



TBPE FIRM REGISTRATION NO., F-1601

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October 10, 2024

Mr. Ryan Pircher

Division: Edwards Aquifer Protection Program Agency:

Texas Commission on Environmental Quality

Phone: 210-403-4074

Email: Ryan.Pircher@tceq.texas.gov

Re: Edwards Aquifer, Bexar County NAME OF PROJECT: Bulverde Food Pantry; Located N of Bulverde Rd and Heimer Cv; Bulverde, Texas

TYPE OF PLAN: Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Dear Mr. Pircher:

Please consider this letter as a response to your review comments for the above referenced, as follow;

Several of the NOD3 comments were not resolved, including comments 1, 2, 3a, 3b, 3c, 3d, 3e, 3g, 3h, 6, and 7. The CZP application for Bulverde Food Pantry cannot be approved at this time due to these deficiencies. This application will be denied unless you provide written notification that the application is being withdrawn. A CZP application for the project can be submitted again. Would you like to withdraw the application?

Those comments were addresses as per our meeting in TCEQ office, and responded in below section.

Contributing Zone Plan Application (TCEQ-10257):

1. Item 34-46. Site Plan:

a. Please show the location of the OSSF and associated drain field. Please ensure that wastewater and stormwater will not comingle.

It was included in the report. Please see page 19 of updated report.

b. Please revise section A-A and C-C discrepancy for the weir.

It was included in the report. Please see page 19 of updated report.

2. Item 52. Attachment J: Site plan and water quality pond plan depicts 15-foot channel draining up gradient Stormwater to the detention pond. Please revise for consistency.

The detention pond was designed for up gradient lots as well. The 15 FT channel will convey those to the pond. WQP will be only designed for onsite only. Please see page 16 & 48 attachment J.

Water Quality Pond Plan Exhibit:

3. Please refer to Section 3.4.7 of RG-348 to ensure all design criteria requirements are included. Design criteria not shown in both plan view and cross-section, or detail:

a. Fixed vertical sediment depth marker in sedimentation basin

Revised. Please see page 62 in the report.

b. Maximum spacing between rows of perforations should not exceed 6 inches.

Yes, the spacing is 5". The note also added in the exhibit. Please see page 62 in the report.

c. If the water quality pond will have a concrete liner as stated in the note and sand bed profile detail, please include impermeable liner specifications and include impermeable liner in relevant cross-section.

Revised. Please see page 62 in the report for exhibit and cross-section.

d. Please confirm weir for a flow-splitting device can isolate and bypass the 25- year peak flow.

Yes. The inlet capacity calculation is shown in the report. Please see page 47 in the report.

e. Energy dissipation at the sedimentation basin inlet

There will be block to reduce energy dissipation in entrance of basin. Moreover shear stress calculation is also shown in the report. Please see page 46 in the report.

g. Splash pad is only depicted in Section A-A

Revised. Please see page 62 in the report for all views.

h. Riser pipe not depicted on plan view. Section A-A depicts riser in the same location as underdrain lateral pipe cleanout.

Revised. Please see page 62 in the report.

Additional Questions/Requests:

6. Please clarify if stormwater will drain offsite from impervious cover east of the southeast entrance high point. Please revise impervious cover treatment summary table and TSS removal calculations if this stormwater is not captured by the water quality pond.

Yes. At least 95.12% of impervious will be treated by pond. Please see the updated calculation on page 57-62 in the report.

7. Please confirm the "curb to direct flow to pond" slopes toward the water quality pond.

The site plan has been modified to accommodate the OSSF location. There is no curb to direct flow to the pond. A 7 ft channel will take water from site to the pond. Please see page 19 in the report.

Thank you for all of your hard work and assistance. Please call if you have any question.

Respectfully,

Seda consulting engineers, Inc.

A handwritten signature in blue ink, appearing to read "Salah E. Diab", enclosed within a large, loopy oval shape.

Salah E. Diab, PhD., P.E.

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited.**
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Bulverde Food Pantry, Inc.					2. Regulated Entity No.:				
3. Customer Name: Bulverde Food Pantry, Inc.					4. Customer No.:				
5. Project Type: (Please circle/check one)	<input checked="" type="radio"/> New	<input type="radio"/> Modification			<input type="radio"/> Extension		<input type="radio"/> Exception		
6. Plan Type: (Please circle/check one)	<input type="radio"/> WPAP	<input checked="" type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EXP	<input type="radio"/> EXT	<input type="radio"/> Technical Clarification	<input type="radio"/> Optional Enhanced Measures
7. Land Use: (Please circle/check one)	<input type="radio"/> Residential		<input checked="" type="radio"/> Non-residential			8. Site (acres):		1.502 Acres	
9. Application Fee:	\$ 4,000		10. Permanent BMP(s):			Sand Filter Systems			
11. SCS (Linear Ft.):	Zero		12. AST/UST (No. Tanks):						
13. County:	Comal		14. Watershed:			Cibolo Creek			

Application Distribution

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

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

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	—
Region (1 req.)	—	—	—
County(ies)	—	—	—
Groundwater Conservation District(s)	<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

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input 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 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.

Bulverde Food Pantry, Inc.

Print Name of Customer/Authorized Agent

Robert D Rosenfeld

08/30/2024

Signature of Customer/Authorized Agent

Date

****FOR TCEQ INTERNAL USE ONLY****

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

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: Bulverde Food Pantry, Inc.

Date: 08/30/2024

Signature of Customer/Agent:

Robert D Rosenfeld

Regulated Entity Name: Bulverde Food Pantry, Inc.

Project Information

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

4. Customer (Applicant):

Contact Person: Robert Rosenfeld

Entity: Bulverde Food Pantry, Inc.

Mailing Address: PO Box 343

City, State: Bulverde

Telephone: 830-438-7899

Zip: 78163

Fax: _____

Email Address: drosenfeld@gvtc.com

5. Agent/Representative (If any):

Contact Person: Salah E. Diab, Ph.D, P.E.

Entity: Seda Consulting Engineers, Inc.

Mailing Address: 6735 IH-10 West

City, State: San Antonio, TX

Zip: 78201

Telephone: (210) 308-0057

Fax: 210-308-8842

Email Address: seda@satx.rr.com & sed.seda.sa@gmail.com

6. Project Location:

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

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

at thenorthwest side of Heimer Cove.

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

13. Total project area (size of site): 1.502 Acres

Total disturbed area: 1.042 Acres

14. Estimated projected population: 16

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	4,600	÷ 43,560 =	0.1056
Parking	13,260	÷ 43,560 =	0.3044
Other paved surfaces		÷ 43,560 =	
Total Impervious Cover	17,860	÷ 43,560 =	0.4100

Total Impervious Cover 0.41 ÷ **Total Acreage** 1.502 X 100 = 27.30% **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 _____ (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			
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" = 20'.
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 Panel # 48091C0380F, Dated Sept. 2, 2009.
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

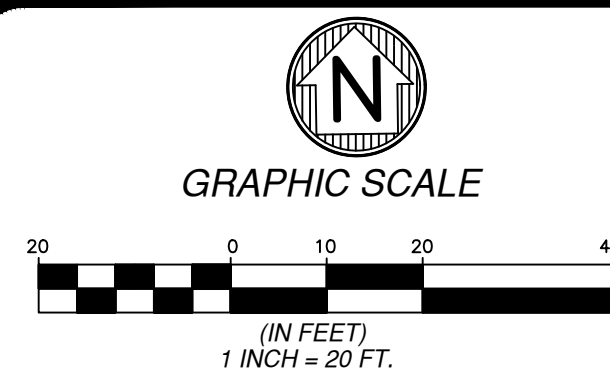
Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

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.



LEGEND

DIRECTION OF FLOW

— 744.90 ——— PROP CONTOUR

EXISTING CONTOUR

Cut/Fill Lots

Areas involving cut on one portion and fill on another portion of a specific lot shall be prepared to a minimum depth of 6-in. and will be the same material classification at the same compaction and moisture content. A minimum of two (2) field density tests shall be required on each cut/fill lot for the purpose of determining uniformity of the area supporting the proposed structures.

Depth and Mixing of Fill Layers

The selected fill material shall be placed in level, uniform layers which, when compacted, shall have a density conforming to that stipulated above. Each layer shall be thoroughly mixed during the spreading to ensure uniformity of material in each layer. Compacted layer thickness may vary depending on the compaction equipment of demonstrated capability. The maximum loose depth for any material shall not exceed twelve inches (12"). For testing requirements of fill material, see density testing.

Rock

When fill material includes rock, the maximum rock size shall be as approved by the Geotechnical Engineer. No large rocks shall be allowed to nest and all voids must be filled with small stones or soil and adequately compacted. No large rocks will be permitted within eighteen inches (18") of the finished grade.

Moisture Content

The fill material shall be compacted at the appropriate moisture content specified for the soils being used. Appropriate moisture content is defined, typically, as optimum moisture content; however, for expansive soils it may be greater than optimum moisture content, and other moisture contents may be necessary to produce the desired results with certain soils.

Scarifying the Area to be Filled

All organic matter shall be removed from the surface upon which the fill is to be placed, and the surface shall then be disked or scarified to a minimum depth of six inches (6"), all surface ruts or other uneven features will be leveled prior

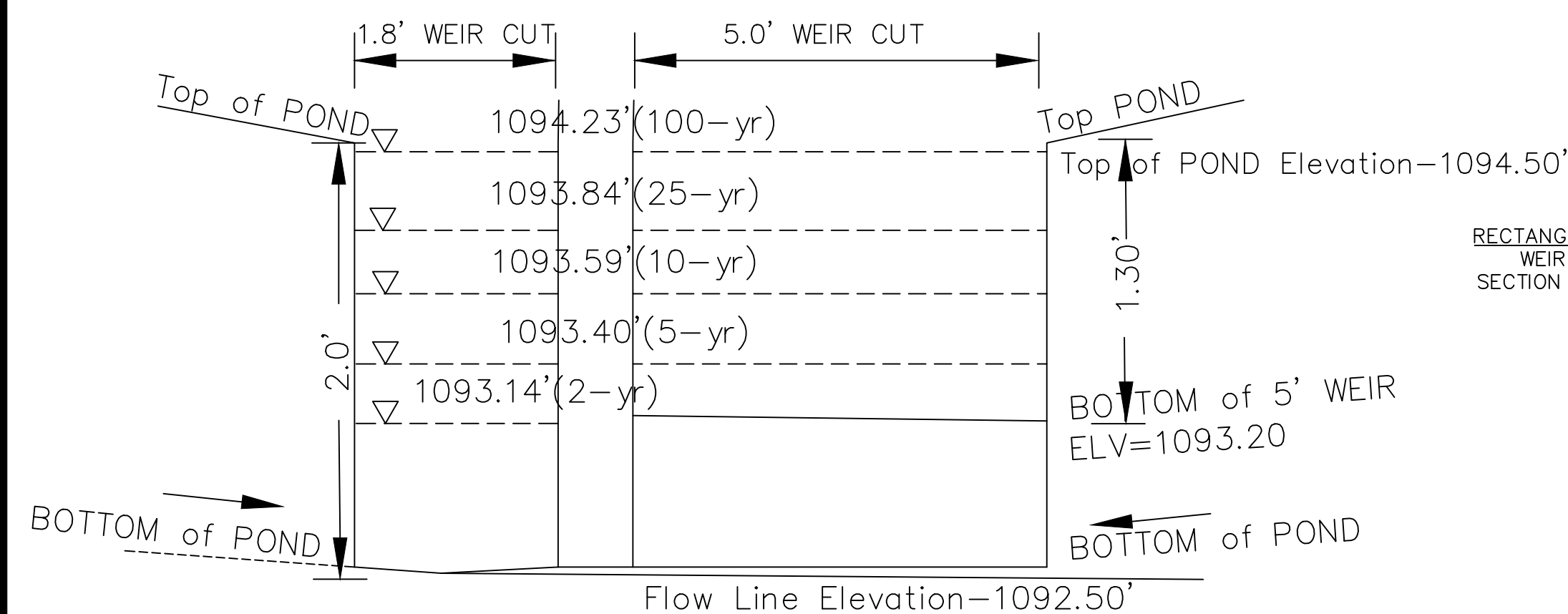
Where fills are made on hillsides or slopes, the slope of the original ground upon which the fill is to be placed shall be disked or scarified. Where the slope ratio of the original ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched. Ground slopes which are flatter than 5 to 1 shall be benched when considered necessary by the Geotechnical Engineer.

Clearing the Area to be Filled

All timber, logs, trees, brush shall be mulched, and rubbish shall be kept onsite.

Compacting the Area to be Filled

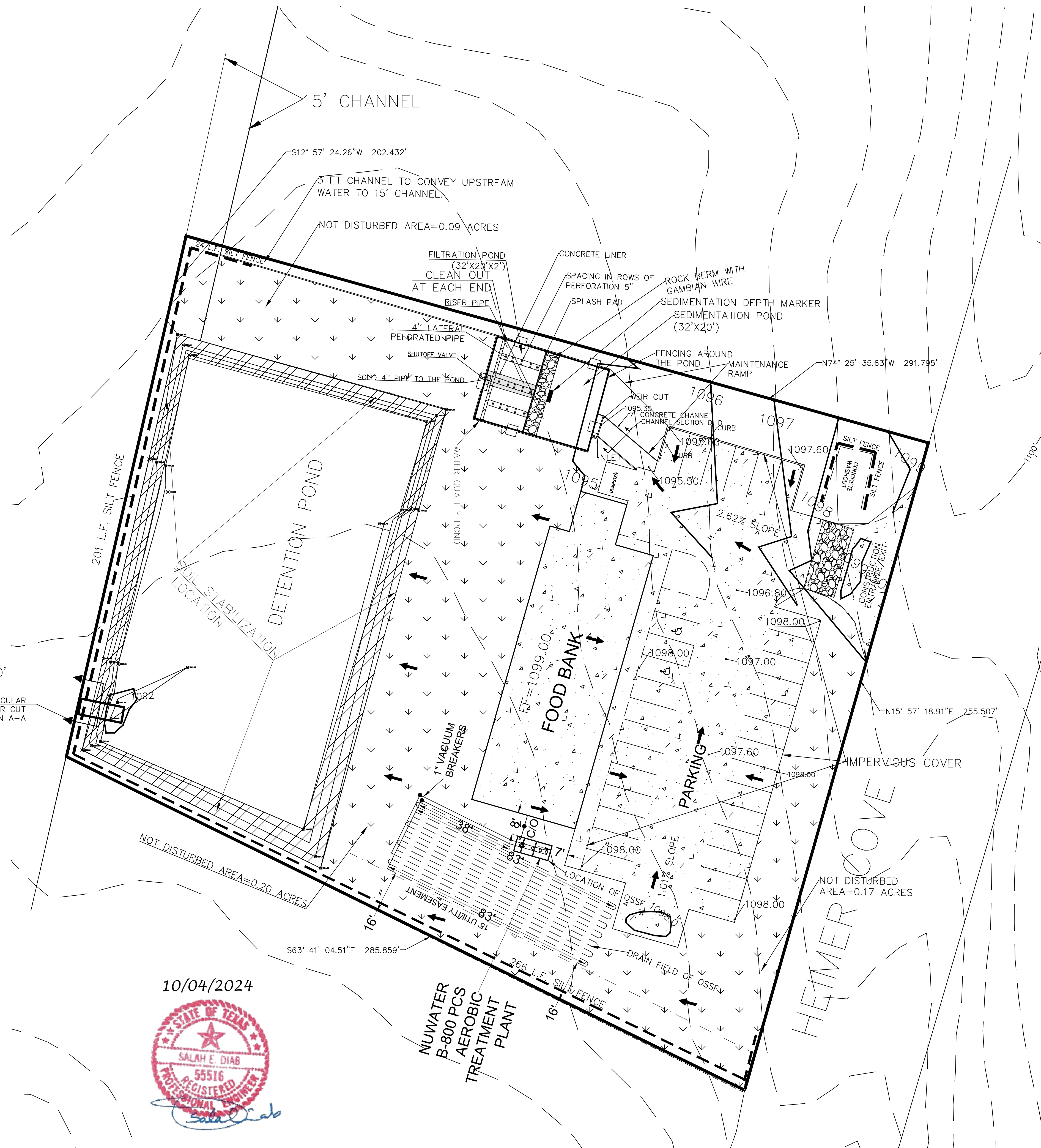
Following the clearing and diskimg or scarifying of the fill area, it shall be bladed until it is uniform and free from large clods. The area shall be brought to $\pm 2\%$ of the optimum moisture content and compacted (typically) to not less than ninety percent (90%) of maximum density in accordance with the current ASTM D 1557 Compaction Procedure, or 95% of maximum density in accordance with the current THD-TEX-113-E Compaction Procedure.



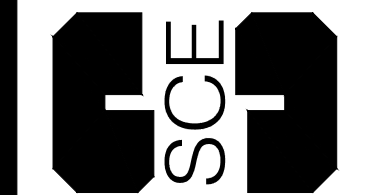
OUTFALL WEIR DETAIL
SECTION "A-A"
NOT TO SCALE

NOTE: ALL AREA WILL BE DISTURBED EXCEPT THE THREE
(0.09 ACRES, 0.20 ACRES & 0.17 ACRES) NOT DISTURBED AREA.

10/04/2024



Seda Consulting Engineers, Inc.
Firm Registration No: F-1601 (210) 308-0057
6735 IH 10 West FAX: (210) 308-8842
San Antonio, Texas 78201 e-mail: seda@satx.rr.com
CIVIL • STRUCTURAL • ENVIRONMENTAL • PLANNER



BULVERDE FOOD PANTRY
CITY OF BULVERDE, COMAL COUNTY, TEXAS
SITE PLAN

JOB NO. 1811
DATE: 08/30/2024
DRAWN BY: FM
CHECKED BY: SED
SHEET: 1 OF 1

ATTACHMENT A

Comal CAD Web Map

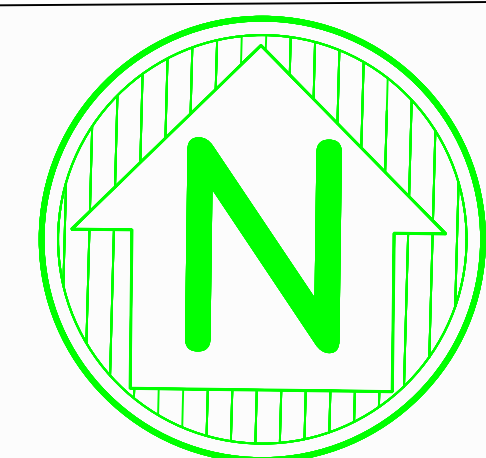


7/29/2024, 9:52:03 AM

 Parcels

Abstracts

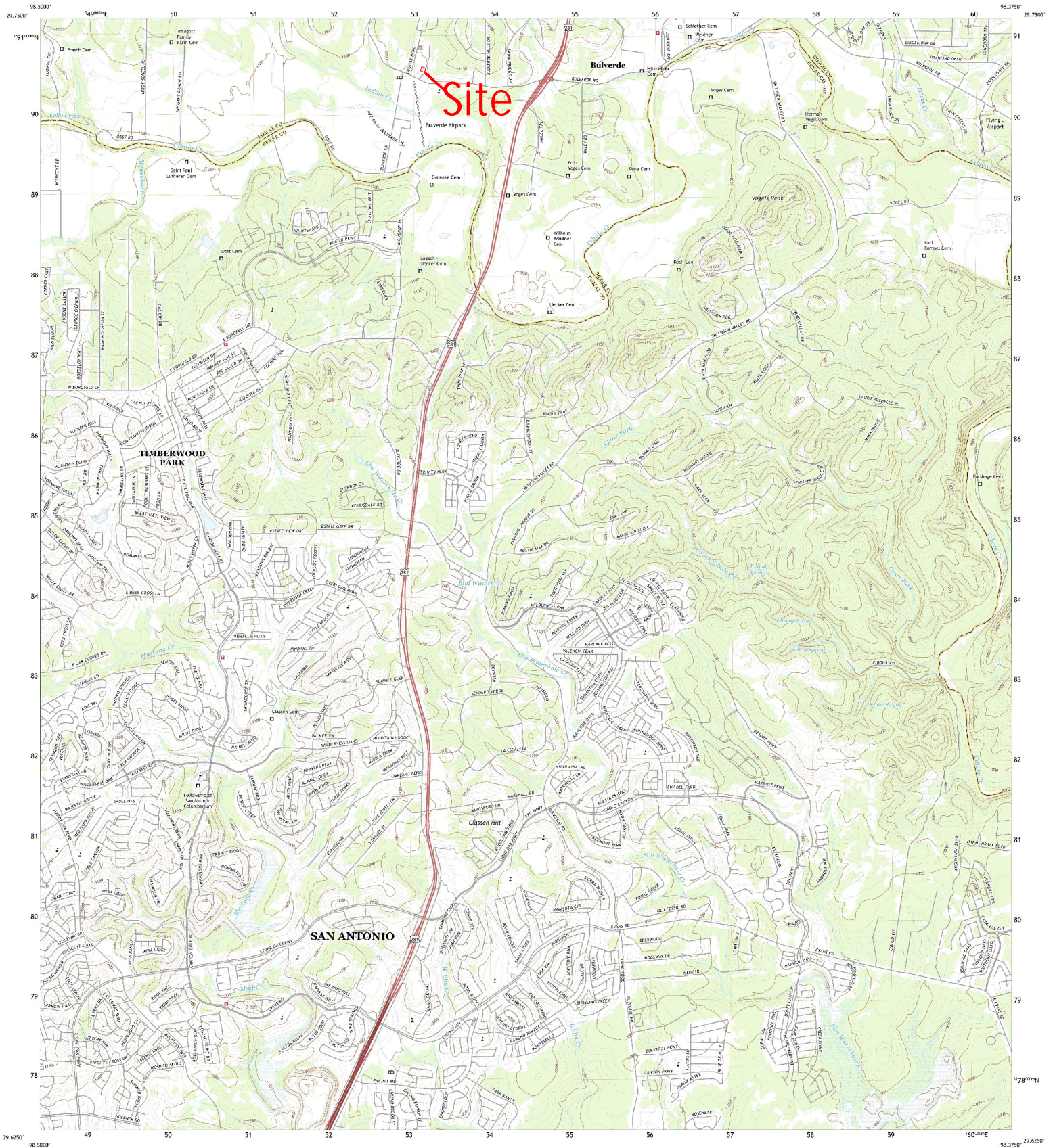
LOCATION MAP
(NOT TO SCALE)



Comal County Appraisal District, B&B Consulting - www.bisconsulting.com

Disclaimer: This product is for informational purposes only and has not been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of boundaries.

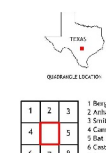
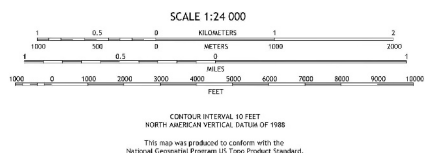
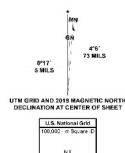
ATTACHMENT B



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) Projection and
1000-meter and Universal Transverse Mercator, Zone 14R
This map is not a legal document. Boundaries may be
generated for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery: 2010, September 2016 - November 2016
Base: U.S. Census Bureau, 2010
Roads: GIS, 1979 - 2012
Hydrography: National Hydrography Dataset, 2000 - 2018
Contours: National Elevation Dataset, 2011
Boundaries: National Wetlands Inventory, 2019 - 2021
Wetlands: National Wetlands Inventory Not Available



ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	Interstate Route
US Route	State Route

ATTACHMENT C

PROJECT DESCRIPTION

Lot 1, Block 1, recorded in Heimer Cove Unit 1 is 1.502-acre located on 30243 Heimer Cove, Bulverde, Texas. The permanent BMPs is the storm water quality pond situated in west side of lot. Out of total subject site of 0.39 acre is the drainage area for the proposed storm water quality pond design. Based on COSA-LIDAR mapping, the subject site referred to as Heimer Cove Subdivision is located on the Bulverde northwest quadrant.

According to the City of Bulverde Unified zoning map November 2019, the subject site is registered as Planned Development District (PDD). The will be only 0.46 acres that will not be disturbed. The remaining 1.042 acres will be disturbed during the development. This portion includes the detention pond area as well.

The subject site is bounded by lot 2, 3R and 5R (Block 21) along the west side property line, by Heimer cove along east side of property line and by lot A-206 along south side and unplatted lot along north side of property line respectively. See location Map.

Under proposed conditions, one lot of land is covered by proposed building (4600 sq feet/0.1056 acres) and proposed driveway and parking lot (13260 sq feet/ 0.3044 acres). The total onsite impervious cover for the lot of land is 0.41 acres. The percentage of the total impervious cover is 27.30%. Out of this 0.41 acres, 0.39 acres (95.12%) impervious will be treated by the storm water quality pond. The flow from upstream will be conveyed by the 15' channel situated in the downstream to take them into detention pond. The water quality pond is held only to treat onsite impervious cover. Please see exhibits and pond design calculation in the report.

ATTACHMENT D

Factors Affecting Surface Water Quality

- 1. Rooftop and concrete parking area (may be oil dripping from cars).**
- 2. Temporary (maybe oil from machinery) during construction.**

ATTACHMENT E

Volume and Character of Storm water

The proposed development project in the City of Bulverde involves the construction of a concrete building and pavement, which will significantly alter the stormwater runoff characteristics of the site. The analysis provided considers both the quantity and quality of stormwater runoff expected from the site, using the Soil Conservation Service (SCS) method, specifically considering curve numbers (CN) for pre-construction and post-construction conditions.

Pre-Construction Conditions

- **25-Year Storm Event:**
 - **Existing Condition Runoff (Ex 25 yr):** 1.644 cubic feet per second (cfs)
 - **Curve Number (CN):** 61

In the pre-construction scenario, the site has a relatively low curve number of 61, indicative of a landscape with permeable surfaces such as grass, vegetation, or lightly compacted soil. This lower CN suggests that a significant portion of rainfall infiltrates the ground, with less runoff generated during storm events. For a 25-year storm event, the existing condition runoff is estimated at 1.644 cfs.

- **100-Year Storm Event:**
 - **Existing Condition Runoff (Ex 100 yr):** 2.965 cfs

Similarly, under a 100-year storm event, the runoff in the pre-construction state is estimated at 2.965 cfs, reflecting the site's existing ability to absorb and manage stormwater.

Post-Construction Conditions

- **25-Year Storm Event:**
 - **Proposed Condition Runoff (Prop 25 yr):** 3.423 cfs
 - **Curve Number (CN):** 88

Following the development, the curve number increases to 88, reflecting the introduction of impervious surfaces like concrete buildings and pavement. The increase in CN indicates a reduced infiltration capacity and higher runoff potential. For a 25-year storm event, the proposed condition runoff is expected to rise to 3.423 cfs, a notable increase from the pre-construction runoff, primarily due to the reduced permeability of the site.

- **100-Year Storm Event:**
 - **Proposed Condition Runoff (Prop 100 yr):** 5.075 cfs

Under the 100-year storm event scenario, the post-construction runoff is projected to increase to 5.075 cfs. This increase underscores the significant impact of the development on the site's

hydrology, with higher volumes of stormwater needing to be managed or mitigated to prevent downstream flooding and erosion.

Quality of Storm water Runoff

The quality of stormwater runoff post-development is likely to degrade compared to pre-construction conditions. The increase in impervious surfaces contributes to higher volumes of surface runoff, which can carry pollutants such as oils, heavy metals, sediments, and other contaminants typically found on concrete surfaces. The reduction in natural filtration and absorption increases the risk of transporting these pollutants to nearby water bodies, potentially affecting water quality downstream.

**DETAILED
HYDROLOGY
&
HYDRAULICS
(WQP INLET, CHANNEL
CAPACITY, SHEAR
STRESS CALCULATION)**

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023



Legend

<u>Hyd.</u>	<u>Origin</u>	<u>Description</u>
1	SCS Runoff	EX ONSITE DA
2	SCS Runoff	PROP ONSITE DA

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	-----	-----	-----	0.625	-----	1.644	-----	2.965	EX ONSITE DA
2	SCS Runoff	-----	-----	-----	-----	1.966	-----	3.423	-----	5.075	PROP ONSITE DA
Proj. file: Bulverde Food Pantry.gpw										Friday, 10 / 4 / 2024	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

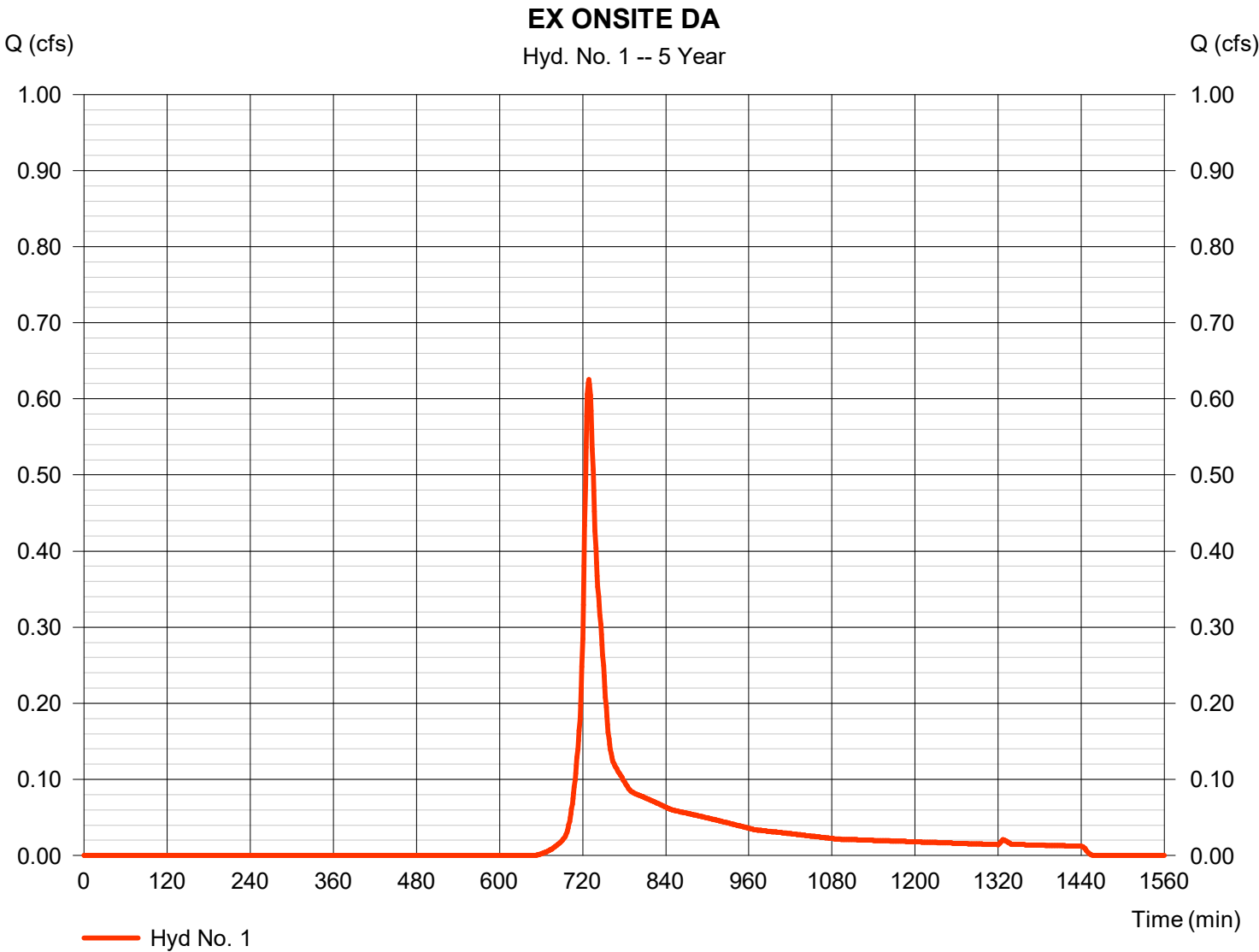
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.625	1	729	2,428	-----	-----	-----	EX ONSITE DA
2	SCS Runoff	1.966	1	722	5,515	-----	-----	-----	PROP ONSITE DA
Bulverde Food Pantry.gpw					Return Period: 5 Year			Friday, 10 / 4 / 2024	

Hydrograph Report

Hyd. No. 1

EX ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.625 cfs
Storm frequency	=	5 yrs	Time to peak	=	729 min
Time interval	=	1 min	Hyd. volume	=	2,428 cuft
Drainage area	=	0.390 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.80 min
Total precip.	=	5.51 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

EX ONSITE DA

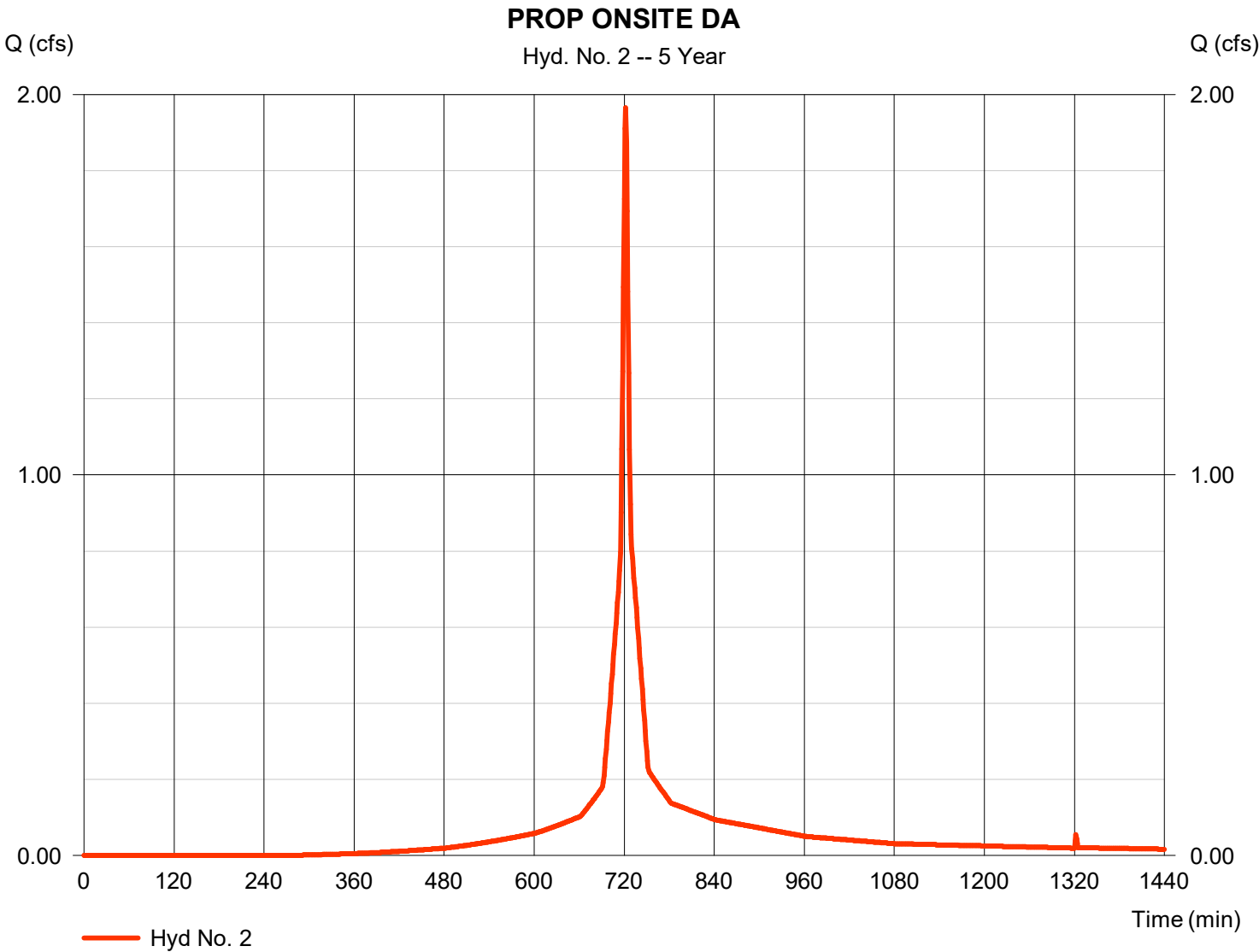
<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>			
Sheet Flow							
Manning's n-value	= 0.150	0.011	0.011				
Flow length (ft)	= 100.0	0.0	0.0				
Two-year 24-hr precip. (in)	= 4.12	0.00	0.00				
Land slope (%)	= 1.62	0.00	0.00				
Travel Time (min)	= 9.39	+	0.00	+	0.00	=	9.39
Shallow Concentrated Flow							
Flow length (ft)	= 170.00	0.00	0.00				
Watercourse slope (%)	= 1.62	0.00	0.00				
Surface description	= Unpaved	Paved	Paved				
Average velocity (ft/s)	=2.05	0.00	0.00				
Travel Time (min)	= 1.38	+	0.00	+	0.00	=	1.38
Channel Flow							
X sectional flow area (sqft)	= 0.00	0.00	0.00				
Wetted perimeter (ft)	= 0.00	0.00	0.00				
Channel slope (%)	= 0.00	0.00	0.00				
Manning's n-value	= 0.015	0.015	0.015				
Velocity (ft/s)	=0.00	0.00	0.00				
Flow length (ft)	(0)0.0	0.0	0.0				
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Total Travel Time, Tc				10.80 min			

Hydrograph Report

Hyd. No. 2

PROP ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.966 cfs
Storm frequency	=	5 yrs	Time to peak	=	722 min
Time interval	=	1 min	Hyd. volume	=	5,515 cuft
Drainage area	=	0.390 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	2.50 min
Total precip.	=	5.51 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 2

PROP ONSITE DA

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>			
Sheet Flow							
Manning's n-value	= 0.011	0.011	0.011				
Flow length (ft)	= 100.0	0.0	0.0				
Two-year 24-hr precip. (in)	= 4.12	0.00	0.00				
Land slope (%)	= 1.62	0.00	0.00				
Travel Time (min)	= 1.16	+	0.00	+	0.00	=	1.16
Shallow Concentrated Flow							
Flow length (ft)	= 170.00	0.00	0.00				
Watercourse slope (%)	= 1.62	0.00	0.00				
Surface description	= Unpaved	Paved	Paved				
Average velocity (ft/s)	=2.05	0.00	0.00				
Travel Time (min)	= 1.38	+	0.00	+	0.00	=	1.38
Channel Flow							
X sectional flow area (sqft)	= 0.00	0.00	0.00				
Wetted perimeter (ft)	= 0.00	0.00	0.00				
Channel slope (%)	= 0.00	0.00	0.00				
Manning's n-value	= 0.015	0.015	0.015				
Velocity (ft/s)	=0.00	0.00	0.00				
Flow length (ft)	(0)0.0	0.0	0.0				
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Total Travel Time, Tc				2.50 min			

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

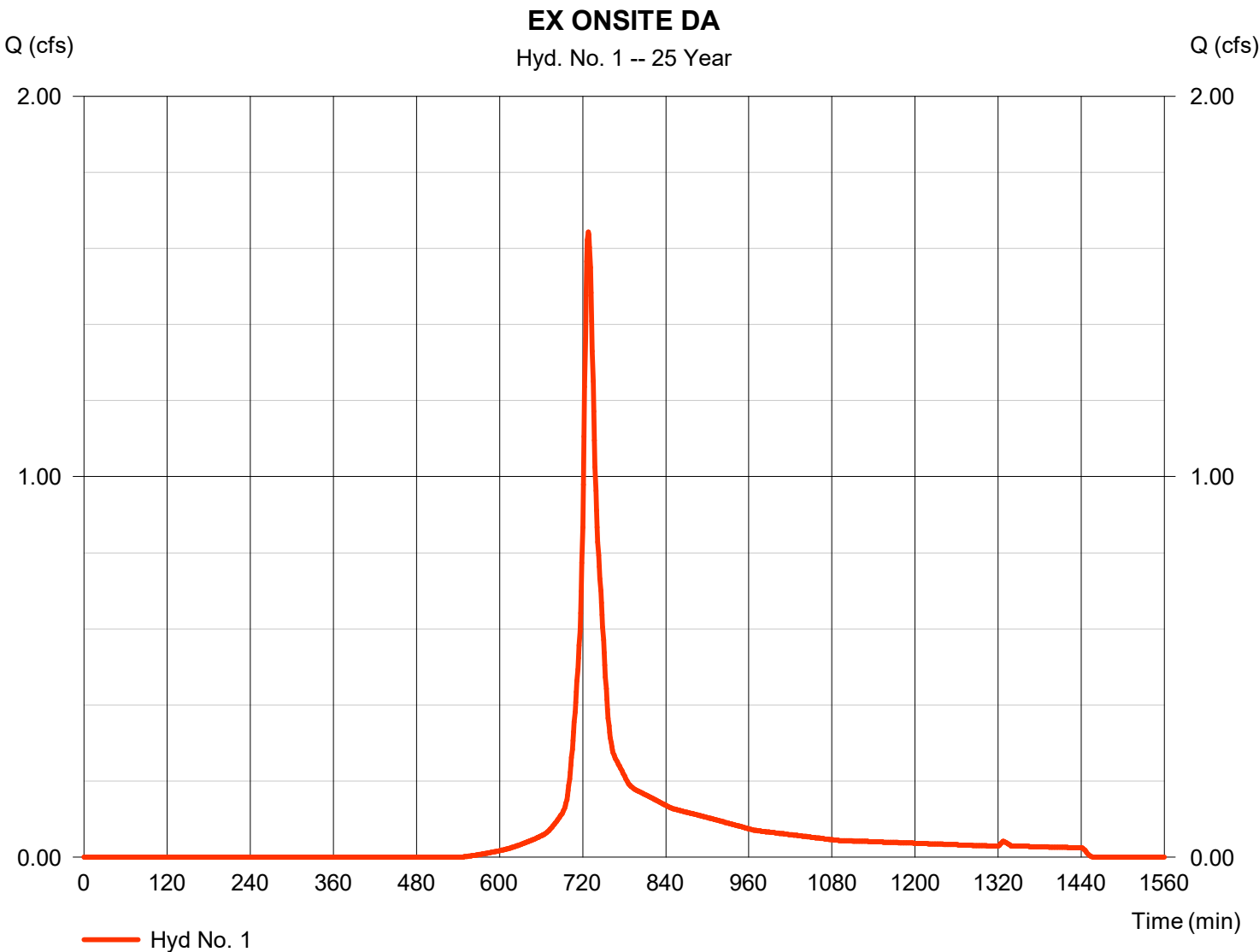
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.644	1	728	6,006	-----	-----	-----	EX ONSITE DA
2	SCS Runoff	3.423	1	722	9,927	-----	-----	-----	PROP ONSITE DA
Bulverde Food Pantry.gpw					Return Period: 25 Year			Friday, 10 / 4 / 2024	

Hydrograph Report

Hyd. No. 1

EX ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.644 cfs
Storm frequency	=	25 yrs	Time to peak	=	728 min
Time interval	=	1 min	Hyd. volume	=	6,006 cuft
Drainage area	=	0.390 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.80 min
Total precip.	=	8.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

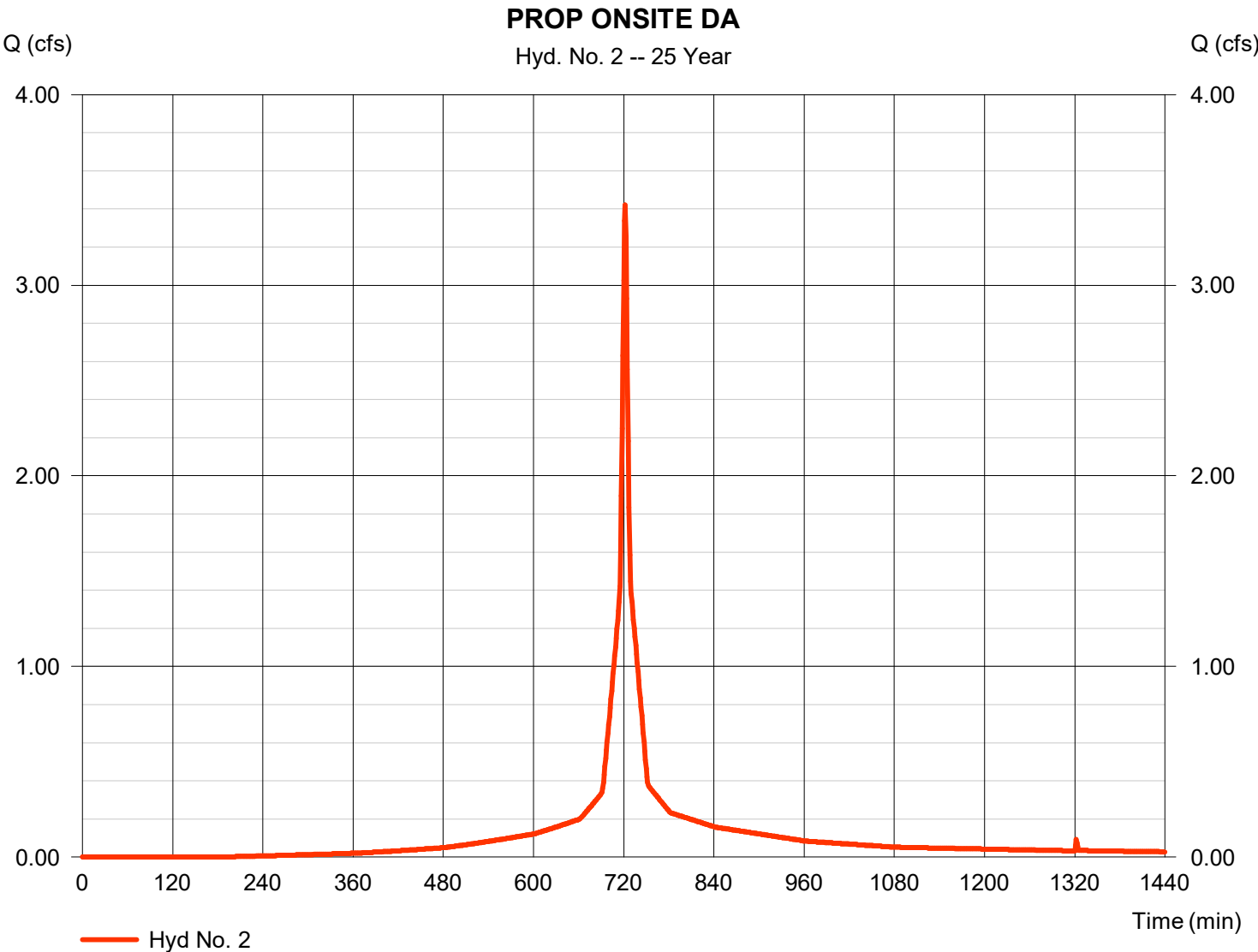


Hydrograph Report

Hyd. No. 2

PROP ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.423 cfs
Storm frequency	=	25 yrs	Time to peak	=	722 min
Time interval	=	1 min	Hyd. volume	=	9,927 cuft
Drainage area	=	0.390 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	2.50 min
Total precip.	=	8.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

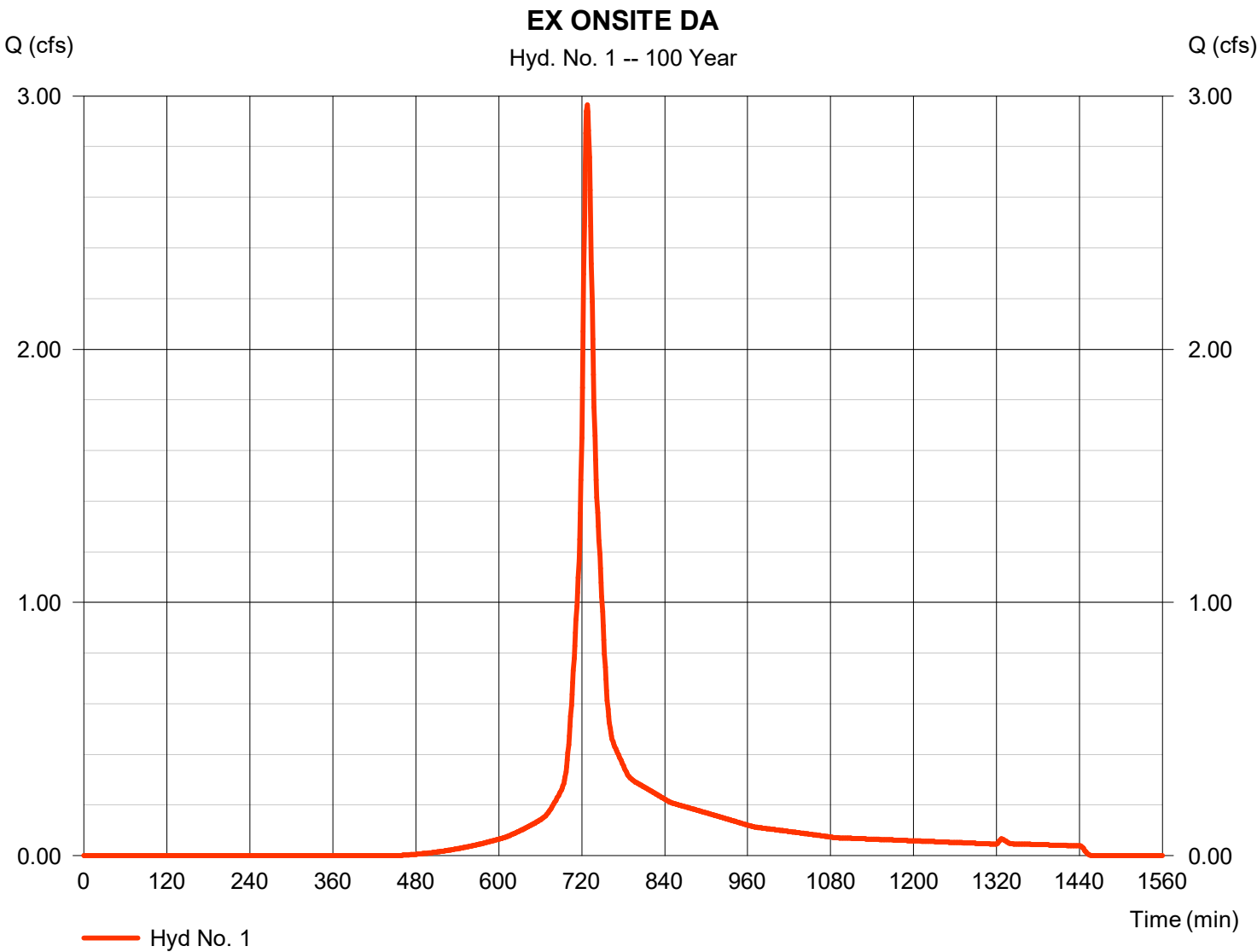
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.965	1	728	10,765	-----	-----	-----	EX ONSITE DA
2	SCS Runoff	5.075	1	722	15,086	-----	-----	-----	PROP ONSITE DA
Bulverde Food Pantry.gpw					Return Period: 100 Year			Friday, 10 / 4 / 2024	

Hydrograph Report

Hyd. No. 1

EX ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.965 cfs
Storm frequency	=	100 yrs	Time to peak	=	728 min
Time interval	=	1 min	Hyd. volume	=	10,765 cuft
Drainage area	=	0.390 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.80 min
Total precip.	=	12.87 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

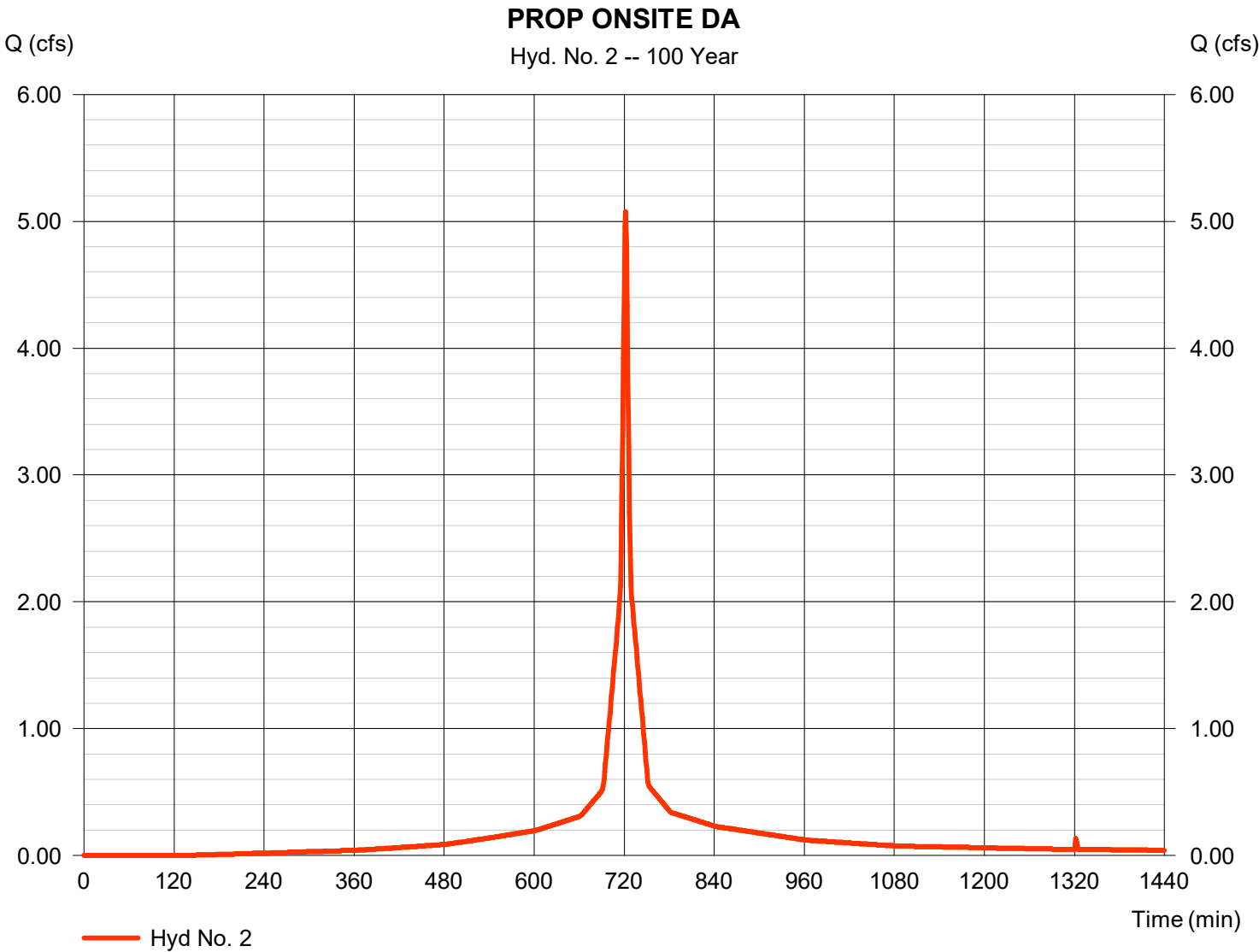


Hydrograph Report

Hyd. No. 2

PROP ONSITE DA

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.075 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	1 min	Hyd. volume	=	15,086 cuft
Drainage area	=	0.390 ac	Curve number	=	88
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	2.50 min
Total precip.	=	12.87 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



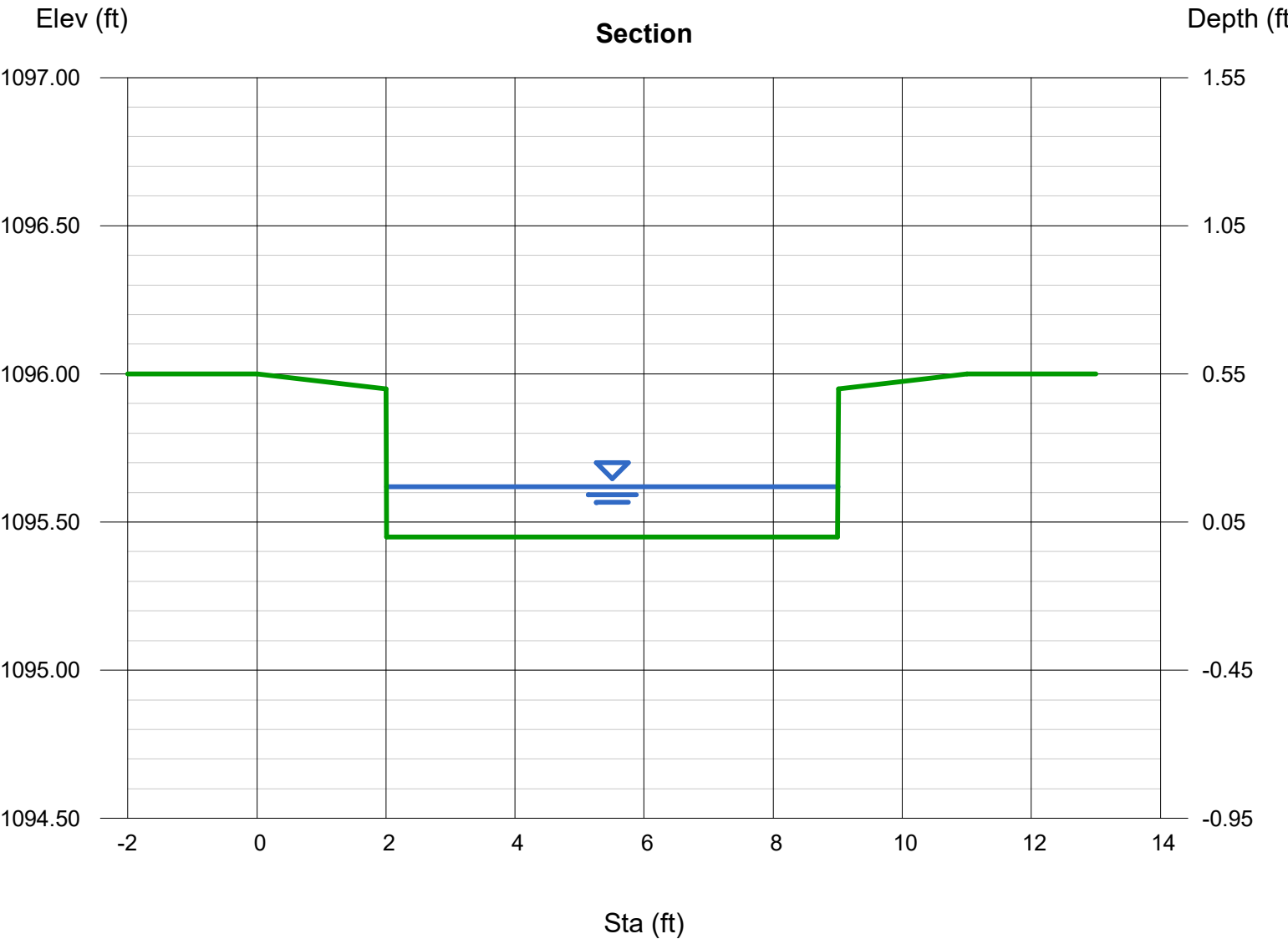
Channel Report

7 FT CHANNEL CAPACITY CALC SECTION D-D (25 YEARS)

User-defined		Highlighted	
Invert Elev (ft)	= 1095.45	Depth (ft)	= 0.17
Slope (%)	= 1.13	Q (cfs)	= 3.420
N-Value	= 0.015	Area (sqft)	= 1.19
		Velocity (ft/s)	= 2.88
		Wetted Perim (ft)	= 7.33
		Crit Depth, Yc (ft)	= 0.20
		Top Width (ft)	= 7.00
		EGL (ft)	= 0.30

Calculations
Compute by: Known Q
Known Q (cfs) = 3.42

(Sta, El, n)-(Sta, El, n)...
(0.00, 1096.00)-(2.00, 1095.95, 0.015)-(2.01, 1095.45, 0.015)-(9.00, 1095.45, 0.015)-(9.01, 1095.95, 0.015)-(11.00, 1096.00, 0.015)



Shear Stress Calculation of 7 ft Channel

Unit Weight of water, γ	62.4	lb/ft ³	
Channel Slope, S	0.0113	ft/ft	
Channel Area, A	3.5	sqft	
Wetted perimeter, P	8	ft	
Hydraulic radius, $R=A/P$	0.4375	ft	
Average shear stress at normal depth, $T_d = \gamma \times R \times S$	0.30849	lb./sq.ft	eq 9.3.8

The Allowable shear stress for Retardance Class B (City of San Antonio Manual; table 9.3.8.2) is 2.1 lb./sq.ft.

> 0.30849 lb./sq.ft; There is no classification for concrete channel.

As the value is conservative for grass, It will definitely conservative for concrete.
hence, the channel is acceptable.

BULVERDE FOOD PANTRY INLET DESIGN (25 YEARS) WQP INLET		
INLET DESIGN	INLET-WQP	
Discharge, Q (cfs)	3.423	
INLET DESIGN		
Orifice Coefficient, C	0.7	
Acceleration Due to Gravity, g	32.20	
Head (feet),h	0.50	
Net Area of Opening (Sq feet), A	0.86	$Q=CA*(2gh)^{0.5}$
Required Width of Inlet Opening	2	
Existing Inlet Opening (ft)	2	
No of Existing Inlet	1	
Total Width of Inlet Opening	3	ADEQUATE

ATTACHMENT F

OSSF letter will be send from Comal country. They are preparing it.

ATTACHMENT G, H & I

N/A

ATTACHMENT J

A natural channel exists on the west side of the property, where water flows from the east to the west, directing upstream runoff toward this channel. Additionally, a proposed 15-foot channel on the west side and a 3 ft channel long side the water quality pond are designed to accommodate future flow from upstream lots. At the entrance, a high point has been established to prevent any runoff from Heimer Cove Street from entering the site. As a result, only stormwater from the developed area will flow toward the channel, ensuring that upgradient stormwater does not pass through the site.

ATTACHMENT K

3.4.7 Sand Filter Systems

Since the mid-1980's, sand filtration has been the predominant nonpoint source water quality management practice used in the Austin, Texas area. Sand filters tend to have good longevity due to their offline design and the high porosity of the sand media. However, without proper maintenance, sand filters are prone to clogging, which dramatically reduces performance and can lead to nuisances associated with standing water. Pollutant removal is achieved primarily by straining pollutants through the filtration media, settling of solids on the top of the sand bed, and, if the filter maintains a grass cover crop, through plant uptake. Sand filters often are perceived to have negative aesthetic appeal, especially when not maintained, thus landscaping and basin configuration design should be carefully considered.

Sand filters may be configured as either a single basin or separate basins for sedimentation and filtration. If the sand filter design includes a wall with a riser pipe between the sedimentation and filtration chambers (separate basins), then the sedimentation basin should be sized to contain the entire design capture volume (termed "full sedimentation" in the City of Austin design manual). If the two chambers are separated by gabion baskets or similar porous structures, then the sum of the volumes of the sedimentation and filtration chambers must equal the designed capture volume (also known as partial sedimentation).

Design Criteria

- (1) *Facility Sizing* – The required water quality volume is dependent on the characteristics of the contributing drainage area. The method for calculation of required water quality volume is specified in Section 3.3 of this manual. This water quality volume should be increased by a factor of 20% to accommodate reductions in the available storage volume due to deposition of solids in the time between full-scale maintenance activities. A fixed vertical sediment depth marker should be installed in the sedimentation basin to indicate when sediment accumulation equals 20% of the water quality volume and sediment removal is required.
- (2) *Basin Geometry* – The water depth in the sedimentation basin when full should be at least 2 feet and no greater than 8 feet. A fixed vertical sediment depth marker should be installed in the sedimentation basin to indicate when the accumulated depth of sediment equals 6 inches and sediment removal is required. The minimum average surface area for the sand filter (A_f) varies depending on whether the proposed facility includes a separate sedimentation basin.

The recommended filter area for sand filters with a separate sedimentation basin is:

$$A_f = \frac{WQV}{18}$$

A_f = minimum surface area for the filtration basin in square feet

WQV = water quality volume in cubic feet

The sand filter area for facilities that combine filtration and sedimentation in a single basin is calculated as:

$$A_f = \frac{WQV}{10}$$

The larger filter area compensates for the less effective pretreatment in the sedimentation basin and reduces maintenance requirements.

- (3) *Sand and Gravel Configuration* – The sand filter is constructed with 18 inches of sand overlying 6 inches of gravel. The sand and gravel media are separated by permeable geotextile fabric. Four-inch perforated PVC pipe is used to drain captured flows from the gravel layer. A minimum of 2 inches of gravel must cover the top surface of the PVC pipe. Figure 3-23 presents a schematic representation of a standard sand bed profile.
- (4) *Sand Properties* – The sand grain size distribution should be comparable to that of “washed concrete sand” (i.e., ASTM C-33 fine aggregate).
- (5) *Underdrain Pipe Configuration* – The underdrain piping should consist of a main collector pipe and two or more lateral branch pipes, each with a minimum diameter of 4 inches. The pipes should have a minimum slope of 1% (1/8 inch per foot) and the laterals should be spaced at intervals of no more than 10 feet. There should be no fewer than two lateral branch pipes. Each individual underdrain pipe should have a screw-on cleanout access location. All piping is to be Schedule 40 PVC. The maximum spacing between rows of perforations should not exceed 6 inches.
- (6) *Basin Lining* – The basin lining should conform to the specifications described in Section 3.4.2.
- (7) *Flow Splitter* – The inflow structure to the sedimentation chamber should incorporate a flow-splitting device capable of isolating the capture volume and bypassing the 25-year peak flow around the sand filter system once the entire water quality volume has been captured.

- (8) *Basin Inlet* – Energy dissipation is required at the sedimentation basin inlet so that flows entering the basin should be distributed uniformly and at low velocity in order to prevent resuspension and encourage conditions necessary for deposition of solids.
- (9) *Sedimentation Pond Outlet Structure* – The outflow structure from the sedimentation chamber should be (1) an earthen berm; (2) a concrete wall; or (3) a rock gabion. When a concrete wall is used, rock riprap is not required upstream of the wall. Gabion outflow structures should extend across the full width of the facility such that no short-circuiting of flows can occur. The gabion rock should be 5 to 8 inches in diameter. The receiving end of the sand filter should be protected (splash pad, riprap, etc.) such that erosion of the sand media does not occur. The outlet of the sedimentation basin should have flow control so that the sedimentation basin drains from full in 24 hours. This can be accomplished with either an orifice or by adjusting a valve. The riser pipe should have a minimum diameter of 6 inches with four 1-inch perforations per row. The vertical spacing between rows should be 4 inches (on centers).
- (10) *Sand Filter Discharge* – If a gabion structure is used to separate the sedimentation and filtration basins, a valve must be installed so that discharge from the BMP can be stopped in case runoff from a spill of hazardous material enters the sand filter. The control for the valve must be accessible at all times, including when the basin is full.

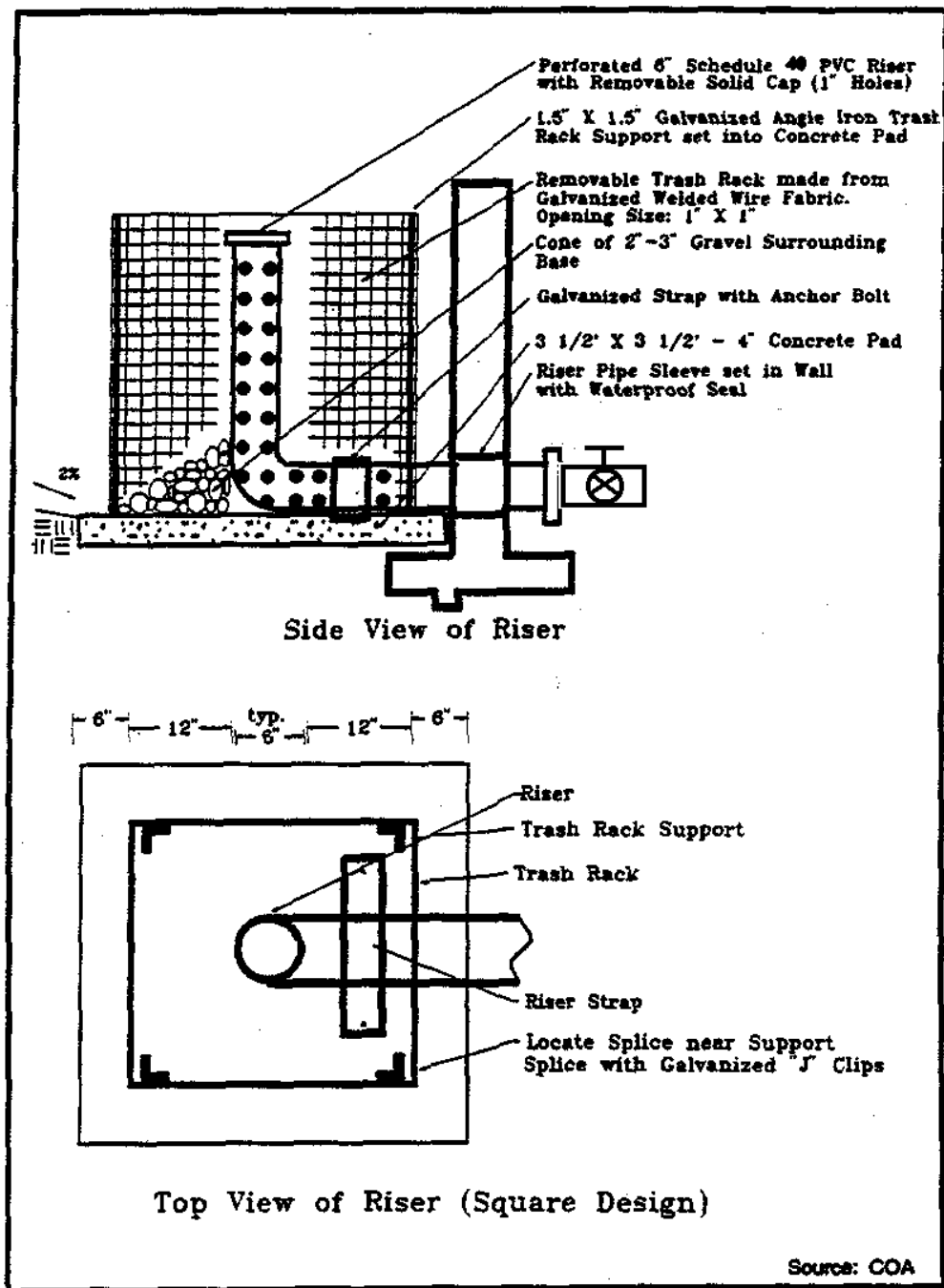


Figure 3-24 Detail of Sedimentation Riser Pipe

- (11) *Safety Considerations* – Safety is provided either by fencing of the facility or by managing the contours of the pond to eliminate dropoffs and other hazards. Earthen side slopes should not exceed 3:1 (H:V) and should terminate on a flat safety bench area. Landscaping can be used to impede access to the facility. The primary spillway opening must not permit access by small children. Outfall pipes more than 48 inches in diameter should be fenced.
- (12) *Stabilization Plan* – A plan should be provided indicating how adjacent terrestrial areas will be stabilized.

3.4.8 Bioretention

Bioretention facilities are effectively sand filters that include additional organic material in the filtration media to support vegetation. This allows these facilities to be integrated into the site landscaping where they can provide unobtrusive treatment of stormwater runoff.

- 1) *Water Quality Volume* – The water quality is calculated according to the guidelines in Section 3.3. This volume should be increased by a factor of 20% to accommodate reductions in the available storage volume due to deposition of solids in the time between full-scale maintenance activities. A fixed vertical sediment depth marker should be installed in the facility to indicate when sediment accumulation equals 20% of the water quality volume and sediment removal is required.
- 2) *Inlet Design* – When siting bioretention facilities to intercept drainage, the designer should attempt to use the preferred "off-line" facility design. Off-line facilities are defined by the flow path through the facility. Any facility that utilizes the same entrance and exit flow path upon reaching pooling capacity is considered an off-line facility.
- 3) *Filtration Area* – The footprint of the media should be sufficiently large that it underlies the entire flooded area for the design water quality volume calculated according to the guidelines in Section 3.3. The water depth over the media for the design storm should not exceed 6 inches.
- 4) *Media Properties* – The filtration media should have a minimum thickness of 3 feet and should have a maximum clay content of less than 5%. The soil mixture should be 50-60% sand; 20-30% compost; and 20-30% topsoil. The soil should be a uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. Provide clean sand, free of deleterious materials. Sand should be ASTM C- 33 with grain size of 0.02- 0.04 inches (same as sand filter).

ATTACHMENT L: N/A Geologist did not find any sensitive features.



ATTACHMENT M



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **Bulverde Food Pantry**

Date Prepared: **10/3/2024**

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

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:

$L_{M \text{ TOTAL PROJECT}}$ = Required TSS removal resulting from the proposed development = 80% of increased load

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 =	Comal	
Total project area included in plan * =	1.50	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	0.41	acres
Total post-development impervious cover fraction * =	0.27	
P =	33	inches

$L_{M \text{ TOTAL PROJECT}}$ = **368** 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. =

1

Total drainage basin/outfall area =

0.39

acres

Predevelopment impervious area within drainage basin/outfall area =

0.00

acres

Post-development impervious area within drainage basin/outfall area =

0.41

acres

Post-development impervious fraction within drainage basin/outfall area =

1.05

L_{M THIS BASIN} =

368

lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =

Sand Filter

Removal efficiency =

89

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: $L_R = (BMP\ efficiency) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =

0.39

acres

$A_I = 0.41$ acres
 $A_P = -0.02$ acres
 $L_R = 416$ lbs

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

Desired $L_{M \text{ THIS BASIN}} = 368$ lbs.
 $F = 0.88$

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

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.50 inches
Post Development Runoff Coefficient = 0.86
On-site Water Quality Volume = 1822 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 = 364

Total Capture Volume (required water quality volume(s) x 1.20) = 2187 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 assumed value of 0.1
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 =	2187	cubic feet	
Minimum filter basin area =	101	square feet	
Maximum sedimentation basin area =	911	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	228	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	2187	cubic feet	
Minimum filter basin area =	182	square feet	
Maximum sedimentation basin area =	729	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	46	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

Bulverde Food Pantry

DESIGN OF SEDIMENTATION/FILTRATION SYSTEM:

Add 20% to the required Water Quality volume for maintenance = $1.2 \times \text{WQV}$

Design WQV = 2,187 cu.ft.

The minimum sand filter surface area (A_f) for the combined filtration and sedimentation in a single basin = $\text{Design WQV} / (7 + 2.33 \times H)$

where, H = maximum ponding depth above filtration basin = **2 feet**

$A_f = 182 \text{ sq. ft.}$

Therefore, required sand filter surface area (A_f) = 182 sq. ft.

Provided facility sand filter area

Provided Length of the filtration chamber = 20.00 feet

Provided Width of the filtration chamber = 32.00 feet

Provided filtration surface Area = 640.00 sq.ft.

> 182 sq.ft. O.K.

The maximum sedimentation area $A_s =$

$A_s = 729.00 \text{ sq. ft.}$

Length of the sedimentation chamber = 20.00 feet

Width of the sedimentation chamber = 32.00 feet

Provided Sedimentation surface Area = 640.00 sq.ft.

< 729 sq.ft. O.K.

Provided facility volume = 2,560 cu.ft. (from plans)

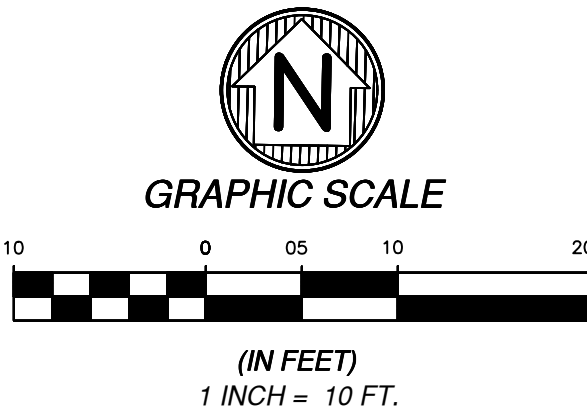
> 2187 cu.ft. O.K.

IMPERVIOUS COVER TREATMENT SUMMARY TABLE	
TOTAL EX IMPERVIOUS COVER	00. SF
PROPOSED BUILDING	4,000 SF
PROPOSED PARKING AND DRIVE	18,850 SF
TOTAL PROPOSED IMPERVIOUS COVER INCREASE	22,850 SF
TREATED IMPERVIOUS COVER AREA	22,850 SF (100%)

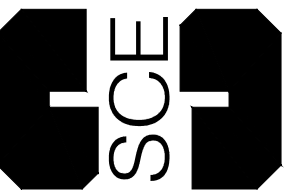
NOTE:
THE BASIN IS A CONCRETE LINER.
SAND AND GRAVEL LAYER (MATCH RG-348 DESIGN CRITERIA SECTION 3.4.2 AND 3.4.7).
THE SAND FILTER IS CONSTRUCTED WITH 18 INCHES OF SAND OVERLYING 6 INCHES OF GRAVEL. THE SAND AND GRAVEL MEDIA ARE SEPARATED BY PERMEABLE GEOTEXTILE FABRIC. FOUR-INCH PERFORATED PVC PIPE IS USED TO DRAIN CAPTURED FLOWS FROM THE GRAVEL LAYER. A MINIMUM OF 2 INCHES OF GRAVEL MUST COVER THE TOP SURFACE OF THE PVC PIPE. FIGURE 3-23 PRESENTS A SCHEMATIC REPRESENTATION OF A STANDARD SAND BED PROFILE. THE SAND GRAIN SIZE DISTRIBUTION SHOULD BE COMPARABLE TO THAT OF "WASHED CONCRETE SAND" (I.E., ASTM C-33 FINE AGGREGATE)
SUITABLE GEOTEXTILE FABRIC SHOULD BE PLACED ON MIDDLE OF GRAVEL AND SAND LAYER PUNCTURE PROTECTION. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NONWOVEN GEOTEXTILE FABRIC AND MEET THE SPECIFICATIONS IN TABLE 3-7.

NOTE: MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD NOT EXCEED 6 INCHES.

10/04/2024



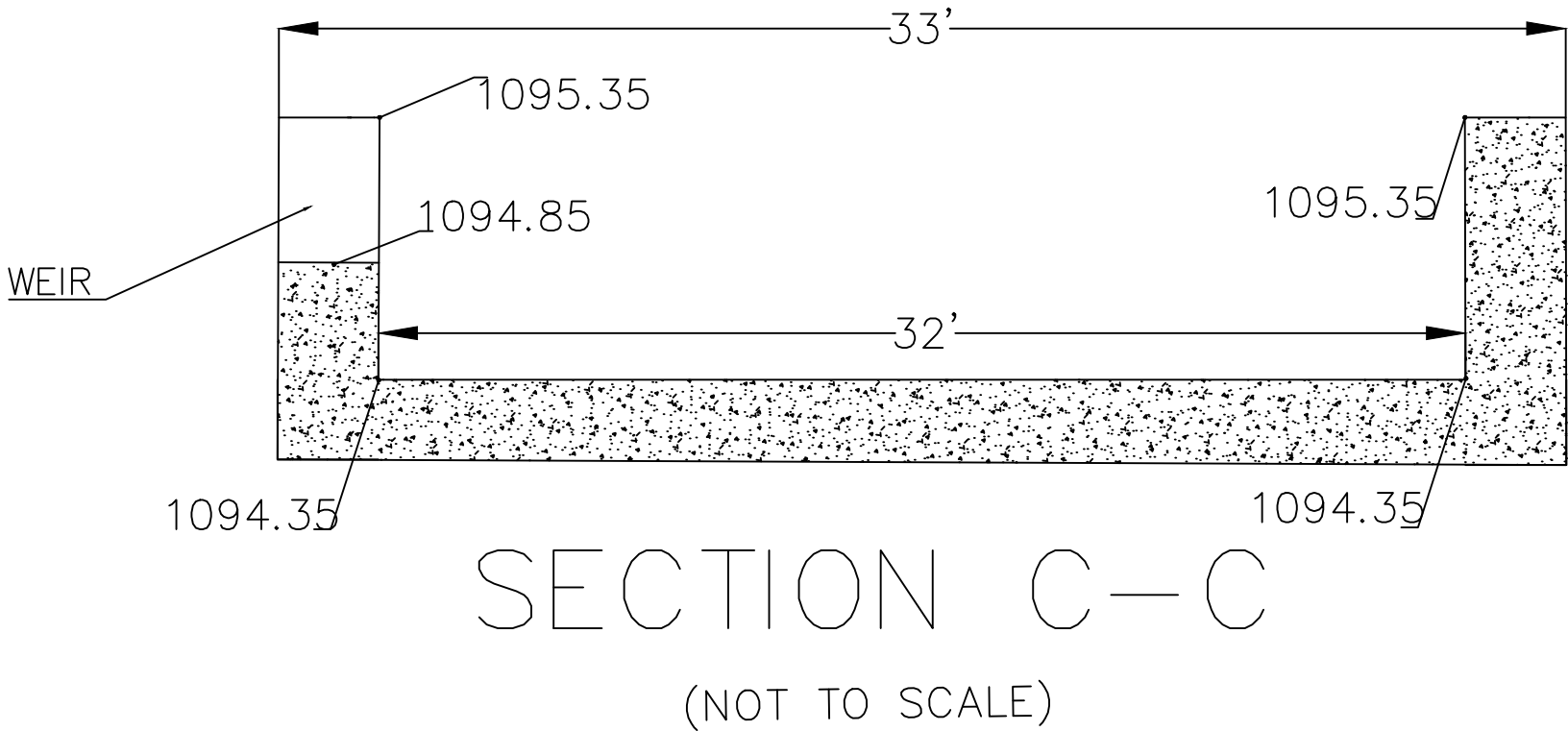
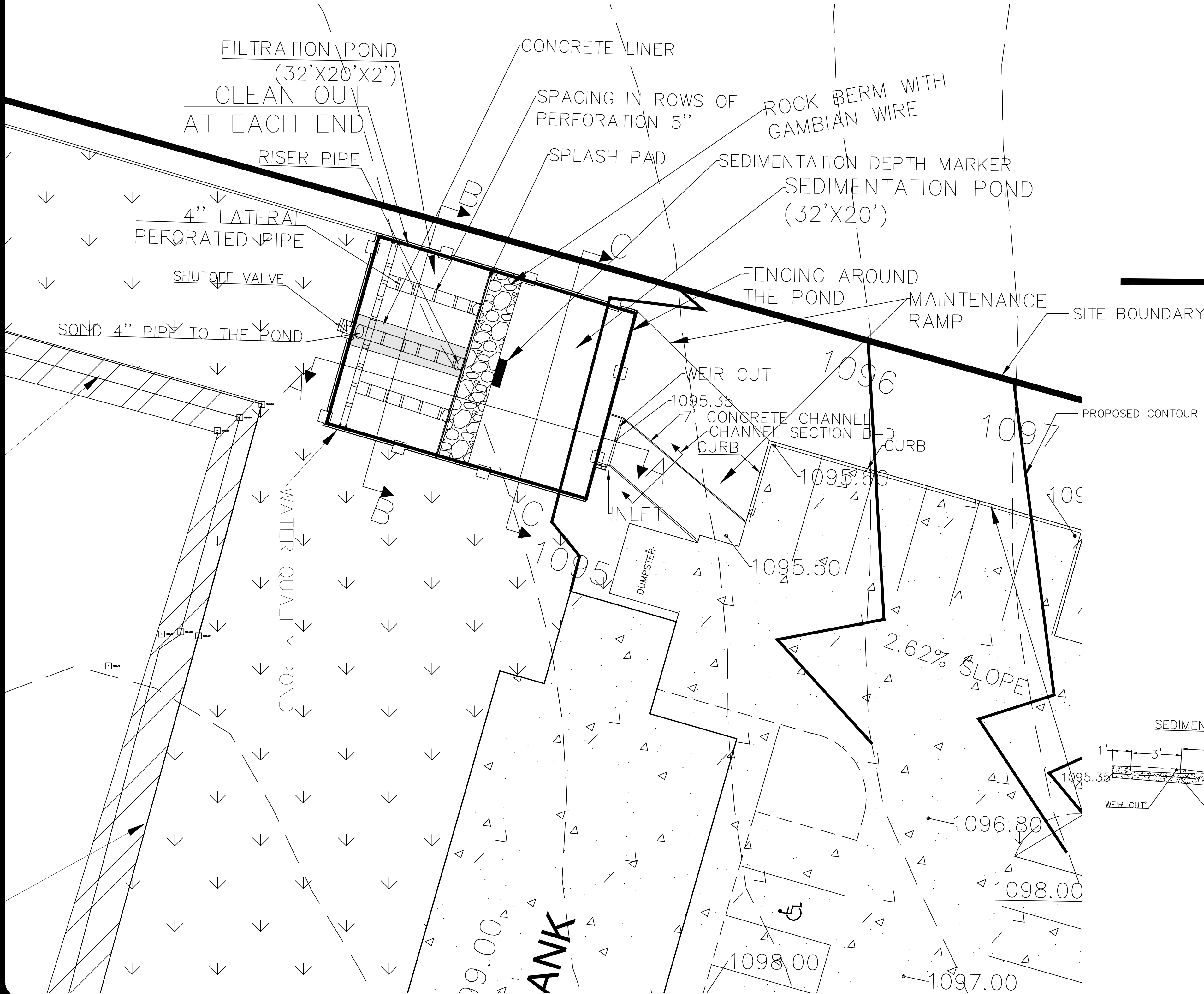
Seda Consulting Engineers, Inc.
Firm Registration No: F-1601
6735 IH 10 West
San Antonio, Texas 78201
e-mail: seda@saex-r.com
CIVIL • STRUCTURAL • ENVIRONMENTAL • PLANNER



BULVERDE FOOD PANTRY
WATER QUALITY POND PLAN
CITY OF BULVERDE, COMAL COUNTY, TEXAS

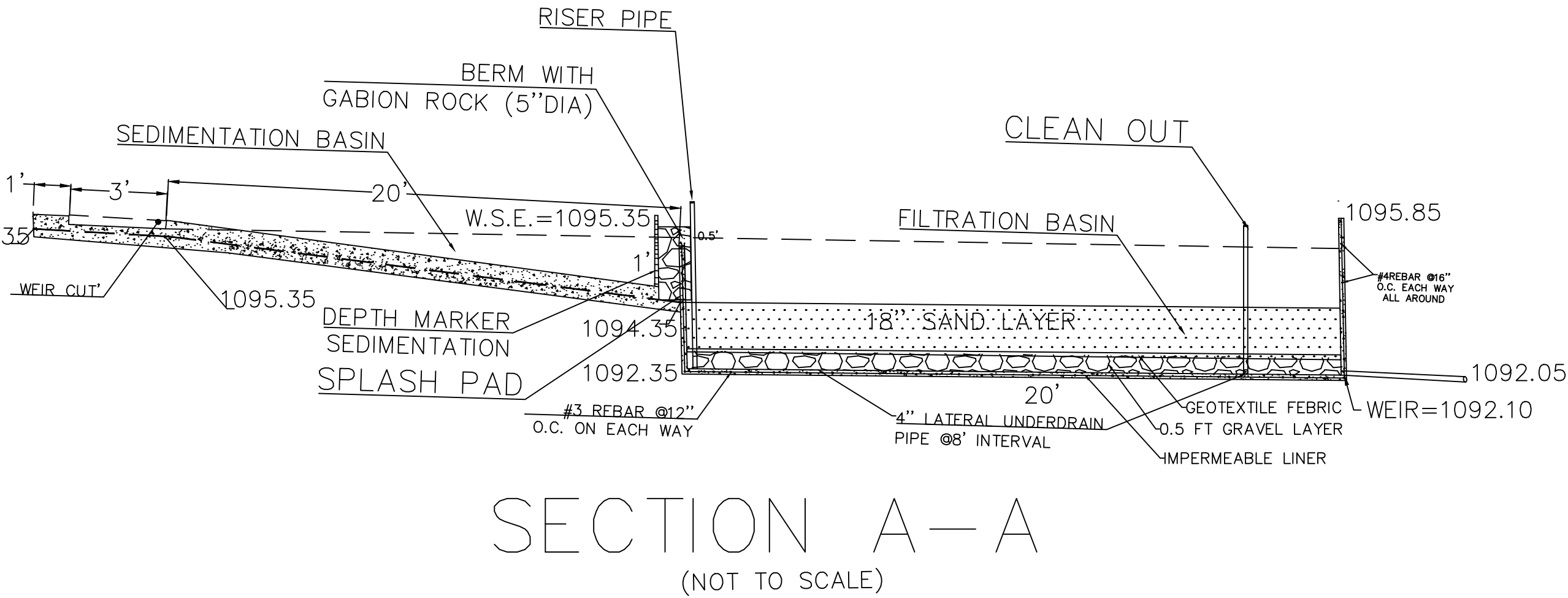
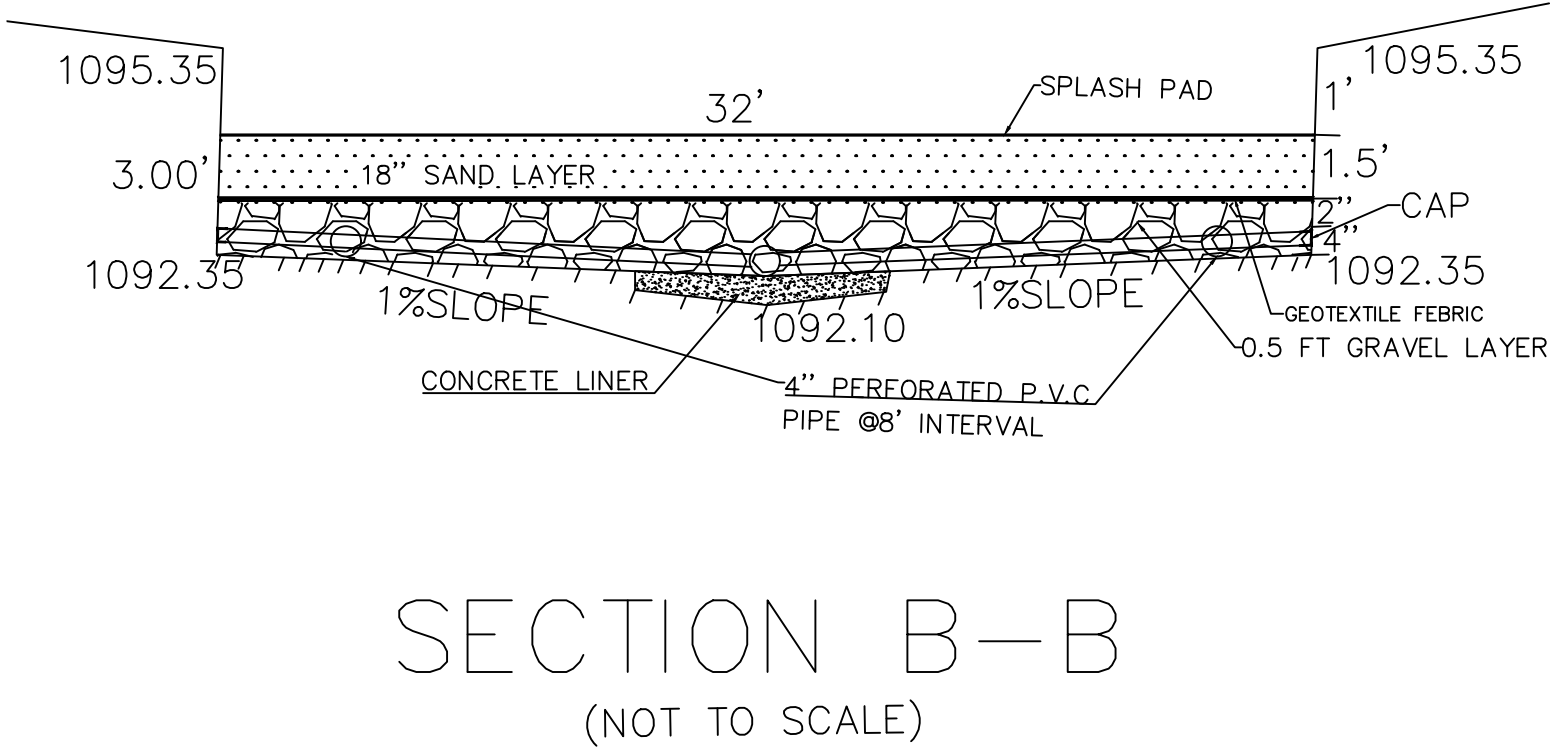
JOB NO. 1811
DATE: 08/01/2024
DRAWN BY: FM
CHECKED BY: SED
SHEET: 1 OF 2

NOTE: ALL AREA WILL BE DISTURBED EXCEPT THE TWO
(0.09 AC., 0.20 AC., & 0.17 ACRES) NOT DISTURBED AREA.



LEGEND

DIRECTION OF FLOW
PROP CONTOUR

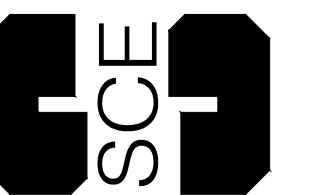


1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY GROUND DISTURBANCE OR CONSTRUCTION ACTIVITIES. THIS NOTICE MUST INCLUDE:
 - THE NAME OF THE APPROVED PROJECT;
 - THE ACTIVITY START DATE; AND
 - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
5. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
6. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.
9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
 - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
 - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
 - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

Property	Test Method	Unit	Specification (min)
Unit Weight	ASTM D-5261	oz/yd ²	8
Filtration Rate	ASTM D-4491	cm/sec	0.20
Puncture Strength	ASTM D-4833	lb	125
Mullen Burst Strength	ASTM D-3786	psi	400
Tensile Strength	ASTM D-4632	lb	200
Equiv. Opening Size	US Standard Sieve	No.	80



JOB NO. 1811
 DATE: 08/01/2024
 DRAWN BY: FM
 CHECKED BY: SED
 SHEET: 2 OF 2



ATTACHMENT N:

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

1. Inspections: BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.
2. Sediment Removal: Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.
3. Media Replacement: Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.
4. Debris and Litter Removal: Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.
5. Filter Underdrain: Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.
6. Mowing: Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

It should 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.

I understand that I am responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until each 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.

Robert D Rosenfeld

Signature

08/30/2024

Date

ATTACHMENT O : N/A

ATTACHMENT P: N/A



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: Bulverde Food Pantry, Inc.

Date: 08/30/2024

Signature of Customer/Agent:

Robert D Rosenfeld

Regulated Entity Name: Bulverde Food Pantry, Inc.

Project Information

Potential Sources of Contamination

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

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

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

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

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

- ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- ☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- ☒ Fuels and hazardous substances will not be stored on the site.
- 2. ☒ **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. ☐ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. ☒ **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

- 5. ☒ **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - ☐ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - ☐ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Cibolo Creek.

Temporary Best Management Practices (TBMPs)

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

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

- ☐ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - ☐ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - ☐ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- ☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- ☒ N/A
12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

- 18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

- 20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
- 21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

TEMPORARY STORMWATER SECTION ATTACHMENTS

ATTACHMENT A

Spill Response Actions

(As per TCEQ RG-348. "Complying with the Edwards Aquifer Rules – Technical Guidance of Best Management Practices", Spill Prevention and Control)

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

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

Education

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.
- (6) Spills should be covered and protected from stormwater run on during rainfall to the extent that it doesn't compromise cleanup activities.
- (7) Do not bury or wash spills with water.
- (8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- (9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- (10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or Water courses.
- (11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- (12) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- (1) Clean up leaks and spills immediately.
- (2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- (3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- (1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- (2) Use absorbent materials on small spills rather than hosing down or burying the spill.
- (3) Absorbent materials should be promptly removed and disposed of properly.
- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

- (1) Contain spread of the spill.
- (2) Notify the project foreman immediately.
- (3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- (4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- (5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- (1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- (2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- (3) Notification should first be made by telephone and followed up with a written report.
- (4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- (5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website

<https://www.tceq.texas.gov/response/spills>

Vehicle and Equipment Maintenance

- (1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
- (2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately
- (3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- (4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- (5) Place drip pans or absorbent materials under paving equipment when not in use.
- (6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- (7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

- (8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- (9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- (1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
- (2) Discourage "topping off" of fuel tanks.
- (3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

ATTACHMENT B

FACTORS AFFECTING WATER QUALITY

Surface water contamination during construction can occur through various activities and processes. These contaminants can include sediments, chemicals, nutrients, and debris that may harm aquatic ecosystems and pose risks to human health. Here are some key activities and processes that may lead to surface water contamination:

1. Soil Erosion and Sediment Runoff:

- **Excavation and Grading:** Disturbing the soil for foundations, roads, or landscaping can lead to soil erosion, especially during heavy rains. The loose soil can be washed into nearby water bodies, increasing turbidity and harming aquatic life.
- **Removal of Vegetation:** Clearing vegetation reduces the land's natural ability to retain soil and absorb water, leading to increased runoff and sedimentation in water bodies.

2. Handling and Storage of Hazardous Materials:

- **Fuel and Oil Spills:** Construction equipment often uses fuels and lubricants. Spills from storage tanks, machinery, or refueling activities can introduce hydrocarbons into the water system.
- **Chemicals and Solvents:** The use of chemicals such as paints, adhesives, and cleaning agents can result in spills or improper disposal, leading to contamination of surface water.

3. Storm water Runoff:

- **Contaminated Site Water:** Water that collects on the site, including rainwater that comes into contact with pollutants, can flow into nearby streams, rivers, or lakes.

4. Waste Management:

- **Construction Waste:** Improper disposal of construction waste, including debris, cement, chemicals, and packaging, can lead to environmental contamination.

5. Improper Waste Disposal:

- **Sanitary Waste:** Improper management of sanitary facilities on-site, such as portable toilets, can lead to the release of human waste into water systems.

6. Uncontrolled Access:

- **Vehicle and Equipment Movement:** Construction vehicles and equipment can introduce contaminants such as oil, grease, and sediments into water systems, especially if they operate near or through water bodies.

7. After construction is complete, the potential sources of contamination would be from sediments brought onsite such as fuel, oil and grease from vehicles.

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ATTACHMENT C

The general sequence of events will be as follows:

- Install temporary erosions/sedimentation controls, and tree protection fencing.
- Clear/grub remaining vegetation within the homebuilding site as listed on the engineering plans.
- Rough grade site and prepare for slab installation.
- Install slab and construct structure and associated utilities.
- Install concrete washout.
- Complete site pavement
- Complete final site grading and restoration of site vegetation (i.e. landscaping).
- When the owner receives City certificate of occupancy, remove and dispose of temporary erosion controls and tree protection.
- Complete any final site dress-up as needed.

The major soil disturbing events are clearing and grubbing, rough cut grading, excavation, regading, final grading of the site, and Paving.

Please note that portion of site (1.042 acres) will be disturbed during all the major activities during construction.

Description of Temporary BMPs:

Silt Fence:

A **silt fence** is a temporary sediment control device used on construction sites to protect water quality in nearby streams, rivers, and lakes from sediment (loose soil) in storm water runoff. It consists of a piece of synthetic filter fabric stretched between a series of wooden or metal stakes, typically driven into the ground along the contour of the slope.

Key Features and Functions:

- **Sediment Control:** The fabric allows water to pass through while trapping soil particles, preventing sediment from leaving the construction site.
- **Placement:** Silt fences are usually placed at the downslope perimeter of a disturbed area, or around sensitive environmental areas like wetlands.
- **Installation:** Proper installation is crucial for effectiveness. The bottom of the fabric is typically buried in a trench to prevent water from flowing underneath.
- **Maintenance:** Silt fences require regular inspection and maintenance. Accumulated sediment must be removed when it reaches a certain level to prevent the fence from failing.

Rock Berm for Entrance and Exit:

A **rock berm** is used as a stabilization method at construction site entrances and exits to minimize sediment tracking onto public roadways and to reduce erosion. It typically consists of large, angular rocks placed at the entrance/exit points where vehicles enter or leave the construction site.

- **Sediment Control:** As vehicles drive over the berm, the rocks help to remove mud and sediment from tires, reducing the amount of sediment transported off-site.
- **Installation:** The rock size and thickness of the berm depend on site conditions and traffic volume. Geotextile fabric is often placed underneath to separate the rocks from the soil, preventing the soil from mixing with the rocks and losing effectiveness.
- **Maintenance:** Regular maintenance is required to ensure that the rock berm remains effective. This includes adding or replacing rocks as they become embedded with mud or soil, and removing sediment build-up.

Concrete washout:

Concrete washout areas are critical temporary Best Management Practices (BMPs) implemented on construction sites to manage and contain concrete waste. These areas are specifically designed to collect and treat washout water from the cleaning of concrete trucks, mixers, tools, and other equipment, preventing harmful runoff and contamination of surrounding soil and water bodies.

Key Features of Concrete Washout BMPs:

1. **Containment Structure:** The washout area typically consists of an impermeable, leak-proof containment structure. This structure is often made from heavy-duty plastic sheeting or prefabricated containers that are durable and resistant to punctures, ensuring that no contaminated water escapes into the environment.
2. **Location:** The concrete washout should be strategically placed away from drainage areas, stormwater inlets, and water bodies to minimize the risk of accidental discharge. It is usually located near the areas where concrete work is taking place to facilitate easy access for workers.
3. **Capacity:** The washout area must be sized appropriately to handle the expected volume of concrete washout water generated on-site. It should be monitored regularly and emptied as necessary to prevent overflow.
4. **Signage:** Clear signage should be installed to direct workers to the designated washout area and to indicate its proper use. This helps in preventing improper disposal of washout water elsewhere on the site.
5. **Maintenance:** Regular inspection and maintenance of the washout area are crucial to ensure its effectiveness. This includes checking for leaks, removing hardened concrete, and replacing the liner or container if damaged. Proper disposal of the collected waste must follow local regulations and environmental guidelines.

All temporary BMPs silt fences, concrete washout and rock berms are critical components of a construction site's overall erosion and sediment control plan, aimed at protecting water quality and minimizing environmental impact.

ATTACHMENT D

SILT FENCE:

MATERIALS:

- (1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
- (2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINDELL HARDNESS EXCEEDING 140.
- (3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION:

- (1) STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
- (2) LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
- (3) THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- (4) THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- (5) SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- (6) SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:

- (1) INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
- (2) REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- (3) REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
- (4) REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
- (5) WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED

SILT FENCE:

A **SILT FENCE** IS A TEMPORARY SEDIMENT CONTROL DEVICE USED ON CONSTRUCTION SITES TO PROTECT WATER QUALITY IN NEARBY STREAMS, RIVERS, AND LAKES FROM SEDIMENT (LOOSE SOIL) IN STORM WATER RUNOFF. IT CONSISTS OF A PIECE OF SYNTHETIC FILTER FABRIC STRETCHED BETWEEN A SERIES OF WOODEN OR METAL STAKES, TYPICALLY DRIVEN INTO THE GROUND ALONG THE CONTOUR OF THE SLOPE.

KEY FEATURES AND FUNCTIONS:

- **SEDIMENT CONTROL:** THE FABRIC ALLOWS WATER TO PASS THROUGH WHILE TRAPPING SOIL PARTICLES, PREVENTING SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
- **PLACEMENT:** SILT FENCES ARE USUALLY PLACED AT THE DOWNSLOPE PERIMETER OF A DISTURBED AREA, OR AROUND SENSITIVE ENVIRONMENTAL AREAS LIKE WETLANDS.
- **INSTALLATION:** PROPER INSTALLATION IS CRUCIAL FOR EFFECTIVENESS. THE BOTTOM OF THE FABRIC IS TYPICALLY BURIED IN A TRENCH TO PREVENT WATER FROM FLOWING UNDERNEATH.
- **MAINTENANCE:** SILT FENCES REQUIRE REGULAR INSPECTION AND MAINTENANCE. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN IT REACHES A CERTAIN LEVEL TO PREVENT THE FENCE FROM FAILING.

ROCK BERM FOR ENTRANCE AND EXIT:

A **ROCK BERM** IS USED AS A STABILIZATION METHOD AT CONSTRUCTION SITE ENTRANCES AND EXITS TO MINIMIZE SEDIMENT TRACKING ONTO PUBLIC ROADWAYS AND TO REDUCE EROSION. IT TYPICALLY CONSISTS OF LARGE, ANGULAR ROCKS PLACED AT THE ENTRANCE/EXIT POINTS WHERE VEHICLES ENTER OR LEAVE THE CONSTRUCTION SITE.

KEY FEATURES AND FUNCTIONS:

- **EROSION CONTROL:** THE ROCK BERM STABILIZES THE SOIL AND REDUCES THE VELOCITY OF WATER RUNOFF, THEREBY MINIMIZING EROSION.
- **SEDIMENT CONTROL:** AS VEHICLES DRIVE OVER THE BERM, THE ROCKS HELP TO REMOVE MUD AND SEDIMENT FROM TIRES, REDUCING THE AMOUNT OF SEDIMENT TRANSPORTED OFF-SITE.
- **INSTALLATION:** THE ROCK SIZE AND THICKNESS OF THE BERM DEPEND ON SITE CONDITIONS AND TRAFFIC VOLUME. GEOTEXTILE FABRIC IS OFTEN PLACED UNDERNEATH TO SEPARATE THE ROCKS FROM THE SOIL, PREVENTING THE SOIL FROM MIXING WITH THE ROCKS AND LOSING EFFECTIVENESS.
- **MAINTENANCE:** REGULAR MAINTENANCE IS REQUIRED TO ENSURE THAT THE ROCK BERM REMAINS EFFECTIVE. THIS INCLUDES ADDING OR REPLACING ROCKS AS THEY BECOME EMBEDDED WITH MUD OR SOIL, AND REMOVING SEDIMENT BUILD-UP.

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/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
- (4) IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION: (NORTH CAROLINA, 1993)

- (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.

INSPECTION AND MAINTENANCE GUIDELINES:

- (1) THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- (2) ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- (3) WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- (4) WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- (5) ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS

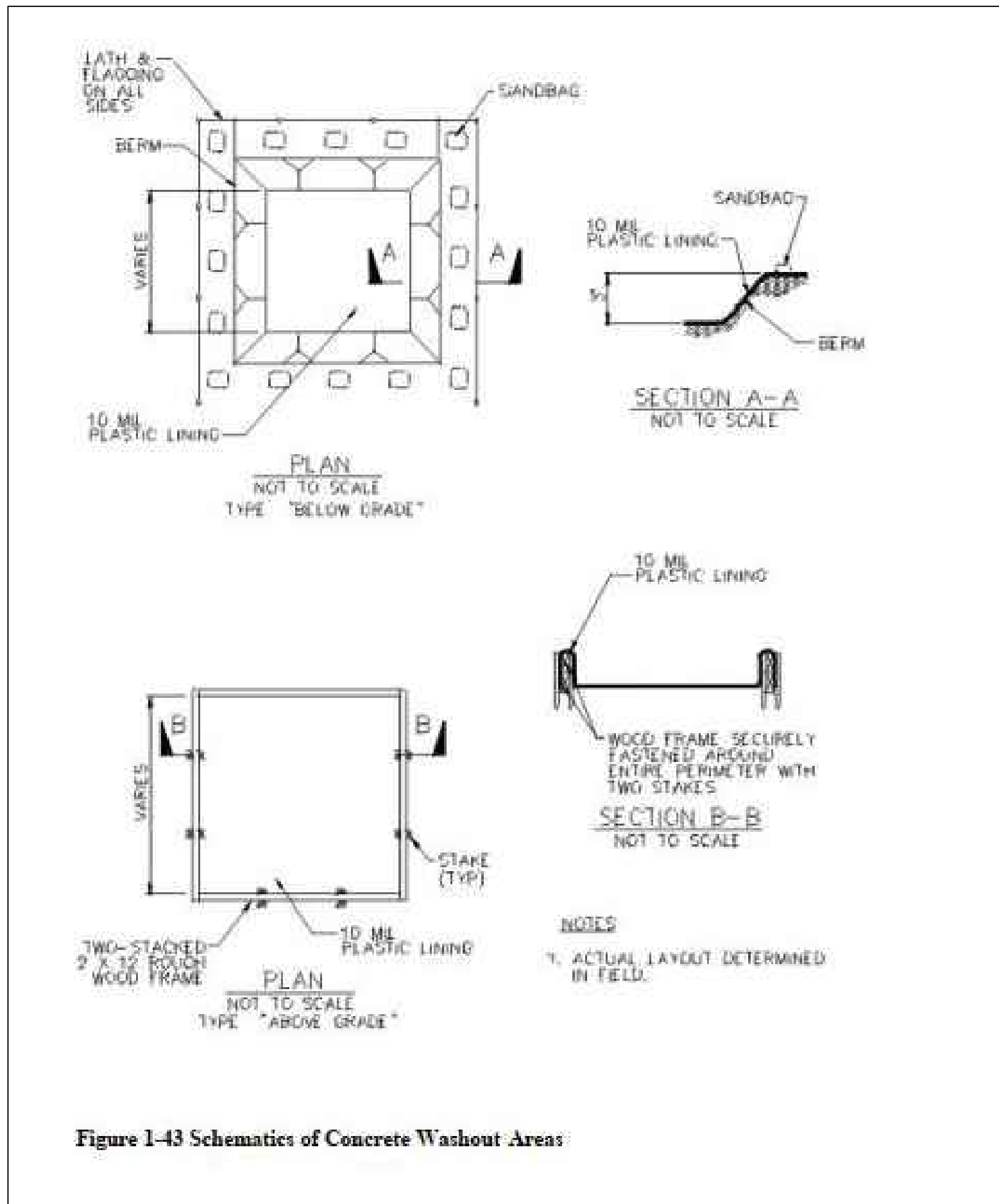


Figure 1-43 Schematics of Concrete Washout Areas

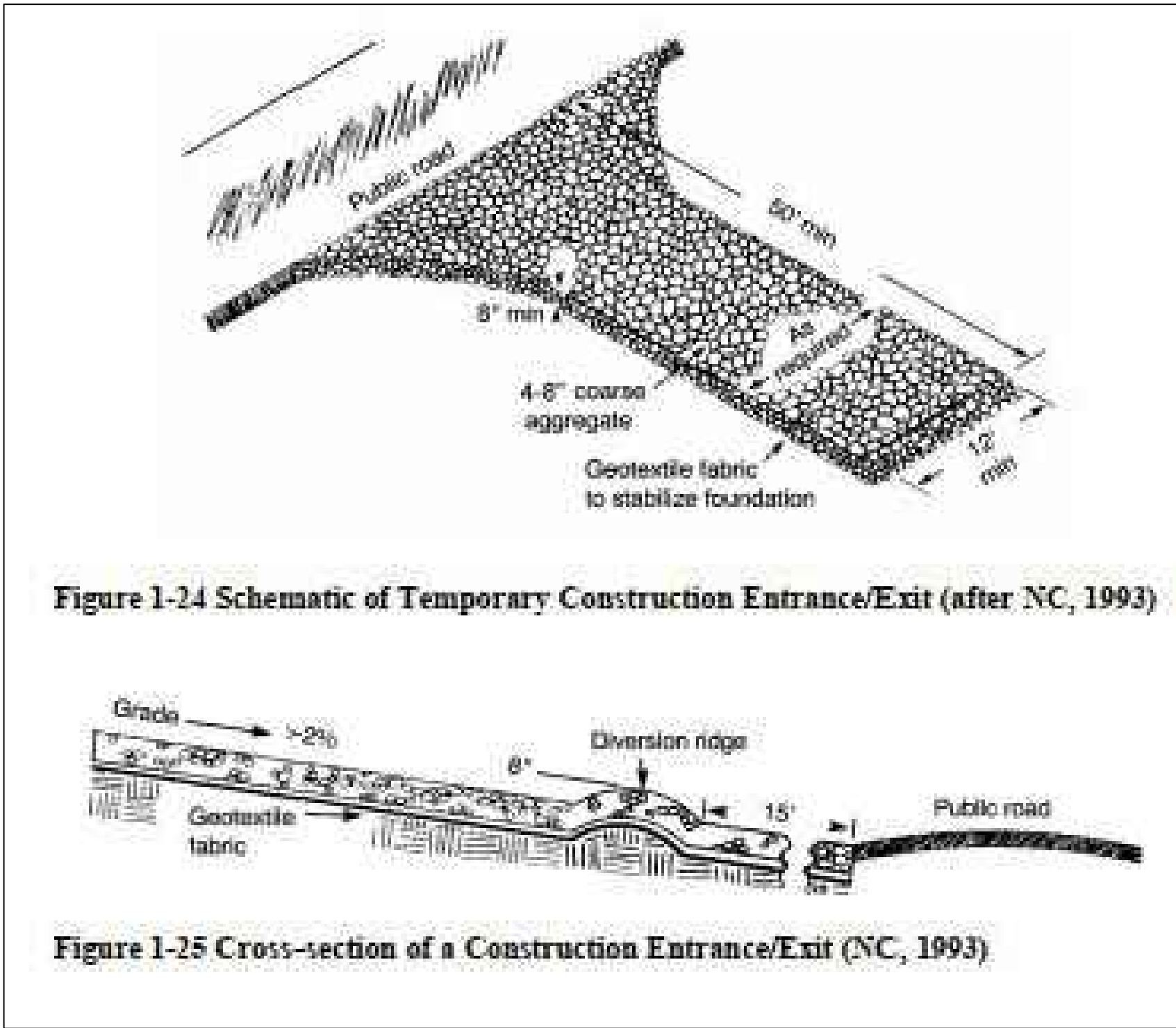


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)



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

ENTRANCE/EXIT

Permanent Stabilization – These measures will permanently prevent soil erosion and will suspend billing for each month they are functioning properly. When all exposed soil at a site is permanently stabilized, the project will receive final approval from the Soil Erosion Program.

- 1) **Established Vegetative Cover** – Any form of vegetation that provides a root base in the soil and a barrier between the soil and the weather can be considered permanent stabilization. Forms of acceptable vegetative cover when properly installed and maintained are sod, grass, native trees, shrubs and ground cover.
- 2) **Woodchips** – As part of landscaping a thick layer of wood chips or other "permanent" mulch is acceptable in non-sloped areas.
- 3) **Stone** – A thick layer of stone is considered permanent stabilization on all areas except steep slopes. This includes gravel drives, stone gardens, and pavers used for foot traffic. Geo-textile fabric placed underneath stone in swales and drives is advisable.
- 4) **Pavement** – Roads or driveways are considered permanent stabilization.

It is important to remember that none of the above methods guarantee stabilization. Proper maintenance is the key to good stabilization. The members of the SESC Program staff are happy to answer any questions or to help out with suggestions on what is best for a particular site. Contact us at (734) 222-6860.

Washtenaw County, Office of the Water Resources Commissioner, Soil Erosion Program
Western County Service Center, 705 N. Zeeb Rd, P.O. Box 8645, Ann Arbor, MI 48107-8645
eWashtenaw.org, Direct 734-222-3978, Main 734-222-6860, Fax 734-222-6803

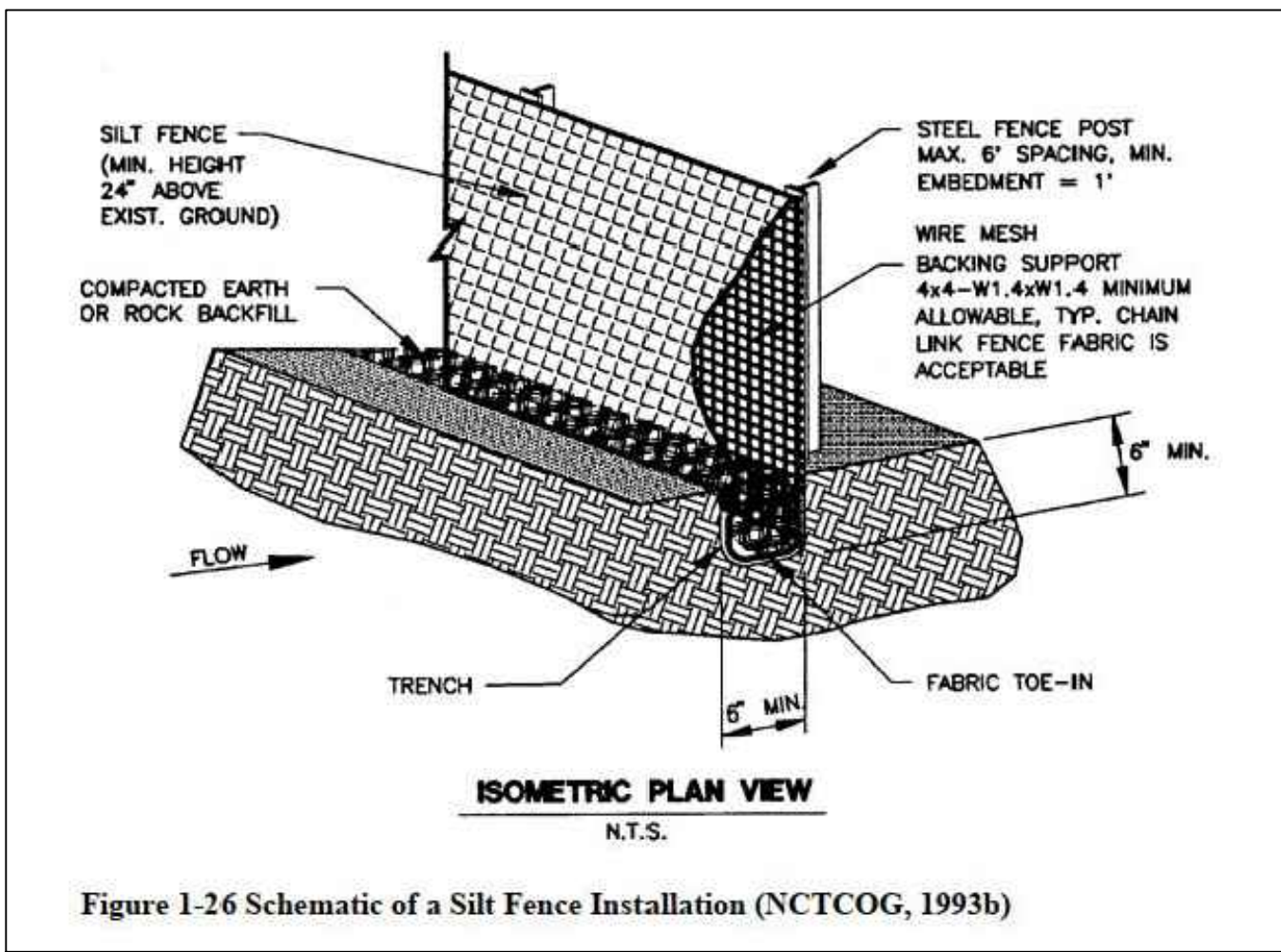


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

CONC. WASHOUT DETAILS

SILT FENCE

ATTACHMENTS E

N/A

ATTACHMENT F

1.4.2 Temporary Construction Entrance/Exit

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

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

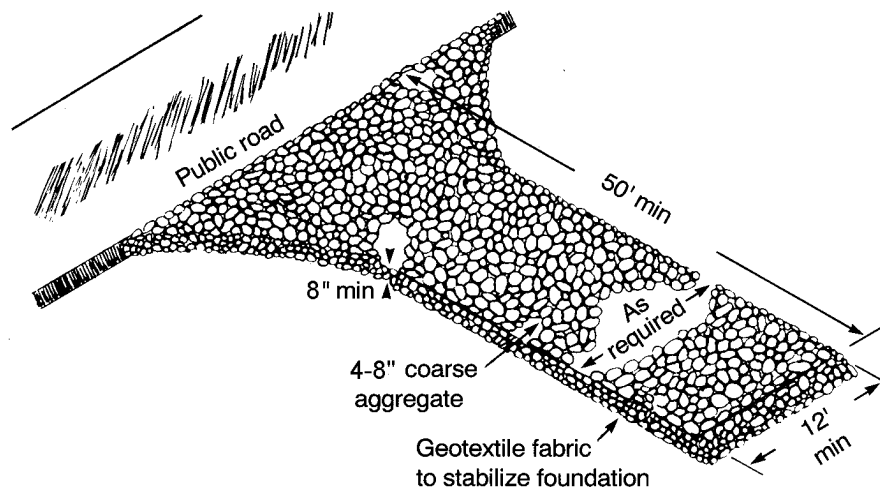


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

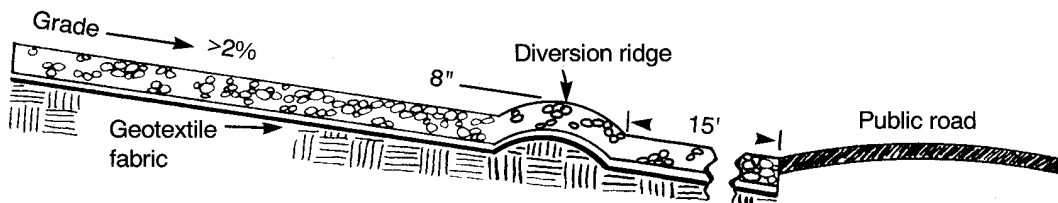


Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

Materials:

- (1) 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/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation: (North Carolina, 1993)

- (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.

Common trouble points

- (1) Inadequate runoff control – sediment washes onto public road.
- (2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.
- (3) Pad too short for heavy construction traffic – extend pad beyond the minimum 50 foot length as necessary.
- (4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road edge.
- (5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

Inspection and Maintenance Guidelines:

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

1.4.3 Silt Fence

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

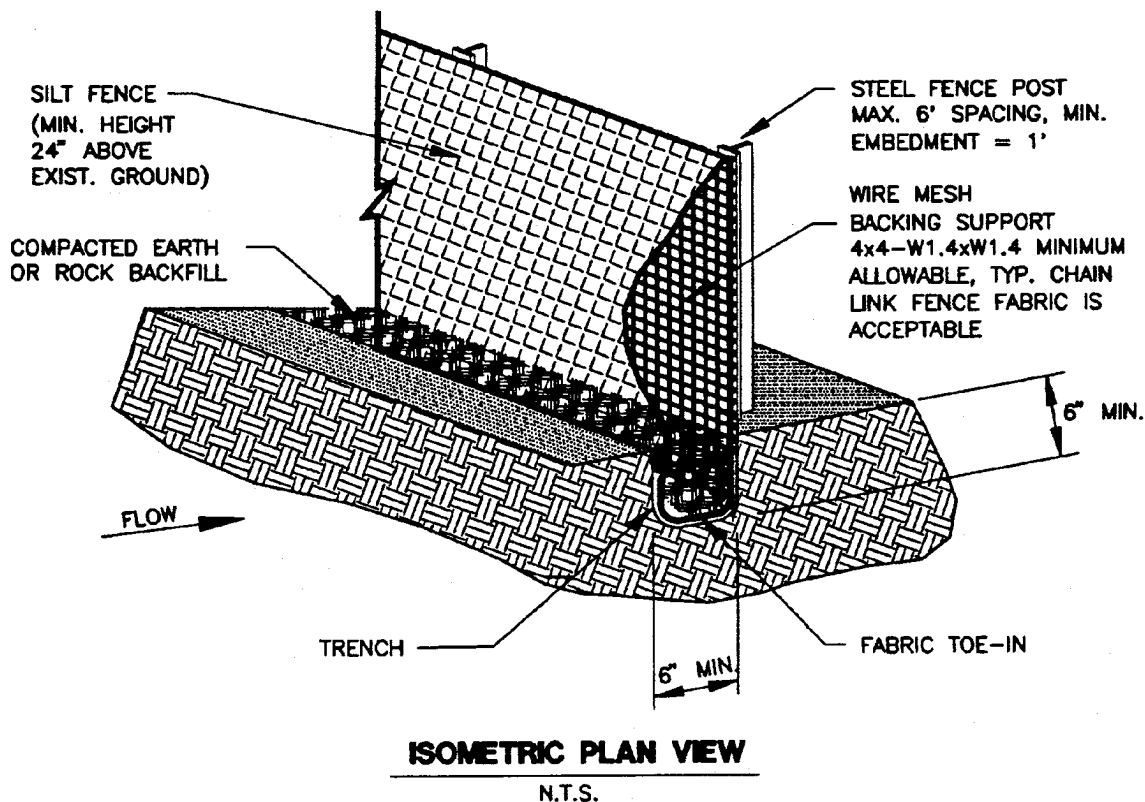


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

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

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

Materials:

- (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in², ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
- (2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft², and Brindell hardness exceeding 140.
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
- (4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

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

Common Trouble Points:

- (1) Fence not installed along the contour causing water to concentrate and flow over the fence.
- (2) Fabric not seated securely to ground (runoff passing under fence)
- (3) Fence not installed perpendicular to flow line (runoff escaping around sides)
- (4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

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

1.4.18 Concrete Washout Areas

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

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

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

For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

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

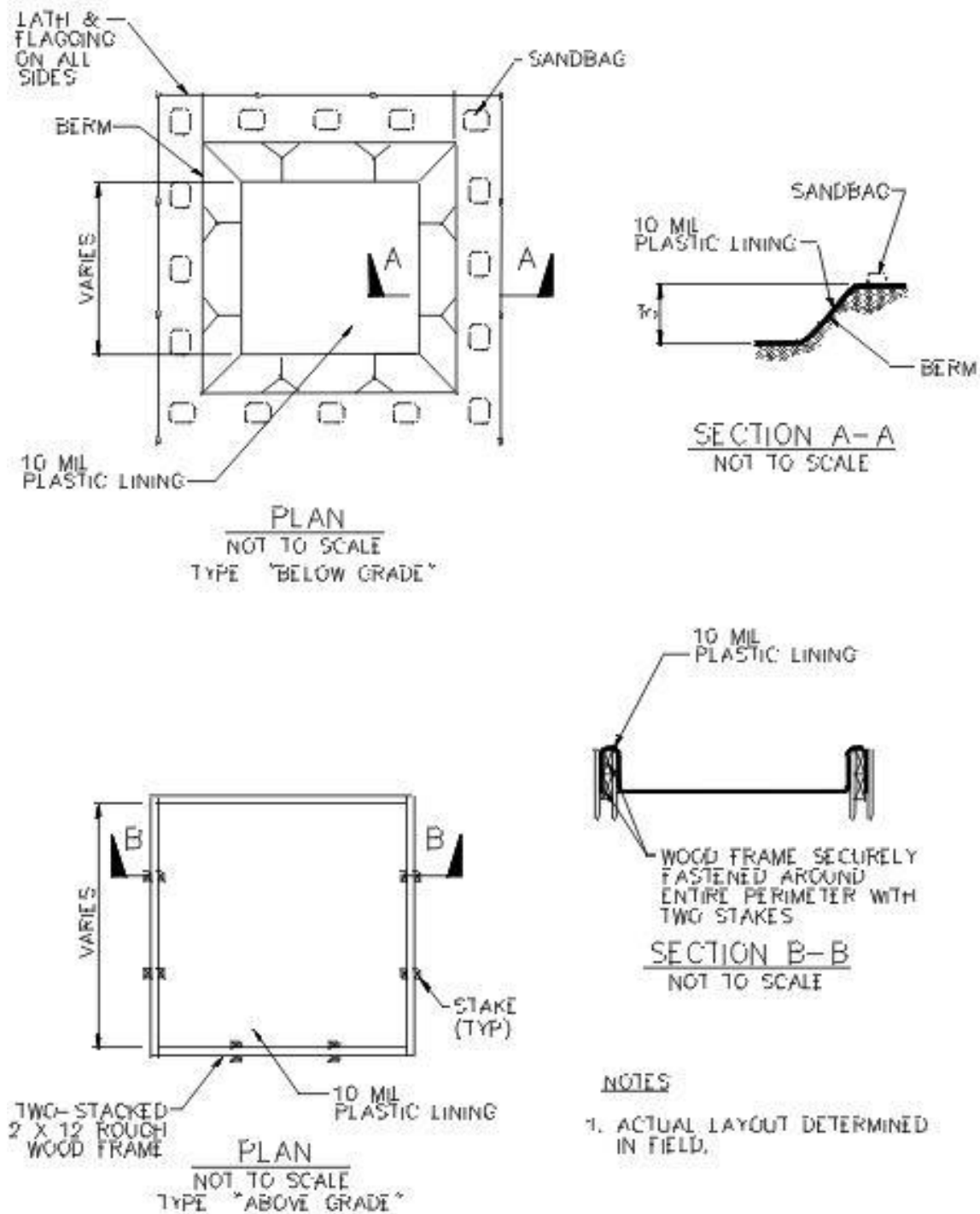
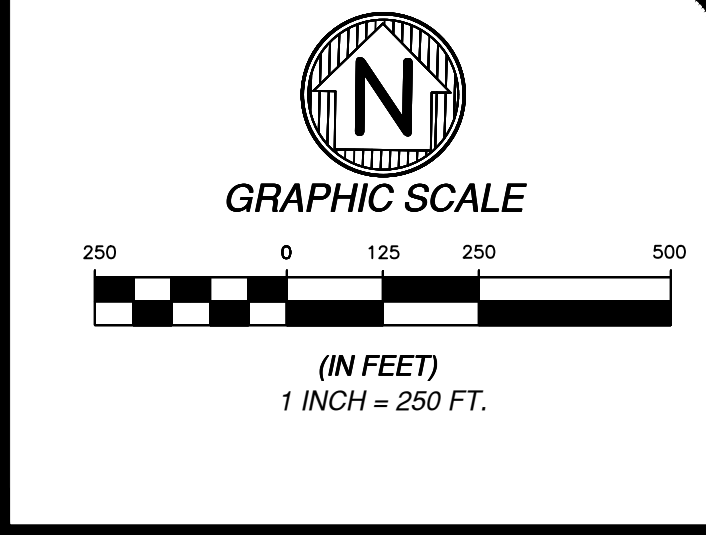


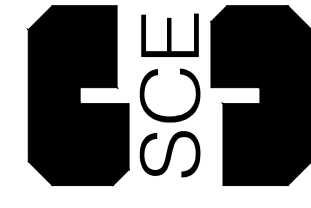
Figure 1-43 Schematics of Concrete Washout Areas

ATTACHMENT G
Drainage Area Map

PEAK RUNOFF TABLE FOR HEIMER COVE SUBDIVISION ZONE PDD								
TABLE 3.3- INTENSITY DURATION - FREQUENCY (IDF) VALUES(BDDM)								
PROPOSED OVERALL CONDITIONS								
DRAINAGE AREA ID	AREA (Ac.)	SLOPE %	CURVE NUMBER(CV)	QPK - 2YR (CFS)	QPK - 5YR (CFS)	QPK - 10YR (CFS)	QPK - 25YR (CFS)	QPK - 100YR (CFS)
PROP ONSITE DA	5.00	1.62	70	5.814	10.30	15.00	22.54	37.29
EX DA1	35.07	2.20	84	51.01	76.59	101.65	140.02	212.39
EX DA2	11.100	2.30	88	23.62	34.05	44.13	59.47	88.32
EX DA3	101.640	4.30	84	147.84	221.96	294.59	405.79	615.54
EX DA4	25.280	3.50	84	42.14	63.27	83.97	115.67	175.43
TOTAL PROP 1% FLOOD =				262.69	393.01	520.61	715.92	1084.32



Seda Consulting Engineers, Inc.
Firm Registration No. F-1601
6735 IH 10 West
San Antonio, Texas 78201
e-mail: seda@sabx.tx.com
CIVIL • STRUCTURAL • ENVIRONMENTAL • PLANNER



BULVERDE FOOD PANTRY
PROPOSED OVERALL DRAINAGE PLAN
CITY OF BULVERDE, COMAL COUNTY, TEXAS

JOB NO. 1811
DATE: 08/01/2024
DRAWN BY: FM
CHECKED BY: SED
SHEET: 1 OF 1

LEGEND:

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

DRAINAGE FLOW

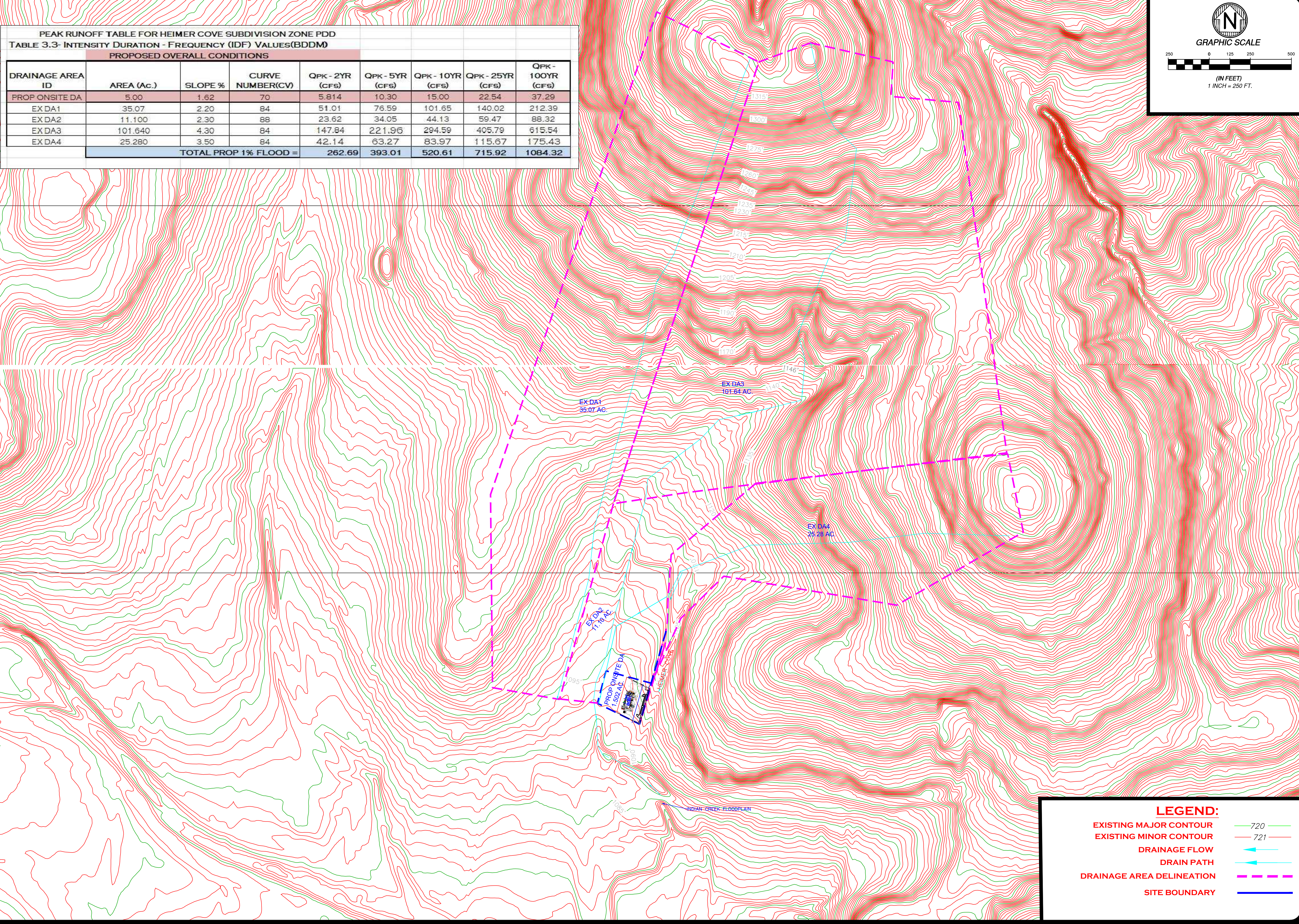
DRAIN PATH

DRAINAGE AREA DELINEATION

SITE BOUNDARY

720

721



**ATTACHMENT H:
N/A**

ATTACHMENT I:

INSPECTION AND MAINTENANCE PROCEDURES FOR SILT FENCE

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

**INSPECTION AND MAINTENANCE PROCEDURES FOR
TEMPORARY CONSTRUCTION ENTRANCE/EXIT**

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

INSPECTION AND MAINTENANCE PROCEDURES FOR CONCRETE WASHOUT

1. Avoid mixing excess amounts of fresh concrete.
2. Perform washout of concrete trucks in designated areas only.
3. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
4. Do not allow excess concrete to be dumped onsite, except in designated areas.

I understand that I am responsible for maintenance of the Temporary Pollution Abatement Measures included in this project until each 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.

Robert D Rosenfeld

Signature

08/30/2024

Date

ATTACHMENT J :

Site Stabilization

Removing the vegetative cover and altering the soil structure by clearing, grading, and compacting the surface increases an area's susceptibility to erosion. Apply stabilizing measures as soon as possible after the land is disturbed (Figure 1-5). Plan and implement temporary or permanent vegetation, mulches, or other protective practices to correspond with construction activities. Protect channels from erosive forces by using protective linings and the appropriate channel design. Consider possible future repairs and maintenance of these practices in the design.

Seeding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once a vegetative cover of about 80% has been established. However, often seeding and fertilizing do not produce as thick a vegetative cover as do seed and mulch or netting. Newly established vegetation does not have as extensive a root system as existing vegetation and therefore is more prone to erosion, especially on steep slopes. Care should be taken when fertilizing to avoid untimely or excessive application. Since the practice of seeding and fertilizing does not provide any protection during the time of vegetative establishment, it should be used only on favorable soils in very flat areas and not in sensitive areas.

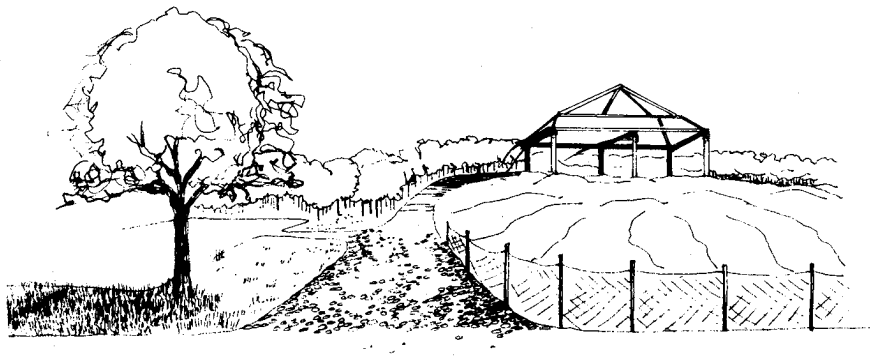


Figure 1-5 Stabilization of Disturbed Areas (North Carolina, 1993)

The management of land by using ground cover reduces erosion by reducing the flow rate of runoff and the raindrop impact. Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days. In very flat, non-sensitive areas with favorable soils, stabilization may involve simply seeding and fertilizing. Mulch and/or sod may be necessary on steeper slopes, for erodible soils, and near sensitive areas. Sediment that has escaped the site due to the failure of sediment and erosion controls should be removed as soon as possible to minimize offsite impacts. Permission should be obtained from adjacent landowners prior to offsite sediment removal.

Mulching/mats can be used to protect the disturbed area while vegetation becomes established. Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulches/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface or when permanent seeding is not feasible. The useful life of mulch varies with the material used and the amount of precipitation, but is approximately 2 to 6 months.

During times of year when vegetation cannot be established, soil mulching should be applied to moderate slopes and soils that are not highly erodible. On steep slopes or highly erodible soils, multiple mulching treatments should be used. Interlocking ceramic materials, filter fabric, and netting are available for this purpose. Before stabilizing an area, it is important to have installed all sediment controls and diverted runoff away from the area to be planted. Runoff may be diverted away from denuded areas or newly planted areas using dikes, swales, or pipe slope drains to intercept runoff and convey it to a permanent channel or storm drain. Reserved topsoil may be used to revegetate a site if the stockpile has been covered and stabilized.

Consideration should be given to maintenance when designing mulching and matting schemes. Plastic nets are often used to cover the mulch or mats; however, they can foul lawn mower blades if the area requires mowing.

Sod can be used to permanently stabilize an area. Sodding provides immediate stabilization of an area and should be used in critical areas or where establishment of permanent vegetation by seeding and mulching would be difficult. Sodding is also a preferred option when there is high erosion potential during the period of vegetative establishment from seeding.

Because of the hardy drought-resistant nature of wildflowers, they may be more beneficial as an erosion control practice than turf grass. While not as dense as turfgrass, wildflower thatches and associated grasses are expected to be as effective in erosion control and contaminant absorption. Because thatches of wildflowers do not need fertilizers, pesticides, or herbicides, and the need for watering is minimal, implementation of this practice may result in cost savings. In 1987, Howard County, Maryland, spent \$690.00 per acre to maintain turfgrass areas, compared to only \$31.00 per acre for wildflower meadows. A wildflower stand requires several years to become established; however, maintenance requirements are minimal once the area is established.

Plan for Temporary Structural Controls

Retain Sediment on the Site. Even with careful planning, some erosion is unavoidable. The resulting sediment must be trapped on the site. Plan the location where sediment deposition will occur and maintain access for cleanout. Protect low points below disturbed areas by building barriers to reduce sediment loss. Whenever possible, plan and construct sediment traps and basins before other land-disturbing activities (Figure 1-6).



Seda Consulting Engineers, Inc.
6735 I.H. 10 West
San Antonio, TX 78201

Phone: (210) 308-0057
FAX: (210) 308-8842
E-MAIL:seda@satx.rr.com

September 10, 2024

Texas commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

Re.: Lot 1, Block 1, (1.502 acres); Heimer cove unit 1

To whom it may concern;

On behalf of our Client, Bulverde Food pantry, Please consider this letter as a "Notice Of Intent" for the Edward Aquifer Application.

The area to be implemented to construct storm water quality pond is identified as a "Lot 1, block 1, 1.502 acres, Heimer cove Unit 1 subdivision recorded in document no. 202306023917, Comal County Texas.

This property is located in contribution zone of Edward aquifer. The "Total disturbed area is 1.042 acres" (as shown under item 13 TCEQ-10257) which is shown on exhibit water quality pond. The total impervious cover after development will be 0.41 acres, out of which 0.39 acres (95.12%) will be directed to water quality pond to be treated. Please see detailed quality pond design in the report.

Should there be any question and or any additional information be needed, please do not hesitate to call on us.

Sincerely;
Seda Consulting Engineers, Inc.

Salah E. Diab, P.E.
Project Engineer

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

I Robert Rosenfeld,
Print Name

Board President,
Title - Owner/President/Other

of Bulverde Food Pantry, Inc,
Corporation/Partnership/Entity Name

have authorized Salah Diab, P.E.
Print Name of Agent/Engineer

of Seda Consulting Engineers, Inc
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Robert D Rosenfeld

Applicant's Signature

03/12/2024

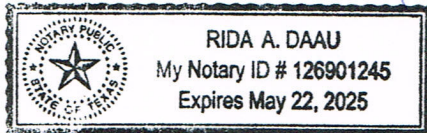
Date

THE STATE OF Texas §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Robert Rosenfeld 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 12th day of MARCH, 2024



Rida D
NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Bulverde Food Pantry, Inc.

Regulated Entity Location: at the northwest side of Heimer Cove.

Name of Customer: Bulverde Food Pantry, Inc

Contact Person: Robert Rosenfeld

Phone: 210-882-6006

Customer Reference Number (if issued):CN _____

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays

☐ Travis

☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☒ Comal

☐ Kinney

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

☐ Austin Regional Office

☒ San Antonio Regional Office

☒ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☐ Recharge Zone

☒ Contributing Zone

☐ Transition Zone

<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	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	1.502 Acres	\$ 4,000.00
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: Robert D Rosenfeld

Date: 05/24/2024

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

<i>Project</i>	<i>Project Area in Acres</i>	<i>Fee</i>
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

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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

SEDA

To: SEDA
Subject: FW: Bulverde Food Pantry Inc. Application

From: Monica Reyes <Monica.Reyes@tceq.texas.gov>
Sent: Friday, September 27, 2024 3:42 PM
To: Denny Rosenfeld <drosenfeld@provisionsoutreach.org>
Subject: RE: Bulverde Food Pantry Inc. Application

Mr. Rosenfeld,

I spoke with my supervisor and agree to hold the fee for a later submittal. The application will require to be submitted again for approval. Please let me know if you have any additional questions.

Monica Reyes
Section Manager | Edwards Aquifer Protection Program
14250 Judson Road | San Antonio, Texas 78233
Email: monica.reyes@tceq.texas.gov | Phone: (210) 403-4061 | Cell: (512) 783-4266





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 checked="" 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	RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).			
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)		If new Customer, enter previous Customer below:	
Bulverde Food Pantry, Inc		N/A	
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
11. Type of Customer:		Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited	
<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
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	
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:	Robert Rosenfeld		
	PO Box 343		
	City	State	ZIP
	Bulverde	TX	78163
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number		20. Fax Number (if applicable)	
(210) 882-6006		() -	

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 checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
Heimer Cove Subdivision	

23. Street Address of the Regulated Entity: (No PO Boxes)	30243, 30247, 30251 & 30255 Heimer Cove							
	City	Bulverde	State	TX	ZIP	78063	ZIP + 4	
24. County	Bexar							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	at the northwest side of Heimer Cove.								
26. Nearest City	San Antonio				State	TX	Nearest ZIP Code		78256
27. Latitude (N) In Decimal:	29.744323			28. Longitude (W) In Decimal:	-98.450715				
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds				
29	44	39.6	-98	27	2.60				
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)				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)									
Will be used for Food pantry									
34. Mailing Address:	Robert Rosenfeld								
	PO Box 343								
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4		
35. E-Mail Address:									
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)			
(210) 326-2551						() -			

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:	Salah E. Diab, PhD., P.E.		41. Title:	Project Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(210) 308-0057		() -	seda@satx.rr.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:	Bulverde Food Pantry, Inc	Job Title:	Board President
Name (In Print):	Robert Rosenfeld	Phone:	(210) 882- 6006
Signature:	<i>Robert D Rosenfeld</i>	Date:	03/12/2024



202306023917 07/28/2023 08:09:25 AM 1/3

SUBDIVISION PLAT
(PLAT)

NAME OF
SUBDIVISION:

HEIMER COVE U1

PLAT MAP IMAGE(S) LOCATED IN PLAT MAP RECORDS

PREPARED IN THE OFFICE OF THE COMAL COUNTY CLERK

BY:

Tracy Allen

Deputy Clerk

FOR RECORDING PURPOSES

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
07/28/2023 08:09:25 AM
TRACY 3 Page(s)
202306023917

RI



Bobbie Koepp

Issued By:
Comal County Tax Office
PO Box 659480
San Antonio, TX 78265-9480

Property Information
Property ID: 75658 Geo ID: 740206000401
Legal Acres: 5.0000
Legal Desc: A-206 SUR-192 G HERRERA, ACRES 5.
Situs: 0 BULVERDE RD BULVERDE, TX 78163
DBA:
Exemptions: EX-XV

Owner ID: 935591 100.00%
BULVERDE FOOD PANTRY INC
22951 BULVERDE ROAD
BULVERDE, TX 78163

For Entities	Value Information
(ESD1) COMAL COUNTY EMERGEN	Improvement HS: 0
(ESD5) COMAL COUNTY EMERGEN	Improvement NHS: 0
Bulverde South	Land HS: 0
CITY OF BULVERDE	Land NHS: 704,370
CITY OF BULVERDE TAX CORRECTI	Productivity Market: 0
COMAL COUNTY	Productivity Use: 0
COMAL COUNTY LATERAL ROAD	Assessed Value 704,370
COMAL ISD	
Rural Fire #2	

Current/Delinquent Taxes

This is to certify that, after a careful check of the tax records of this office, the following delinquent taxes, penalties, interest and any known costs and expenses as provided by Tax Code §33.48, are due on the described property for the following taxing unit(s):

Year	Entity	Taxable	Tax Due	Disc./P&I	Attorney Fee	Total Due
Totals:			0.00	0.00	0.00	0.00

Effective Date: 04/13/2023

Total Due if paid by: 04/30/2023

0.00

Tax Certificate Issued for:

Taxes Paid in 2022

COMAL COUNTY 0.00

COMAL COUNTY LATERAL ROAD 0.00

CITY OF BULVERDE 0.00

COMAL ISD 0.00

(ESD1) COMAL COUNTY EMERGEN 0.00

(ESD5) COMAL COUNTY EMERGEN 0.00

22023 PROPERTY TAXES WILL BE CALCULATED IN OCTOBER 2023 AND ARE DUE WHEN RENDERED. THE LAST DAY TO PAY BEFORE PENALTY AND INTEREST START TO ACCURE IS JANUARY 31,2024

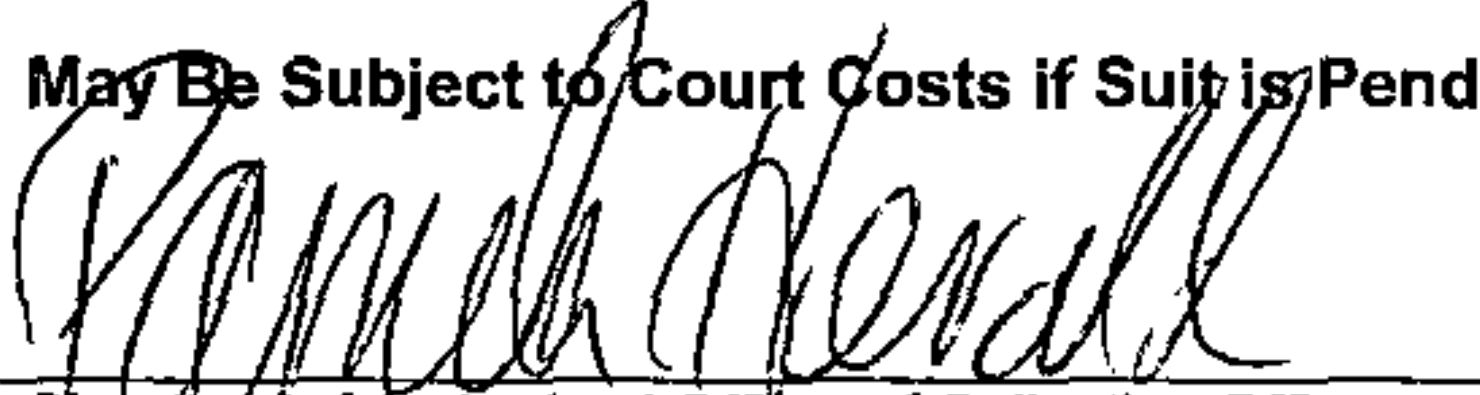
If applicable, the above-described property has/its receiving special appraisal based on its use, and additional rollback taxes may become due based on the provisions of the special appraisal (Comptroller Rule 9.3040) or property omitted from the appraisal roll as described under Tax Code Section 25.21 is not included in this certificate [Tax Code Section 31.08(b)].

Pursuant to Tax Code Section 31.08, if a person transfers property accompanied by a tax certificate that erroneously indicates that no delinquent taxes, penalties or interest are due a taxing unit on the property or that fails to include property because of its omission from an appraisal roll, the unit's tax lien on the property is extinguished and the purchaser of the property is absolved of liability to the unit for delinquent taxes, penalties or interest on the property or for taxes based on omitted property. The person who was liable for the tax for the year the tax was imposed or the property was omitted remains personally liable for the tax and for any penalties or interest.

A tax certificate issued through fraud or collusion is void.

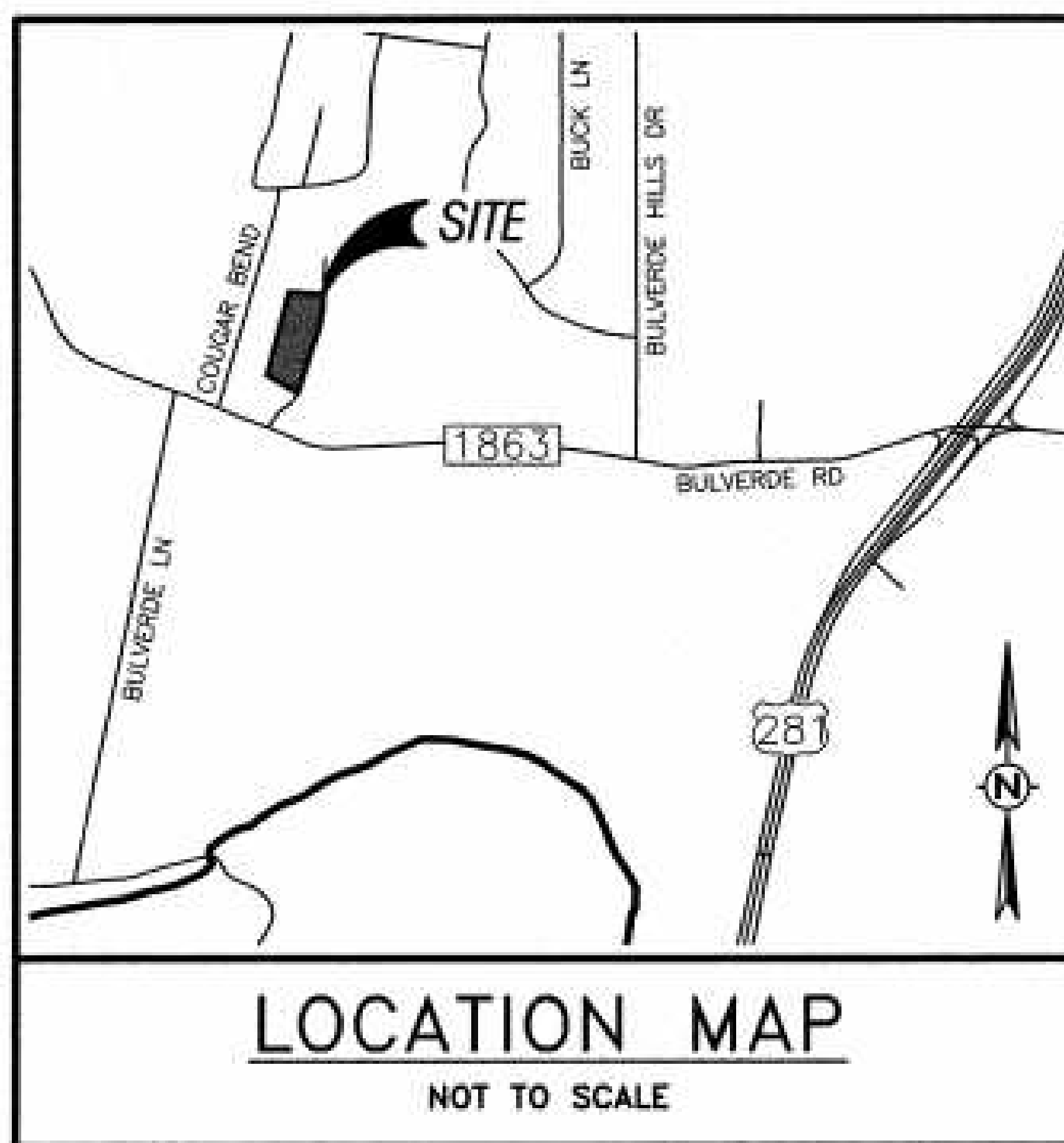
This certificate does not clear abuse of granted exemptions as defined in Section 11.43 Paragraph(1) of the Texas Property Tax Code.

May Be Subject to Court Costs if Suit is Pending


Signature of Authorized Officer of Collecting Office

Date of Issue: 04/13/2023
Requested By: MEALS & MEYERS ENGINEERIN
Fee Amount: 10.00
Reference #:

#202306023917



CPS UTILITY NOTES:

- THE CITY OF SAN ANTONIO, AS PART OF ITS ELECTRIC AND GAS SYSTEM (CITY PUBLIC SERVICE BOARD) IS HEREBY DEDICATED EASEMENTS AND RIGHTS-OF-WAY FOR ELECTRIC AND GAS DISTRIBUTION AND SERVICE FACILITIES IN THE AREAS DESIGNATED ON THIS PLAT AS "ELECTRIC EASEMENT", "ANCHOR EASEMENT", "SERVICE EASEMENT", "OVERHANG EASEMENT", "UTILITY EASEMENT", "GAS EASEMENT" AND "TRANSFORMER EASEMENT" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, MAINTAINING, REMOVING, INSPECTING, PATROLLING, AND ERECTING POLES, HANGING OR BURYING WIRES, CABLES, CONDUITS, PIPELINES OR TRANSFORMERS, EACH WITH ITS NECESSARY APPURTENANCES, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT LANDS, THE RIGHT TO RELOCATE SAID FACILITIES WITHIN SAID EASEMENT AND RIGHT-OF-WAY AREAS, AND THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES OR PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF SAID LINES OR APPURTENANCES THEREON. IT IS AGREED AND UNDERSTOOD THAT NO BUILDINGS, STRUCTURES, CONCRETE SLABS OR WALLS WILL BE PLACED WITHIN SAID EASEMENT AREAS WITHOUT AN ENCROACHMENT AGREEMENT WITH SAID UTILITY.
- ANY CPS ENERGY OR SAWS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS ENERGY OR SAWS INFRASTRUCTURE AND SERVICE FACILITIES, LOCATED WITHIN SAID EASEMENTS, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS.
- THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE TV EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED HEREON.

THE STATE OF TEXAS §
COUNTY OF BEXAR §

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT TO THE MATTER OF STREETS, LOTS AND DRAINAGE LAYOUT, AND TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION ORDINANCES EXCEPT FOR THOSE VARIANCES GRANTED BY THE PLANNING COMMISSION OF THE CITY.

M. TYLER MEALS
REGISTERED PROFESSIONAL ENGINEER

THE STATE OF TEXAS §
COUNTY OF BEXAR §

SWORN TO AND SUBSCRIBED BEFORE ME THIS 20th DAY OF July 2023

Ariana Marie Arcides
NOTARY PUBLIC, STATE OF TEXAS

ARIANA MARIE ARCIDES
Notary ID #133846365
My Commission Expires July 6, 2026

THE STATE OF TEXAS §
COUNTY OF BEXAR §

I, THE UNDERSIGNED, REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT, AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY UNDER MY SUPERVISION ON THE GROUND.

PAUL L. MYERS #6490
REGISTERED PROFESSIONAL LAND SURVEYOR

THE STATE OF TEXAS §
COUNTY OF BEXAR §

SWORN TO AND SUBSCRIBED BEFORE ME THIS 20th DAY OF July 2023

Ariana Marie Arcides
NOTARY PUBLIC, STATE OF TEXAS

ARIANA MARIE ARCIDES
Notary ID #133846365
My Commission Expires July 6, 2026

DRAINAGE NOTES:

- FOR THE PURPOSE OF CONSTRUCTING, RECONSTRUCTING, INSPECTING, PATROLLING, OPERATING, MAINTAINING, REPAIRING AND REMOVING THE DRAINAGE SYSTEM; THE RIGHT TO CHANGE THE SIZE THEREOF; THE RIGHT TO RELOCATE ALONG THE SAME GENERAL DIRECTION OF THE DRAINAGE SYSTEM; THE RIGHT TO CREATE AND/OR DREDGE A STREAM COURSE REFILL, OR DIG OUT SUCH STREAM COURSE, ESTABLISH OR CHANGE STREAM EMBANKMENTS WITHIN THE EASEMENT, INSTALL STORM SEWER SYSTEMS, CULVERTS, WATER GAPS, AND PROTECTING RAILS; THE RIGHT TO REMOVE FROM THE EASEMENT ALL TREES AND PARTS THEREOF, OR OTHER OBSTRUCTIONS, WHICH REASONABLY ENDANGER OR MAY REASONABLY INTERFERE WITH THE EFFICIENCY OF THE DRAINAGE SYSTEM; AND THE RIGHT TO PLACE TEMPORARY STRUCTURES FOR USE IN CONSTRUCTING OR REPAIRING THE DRAINAGE SYSTEM, MAINTENANCE OF DRAINAGE EASEMENTS WITHIN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- WITH RESPECT TO THE DRAINAGE SYSTEM, IT IS EXPRESSLY AGREED AND UNDERSTOOD BY ALL PARTIES HERETO, THAT THE INTENTION IS TO IMPROVE CONDITIONS OF SANITATION AND WATER DRAINAGE CONTROL ON THE PROPERTY FOR THE BENEFIT OF THE PROPERTY, ADJACENT PROPERTY AND THE COMMUNITY BUT THE CITY OF BULVERDE DOES NOT GUARANTEE OR WARRANT THAT SUCH CONTROL WORK WILL BE EFFECTIVE, NOR DOES THE CITY ASSUME ANY ADDITIONAL LIABILITY WHATSOEVER FOR THE EFFECTS OF FLOOD, STANDING WATER, WASH, OR GULLY IN ITS NATURAL STATE OR AS CHANGED BY THE COUNTY.
- THE APPROVED DRAINAGE STUDY FOR THIS SUBDIVISION IS BASED ON THE FOLLOWING IMPERVIOUS COVER FOR EACH LOT.
 - LOT 1 - 22,850 SF
 - LOT 2 - 10,000 SF
 - LOT 3 - 10,000 SF
 - LOT 4 - 10,000 SFANY LOT THAT PROPOSES MORE IMPERVIOUS COVER THAN STATED ABOVE WILL BE REQUIRED TO PROVIDE A REVISED DRAINAGE ANALYSIS.

PLAT NOTES:

- NO PORTION OF THE FEMA 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN EXISTS WITHIN THIS PLAT AS VERIFIED BY FEMA MAP PANEL: 48081C0380F, EFFECTIVE 9/2/2009. FLOODPLAIN INFORMATION IS SUBJECT TO CHANGE AS A RESULT OF FUTURE FEMA MAP REVISIONS AND/OR AMENDMENTS.
- ELECTRIC SERVICE TO BE PROVIDED BY CPS ENERGY.
- WATER SERVICE TO BE PROVIDED BY CANYON LAKE WATER SUPPLY CORPORATION.
- SEPARATE ON-SITE SEWER FACILITIES (OSSF) TO PROVIDE SANITARY SEWER TREATMENT FOR EACH LOT.

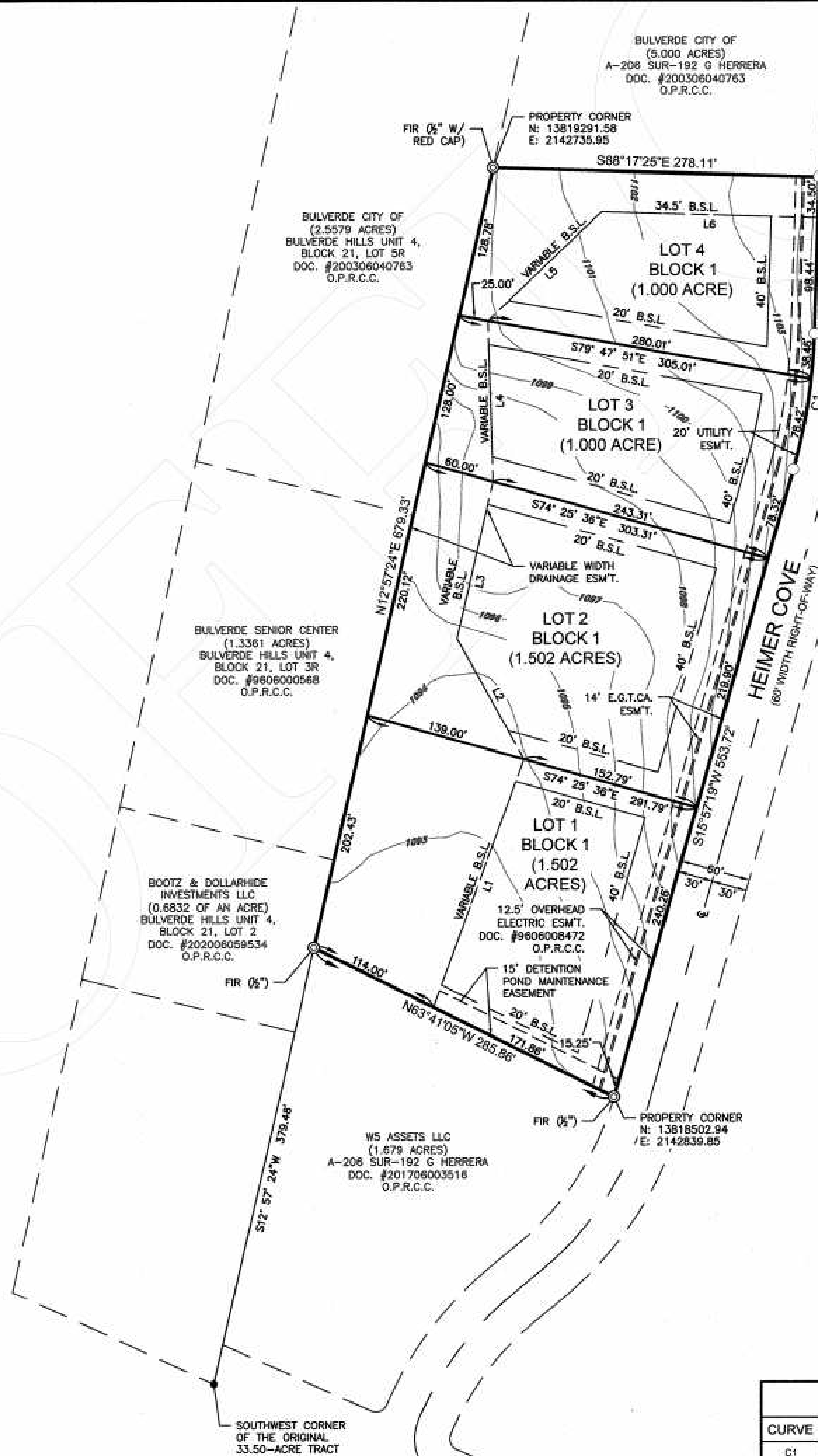
SETBACK NOTES:

UNLESS OTHERWISE NOTED, BUILDING SETBACKS TO BE AS FOLLOWS FOR ALL LOTS:
40' MINIMUM FRONT (HEIMER COVE STREET SIDE)
20' MINIMUM SIDE
REAR VARIES

SURVEYOR NOTES:

BEARINGS AND COORDINATES SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NAD83 (93).
CONTOURS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (1988).
1/2" IRON RODS WITH PLASTIC CAP STAMPED "MMES RPLS 8490" SET AT ALL CORNERS UNLESS OTHERWISE NOTED.
COORDINATES SHOWN HEREON ARE GRID.
DISTANCES SHOWN HEREON ARE SURFACE. GRID TO SURFACE = GRID * 1.00016.

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L1	S20°06'59"W	224.17'
L2	S29°14'41"E	117.48'
L3	S12°57'24"W	136.70'
L4	S01°53'11"E	136.50'
L5	S46°15'08"W	134.00'
L6	N88°17'25"W	184.51'



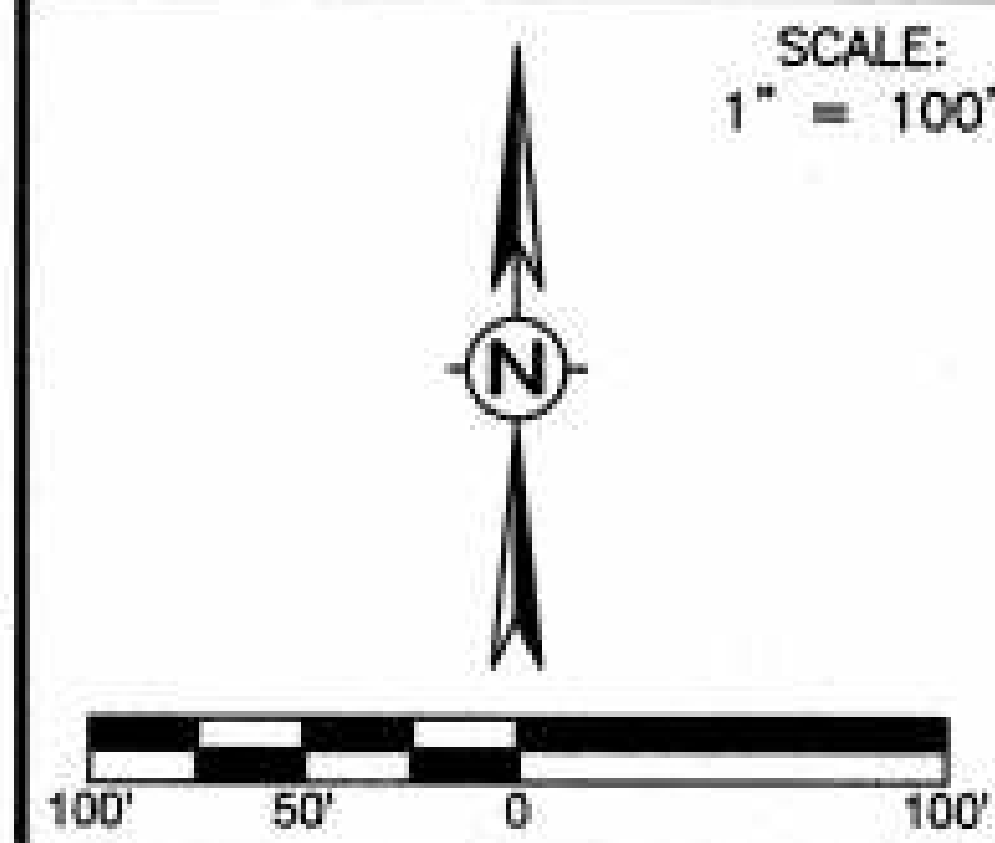
LEGEND

- FIR = FOUND IRON ROD
- O.P.R.C.C. = OFFICIAL PUBLIC RECORDS OF COMAL COUNTY
- DOC. = DOCUMENT
- E.G.T.C.A. = ELECTRICAL, GAS, TELEPHONE, CABLE TELEVISION EASEMENT
- ESMT. = EASEMENT
- B.S.L. = BUILDING SETBACK LINE
- = BUILDING SETBACK LINE
- = EASEMENT LINE
- = ROADWAY CENTERLINE
- = EXISTING GROUND MAJOR CONTOUR
- = EXISTING GROUND MINOR CONTOUR
- = SUBDIVISION BOUNDARY LINE
- = SUBDIVISION LOT LINE
- = ADJOINING PROPERTY LINE
- = FOUND MONUMENT
- = SET MONUMENT

CURVE TABLE					
CURVE	RADIUS	DELTA	TANGENT	LENGTH	CHORD BEARING
C1	470.00'	14°14'54"	58.74'	116.88'	116.58' S08°49'52"W

SUBDIVISION PLAT ESTABLISHING HEIMER COVE UNIT 1

BEING A TOTAL OF 5.00 ACRES OF LAND LYING IN THE GAUDALUPE HERRERA SURVEY NO. 192, ABSTRACT NO. 206, COMAL COUNTY, TEXAS, SAME BEING DESCRIBED AS 5.00 ACRES OF LAND IN A GENERAL WARRANTY DEED TO BULVERDE FOOD PANTRY, INC., DATED DECEMBER 16, 2013, RECORDED IN DOCUMENT NO. 201306051395, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS.



MM
MEALS MYERS
ENGINEERING & SURVEYING LLC
10906 LAUREATE ROAD #101
SAN ANTONIO, TX 78249
(210) 740-2483 | (830) 931-1269
TBPE No. F-18576
TBPLS No. 101942291
WWW.MEALSMYERS.COM
MMES PROJECT NO. 20138

STATE OF TEXAS §
COUNTY OF COMAL §

KNOWN ALL MEN BY THESE PRESENTS: THE OWNER/DEVELOPER OF THE LAND SHOWN ON THIS PLAT AND WHOSE NAME IS SUBSCRIBED HERETO, AND IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, HEREBY DEDICATES TO THE USE OF THE PUBLIC FOREVER ALL STREETS, PARKS, WATER COURSES, DRAINS, EASEMENT, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

Robert D. Rosenfeld
OWNER/DEVELOPER
ROBERT D. ROSENFELD
PRESIDENT - BOARD OF DIRECTORS
BULVERDE FOOD PANTRY, INC.
22951 BULVERDE RD
BULVERDE, TX 78163

STATE OF TEXAS §
COUNTY OF COMAL §

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED ROBERT D. ROSENFELD, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 20th DAY OF July A.D. 2023

Ariana Marie Arcides
NOTARY PUBLIC IN AND FOR THE
STATE OF TEXAS

ARIANA MARIE ARCIDES
Notary ID #133846365
My Commission Expires July 6, 2026

STATE OF TEXAS §
COUNTY OF COMAL §

THIS PLAT OF HEIMER COVE UNIT 1, HAS BEEN SUBMITTED TO THE CITY OF BULVERDE, TEXAS, AND HAVING BEEN REVIEWED BY THE PLANNING DIRECTOR, IS HEREBY APPROVED IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS: AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) HAVE BEEN GRANTED.

DATED THE 24th DAY OF July, 2023

By: Ariana Marie Arcides
(PLANNING DIRECTOR)

STATE OF TEXAS §
COUNTY OF COMAL §

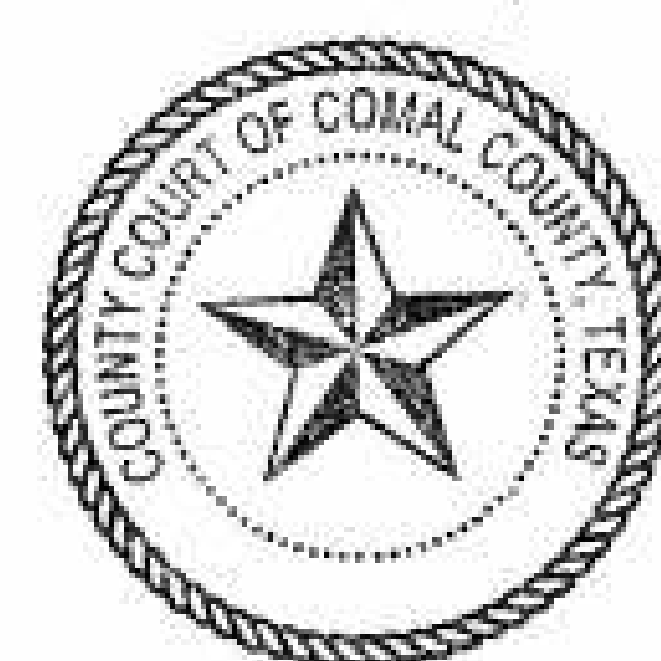
THIS PLAT OF HEIMER COVE UNIT 1 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY PLANNING AND ZONING COMMISSION OF THE CITY OF BULVERDE, TEXAS AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS 25th DAY OF July, YEAR 2023

By: Ariana Marie Arcides
(CHAIRPERSON)

STATE OF TEXAS §
COUNTY OF COMAL §

I, Bobbie Koepf, COUNTY CLERK OF COMAL COUNTY, DO HEREBY CERTIFY THAT THIS PLAT WAS FILED FOR RECORD IN MY OFFICE ON THE 28th DAY OF July A.D. 2023 AT 8:04 A.M. AND DULY RECORDED THE 28th DAY OF July A.D. 2023 IN THE RECORDS OF MAPS AND PLATS IN SAID OFFICE, OF SAID COUNTY, IN DOCUMENT NUMBER 202306023917 IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS 28th DAY OF July A.D. 2023



By: Tracey Ellis
COUNTY CLERK, COMAL COUNTY, TEXAS
Bobbie Koepf