrected by removing the rock rubble, restoring missing sand media to appropriate depth and replacement of the rock rubble. If the condition persists in subsequent inspections, the size of the rock rubble should be increased. Rubble should be placed to a density that minimizes the amount of exposed sand between the rock rubble. Deficiencies should be corrected within seven working days. *A written record will be kept of inspection results and maintenance performed.*
  
6. Underdrain System. The underdrain system shall be visually inspected for the accumulation of silt in the pipe system. The pipe clean-outs shall have the caps removed and visually inspected for accumulation of silt deposits. If silt deposits appear to have accumulated so as to significantly reduce the drain capacity of the pipes then maintenance shall be performed. When silt deposits have accumulated to the stage described above, the clean-outs and drainpipes can be flushed with a high-pressure water flushing process. Clean-out caps must be replaced onto the clean-outs after maintenance so as to avoid the possibility of short circuiting the filtering process. Sediment accumulation at outlet pipe or in wet well due to flushing shall be removed and disposed of properly. *A written record will be kept of inspection results and maintenance performed.*
  
7. Structural Integrity. In addition to Items 1 through 6, the following are measures which should be reviewed during a check of structural integrity:
  - Observe the height of the confining berm for visible signs of erosion or potential breach. Signs of erosion should be identified and repaired immediately. Corrective measures include but are not limited to addition of topsoil or appropriate soil material so as to restore the original berm height of the sand filter basin. Restored areas shall be protected through placement of solid block sod.
  - Sand filter media will be inspected for signs of erosion. If erosion is identified, the area will be repaired by adding additional sand.

## KINDER RANCH AGI, UNIT-3

### Permanent Pollution Abatement Measures

- Bypass of filter process. This condition can manifest itself in several ways. One way is by visually inspecting the clean-outs for accumulation of silt as described in Item 6. Significant accumulations of silt could be a sign of a torn filter fabric. Observations should be made over several inspection cycles to determine whether the condition persists. A second non-intrusive way of making observations for structural condition would be to visually look for collapsed or depressed areas along the edge of the filter media interface with basin side slope. If condition exists, corrective action should be performed within 15 working days. Removal of sand and replacement of filter fabric and/or pipe and gravel may be necessary. *A written record should be kept of inspection results and corrective measures taken.*
8. Discharge Pipe. The basin discharge pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished. *A written record should be kept of inspection results and corrective measures taken.*
9. Drawdown Time. This characteristic can be a sign of the need for maintenance. The minimum drawdown time is 24 hours. If drawdown time is less than 24 hours, the gate valve shall be checked and partially closed to limit the drawdown time. Extensive drawdown time greater than 48 hours may indicate blockage of the sand media, the underdrain system and/or the discharge pipe. Corrective actions should be performed and completed within 15 working days. *A written record of the inspection findings and corrective actions performed should be made.*

## KINDER RANCH AGI, UNIT-3 Permanent Pollution Abatement Measures

10. Vegetated Filter Strips. Vegetation height for native grasses shall be limited to no more than 18-inches. When vegetation exceeds that height, the filter strip shall be cut to a height of approximately 4 inches. Turf grass shall be limited to a height of 4-inches with regular maintenance that utilizes a mulching mower. Trash and debris shall be removed from filter strip prior to cutting. Check filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading and placement of solid block sod over the affected area. *A written record of the inspection findings and corrective actions performed should be made.*
11. For Pump Stations. Check wet well discharge pipe to confirm flow through the pump system. If flow is not present, allow sufficient time for pump to cycle on and off. If flow does not occur, the wet well should be checked for the level of water. The wet well should be opened and the on/off float switches should be moved up and down to activate the pump. If the pump does not start, a repair technician shall be called in to repair the malfunction within 5 working days. *A written record of the inspection findings and corrective actions performed should be made.*
12. For Pump Stations. Check the wet well for accumulation for trash, debris and silt. Trash and debris shall be removed and disposed of properly. Silt depth can be checked by probing the bottom of the wet well with a stick or PVC pipe. Silt accumulations should be removed when silt collects to a depth of three (3) inches over the entire wet well bottom. Silt can be removed by vacuum pump method. If silt buildup continues, underdrain system shall be inspected. *A written record will be kept of inspection results and maintenance performed.*
13. For Pump Stations. Visually check aboveground pump wiring and connections for damage. Damaged or loose connections should be repaired within 5 working days. *A written record will be kept of inspection results and maintenance performed.*

## KINDER RANCH AGI, UNIT-3 Permanent Pollution Abatement Measures

14. Visually Inspect Security Fencing for Damage or Breach. Check maintenance access gates for proper operation. Damage to fencing or gates shall be repaired within 5 working days. *A written record will be kept of inspection results and maintenance performed.*
15. Recordkeeping Procedures for Inspections, Maintenance, Repairs, and Retrofits.
- Written records shall be kept by the party responsible for maintenance or a designated representative.
  - Written records shall be retained for a minimum of five years.

**ATTACHMENT P**

KINDER RANCH AGI, UNIT-3  
Contributing Zone Plan Application (TCEQ-10257)

Attachment P – Measures for Minimizing Surface Stream Contamination

*Where erosive velocities exist at drain discharge points energy dissipaters will be constructed to reduce the potential for erosion.*

**MODIFICATION TO A  
CONTRIBUTING ZONE  
PLAN**

# 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: Caleb Chance, P.E.

Date: 9/24/2020

Signature of Customer/Agent:



## Project Information

1. Current Regulated Entity Name: Kinder Ranch AGI, Unit-3  
Original Regulated Entity Name: Kinder Ranch AGI, Unit-3  
Assigned Regulated Entity Number(s) (RN): 105247993  
Edwards Aquifer Protection Program ID Number(s): 13000622  
 The applicant has not changed and the Customer Number (CN) is: 604081448  
 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.

<b><i>CZP Modification</i></b>	<b><i>Approved Project</i></b>	<b><i>Proposed Modification</i></b>
<b><i>Summary</i></b>		
Acres	<u>16.18</u>	<u>53.42</u>
Type of Development	<u>Single-family residential</u>	<u>Single-family residential</u>
Number of Residential Lots	<u>37.5</u>	<u>166.5 total (129 proposed)</u>
Impervious Cover (acres)	<u>5.79</u>	<u>26.68</u>
Impervious Cover (%)	<u>35.78%</u>	<u>49.94%</u>
Permanent BMPs	<u>Interim VFS</u>	<u>(2) Water Quality Basins,</u>
Other	_____	<u>(3) VFS</u>

<b><i>AST Modification</i></b>	<b><i>Approved Project</i></b>	<b><i>Proposed Modification</i></b>
<b><i>Summary</i></b>		
Number of ASTs	_____	_____
Other	_____	_____

<b><i>UST Modification</i></b>	<b><i>Approved Project</i></b>	<b><i>Proposed Modification</i></b>
<b><i>Summary</i></b>		
Number of USTs	_____	_____
Other	_____	_____

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 Project.** 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.

**ATTACHMENT A**

Bryan W. Shaw, Ph.D., P.E., *Chairman*  
Toby Baker, *Commissioner*  
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Stephanie Bergeron Perdue, *Interim Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

June 20, 2018

Mr. Lloyd A. Denton, Jr.  
AGI Kinder Ranch, LTD  
11 Lynn Batts Lane, Suite 100  
San Antonio, Texas 78218-3077

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: Kinder Ranch AGI Unit 3; Located on the south side of Kinder Parkway approximately 1 mile west of its intersection with Bulverde Road; ETJ of San Antonio, Texas

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

Regulated Entity No. RN105247993; Additional ID No. 13000622

Dear Mr. Denton:

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 Pape-Dawson Engineers, Inc. on behalf of AGI Kinder Ranch, LTD on February 21, 2018. Final review of the CZP was completed after additional material was received on April 9, 2018, April 27, 2018, May 4, 2018, May 25, 2018, and June 11, 2018. 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 original Kinder Parkway Segment 1 CZP was approved by letter dated September 12, 2007 and had a site area of 28.09 acres. The project included the construction of 28 single-family residential lots and a public roadway. The impervious cover was approved to be 9.75 acres (34.71 percent). One sedimentation/filtration basin was approved to treat stormwater generated by the project.

### PROJECT DESCRIPTION

The proposed residential project will have a site area of approximately 16.18 acres. It will alter the drainage of three of the previously approved residential lots. The project will include clearing, grading, excavation, construction of 37.5 single family home lots, streets, driveways, sidewalks, drainage improvements, and associated utilities. The impervious cover will be 5.79 acres (35.78 percent). Project wastewater will be disposed of by conveyance to the existing Dos Rios Water Recycling Center owned by the San Antonio River Authority.

### INTERIM AND PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one existing partial sedimentation/filtration basin, one existing interim vegetative filter strip (VFS), and one proposed interim VFS, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized and established to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 4,725 pounds of TSS generated from the 5.79 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The existing partial sedimentation/filtration basin is designed with a water quality storage volume of 40,163 cubic feet (35,648 cubic feet required) and a sand filtration area of 5,096 square feet (3,564 square feet required). The basin has been designed with a 4-inch perforated PVC underdrain system that will be covered with a minimum 6-inch gravel layer. Geotextile fabric will be placed over the gravel layer and topped with a minimum of 18 inches of sand (ASTM C-33 compliant). The basin has been designed to remove 6,561 pounds of TSS, which includes 604 pounds generated by 0.74 acres of impervious cover being directed through the basin with this project.

The existing interim VFS is equipped with a clay level spreader weir. The interim VFS is designed to remove 6,226 pounds of TSS, which includes 98 pounds generated by 0.12 acres of impervious cover being directed to the VFS with this project.

The proposed interim VFS will be equipped with a clay level spreader weir. The treatment area will have no gullies, rills, or obstructions that will concentrate flow and will maintain a vegetated cover of at least 80 percent. The interim VFS is designed to remove 4,023 pounds of TSS generated 4.93 acres of impervious cover being directed through it.

### 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. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated September 12, 2007.
- III. The proposed interim and permanent pollution abatement measure shall be operational prior to first occupancy of any home within the home's respective watershed.
- IV. The application proposes to establish an interim vegetative filter strip for watershed "A" (24.65 acres) to remove 4,022.88 pounds of TSS generated by the 4.93 acres (20 percent) of impervious

cover. If the percent of impervious cover within watershed "A" ever exceeds 20 percent, a CZP modification application that replaces the interim VFS with a permanent BMP is required prior to constructing any additional impervious cover within the watershed. The application must be submitted with necessary information so that the plan meets requirements for approval.

- V. The application proposes to utilize an existing interim vegetative filter strip for watershed "C" (38.15 acres) to remove 98 pounds of TSS generated by 0.12 acres of new impervious cover associated with the current project. The new total impervious cover within the watershed "C" is 7.63 acres (20 percent). If the percent of impervious cover within watershed "C" ever exceeds 20 percent, a CZP modification application that replaces the interim VFS with a permanent BMP is required prior to constructing any additional impervious cover within the watershed. The application must be submitted with necessary information so that the plan meets requirements for approval.
- VI. The application proposes to utilize an existing partial sedimentation/filtration basin, approved by letter dated December 16, 2013 (RN106409378, 13-13083001), and an existing interim VFS, approved by letter dated November 28, 2016 (RN106409378; 13000230) for treatment. Supplemental documentation updating the aforementioned CZPs must be submitted to account for the utilized treatment capacity of the basin and the additional treatment load being removed from the interim VFS. The updates must be submitted to the San Antonio Region Office with 90 days from the date of this letter.

#### 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:

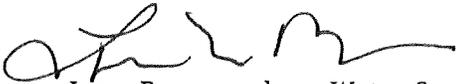
14. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the 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,



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

LB/JV/eg

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

cc: Mr. Rick Wood, P.E., Pape-Dawson Engineers, Inc.  
Ms. Renee Green, P.E., Bexar County Public Works  
Mr. George Wissmann, Trinity Glen Rose Groundwater Conservation District  
Mr. Scott Halty, San Antonio Water System  
Mr. Roland Ruiz, Edwards Aquifer Authority

**ATTACHMENT B**

# KINDER RANCH AGI, UNIT-3 Modification of a Previously Approved Plan (TCEQ-0590)

## Attachment B –Modification Summary

*The Kinder Ranch AGI, Unit-3 Contributing Zone Plan Modification I (CZP MOD I) proposes the construction of two (2) additional single-family residential units and increases the project limits from 16.18 acres to 53.42 acres. The project site is located outside the city limits of San Antonio, but within its extraterritorial jurisdiction in Bexar County, Texas. The entire site is located over the Edwards Aquifer Contributing Zone.*

*The Texas Commission on Environmental Quality (TCEQ) approved the Kinder Ranch AGI, Unit-3 Contributing Zone Plan (CZP) on June 20, 2018 (Additional ID No. 13000622). This permit approved the construction of utilities, drainage improvements, streets, sidewalks, driveways, and 37.5 residential seventy-foot (70') home lots, with and an existing water quality basin (13-13083001), one (1) interim vegetative filter strip and one (1) spreader berm as Permanent Best Management Practices (PBMPs). The total impervious cover proposed was 5.79 acres, or 35.78% of the 16.18 acre site. The approved Kinder Ranch AGI, Unit-3 Contributing Zone Plan also included a modification to the Kinder Parkway, Segment I (Additional ID No. 2682.00) CZP, as 0.39 acres were removed from the Kinder Parkway project limits for grading purposes. This acreage, which included 0.20 acres of impervious cover, was included in the approved Kinder Ranch AGI, Unit-3 CZP.*

*This CZP Modification proposes clearing, grading, construction of three (3) 15' engineered vegetative filter strips and two (2) batch detention water quality basins, excavation, installation of utilities, drainage improvements, and construction of streets, sidewalks, and homes with associated driveways. There are 129 single-family residential lots proposed for construction with the additional single-family residential units for a total of 166.5 lots overall. All proposed 129 homes will be seventy-foot (70') home lots averaging 4,800 SF of impervious cover per lot. This impervious cover figure includes house pad, driveway, and concrete patio. Approximately 20.89 additional acres of impervious cover are proposed with this modification, for a total of 26.68 acres or 49.94% of the 53.42-acre site.*

*Approximately 13.32 acres of proposed impervious cover and 4.93 acres of previously approved impervious cover will be directly treated by the Water Quality Basin "B" proposed with this modification, for a total of 18.25 acres of impervious cover. Additionally, approximately 0.22 acres of proposed impervious cover will be overtreated for in Basin "B." Approximately 6.47 acres of proposed impervious cover will be treated by the Water Quality Basin "C" proposed with this modification. The Water Quality Basins proposed with this modification will be Batch Detention Basins with a removal efficiency of 91% as assigned by TCEQ. Three (3) 15' wide engineered vegetative filter strips (VFS) will provide treatment for a total of 0.88 acres of proposed impervious cover. Approximately 0.74 acres of previously approved impervious cover will be treated by existing water quality basin "A" (13-13083001), and approximately 0.12 acres of previously approved impervious cover will be treated by the existing interim VFS (13000320). Please see the Treatment Summary table for more details. The drainage areas for the project have been revised to accommodate the additional single family units being built. As a result, the previously approved spreader berm and interim VFS*

**KINDER RANCH AGI, UNIT-3  
Modification of a Previously Approved Plan (TCEQ-0590)**

*is being removed and the impervious cover previously treated by this interim VFS will be routed to and treated by the proposed batch detention basin "B".*

*All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality (TCEQ's) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.*

*Since this project is located entirely over the Edwards Aquifer Contributing Zone, a Geological Assessment was not conducted and is not required by 30 TAC 213 regulations. Therefore, no naturally-occurring sensitive features are known to exist on the site.*

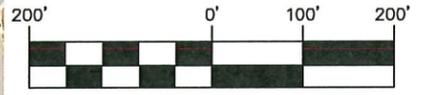
*Potable water will be supplied by the San Antonio Water System (SAWS). The proposed development will generate approximately 33,300 gallons per day (average flow) of domestic wastewater. Wastewater will be disposed of by conveyance to the existing Dos Rios Water Recycling Center operated by SAWS.*

**ATTACHMENT C**

Date: Sep 18, 2020, 8:54am User ID: CClements  
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SCALE: 1" = 200'



**KINDER RANCH AGI, UNIT-3 (ENCLAVE)**

SAN ANTONIO, TEXAS  
EXISTING CONDITIONS EXHIBIT

JOB NO. 7902-87  
DATE AUG 2020  
DESIGNER CC  
CHECKED AL  
DRAWN CC  
SHEET 1 of 1



SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #1002800

**TEMPORARY  
STORMWATER  
SECTION**

# Temporary Stormwater Section

## Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: Caleb Chance, P.E.

Date: 9/24/2020

Signature of Customer/Agent:



Regulated Entity Name: Kinder Ranch AGI, Unit-3

## 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: located within the construction staging area in compliance with 30TAC§213.

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.

**ATTACHMENT A**

# KINDER RANCH AGI, UNIT-3

## Temporary Stormwater Section (TCEQ-0602)

### Spill Response Actions

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - 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.

## KINDER RANCH AGI, UNIT-3 Temporary Stormwater Section (TCEQ-0602)

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
  - Notification should first be made by telephone and followed up with a written report.
  - 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.
  - Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.
- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

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

**ATTACHMENT B**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

Attachment B – Potential Sources of Contamination

*Other potential sources of contamination during construction include:*

- Potential Source:*                      • *Asphalt products used on this project.*
- Preventative Measure:*                • *After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.*
- Potential Source:*                      • *Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.*
- Preventative Measure:*                • *Vehicle maintenance when possible will be performed within the construction staging area.*  
    • *Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.*
- Potential Source:*                      • *Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.*
- Preventative Measure:*                • *Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*  
    • *Contractor’s superintendent or representative overseer shall enforce proper spill prevention and control measures.*  
    • *Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*  
    • *A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*
- Potential Source:*                      • *Miscellaneous trash and litter from construction workers and material wrappings.*

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

*Preventive Measure:*           •*Trash containers will be placed throughout the site to encourage proper trash disposal.*

*Potential Source:*           •*Construction debris.*

*Preventive Measure:*           •*Construction debris will be monitored daily by contractor.*  
•*Debris will be collected weekly and placed in disposal bins.*  
•*Situations requiring immediate attention will be addressed on a case by case basis.*

*Potential Source:*           •*Spills/Overflow of waste from portable toilets*

*Preventative Measure:*           •*Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.*  
•*Portable toilets will be placed on a level ground surface.*  
•*Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.*

**ATTACHMENT C**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

Attachment C – Sequence of Major Activities

*The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 53.42 acres. The second is construction that will include two (2) water quality basins, construction of new pavement areas, site infrastructure, roads, landscaping, three (3) fifteen-foot (15') VFS and site cleanup. Home site construction will be based on market demand and may not be concurrent with infrastructure developments. In total this will disturb approximately 53.42 acres.*

**ATTACHMENT D**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

**Attachment D – Temporary Best Management Practices and Measures**

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

*No upgradient stormwater will be flowing onto the site.*

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

*Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of rock berms with silt fencing downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (4) installation of construction staging area(s).*

*Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures as construction phasing warrants that include installation of the concrete truck washout pit(s) and placement of gravel filter bags for use in inlet protection and to prevent sediment migration off-site.*

*Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.*

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

*As this site is entirely over the Edwards Aquifer Contributing Zone, a Geologic Assessment was not conducted and is not required; therefore, no sensitive features were identified. There are no surface streams on or immediately adjacent to the site.*

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

*Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.*

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

*Since the project is located entirely over the Edwards Contributing Zone, a Geologic Assessment was not conducted and is not required by 30 TAC 213 regulations. Therefore, no naturally-occurring sensitive features are known to exist on the site. 30 TAC 213(f)(2) only applies to projects over the Edwards Recharge Zone.*

**ATTACHMENT F**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

Attachment F – Structural Practices

*The following structural measures will be installed prior to the initiation of site preparation activities:*

- *Erection of silt fences and gravel filter bags along the downgradient boundary of construction activities, as located on Exhibit 1 and illustrated in Exhibit 2.*
- *Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.*
- *Installation of grate inlet protection, as located on Exhibit 1, and illustrated on Exhibit 2.*

*The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:*

- *Installation of concrete truck washout pit(s), as required and located on Exhibit 1 and illustrated on Exhibit 2.*

**ATTACHMENT G**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

Attachment G – Drainage Area Map

*No more than ten (10) acres will be disturbed within a common drainage area at one time, as construction of civil infrastructure (utilities, roads, drainage, etc.) will precede home construction. Homes will be constructed as the market warrants. All TBMPs utilized are adequate for the drainage areas served.*

**ATTACHMENT I**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

**Attachment I – Inspection and Maintenance for BMPs**

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

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable.

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

KINDER RANCH AGI, UNIT-3  
 Temporary Stormwater Section (TCEQ-0602)

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
<b>General</b>			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
<b>Infrastructure</b>			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
<b>Building</b>			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

*\*Indicate N/A where measure does not apply.*

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

\_\_\_\_\_  
 Inspector's Name

\_\_\_\_\_  
 Inspector's Signature

\_\_\_\_\_  
 Name of Owner/Operator (Firm)

\_\_\_\_\_  
 Date

*Note: Inspector is to attach a brief statement of his qualifications to this report.*

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

**PROJECT MILESTONE DATES**

Date when major site grading activities begin:

<u>Construction Activity</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

<u>Construction Activity</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Dates when stabilization measures are initiated:

<u>Stabilization Activity</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**ATTACHMENT J**

KINDER RANCH AGI, UNIT-3  
Temporary Stormwater Section (TCEQ-0602)

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

*Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are all acceptable practices.*

*Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site has temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.*

**COPY OF  
NOTICE OF  
INTENT (NOI)**



# Notice of Intent (NOI) for an Authorization for Stormwater Discharges Associated with Construction Activity under TPDES General Permit TXR150000

## IMPORTANT INFORMATION

Please read and use the General Information and Instructions prior to filling out each question in the NOI form.

Use the NOI Checklist to ensure all required information is completed correctly.  
**Incomplete applications delay approval or result in automatic denial.**

Once processed your permit authorization can be viewed by entering the following link into your internet browser: [http://www2.tceq.texas.gov/wq\\_dpa/index.cfm](http://www2.tceq.texas.gov/wq_dpa/index.cfm) or you can contact TCEQ Stormwater Processing Center at 512-239-3700.

## ePERMITS

**Effective September 1, 2018, this paper form must be submitted to TCEQ with a completed electronic reporting waiver form (TCEQ-20754).**

To submit an NOI electronically, enter the following web address into your internet browser and follow the instructions: <https://www3.tceq.texas.gov/steers/index.cfm>

## APPLICATION FEE AND PAYMENT

The application fee for submitting a paper NOI is \$325. The application fee for electronic submittal of a NOI through the TCEQ ePermits system (STEERS) is \$225.

Payment of the application fee can be submitted by mail or through the TCEQ ePay system. The payment and the NOI must be mailed to separate addresses. To access the TCEQ ePay system enter the following web address into your internet browser:  
<http://www.tceq.texas.gov/epay>.

Provide your payment information for verification of payment:

- If payment was mailed to TCEQ, provide the following:
  - Check/Money Order Number: [REDACTED]
  - Name printed on Check: [REDACTED]
- If payment was made via ePay, provide the following:
  - Voucher Number: [REDACTED]
  - A copy of the payment voucher is attached to this paper NOI form.

**RENEWAL** (This portion of the NOI is not applicable after June 3, 2018)

Is this NOI for a renewal of an existing authorization?  Yes  No

If Yes, provide the authorization number here: TXR15

NOTE: If an authorization number is not provided, a new number will be assigned.

**SECTION 1. OPERATOR (APPLICANT)**

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN 604081448

(Refer to Section 1.a) of the Instructions)

b) What is the Legal Name of the entity (applicant) applying for this permit? (The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

AGI Kinder Ranch, Ltd.

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Lloyd A. Denton Suffix: Jr.

Title: President Credentials:

Phone Number: (210) 828-6131 Fax Number:

E-mail: laddiedenton@bitterblue.com

Mailing Address: 11 Lynn Batts Lane Suite 100

City, State, and Zip Code: San Antonio, TX 78218

Mailing Information if outside USA:

Territory:

Country Code:

Postal Code:

d) Indicate the type of customer:

Individual

Federal Government

Limited Partnership

County Government

General Partnership

State Government

Trust

City Government

Sole Proprietorship (D.B.A.)

Other Government

Corporation

Other:

Estate

e) Is the applicant an independent operator?  Yes  No





Yes

No. The total number of acres disturbed, provided in e) above, must be 5 or more. If the total number of acres disturbed is less than 5, do not submit this form. See the requirements in the general permit for small construction sites.

g) What is the estimated start date of the project? November 15, 2020

h) What is the estimated end date of the project? November 15, 2021

i) Will concrete truck washout be performed at the site?  Yes  No

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Cibolo Creek

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1908

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

Yes  No

If Yes, provide the name of the MS4 operator: SAWS

Note: The general permit requires you to send a copy of this NOI form to the MS4 operator.

m) Is the discharge or potential discharge from the site within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?

Yes, complete the certification below.

No, go to Section 5

I certify that the copy of the TCEQ-approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) that is included or referenced in the Stormwater Pollution Prevention Plan will be implemented.  Yes

## SECTION 5. NOI CERTIFICATION

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000).  Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.  Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed.  Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the Construction General Permit (TXR150000).  Yes

Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3, provided all obligations are confirmed by at least one operator.

**SECTION 6. APPLICANT CERTIFICATION SIGNATURE**

Operator Signatory Name: \_\_\_\_\_

Operator Signatory Title: \_\_\_\_\_

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink): \_\_\_\_\_ Date: \_\_\_\_\_

## NOTICE OF INTENT CHECKLIST (TXR150000)

Did you complete everything? Use this checklist to be sure!

Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

Confirm each item (or applicable item) in this form is complete. This checklist is for use by the applicant to ensure a complete application is being submitted. **Missing information may result in denial of coverage under the general permit.** (See NOI process description in the General Information and Instructions.)

### APPLICATION FEE

If paying by check:

- Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)
- Check number and name on check is provided in this application.

If using ePay:

- The voucher number is provided in this application and a copy of the voucher is attached.

### RENEWAL

- If this application is for renewal of an existing authorization, the authorization number is provided.

### OPERATOR INFORMATION

- Customer Number (CN) issued by TCEQ Central Registry
- Legal name as filed to do business in Texas. (Call TX SOS 512-463-5555 to verify.)
- Name and title of responsible authority signing the application.
- Phone number and e-mail address
- Mailing address is complete & verifiable with USPS. [www.usps.com](http://www.usps.com)
- Type of operator (entity type). Is applicant an independent operator?
- Number of employees.
- For corporations or limited partnerships - Tax ID and SOS filing numbers.
- Application contact and address is complete & verifiable with USPS.  
<http://www.usps.com>

### REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

- Regulated Entity Number (RN) (if site is already regulated by TCEQ)
- Site/project name and construction activity description
- County
- Latitude and longitude <http://www.tceq.texas.gov/gis/sqmaview.html>

- Site Address/Location. Do not use a rural route or post office box.

#### GENERAL CHARACTERISTICS

- Indian Country Lands -the facility is not on Indian Country Lands.
- Construction activity related to facility associated to oil, gas, or geothermal resources
- Primary SIC Code that best describes the construction activity being conducted at the site. [www.osha.gov/oshstats/sicser.html](http://www.osha.gov/oshstats/sicser.html)
- Estimated starting and ending dates of the project.
- Confirmation of concrete truck washout.
- Acres disturbed is provided and qualifies for coverage through a NOI.
- Common plan of development or sale.
- Receiving water body or water bodies.
- Segment number or numbers.
- MS4 operator.
- Edwards Aquifer rule.

#### CERTIFICATION

- Certification statements have been checked indicating Yes.
- Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original.

# Instructions for Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

## GENERAL INFORMATION

### Where to Send the Notice of Intent (NOI):

By Regular Mail:

TCEQ  
Stormwater Processing Center (MC228)  
P.O. Box 13087  
Austin, Texas 78711-3087

By Overnight or Express Mail:

TCEQ  
Stormwater Processing Center (MC228)  
12100 Park 35 Circle  
Austin, TX

### Application Fee:

The application fee of \$325 is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit. Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

### Mailed Payments:

Use the attached General Permit Payment Submittal Form. The application fee is submitted to a different address than the NOI. Read the General Permit Payment Submittal Form for further instructions, including the address to send the payment.

**ePAY Electronic Payment:** <http://www.tceq.texas.gov/epay>

When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

### TCEQ Contact List:

Application - status and form questions:	512-239-3700,
swpermit@tceq.texas.gov Technical questions:	512-239-4671, swgp@tceq.texas.gov
Environmental Law Division:	512-239-0600
Records Management - obtain copies of forms:	512-239-0900
Reports from databases (as available):	512-239-DATA (3282)
Cashier's office:	512-239-0357 or 512-239-0187

### Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

- **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(es) on the form must be verified with the US Postal service as receiving regular mail delivery. Do not give an overnight/express mailing address.

- **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.
- **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

or

**Denial of Coverage:** If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

### General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site <http://www.tceq.texas.gov>. Search using keyword TXR150000.

### Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated project or site changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

### TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number, if one has not already been assigned to this customer or site.

For existing customers and sites, you can find the Customer Number and Regulated Entity Number by entering the following web address into your internet browser:

<http://www15.tceq.texas.gov/crpub/> or you can contact the TCEQ Stormwater Processing Center at 512-239-3700 for assistance. On the website, you can search by your permit number, the Regulated Entity (RN) number, or the Customer Number (CN). If you do not know these numbers, you can select "Advanced Search" to search by permittee name, site address, etc.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For this permit, a Notice of Change form must be submitted to the program area.

### INSTRUCTIONS FOR FILLING OUT THE NOI FORM

**Renewal of General Permit.** Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit

number is required. If the permit number is not provided or has been terminated, expired, or denied, a new permit number will be issued.

## Section 1. OPERATOR (APPLICANT)

### a) Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.**

If the applicant is an existing TCEQ customer, the Customer Number is available at the following website: <http://www15.tceq.texas.gov/crpub/>. If the applicant is not an existing TCEQ customer, leave the space for CN blank.

### b) Legal Name of Applicant

Provide the current legal name of the applicant. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, as filed in the county. You may contact the SOS at 512-463-5555, for more information related to filing in Texas. If filed in the county, provide a copy of the legal documents showing the legal name.

### c) Contact Information for the Applicant (Responsible Authority)

Provide information for the person signing the application in the Certification section. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The mailing address must be recognized by the US Postal Service. You may verify the address on the following website: <https://tools.usps.com/go/ZipLookupAction!input.action>.

The phone number should provide contact to the applicant.

The fax number and e-mail address are optional and should correspond to the applicant.

### d) Type of Customer (Entity Type)

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for an authorization.

#### **Individual**

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

#### **Partnership**

A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). If the customer is a 'General Partnership' or 'Joint Venture' filed in the county (not filed with TX SOS), the legal name of each partner forming the 'General Partnership' or 'Joint Venture' must be provided. Each 'legal entity' must apply as a co-applicant.

#### **Trust or Estate**

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

### **Sole Proprietorship (DBA)**

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

1. be under the person's name
2. have its own name (doing business as or DBA)
3. have any number of employees.

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

### **Corporation**

A customer that meets all of these conditions:

1. is a legally incorporated entity under the laws of any state or country
2. is recognized as a corporation by the Texas Secretary of State
3. has proper operating authority to operate in Texas

The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

### **Government**

Federal, state, county, or city government (as appropriate)

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the applicant. A department name or other description of the organization is not recognized as the 'legal name'.

### **Other**

This may include a utility district, water district, tribal government, college district, council of governments, or river authority. Provide the specific type of government.

#### **e) Independent Entity**

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

#### **f) Number of Employees**

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

#### **g) Customer Business Tax and Filing Numbers**

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

**State Franchise Tax ID Number**

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter the Tax ID number.

#### **Federal Tax ID**

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

#### **TX SOS Charter (filing) Number**

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512-463-5555.

#### **DUNS Number**

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

### **Section 2. APPLICATION CONTACT**

Provide the name and contact information for the person that TCEQ can contact for additional information regarding this application.

### **Section 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE**

#### **a) Regulated Entity Number (RN)**

The RN is issued by TCEQ's Central Registry to sites where an activity is regulated by TCEQ. This is not a permit number, registration number, or license number. Search TCEQ's Central Registry to see if the site has an assigned RN at <http://www15.tceq.texas.gov/crpub/>. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, an RN may already be assigned for the larger site. Use the RN assigned for the larger site.

If the site is found, provide the assigned RN and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

#### **b) Name of the Project or Site**

Provide the name of the site or project as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

**c) Description of Activity Regulated**

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

**d) County**

Provide the name of the county where the site or project is located. If the site or project is located in more than one county, provide the county names as secondary.

**e) Latitude and Longitude**

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to:

<http://www.tceq.texas.gov/gis/sqmaview.html>.

**f) Site Address/Location**

If a site has an address that includes a street number and street name, enter the complete address for the site in *Section A*. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street number and street name, provide a complete written location description in *Section B*. For example: "The site is located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1."

Provide the city (or nearest city) and zip code of the site location.

**Section 4. GENERAL CHARACTERISTICS**

**a) Indian Country Lands**

If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA Region 6, Dallas. Do not submit this form to TCEQ.

**b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources**

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas (RRC) and may need to obtain authorization from EPA Region 6.

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the RRC's jurisdiction must be authorized by the EPA and the RRC, as applicable. Activities under RRC jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the RRC; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The RRC also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the RRC. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the RRC prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

For more information about the jurisdictions of the RRC and the TCEQ, read the Memorandum of Understanding (MOU) between the RRC and TCEQ at 16 Texas Administrative Code, Part 1, Chapter 3, Rule 3.30, by entering the following link into an internet browser:

[http://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&ti=16&pt=1&ch=3&rl=30](http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30) or contact the TCEQ Stormwater Team at 512-239-4671 for additional information.

**c) Primary Standard Industrial Classification (SIC) Code**

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Buildings Other than Single Family Homes
- 1541 - Construction of Industrial Buildings and Warehouses
- 1542 - Construction of Non-residential Buildings, other than Industrial Buildings and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction

- 1623 – Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, enter the following link into your internet browser:

<http://www.osha.gov/pls/imis/sicsearch.html> or you can contact the TCEQ Small Business and Local Government Assistance Section at 800-447-2827 for assistance.

**d) Secondary SIC Code**

Secondary SIC Code(s) may be provided. Leave this blank if not applicable. For help with SIC Codes, enter the following link into your internet browser:

<http://www.osha.gov/pls/imis/sicsearch.html> or you can contact the TCEQ Small Business and Environmental Assistance Section at 800-447-2827 for assistance.

**e) Total Number of Acres Disturbed**

Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at 512-239-4671 or by email at [swgp@tceq.texas.gov](mailto:swgp@tceq.texas.gov).

**f) Common Plan of Development**

Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on what a common plan of development is, refer to the definition of “Common Plan of Development” in the Definitions section of the general permit or enter the following link into your internet browser:

[www.tceq.texas.gov/permitting/stormwater/common\\_plan\\_of\\_development\\_steps.html](http://www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html)

For further information, go to the TCEQ stormwater construction webpage enter the following link into your internet browser: [www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction) and search for “Additional Guidance and Quick Links”. If you have any further questions about the Common Plan of Development you can contact the TCEQ Stormwater Team at 512-239-4671 or the TCEQ Small Business and Environmental Assistance at 800-447-2827.

**g) Estimated Start Date of the Project**

This is the date that any construction activity or construction support activity is initiated at the site. If renewing the permit provide the original start date of when construction activity for this project began.

**h) Estimated End Date of the Project**

This is the date that any construction activity or construction support activity will end and final stabilization will be achieved at the site.

**i) Will concrete truck washout be performed at the site?**

Indicate if you expect that operators of concrete trucks will washout concrete trucks at the construction site.

**j) Identify the water body(s) receiving stormwater runoff**

The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

**k) Identify the segment number(s) of the classified water body(s)**

Identify the classified segment number(s) receiving a discharge directly or indirectly. Enter the following link into your internet browser to find the segment number of the classified water body where stormwater will flow from the site:

[www.tceq.texas.gov/waterquality/monitoring/viewer.html](http://www.tceq.texas.gov/waterquality/monitoring/viewer.html) or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

You may also find the segment number in TCEQ publication GI-316 by entering the following link into your internet browser: [www.tceq.texas.gov/publications/gi/gi-316](http://www.tceq.texas.gov/publications/gi/gi-316) or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at 512-239-4671 for further assistance.

**l) Discharge into MS4 - Identify the MS4 Operator**

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at 512-239-4671.

#### **m) Discharges to the Edwards Aquifer Recharge Zone and Certification**

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer by entering the following link into an internet browser: [www.tceq.texas.gov/field/eapp/viewer.html](http://www.tceq.texas.gov/field/eapp/viewer.html) or by contacting the TCEQ Water Quality Division at 512-239-4671 for assistance.

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site-specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

### **Section 5. NOI CERTIFICATION**

**Note: Failure to indicate Yes to all of the certification items may result in denial of coverage under the general permit.**

#### **a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)**

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. Electronic applications submitted through ePermits have immediate provisional coverage. You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site by entering the following link into an internet browser: [www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction) or you may contact the TCEQ Stormwater processing Center at 512-239-3700 for assistance.

#### **b) Certification of Legal Name**

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512-463 5555, for more information related to filing in Texas.

#### **c) Understanding of Notice of Termination**

A permittee shall terminate coverage under the Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

**d) Certification of Stormwater Pollution Prevention Plan**

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

**Section 6. APPLICANT CERTIFICATION SIGNATURE**

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

**If you are a corporation:**

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

**If you are a municipality or other government entity:**

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the TCEQ's Environmental Law Division at 512-239-0600.

## 30 Texas Administrative Code

### §305.44. Signatories to Applications

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the

corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

# Texas Commission on Environmental Quality General Permit Payment Submittal Form

**Use this form to submit your Application Fee only if you are mailing your payment.**

## Instructions:

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- *Do not mail this form with your NOI form.*
- *Do not mail this form to the same address as your NOI.*

## Mail this form and your check to either of the following:

### *By Regular U.S. Mail*

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
P.O. Box 13088  
Austin, TX 78711-3088

### *By Overnight or Express Mail*

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
12100 Park 35 Circle  
Austin, TX 78753

**Fee Code: GPA General Permit: TXR150000**

1. Check or Money Order No:
2. Amount of Check/Money Order:
3. Date of Check or Money Order:
4. Name on Check or Money Order:
5. NOI Information:

If the check is for more than one NOI, list each Project or Site (RE) Name and Physical Address exactly as provided on the NOI. **Do not submit a copy of the NOI with this form, as it could cause duplicate permit application entries!**

If there is not enough space on the form to list all of the projects or sites the authorization will cover, then attach a list of the additional sites.

Project/Site (RE) Name: Kinder Ranch AGI, Unit-3 (Enclave)

Project/Site (RE) Physical Address: Approx. 1.0 mile west of the Kinder Pkwy and Bulverde Rd. intersection, San Antonio, Texas 78260

**Staple the check or money order to this form in this space.**

**AGENT  
AUTHORIZATION  
FORM**



SIGNATURE PAGE:

[Handwritten Signature]  
Applicant's Signature

9-1-20  
Date

THE STATE OF Texas §  
County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Lloyd A Denton Jr 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 1 day of September, 2020

Maria C Trevino  
NOTARY PUBLIC  
Maria C Trevino  
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 8-5-18-24

**APPLICATION  
FEE  
FORM**

# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Kinder Ranch AGI, Unit-3

Regulated Entity Location: Approx 1.0 mile west of Kinder Pkwy & Bulverde Rd intersection

Name of Customer: AGI Kinder Ranch, LTD.

Contact Person: Lloyd A. Denton, Jr.

Phone: (210) 828-6131

Customer Reference Number (if issued): CN 604081448

Regulated Entity Reference Number (if issued): RN 105247993

### 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

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

12100 Park 35 Circle

Mail Code 214

Building A, 3rd Floor

P.O. Box 13088

Austin, TX 78753

Austin, TX 78711-3088

(512)239-0357

### Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
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	53.42 Acres	\$ 6,500
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature:  \_\_\_\_\_

Date: 9/24/2020

# 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***

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

### ***Organized Sewage Collection Systems and Modifications***

<b><i>Project</i></b>	<b><i>Cost per Linear Foot</i></b>	<b><i>Minimum Fee- Maximum Fee</i></b>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

### ***Underground and Aboveground Storage Tank System Facility Plans and Modifications***

<b><i>Project</i></b>	<b><i>Cost per Tank or Piping System</i></b>	<b><i>Minimum Fee- Maximum Fee</i></b>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

### ***Exception Requests***

<b><i>Project</i></b>	<b><i>Fee</i></b>
Exception Request	\$500

### ***Extension of Time Requests***

<b><i>Project</i></b>	<b><i>Fee</i></b>
Extension of Time Request	\$150

**CHECK  
PAYABLE TO  
TCEQ**

# CORE DATA FORM



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.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
2. Customer Reference Number (if issued)	3. Regulated Entity Reference Number (if issued)	
CN 604081448	RN 105247993	

[Follow this link to search for CN or RN numbers in Central Registry\\*\\*](#)

## SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)		
<input type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information		<input type="checkbox"/> Change in Regulated Entity Ownership
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)				
<b>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).</b>				
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)			If new Customer, enter previous Customer below:	
AGI Kinder Ranch, LTD.				
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)	
0801315279	32042593320	273524790		
11. Type of Customer:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?		
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following:				
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator				
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:				
15. Mailing Address:	11 Lynn Batts Lane			
	Suite 100			
	City	San Antonio	State	TX
	ZIP	78218	ZIP + 4	3077
16. Country Mailing Information (if outside USA)			17. E-Mail Address (if applicable)	
			laddiedenton@bitterblue.com	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)
(210) 828-6131				(210) 828 6137

## 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)	
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
<b>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.)</b>	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
Kinder Ranch AGI, Unit-3	

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

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Approximately 1.0 mile west of the intersection of Kinder Pkwy & Bulverde Road						
26. Nearest City	Bulverde				State	Nearest ZIP Code	
					Texas	78260	
27. Latitude (N) In Decimal:	29.721668			28. Longitude (W) In Decimal:	-98.463988		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29	43	18.0	98	27	50.4		
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	1623		236115		237110		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							
Construction of a single-family residential development							
34. Mailing Address:	11 Lynn Batts Lane						
	Suite 100						
	City	San Antonio	State	TX	ZIP	78218	ZIP + 4
35. E-Mail Address:	laddiedenton@bitterblue.com						
36. Telephone Number		37. Extension or Code			38. Fax Number (if applicable)		
(210)828-6131					( ) -		

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.

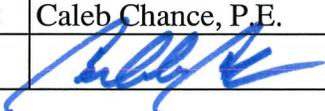
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

**SECTION IV: Preparer Information**

40. Name:	Catherine Clements, E.I.T.		41. Title:	Engineer II
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(210) 375-9000		(210) 375-9010	cclements@pape-dawson.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:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President
Name (In Print):	Caleb Chance, P.E.	Phone:	(210) 375 9000
Signature:		Date:	9/25/2020

**EXHIBITS**

# **POLLUTANT LOAD AND REMOVAL CALCULATIONS**

**Kinder Ranch AGI Unit-3: Treatment Summary**  
**Impervious Cover Summary by Watershed**

Watershed	Watershed Area (ac.)	Existing Impervious Cover from Lots (ac.)	Existing Impervious Cover from Roadways (ac.)	Proposed Impervious Cover from Lots (ac.)	Proposed Impervious Cover from Roadways (ac.)	Total Impervious Cover (ac.)	BMP	Total Annual TSS Generated (lbs)	Total TSS Removed (lbs)
A	32.73	0.00	0.00	12.45	5.80	18.25	Water Quality Basin "B" Existing Water Quality Basin "X" (13-13083001)	14892.00	18874.08
B	15.18	4.05	3.25	0.74	0.00	8.04	Existing Interim VFS (13002230)	6560.64	6560.64
C	38.15	4.10	3.41	0.05	0.07	7.63	Existing Interim VFS (13-13083001)	6226.08	6226.08
D	2.46	1.09	0.00	0.00	0.00	1.09	Existing 15' VFS (13-13083001)	889.44	889.44
E	1.43	0.79	0.00	0.00	0.00	0.79	Existing 15' VFS (13-13083001)	644.64	644.64
F	2.86	0.00	0.00	0.88	0.71	1.59	Water Quality Basin "C" Overreatment (Basin "B")	1297.44	1297.44
G	0.41	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
H	0.77	0.00	0.00	0.44	0.00	0.44	15' VFS	359.04	359.04
I	0.37	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
J	0.36	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
K	8.25	0.00	0.00	3.20	1.68	4.88	Water Quality Basin "C"	3882.08	3882.08
<b>TOTAL</b>	<b>87.790</b>	<b>10.030</b>	<b>6.560</b>	<b>18.420</b>	<b>8.260</b>	<b>43.370</b>	<b>--</b>	<b>35,389.92</b>	<b>39,372.00</b>

**Water Quality Basin Summary**

Plan	On-Site Watershed Area (ac.)	Off-Site Watershed Area (ac.)	On-Site Impervious Cover (ac.)	Off-Site Impervious Cover (ac.)	Overreatment Impervious Cover (ac.)	Required Volume (CF)	Designed Volume (CF)	Excess Volume Capacity (CF)	Required Sand Area (sf)	Designed Sand Area (sf)
Basin A*	4.11	11.07	0.74	7.30	0.00	35,648	40,163	4515.00	3,565	5,096
Basin B	32.73	0.00	18.25	0.00	0.22	77,026	81,155	4127.00	n/a	n/a
Basin C	11.11	0.00	6.47	0.00	0.00	26,056	27,301	1245.00	n/a	n/a

\*Basin with Approved ID: 13-13083001

basin "B"

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Kinder Ranch AGI,  
Date Prepared: 9/24/2020

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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

$L_M$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of i

$A_N$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Bexar	
Total project area included in plan *	53.42	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	26.68	acres
Total post-development impervious cover fraction *	0.50	
P =	30	inches

$L_M$  TOTAL PROJECT = 21771 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 1



Signature  
9/25/2020

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

Drainage Basin/Outfall Area No. = **Basin B**

Total drainage basin/outfall area = **32.73** acres  
Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
Post-development impervious area within drainage basin/outfall area = **18.25** acres  
Post-development impervious fraction within drainage basin/outfall area = **0.56**

$L_M$  THIS BASIN = **14892** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Extended Detention**  
Removal efficiency = **91** percent

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

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

$A_C = 32.73$  acres  
 $A_I = 18.25$  acres  
 $A_P = 14.48$  acres  
 $L_R = 17452$  lbs

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

Desired  $L_{M\_THIS\ BASIN} = 15072$  lbs.

$F = 0.86$

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Pages 3-

Calculations from RG-348

Rainfall Depth = 1.38 inches  
 Post Development Runoff Coefficient = 0.39  
 On-site Water Quality Volume = 64194 cubic feet

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

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

Storage for Sediment = 12839  
 Total Capture Volume (required water quality volume(s) x 1.20) = 77033 cubic feet

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

**7. Retention/Irrigation System**

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Basin "C"

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Kinder Ranch AGI,  
Date Prepared: 9/24/2020

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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spr

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

$L_M$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of i

$A_N$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Bexar
Total project area included in plan *	53.42 acres
Predevelopment impervious area within the limits of the plan *	0.00 acres
Total post-development impervious area within the limits of the plan *	26.68 acres
Total post-development impervious cover fraction *	0.50
P =	30 inches

$L_M$  TOTAL PROJECT = 21771 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 1



Handwritten signature and date: 9/25/2020

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

Drainage Basin/Outfall Area No. = **Basin C**

Total drainage basin/outfall area = **11.11** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **6.47** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.58**  
 $L_{M \text{ THIS BASIN}} =$  **5280** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Extended Detention**  
 Removal efficiency = **91** percent

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

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

$A_C = 11.11$  acres  
 $A_I = 6.47$  acres  
 $A_P = 4.64$  acres  
 $L_R = 6180$  lbs

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

Desired  $L_{M \text{ THIS BASIN}} = 5280$  lbs.

$F = 0.85$

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Pages 3-37

Calculations from RG-348

Rainfall Depth = 1.32 inches  
 Post Development Runoff Coefficient = 0.41  
 On-site Water Quality Volume = 21714 cubic feet

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

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

Storage for Sediment = 4343

**Total Capture Volume (required water quality volume(s) x 1.20) = 26057 cubic feet**

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

**7. Retention/Irrigation System**

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

WFS - A

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **Kinder Ranch AGI,**  
Date Prepared: **9/24/2020**

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1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

$L_M$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of i

$A_N$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	<b>Bexar</b>	
Total project area included in plan *	<b>53.42</b>	acres
Predevelopment impervious area within the limits of the plan *	<b>0.00</b>	acres
Total post-development impervious area within the limits of the plan *	<b>26.68</b>	acres
Total post-development impervious cover fraction *	<b>0.50</b>	
P =	<b>30</b>	inches

$L_M$  TOTAL PROJECT = **21771** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **1**



*Caleb M. Chance*  
9/25/2020

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

Drainage Basin/Outfall Area No. = **VFS - H**

Total drainage basin/outfall area = **0.77** acres  
Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
Post-development impervious area within drainage basin/outfall area = **0.44** acres  
Post-development impervious fraction within drainage basin/outfall area = **0.57**  
 $L_{M \text{ THIS BASIN}} =$  **359** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**  
Removal efficiency = **85** percent

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

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

$A_C = 0.77$  acres  
 $A_I = 0.44$  acres  
 $A_P = 0.33$  acres  
 $L_R = 393$  lbs

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

Desired  $L_{M\ THIS\ BASIN} = 359$  lbs.

$F = 0.91$

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Calculations from RG-348

Pages 3-3

Rainfall Depth = 1.80 inches  
 Post Development Runoff Coefficient = 0.40  
 On-site Water Quality Volume = 2015 cubic feet

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

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

Storage for Sediment = 403  
 Total Capture Volume (required water quality volume(s) x 1.20) = 2418 cubic feet

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

**7. Retention/Irrigation System**

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr **Enter determined permeability rate or assume**  
Irrigation area = **NA** square feet  
**NA** acres

**8. Extended Detention Basin System**

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = **NA** cubic feet

**9. Filter area for Sand Filters**

Designed as Required in RG-348

Pages 3-58 to 3-63

**9A. Full Sedimentation and Filtration System**

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

**For minimum water depth of 2 feet**

**For maximum water depth of 8 feet**

**9B. Partial Sedimentation and Filtration System**

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

**For minimum water depth of 2 feet**

**For maximum water depth of 8 feet**

**10. Bioretention System**

Designed as Required in RG-348

Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

VFS-I

# Texas Commission on Environmental Quality

## TSS Removal Calculations 04-20-2009

Project Name: **Kinder Ranch AGI,**  
Date Prepared: **9/24/2020**

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**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spr**

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

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

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

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

County =	<b>Bexar</b>	
Total project area included in plan *	<b>53.42</b>	acres
Predevelopment impervious area within the limits of the plan *	<b>0.00</b>	acres
Total post-development impervious area within the limits of the plan *	<b>26.68</b>	acres
Total post-development impervious cover fraction *	<b>0.50</b>	
P =	<b>30</b>	inches

$L_{M \text{ TOTAL PROJECT}} =$  **21771** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **1**



*Handwritten signature and date: 9/25/2020*

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

Drainage Basin/Outfall Area No. = **VFS - I**

Total drainage basin/outfall area = **0.37** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **0.22** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.59**  
 $L_{M \text{ THIS BASIN}} = 180$  lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**  
 Removal efficiency = **85** percent

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

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

$A_C = 0.37$  acres  
 $A_I = 0.22$  acres  
 $A_P = 0.15$  acres  
 $L_R = 196$  lbs

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

Desired  $L_M$  THIS BASIN = **180** lbs.

F = 0.92

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Pages 3-

Calculations from RG-348

Rainfall Depth = 2.00 inches  
 Post Development Runoff Coefficient = 0.42  
 On-site Water Quality Volume = 1119 cubic feet

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

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

Storage for Sediment = 224  
 Total Capture Volume (required water quality volume(s) x 1.20) = 1342 cubic feet

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

**7. Retention/Irrigation System**

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr **Enter determined permeability rate or assume**  
Irrigation area = **NA** square feet  
**NA** acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = **NA** cubic feet

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

**For minimum water depth of 2 feet**

**For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

**For minimum water depth of 2 feet**

**For maximum water depth of 8 feet**

10. Bioretention System

Designed as Required in RG-348

Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

VFS - J

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **Kinder Ranch AGI,**  
Date Prepared: **9/24/2020**

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**Characters shown in red are data entry fields.**

**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

$L_M$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of i

$A_N$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	<b>Bexar</b>	
Total project area included in plan *	<b>53.42</b>	acres
Predevelopment impervious area within the limits of the plan *	<b>0.00</b>	acres
Total post-development impervious area within the limits of the plan *	<b>26.68</b>	acres
Total post-development impervious cover fraction *	<b>0.50</b>	
P =	<b>30</b>	inches

$L_M$  TOTAL PROJECT = **21771** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **1**



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

**Drainage Basin/Outfall Area No. = VFS - J**

Total drainage basin/outfall area = **0.36** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **0.22** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.61**  
 $L_{M \text{ THIS BASIN}} = 180$  lbs.

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **Vegetated Filter Strips**  
 Removal efficiency = **85** percent

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

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

$A_C = 0.36$  acres  
 $A_I = 0.22$  acres  
 $A_P = 0.14$  acres  
 $L_R = 196$  lbs

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

Desired  $L_{M\_THIS\ BASIN} = 180$  lbs.

$F = 0.92$

**6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

Calculations from RG-348

Pages 3-

Rainfall Depth = 2.00 inches  
 Post Development Runoff Coefficient = 0.43  
 On-site Water Quality Volume = 1120 cubic feet

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

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

Storage for Sediment = 224  
 Total Capture Volume (required water quality volume(s) x 1.20) = 1344 cubic feet

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

**7. Retention/Irrigation System**

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =  
Irrigation area =

**0.1** in/hr **Enter determined permeability rate or assu**  
NA square feet  
NA acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =

NA cubic feet

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =

NA cubic feet

Minimum filter basin area =

NA square feet

Maximum sedimentation basin area =

NA square feet **For minimum water depth of 2 feet**

Minimum sedimentation basin area =

NA square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =

NA cubic feet

Minimum filter basin area =

NA square feet

Maximum sedimentation basin area =

NA square feet **For minimum water depth of 2 feet**

Minimum sedimentation basin area =

NA square feet **For maximum water depth of 8 feet**

10. Bioretention System

Designed as Required in RG-348

Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =

NA cubic feet

## BASIN DRAWDOWN CALCULATIONS

	Input By User
	Automatically Calculated Variables

Project: **Kinder AGI Unit-3 MOD**  
 Watershed: **BASIN B**

Job No.: **7902-87**  
 Date: **9/17/2020**

Basin Volume	<b>81,153</b> Cubic Feet	607,067 Gallons
Basin Water Storage Depth	<b>5.0</b> Feet	
Sand Surface Area	<b>0</b> Square Feet	
Sand Depth	<b>0.0</b> Feet	
Outlet Pipe Diameter	<b>6</b> Inches	
Outlet Pipe Slope	<b>0.5</b> Percent	

### Flow Rate for 24 Hour Drawdown

$$\frac{81,153 \text{ CF}}{1440 \text{ Min/Day}} = 56.36 \text{ CF/Min} = \mathbf{0.94 \text{ CF/Sec}} \quad \text{or} \quad \mathbf{7.03 \text{ Gal/Sec}}$$

Check flow through rate (Q) of basin sand surface area using 2Ft/Day for k for sand. Book values range from 2 to 3.5 Feet/Day.

Af= Sand filter surface area in Square Feet  
 L= Sand Bed Depth in Feet  
 h= Average head of water above sand surface in Feet

h= 2.5 Feet

Calculate  $i = (h+L)/L = \text{\#DIV/0!}$

## Drawdown Rate Through Sand Flow

### Drawdown Assuming Sand Flow Through Rate at 2ft/day

$$Q = kiAf \quad 2.0 \text{ Ft/Day} \times \#DIV/0! \times \quad 0 \text{ Sq.Ft} \quad = \quad \#DIV/0! \text{ CF/Day} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Day} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Min} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Sec}$$

$$\frac{607,067 \text{ Gallons}}{\#DIV/0! \text{ Gal/Day}} = \#DIV/0! \text{ Day} = \#DIV/0! \text{ Hours}$$

### Drawdown Assuming Sand Flow Through Rate at 3.5ft/day

$$Q = kiAf \quad 3.5 \text{ Ft/Day} \times \#DIV/0! \times \quad 0 \text{ Sq.Ft} \quad = \quad \#DIV/0! \text{ CF/Day} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Day} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Min} \quad \text{or}$$

$$\#DIV/0! \text{ Gal/Sec}$$

$$\frac{607,067 \text{ Gallons}}{\#DIV/0! \text{ Gal/Day}} = \#DIV/0! \text{ Day} = \#DIV/0! \text{ Hours}$$

#### Conclusion:

- If drawdown is **greater than 24 Hours and less than 48 Hours**, sand surface may control drawdown. Check drawdown on pipe.
- If drawdown is **less than 24 Hours** then sand filter area does not control drawdown. Check drawdown through discharge pipe.

### Drawdown Rate Through Discharge Pipe

Size in Inches = 6  
 Slope in Percent = 0.5  
 n coefficient = 0.009  
 Rate (From Table 1 Below) = 350.18 GPDx1000 = 350,180 GPD = 243.18 GPM

Drawdown  
 Time =  $\frac{607,067 \text{ Gallons}}{243.18 \text{ GPM}}$  = 1.73 Days = **41.61 Hours**

**TABLE 1**  
**Flow Characteristics For Sewer PVC Pipe (Flow Velocity Ft/Sec x 1000 US GPD)**

Slope (Ft/100 Ft)	Pipe Diameter (Inches)		
	4	6	8
	Rate		
0.10	54.29	156.61	341.15
0.20	76.78	221.47	482.46
0.30	94.04	271.25	590.89
0.40	108.59	313.21	682.3
0.50	121.41	350.18	762.83
0.60	132.99	383.61	835.64
0.70	143.65	414.34	902.6
0.80	153.57	442.95	964.92
0.90	162.88	469.82	1023.45
1.00	171.69	495.23	1078.81

**Conclusion:**

- If drawdown **is greater than 24 hours and is less than 48 Hours**, then the carrying capacity of the PVC pipe will control drawdown for a full basin. Since the pipe is the limiting factor the valve calculations are not needed. A valve will still be installed and will be set to full open position.
- If drawdown is **greater than 48 hours** a larger discharge pipe will be needed.
- If drawdown is **less than 24 Hours** valve calculations will be needed.

## Valve Position Required for 24 to 48 Hr. Drawdown Rate

Flow Rate Equation For Pratt Rubber Seated Butterfly Valves:

$$Q = 19.62 (C_f) D^2 \text{ SQRT } \Delta H$$

Q= Average Filter Flow Rate:	#DIV/0!	+	#DIV/0!	=	#DIV/0!	Gal/Min
		$\frac{\quad}{2}$				
$\Delta H =$	Head Loss in Feet of Water (Based on Mannings Equation):					0.1

$$\text{\#DIV/0! Gal/Min} = 19.62 (C_f) (6)^2 \text{ SQRT } 0.1$$

$$C_f = \text{\#DIV/0!}$$

Estimation of the required valve opening based on the above  $C_f$  value: **\#DIV/0! Degrees**  
 (Based on Pratt Rubber Seat Butterfly Valves (3" - 8"))

**\#DIV/0!**  
**\#DIV/0!**

Degrees Open	$C_f$ 3"- 8" Valves	Degrees Open	$C_f$ 3"- 8" Valves
5	0.0080	50	0.3890
10	0.0161	55	0.5000
15	0.0327	60	0.6180
20	0.0545	65	0.7470
25	0.0830	70	0.8950
30	0.1180	75	1.0270
35	0.1590	80	1.1180
40	0.2150	85	1.1800
45	0.2810	90	1.2050

## BASIN DRAWDOWN CALCULATIONS

	Input By User
	Automatically Calculated Variables

Project: **Kinder AGI Unit-3 MOD**  
 Watershed: **BASIN C**

Job No.: **7902-87**  
 Date: **9/17/2020**

Basin Volume	<b>27,301</b>	Cubic Feet	204,226 Gallons
Basin Water Storage Depth	<b>5.0</b>	Feet	
Sand Surface Area	<b>0</b>	Square Feet	
Sand Depth	<b>0.0</b>	Feet	
Outlet Pipe Diameter	<b>4</b>	Inches	
Outlet Pipe Slope	<b>0.4</b>	Percent	

### Flow Rate for 24 Hour Drawdown

$$\frac{27,301 \text{ CF}}{1440 \text{ Min/Day}} = 18.96 \text{ CF/Min} = \mathbf{0.32 \text{ CF/Sec}} \quad \text{or} \quad \mathbf{2.36 \text{ Gal/Sec}}$$

Check flow through rate (Q) of basin sand surface area using 2Ft/Day for k for sand. Book values range from 2 to 3.5 Feet/Day.

Af= Sand filter surface area in Square Feet  
 L= Sand Bed Depth in Feet  
 h= Average head of water above sand surface in Feet

h= 2.5 Feet

Calculate  $i = (h+L)/L = \text{\#DIV/0!}$

## Drawdown Rate Through Sand Flow

### Drawdown Assuming Sand Flow Through Rate at 2ft/day

$$Q = kiAf \quad 2.0 \text{ Ft/Day} \times \#DIV/0! \times \quad 0 \text{ Sq.Ft} \quad = \quad \#DIV/0! \text{ CF/Day} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Day} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Min} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Sec}$$
  

$$\frac{204,226 \text{ Gallons}}{\#DIV/0! \text{ Gal/Day}} \quad = \quad \#DIV/0! \text{ Day} \quad = \quad \#DIV/0! \text{ Hours}$$

### Drawdown Assuming Sand Flow Through Rate at 3.5ft/day

$$Q = kiAf \quad 3.5 \text{ Ft/Day} \times \#DIV/0! \times \quad 0 \text{ Sq.Ft} \quad = \quad \#DIV/0! \text{ CF/Day} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Day} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Min} \quad \text{or}$$

$$\quad \quad \#DIV/0! \text{ Gal/Sec}$$
  

$$\frac{204,226 \text{ Gallons}}{\#DIV/0! \text{ Gal/Day}} \quad = \quad \#DIV/0! \text{ Day} \quad = \quad \#DIV/0! \text{ Hours}$$

**Conclusion:**

-- If drawdown is **greater than 24 Hours and less than 48 Hours**, sand surface may control drawdown. Check drawdown on pipe.  
 --If drawdown is **less than 24 Hours** then sand filter area does not control drawdown. Check drawdown through discharge pipe.

### Drawdown Rate Through Discharge Pipe

Size in Inches = 4  
 Slope in Percent = 0.4  
 n coefficient = 0.009  
 Rate (From Table 1 Below) = 108.59 GPDx1000 = 108,590 GPD = 75.41 GPM

Drawdown  
 Time =  $\frac{204,226 \text{ Gallons}}{75.41 \text{ GPM}}$  = 1.88 Days = **45.14 Hours**

**TABLE 1**  
**Flow Characteristics For Sewer PVC Pipe (Flow Velocity Ft/Sec x 1000 US GPD)**

Slope (Ft/100 Ft)	Pipe Diameter (Inches)		
	4	6	8
	Rate		
0.10	54.29	156.61	341.15
0.20	76.78	221.47	482.46
0.30	94.04	271.25	590.89
0.40	108.59	313.21	682.3
0.50	121.41	350.18	762.83
0.60	132.99	383.61	835.64
0.70	143.65	414.34	902.6
0.80	153.57	442.95	964.92
0.90	162.88	469.82	1023.45
1.00	171.69	495.23	1078.81

**Conclusion:**

- If drawdown **is greater than 24 hours and is less than 48 Hours**, then the carrying capacity of the PVC pipe will control drawdown for a full basin. Since the pipe is the limiting factor the valve calculations are not needed. A valve will still be installed and will be set to full open position.
- If drawdown is **greater than 48 hours** a larger discharge pipe will be needed.
- If drawdown is **less than 24 Hours** valve calculations will be needed.

**Valve Position Required for 24 to 48 Hr. Drawdown Rate**

Flow Rate Equation For Pratt Rubber Seated Butterfly Valves:

$$Q = 19.62 (C_f) D^2 \text{ SQRT } \Delta H$$

Q= Average Filter Flow Rate:	#DIV/0!	+	#DIV/0!	=	#DIV/0!	Gal/Min
			2			
$\Delta H =$	Head Loss in Feet of Water (Based on Mannings Equation):					0.1

$$\#DIV/0! \text{ Gal/Min} = 19.62 (C_f) (4)^2 \text{ SQRT } 0.1$$

$$C_f = \#DIV/0!$$

Estimation of the required valve opening based on the above  $C_f$  value: **#DIV/0! Degrees**  
 (Based on Pratt Rubber Seat Butterfly Valves (3" - 8"))

**#DIV/0!**  
**#DIV/0!**

Degrees Open	$C_f$ 3" - 8" Valves	Degrees Open	$C_f$ 3" - 8" Valves
5	0.0080	50	0.3890
10	0.0161	55	0.5000
15	0.0327	60	0.6180
20	0.0545	65	0.7470
25	0.0830	70	0.8950
30	0.1180	75	1.0270
35	0.1590	80	1.1180
40	0.2150	85	1.1800
45	0.2810	90	1.2050



## TEMPORARY POLLUTION ABATEMENT NOTES

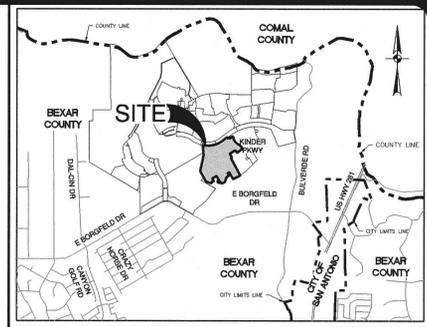
- CONSTRUCTION OF PARKING LOT AND DRAINAGE STRUCTURES MAY PRECEDE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF THE DISTURBED AREA PERPENDICULAR TO THE DRAINAGE FLOW.
- GRAVEL FILTER BAGS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BAGS WILL BE MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR UNTIL THEY ARE REPLACED WITH PERMANENT POLLUTION ABATEMENT MEASURES.
- CONSTRUCTION WITHIN THE DEVELOPMENT MAY NOT BE CONTINUOUS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF EACH PAD DURING BUILDING CONSTRUCTION. ALL SILT FENCE SHALL BE PLACED PERPENDICULAR TO DRAINAGE FLOW.

## GENERAL NOTES

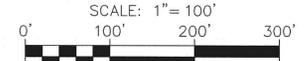
- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS, CONCRETE WASHOUT PITS, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- CONTRACTOR, TO THE EXTENT PRACTICAL, SHALL MINIMIZE THE AMOUNT OF AREA DISTURBED. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADE AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.
- ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.
- MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.
- PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMPs INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.
- TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.
- TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.
- UPON COMPLETION OF THE PROJECT AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES THAT CONFLICT WITH SITE IMPROVEMENTS SUCH AS LANDSCAPING AND FENCES SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

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

- WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY OR IMPROPERLY, 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.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS TO WATER QUALITY (E.G., FLUCTIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
- SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- 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).
- ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE, WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS. TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
- THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASED ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
  - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
  - ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED, OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
  - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.



LOCATION MAP  
NOT TO SCALE



### LEGEND

- PROJECT LIMITS (53.42 AC)
- DRAINAGE AREA
- EXISTING CONTOURS
- DIRECTION OF FLOW
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (TO BE FIELD LOCATED)
- CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED)
- FHA LOT DESIGNATION
- INLET PROTECTION
- SILT FENCE



TEMPORARY BMP MODIFICATIONS		
DATE		

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT ZONING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

NO.	REVISION	DATE



**PAPE-DAWSON ENGINEERS**  
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 NW LOOP #10 | SAN ANTONIO, TX 78213 | 210.375.9000  
TCEQ FIRM REGISTRATION #429 | TCEQ'S FIRM REGISTRATION #1028900

**KINDER RANCH AGI, UNIT-3 (ENCLAVE)**  
SAN ANTONIO, TEXAS  
**CONTRIBUTING ZONE PLAN APPLICATION**  
**TEMPORARY POLLUTION ABATEMENT PLAN**

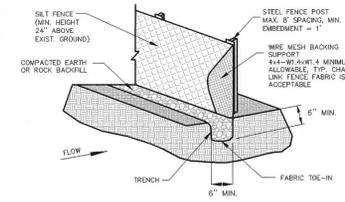
PLAT NO.	--
JOB NO.	7902-87
DATE	AUGUST 2020
DESIGNER	CC
CHECKED	AL DRAWN CC
SHEET	2 OF 2

**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.

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.



**ISOMETRIC PLAN VIEW**

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

**SILT FENCE**

**MATERIALS:**

- (1) Silt fence material should be polypropylene, polyethylene, or polyamide woven or nonwoven fabric. The fabric should be 35 inches, with a minimum unit weight of 4.5 oz./yd., mullen burst strength exceeding 190 lb./in<sup>2</sup>, 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 weight 1.25 lb./ft. and brinell hardness exceeding 140.
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum

**INSTALLATION:**

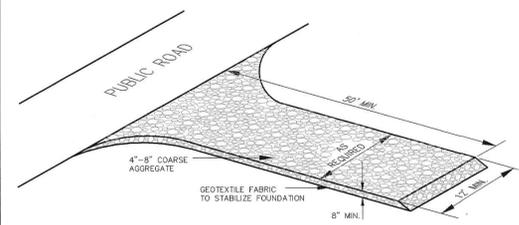
- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is 1/4 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 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 rainfall.
- (2) Remove sediment when buildup reaches 6 inches.
- (3) Replace torn fabric or install a second line of fencing parallel to the torn section.
- (4) Replace or repair 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.



**SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT**

**MATERIALS:**

- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
- (2) The aggregate should be placed with a minimum thickness of 8 inches.
- (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz./yd<sup>2</sup>, a mullen burst rating of 140 lb./in<sup>2</sup>, and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

**INSTALLATION:**

- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
- (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
- (3) The construction entrance should be at least 50 feet long.
- (4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
- (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
- (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
- (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
- (8) Install pipe under pad as needed to maintain proper public road drainage.

**CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT**

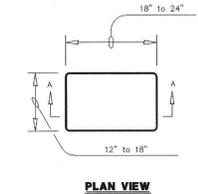
**COMMON TROUBLE POINTS:**

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

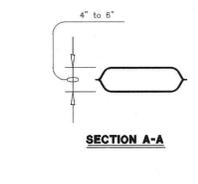
**INSPECTION AND MAINTENANCE GUIDELINES:**

- (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 cleanup 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.

**STABILIZED CONSTRUCTION ENTRANCE/EXIT**



**PLAN VIEW**



**SECTION A-A**

**MATERIALS:**

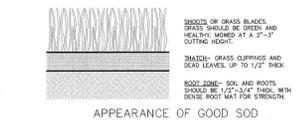
- 1) The filter bag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight of 4 ounces/sy, have a Mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
- 2) The filter bag shall be filled with clean, medium (washed pea gravel), to course gravel (0.31 to 0.75 inch diameter).

**GRAVEL FILTER BAG DETAIL**



LAY SOD IN A STAGGERED PATTERN BUT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

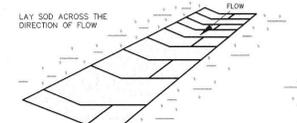
BUILDING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



**APPEARANCE OF GOOD SOD**

**INCORRECT**

**CORRECT**



LAY SOD ACROSS THE DIRECTION OF FLOW

IN CRITICAL AREAS, SECURE SOD WITH NETTING, USE STAPLES.

USE PINS OR STAPLES TO FASTEN SOD FIRMLY - AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN REAR END MOW, DRIVE PINS OR STAPLES FLUSH WITH THE GROUND.

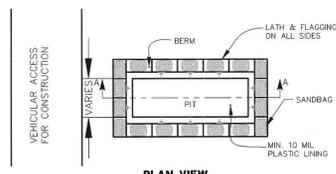
**GENERAL INSTALLATION (VA DEPT. OF CONSERVATION, 1992b)**

- (1) Sod should not be cut or laid in excessively wet or dry weather. Sod also should not be laid on soil surfaces that are frozen.
- (2) During periods of high temperature, the soil should be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.
- (3) The first row of sod should be laid in a straight line with subsequent rows placed parallel to it, butting tightly against each other. Lateral joints should be staggered to promote more uniform growth and strength. Care should be exercised to ensure that sods do not overlap. Joints should be staggered to prevent voids which would cause drying of the roots (see above).
- (4) On slopes 3:1 or greater, or wherever erosion may be a problem, sod should be laid with staggered joints and secured by staking or other approved methods. Sod should be installed with the length perpendicular to the slope (on contour).
- (5) As sodding of clearly defined areas is completed, sod should be rolled or tamped to provide firm contact between roots and soil.
- (6) After rolling, sod should be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thoroughly wet.
- (7) Until such time a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.
- (8) The first mowing should not be attempted until the sod is firmly rooted, usually 2-3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

**INSPECTION AND MAINTENANCE GUIDELINES:**

- (1) Sod should be inspected weekly and after each rain event to locate and repair any damage.
- (2) Damage from storms or normal construction activities such as tire ruts or disturbance of sward stabilization should be repaired as soon as practical.

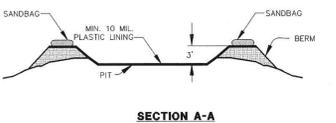
**SOD INSTALLATION**



**PLAN VIEW**

**GENERAL NOTES:**

- (1) Detail above illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.
- (2) Washout pit shall be located in an area easily accessible to construction traffic.
- (3) Washout pit shall not be located in areas subject to inundation from storm water runoff.
- (4) Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies.
- (5) Temporary concrete washout facility should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.



**SECTION A-A**

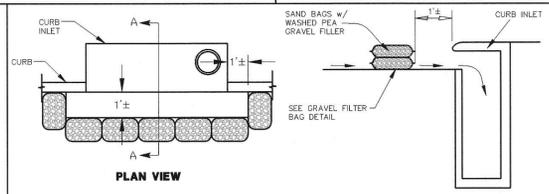
**MATERIALS:**

- (1) 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.

**INSPECTION AND MAINTENANCE GUIDELINES:**

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

**CONCRETE TRUCK WASHOUT PIT**



**PLAN VIEW**

**SECTION A-A**

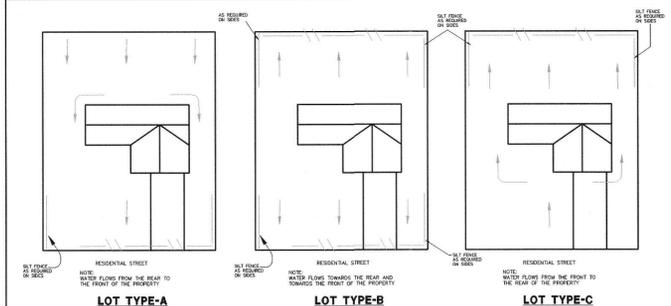
**GENERAL NOTES:**

- (1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
- (2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

**INSPECTION AND MAINTENANCE GUIDELINES:**

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

**BAGGED GRAVEL CURB INLET PROTECTION**

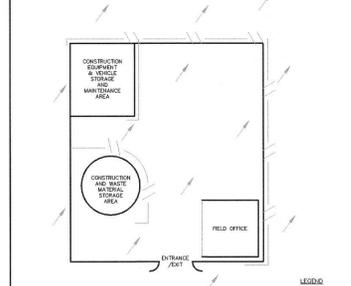


**TYP. HOUSE LOTS**

**TYPICAL PROCEDURE FOR TEMPORARY POLLUTION ABATEMENT MEASURES FOR RESIDENTIAL AREAS**

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

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**TYP. CONSTRUCTION STAGING AREA**

**EXHIBIT 2**

**KINDER RANCH AGL, UNIT-3 (ENCLAVE)**

**CONTRIBUTING ZONE PLAN APPLICATION  
TEMPORARY POLLUTION ABATEMENT PLAN DETAILS**

**PAPE-PAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #470 | TIFPLS FIRM REGISTRATION #1008800

NO.	REVISION	DATE



PLAT NO.	--
JOB NO.	7902-87
DATE	AUGUST 2020
DESIGNER	CC
CHECKED	AL DRAWN CC
SHEET	1 OF 1

Date: Sep 24, 2020, 8:42am User: CClements  
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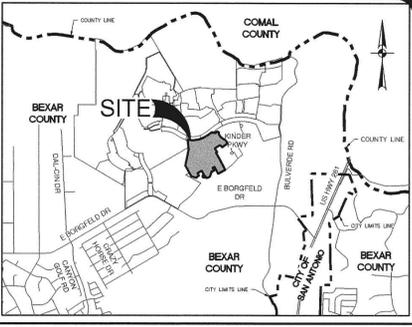


**SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:**

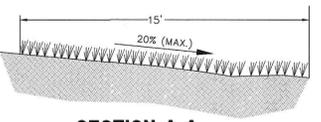
1. SILT FENCE WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND SUFFICIENT VEGETATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH APPLICABLE PROJECT SPECIFICATIONS.
2. PARTS OF THE STORMWATER RUNOFF FROM WITHIN THIS DEVELOPMENT WILL BE DISCHARGED TO BATCH DETENTION BASINS. ENGINEERED VEGETATIVE FILTER STRIPS AND NATURAL VEGETATIVE FILTER STRIPS FOR TREATMENT. THESE BMP'S HAVE BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 53.42 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).
3. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON EXHIBIT 2 AND REFER TO SECTION 13.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES >15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRAGILE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TxDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
4. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6" TOPSOIL PRIOR TO REVEGETATION.
5. SLOPES ON SITE VARY FROM APPROXIMATELY 1.0% TO 15%.

**NOTES:**

- 1.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSURE.
- 2.) ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.



LOCATION MAP  
NOT-TO-SCALE



SECTION A-A  
ENGINEERED VEGETATIVE FILTER STRIP DETAIL  
NTS



**LEGEND**

- PROJECT LIMITS (53.42 AC)
- - - DRAINAGE AREA
- - - EXISTING CONTOURS
- DIRECTION OF FLOW
- [Pattern] STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- [Pattern] CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (TO BE FIELD LOCATED)
- [Pattern] CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED)
- (A) FHA LOT DESIGNATION
- [Pattern] UNCAPTURED AREA (TREATED WITH WATER QUALITY BASIN "B")
- [Pattern] 15' WIDE ENGINEERED VEGETATIVE FILTER STRIP

**Kinder Ranch AGI Unit-3: Treatment Summary**  
Impervious Cover Summary by Watershed

Watershed	Watershed Area (ac.)	Existing Impervious Cover from Lots (ac.)	Existing Impervious Cover from Roadways (ac.)	Proposed Impervious Cover from Lots (ac.)	Proposed Impervious Cover from Roadways (ac.)	Total Impervious Cover (ac.)	BMP	Total Annual TSS Generated (lbs)	Total TSS Removed (lbs)
A	32.73	0.00	0.00	12.45	5.80	18.25	Water Quality Basin "B"	14892.00	18874.08
B	15.18	4.05	3.25	0.74	0.00	8.04	Existing Water Quality Basin "A" (13-13083001)	6560.64	6560.64
C	38.15	4.10	3.41	0.05	0.07	7.63	Existing Interim VFS (13000230)	6226.08	6226.08
D	2.46	1.09	0.00	0.00	0.00	1.09	Existing 15' Engineered VFS (13-13083001)	889.44	889.44
E	1.43	0.79	0.00	0.00	0.00	0.79	Existing 50' Natural VFS (13-13083001)	644.64	644.64
F	2.86	0.00	0.00	0.88	0.71	1.59	Water Quality Basin "C"	1297.44	1297.44
G	0.41	0.00	0.00	0.22	0.00	0.22	Overtreatment (Basin "B")	179.52	179.52
H	0.77	0.00	0.00	0.44	0.00	0.44	15' VFS	359.04	359.04
I	0.37	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
J	0.36	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
K	8.25	0.00	0.00	3.20	1.68	4.88	Water Quality Basin "C"	3982.08	3982.08
<b>TOTAL</b>	<b>87.790</b>	<b>10.030</b>	<b>6.660</b>	<b>18.420</b>	<b>8.260</b>	<b>43.370</b>	<b>--</b>	<b>35,389.92</b>	<b>39,372.00</b>

**Water Quality Basin Summary**

Plan	On-Site Watershed Area (ac.)	Off-Site Watershed Area (ac.)	On-Site Impervious Cover (ac.)	Off-Site Impervious Cover (ac.)	Overtreatment Impervious Cover (ac.)	Required Volume (CF)	Designed Volume (CF)	Excess Volume Capacity (CF)	Required Sand Area (sf)	Designed Sand Area (sf)
Basin A*	4.11	11.07	0.74	7.30	0.00	35,648	40,163	4515.00	3,565	5,096
Basin B	32.73	0.00	18.25	0.00	0.22	77,026	81,153	4127.00	n/a	n/a
Basin C	11.11	0.00	6.47	0.00	0.00	26,056	27,301	1245.00	n/a	n/a

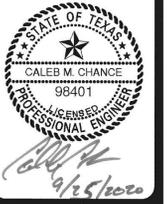
\*Basin with Approved ID: 13-13083001

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EXHIBIT 3

NO.	REVISION	DATE



**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.575.9000  
 TDE FIRM REGISTRATION #470 | TDEPS FIRM REGISTRATION #1088880

**KINDER RANCH AGI, UNIT-3 (ENCLAVE)**  
 SAN ANTONIO, TEXAS  
 CONTRIBUTING ZONE PLAN APPLICATION  
 PERMANENT POLLUTION ABATEMENT PLAN

PLAT NO.	--
JOB NO.	7902-87
DATE	AUGUST 2020
DESIGNER	CC
CHECKED	AL_DRAWN CC
SHEET	1 OF 2

Date: Sep 24, 2020, 8:44am User ID: CClements  
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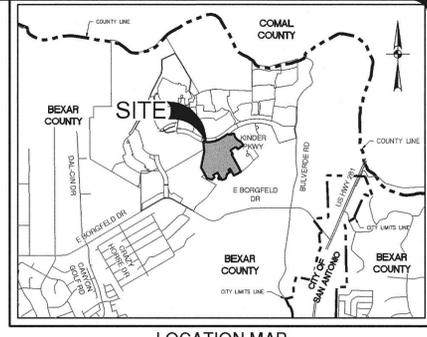


**SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:**

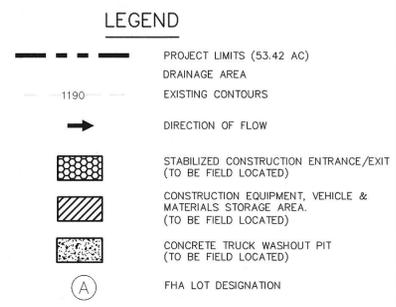
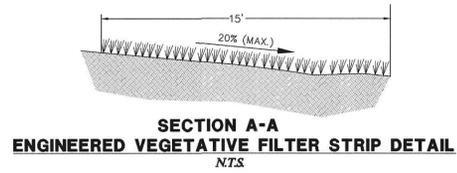
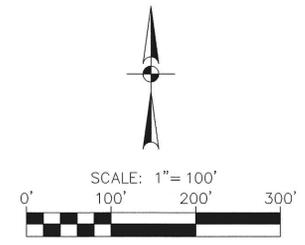
1. SILT FENCE WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND SUFFICIENT VEGETATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH APPLICABLE PROJECT SPECIFICATIONS.
2. PARTS OF THE STORMWATER RUNOFF FROM WITHIN THIS DEVELOPMENT WILL BE DISCHARGED TO BATCH DETENTION BASINS, ENGINEERED VEGETATIVE FILTER STRIPS AND NATURAL VEGETATIVE FILTER STRIPS FOR TREATMENT. THESE BMP'S HAVE BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 53.42 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).
3. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON EXHIBIT 2 AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES >15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TMDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
4. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6" TOPSOIL PRIOR TO REVEGETATION.
5. SLOPES ON SITE VARY FROM APPROXIMATELY 1.0% TO 15%.

**NOTES:**

- 1.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.
- 2.) ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.



LOCATION MAP  
NOT-TO-SCALE



**Kinder Ranch AGI Unit-3: Treatment Summary**  
Impervious Cover Summary by Watershed

Watershed	Watershed Area (ac.)	Existing Impervious Cover from Lots (ac.)	Existing Impervious Cover from Roadways (ac.)	Proposed Impervious Cover from Lots (ac.)	Proposed Impervious Cover from Roadways (ac.)	Total Impervious Cover (ac.)	BMP	Total Annual TSS Generated (lbs)	Total TSS Removed (lbs)
A	32.73	0.00	0.00	12.45	5.80	18.25	Water Quality Basin "B"	14892.00	18874.08
B	15.18	4.05	3.25	0.74	0.00	8.04	Existing Water Quality Basin "A" (13-13083001)	6560.64	6560.64
C	38.15	4.10	3.41	0.05	0.07	7.63	Existing Interim VFS (13000230)	6226.08	6226.08
D	2.46	1.09	0.00	0.00	0.00	1.09	Existing 15' Engineered VFS (13-13083001)	889.44	889.44
E	1.43	0.79	0.00	0.00	0.00	0.79	Existing 50' Natural VFS (13-13083001)	644.64	644.64
F	2.86	0.00	0.00	0.88	0.71	1.59	Water Quality Basin "C"	1297.44	1297.44
G	0.41	0.00	0.00	0.22	0.00	0.22	Overtreatment (Basin "B")	179.52	179.52
H	0.77	0.00	0.00	0.44	0.00	0.44	15' VFS	359.04	359.04
I	0.37	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
J	0.36	0.00	0.00	0.22	0.00	0.22	15' VFS	179.52	179.52
K	8.25	0.00	0.00	3.20	1.68	4.88	Water Quality Basin "C"	3982.08	3982.08
<b>TOTAL</b>	<b>87.790</b>	<b>10.030</b>	<b>6.660</b>	<b>18.420</b>	<b>8.260</b>	<b>43.370</b>		<b>35,389.92</b>	<b>39,372.00</b>

**Water Quality Basin Summary**

Plan	On-Site Watershed Area (ac.)	Off-Site Watershed Area (ac.)	On-Site Impervious Cover (ac.)	Off-Site Impervious Cover (ac.)	Overtreatment Impervious Cover (ac.)	Required Volume (CF)	Designed Volume (CF)	Excess Volume Capacity (CF)	Required Sand Area (sf)	Designed Sand Area (sf)
Basin A*	4.11	11.07	0.74	7.30	0.00	35,648	40,163	4515.00	3,565	5,096
Basin B	32.73	0.00	18.25	0.22	0.00	77,026	81,153	4127.00	n/a	n/a
Basin C	11.11	0.00	6.47	0.00	0.00	26,056	27,301	1245.00	n/a	n/a

\*Basin with Approved ID: 13-13083001

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

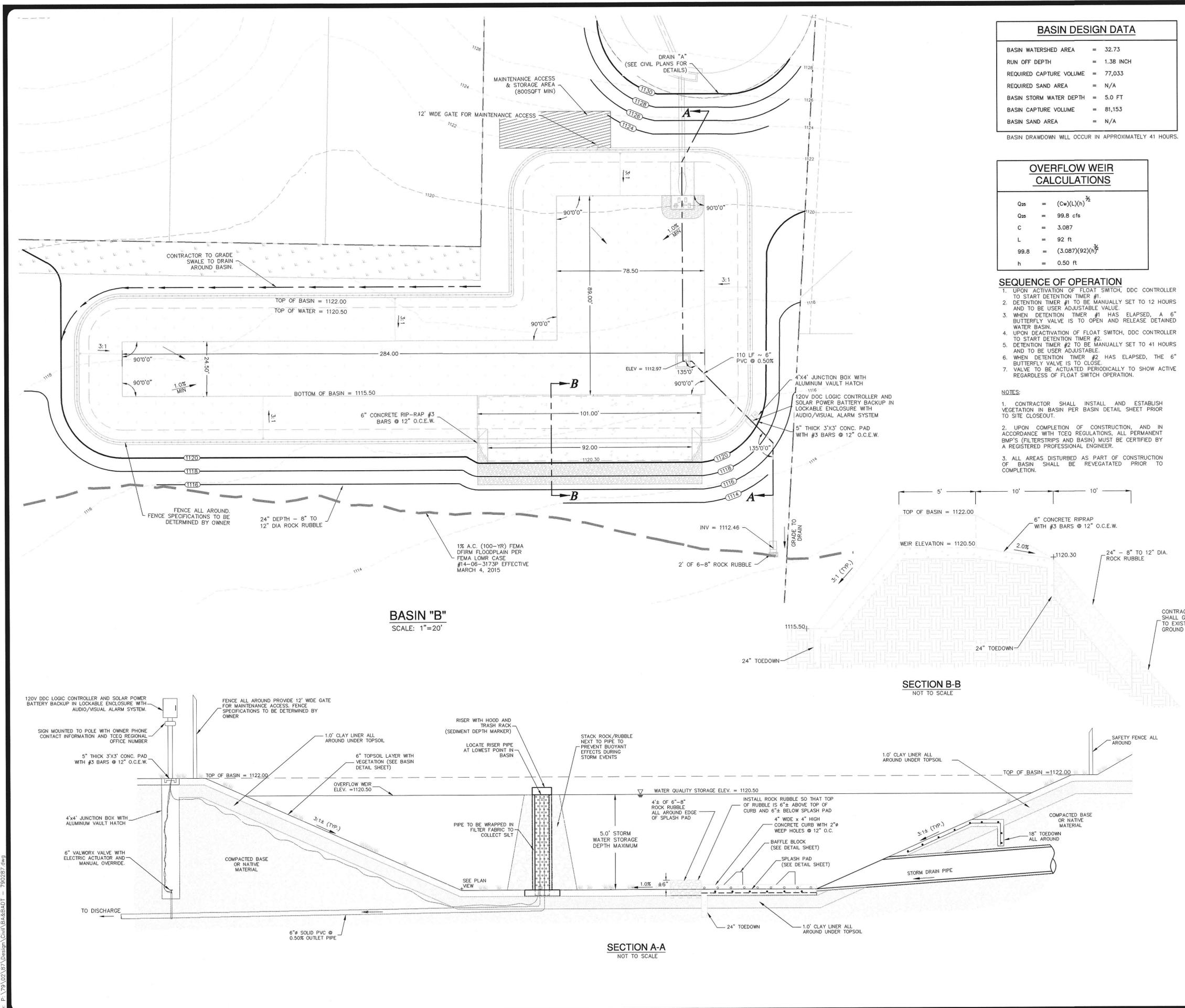
NO.	REVISION	DATE



**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #400 | TYPE E FIRM REGISTRATION #1002866

**KINDER RANCH AGI, UNIT-3 (ENCLAVE)**  
 SAN ANTONIO, TEXAS  
 CONTRIBUTING ZONE PLAN APPLICATION  
 PERMANENT POLLUTION ABATEMENT PLAN

PLAT NO.	--
JOB NO.	7902-87
DATE	AUGUST 2020
DESIGNER	CC
CHECKED	AL DRAWN CC
SHEET	2 OF 2

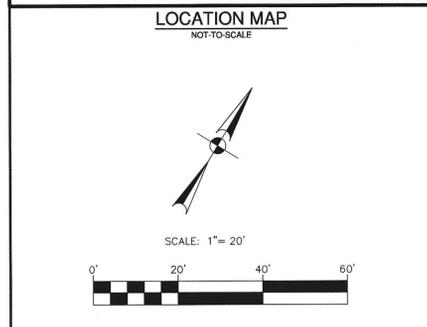
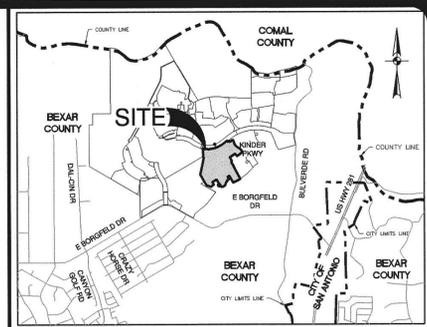


BASIN DESIGN DATA	
BASIN WATERSHED AREA	= 32.73
RUN OFF DEPTH	= 1.38 INCH
REQUIRED CAPTURE VOLUME	= 77,033
REQUIRED SAND AREA	= N/A
BASIN STORM WATER DEPTH	= 5.0 FT
BASIN CAPTURE VOLUME	= 81,153
BASIN SAND AREA	= N/A

BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 41 HOURS.

OVERFLOW WEIR CALCULATIONS	
$Q_{25}$	= $(C_w)(L)(h)^{3/2}$
$Q_{25}$	= 99.8 cfs
C	= 3.087
L	= 92 ft
99.8	= $(3.087)(92)(h)^{3/2}$
h	= 0.50 ft

- SEQUENCE OF OPERATION**
- UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.
  - DETECTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
  - WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
  - UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
  - DETECTION TIMER #2 TO BE MANUALLY SET TO 41 HOURS AND TO BE USER ADJUSTABLE.
  - WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6" BUTTERFLY VALVE IS TO CLOSE.
  - VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.
- NOTES:**
- CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASIN PER BASIN DETAIL SHEET PRIOR TO SITE CLOSOUT.
  - UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTERSTRIPS AND BASIN) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
  - ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.



**LEGEND**

- + 60.00 PROPOSED SPOT ELEVATION
- + 60.00TW PROPOSED "TOP OF WALL" SPOT ELEVATION
- 1050 EXISTING CONTOUR
- 1050 PROPOSED CONTOUR
- PROPOSED CURB
- FLOW ARROW (PROPOSED)

- NOTES TO CONTRACTOR (EACH PHASE OF BASIN CONSTRUCTION)**
- CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.
  - CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:
    - a.) REINFORCING STEEL FOR BASIN WALL HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED.
    - b.) DRAIN PIPE IS IN PLACE.
    - c.) LOGIC CONTROLLER AND DRAINAGE STRUCTURES ARE IN PLACE, INCLUDING OVERFLOW STRUCTURE.
  - WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
  - UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
    - TOP OF BANK/WALL AT EACH CORNER OF BASIN
    - TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
    - SPLASH PAD/INLET PIPES
    - OVERFLOW WEIRS
  - BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.
  - CONTRACTOR SHALL ENGAGE A TEXAS LICENSED STRUCTURAL ENGINEER TO PROVIDE A SIGNED AND SEALED SET OF STRUCTURAL PLANS, DETAILS AND SPECIFICATION FOR THE STRUCTURAL COMPONENTS OF THE POLLUTION ABATEMENT BASIN INCLUDING INLET DISCHARGE AND BYPASS COMPONENTS. CONTRACTOR SHALL ALSO PROVIDE FOR STRUCTURAL ENGINEER'S INSPECTION DURING BASIN CONSTRUCTION AND STRUCTURAL ENGINEER'S CONSTRUCTION CERTIFICATION UPON COMPLETION OF BASIN.
  - UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
  - ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.
  - BASIN HAS BEEN DESIGNED USING TSS REMOVAL AND BMP SIZING CALCULATIONS AS PER THE TCEQ TGM RG-348 (2005).
  - BASIN PLAN DEPICTS MINIMUM INTERIOR DIMENSIONS (LENGTH, WIDTH & HEIGHT) FOR TCEQ REVIEW & APPROVAL. ACTUAL STRUCTURAL PLANS FOR CONSTRUCTION TO BE DESIGNED BY STRUCTURAL ENGINEER AT A LATER DATE.
  - BASIN DRAWDOWN IS CONTROLLED BY THE PUMP. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 41 HOURS.
  - CONTRACTOR IS TO SET THE VALVE POSITION TO FULLY OPEN.

NO. REVISION

DATE

**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78218 | 210.375.8000  
 TYPE FIRM REGISTRATION #070 | TYPE FIRM REGISTRATION #1000000

**KINDER RANCH AGI, UNIT-3 (ENCLAVE)**  
 SAN ANTONIO, TEXAS

**CONTRIBUTING ZONE PLAN**  
**BATCH DETENTION BASIN "B"**

PLAT NO. --  
 JOB NO. 7902-87  
 DATE AUGUST 2020  
 DESIGNER CC  
 CHECKED AL DRAWN CC  
 SHEET C9.00

Date: Sep. 23, 2020, 5:08pm User: D:\clements  
 File: P:\19\20\1920\1920\1920\1920\1920\1920.dwg

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**EXHIBIT 4**



