CONTESSA TRACT

WATER POLLUTION ABATEMENT PLAN

05/14/2025

PREPARED FOR:

MERITAGE HOMES OF TEXAS

2722 W. BITTERS RD, SUITE 200

SAN ANTONIO, TX 78248

April 21, 2025

Texas Commission on Environmental Quality – San Antonio Region
14250 Judson Road
San Antonio, TX 78233-4480

Re: Contessa Tract
Water Pollution Abatement Application Submittal

To Whom This May Concern:

Please find the attached original (1) and five (5) copies of the Contessa Tract Water Pollution Abatement application submittal. This application has been prepared to be consistent with the Texas Commission on Environmental Quality (30 TAC 213) and its current policies for development over the Edwards Aquifer Recharge Zone.

If you should have any questions regarding the contained information, please do not hesitate to contact our office.

Sincerely,

Javier Castello, P.E.
Associate

Water Pollution Abatement Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **General Information Form (TCEQ-0587)**

  Attachment A - Road Map
  Attachment B - USGS / Edwards Recharge Zone Map
  Attachment C - Project Description

- **Geologic Assessment Form (TCEQ-0585)**

  Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
  Attachment B - Stratigraphic Column
  Attachment C - Site Geology
  Attachment D - Site Geologic Map(s)

- **Water Pollution Abatement Plan Application Form (TCEQ-0584)**

  Attachment A - Factors Affecting Surface Water Quality
  Attachment B - Volume and Character of Stormwater
  Attachment C - Suitability Letter from Authorized Agent (if OSSF is proposed)
  Attachment D - Exception to the Required Geologic Assessment (if requested)
  Site Plan

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

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

- **Permanent Stormwater Section (TCEQ-0600)**

  Attachment A - 20% or Less Impervious Cover Waiver (if requested for multi-family, school, or small business site)
  Attachment B - BMPs for Upgradient Stormwater
  Attachment C - BMPs for On-site Stormwater
  Attachment D - BMPs for Surface Streams
  Attachment E - Request to Seal Features (if sealing a feature)
  Attachment F - Construction Plans
  Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
  Attachment H - Pilot-Scale Field Testing Plan (if proposed)
  Attachment I -Measures for Minimizing Surface Stream Contamination

- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**
- **Core Data Form (TCEQ-10400)**

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: Contessa Tract						**2. Regulated Entity No.:**			
3. Customer Name: Meritage Homes						**4. Customer No.:** CN603298068			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**			249.74
9. Application Fee:	$8,000.00		**10. Permanent BMP(s):**			VFS and Batch Detention Basin			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Comal River – Guadalupe River			

Application Distribution

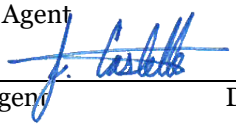
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

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

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Javier Castello, P.E.
Print Name of Customer/Authorized Agent  04/21/2025
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):	

GENERAL INFORMATION SECTION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

General Information Form

Texas Commission on Environmental Quality

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

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

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

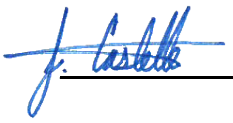
Signature

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

Print Name of Customer/Agent: Javier Castello, P.E.

Date: 4/21/25

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Contessa Tract
2. County: Comal County
3. Stream Basin: Comal River - Guadalupe River
4. Groundwater Conservation District (If applicable): Edwards Aquifer
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Tonda Alexander
   Entity: Meritage Homes of Texas, LLC
   Mailing Address: 2722 W. Bitters Rd, Suite 200
   City, State: San Antonio, TX Zip: 78248
   Telephone: 210-363-4230 FAX: _____
   Email Address: tonda.alexander@meritagehomes.com

8. Agent/Representative (If any):

   Contact Person: Javier Castello, P.E.
   Entity: Cude Engineers
   Mailing Address: 4122 Pond Hill Road, Ste. 101
   City, State: San Antonio, TX Zip: 78231
   Telephone: 210-681-2951 FAX: 210-523-7112
   Email Address: jcastello@cudeengineers.com

9. Project Location:

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

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

    The proposed project Contessa Tract is located southeast of the intersection of Montanio Dr and Schoenthal Rd N.

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

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

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

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

☒ Survey staking will be completed by this date: Upon TCEQ Request

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

    (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

    (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

    (4) The use of sewage holding tanks as parts of organized collection systems; and

    (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

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

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

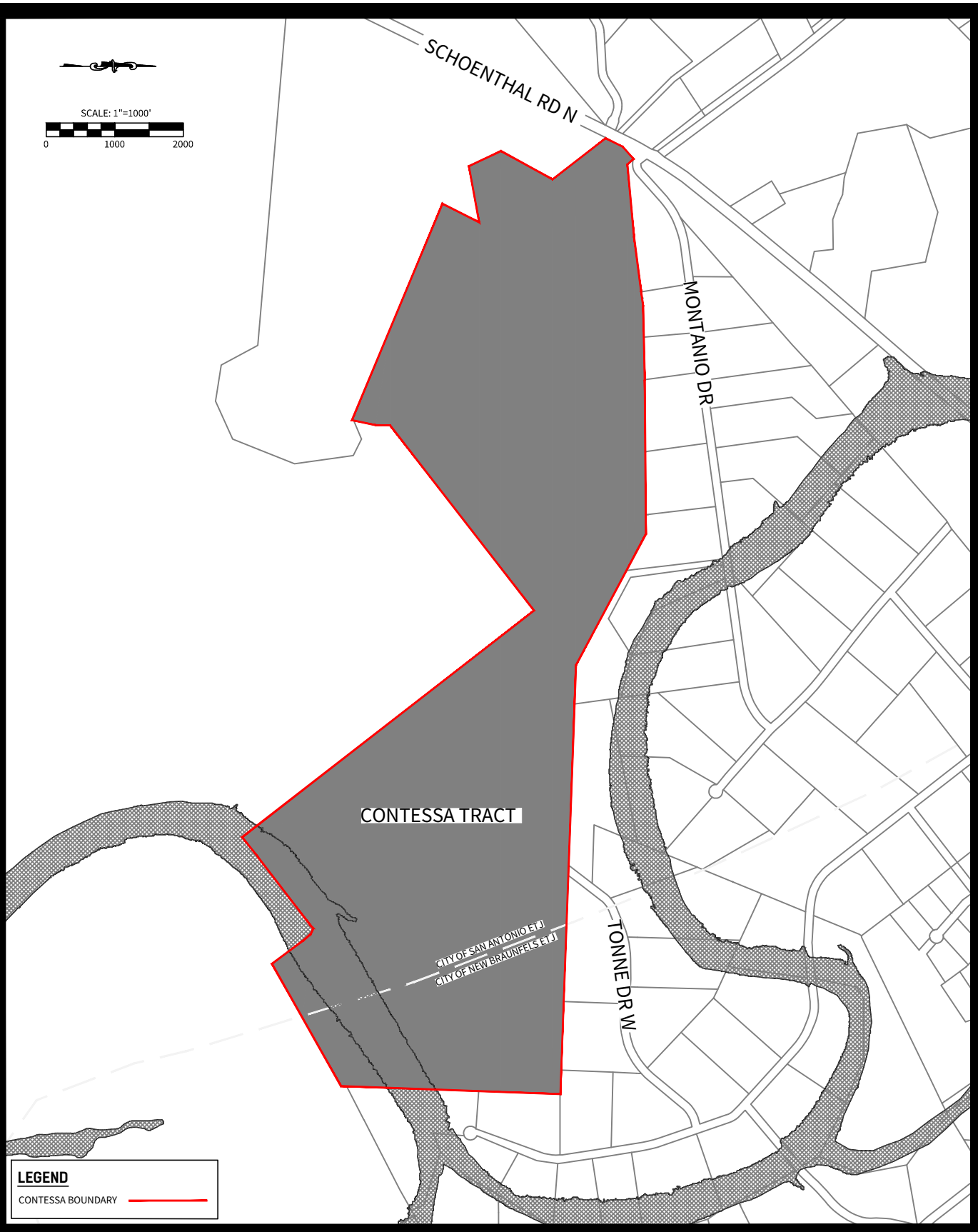
☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
☐ A request for an extension to a previously approved plan.

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

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

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

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



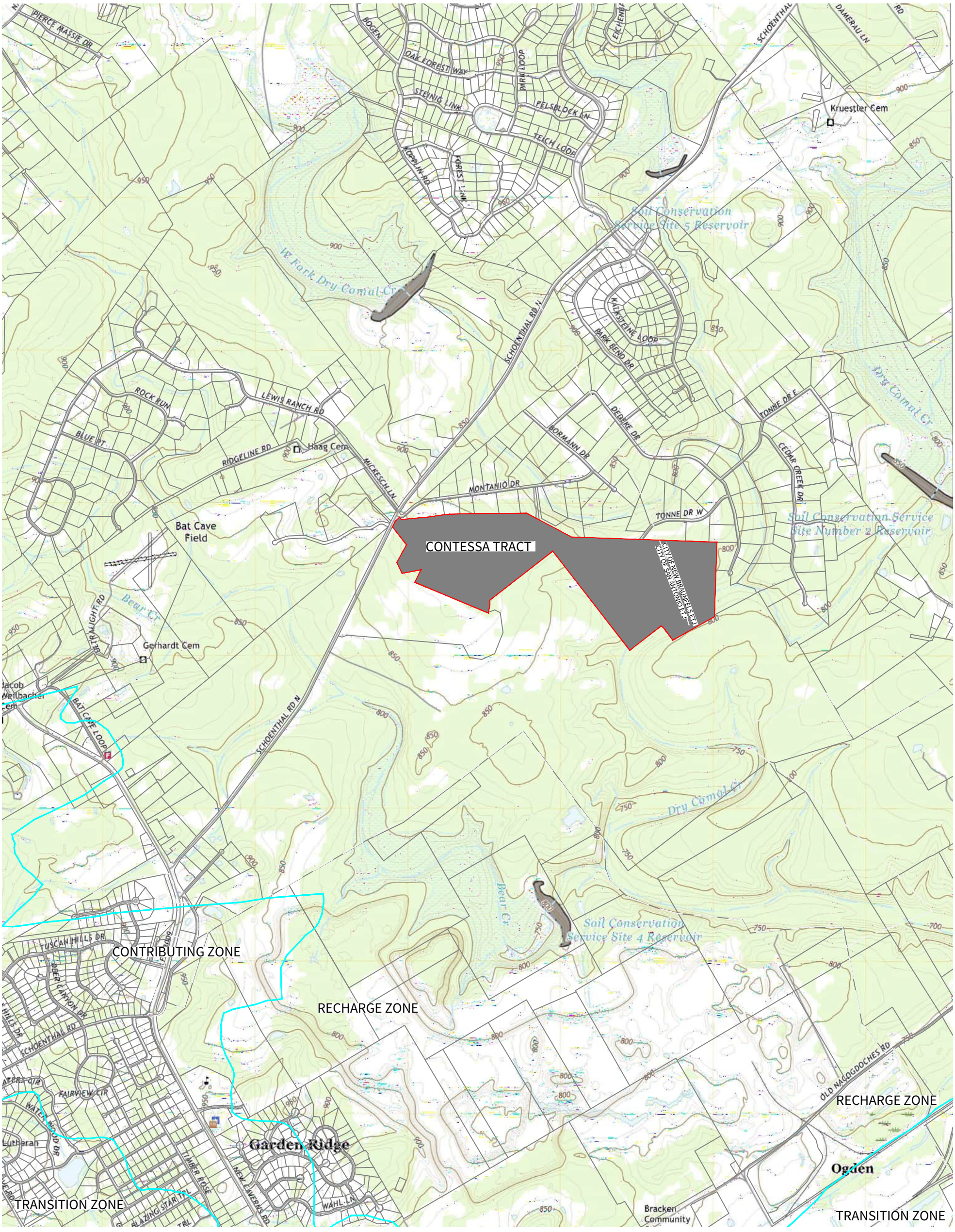
CUDE ENGINEERS
4122 POND HILL RD. • SUITE 101
SAN ANTONIO, TEXAS 78231
TEL 210.681.2951 • FAX 210.523.7112
WWW.CUDEENGINEERS.COM
TBPE REGISTERED ENGINEERING
FIRM #455

CONTESSA TRACT SUBDIVISION

ATTACHMENT A - ROAD MAP

DATE: 2025-02-04 **JOB NO.:** 04343.000

P:\04343\000\7-Milestones\5-WPAP Booklet\Road_Map.dwg 2025/02/04 3:42pm hnave



SITE BOUNDARY

CONTRIBUTING/RECHARGE ZONE LIMIT LINES

DRAINAGE FLOW PATH

BAT CAVE SE QUADRANGLE

SCALE: 1" = 2000'

USGS/EDWARDS RECHARGE ZONE MAP

ATTACHMENT B

SHEET 1 OF 1

ATTACHMENT C – PROJECT DESCRIPTION

The proposed single-family residential development encompasses 249.74 acres of undeveloped land located in the southeast corner of the Montanio Dr. and Schoenthal Rd. N intersection. This development will consist of the construction of 408 residential homes, street infrastructure, drainage facilities, gravity sewer infrastructure, water facilities and utility infrastructure. The site is located within the City of San Antonio ETJ and the New Braunfels ETJ, Comal County, Texas. A portion of the site is located within the current limits of the DFIRM 1% annual chance floodplain, and all of the site is located within the Edwards Aquifer Recharge Zone. Potable water will be supplied by San Antonio Water System (SAWS). Sewer will be handled internally by an on-site sewage facility.

Access to the site will be provided along Schoenthal Rd. N and Montanio Dr. The site has access to existing utilities such as electric, sewer, and water service lines. The location of the existing improvements is shown on the boundary survey included in this report.

The proposed conditions of our site consist of seven accumulation points.

- Point WQP1 receives stormwater from a portion of the site located in the northwest corner of the boundary, from which the stormwater will flow southwest of Area WQP1 and ultimately flow into Bear Creek and eventually end in the Comal River.

- Point WQP2 receives stormwater from a proposed high point located in the middle west of the site, from which the stormwater will flow southwest of Area WQP2 and ultimately flow into Bear Creek and eventually end in the Comal River.

- Point WQP3 receives stormwater from the western portion of the site. The stormwater will then flow southeast of Area WQP3 and merge with the flow heading towards Area WQP4.

- Point WQP4 receives stormwater from a proposed high located in the middle west of the site, from which the stormwater will flow southeast of Area WQP4 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point WQP5 receives stormwater from a majority of the east portion of the site, from which the stormwater will flow southeast of Area WQP5 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point WQP6 receives stormwater from a portion of the site located in the northeast corner of the

boundary, from which the stormwater will flow southeast of Area WQP6 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point VFS1 receives stormwater from several portions of lots located in the northern edge of the site, from which the stormwater will flow northeast of Area VFS1 and ultimately flow into the West Fork Dry Comal Creek and eventually end in the Comal River.

- Point VFS2 receives stormwater from several portions of lots located in the eastern segment of the site, from which the stormwater will flow east of Area VFS2 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point VFS3 receives stormwater from several portions of lots located in the southwest segment of the site, from which the stormwater will flow south of Area VFS3 and ultimately flow into the Bear Creek and eventually end in the Comal River.

- Point BP1 receives stormwater from a portion of lots located in the southwest segment of the site, from which the stormwater will flow south of Area BP1 and ultimately flow into the Bear Creek and eventually end in the Comal River.

- Point BP2 receives stormwater from a portion of lots located in the southeast segment of the site, from which the stormwater will flow southeast of Area BP2 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point BP3 receives stormwater from a portion of lots located in the northeast segment of the site, from which the stormwater will flow east of Area BP3 and ultimately flow into the Dry Comal Creek and eventually end in the Comal River.

- Point BP4 receives stormwater from a portion of lots located in the northern segment of the site, from which the stormwater will flow northeast of Area BP4 and ultimately flow into the West Fork Dry Comal Creek and eventually end in the Comal River.

- Point BP5 receives stormwater from a portion of lots located in the northern segment of the site, from which the stormwater will flow northeast of Area BP5 and ultimately flow into the West Fork Dry Comal Creek and eventually end in the Comal River.

- Point BP6 receives stormwater from a portion of lots located in the northern segment of the site, from which the stormwater will flow northeast of Area BP6 and ultimately flow into the West Fork Dry Comal Creek and eventually end in the Comal River.

All 15 runoff flows into the Comal River through various drainage infrastructure. Upstream areas from the site are composed of undeveloped areas.

The proposed development will consist of approximately 67.52 acres of impervious cover (27.0%). It has been determined that permanent BMPs will be required for this since the lots are less than 1 acre in size and are generally clustered due to floodplain on the southeastern portion of the WPAP limits. Temporary Best management practice measures to be used are intended to inhibit sediment and suspended solids from leaving the site. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features. A batch detention basin and vegetated filter strip areas have been selected as a permanent BMP measure to remove pollutants for reaching other surrounding areas downstream of the site. Please refer to the Pollution Abatement Plan for permanent BMPs.

GEOLOGIC ASSESMENT SECTION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

GEOLOGIC ASSESSMENT (WPAP)

THE CONTESSA TRACT
10054 SCHOENTHAL ROAD NORTH
NEW BRAUNFELS, TEXAS 78132

FROST GEOSCIENCES, INC. PROJECT NO.: FGS-E25111
FEBRUARY 25, 2025

Prepared exclusively for

Meritage Homes
2722 West Bitters Road, Suite 200
San Antonio, Texas 78248

Frost GeoSciences
Geotechnical ▪ Construction Materials
Geologic ▪ Environmental

Frost GeoSciences
Geotechnical ▪ Construction Materials
Geologic ▪ Environmental

Frost Geosciences, Inc.
13406 Western Oak
Helotes, Texas 78023
Office (210)-372-1315
Fax (210)-372-1318
www.frostgeosciences.com
TBPE Firm Registration # F-9227
TBPG Firm Registration # 50040

February 25, 2025

Meritage Homes
2722 West Bitters Road, Suite 200
San Antonio, Texas 78248

Attn: Tonda Alexander

SUBJECT:
Geologic Assessment (WPAP)
for the Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Contessa Tract
10054 Schoenthal Road North
New Braunfels, Texas 78132
FGS Project Nº FGS-E25111

Dear Ms. Alexander:

Frost GeoSciences, Inc., (FGS) is pleased to submit the enclosed Geologic Assessment completed for the above referenced project site as it relates to 30 TAC §213.5(b)(3), effective June 1, 1999. Our investigation was conducted, and this report was prepared in general accordance with the Texas Commission on Environmental Quality (TCEQ) "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04).

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

We appreciate the opportunity to perform these services for Meritage Homes. Please contact the undersigned if you have questions regarding this report.

Respectfully submitted,
Frost GeoSciences, Inc.

Ethan Levine
Field Geologist

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

Copies Submitted:
(1) Tonda Alexander; Meritage Homes
(6) Cude Engineers
(1) Electronic (pdf) Copy

TABLE OF CONTENTS

GEOLOGIC ASSESSMENT

Texas Commission on Environmental Quality (TCEQ)

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

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

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

Signature

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

Print Name of Geologist: Steve Frost, C.P.G., P.G. Telephone: (210) 372-1315

Date: February 25, 2025 Fax: (210) 372-1318

Representing: Frost GeoSciences, Inc. 50040 (Name of Company and TBPG or TBPE registration number)

Signature of the Geologist:

Regulated Entity Name: The Contessa Tract

Project Information

1. Date(s) Geologic Assessment was performed: 2/10/25, 2/12/25, 2/14/25, 2/17/25, and 2/18/25
2. Type of Project:

   ☒ WPAP ☐ AST
   ☐ SCS ☐ UST
3. Location of Project:

   ☒ Recharge Zone
   ☐ Transition Zone
   ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Comfort	D	0-1
Medlin/Eckert	D	1-2
Krum	D	3-4
Orif	A	6-7
Rumple	C	3-4

**Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.
B. Soils having a moderate infiltration rate when thoroughly wetted.
C. Soils having a slow infiltration rate when thoroughly wetted.
D. Soils having a very slow infiltration rate when thoroughly wetted

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

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

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan.

   Applicant's Site Plan Scale: 1" = 300'
   Site Geologic Map Scale: 1" = 300'
   Site Soils Map Scale (if more than 1 soil type): 1" = 500'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☒ Other method(s). Please describe method of data collection: 2020 Aerial Photograph

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☐ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☒ There is <u>one</u> (1) well present on the project site and the location is shown and labeled. (Check all of the following that apply.)

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

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

Administrative Information

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

STRATIGRAPHIC COLUMN

EXPLANATION OF HYDROSTRATIGRAPHIC UNITS

Group or Formation	Formal and informal member		Hydrologic unit or Informal hydrostratigraphic unit
Taylor Group (Pecan Gap)		Kpg	Upper Confining Unit (UCU)
Austin Group		Ka	
Eagle Ford Group		Kef	
Buda Limestone		Kb	
Del Rio Clay		Kdr	
Georgetown Formation		Kg	I
Person Formation	Cyclic and marine, undivided	Kpcm	II
	Leached and collapsed	Kplc	III
	Regional dense member	Kprd	IV
Kainer Formation	Grainstone	Kkg	V
	Kirschberg evaporite	Kkke	VI
	Dolomitic	Kkd	VII
	Basal nodular	Kkbn	VIII
Glen Rose Limestone	Upper Glen Rose Limestone	Kgrc	Cavernous
		Kgrcb	Camp Bullis
		Kgrue	Upper evaporite
		Kgruf (Kgrf)	Fossiliferous Upper
		Kgrlf (Kgrf)	Lower
		Kgrle	Lower evaporite
	Lower Glen Rose Limestone	Kgrb	Bulverde
		Kgrlb	Little Blanco
		Kgrts	Twin Sisters
		Kgrd	Doeppenschmidt
		Kgrr	Rust
		Kgrhc	Honey Creek
Pearsall Formation	Hensell Sand	Kheh	Hensell
	Cow Creek Limestone	Kcccc	Cow Creek
	Hammett Shale	Khah	Hammett

Frost GeoSciences

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: The Contessa Tract | **PROJECT NUMBER:** FGS-E25111

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29° 40' 18.97"	-98° 17' 4.98"	MB	30	Kdr	0.5	0.5	-	-	-	-	-	N	2	32	32		YES		HILLSIDE
S-2	29° 40' 16.78"	-98° 17' 14.15"	SC	20	Kg	1	0.5	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-3	29° 40' 20.14"	-98° 16' 58.35"	SC	20	Kdr	1	1	1.5	-	-	-	-	FV	10	30	30		YES		HILLSIDE
S-4	29° 40' 19.92"	-98° 16' 43.18"	MB	30	Kpcm	0.5	0.5	0.5	-	-	-	-	OF	1	31	31		YES		HILLSIDE
S-5	29° 40' 18.50"	-98° 16' 49.33"	SC	20	Kg	1	3	1	-	-	-	-	OF	5	25	25		YES		HILLSIDE
S-6	29° 40' 21.78"	-98° 16' 38.70"	SC	20	Kpcm	2	3	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-7	29° 40' 21.70"	-98° 16' 23.86"	SC	20	Kpcm	2	5	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-8	29° 40' 22.27"	-98° 16' 21.32"	SC	20	Kpcm	2	2	2	-	-	-	-	C	10	30	30		YES		HILLSIDE
S-9	29° 40' 19.07"	-98° 16' 35.18"	SC	20	Kpcm	4	3	2	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-10	29° 40' 18.92"	-98° 16' 14.02"	SC	20	Kpcm	0.5	0.5	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-11	29° 40' 11.40"	-98° 16' 22.89"	SC	20	Kpcm	1	0.5	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-12	29° 40' 9.27"	-98° 16' 25.47"	SC	20	Kpcm	3	0.5	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-13	29° 40' 14.56"	-98° 16' 18.89"	SC	20	Kpcm	1	1	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE

Datum: NAD 83

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

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists.
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Steve Frost

Steve Frost, C.P.G., P.G.

Date: February 25, 2025

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

Frost GeoSciences

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1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-14	29° 40' 15.32"	-98° 16' 14.49"	SC	20	Kpcm	1	1	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-15	29° 40' 14.66"	-98° 16' 14.12"	SC	20	Kpcm	1	3	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-16	29° 40' 13.25"	-98° 16' 16.55"	SC	20	Kpcm	6	6	2	-	-	-	-	OF	14	34	34		YES		HILLSIDE
S-17	29° 40' 10.63"	-98° 16' 18.80"	SC	20	Kpcm	6	4	2	-	-	-	-	OF	12	32	32		YES		HILLSIDE
S-18	29° 40' 5.93"	-98° 16' 21.74"	SC	20	Kpcm	1	1.5	3	-	-	-	-	OF	14	34	34		YES		HILLSIDE
S-19	29° 40' 3.11"	-98° 16' 22.84"	MB	30	Kpcm	0.5	0.5	1	-	-	-	-	F	1	31	31		YES		HILLSIDE
S-20	29° 40' 2.65"	-98° 16' 20.61"	SC	20	Kpcm	0.5	0.5	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-21	29° 40' 15.60"	-98° 16' 6.45"	SC	20	Kpcm	1	2	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-22	29° 40' 16.21"	-98° 16' 11.28"	SC	20	Kpcm	1	1	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-23	29° 40' 20.09"	-98° 16' 13.53"	SC	20	Kpcm	0.5	2	1.5	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-24	29° 40' 20.24"	-98° 16' 6.46"	SC	20	Kpcm	0.5	0.5	1	-	-	-	-	OF	5	25	25		YES		HILLSIDE
S-25	29° 40' 17.80"	-98° 15' 59.22"	SC	20	Kpcm	3	4	2	-	-	-	-	OF	10	30	30		YES		HILLSIDE
S-26	29° 40' 17.73"	-98° 15' 59.18"	SC	20	Kpcm	2	3	1	-	-	-	-	OF	10	30	30		YES		HILLSIDE

Datum: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
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SW	Swallow hole	30
SH	Sinkhole	20
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Date: February 25, 2025

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

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						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-27	29° 40' 17.70	-98° 15' 59.33"	SC	20	Kpcm	1	3	1	-	-	-	-	OF	5	25	25		YES		HILLSIDE

Datum: NAD 83

2A TYPE	TYPE	2B POINTS
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SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
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Steve Frost

Steve Frost, C.P.G., P.G.

Date: February 25, 2025

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

LOCATION

The project site is an approximately 250-acre tract of land located along and east of Schoenthal Road North, at the southeastern corner of the intersection of Schoenthal Road North and Montanio Drive in New Braunfels, Comal County, Texas. An overall view of the area is shown on copies of the site map, a street map, the U.S.G.S. Topographic Map, the EAA-Edwards Aquifer Recharge Zone and Contributing Zone Map, the FIRM Map, the U.S. Geological Survey, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties (Clarke, 2016), Texas, Science Investigations Map 3366, U.S. Geological Survey: Water Resources Investigations Report (WRI) 94-4117 Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Comal County, Texas, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, a 2020 aerial photograph at a scale of 1"=500', and a NRCS Web Soil Survey aerial photograph at a scale of 1"=500'. These maps are included as Figures 1 through 9 in Appendix A.

METHODOLOGY

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

Frost GeoSciences, Inc. researched the geology of the area southeast of the intersection of Schoenthal Road North and Montanio Drive. The research included, but was not limited to, the Geologic Atlas of Texas, San Antonio Sheet, FEMA maps, Edwards Aquifer Recharge Zone Maps, U.S.G.S. 7.5 Minute Quadrangle Maps, U.S. Geological Survey, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366, the Bureau of Economic Geology-Geologic Atlas of Texas, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the U.S.G.S. Water-Resources Investigations Report 94-4117, and the U.S.D.A. Soil Survey of Comal County, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or man-made Potential Recharge Features (PRFs). A transect spacing of approximately 50 feet, or less depending on vegetation thickness, was used to inspect the project area. A 2020 aerial photograph, in conjunction with a hand-held Garmin GPS 73 Global Positioning System with an Estimated Potential Error ranging from 10 to 14 feet, was used to navigate around the property and identify the locations of PRFs, as recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The locations of any PRFs noted in the field were marked with blue and white flagging. The flagging is numbered with the same potential recharge feature I.D. # that is used on the Site Geologic Map. The Site Geologic Map, indicating the limits of the project site, and the locations of PRFs and rock outcrops noted on the project site, is included in Appendix C of this report. A copy of a 2020 Aerial Photograph at an approximate scale of 1" =500' indicating the limits of the project site, and the locations of PRFs and rock outcrops noted on the project site, is included on Figure 9 in Appendix A. The Geologic Assessment Form TCEQ-0585, (Rev. 2-11-15), Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included pages 1 through 5 of this report.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

According to the U.S.G.S. 7.5 Minute Quadrangle Map, Bat Cave, Texas Sheet (1988), the elevation across the project site ranges from 770 to 954 feet above mean sea level. The project site has a total relief of approximately 184 feet. The western portion of the project site is located on a topographic high. The eastern portion of the Site slopes south and east toward Dry Comal Creek. Runoff from the project site appears to flow east and south into the Dry Comal Creek, which is depicted crossing the eastern portion of the project site, near the eastern boundary. Multiple structures, an unimproved road and a livestock watering pond are depicted in the western portion of the project site. Schoenthal Road is located along the western property boundary, and Montanio Drive is located to the north of the project site. A copy of the U.S.G.S. 7.5 Minute Quadrangle Map indicating the location of the project site is included as Figure 3 in Appendix A.

Recharge/Transition Zone

According to the E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map, Bat Cave (2014), the Official Edwards Aquifer Recharge Zone Map, Bat Cave Sheet (1992), and the TCEQ website: Edwards Aquifer Viewer – https://tceq.maps.arcgis.com/apps/webappviewer/index.html, the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of the E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map indicating the location of the project site is included as Figure 4 in Appendix A.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Comal County, Texas, Community Panel Number 48091C0420F, dated September 2, 2009, was reviewed to determine if the project site is located in areas prone to flooding. A review of the above-mentioned panel number indicates the majority of the Site is situated within Zone X (unshaded). According to the map panel legend, Zone X (unshaded) indicates areas determined to be outside the 0.2% annual chance floodplain. In addition, the flood panel indicated floodplain associated with Dry Comal Creek present in the southeastern portion of the Site. Portions of the project site that include the Dry Comal Creek are indicated as “Zone AE” and “Zone X”. According to the map panel legend, “Zone AE” represents areas determined to be within the 100-year floodplain where base flood elevations have been determined, and “Zone X” represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the above-referenced FIRM panel indicating the location of the project site is included as Figure 5 in Appendix A.

Soils

According to the United States Department of Agricultural (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Comal County (June 1984) and the USDA NRCS Web Soil Survey (WSS) website: https://websoilsurvey.nrcs.usda.gov, the Site is located on the following soils:

- The **Comfort-Rock outcrop complex, undulating (CrD)** consists of shallow, clayey soils and Rock outcrops on the side slopes, hilltops, and ridgetops in the uplands area of the Edwards Plateau. This soil complex is composed of the Comfort extremely stony clay (~49% to ≥95% of the complex), the Rock outcrop (5-36% of the complex), and small amounts of the Rumple, Purves, Eckert, and Real soils. Typically, the surface layer of the Comfort soil is dark brown extremely stony clay about 6

inches thick. Stones and cobbles (some as much as 4' across) cover approximately 45% of the surface. The subsoil extends to a depth of 13 inches. It is dark reddish brown, extremely stony clay. The underlying material is indurated fractured limestone. The soil is mildly alkaline and non-calcareous throughout. The soil is well drained, surface runoff is slow to medium, permeability is slow, and the available water capacity is very low. Water erosion is a slight hazard. Typically, the Rock outcrop is dolomitic limestone that is barren of soil except in narrow fractures in the rock. Some areas may have as much as 3 inches of soil on top of the outcrop.

- The **Krum clay, 1-3% slopes (KrB)** has a surface layer that is dark gray clay about 16 inches thick. The subsoil to a depth of 58 inches is grayish brown clay, and to a depth of 66 inches it is brown clay. The underlying material to a depth of 80 inches is pale brown clay. The soil is moderately alkaline and calcareous throughout. The soil is well drained. Surface runoff is high. Permeability is moderately slow, the available water capacity is high, and water erosion is a moderate hazard.

- The **Medlin-Eckert association, undulating (MEC)** consists of very shallow to shallow and deep soils on the upland areas of the Edwards Plateau. The Medlin soils are typically found on lower side slopes and the Eckert soils found along the upper side slopes and crests. Medlin soils can be found eroded in about 15% of the areas mapped. Typically, the Medlin soil has a grayish brown clay surface layer about 9 inches thick. The subsoil, to a depth of 24 inches, is olive clay and to a depth of 38 inches is mottled pale olive and pale-yellow clay. The underlying material to a depth of 80 inches is mottled olive, pale yellow and brownish yellow shale. The soil is moderately alkaline and calcareous throughout. The Medlin soil is well drained, surface runoff is rapid, permeability is very slow, the available water capacity is high, and water erosion is a severe hazard. Typically, the surface layer of the Eckert soil is a dark brown extremely stony clay about 17 inches thick. The underlying material is a fractured limestone bedrock. The soil is moderately alkaline and noncalcareous throughout. The soil is well drained, surface runoff is rapid, permeability is moderately slow, and the available water capacity is very low. Water erosion is a slight hazard.

- The **Orif soils, frequently flooded (Or)** are deep, nearly level soils on flood plains of large creeks and rivers. Slopes are convex and on average are less than 1 percent. They are adjacent to the stream channel. The areas are long and narrow and range from 10 to 350 acres in size. The surface texture is gravelly loam, gravelly sandy loam, gravelly loamy sand, or a very gravelly counterpart. The texture does not vary in a regular pattern. Typically, the surface layer is grayish brown, moderately alkaline gravelly loamy sand about 20 inches thick. The underlying layer to a depth of 60 inches is very gravelly loamy sand stratified with very gravelly sand, very gravelly sandy loam, and loam. These soils are well drained. Flooding occurs several times in most years and is of very brief duration. Floodwaters are swift and destructive. Surface runoff is slow. Permeability is rapid. The available water capacity is low. The rooting zone is deep. Water erosion is a severe hazard.

- The **Rumple-Comfort Association (RuD)** consists of shallow and moderately deep soils located on uplands in the Edwards Plateau Land Resource Area. The surface layer of the Rumple Soil is dark reddish brown very cherty clay loam about 10 inches thick. Rounded chert and limestone cobbles and gravel cover about 20 percent of the surface. The subsoil to a depth of 14 inches is dark reddish-

brown very cherty clay, and to a depth of 28 inches it is dark reddish-brown extremely stony clay. The underlying material is indurated fractured limestone. The Comfort Soil is dark brown, neutral, extremely stony clay about 7 inches thick. The subsoil to a depth of 12 inches is dark reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated fractured limestone. The soil is non-calcareous throughout. The soils in this association are well drained. Surface runoff is medium, but varies due to the occurrence of caves, fracture zones, and sinks. Permeability is moderately slow. Water erosion is a moderate hazard.

Narrative Description of the Site Geology

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low. The locations of the PRFs are identified on the 2020 aerial photograph on Figure 9 in Appendix A, and on the Site Geologic Map provided in Appendix C. Color photos of the project site and PRFs are included in Appendix B.

Potential Recharge Feature S-1 is a water-well. The water well appeared to be capped and in good working order at the time of the site reconnaissance. An electrical generator was observed near S-1 that appeared to supply power to a submerged pump within the well. Frost GeoSciences rates the feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores a 32 on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider the water well to be a sensitive feature.

Potential Recharge Features S-2, S-3, S-5, S-6, S-7, S-8, S-9, S-10, S-11, S-12, S-13, S-14, S-15, S-20, S-21, S-22, S-23, S-24, S-25, S-26, and S-27 are solution cavities of varying dimensions that were observed to be filled in with fine material and leaves at the time of the site reconnaissance. The solution cavities occur on hillsides and are generally located under rock ledges, at the bases of trees, or in surface bedrock. Many of these solution cavities appeared to have been excavated by burrowing animals or washed out between rocks by surface runoff. Frost GeoSciences rates these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). These features score 25 to 30 points on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider any of the observed solution cavities to be sensitive features.

Potential Recharge Feature S-16 is a solution cavity located within a large fracture between a series of boulders. The cavity is approximately 6 by 6 feet and appears to plunge to a depth of at least 2 feet. The cavity is filled in with fine soil and leaves. Clear evidence of infiltration by surface runoff is apparent in and around the cavity. Frost GeoSciences rates the feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores 34 points on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider the solution cavity to be a sensitive feature.

Potential Recharge Feature S-17 is a solution cavity located within a large fracture in surface exposed bedrock. The cavity is approximately 6 by 4 feet and appears to plunge to a depth of at least 2 feet. The cavity is filled with fine soil and leaves. Clear evidence of infiltration by surface runoff is apparent in and around the cavity. Frost GeoSciences rates the feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature

scores 32 points on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider the solution cavity to be a sensitive feature.

Potential Recharge Feature S-18 is a solution cavity located in surface exposed bedrock. The cavity is approximately 1 to 2 feet in diameter and appears to plunge to a depth of at least 3 feet. The cavity is filled with fine soil and leaves. Clear evidence of infiltration by surface runoff is apparent in and around the cavity. Frost GeoSciences rates the feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores 34 points on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider the solution cavity to be a sensitive feature.

Potential Recharge Features S-4 and S-19 are former geotechnical boreholes located in the ground surface. The geotechnical boreholes were observed to be filled in at the time of the site reconnaissance with a relative depth of 0.5 to 1 foot. Frost GeoSciences rates these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The features score 31 points on the sensitivity scale, column 10 of the Geologic Assessment Table included on pages 5 through 7 of this report. Frost GeoSciences, Inc. does not consider the geotechnical boreholes to be sensitive features.

The eastern and western portions of the project site are covered by a moderate to dense stand of vegetative cover, while the central portion of the project site consists of land previously cleared with heavy equipment. Piles of rocks, soil and brush as well as open grassy areas were noted in the central portion of the Site. Site visit photos indicating the condition of the property at the time of the on-site inspection are included in Appendix B. Overall vegetation on the project site consists of ashe juniper *(Juniperus ashei)*, live oak *(Quercus virginiana)*, mesquite (*Prosopis glandulosa*), hackberry (*Celtis sp*.), winged elm *(Ulmus alata)* and cedar elm *(Ulmus crassifolia)*, with Texas persimmon *(Diospyros texana)*, mountain laurel (*Sophora secundiflora*), agarita *(Berberis trifoliolata)*, yucca *(Yucca treculeana)*, and prickly pear cactus *(Opuntia lindheimeri)*. The variations in the vegetative cover on the property are visible in the 2020 aerial photo on Figures 8 and 9 in Appendix A. A copy of the site layout indicating the boundary of the project site and the elevations is included on the Site Geologic Map in Appendix C of this report.

According to the U.S. Geological Survey, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366 (Clarke, 2016) and the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the project site is located on the Buda Formation (Kb), the Del Rio Clay (Kdr), the Georgetown Formation (Kg), and the Lower Cretaceous Edwards Person Formation, Cyclic and Marine, Undivided (Kpcm). A copy of the U.S. Geological Survey, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366 (Clarke, 2016) map and the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle are included on Figures 7 and 7B in Appendix A. A copy of the Stratigraphic Column highlighting the outcropping formations is included on Page 4 of this report.

The **Buda Limestone (Kb)** is a light gray to pale orange, fine grained, hard, massive, bioclastic limestone. This limestone is poorly bedded to nodular in the lower section and thinner bedded and argillaceous near the upper contact. It commonly contains glauconitic and pyritiferous zones, and burrows filled with chalky marl. Pelecypods

are abundant throughout the section. The Buda Limestone weathers to dark gray or brown. Overall thickness ranges from 60 to 100 feet.

The **Del Rio Clay (Kdr)** is a calcareous and gypsiferous, blocky medium gray clay. Typically, this formation becomes less calcareous and more gypsiferous near the upper contact. Often contains thin lenticular beds of highly calcareous siltstone. Pyrite nodules are common. Marine megafossils include abundant *Exogyra arientina* and other pelecypods. The Del Rio Clay weathers to light gray or yellowish gray. Overall thickness ranges from 60 to 120 feet.

The **Georgetown Formation (Kg)** consists of limestone and marl. The majority of the limestone is light gray, fine grained, argillaceous, nodular, and moderately indurated. The remaining limestone is white, hard, brittle, and thick bedded. The marl is light gray to yellowish gray, and soft. Marine megafossils include *Kingena wacoensis* and *Gryphaea washitaensis*. The thickness of the formation varies from 30 to 80 feet.

The **Person Cyclic and Marine, Undivided (Kpcm)** consists of pelletal limestone, mudstone, miliolid grain stone, pack stone, and bedded chert with occasional large nodules. Occurrences of caprinids, cross bedded thin graded cycles, and cross beds are common. This unit is defined by massive bedding to relatively thin bedding. The thickness of the formation varies from 80 to 90 feet.

According to the site map provided by Cude Engineers, the surveyed elevations on the project site range from 760 to 960 feet. According to this survey, the total relief on the project site is approximately 200 feet. A copy of the site map indicating the boundary of the project site and the elevations is included on the Site Map on Figure 1 in Appendix A and the Site Geologic Map in Appendix C of this report.

BEST MANAGEMENT PRACTICES

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to range from low to moderate. The potential always exists to encounter solution cavities within the subsurface during excavating activities. Frost GeoSciences, Inc. is of the opinion that it is very important for construction personnel to be informed of the potential to encounter cavities in the subsurface that lack a surface expression. Construction personnel should also be informed of the proper protocol to follow in the event a karst feature is encountered during the development of the project site.

DISCLAIMER

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

This report has been prepared for the exclusive use of Meritage Homes. This report is based on available known records, a visual inspection of the project site, and the work generally accepted for a Geologic Assessment for Regulated Activities / Developments on the Edwards Aquifer Recharge / Transition Zone, relating to 30 TAC §213.5(b)(3), effective June 1, 1999.

REFERENCES

1. USGS - 7.5 Minute Topographic Quadrangle of Bat Cave, Texas (1988)

2. E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map, Bat Cave, Texas (2014).

3. Official Edwards Aquifer Recharge Zone Map, Bat Cave, Texas, 1999

4. The Texas Commission on Environmental Quality (TCEQ) website: Edwards Aquifer Viewer – https://tceq.maps.arcgis.com/apps/webappviewer/index.html.

5. Clark, A.K., Golab, J.A. and Morris, R.R., 2016, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366, United States Geological Survey.

6. Clark, A.K., Golab, J.A. and Morris, R.R., 2016, Geologic Framework and Hydro stratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, United States Geological Survey.

7. Collins, Edward, W., 2000, Geologic Map of the New Braunfels 30 X 60 Minute Quadrangle, Bureau of Economic Geology, The University of Texas at Austin, Texas.

8. Barnes, V.L., 1982, Geologic Atlas of Texas San Antonio Sheet, Bureau of Economic Geology and University of Texas at Austin, Geologic Atlas of Texas.

9. Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 48091C0420F, dated September 2, 2009

10. United States Department of Agriculture Soil Conservation Service Soil Survey of Comal County June 1984.

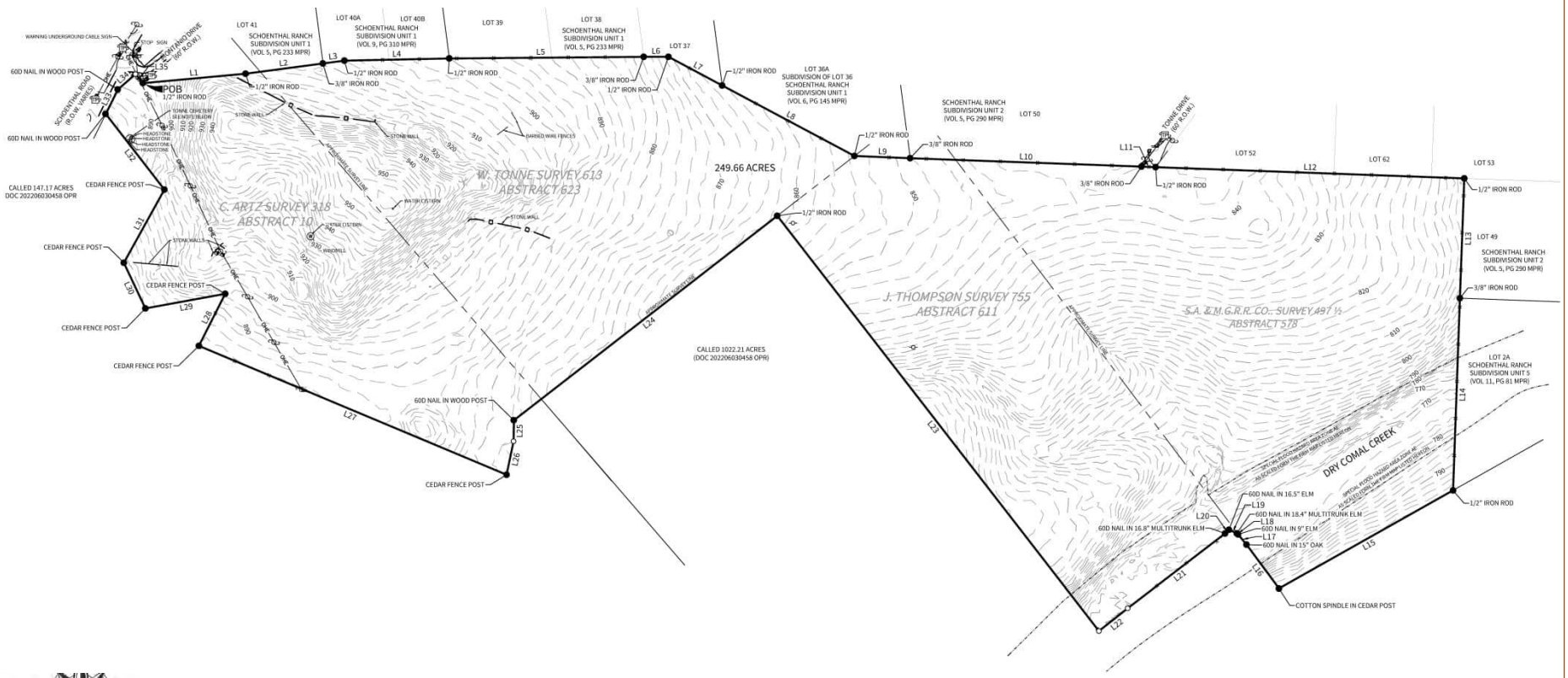
11. USDA NRCS Web Soil Survey (WSS) website: https://websoilsurvey.nrcs.usda.gov (2014)

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

APPENDIX A

SITE LOCATION FIGURES

Frost GeoSciences

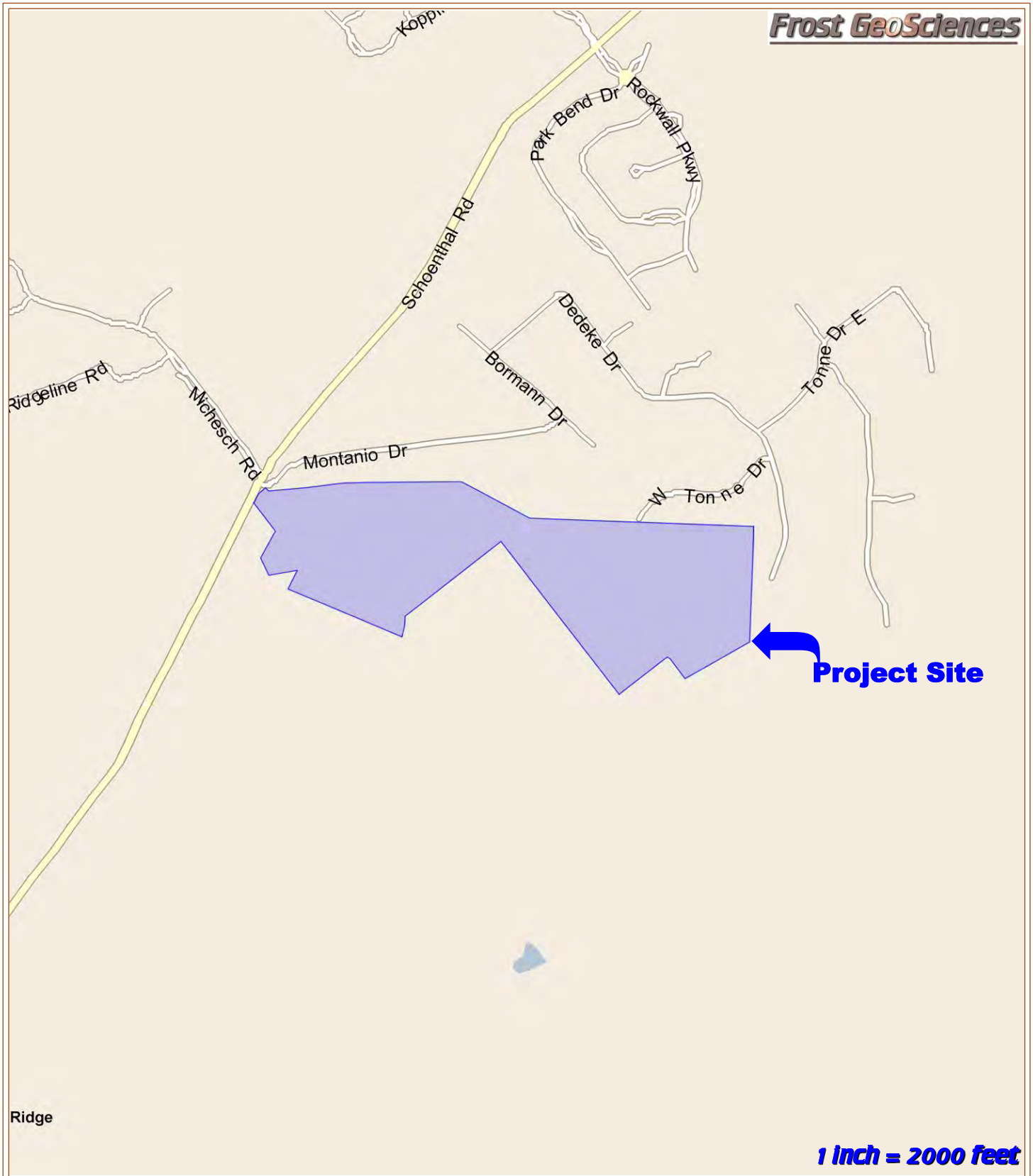


PROJECT NAME:
Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone
Contessa Tract
Comal County, Texas

Site Plan

PROJECT No.: FGS-E25111

DATE: February 25, 2025



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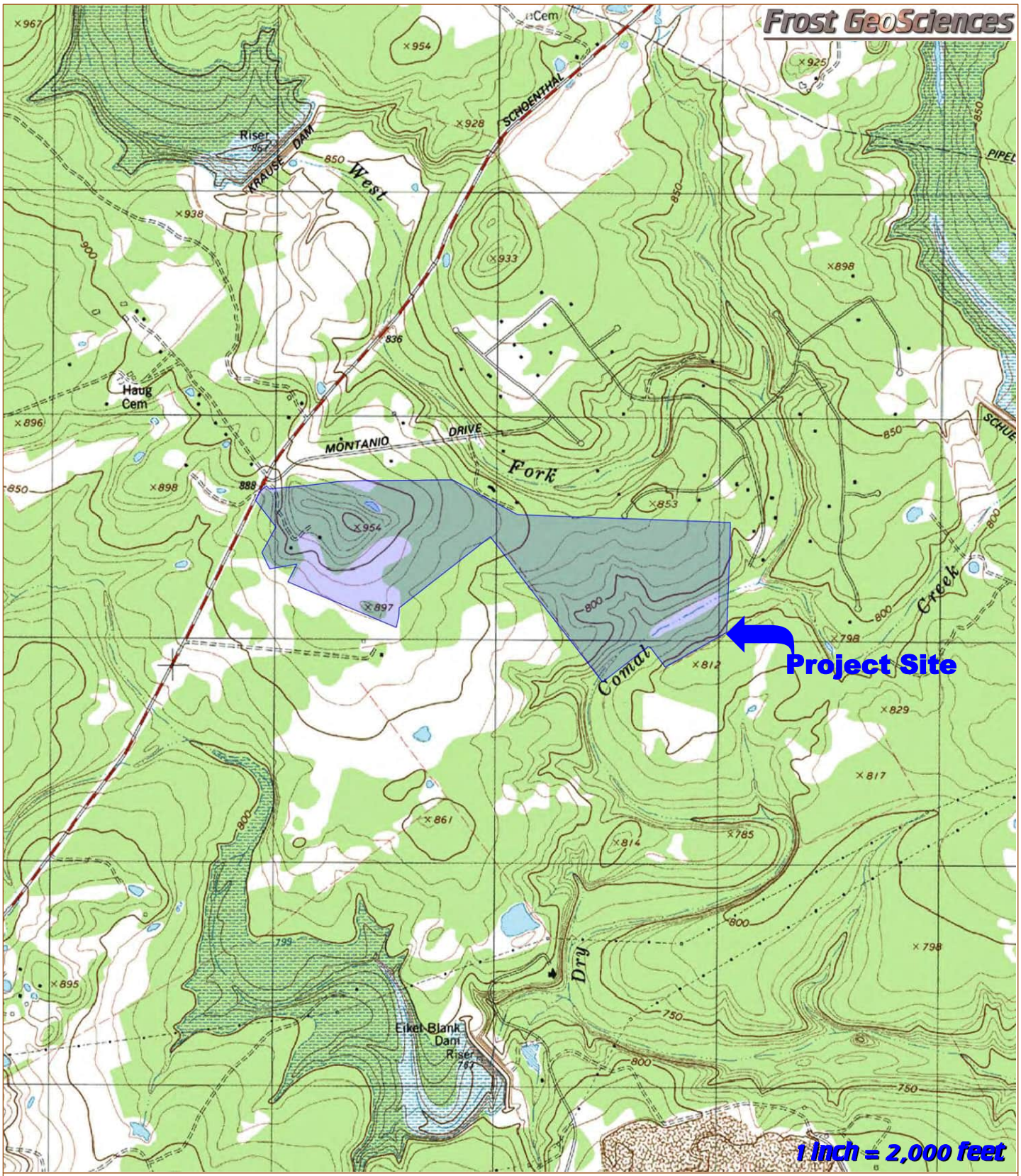
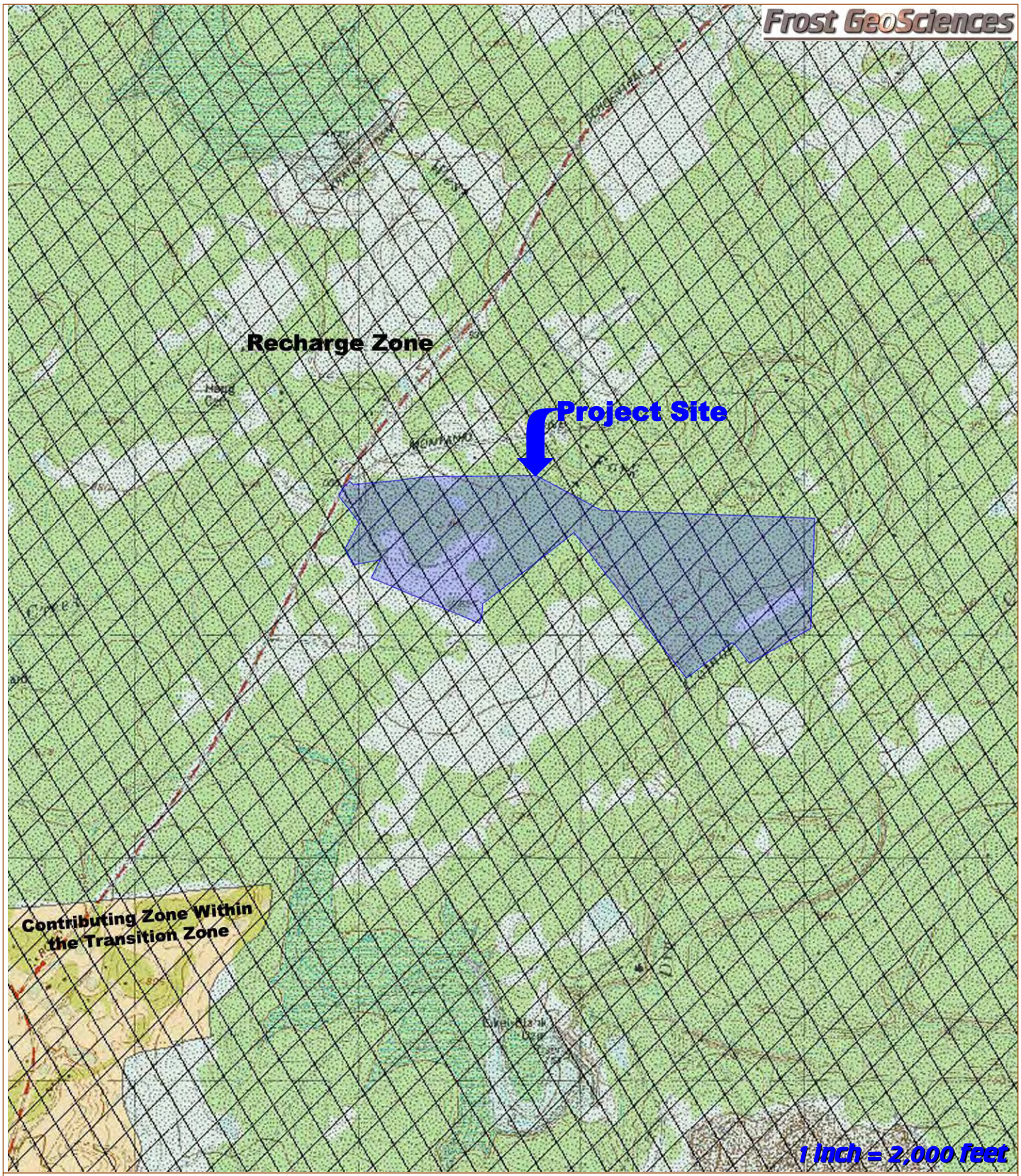
	PROJECT No.: FGS-E25111 / **DATE:** February 25, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	U.S.G.S. 7.5 Minute Quadrangle Map Bat Cave, Texas Sheet (1988)
	PROJECT No.: FGS-E25111 / **DATE:** February 25, 2025

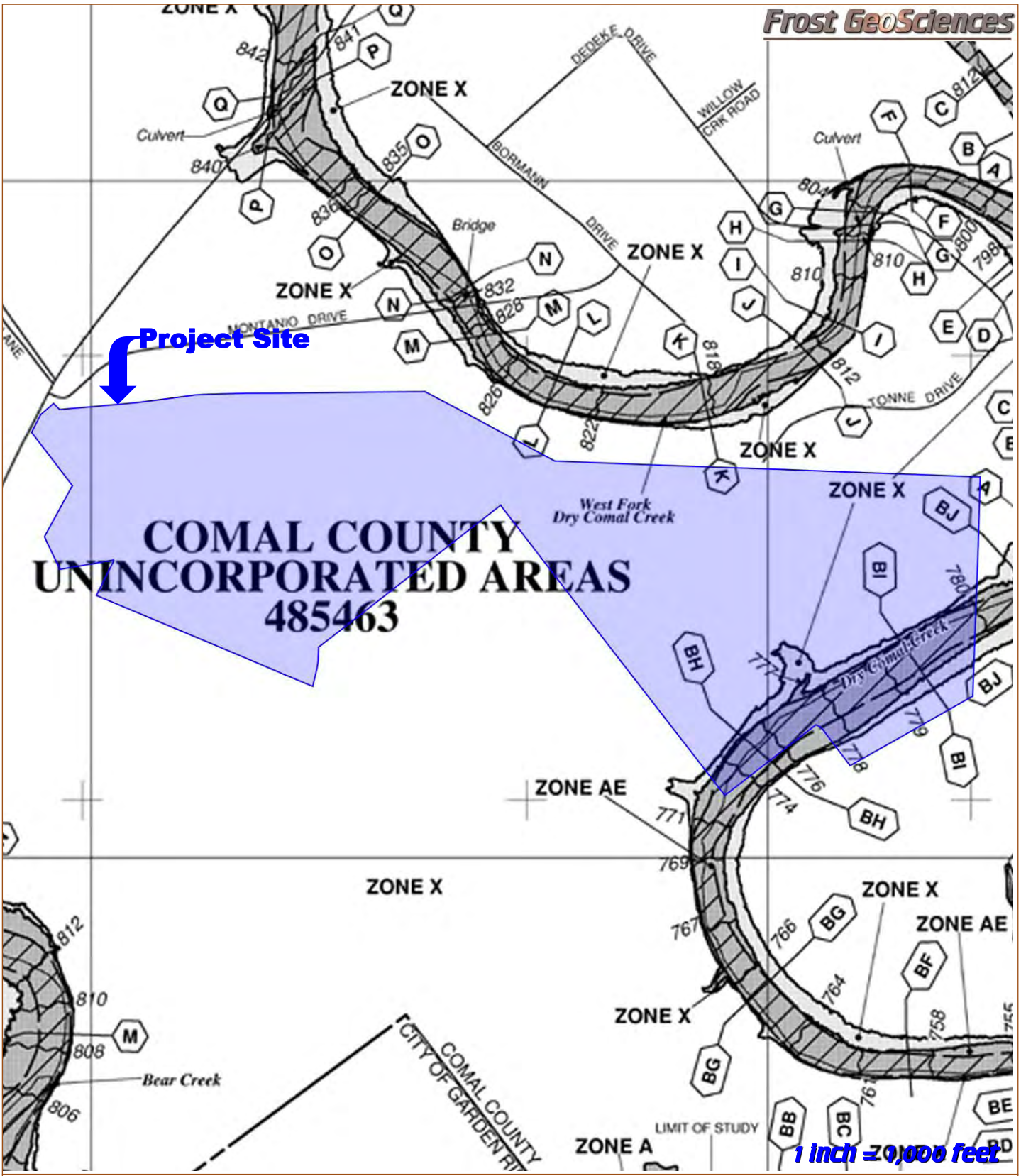


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities/Development on the
Edwards Aquifer Recharge/Transition Zone
Contessa Tract
Comal County, Texas

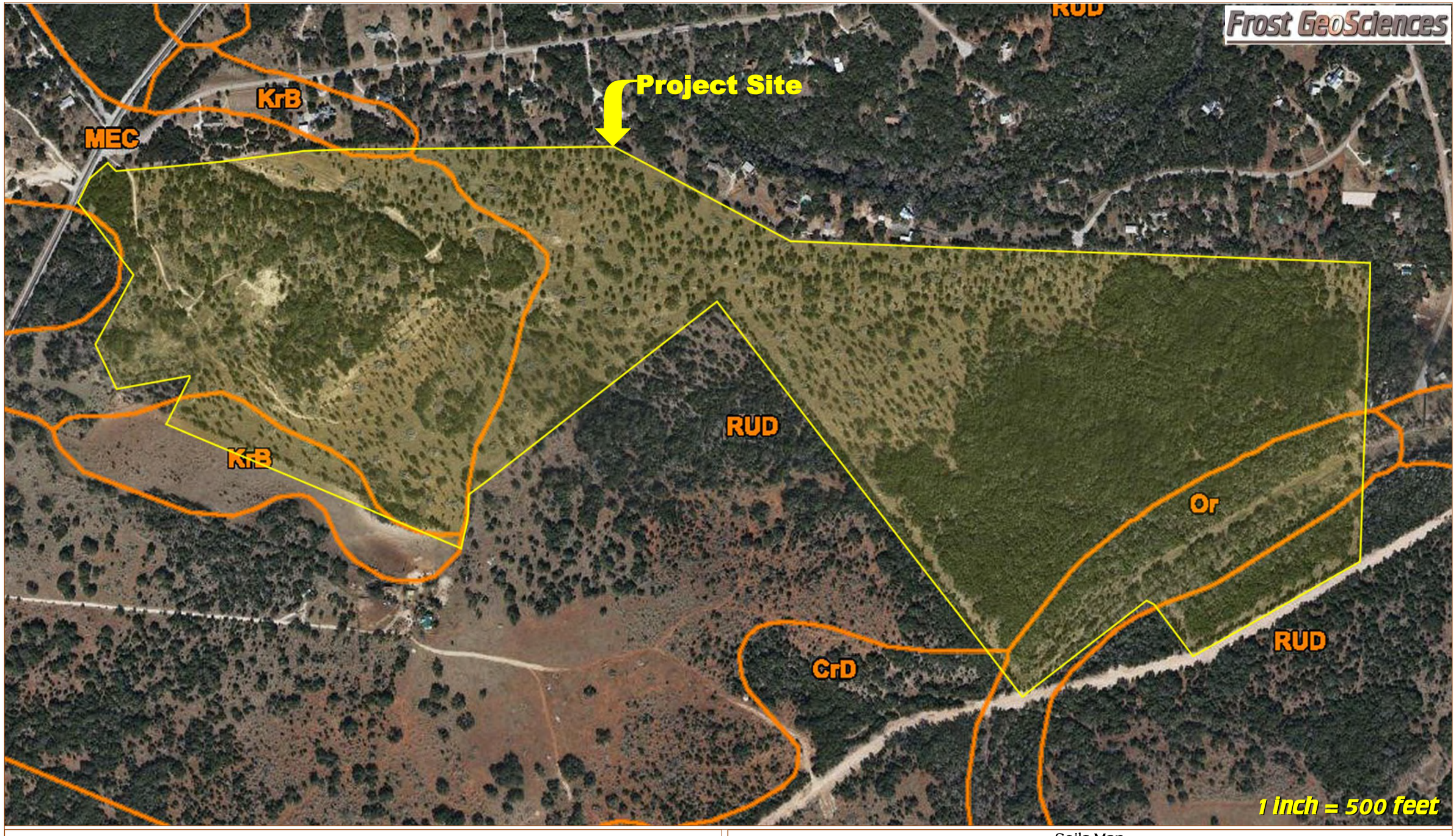
EAA Recharge & Contributing Zone Map
Bat Cave, Texas (2014)

PROJECT No.: FGS-E25111

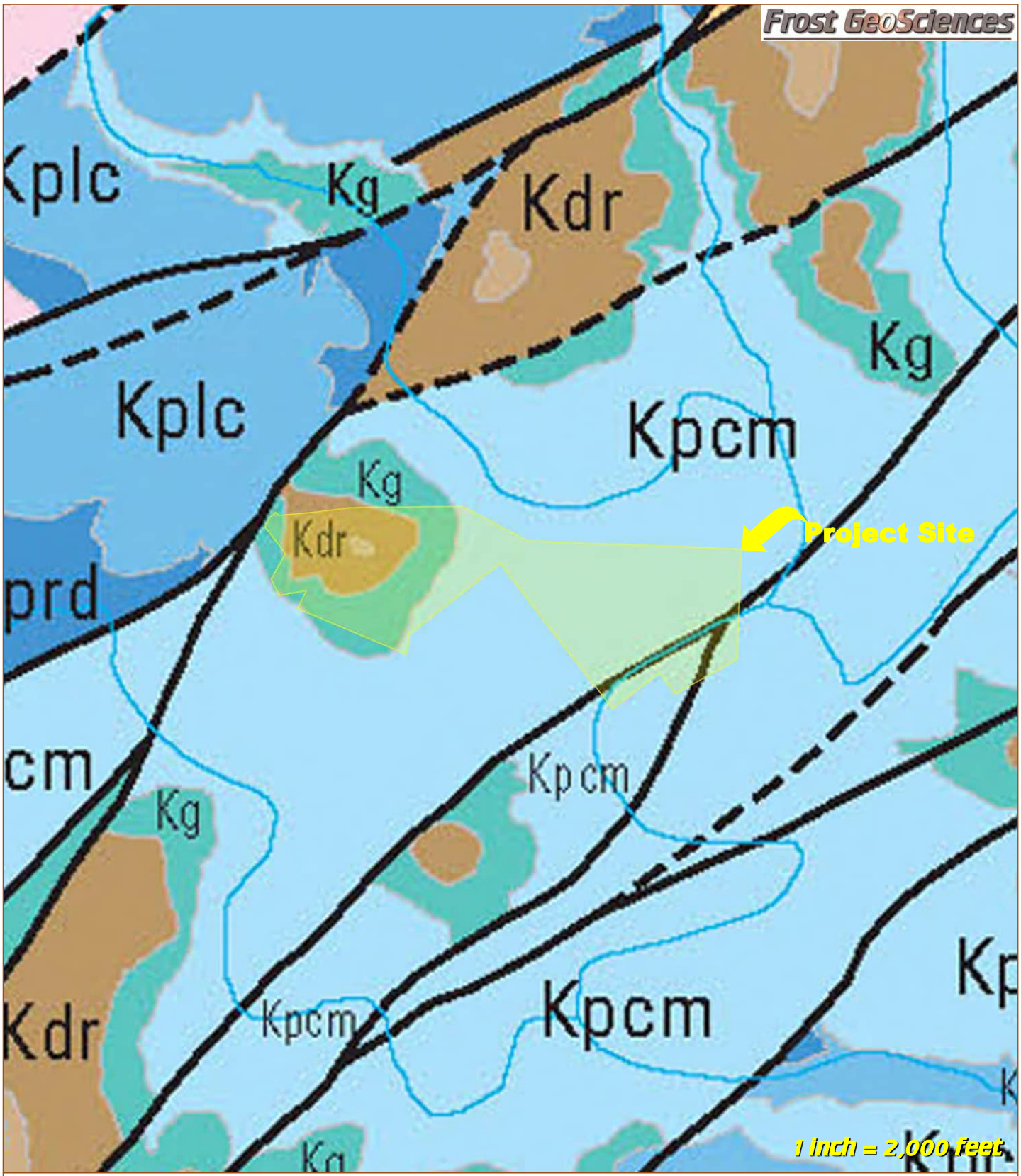
DATE: February 25, 2025



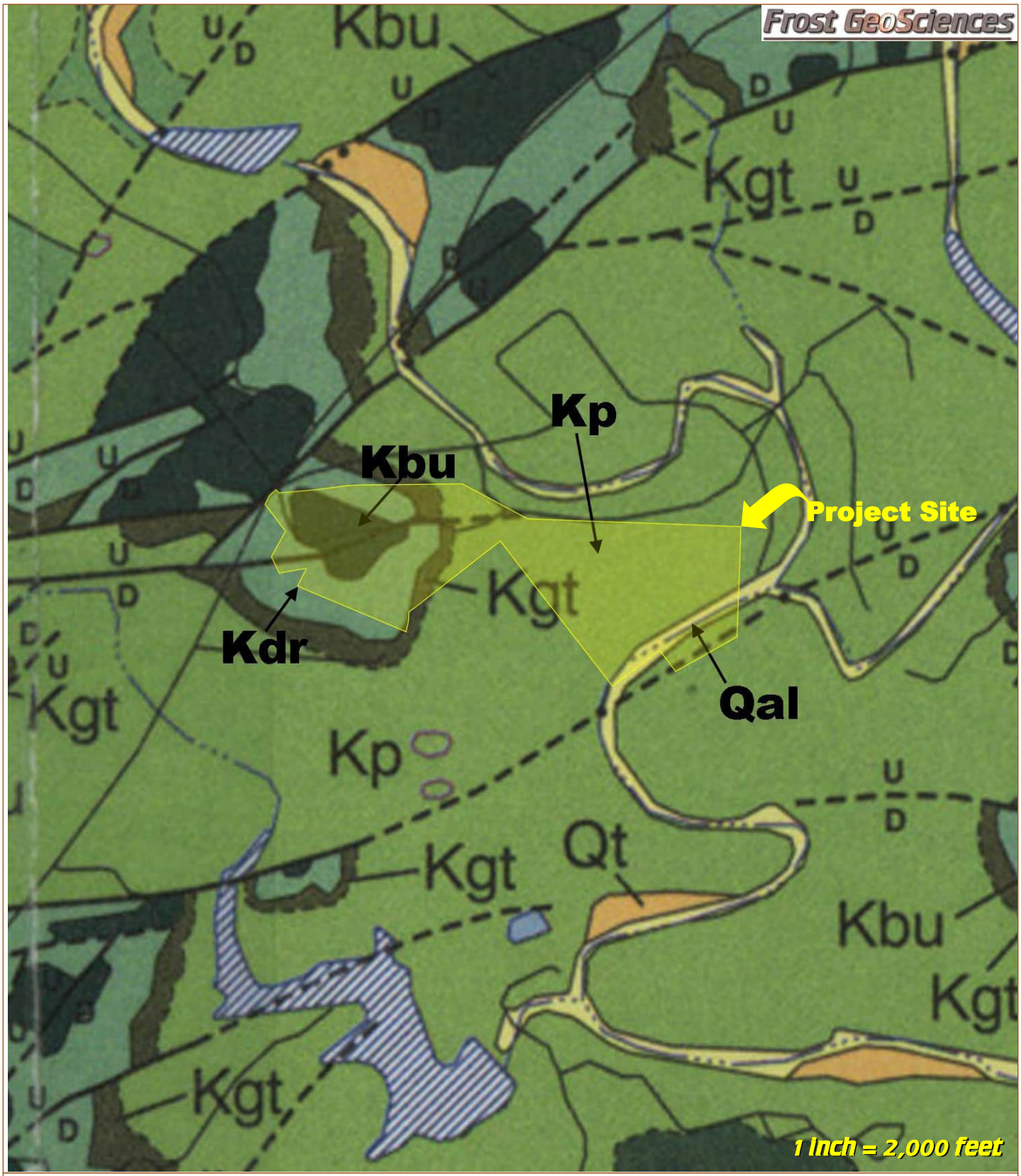
PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	Flood Insurance Rate Map (FIRM) Community Panel # 48091C0420F Revised 9/2/2009
PROJECT No.: FGS-E25111	**DATE:** February 25, 2025



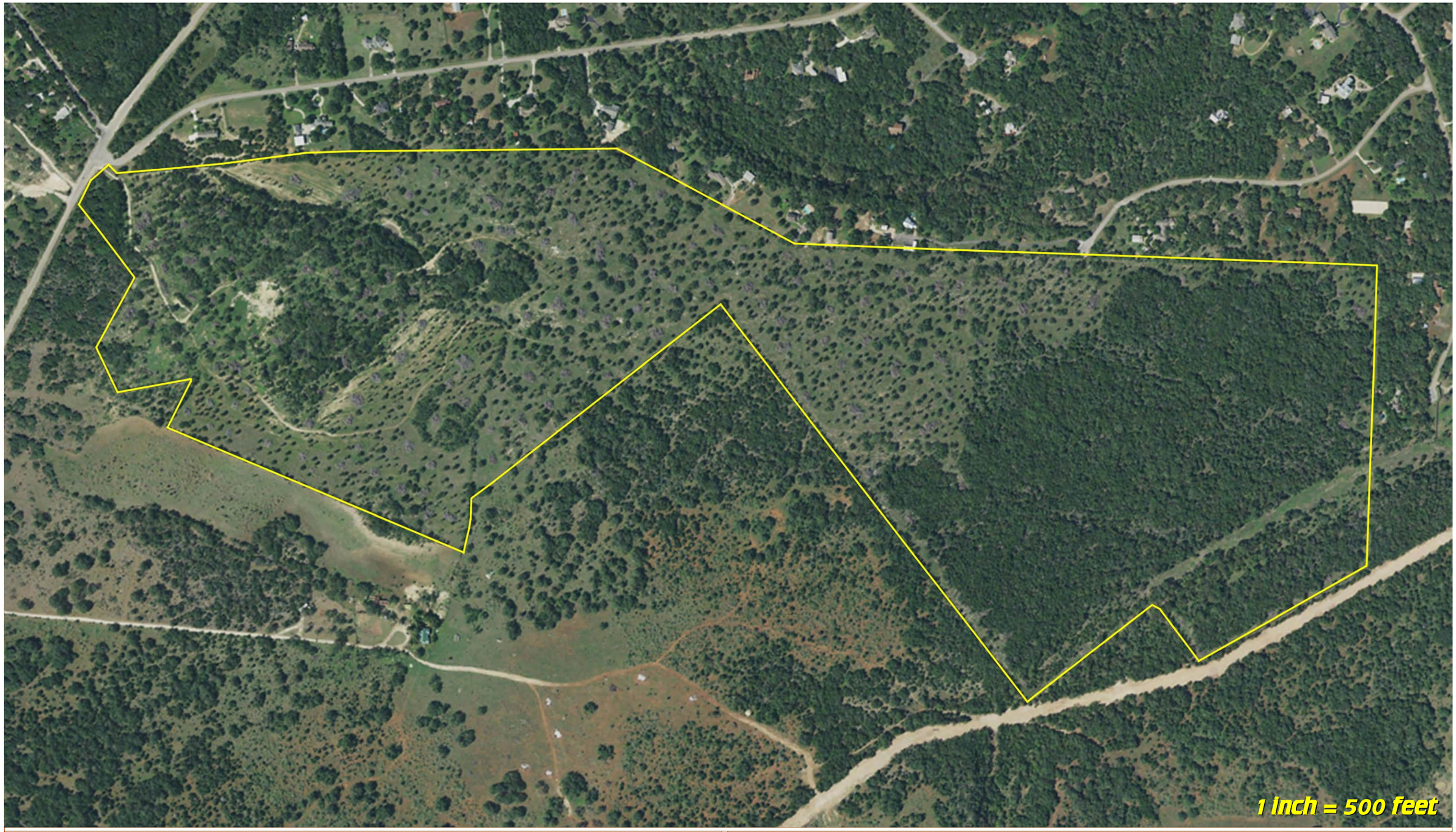
PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	Soils Map Comal County Soil Survey NRCS website: websoilsurvey.nrcs.usda.gov
	PROJECT No.: FGS-E25111 / **DATE:** February 25, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	U.S. Geological Survey Scientific Investigations Map 3366 Clarke (2016)	
	PROJECT No.: FGS-E25111	**DATE:** February 25, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas, 30x60 Minute Quadrangle (2000)	
	PROJECT No.: FGS-E25111	**DATE:** February 25, 2025

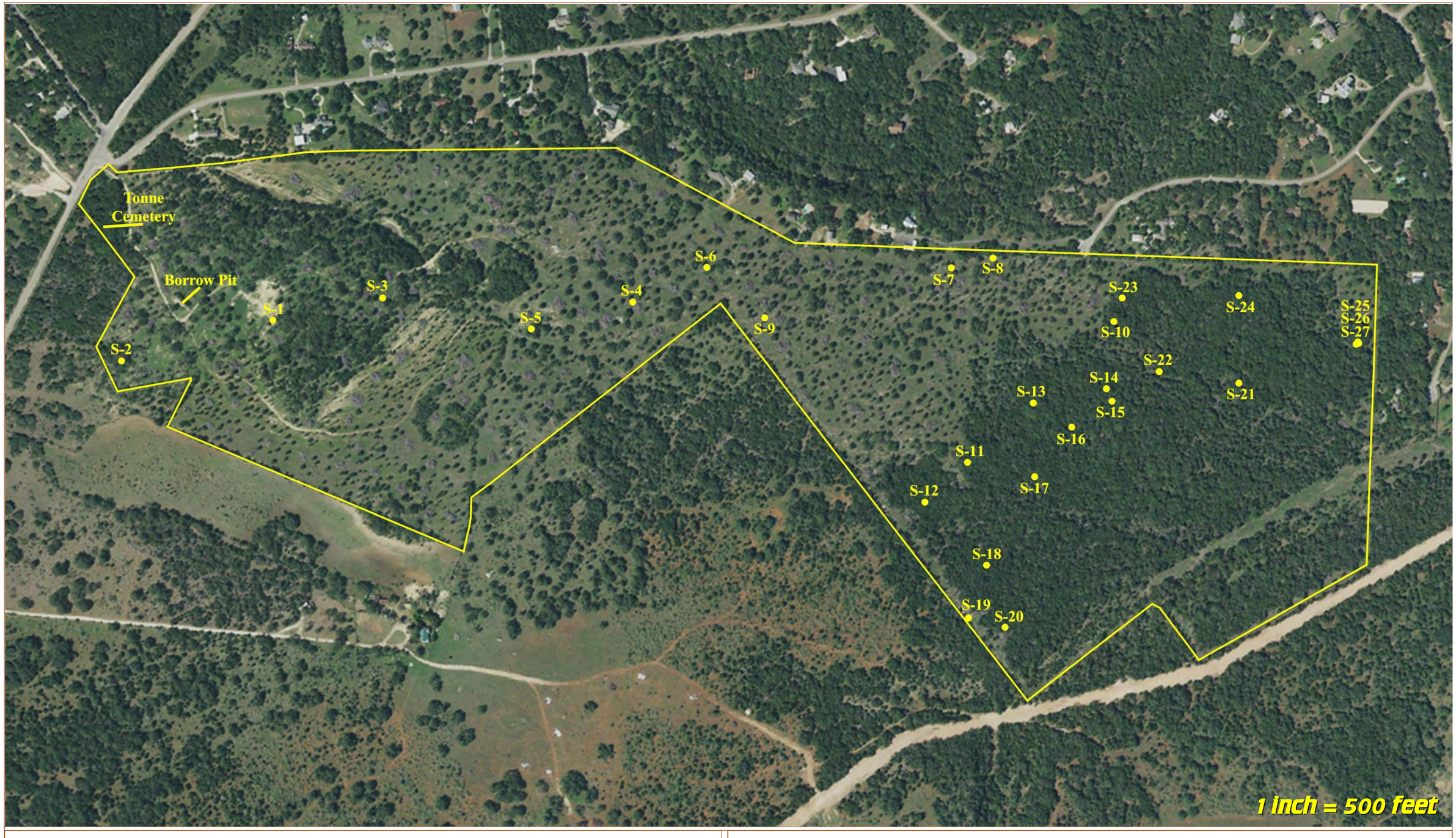


PROJECT NAME: Geologic Site Assessment (WPAP)
for Regulated Activities/Development on the
Edwards Aquifer Recharge/Transition Zone
Contessa Tract
Comal County, Texas

2020 Aerial Photograph
National Agricultural Imagery Program

PROJECT No.: FGS-E25111

DATE: February 25, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Contessa Tract Comal County, Texas	2020 Aerial Photograph with PRFs National Agricultural Imagery Program
	PROJECT No.: FGS-E25111 / **DATE:** February 25, 2025

APPENDIX B

SITE PHOTOGRAPHS

Photo #1 – View southeast at the Site access gate.

Photo #2 – View northwest across Schoenthal Road North from the Site access gate.

Photo #3 – View northeast of the intersection of Schoenthal Road North and Montanio Drive from the Site access gate.

Photo #4 – View southwest along Schoenthal Road North from the Site access gate.

	
Photo #5 – View of PRF S-1, a water well, observed in the western/central portion of the Site. The water well was in-use at the time of the field inspection.	Photo #6 – View southwest of the immediate area surrounding PRF S-1.
	
Photo #7 – Additional view of PRF S-1 observed in the western/central portion of the Site. Galvanized steel water cistern and former windmill tower are visible.	Photo #8 – View of a Borrow Pit or Caliche Pit observed in the western/central portion of the Site.

	
Photo #9 – View facing south of PRF S-2 observed in the southwestern portion of the Site.	Photo #10 – Additional view, facing north, of PRF S-2 observed in the southwestern portion of the Site.
	
Photo #11 – View of typical vegetation surrounding PRF S-2 in the southwestern portion of the Site.	Photo #12 – View facing south of a livestock watering pond observed in the western/central portion of the Site.

	
Photo #13 – View to the south of typical terrain and vegetation in the southwestern portion of the Site.	Photo #14 – View to the west of typical terrain and vegetation in the southwestern portion of the Site.
	
Photo #15 – View to the north of typical terrain and vegetation in the southwestern portion of the Site.	Photo #16 – View to the east of typical terrain and vegetation in the southwestern portion of the Site.

	
Photo #17 – View to the north of typical terrain and vegetation in the wooded area in the western portion of the Site.	Photo #18 – View to the east of typical terrain and vegetation in the wooded area in the western portion of the Site.
	
Photo #19 – View to the south of typical terrain and vegetation in the wooded area in the western portion of the Site.	Photo #20 – View to the west of typical terrain and vegetation in the wooded area in the western portion of the Site.

	
Photo #21 – View facing west of PRF S-3 observed in the central/western portion of the Site.	Photo #22 – Additional view, facing east, of PRF S-3 observed in the central/western portion of the Site.
	
Photo #23 – View facing east of typical vegetation surrounding PRF S-3 in the central/western portion of the Site.	Photo #24 – View facing west of typical vegetation surrounding PRF S-3 in the central/western portion of the Site.

	
Photo #25 – View facing southeast of a dry livestock watering pond observed in the western portion of the Site.	Photo #26 – View facing northwest of a dry livestock watering pond observed in the western portion of the Site.
	
Photo #27 – View facing south of PRF S-4 observed in the central/western portion of the Site.	Photo #28 – View facing west of PRF S-4 observed in the central/western portion of the Site.

Photo #29 – View facing north of PRF S-4 observed in the central/western portion of the Site.

Photo #30 – View facing east of PRF S-4 observed in the central/western portion of the Site.

Photo #31 – View facing west of PRF S-5 observed in the central portion of the Site.

Photo #32 – View facing north of PRF S-5 observed in the central portion of the Site.

	
Photo #33 – View facing east of typical vegetation surrounding PRF S-5 in the central/western portion of the Site.	Photo #34 – View facing north of PRF S-6 observed in the central portion of the Site.
	
Photo #35 – View facing east of PRF S-6 observed in the central portion of the Site.	Photo #36 – View facing south of PRF S-6 observed in the central portion of the Site.

	
Photo #37 – View facing west of PRF S-6 observed in the central portion of the Site.	Photo #38 – View facing west of PRF S-7 observed in the central/eastern portion of the Site.
	
Photo #39 – View facing north of PRF S-7 observed in the northeastern portion of the Site.	Photo #40 – View facing south of typical vegetation surrounding PRF S-7 in the northeastern portion of the Site.

	
Photo #41 – View facing north of PRF S-8 observed in the northeastern portion of the Site.	Photo #42 – View facing east of PRF S-8 observed in the northeastern portion of the Site.
	
Photo #43 – View facing south of typical vegetation surrounding PRF S-8 in the northeastern portion of the Site.	Photo #44 – View facing north of PRF S-9 observed in the central portion of the Site.

	
Photo #45 – View facing east of PRF S-9 observed in the central portion of the Site.	Photo #46 – View facing south of PRF S-9 observed in the central portion of the Site.
	
Photo #47 – View facing west of PRF S-9 observed in the central portion of the Site.	Photo #48 – View facing north of PRF S-10 observed in the northeastern portion of the Site.

	
Photo #49 – View facing east of PRF S-10 observed in the northeastern portion of the Site.	Photo #50 – View of typical vegetation surrounding PRF S-10 in the northeastern portion of the Site.
	
Photo #51 – View facing east of PRF S-11 observed in the southeastern portion of the Site.	Photo #52 – View facing north of PRF S-11 observed in the southeastern portion of the Site.

	
Photo #53 – View of typical vegetation surrounding PRF S-11 in the southeastern portion of the Site.	Photo #54 – View facing north of PRF S-12 observed in the southeastern portion of the Site.
	
Photo #55 – View facing east of PRF S-12 observed in the southeastern portion of the Site.	Photo #56 – View of typical vegetation surrounding PRF S-12 in the southeastern portion of the Site.

	
Photo #57 – View facing east of PRF S-13 observed in the eastern portion of the Site.	Photo #58 – View facing south of PRF S-13 observed in the eastern portion of the Site.
	
Photo #59 – View of typical vegetation surrounding PRF S-13 in the eastern portion of the Site.	Photo #60 – View facing north of PRF S-14 observed in the eastern portion of the Site.

	
Photo #61 – View facing west of PRF S-13 observed in the eastern portion of the Site.	Photo #62 – View of typical vegetation surrounding PRF S-14 in the eastern portion of the Site.
	
Photo #63 – View facing south of PRF S-15 observed in the eastern portion of the Site.	Photo #64 – View facing west of PRF S-15 observed in the eastern portion of the Site.

	
Photo #65 – View of typical vegetation surrounding PRF S-15 in the eastern portion of the Site.	Photo #66 – View facing north of PRF S-16 observed in the eastern portion of the Site.
	
Photo #67 – View facing east of PRF S-16 observed in the eastern portion of the Site.	Photo #68 – View facing south of PRF S-16 observed in the eastern portion of the Site.

Photo #69 – View facing west of PRF S-16 observed in the eastern portion of the Site.

Photo #70 – View of typical vegetation surrounding PRF S-16 in the eastern portion of the Site.

Photo #71 – View facing north of PRF S-17 observed in the eastern portion of the Site.

Photo #72 – View facing east of PRF S-17 observed in the eastern portion of the Site.

Photo #73 – View facing south of PRF S-17 observed in the eastern portion of the Site.

Photo #74 – View facing west of PRF S-17 observed in the eastern portion of the Site.

Photo #75 – View of typical vegetation surrounding PRF S-17 in the eastern portion of the Site.

Photo #76 – View facing north of PRF S-18 observed in the southeastern portion of the Site.

	
Photo #77 – View facing east of PRF S-18 observed in the southeastern portion of the Site.	Photo #78 – View of typical vegetation surrounding PRF S-18 in the southeastern portion of the Site.
	
Photo #79 – View facing south of PRF S-19 observed in the southeastern portion of the Site.	Photo #80 – View facing east of PRF S-19 observed in the southeastern portion of the Site.

	
Photo #81 – View of typical vegetation surrounding PRF S-19 in the southeastern portion of the Site.	Photo #82 – View facing east of PRF S-20 observed in the southeastern portion of the Site.
	
Photo #83 – View facing north of PRF S-20 observed in the southeastern portion of the Site.	Photo #84 – View of typical vegetation surrounding PRF S-20 in the southeastern portion of the Site.

	
Photo #85 – View facing east of PRF S-21 observed in the northeastern portion of the Site.	Photo #86 – View facing south of PRF S-21 observed in the northeastern portion of the Site.
	
Photo #87 – View facing north of PRF S-21 observed in the northeastern portion of the Site.	Photo #88 – View of typical vegetation surrounding PRF S-21 in the southeastern portion of the Site.

Photo #89 – View facing east of PRF S-22 observed in the northeastern portion of the Site.

Photo #90 – View facing south of PRF S-22 observed in the northeastern portion of the Site.

Photo #91 – View of typical vegetation surrounding PRF S-22 in the northeastern portion of the Site.

Photo #92 – View facing south of PRF S-23 observed in the northeastern portion of the Site.

Photo #93 – View facing west of PRF S-23 observed in the northeastern portion of the Site.

Photo #94 – View of typical vegetation surrounding PRF S-23 in the northeastern portion of the Site.

Photo #95 – View facing north of PRF S-24 observed in the northeastern portion of the Site.

Photo #96 – View facing east of PRF S-24 observed in the northeastern portion of the Site.

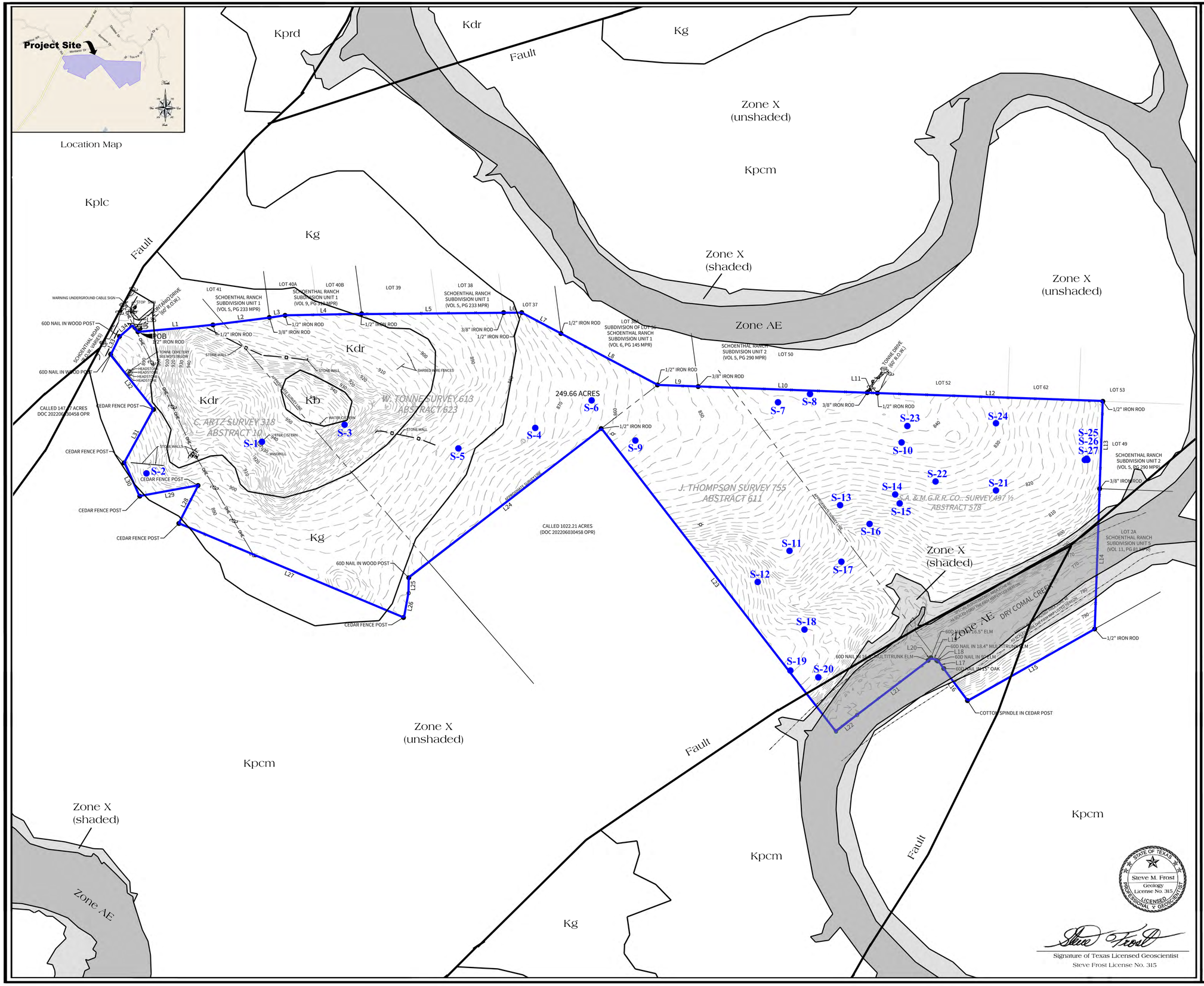
	
Photo #97 – View of typical vegetation surrounding PRF S-24 in the northeastern portion of the Site.	Photo #98 – View facing north of PRF S-25 observed in the northeastern portion of the Site.
	
Photo #99 – View facing west of PRF S-25 observed in the northeastern portion of the Site.	Photo #100 – View of typical vegetation surrounding PRF S-25 in the northeastern portion of the Site.

	
Photo #101 – View facing south of PRF S-26 observed in the northeastern portion of the Site.	Photo #102 – View facing east of PRF S-26 observed in the northeastern portion of the Site.
	
Photo #103 – View of typical vegetation surrounding PRF S-26 in the northeastern portion of the Site.	Photo #104 – View facing south of PRF S-27 observed in the northeastern portion of the Site.

	
Photo #105 – View facing west of PRF S-27 observed in the northeastern portion of the Site.	Photo #106 – View of typical vegetation surrounding PRF S-27 in the northeastern portion of the Site.

APPENDIX C

GEOLOGIC MAP



Frost GeoSciences
Geotechnical ▪ Construction Materials
Geologic ▪ Environmental
13406 Western Oak ▪ Helotes, Texas 78023
Phone: (210) 372-1315 ▪ Fax: (210) 372-1318

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for the

Contessa Tract
249.73 Acres
Comal County, Texas

Frost GeoSciences, Inc. Control # FGS-E25111

Legend

- Potential Recharge Feature (PRF)
- Formation Contact
- Fault
- Site Boundary
- Floodplain Zone AE
- Floodplain Zone X (shaded)

Kb · Cretaceous Buda Limestone
Kg · Cretaceous Georgetown Formation
Kdr · Cretaceous Del Rio Clay
Kpcm · Cretaceous Edwards Person (cyclic marine member)
Kplc · Cretaceous Edwards Person (leached and collapsed)
Kprd · Cretaceous Edwards Person (regional dense member)

Floodplain Information Obtained From
FIRM: Flood Insurance Rate Map
Comal County, Texas: Panel # 48091C0420F, Revised 9/2/2006

Fault Information Obtained From:
Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983)
U.S. Geological Survey, Water Resources Investigations Report 95-4030 (1994)
Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)
U.S. Geological Survey Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas (2016)

North
NW NE West East SW SE South

Graphic Scale

300 0 150 300 600
(In Feet)

1 inch = 300 feet
Representative Fraction 1:3600

Contour Interval - 2 foot

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

Signature of Texas Licensed Geoscientist
Steve Frost License No. 315

WATER POLLUTION ABATEMENT PLAN APPLICATION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Javier Castello, P.E.

Date: 4/21/25

Signature of Customer/Agent:

Regulated Entity Name: Contessa Tract

Regulated Entity Information

1. The type of project is:

   ☒ Residential: Number of Lots:408
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☐ Commercial
   ☐ Industrial
   ☐ Other:_____

2. Total site acreage (size of property):249.74

3. Estimated projected population:1020

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	2,075,025	÷ 43,560 =	47.64
Parking	757,130	÷ 43,560 =	17.38
Other paved surfaces	108,751	÷ 43,560 =	2.50
Total Impervious Cover	2,940,906	÷ 43,560 =	67.52

Total Impervious Cover 67.52 **÷ Total Acreage** 249.74 **X 100 =** 27.0**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

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

100% Domestic	81,600 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

- ☒ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☐ Sewage Collection System (Sewer Lines):

- ☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

- ☐ The SCS was previously submitted on_____.
- ☐ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

☐ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 250'.

18. 100-year floodplain boundaries:

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

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

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

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

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

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

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

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

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

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

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

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

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

26. ☐ Surface waters (including wetlands).

    ☒ N/A

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

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

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

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

ATTACHMENT A – FACTORS AFFECTING SURFACE WATER QUALITY

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

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

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site after development include;

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

However, BMP's, both temporary and permanent, have been designed on the basis of the Technical Guidance manual to treat the required volume of storm water runoff.

ATTACHMENT B – VOLUME AND CHARACTER OF STORMWATER

Storm water runoff generated from rooftops, streets, sidewalks, and landscape areas will be of a residential nature and may be saturated with small amounts of oil, grease, suspended solids, fertilizers and pesticides.

Existing temporary BMPs have been designed on the basis of the Technical Guidance manual to treat the required volume and character of storm water runoff to remove at least 80% of the increased TSS generated by the development.

To compute the existing, proposed and ultimate hydrology for this site, we utilized the Rational Method. The Rational Method was chosen because of the ease of use and drainage area size. To obtain the Time of Concentrations for each drainage area, the Seelye Chart was used to determine the overland (sheet) flow for a maximum of 100 feet. The maximum time for overland flow is 20 minutes and the minimum time is 5 minutes. For the shallow concentrated flow, the TR-55 method was used. Channel flow was calculated at 6 feet per second over the length of the flow. The overall Time of Concentration is found by adding the overland flow, shallow concentrated flow, and the channel flow together.

The runoff coefficient (c-value) was found using the City of San Antonio Unified Development Code (last updated in 20xx), as a reference. The drainage area has many high points resulting in steeper slopes for much of the drainage shed. Slopes 5% or greater were assumed for all areas of the shed. For the existing undeveloped conditions, a c-value of 0.49. For the proposed development, a c-value of 0.69, was used for average residential areas. The rainfall intensities were obtained from the Unified Development Code Table 504-2. The previously calculated time of concentration and c-values were used in the chart to determine the rainfall intensities for the 5, 10, 25, 100 year storm events. The site consists of natural ground with mostly average residential area. The site slopes towards the three natural lows. Points WQP1, WQP2, VFS3 and BP1 receive stormwater from the western edge of the site, from which stormwater flows southwest and ultimately into Bear Creek and eventually into the Comal River. Point WQP3 receives stormwater from the western portion of the site and then releases it to flow southeast and merge with offsite flow heading towards Area WQP4. Point WQP4 receives stormwater from a proposed high located in the middle west of the site, and then releases it to flow into the Dry Comal Creek and then eventually the Comal River. Points WQP5, WQP6, VFS2, BP2 and BP3 receive stormwater from the eastern portion of the site and then release the stormwater to flow east into the Dry Comal Creek and eventually the Comal River. Points VFS1, BP4, BP5 and BP6 receive stormwater from the northern border of the site and then release it to flow northeast towards the West Fork Dry Comal Creek where it will then make its way to the Comal River. Most of the site has slopes of 5% or greater. There are a proposed 408 lots for 249.74 developable site acres, which yields a density of 1.63 lots per acre, and thus an average residential runoff coefficient value is acceptable. A copy of the master drainage map exhibit can be found in the Temporary Stormwater Section (attachment G) of this report. The

drainage exhibit shows the proposed stormwater flows leaving the site for the 5, 10, 25 and 100 year storm events.

Most of the stormwater runoff will sheet flow into the street, curb inlets and proposed drainage channels that will release stormwater to existing low points within the property.

ATTACHMENT C – SUITABILITY LETTER FROM AUTHORIZED AGENT

COMAL COUNTY
ENGINEER'S OFFICE

May 15, 2025

Theodore Duano, E.I.T.
Cude Engineers
via e-mail: tduano@cudeengineers.com

Re: Contessa Subdivision WPAP On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. Duano:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified in TAC §285.40-42 based on the following information submitted to our office on May 15, 2025:

- The Geologic Assessment, prepared by Frost GeoSciences
- The Water Pollution Abatement Plan prepared by Cude Engineers

According to TAC §285.42(a), if any recharge feature is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

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

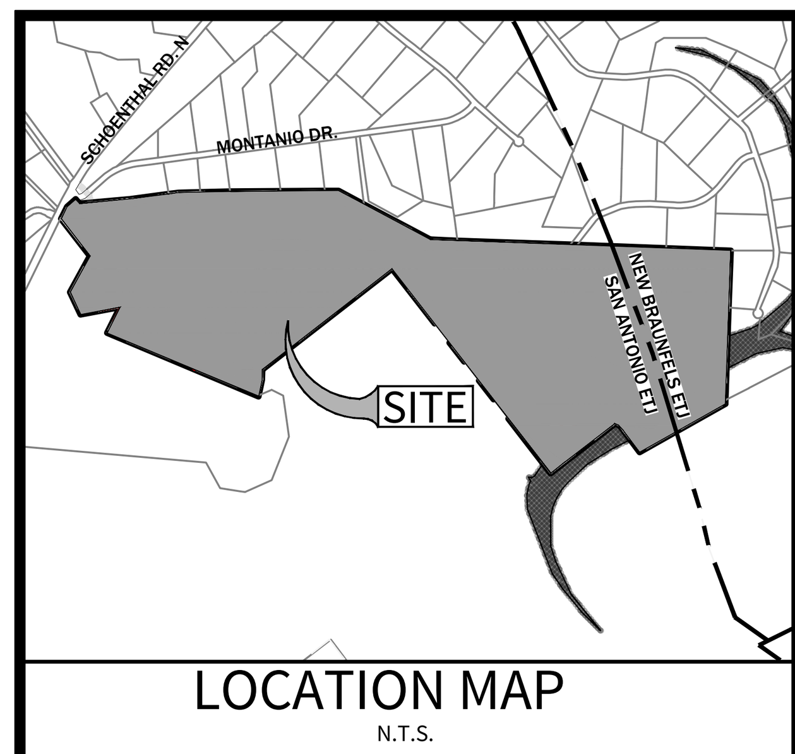
Sincerely,

Margaret Skulteti

Margaret Skulteti, P.E.
Comal County Assistant Engineer

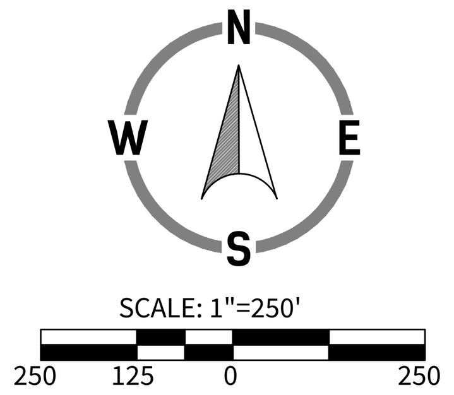
cc: Scott Haag, Comal County Commissioner Precinct No. 2

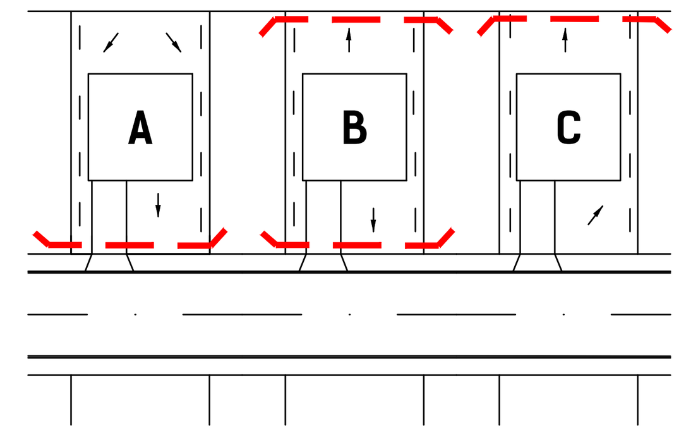
195 David Jonas Dr, New Braunfels, Texas, 78132 – Phone (830) 608-2090



OWNER/DEVELOPER:
MERITAGE HOMES OF TEXAS, L.L.C.
CONTACT PERSON: TONDA ALEXANDER
2722 W. BITTERS RD. SUITE 200
SAN ANTONIO,TX 78248
TEL: (210) 298-4294

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: DAVID CUPIT, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112





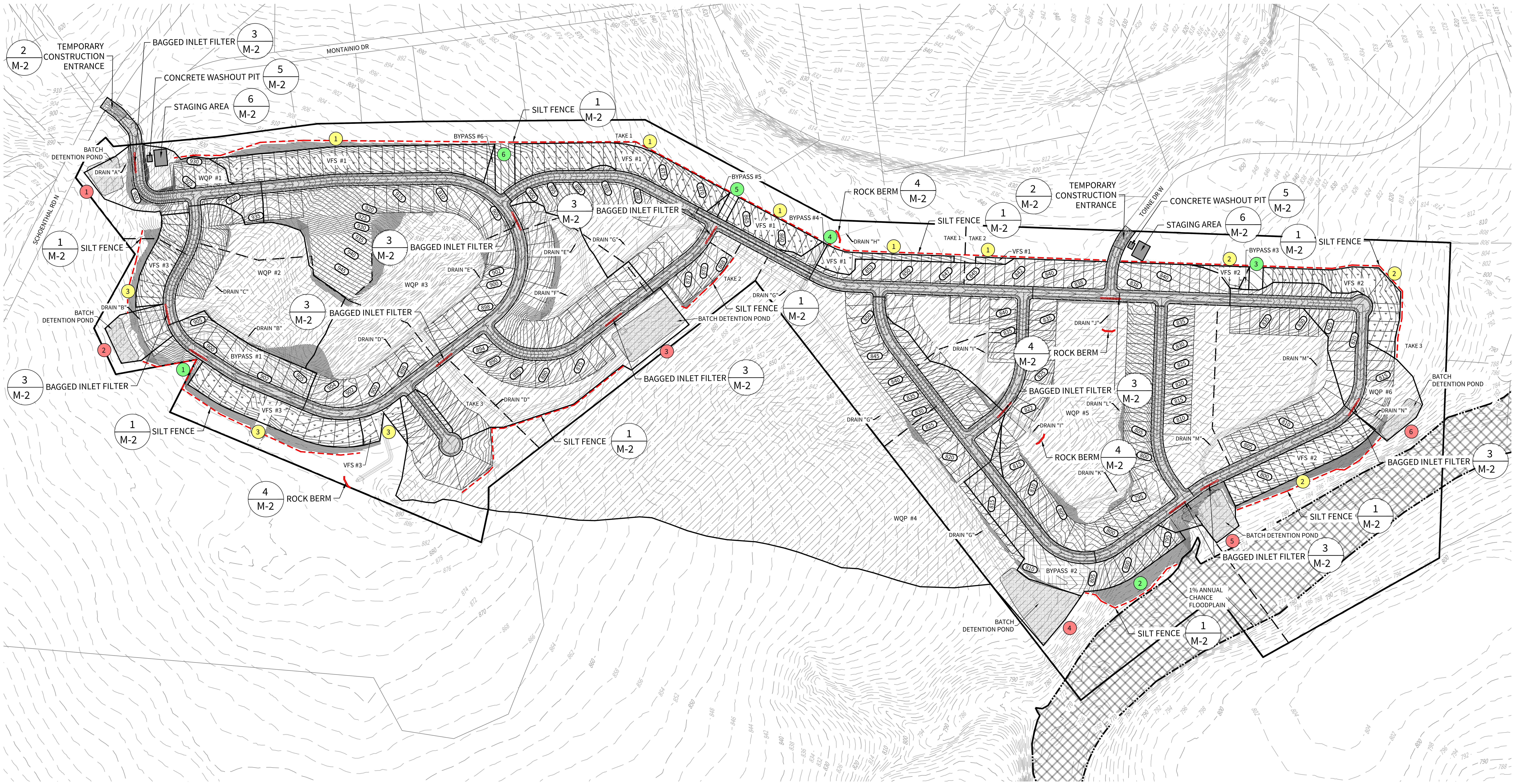
TYPICAL LOT SITE PLAN
N.T.S.

DRAINAGE AREAS									
AREA	TOTAL ACREAGE (Ac.)	STREETS IMPERVIOUS COVER (SF)	LOT IMPERVIOUS COVER (SF)	OTHER IMPERVIOUS COVER (SF)	TOTAL IMPERVIOUS COVER (SF)	TSS GENERATED	TSS REQUIRED FOR REMOVAL	TSS REMOVAL	PERMANENT BMP TREATING AREA
WQP1	5.29	48,687	40,682	1618	90,987	2,278	1,822	2,172	WATER QUALITY POND #1
WQP2	12.09	26,017	45,802	1694	73,513	1,841	1,472	1,885	WATER QUALITY POND #2
WQP3	42.69	168,911	360,844	96,872	626,627	15,888	12,710	15,095	WATER QUALITY POND #3
WQP4	78.09	146,807	304,164	2654	453,625	13,678	10,942	13,720	WATER QUALITY POND #4
WQP5	53.67	233,804	556,840	3344	793,988	20,264	16,211	16,340	WATER QUALITY POND #5
WQP6	6.14	52,887	70,229	1719	124,835	3,097	2,477	2,931	WATER QUALITY POND #6
VFS1	10.32	N/A	269,635	N/A	269,635	6,946	5,556	6,070	VEGETATED FILTER STRIP #1
VFS2	5.33	N/A	124,199	N/A	124,199	3,198	2,558	2,804	VEGETATED FILTER STRIP #2
VFS3	4.95	N/A	119,007	182	119,189	3064	2,450	2,683	VEGETATED FILTER STRIP #3
BP1	3.43	34,466	62,700	N/A	97,166	2502.76	2002.21	0	BYPASS #1 (ACCOUNTED FOR WITH WQP #3)
BP2	5.21	31,780	106,635	144	138559	3568.94	2855.16	0	BYPASS #2 (ACCOUNTED FOR WITH WQP #3 & 4)
BP3	0.07	N/A	2,309	N/A	2309	59.47	47.58	0	BYPASS #3 (ACCOUNTED FOR WITH WQP #5)
BP4	0.71	13,771	5,134	524	19429	500.44	400.36	0	BYPASS #4 (ACCOUNTED FOR WITH WQP #6)
BP5	0.10	N/A	2,897	N/A	2897	74.62	59.70	0	BYPASS #5 (ACCOUNTED FOR WITH WQP #3)
BP6	0.16	N/A	3,948	N/A	3948	101.69	81.35	0	BYPASS #6 (ACCOUNTED FOR WITH WQP #3)
TOTAL	228.25	757,130	2,075,025	108,751	2,940,906	77,062	61,644	63,700	----

NOTES:
1. OTHER IMPERVIOUS COVER INCLUDES AMENITY CENTER AND DRAINAGE IMPROVEMENTS.
2. STREET IMPERVIOUS COVER INCLUDES ALL AREAS WITHIN THE PROPOSED PUBLIC RIGHT OF WAY.

LEGEND

- SUBDIVISION BOUNDARY
- TAKE BOUNDARY
- DRAINAGE AREA
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SILT FENCE
- ROCK BERM
- BAGGED GRAVEL INLET FILTER
- TEMPORARY CONSTRUCTION ENTRANCE / EXIT
- STAGING AREA
- CONCRETE WASHOUT PIT
- WQP ACCUMULATION POINT
- VFS ACCUMULATION POINT
- BP ACCUMULATION POINT
- 1% ANNUAL CHANCE FLOODPLAIN
- WATER QUALITY POND
- VEGETATED FILTER STRIPS
- BYPASS
- LIME STABILIZATION



CUDEENGINEERS.COM

CUDE
EST. 1980
ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

CONTESSA SUBDIVISION

WATER POLLUTION ABATEMENT PLAN SITE PLAN

DATE
04/21/2025
PROJECT NO.
04343.000
DRAWN BY
HN
CHECKED BY
XV/AL

REVISIONS
DATE
1.
2.
3.
4.
5.
6.
7.
8.
9.

STATE OF TEXAS
JAVIER CASTELLO
122170
LICENSED
PROFESSIONAL ENGINEER
04/21/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

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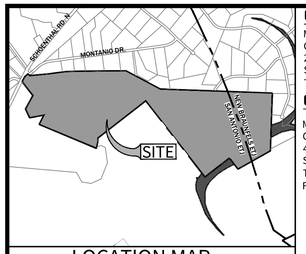

LOCATION MAP
N.T.S.

OWNER/DEVELOPER:

MERITAGE HOMES OF TEXAS, L.L.C.
CONTACT PERSON: TONDA ALEXANDER
2722 W. BITTERS RD. SUITE 200
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TEL: (210) 298-4294

CIVIL ENGINEER:

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CONTACT PERSON: DAVID CUPIT, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

GENERAL NOTES

1. SOIL DISTURBANCES WILL OCCUR OVER THE SITE UNLESS INDICATED OTHERWISE AS A "AREA OF UNDISTURBED SOIL."
2. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (B.M.P.'S).
3. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER ALL DISTURBED AREAS WITH THE USE OF PAVEMENT, SIDEWALKS, GRASS SOD AND GRASS SEEDING.
4. THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES DIRECTLY TO SURFACE WATER.
5. ALL STORMWATER DISCHARGING TO SENSITIVE FEATURES SHALL BE COVERED WITH GRASS SOD.
6. PART OF THIS PROJECT SITE IS WITHIN THE 100-YEAR FLOODPLAIN, PER FIRM, BEXAR COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48029C-0085F EFFECTIVE DATE SEPTEMBER 29, 2010.
7. EACH LOT WILL BE RESPONSIBLE FOR ITS OWN TEMPORARY BMP.
8. CONSTRUCTION ENTRANCE/EXIT, WASHOUT PITS, AND STAGING AREAS MUST BE PLACED AT THE LOCATION WHERE THE PROJECT SITE IS BEING ACCESSED FOR CONSTRUCTION DURING VARIOUS PHASES.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTRIBUTING ZONE PLAN GENERAL CONSTRUCTION NOTES:

TCEQ-0592 (REV. 3/15/07)

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

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

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

TREE REMOVAL NOTE:

CONTRACTOR IS TO COORDINATE WITH TREE PRESERVATION PLAN FOR FINAL TREE REMOVAL INSTRUCTIONS.

SITE INFORMATION:

DATA ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF ACCURACY OR CONTINUITY BETWEEN SOIL BORINGS. IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER, ARCHITECT, AND/OR STRUCTURAL, CIVIL OR MECHANICAL, PLUMBING OR ELECTRICAL ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY CONTRACTOR. DATA ARE MADE AVAILABLE FOR CONVENIENCE OF CONTRACTOR ONLY AND AS SUCH, THE SOIL BORINGS ARE NOT CONSIDERED TO BE A PART OF THESE CONTRACT DOCUMENTS. THE CONTRACTOR MAY, AT HIS OPTION, OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM PROJECT ENGINEER.

SOIL STABILIZATION PROCEDURE:

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

BATCH DETENTION POND #1 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area = 5.91 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.03 acres
Post-development impervious fraction within drainage basin/outfall area = 0.34
$L_{M\ THIS\ BASIN}$ = 1822 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 5.91 acres
A_I = 2.03 acres
A_P = 3.88 acres
L_R = 2172 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 2172 lbs.

F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.28
On-site Water Quality Volume = 24008 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 4802
Total Capture Volume (required water quality volume(s) x 1.20) = 28809 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.

BATCH DETENTION POND #4 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 4

Total drainage basin/outfall area = 81.47 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 12.19 acres
Post-development impervious fraction within drainage basin/outfall area = 0.15
$L_{M\ THIS\ BASIN}$ = 10942 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 81.47 acres
A_I = 12.19 acres
A_P = 69.28 acres
L_R = 13789 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 13720 lbs.

F = 0.99

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 = 3.66 inches
Post Development Runoff Coefficient = 0.17
On-site Water Quality Volume = 179350 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 35870
Total Capture Volume (required water quality volume(s) x 1.20) = 215220 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.

BATCH DETENTION POND #2 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area = 12.77 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 1.64 acres
Post-development impervious fraction within drainage basin/outfall area = 0.13
$L_{M\ THIS\ BASIN}$ = 1472 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 12.77 acres
A_I = 1.64 acres
A_P = 11.13 acres
L_R = 1885 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1743 lbs.

F = 0.92

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 2.00 inches
Post Development Runoff Coefficient = 0.15
On-site Water Quality Volume = 13825 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 2765
Total Capture Volume (required water quality volume(s) x 1.20) = 16589 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.

BATCH DETENTION POND #5 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 5

Total drainage basin/outfall area = 53.93 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 18.06 acres
Post-development impervious fraction within drainage basin/outfall area = 0.33
$L_{M\ THIS\ BASIN}$ = 16211 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 53.93 acres
A_I = 18.06 acres
A_P = 35.87 acres
L_R = 19347 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 16340 lbs.

F = 0.84

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 = 1.26 inches
Post Development Runoff Coefficient = 0.28
On-site Water Quality Volume = 67974 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 13595
Total Capture Volume (required water quality volume(s) x 1.20) = 81569 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.

BATCH DETENTION POND #3 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 3

Total drainage basin/outfall area = 42.52 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 14.16 acres
Post-development impervious fraction within drainage basin/outfall area = 0.33
$L_{M\ THIS\ BASIN}$ = 12710 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 42.52 acres
A_I = 14.16 acres
A_P = 28.36 acres
L_R = 15173 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 15095 lbs.

F = 0.99

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 = 3.66 inches
Post Development Runoff Coefficient = 0.27
On-site Water Quality Volume = 155159 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 31032
Total Capture Volume (required water quality volume(s) x 1.20) = 186191 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.

BATCH DETENTION POND #6 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 6

Total drainage basin/outfall area = 6.66 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.76 acres
Post-development impervious fraction within drainage basin/outfall area = 0.41
$L_{M\ THIS\ BASIN}$ = 2477 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

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) x P x (A_I x 34.6 + A_P x 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 = 6.66 acres
A_I = 2.76 acres
A_P = 3.90 acres
L_R = 2931 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 2931 lbs.

F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.31
On-site Water Quality Volume = 30347 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 Coeficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 6069
Total Capture Volume (required water quality volume(s) x 1.20) = 36417 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.

VEGETATED FILTER STRIP #1 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 7

Total drainage basin/outfall area = 10.32 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 6.19 acres
Post-development impervious fraction within drainage basin/outfall area = 0.60
$L_{M\ THIS\ BASIN}$ = 5556 lbs.

VEGETATED FILTER STRIP #2 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 8

Total drainage basin/outfall area = 5.33 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.85 acres
Post-development impervious fraction within drainage basin/outfall area = 0.53
$L_{M\ THIS\ BASIN}$ = 2558 lbs.

VEGETATED FILTER STRIP #3 CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches

$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = 9

Total drainage basin/outfall area = 4.95 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.73 acres
Post-development impervious fraction within drainage basin/outfall area = 0.55
$L_{M\ THIS\ BASIN}$ = 2450 lbs.

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San Antonio, Texas 78231
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CONTESSA SUBDIVISION

WATER POLLUTION ABATEMENT PLAN
SITE PLAN NOTES & CALCULATIONS

DATE
04/21/2025

PROJECT NO.
04343.000

DRAWN BY
HN

CHECKED BY
XV/AL

#	DATE	REVISIONS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

JAVIER CASTELLO
122170
04/21/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-2

P:\04343\000\7-Milestones\5-WPAP Booklet\WPAP_Site Plan.dwg 2025/04/21 4:05pm tduano

TEMPORARY STORMWATER SECTION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

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.

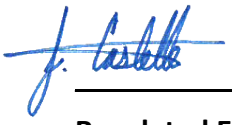
Signature

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: Javier Castell, P.E.

Date: 4/21/25

Signature of Customer/Agent:



Regulated Entity Name: Contessa Tract

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: Comal River - Guadalupe River

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A – SPILL RESPONSE ACTIONS

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 storm water 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, and 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 runoff during rainfall to the extent that it doesn't compromise clean-up activities.

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

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

a) Contain the spread of the spill.

b) Recover spilled materials.

c) Clean the contaminated area and properly dispose of contaminated materials.

Semi-significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

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

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

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

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tceq.texas.gov/response/spills.html

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the 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 fill drip pans or other open containers lying around.
(8) Oil filters disposed of in trashcans or dumpsters can leak 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 runoff 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.

Spill Response Actions

In the event that a spill of hydrocarbons or hazardous substances does occur, the contractor shall be required to maintain a sufficient stockpile of sand material in the staging area. This sand material shall be used to immediately isolate and provide containment of the spill by constructing dikes. Furthermore, this sand material shall act as an absorbent material that can be disposed of offsite and out of the Recharge Zone during clean-up operations. The contractor, in the event of a spill, shall also notify the owner who shall contact TCEQ. All contaminated soils resulting from an accidental release will be required to be removed and disposed of in accordance with all local, state and federal regulations.

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Potential Source	Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventive Measure	Vehicle maintenance, when possible, will be performed within a construction staging area specified by the General Contractor.
Potential Source	Miscellaneous trash and litter from construction workers and material wrappings.
Preventive Measure	Trash containers will be placed throughout the site to encourage proper trash disposal.
Potential Source	Construction debris.
Preventive Measure	Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
Potential Source	Stormwater contamination from excess application of fertilizers, herbicides and pesticides.
Preventive Measure	Fertilizers, herbicides and pesticides will be applied only when necessary and in accordance with manufacturers' directions.
Potential Source	Soil and mud from construction vehicle tires as they leave the site.
Preventive Measure	A temporary construction entrance/exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.
Potential Source	Sediment from soil, sand, gravel and excavated materials stockpiled on site.
Preventive Measure	Silt fence shall be installed on the down gradient side of all stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.
Potential Source	Portable toilet spill
Preventive Measure	Toilets on the site will be emptied on a regular basis by the contracted toilet company.

ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

Sequence Item	Description	Approximate Acres Disturbed
1.	Site Clearing for Infrastructure Improvements	**5.37**
2.	Site Grading for Infrastructure Improvements	**129.02**
3.	Construction of Sanitary Sewer and Water Lines	**2.08**
4.	Installation of Parking Lot Areas, Streets & Sidewalks	**24.76**
5.	Lot Grading & Building Construction – Final Site Clearing	**77.88**
6.	Lot Grading & Building Construction – Final Site Grading	**77.88**

Temporary control measures used for each major activity listed above should include construction entrances/exits, concrete washout areas, silt fence, rock berms, bagged gravel inlet filters and temporary seeding. More information on these temporary best management practices can be found on the next page (Attachment D)

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The TBMPs and measures utilized for the proposed project to prevent pollution of storm water, groundwater, and surface water during the construction phase are the following:

1. Temporary Construction Entrance/Exit – A stabilized pad of crushed stone located at any point where traffic will be entering or leaving the construction site from a public R.O.W., street, alley, sidewalk or parking area. It shall be a minimum of 50 feet long, 12 feet wide and 8 inches thick. The rock shall be 4 to 8 inches in size.
2. Concrete Washout Areas- A pit containment area with a 10 mil plastic lining with a berm and sand bags to prevent or reduce the discharge of pollutants from concrete waste shall be constructed in an area readily accessible to construction traffic and at least 50 ft. away from any sensitive features, storm drains, open ditches or water bodies.
3. Silt Fence – A barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. Silt fences shall be installed on the down gradient side of the proposed areas to be disturbed that have a drainage area of 2 or less acres.
4. Rock Berms – A structure of 3 to 5 inch diameter rock secured with a woven wire sheath to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow.
5. Bagged Gravel Inlet Filter – Sandbags filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around the inlets.
6. Temporary Seeding – Temporary seeding of disturbed areas shall be performed if disturbed areas are expected to have no construction activity for a period of at least 21 days

<u>Sequence of installation during construction process</u>

1. The Temporary Construction Entrance/Exit shall be installed prior to disturbing any soil except at the location of the Temporary Construction Entrance/Exit. It shall stay in place and be maintained until the end of the infrastructure construction.
2. Silt Fence will be installed along the down gradient side of the proposed site prior to disturbing any soil. It shall stay in place and be maintained until the site has been properly re-vegetated.
3. Rock Berms – Rock berms shall be installed around the perimeter of the project at natural low points following rough grading of the site and shall be removed once grading to the on-site stormwater drainage system with bagged gravel inlet filters in sump is complete. Rock berms will also be utilized at the outlet of the pond while it is being constructed.
4. Concrete washout pits shall be installed prior to any concrete work to be done on site. It shall remain on site until all concrete work has been completed and hardened concrete shall be broken up, removed and disposed of properly. Materials for the pit shall be removed from the site and also be disposed of properly. Any depressions or ground disturbance due to removal of pit area shall be backfilled and repaired.
5. Bagged Gravel Inlet Filters shall be placed around all inlets following installation.

6. Temporary Seeding shall be installed in areas which are considered as final grades and area will not be covered by pavements, building or other structures. Seeding shall also be done in graded areas where there is a potential for erosion on steep slopes.

Upgradient Surface water, Groundwater and Stormwater

There is surface water coming onto the east portion of the property from the west. There is approximately 41.11 acres of upgradient stormwater that will drain to the site.

Onsite Surface water, Groundwater and Stormwater

Temporary BMPs utilized on the proposed project site to prevent pollution of onsite surface water, groundwater, and storm water are the silt fences acting as barriers to prevent pollution of stormwater.

Prevention of Pollutants Entering Surface Streams, Sensitive Features and the Aquifer

Temporary BMPs utilized on the proposed project site to prevent pollution of surface streams, sensitive features, and the aquifer are temporary construction entrance/exit, silt fences, and rock berms. The construction entrance/exit provides a stable exit from the construction site and keeps sediment and mud off public roads. The other TBMPs delineated act in like manner as previously described to protect surface streams, sensitive features, and the aquifer.

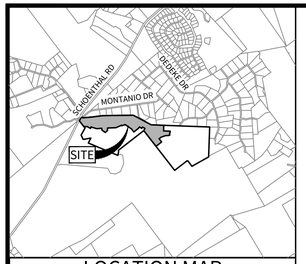
ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

Not applicable to this project

ATTACHMENT F – STRUCTURAL PRACTICES

Runoff discharge of pollutants from exposed areas of the site will be limited through the utilization of temporary BMPs. Prior to leaving the site, flows containing pollutant discharges will be treated by a silt fence, bagged gravel inlet filters, or rock berms which will limit the amount of pollutants leaving the site. These temporary BMPs will be placed in the natural lows that discharge from the site. They will be placed in flows low enough to keep the temporary BMP intact throughout construction.

ATTACHMENT G – DRAINAGE AREA MAP



LOCATION MAP
N.T.S.

LEGEND

- SUBDIVISION BOUNDARY
- PHASE BOUNDARY
- DRAINAGE AREA
- Tc FLOW PATH
- ACCUMULATION POINT (XX)
- 1% ANNUAL CHANCE FLOODPLAIN
- PHASE BOUNDARY

N
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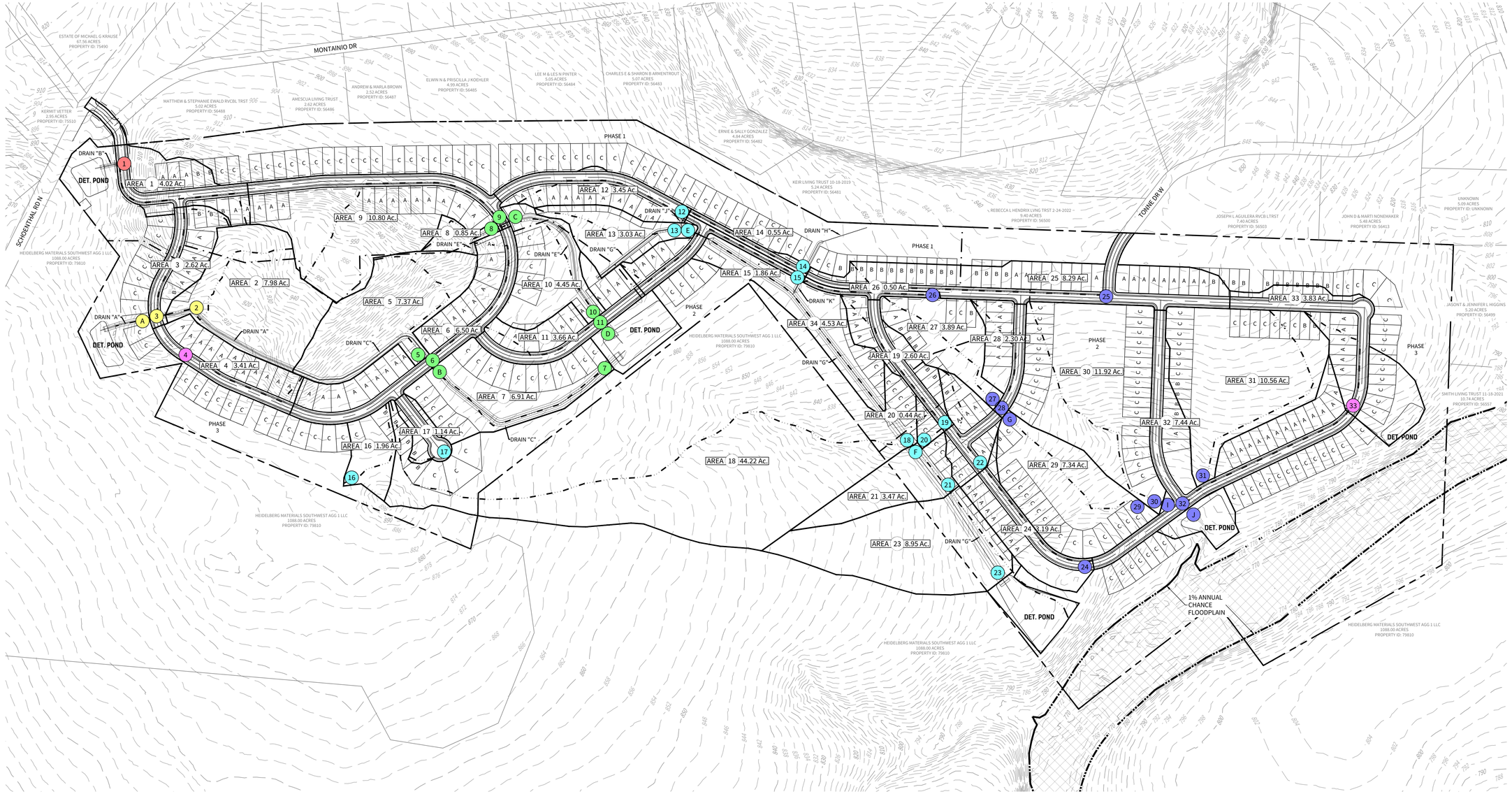
SCALE: 1"=250'
250 125 0 250



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CONTESSA SUBDIVISION PHASE I

ULTIMATE MASTER DRAINAGE PLAN

DATE
03/13/2025

PROJECT NO.
04343.002

DRAWN BY
CG/JG/LJ/TCD

CHECKED BY
XV/AL

REVISIONS

DATE	A	1.	2.	3.	4.	5.	6.	7.	8.	9.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED
PROFESSIONAL ENGINEER
03/13/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

C1

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P:\04343\002\2-DWG\4-Plans\C1 ULTIMATE MASTER DRAINAGE PLAN.dwg, 03/05/2025 3:17:27 PM, andrewlowry

Project Name: Contessa Tract Subdivision

Calculation Summary for Time of Concentrations & Ultimate Flow, "U"

Precipitation Area Atlas 14 = PA1

HYDROLOGY					Sheet Flow Tc Compuations						Shallow Conc. Tc Compuations					Concentrated Tc Computations			Overall	INTENSITY						Q FLOW						
Drainage Shed	Shed Area (Ac.)	Total Shed Area (Ac.)	AREA OF ACCUMULATION	C	*Length < 100'*	Paved (Y or N)	Upstream Elev.	Downstream Elev	Slope	Time of Concentration	*Length*	Paved (Y or N)	Downstream Elev	Slope	Time of Concentration	*Length*	Velocity (fps)	Time of Concentration	Time of Concentration (min)	I2	I5	I10	I25	I50	I100	Q2	Q5	Q10	Q25	Q50	Q100	Drainage Shed
1	4.02	4.02	= 1	0.69	100.00	N	938.00	933.37	4.63%	11.00	64.50	N	930.57	4.34%	0.32	724.50	6	2.01	13.33	4.49	5.64	6.59	7.93	9.00	10.06	12.45	15.64	18.28	22.00	24.96	27.90	1
2	7.98	7.98	= 2	0.69	100.00	N	947.26	938.48	8.78%	10.00	593.00	N	906.95	5.32%	2.65	200.00	6	0.56	13.20	4.51	5.67	6.62	7.97	9.04	10.11	24.83	31.22	36.45	43.88	49.78	55.67	2
3	2.62	2.62	= 3	0.69	100.00	N	936.64	931.21	5.43%	10.57	164.00	N	924.09	4.34%	0.81	572.50	6	1.59	12.97	4.54	5.72	6.68	8.04	9.12	10.20	8.21	10.34	12.08	14.53	16.49	18.44	3
A	-	10.60	= 2+3	0.69	100.00	N	947.26	938.48	8.78%	10.00	593.00	N	906.95	5.32%	2.65	454.00	6	1.26	13.91	4.40	5.53	6.45	7.76	8.80	9.84	32.18	40.45	47.18	56.76	64.36	71.97	A
4	3.43	3.43	= 4	0.69	100.00	N	908.37	904.34	4.03%	11.00	61.30	N	901.58	4.50%	0.30	540.00	6	1.50	12.80	4.57	5.75	6.72	8.09	9.18	10.27	10.82	13.61	15.90	19.15	21.73	24.31	4
5	7.37	7.37	= 5	0.69	100.00	N	950.85	943.57	7.28%	10.00	380.00	N	900.63	11.30%	1.17	433.00	6	1.20	12.37	4.64	5.84	6.82	8.23	9.33	10.44	23.60	29.70	34.68	41.85	47.45	53.09	5
6	4.88	4.88	= 6	0.69	100.00	N	908.52	904.22	4.30%	11.00	66.40	N	901.25	4.47%	0.32	761.70	6	2.12	13.44	4.47	5.62	6.56	7.90	8.96	10.02	15.05	18.92	22.09	26.60	30.17	33.74	6
B	-	12.25	= 5+6	0.69	100.00	N	908.52	904.22	4.30%	11.00	66.40	N	901.25	4.47%	0.32	761.00	6	2.11	13.44	4.47	5.62	6.56	7.90	8.96	10.02	37.78	47.50	55.45	66.77	75.73	84.69	B
7	6.91	19.16	= 5+6+7	0.69	100.00	N	908.52	904.22	4.30%	11.00	66.40	N	901.25	4.47%	0.32	1872.90	6	5.20	16.53	4.04	5.06	5.89	7.06	8.00	8.94	53.41	66.90	77.87	93.34	105.76	118.19	7
8	0.85	0.85	= 8	0.69	100.00	N	930.80	923.04	7.76%	10.00	107.80	N	912.56	9.72%	0.36	291.00	6	0.81	11.16	4.84	6.10	7.13	8.61	9.76	10.93	2.84	3.58	4.18	5.05	5.72	6.41	8
9	10.80	10.80	= 9	0.69	100.00	N	950.30	945.07	5.23%	10.77	480.00	N	914.50	6.37%	1.95	787.10	6	2.19	14.91	4.25	5.34	6.22	7.47	8.47	9.46	31.67	39.79	46.35	55.67	63.12	70.50	9
C	-	11.65	= 8+9	0.69	100.00	N	950.30	945.07	5.23%	10.77	480.00	N	914.50	6.37%	1.95	787.10	6	2.19	14.91	4.25	5.34	6.22	7.47	8.47	9.46	34.16	42.93	50.00	60.05	68.09	76.04	C
10	4.45	16.10	= 8+9+10	0.69	100.00	N	950.30	945.07	5.23%	10.77	480.00	N	914.50	6.37%	1.95	1560.50	6	4.33	17.06	3.97	4.97	5.79	6.94	7.87	8.78	44.10	55.21	64.32	77.10	87.43	97.54	10
11	3.66	3.66	= 11	0.69	100.00	N	897.19	891.45	5.74%	10.26	169.40	N	883.09	4.94%	0.78	413.15	6	1.15	12.19	4.67	5.88	6.86	8.28	9.39	10.51	11.79	14.85	17.32	20.91	23.71	26.54	11
D	-	19.76	= 8+9+10+11	0.69	100.00	N	950.30	945.07	5.23%	10.77	480.00	N	914.50	6.37%	1.95	1560.50	6	4.33	17.06	3.97	4.97	5.79	6.94	7.87	8.78	54.13	67.76	78.94	94.62	107.30	119.71	D
12	3.45	3.45	= 12	0.69	100.00	N	901.50	897.18	4.32%	11.00	157.60	N	890.35	4.33%	0.78	667.00	6	1.85	13.63	4.45	5.58	6.52	7.84	8.90	9.95	10.59	13.28	15.52	18.66	21.19	23.69	12
13	3.03	3.03	= 13	0.69	100.00	N	899.34	894.38	4.96%	11.00	524.10	N	874.69	3.76%	2.78	208.00	6	0.58	14.36	4.34	5.44	6.35	7.63	8.65	9.67	9.07	11.37	13.28	15.95	18.08	20.22	13
E	-	6.48	= 12+13	0.69	100.00	N	899.34	894.38	4.96%	11.00	524.10	N	874.69	3.76%	2.78	208.00	6	0.58	14.36	4.34	5.44	6.35	7.63	8.65	9.67	19.41	24.32	28.39	34.12	38.68	43.24	E
14	0.55	0.55	= 14	0.69	21.00	N	871.75	871.08	3.19%	11.81						647.80	6	1.80	13.61	4.45	5.59	6.52	7.85	8.90	9.96	1.69	2.12	2.47	2.98	3.38	3.78	14
15	1.85	1.85	= 15	0.69	100.00	N	879.52	877.88	1.64%	13.72	61.00	N	876.78	1.80%	0.47	966.70	6	2.69	16.87	4.00	5.00	5.82	6.98	7.91	8.84	5.11	6.38	7.43	8.91	10.10	11.28	15
16	1.96	1.96	= 16	0.69	100.00	N	896.78	893.78	3.00%	12.00	198.00	N	887.21	3.32%	1.12	252.60	6	0.70	13.82	4.42	5.55	6.47	7.78	8.83	9.88	5.98	7.51	8.75	10.52	11.94	13.36	16
17	1.14	1.14	= 17	0.69	100.00	N	887.58	885.07	2.51%	12.00	34.80	N	884.16	2.61%	0.22	77.60	6	0.22	12.44	4.63	5.83	6.80	8.20	9.31	10.41	3.64	4.59	5.35	6.45	7.32	8.19	17
18	44.22	77.98	= 8+9+10+11+12+13+15+17+18+34	0.69	100.00	N	896.48	894.16	2.32%	12.36	1486.29	N	857.16	2.49%	9.73	1530.00	6	4.25	26.34	3.20	3.99	4.64	5.56	6.27	7.00	172.18	214.69	249.66	299.16	337.36	376.64	18
19	2.60	2.60	= 19	0.69	100.00	N	853.61	851.69	1.92%	13.16	135.40	N	847.97	2.75%	0.84	611.40	6	1.70	15.70	4.14	5.19	6.05	7.26	8.23	9.20	7.43	9.31	10.85	13.02	14.76	16.50	19
20	0.44	3.04	= 19+20	0.69	100.00	N	853.61	851.69	1.92%	13.16	135.40	N	847.97	2.75%	0.84	766.40	6	2.13	16.13	4.08	5.12	5.97	7.15	8.11	9.06	8.56	10.74	12.52	15.00	17.01	19.00	20
F	-	81.02	= 8+9+10+11+12+13+15+17+18+19+20+34	0.69	100.00	N	896.48	894.16	2.32%	12.36	1486.29	N	857.16	2.49%	9.73	1530.00	6	4.25	26.34	3.20	3.99	4.64	5.56	6.27	7.00	178.89	223.06	259.39	310.83	350.52	391.33	F
21	3.47	81.02	= 8+9+10+11+12+13+15+17+18+19+20+34	0.69	100.00	N	896.48	894.16	2.32%	12.36	1486.29	N	857.16	2.49%	9.73	1800.00	6	5.00	27.09	3.15	3.93	4.57	5.48	6.17	6.90	176.10	219.70	255.48	306.35	344.93	385.74	21
22	2.44	2.44	= 22	0.69	100.00	N	838.79	837.26	1.53%	13.94	255.80	N	820.55	6.53%	1.02	225.20	6	0.63	15.59	4.16	5.21	6.08	7.29	8.26	9.24	7.00	8.77	10.24	12.27	13.91	15.56	22
G	-	86.93	= 8+9+10+11+12+13+15+17+18+19+20+21+22+34	0.69	100.00	N	896.48	894.16	2.32%	12.36	1486.29	N	857.16	2.49%	9.73	1800.00	6	5.00	27.09	3.15	3.93	4.57	5.48	6.17	6.90	188.94	235.73	274.12	328.70	370.09	413.87	G
23	8.95	95.88	= 8+9+10+11+12+13+15+17+18+19+20+21+22+23+34	0.69	100.00	N	896.48	894.16	2.32%	12.36	1486.29	N	857.16	2.49%	9.73	2307.50	6	6.41	28.50	3.08	3.84	4.46	5.34	6.02	6.72	203.76	254.04	295.06	353.28	398.27	444.58	23
24	3.19	3.19	= 24	0.69	100.00	N	818.77	816.12	2.65%	12.00	67.20	N	814.51	2.40%	0.45	640.00	6	1.78	14.23	4.36	5.47	6.38	7.66	8.69	9.72	9.60	12.04	14.04	16.86	19.13	21.39	24
25	8.30	8.30	= 25	0.69	100.00	N	853.66	852.62	1.04%	14.92	64.80	N	851.08	2.38%	0.43	1182.20	6	3.28	18.64	3.80	4.76	5.53	6.63	7.50	8.38	21.76	27.26	31.67	37.97	42.95	47.99	25
26	0.50	0.50	= 26	0.69	22.20	N	856.46	855.93	2.39%	12.23						673.40	6	1.87	14.10	4.38	5.49	6.41	7.70	8.74	9.77	1.51	1.89	2.21	2.66	3.02	3.37	26
27	3.89	4.39	= 26+27	0.69	100.00	N	850.47	848.20	2.27%	12.46	503.70	N	834.00	2.82%	3.10	237.30	6	0.66	16.22	4.07	5.10	5.95	7.13	8.08	9.03	12.33	15.45	18.02	21.60	24.48	27.35	27
28	2.30	2.30	= 28	0.69	100.00	N	843.94	840.86	3.08%	11.92	230.70	N	831.64	4.00%	1.19	336.40	6	0.93	14.05	4.38	5.50	6.42	7.72	8.75	9.79	6.95	8.73	10.19	12.25	13.89	15.54	28
H	-	6.69	= 26+27+28	0.69	100.00	N	850.47	848.20	2.27%	12.46	503.70	N	834.00	2.82%	3.10	1215.00	6	3.38	18.94	3.77	4.72	5.48	6.57	7.43	8.30	17.40	21.79	25.30	30.33	34.30	38.31	H
29	7.34	14.03	= 26+27+28+29	0.69	100.00	N	850.47	848.20	2.27%	12.46	503.70	N	834.00	2.82%	3.10	1215.00	6	3.38	18.94	3.77	4.72	5.48	6.57	7.43	8.30	36.50	45.69	53.05	63.60	71.93	80.35	29
30	11.92	20.22	= 25+30	0.69	100.00	N	839.48	836.24	3.24%	11.76	480.90	N	808.55	5.76%	2.06	733.90	6	2.04	15.86	4.12	5.17	6.02	7.22	8.18	9.15	57.48	72.13	83.99	100.73	114.13	127.66	30
I	-	34.25	= 25+26+27+28+29+30	0.69	100.00	N	831.43	827.40	4.03%	11.00	226.70	N	819.12	3.65%	1.22	1315.20	6	3.65	15.87	4.12	5.16	6.02	7.21	8.18	9.14	97.37	121.94	142.27	170.39	193.31	216.00	I
31	10.56	10.56	= 31	0.69	100.00	N	837.53	832.27	5.26%	10.74	391.40	N	817.31	3.82%	2.06	738.70	6	2.05	14.85	4.26	5.35	6.23	7.48	8.49	9.49	31.04	38.98	45.39	54.50	61.86	69.15	31
32	7.44	7.44	= 32	0.69	100.00	N	822.42	819.10	3.32%	11.68	228.80	N	812.34	2.95%	1.38	918.20	6	2.55	15.61	4.15	5.21	6.07	7.28	8.26	9.23	21.30	26.75	31.16	37.37	42.40	47.38	32
J	-	52.25	= 25+26+27+28+29+30+31+32	0.69	100.00	N	831.43	827.40	4.03%	11.00	226.70	N	819.12	3.65%	1.22	1315.20	6	3.65	15.87	4.12	5.16	6.02	7.21	8.18	9.14	148.54	186.03	217.04	259.94	294.91	329.52	J
33	3.83	3.83	= 33	0.69	100.00	N	831.43	827.40	4.03%	11.00	226.70	N	819.12	3.65%	1.22	325.80	6	0.91	13.12	4.52	5.69	6.64	7.99	9.07	10.14	11.95	15.04	17.55	21.12	23.97	26.80	33
34	4.53	12.86	= 12+13+15+34	0.69	100.00	N	899.34	894.38	4.96%	11.00	524.10	N	874.69	3.76%	2.78	1525.60	6	4.24	18.02	3.86	4.84	5.63	6.75	7.64	8.53	34.25	42.95	49.96	59.90	67.79	75.69	34

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San Antonio, Texas 78231

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CONTESSA SUBDIVISION PHASE I

ULTIMATE MASTER DRAINAGE PLAN

DATE 03/13/2025

PROJECT NO. 04343.002

DRAWN BY CG/JG/LJ/TCD

CHECKED BY XV/AL

REVISIONS

DATE

STATE OF TEXAS ANDREW R. LOWRY 123410 LICENSED PROFESSIONAL ENGINEER 03/13/2025

CUDE ENGINEERS

TBPE No. 455

TBPLS No. 10048500

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ATTACHMENT H – TEMPORARY SEDIMENT POND PLANS AND CALCULATIONS

Not applicable to this project

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

Temporary Sediment Control Fences

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 silt fence should be re-vegetated. The fence itself should be disposed of in an approved landfill.

Rock Berm / High Service Rock Berm

1. Inspections should be made weekly and after each rainfall by the responsible party.
2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt of in an approved manner.
3. Repair any loose wire sheathing.
4. The berm should be reshaped as needed during inspection.
5. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
6. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance and Exits

1. The entrance should be maintained in a condition, which will prevent tracking or following 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 on to public rights-of-ways 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 ant storm drain, ditch, or water course by using approved methods.

Bagged Gravel Inlet Filters

1. Inspections should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.

3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if missing or torn,
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Temporary Seeding

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

Concrete Washout Pit Area

1. Each material making up pit area shall be inspected for any damage.
2. Plastic lining shall be inspected periodically to ensure no holes, tears or other defects are observed that might compromise the impermeability of the material.
3. Remove accumulated hardened concrete by breaking up and disposing of properly and if necessary, replacing plastic lining.

Documentation Procedures

1. A copy of the inspection report is located on the following page.
2. The inspection report must be maintained on site at all times.
3. The inspection report is incorporated as part of the WPAP. The contractor is responsible for completing and updating the form in compliance with TCEQ rules.

Inspections

Designated and qualified person(s) shall inspect Pollution Control Measures every fourteen days and within 24 hours after a storm event greater than 0.5 inches of rainfall. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

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

BMP INSPECTION REPORT

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
Silt Fence	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Construction Entrance/Exit	Inspections			
	Additional top Dressing			
	Repair/Cleanout			
	Sediment removed immediately			
Rock Berm	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Bagged Gravel Inlet Filter	Inspections			
	Sediment Removal			
	Device Placement			
	Torn Fabric			
Temporary Seeding	Inspections			
	Eroded Areas			
	Vegetated cover less than 80%			
Concrete Washout Pit	Inspections			
	Plastic Lining			
	Berm / sand bags			
	Accumulated concrete/removal			

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

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

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

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

BMP INSPECTION REPORT

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/Sediment Controls			
Vehicle Exits			
Material Areas			
Equipment Areas			
Concrete Rinse			
Construction Debris			
Trash Receptacles			
Infrastructure			
Roadway Clearing			
Utility Clearing			
Roadway Grading			
Utility Construction			
Drainage Construction			
Roadway Base			
Roadway Surfaces			
Site Cleanups			
Building			
Clearing for Building			
Foundation Grading			
Utility Construction			
Foundation Construction			
Building Construction			
Site Grading			
Site Cleanup			

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

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

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

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

BMP INSPECTION REPORT
PROJECT CONSTRUCTION ACTIVITY MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Date when stabilization measures are initiated:

Stabilization Activity	Date

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

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

2. Permanent seeding of individually disturbed areas shall be performed when infrastructure construction has been completed.

3. Permanent sodding and mulching of landscape areas shall occur at or near the completion of the project.

4. During construction, contractors shall, to the maximum extent possible, limit their construction activities to areas of construction as noted on the plans in an attempt to preserve as much natural vegetation as possible.

Seeding & Mulching Specifications

1. All seed must meet requirements of the Texas Seed Law including the labeling requirements. These labels shall show purity, germination, name and type of seed. Seed furnished shall be of the previous season's crop for the date of the project, and the date of analysis shown on each bag shall be within nine (9) months of the time of use on the project. Bermuda grass shall be hulled and treated and have a purity of 95% and germination of no less than 90%. Each variety of seed shall be furnished and delivered in separate bags or containers. A sample of each variety of seed shall be furnished for analysis and testing when directed by the Owner.

2. Annual Rye grass will be free of Johnson grass, field bindweed, dodder seed, and free of other seed to the limits allowable under the Federal Seed Act and applicable Texas Seed Law. Annual Rye grass will be added into slurry between October 1 through March 15.

3. Wood Cellulose Fiber Mulch. Wood cellulose fiber mulch shall be natural cellulose fiber mulch produced from grinding clean, whole wood chips, or fiber produced from ground newsprint with a labeled ash content not to exceed 7%. The mulch shall be designed for use in conventional mechanical planting, hydraulic planting of seed or hydraulic mulching of grass seed, either alone or with fertilizer and other additives. The mulch shall be that when applied, the material shall form a strong, moisture-

retaining mat without the need of an asphalt binder. The mulch material will also be dyed with a green color to assist in determining coverage and to provide an immediate pleasing appearance. The wood cellulose fiber is also required to be dispersed rapidly in water to form homogeneous slurry and remain in such state when agitated in the hydraulic mulching unit with specified materials.

4. Straw Mulch or Hay Mulch. Straw mulch shall be oat, wheat, or rice straw. Hay mulch shall be prairie grass, Bermuda grass or other hay as approved by the Owner. The straw mulch or hay mulch shall be free of Johnson grass or other noxious weeds and foreign materials. It shall be kept in a dry condition and shall not be molded or rotted.

Optimum Planting Dates	Common Names	Rate, lbs./acre
February 1 – May 1	Bermuda Grass	1.5
September 1 – November 30	Tall Fescue	4.0
	Oats	21.0*
	Wheat (Red, Winter)	30.0
September 1 – November 30	Hairy Vetch	8.0
May 1 – August 31	Foxtail Millet	30.0

PERMANENT STORMWATER SECTION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

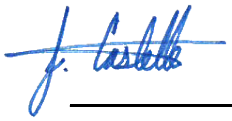
Signature

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

Print Name of Customer/Agent: Javier Castello, P.E.

Date: 4/21/25

Signature of Customer/Agent



Regulated Entity Name: Contessa Tract

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☒ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☐ The site will not be used for low density single-family residential development.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

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

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

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

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

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

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

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

☐ N/A

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

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

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

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

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

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☐ N/A

ATTACHMENT A – 20% OR LESS IMPERVIOUS COVER DECLARATION

Not applicable to this project.

ATTACHMENT B – BMPS FOR UPGRADIENT STORMWATER

For this development, the only instance of offsite water is flowing east from the property of Heidelberg Materials Southwest AGG 1 LLC and onto the east portion of the site. There is a proposed drain which will intercept the water and carry it to Water Quality Pond 4 to be treated and released.

ATTACHMENT C – BMPS FOR ONSITE STORMWATER

Permanent BMPs proposed for pollution abatement of the subdivision campus comprises of the following:

- Vegetated Filter Strip (Engineered) Area
- Batch Detention Basins

The vegetated filter strip area will treat the runoff from individual residential lots that drain towards the rear. The proposed best management practices (BMPs) will treat at least 80% of the increase in total suspended solids (TTS) for the site. The batch detention basin will capture and temporarily detain the water quality volume from a storm event using an automated controller valve.

ATTACHMENT D – BMPS FOR SURFACE STREAMS

North of the site is the West Fork Dry Comal Creek tributary which receives water from the site. The area proposed to flow to this stream is smaller than the existing contributing area and will be treated by vegetated filter strips. Silt fence will be used as a temporary measure to treat any effluent that will flow to the creek during construction.

ATTACHMENT E – REQUEST TO SEAL FEATURES

Not applicable to this project.

ATTACHMENT F – CONSTRUCTION PLANS

The construction plans and design calculations for the proposed project have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. The design calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, al proposed structural measures, and appropriate details are shown on the construction plans.

ATTACHMENT G – INSPECTIONS, MAINTENANCE, REPAIR AND RETROFIT PLAN

PERMANENT POLLUTION ABATEMENT MEASURES
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

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

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions. Any changes to the inspection and/or maintenance of permanent BMP's are required to be certified by the project engineer, as well as being submitted to and approved by the TCEQ.

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

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

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

DocuSigned by:
Brian Otto
7996911FEC05404...

Brian Otto
Meritage Homes of Texas, L.L.C.

4/1/2025
Date

INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT BMPs

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather-related conditions.

Maintenance Guidelines for Batch Detention Basins

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin, since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

Inspections.

Inspections for the batch detention basins and vegetated filter strips should take place a minimum of twice a year. One inspection should take place during wet weather (the basins are be evaluated to determine if they are meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours). The remaining inspections should occur between storm events, so that the operation of the filter strips and the valve and controller of the basins can be verified. During each inspection, erosion areas inside and downstream of the filter strips and basins should be identified and repaired/revegetated immediately. A written record should be kept of inspection results and maintenance performed.

Additionally, the level sensor in the basins should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed.

Mowing

The vegetated filter strips, basins, basin side-slopes, and embankment of the basins must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. Turf grass shall be limited to a height of approximately 4-inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal

Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Trash and debris shall be removed from the filter strips prior to cutting. Debris and litter should also be removed from the surface of the basins. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion control

Check the filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading, and placement of block sod in a checkboard pattern over the affected area.

The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control

Standing water or soggy conditions may occur in the basins. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

Structural Repairs and Replacement

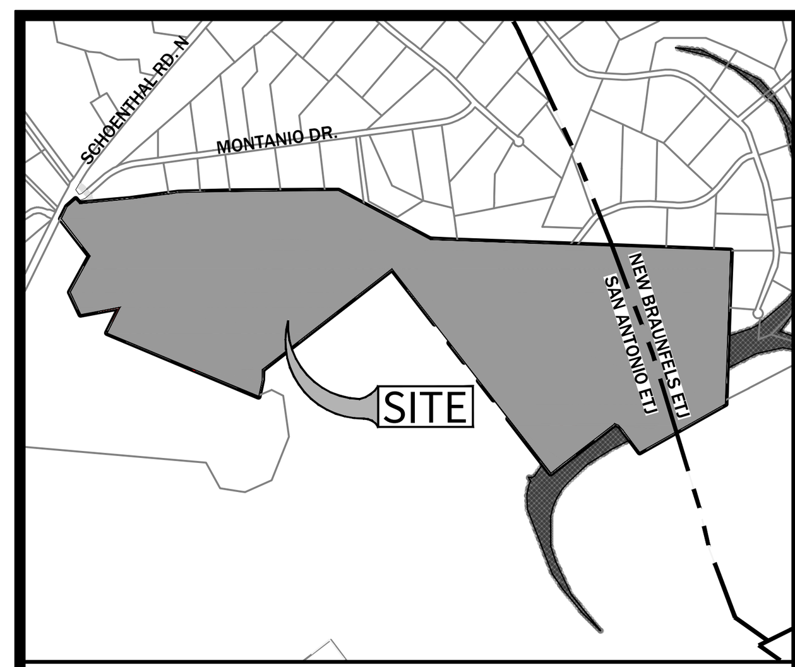
With each inspection, any damage to structural elements of the basins (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal

A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basins at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basins do not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller

The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basins. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.



LOCATION MAP

N.T.S.

OWNER/DEVELOPER:

MERITAGE HOMES OF TEXAS, L.L.C.
CONTACT PERSON: TONDA ALEXANDER
2722 W. BITTERS RD. SUITE 200
SAN ANTONIO,TX 78248
TEL: (210) 298-4294

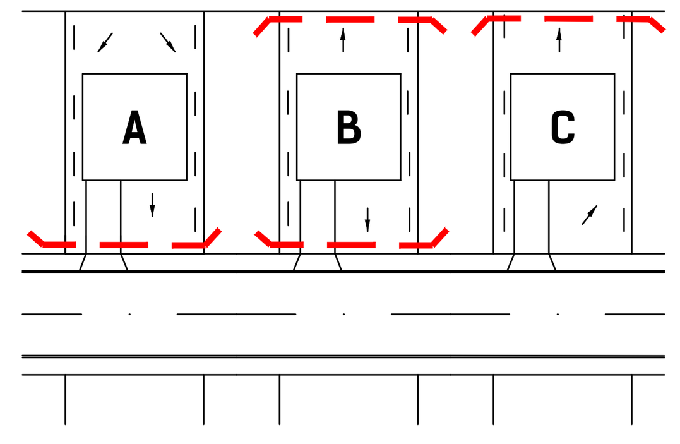
CIVIL ENGINEER:

M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: DAVID CUPIT, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

N W E S

SCALE: 1"=250'

250 125 0 250



TYPICAL LOT SITE PLAN

N.T.S.

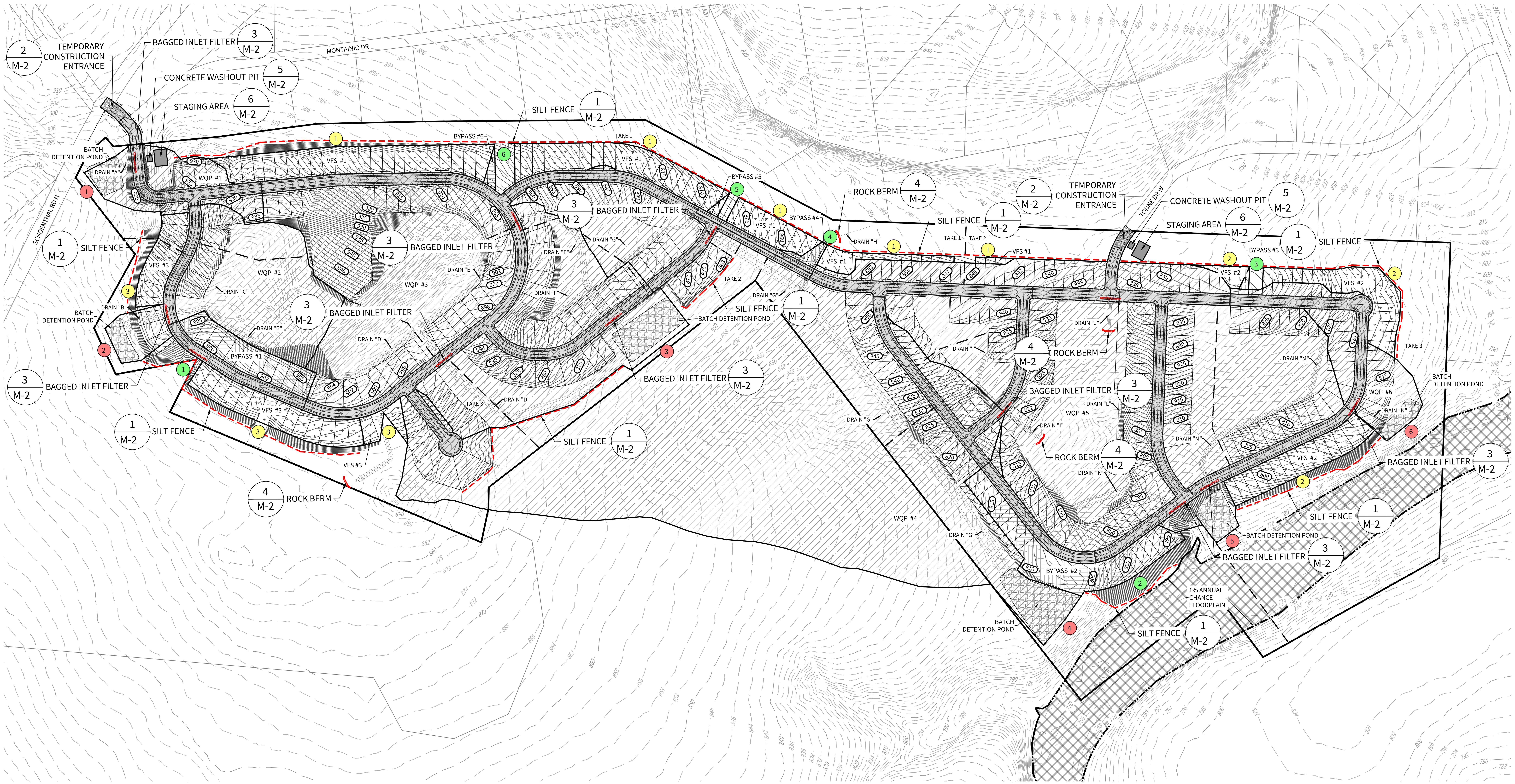
DRAINAGE AREAS

AREA	TOTAL ACREAGE (Ac.)	STREETS IMPERVIOUS COVER (SF)	LOT IMPERVIOUS COVER (SF)	OTHER IMPERVIOUS COVER (SF)	TOTAL IMPERVIOUS COVER (SF)	TSS GENERATED	TSS REQUIRED FOR REMOVAL	TSS REMOVAL	PERMANENT BMP TREATING AREA
WQP1	5.29	48,687	40,682	1618	90,987	2,278	1,822	2,172	WATER QUALITY POND #1
WQP2	12.09	26,017	45,802	1694	73,513	1,841	1,472	1,885	WATER QUALITY POND #2
WQP3	42.69	168,911	360,844	96,872	626,627	15,888	12,710	15,095	WATER QUALITY POND #3
WQP4	78.09	146,807	304,164	2654	453,625	13,678	10,942	13,720	WATER QUALITY POND #4
WQP5	53.67	233,804	556,840	3344	793,988	20,264	16,211	16,340	WATER QUALITY POND #5
WQP6	6.14	52,887	70,229	1719	124,835	3,097	2,477	2,931	WATER QUALITY POND #6
VFS1	10.32	N/A	269,635	N/A	269,635	6,946	5,556	6,070	VEGETATED FILTER STRIP #1
VFS2	5.33	N/A	124,199	N/A	124,199	3,198	2,558	2,804	VEGETATED FILTER STRIP #2
VFS3	4.95	N/A	119,007	182	119,189	3064	2,450	2,683	VEGETATED FILTER STRIP #3
BP1	3.43	34,466	62,700	N/A	97,166	2502.76	2002.21	0	BYPASS #1 (ACCOUNTED FOR WITH WQP #3)
BP2	5.21	31,780	106,635	144	138559	3568.94	2855.16	0	BYPASS #2 (ACCOUNTED FOR WITH WQP #3 & 4)
BP3	0.07	N/A	2,309	N/A	2309	59.47	47.58	0	BYPASS #3 (ACCOUNTED FOR WITH WQP #5)
BP4	0.71	13,771	5,134	524	19429	500.44	400.36	0	BYPASS #4 (ACCOUNTED FOR WITH WQP #6)
BP5	0.10	N/A	2,897	N/A	2897	74.62	59.70	0	BYPASS #5 (ACCOUNTED FOR WITH WQP #3)
BP6	0.16	N/A	3,948	N/A	3948	101.69	81.35	0	BYPASS #6 (ACCOUNTED FOR WITH WQP #3)
TOTAL	228.25	757,130	2,075,025	108,751	2,940,906	77,062	61,644	63,700	----

NOTES:
1. OTHER IMPERVIOUS COVER INCLUDES AMENITY CENTER AND DRAINAGE IMPROVEMENTS.
2. STREET IMPERVIOUS COVER INCLUDES ALL AREAS WITHIN THE PROPOSED PUBLIC RIGHT OF WAY.

LEGEND

- SUBDIVISION BOUNDARY
- TAKE BOUNDARY
- DRAINAGE AREA
- EXISTING CONTOUR (800)
- PROPOSED CONTOUR (800)
- SILT FENCE
- ROCK BERM
- BAGGED GRAVEL INLET FILTER
- TEMPORARY CONSTRUCTION ENTRANCE / EXIT
- STAGING AREA
- CONCRETE WASHOUT PIT
- WQP ACCUMULATION POINT (X)
- VFS ACCUMULATION POINT (X)
- BP ACCUMULATION POINT (X)
- 1% ANNUAL CHANCE FLOODPLAIN
- WATER QUALITY POND
- VEGETATED FILTER STRIPS
- BYPASS
- LIME STABILIZATION



CUDEENGINEERS.COM

EST. 1980 CUDE ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

CONTESSA SUBDIVISION

WATER POLLUTION ABATEMENT PLAN
SITE PLAN

DATE
04/21/2025

PROJECT NO.
04343.000

DRAWN BY
HN

CHECKED BY
XV/AL

REVISIONS

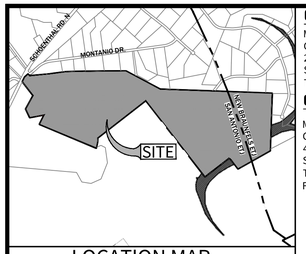
DATE

1. 2. 3. 4. 5. 6. 7. 8. 9.

STATE OF TEXAS
JAVIER CASTELLO
122170
LICENSED PROFESSIONAL ENGINEER
04/21/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-1



LOCATION MAP
N.T.S.

OWNER/DEVELOPER:

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4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

GENERAL NOTES

1. SOIL DISTURBANCES WILL OCCUR OVER THE SITE UNLESS INDICATED OTHERWISE AS A "AREA OF UNDISTURBED SOIL."
2. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (B.M.P.'S).
3. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER ALL DISTURBED AREAS WITH THE USE OF PAVEMENT, SIDEWALKS, GRASS SOD AND GRASS SEEDING.
4. THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES DIRECTLY TO SURFACE WATER.
5. ALL STORMWATER DISCHARGING TO SENSITIVE FEATURES SHALL BE COVERED WITH GRASS SOD.
6. PART OF THIS PROJECT SITE IS WITHIN THE 100-YEAR FLOODPLAIN, PER FIRM, BEXAR COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48029C-0085F EFFECTIVE DATE SEPTEMBER 29, 2010.
7. EACH LOT WILL BE RESPONSIBLE FOR ITS OWN TEMPORARY BMP.
8. CONSTRUCTION ENTRANCE/EXIT, WASHOUT PITS, AND STAGING AREAS MUST BE PLACED AT THE LOCATION WHERE THE PROJECT SITE IS BEING ACCESSED FOR CONSTRUCTION DURING VARIOUS PHASES.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTRIBUTING ZONE PLAN GENERAL CONSTRUCTION NOTES:

TCEQ-0592 (REV. 3/15/07)

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

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

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

TREE REMOVAL NOTE:

CONTRACTOR IS TO COORDINATE WITH TREE PRESERVATION PLAN FOR FINAL TREE REMOVAL INSTRUCTIONS.

SITE INFORMATION:

DATA ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF ACCURACY OR CONTINUITY BETWEEN SOIL BORINGS. IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER, ARCHITECT, AND/OR STRUCTURAL, CIVIL OR MECHANICAL, PLUMBING OR ELECTRICAL ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY CONTRACTOR. DATA ARE MADE AVAILABLE FOR CONVENIENCE OF CONTRACTOR ONLY AND AS SUCH, THE SOIL BORINGS ARE NOT CONSIDERED TO BE A PART OF THESE CONTRACT DOCUMENTS. THE CONTRACTOR MAY, AT HIS OPTION, OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM PROJECT ENGINEER.

SOIL STABILIZATION PROCEDURE:

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

BATCH DETENTION POND #1 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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: $L_{M\ TOTAL\ PROJECT}$ = 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 1
Total drainage basin/outfall area = 5.91 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.03 acres
Post-development impervious fraction within drainage basin/outfall area = 0.34
$L_{M\ THIS\ BASIN}$ = 1822 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 5.91 acres
A_I = 2.03 acres
A_P = 3.88 acres
L_R = 2172 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 2172 lbs.
F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.28
On-site Water Quality Volume = 24008 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 = 4802
Total Capture Volume (required water quality volume(s) x 1.20) = 28809 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.

BATCH DETENTION POND #4 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 4
Total drainage basin/outfall area = 81.47 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 12.19 acres
Post-development impervious fraction within drainage basin/outfall area = 0.15
$L_{M\ THIS\ BASIN}$ = 10942 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 81.47 acres
A_I = 12.19 acres
A_P = 69.28 acres
L_R = 13789 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 13720 lbs.
F = 0.99

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 = 3.66 inches
Post Development Runoff Coefficient = 0.17
On-site Water Quality Volume = 179350 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 = 35870
Total Capture Volume (required water quality volume(s) x 1.20) = 215220 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.

BATCH DETENTION POND #2 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 2
Total drainage basin/outfall area = 12.77 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 1.64 acres
Post-development impervious fraction within drainage basin/outfall area = 0.13
$L_{M\ THIS\ BASIN}$ = 1472 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 12.77 acres
A_I = 1.64 acres
A_P = 11.13 acres
L_R = 1885 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 1743 lbs.
F = 0.92

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36
Rainfall Depth = 2.00 inches
Post Development Runoff Coefficient = 0.15
On-site Water Quality Volume = 13825 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 = 2765
Total Capture Volume (required water quality volume(s) x 1.20) = 16589 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.

BATCH DETENTION POND #5 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 5
Total drainage basin/outfall area = 53.93 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 18.06 acres
Post-development impervious fraction within drainage basin/outfall area = 0.33
$L_{M\ THIS\ BASIN}$ = 16211 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 53.93 acres
A_I = 18.06 acres
A_P = 35.87 acres
L_R = 19347 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 16340 lbs.
F = 0.84

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 = 1.26 inches
Post Development Runoff Coefficient = 0.28
On-site Water Quality Volume = 67974 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 = 13595
Total Capture Volume (required water quality volume(s) x 1.20) = 81569 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.

BATCH DETENTION POND #3 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 3
Total drainage basin/outfall area = 42.52 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 14.16 acres
Post-development impervious fraction within drainage basin/outfall area = 0.33
$L_{M\ THIS\ BASIN}$ = 12710 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 42.52 acres
A_I = 14.16 acres
A_P = 28.36 acres
L_R = 15173 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 15095 lbs.
F = 0.99

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 = 3.66 inches
Post Development Runoff Coefficient = 0.27
On-site Water Quality Volume = 155159 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 = 31032
Total Capture Volume (required water quality volume(s) x 1.20) = 186191 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.

BATCH DETENTION POND #6 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of 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 * = 249.74 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 67.17 acres
Total post-development impervious cover fraction * = 0.27
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 60292 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 6
Total drainage basin/outfall area = 6.66 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.76 acres
Post-development impervious fraction within drainage basin/outfall area = 0.41
$L_{M\ THIS\ BASIN}$ = 2477 lbs.

3. Indicate the proposed BMP Code for this basin.
Proposed BMP = Extended Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.
RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$
where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP
A_C = 6.66 acres
A_I = 2.76 acres
A_P = 3.90 acres
L_R = 2931 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area
Desired $L_{M\ THIS\ BASIN}$ = 2931 lbs.
F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.31
On-site Water Quality Volume = 30347 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 = 6069
Total Capture Volume (required water quality volume(s) x 1.20) = 36417 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.

VEGETATED FILTER STRIP #1 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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: $L_{M\ TOTAL\ PROJECT}$ = 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 7
Total drainage basin/outfall area = 10.32 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 6.19 acres
Post-development impervious fraction within drainage basin/outfall area = 0.60
$L_{M\ THIS\ BASIN}$ = 5556 lbs.

VEGETATED FILTER STRIP #2 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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: $L_{M\ TOTAL\ PROJECT}$ = 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 8
Total drainage basin/outfall area = 5.33 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.85 acres
Post-development impervious fraction within drainage basin/outfall area = 0.53
$L_{M\ THIS\ BASIN}$ = 2558 lbs.

VEGETATED FILTER STRIP #3 CALCULATIONS

Texas Commission on Environmental Quality
TSS Removal Calculations 04-20-2009
Project Name: Contessa Tract
Date Prepared: 4/21/2025

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: $L_{M\ TOTAL\ PROJECT}$ = 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 * = 63.88 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious area within the limits of the plan* = 21.09 acres
Total post-development impervious cover fraction * = 0.33
P = 33 inches
$L_{M\ TOTAL\ PROJECT}$ = 18930 lbs.
* The values entered in these fields should be for the total project area.
Number of drainage basins / outfalls areas leaving the plan area = 7

2. Drainage Basin Parameters (This information should be provided for each basin):
Drainage Basin/Outfall Area No. = 9
Total drainage basin/outfall area = 4.95 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 2.73 acres
Post-development impervious fraction within drainage basin/outfall area = 0.55
$L_{M\ THIS\ BASIN}$ = 2450 lbs.

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ENGINEERS

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CONTESSA SUBDIVISION

WATER POLLUTION ABATEMENT PLAN
SITE PLAN NOTES & CALCULATIONS

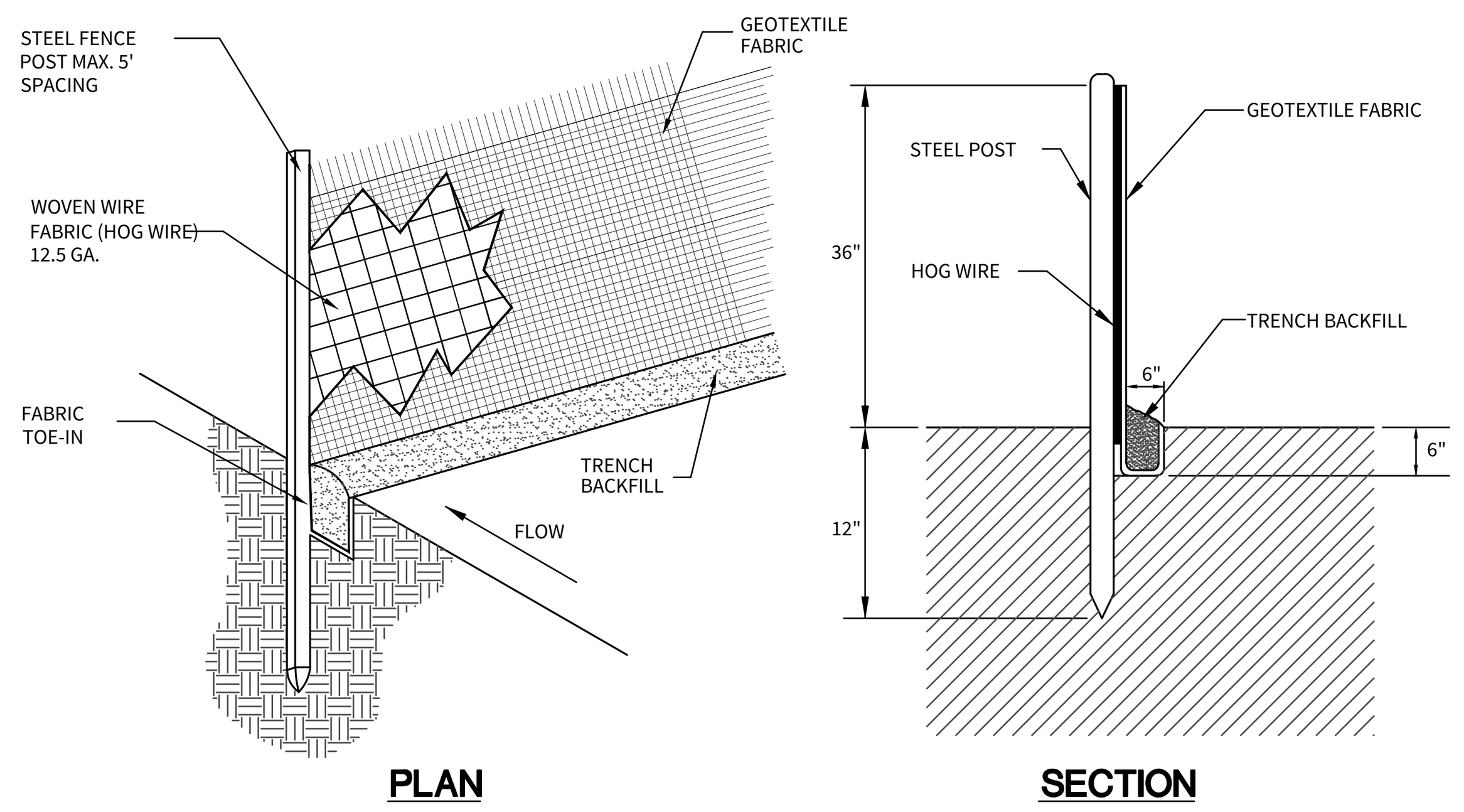
DATE
04/21/2025
PROJECT NO.
04343.000
DRAWN BY
HN
CHECKED BY
XV/AL

#	DATE	REVISIONS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

JAVIER CASTELLO
122170
04/21/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

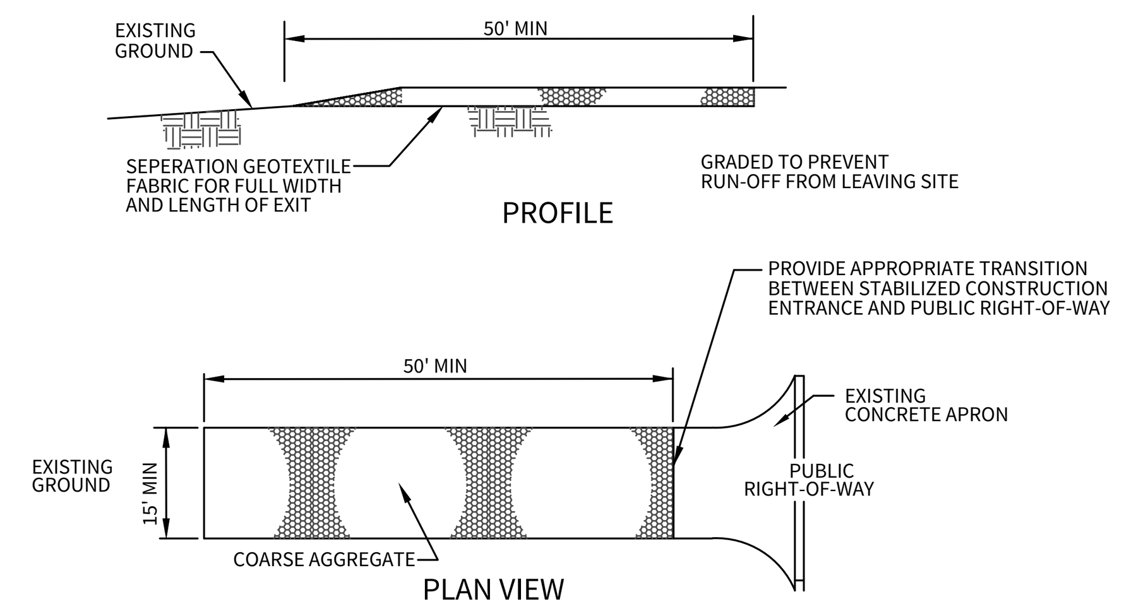
M-2



NOTES:

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NON WOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
4. 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 5 FEET ON CENTER.
5. 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.
6. 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.
7. 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.
8. 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.
9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
12. 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.

1 SILT FENCE DETAIL
SCALE: NONE



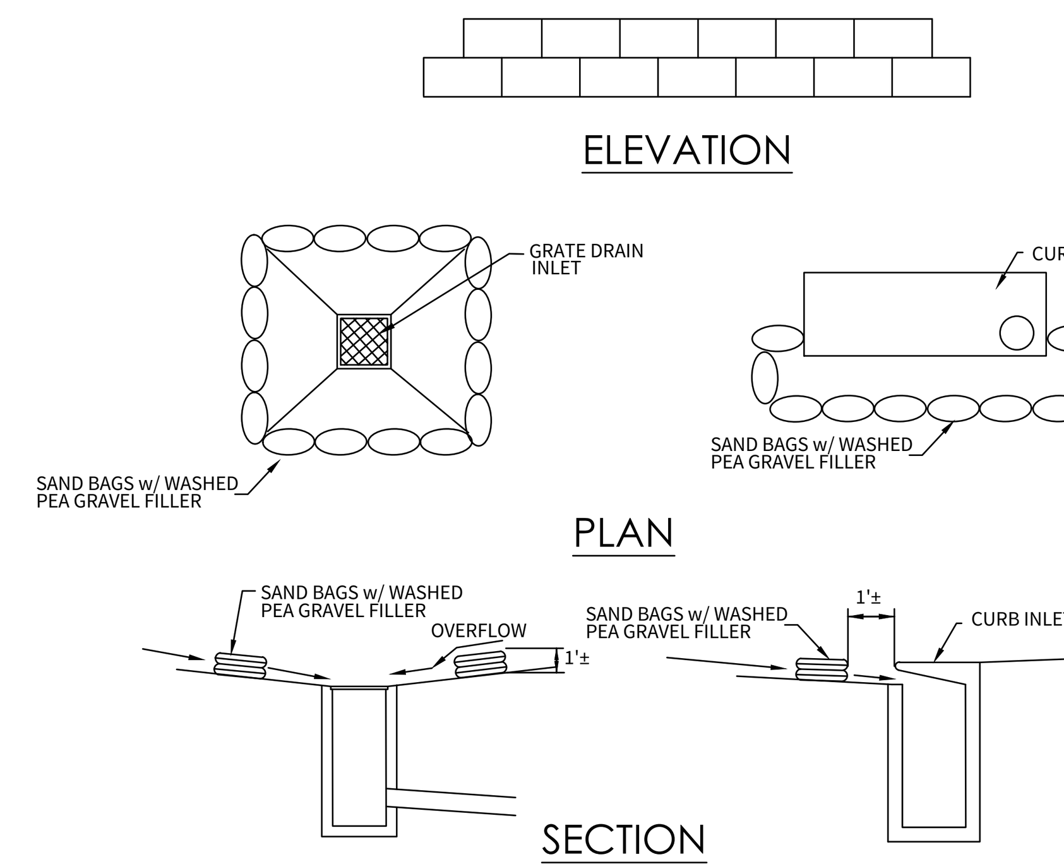
GENERAL NOTES

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A TRUCK WASHING AREA WHEN SHOWN ON THE CONSTRUCTION DRAWING. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
5. STONE MATERIAL SHALL CONSIST OF 3 TO 5 INCH OPEN GRADED ROCK AND SHALL BE PLACED IN A LAYER OF AT LEAST 8 INCHES THICKNESS.

NOTES:

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
9. 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.
10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
12. 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.
13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

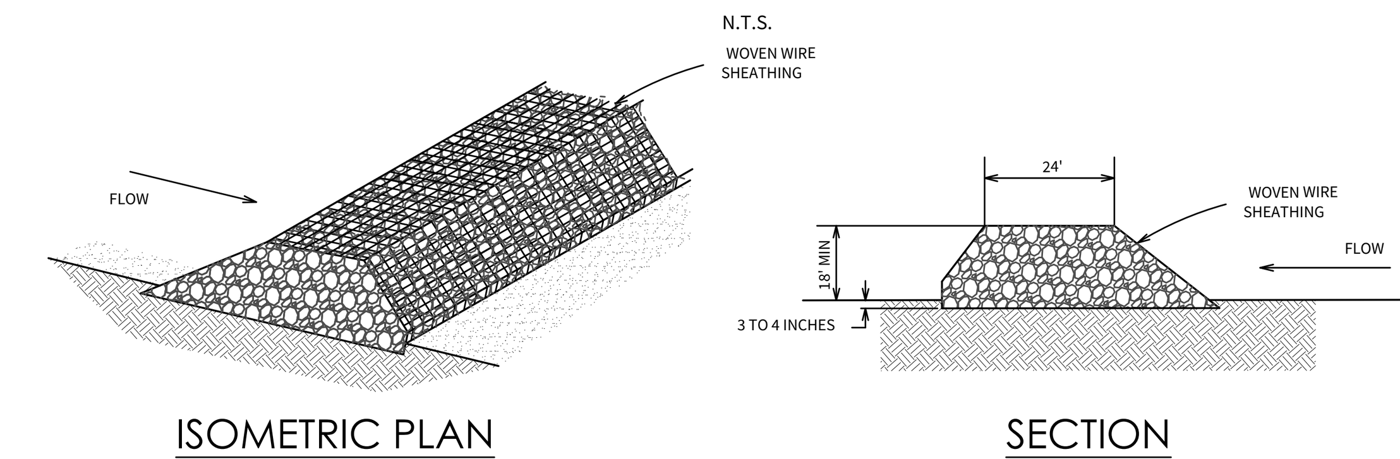
2 TEMPORARY CONSTRUCTION ENTRANCE / EXIT
SCALE: NONE



BAGGED GRAVEL INLET FILTER NOTES

1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES.
3. THE GRAVEL BAGS SHOULD BE FILLED WITH ¾" GRAVEL .
4. WHEN A GRAVEL BAG IS FILLED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CORD.
5. THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
8. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
9. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

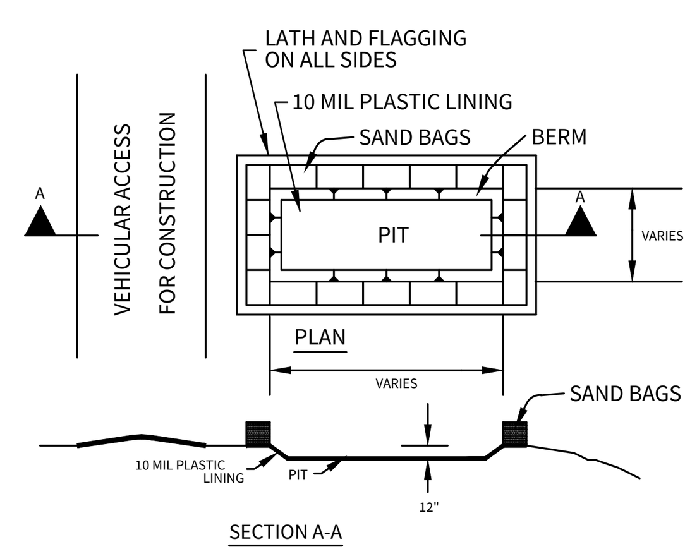
3 BAGGED GRAVEL INLET FILTER
SCALE: NONE



NOTES:

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3 TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
6. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
8. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER AND REPAIR ANY LOOSE WIRE SHEATHING.
11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

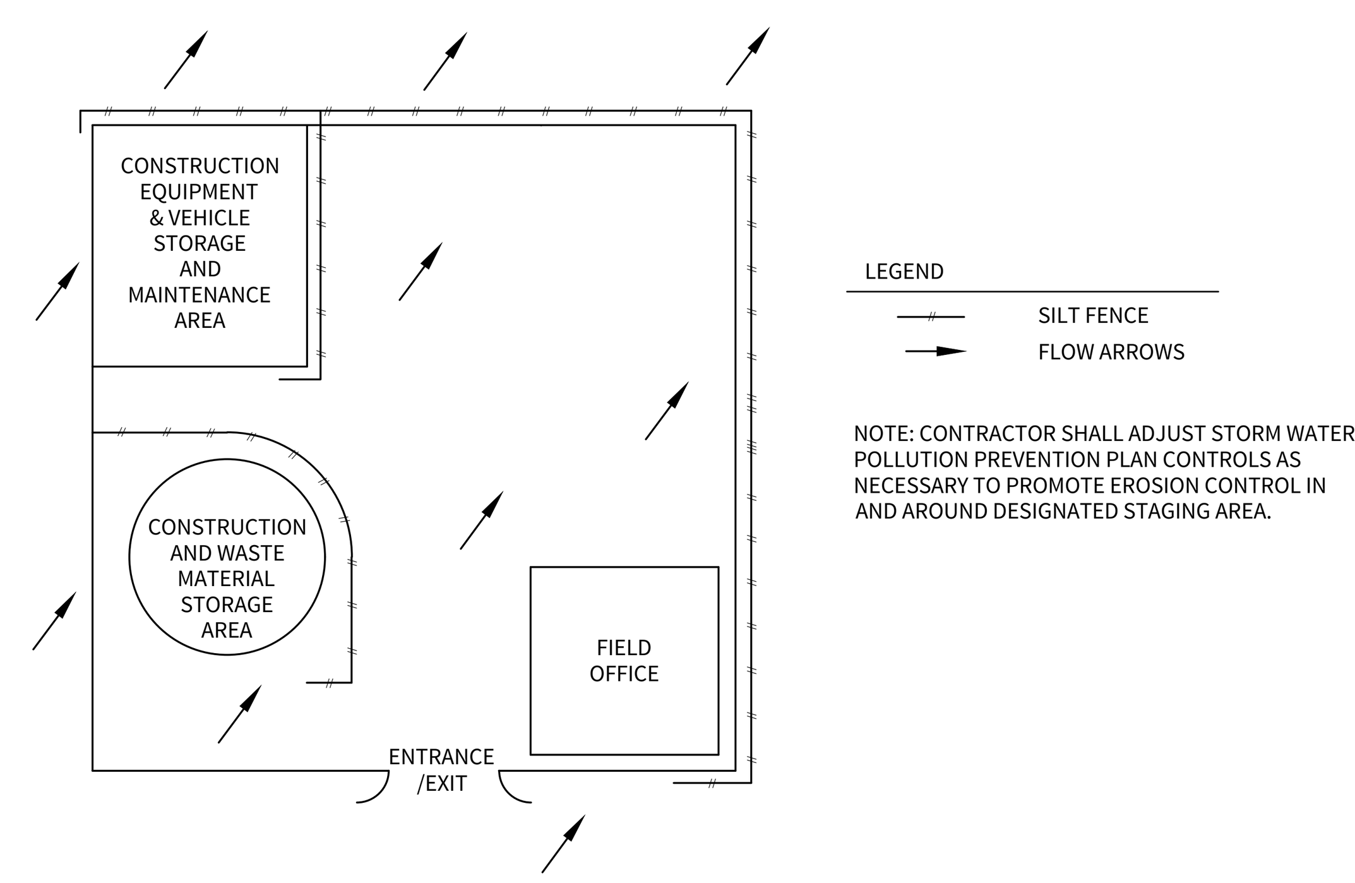
4 ROCK BERM DETAIL
SCALE: NONE



NOTES:

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

5 CONCRETE TRUCK WASHOUT PIT
SCALE: NONE



6 TYP. CONSTRUCTION STAGING AREA
SCALE: NONE

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CONTESSA SUBDIVISION

TEMPORARY BMP CONSTRUCTION DETAILS

DATE
03/31/2025

PROJECT NO.
04343.000

DRAWN BY
J.R.

CHECKED BY
XV/AL

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED
PROFESSIONAL ENGINEER
03/31/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

MDP NO.
19-1110054

M-3

LEGEND

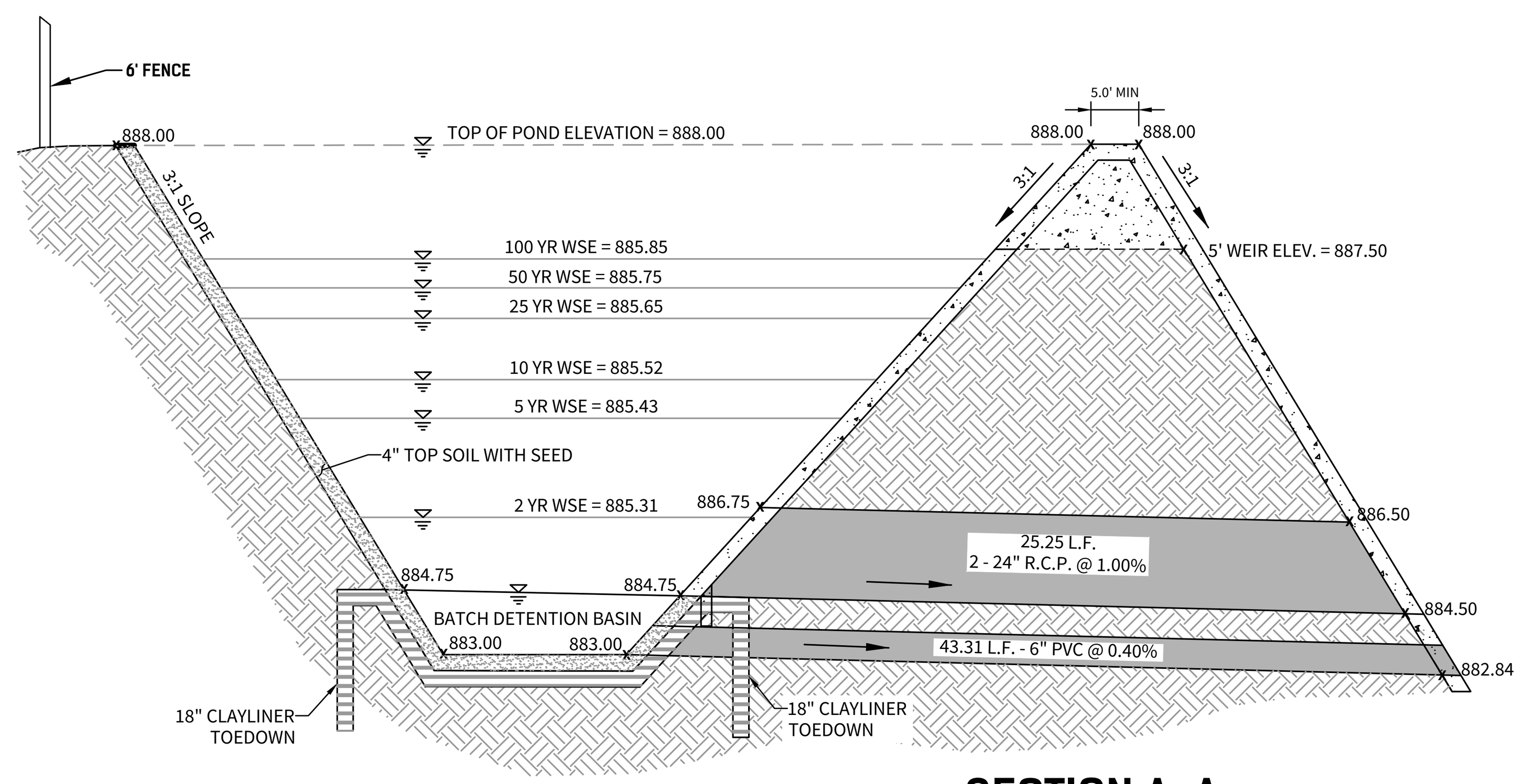
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- 892 PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

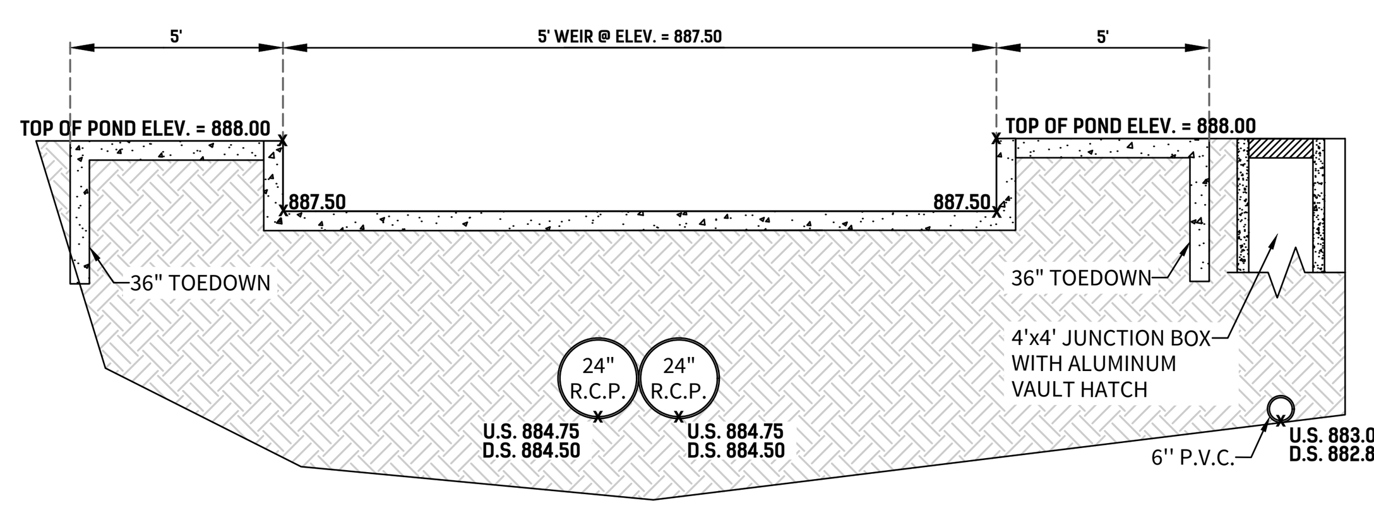
1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 1,822 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 28,809 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 2,172 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 0.40% SLOPED OUTFALL = 0.55 CFS
   b. DRAWDOWN TIME = 28,809 CF / 0.55 CFS = 14.52 HOURS

SEQUENCE OF OPERATION

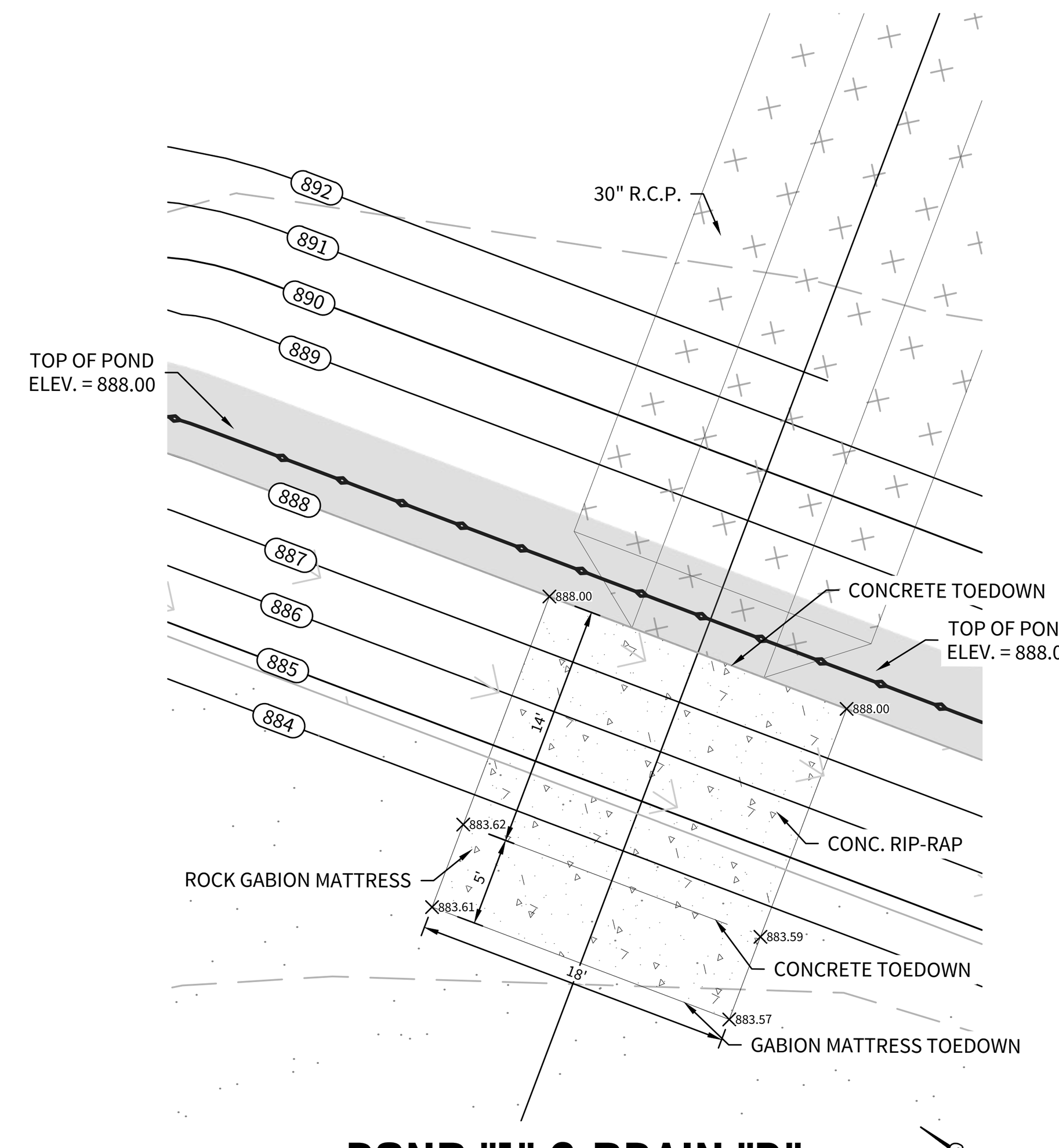
1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



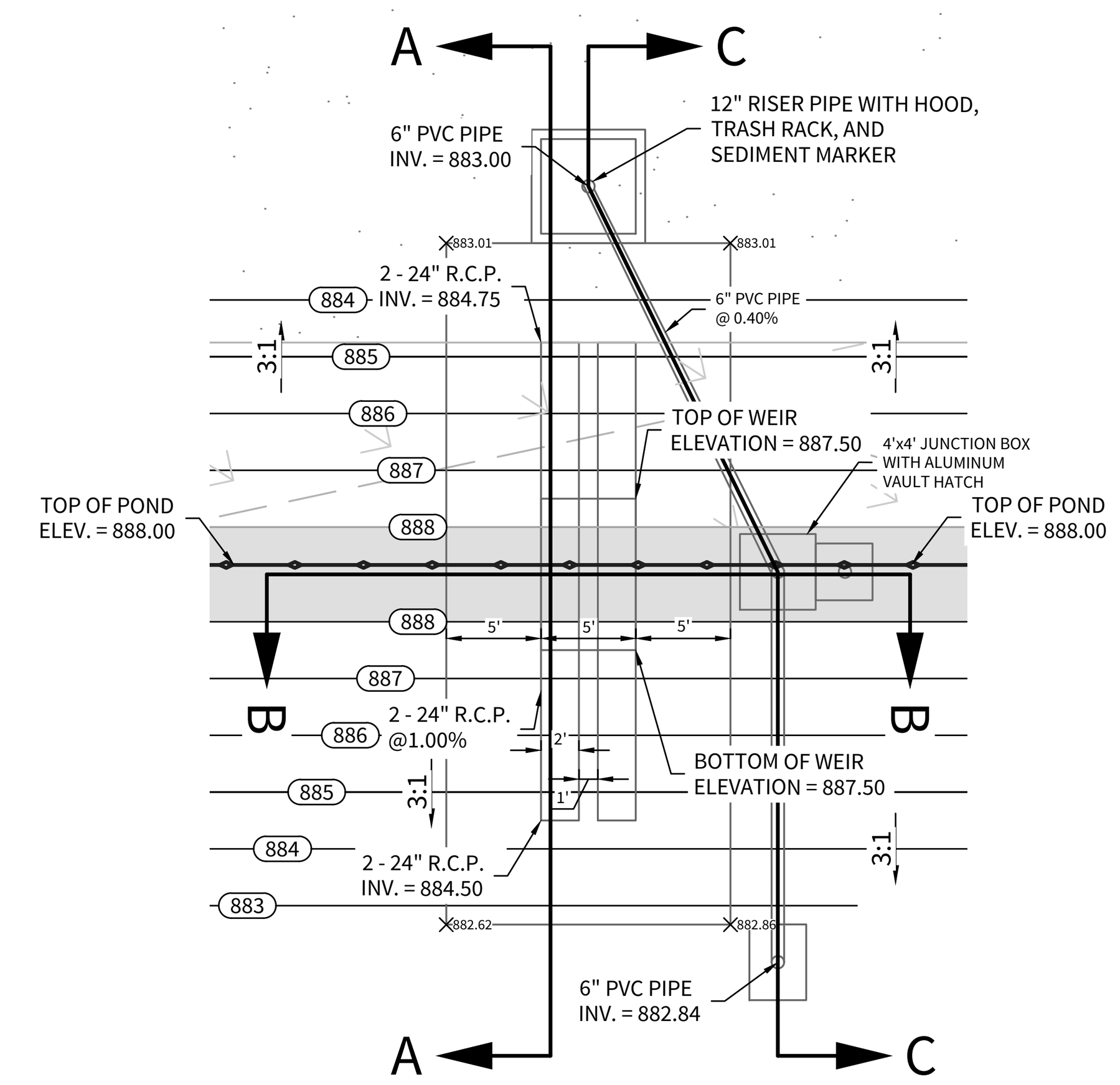
SECTION A-A
N.T.S.



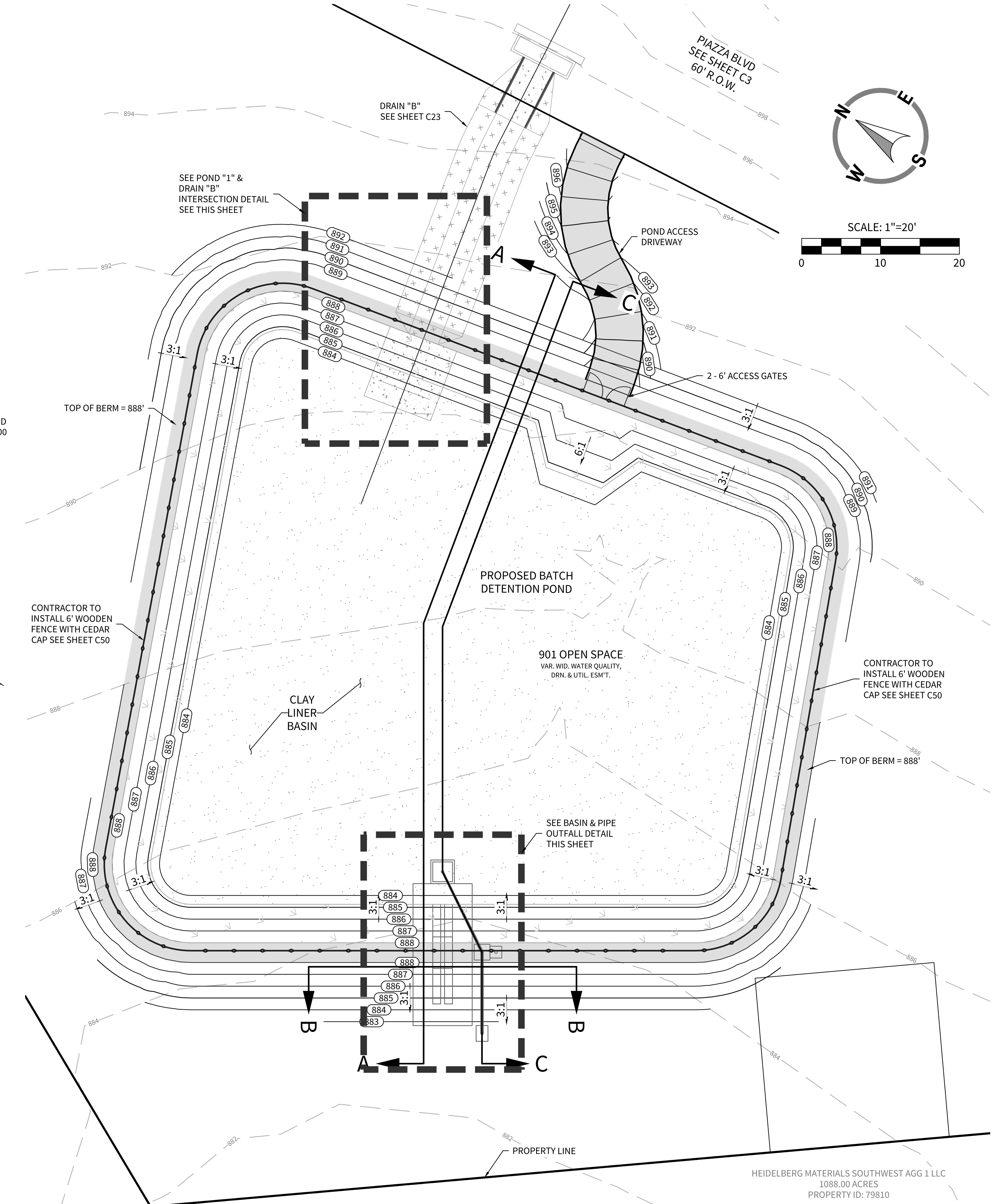
SECTION B-B
N.T.S.



POND "1" & DRAIN "B" INTERSECTION DETAIL
SCALE: 1" = 10'



BASIN & PIPE OUTFALL DETAIL
SCALE: 1" = 10'

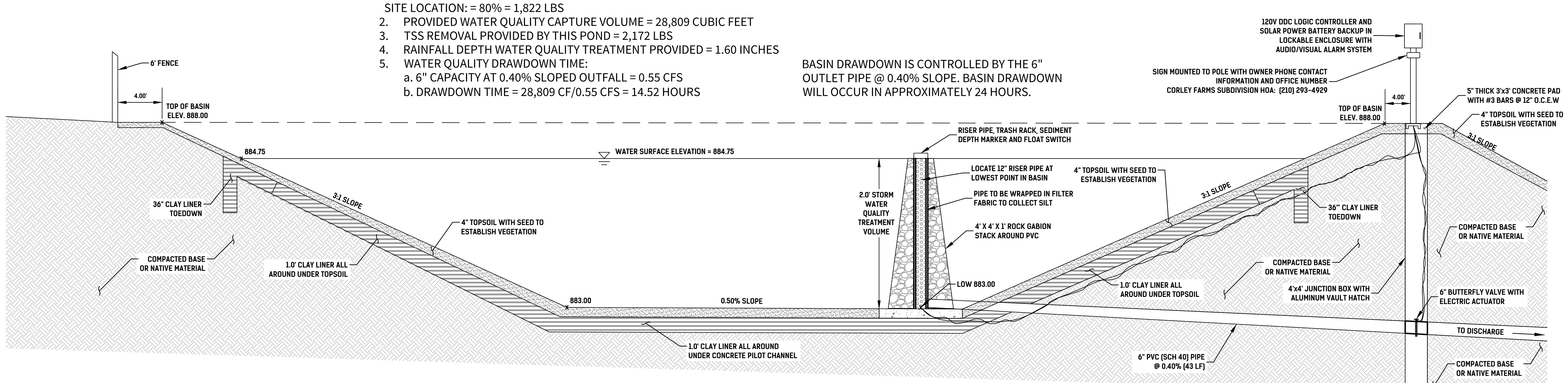


BASIN DESIGN DATA

BASIN WATERSHED: 4.02 Ac. (175,213 SF)
DESIGN WATER SURFACE ELEV. = 884.75'
TOP OF CLAY LINER ELEVATION = 883.00'
WATER QUALITY STORAGE DEPTH = 1.75 FEET

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 1,822 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 28,809 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 2,172 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 0.40% SLOPED OUTFALL = 0.55 CFS
   b. DRAWDOWN TIME = 28,809 CF/0.55 CFS = 14.52 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 6" OUTLET PIPE @ 0.40% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



SECTION C-C
N.T.S.

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San Antonio, Texas 78231
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CONTESSA SUBDIVISION PHASE I

DETENTION POND '1' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
DRAWN BY	CG/JG/LJ/TCD
CHECKED BY	XV/AL

REVISIONS
DATE
1. 2. 3. 4. 5. 6. 7. 8. 9.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED PROFESSIONAL ENGINEER
03/13/2025
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-4

CUDEENGINEERS.COM

LEGEND

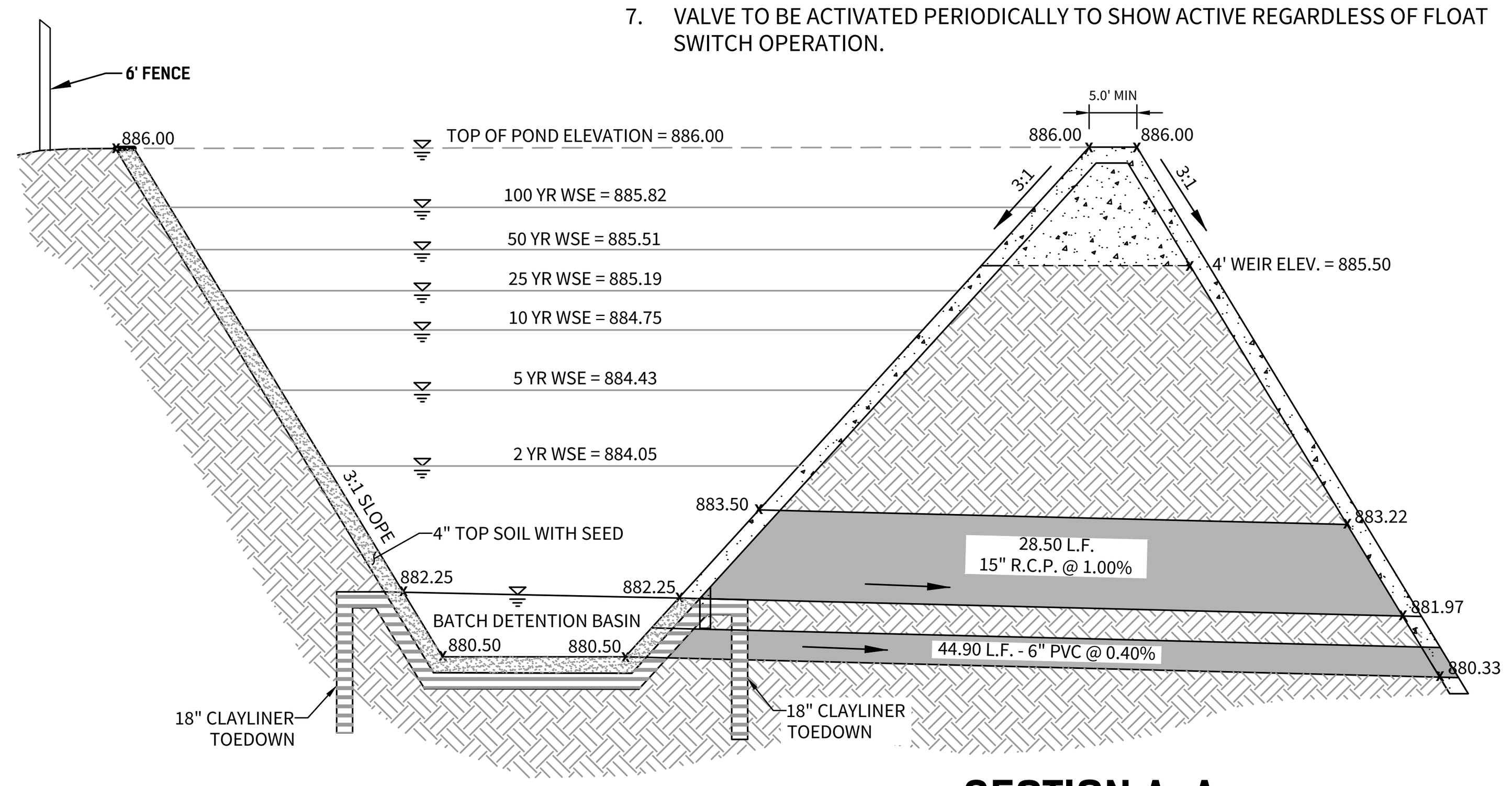
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- (892) PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

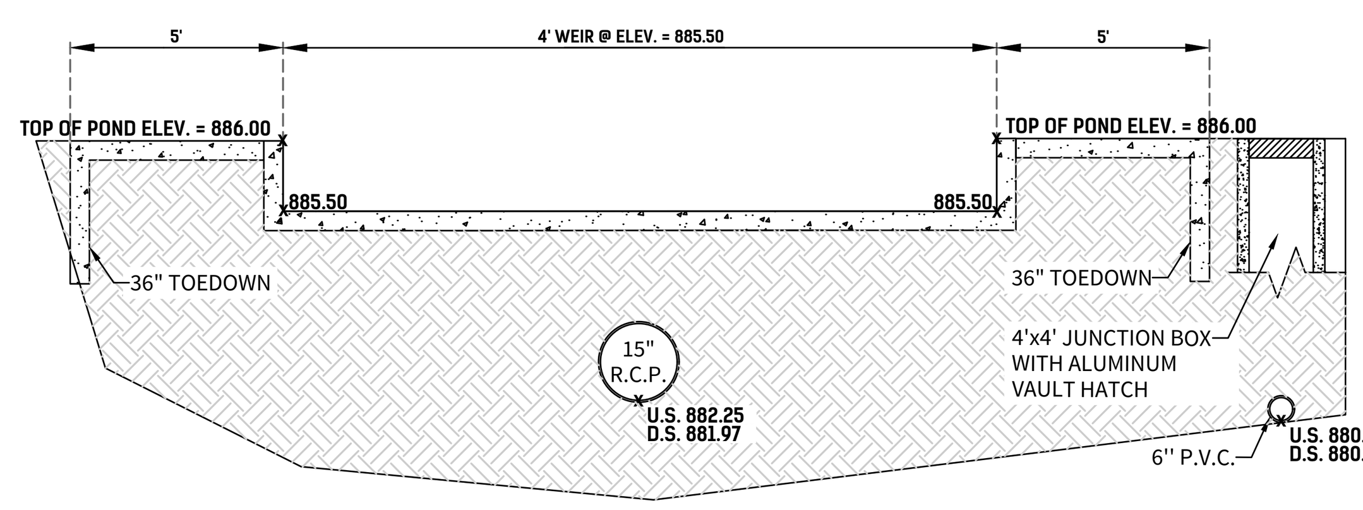
1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 1,472 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 16,589 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 1,743 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 0.40% SLOPED OUTFALL = 0.55 CFS
   b. DRAWDOWN TIME = 16,589 CF / 0.55 CFS = 8.36 HOURS

SEQUENCE OF OPERATION

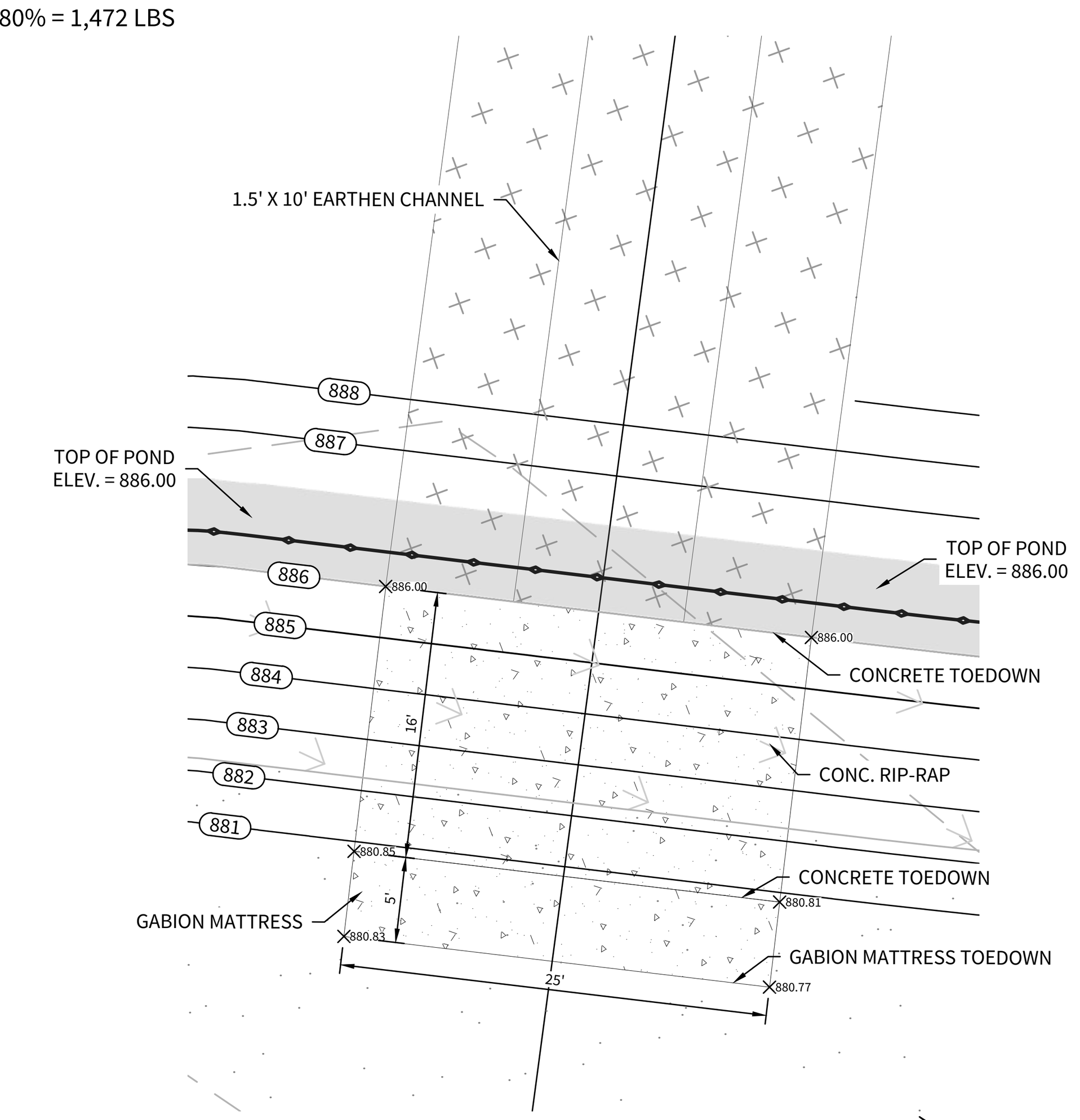
1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



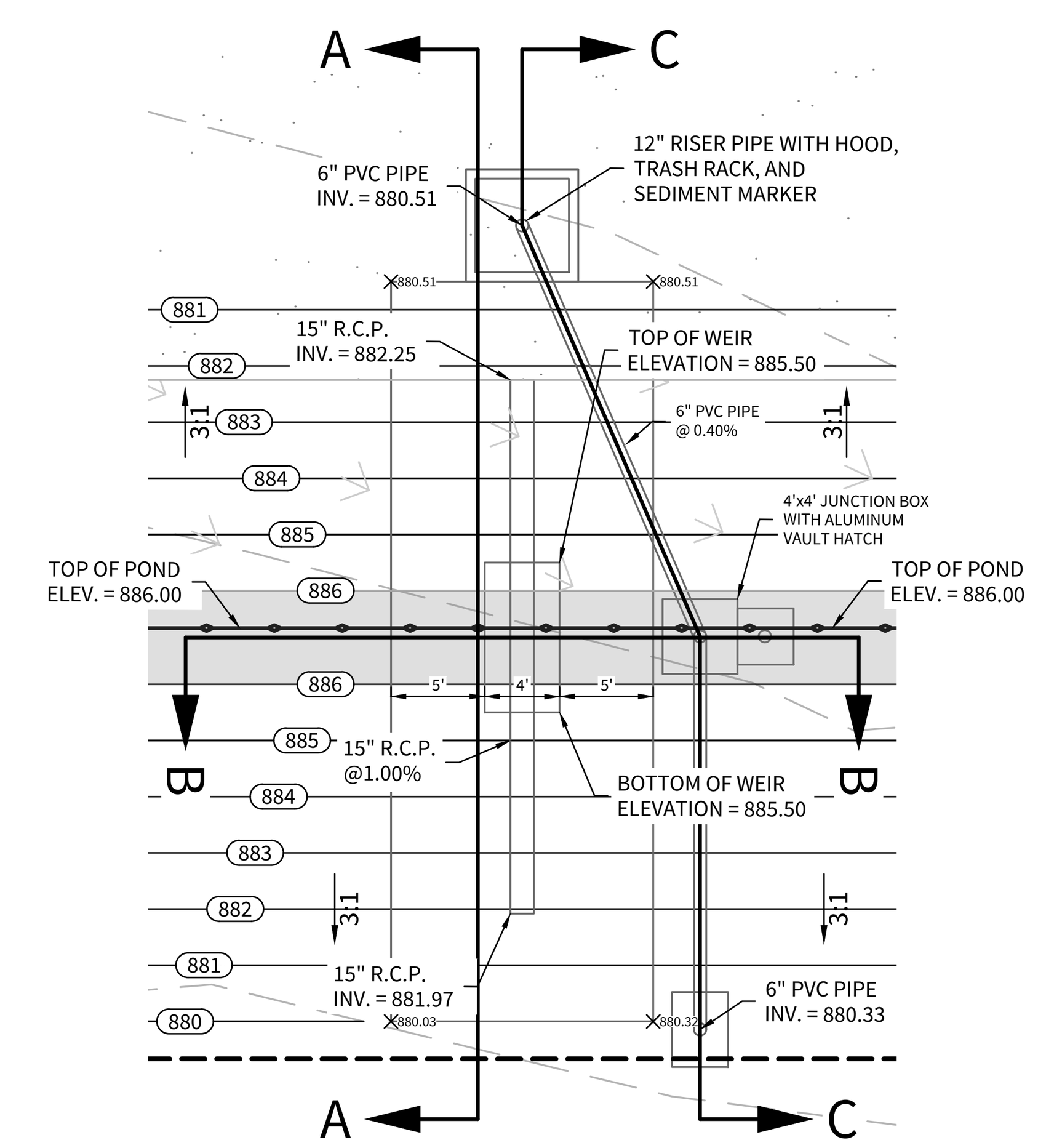
SECTION A-A
N.T.S.



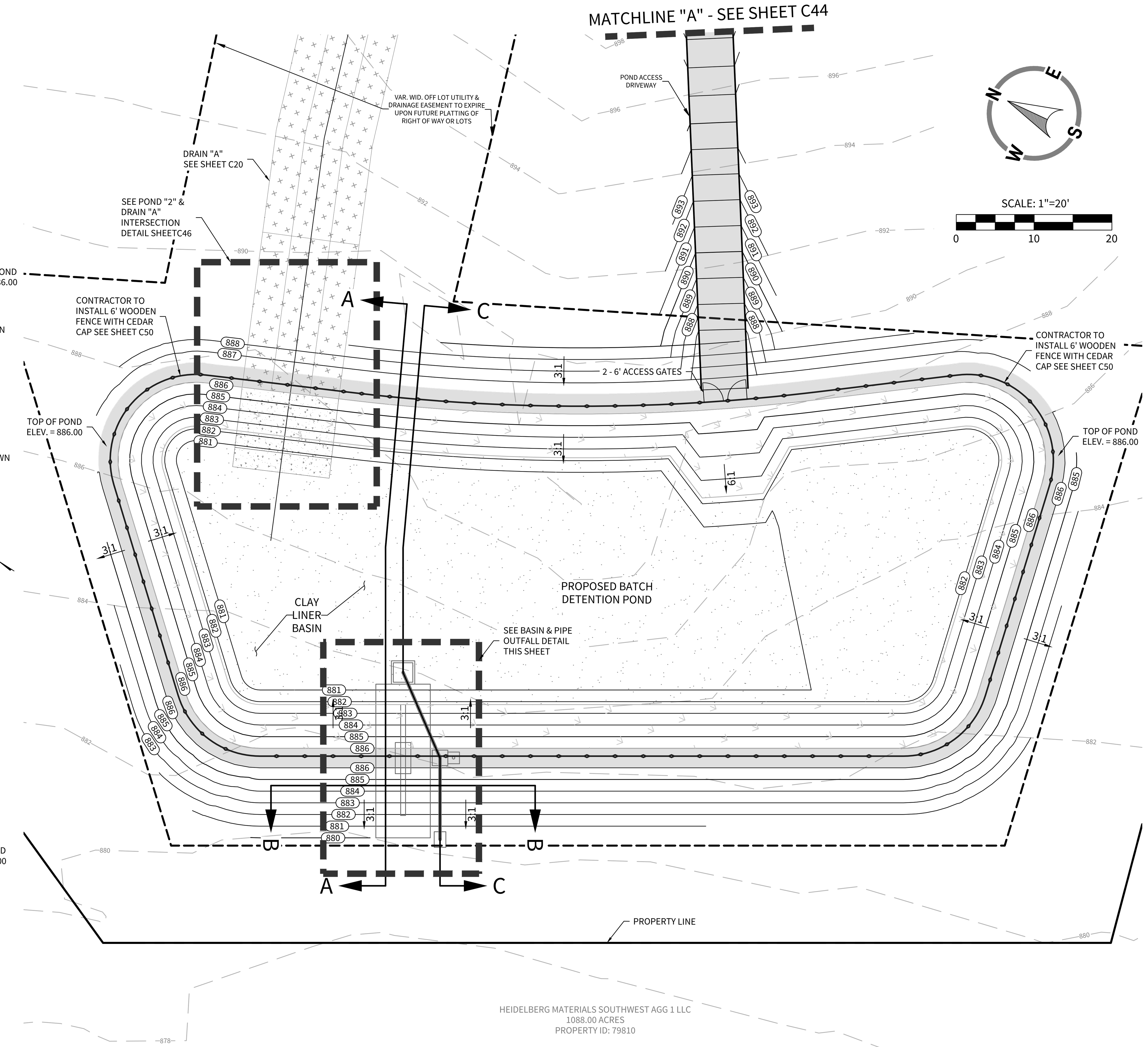
SECTION B-B
N.T.S.



POND "2" & DRAIN "A" INTERSECTION DETAIL
SCALE: 1" = 10'



BASIN & PIPE OUTFALL DETAIL
SCALE: 1" = 10'

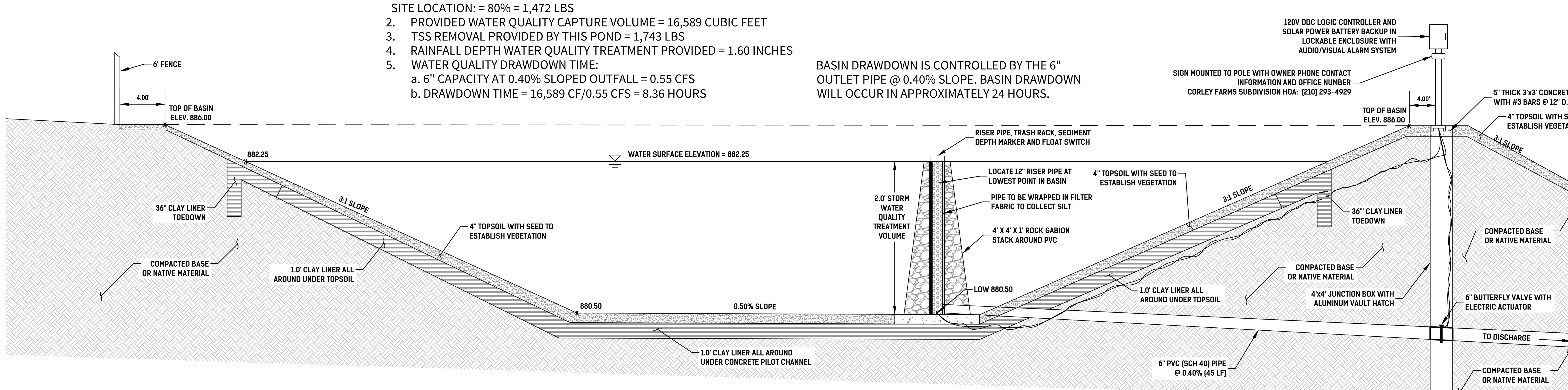


BASIN DESIGN DATA

BASIN WATERSHED: 10.60 Ac. (462,026 SF)
DESIGN WATER SURFACE ELEV. = 882.25'
TOP OF CLAY LINER ELEVATION = 880.50'
WATER QUALITY STORAGE DEPTH = 1.75 FEET

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 1,472 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 16,589 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 1,743 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 0.40% SLOPED OUTFALL = 0.55 CFS
   b. DRAWDOWN TIME = 16,589 CF/0.55 CFS = 8.36 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 6" OUTLET PIPE @ 0.40% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



SECTION C-C
N.T.S.

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CONTESSA SUBDIVISION PHASE I

DETENTION POND '2' PLAN

DATE 03/13/2025

PROJECT NO. 04343.002

DRAWN BY CG/JG/LJ/TCD

CHECKED BY XV/AL

REVISIONS | DATE

STATE OF TEXAS ANDREW R. LOWRY 123410 LICENSED PROFESSIONAL ENGINEER 03/13/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-5

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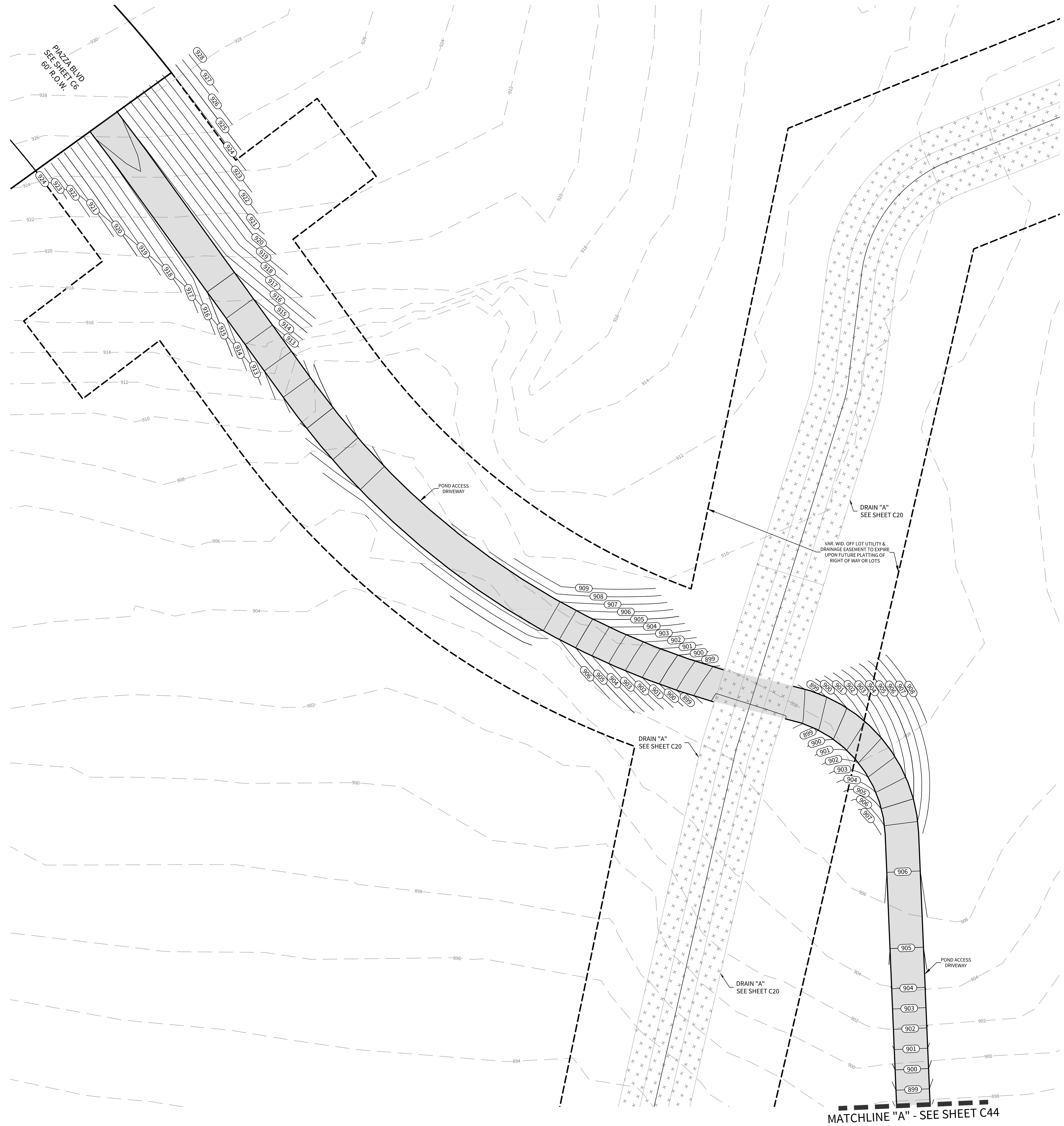
LEGEND

- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- 892 PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER



SCALE: 1"=20'

0 10 20

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CONTESSA SUBDIVISION PHASE I

DETENTION POND '2' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
DRAWN BY	CG/JG/LJ/TCD
CHECKED BY	XV/AL

REVISIONS

DATE

1. 2. 3. 4. 5. 6. 7. 8. 9.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED
PROFESSIONAL ENGINEER
03/13/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M -6

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LEGEND

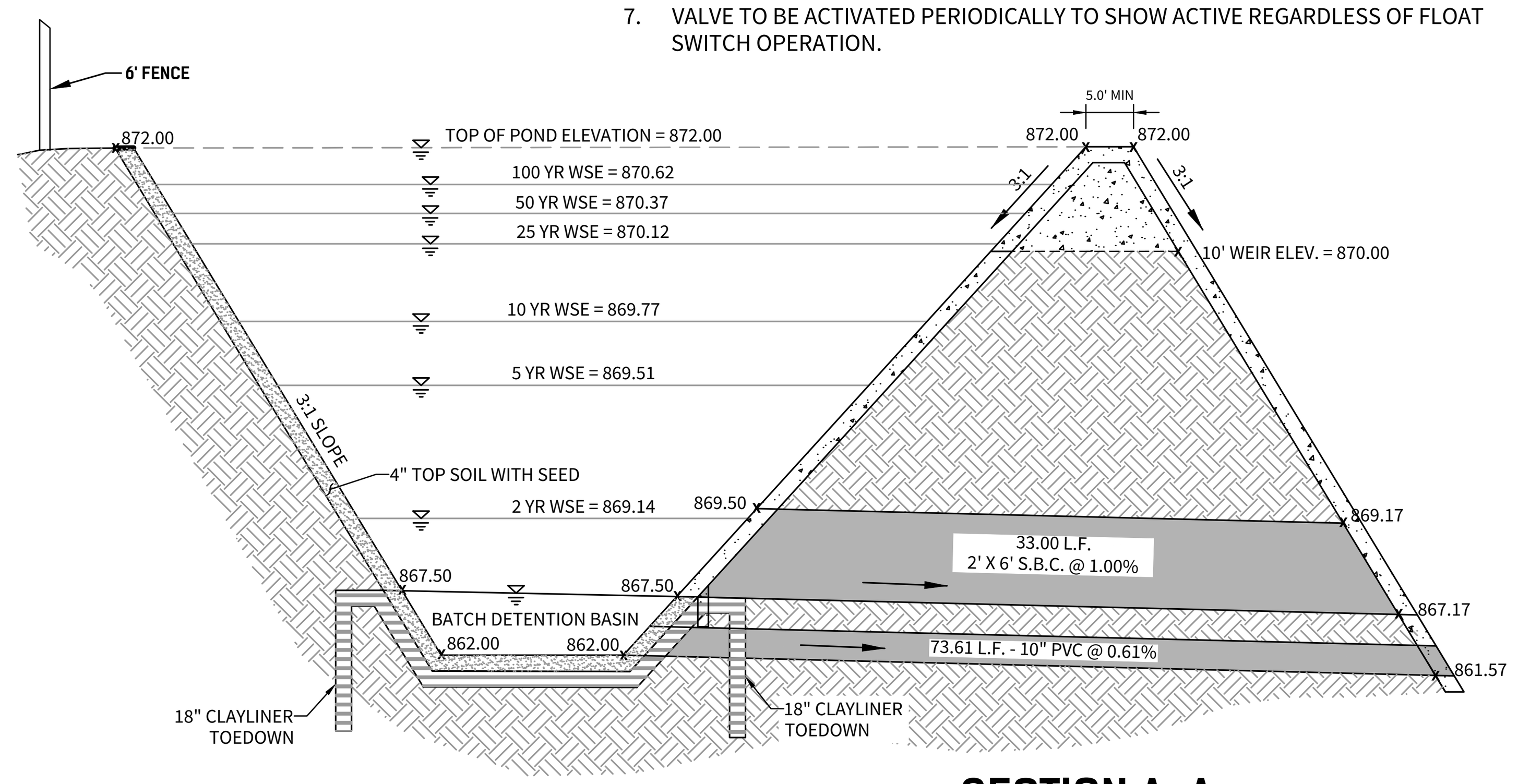
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- (892) PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

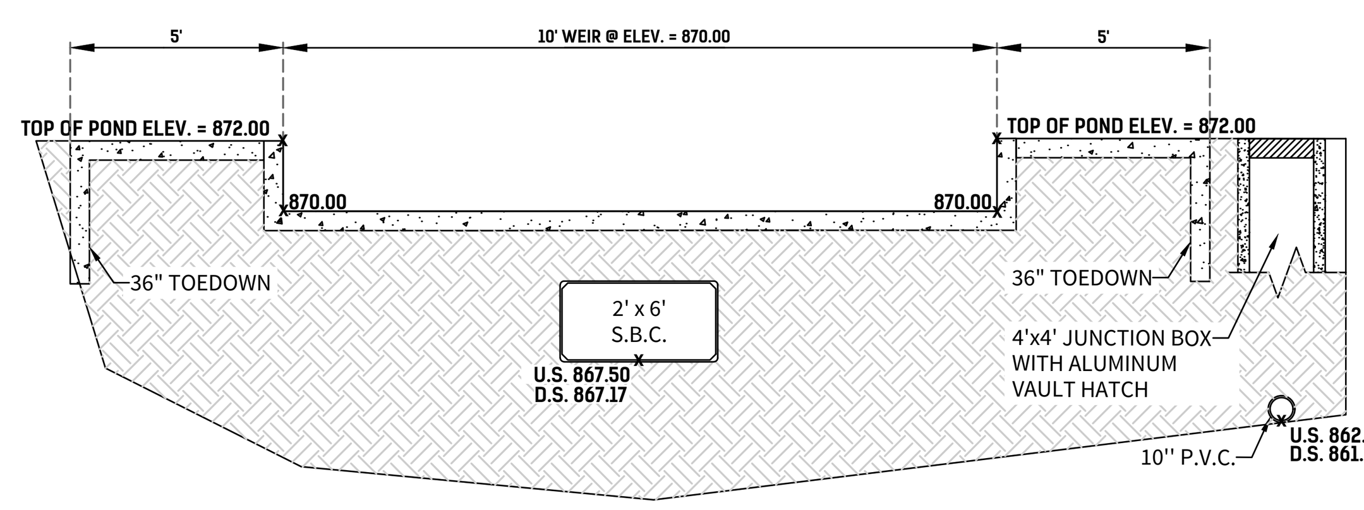
1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 12,710 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 186,191 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 15,095 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 10" CAPACITY AT 0.61% SLOPED OUTFALL = 2.63 CFS
   b. DRAWDOWN TIME = 186,191 CF / 2.63 CFS = 19.67 HOURS

SEQUENCE OF OPERATION

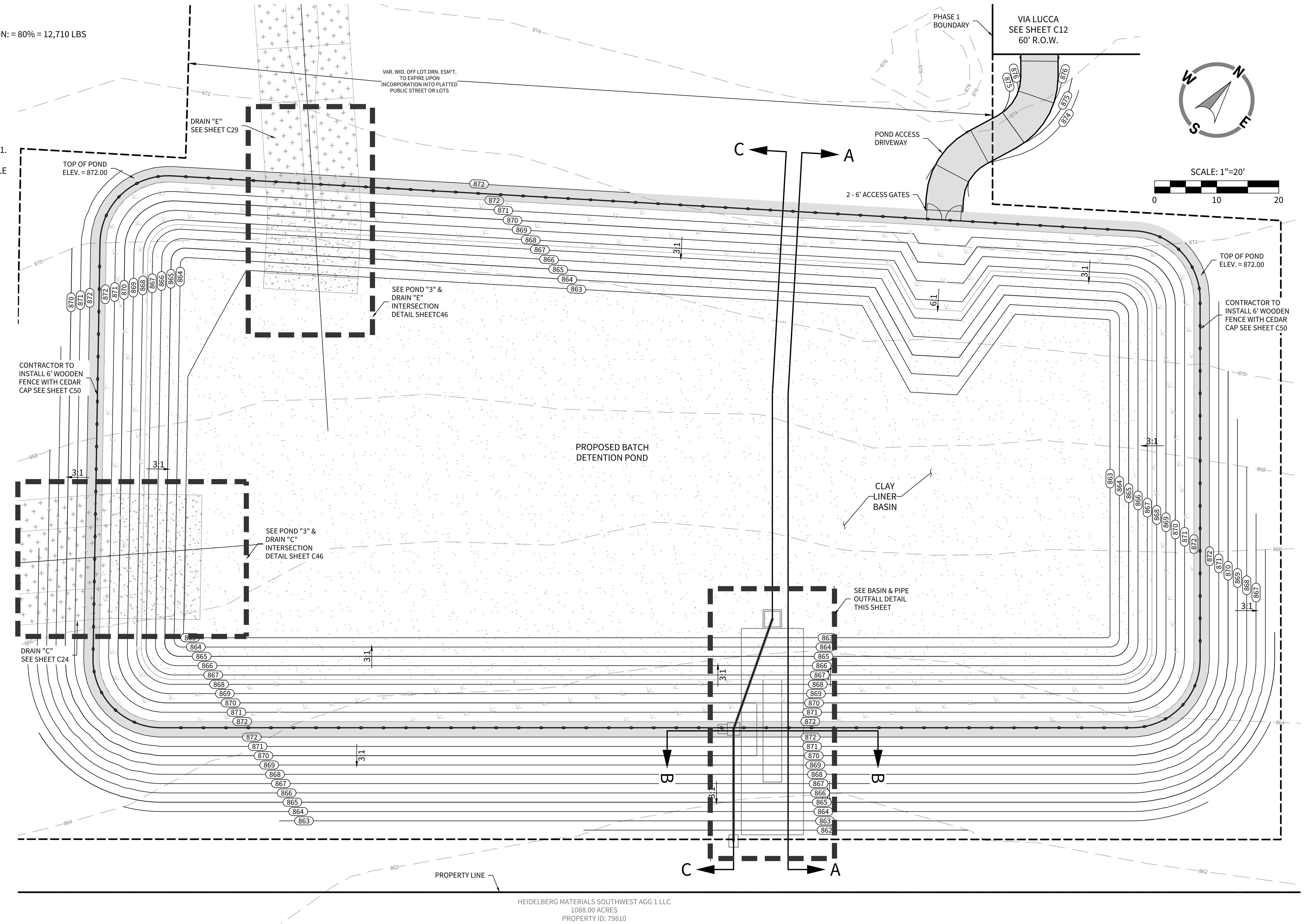
1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 10" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 10"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

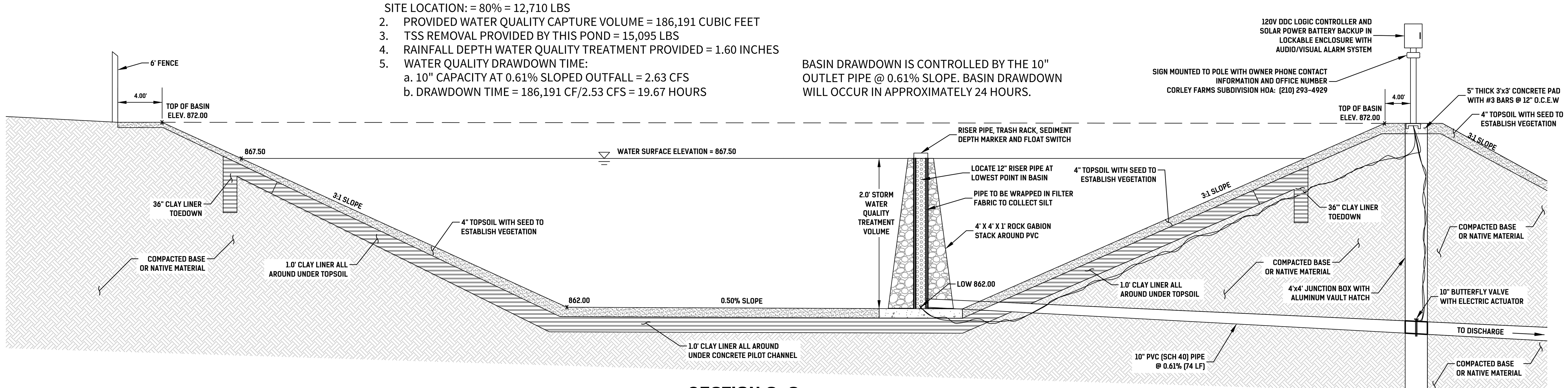


BASIN DESIGN DATA

BASIN WATERSHED: 40.53 Ac. (1,765,395 SF)
DESIGN WATER SURFACE ELEV. = 867.50'
TOP OF CLAY LINER ELEVATION = 862.00'
WATER QUALITY STORAGE DEPTH = 5.50 FEET

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 12,710 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 186,191 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 15,095 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 10" CAPACITY AT 0.61% SLOPED OUTFALL = 2.63 CFS
   b. DRAWDOWN TIME = 186,191 CF/2.53 CFS = 19.67 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 10" OUTLET PIPE @ 0.61% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



SECTION C-C
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CONTESSA SUBDIVISION PHASE I

DETENTION POND '3' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
DRAWN BY	CG/JG/L.J/TCD
CHECKED BY	XV/AL

REVISIONS

DATE

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED PROFESSIONAL ENGINEER
03/13/2025

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TBPE No. 455
TBPLS No. 10048500

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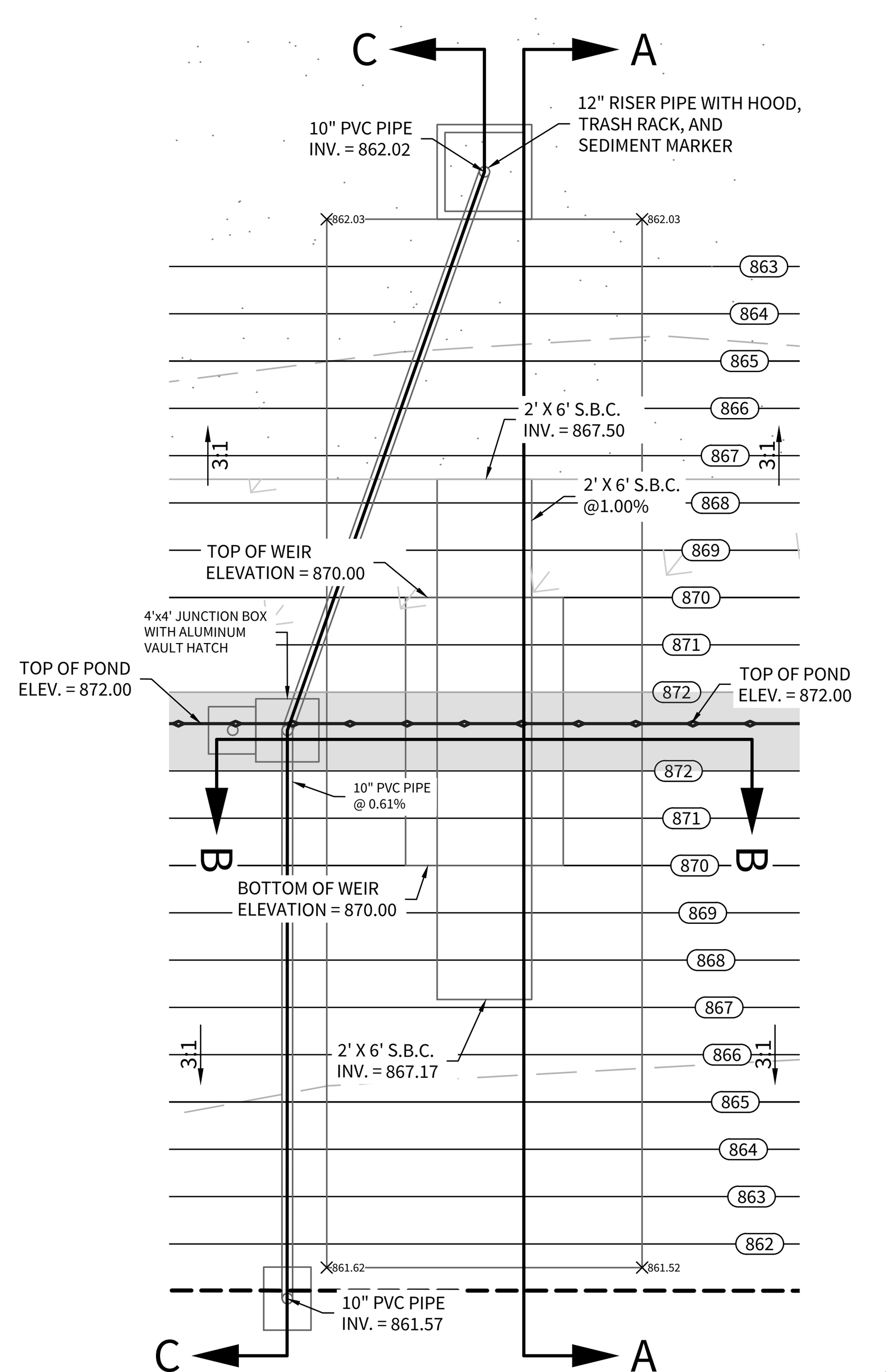
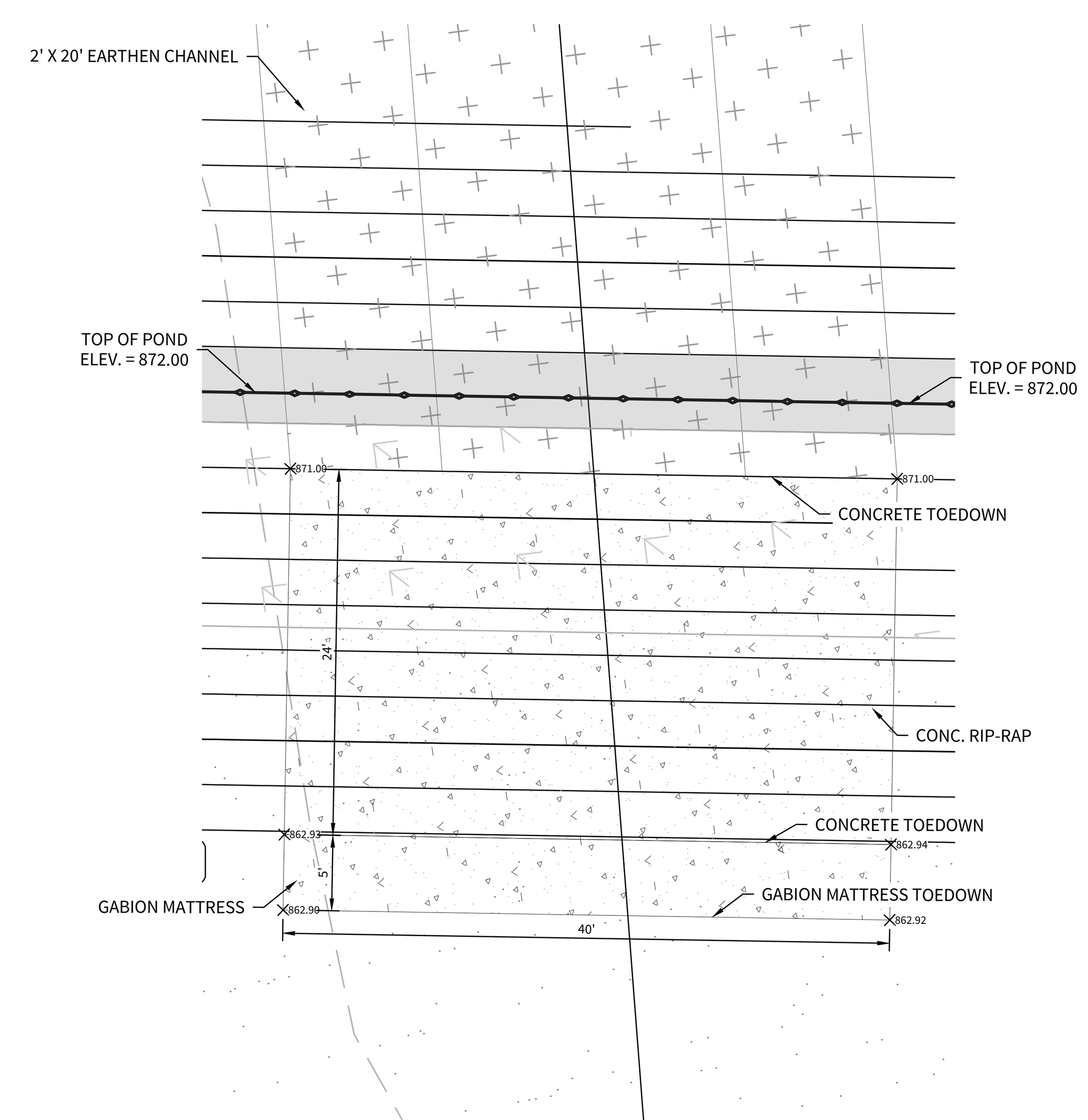
LEGEND

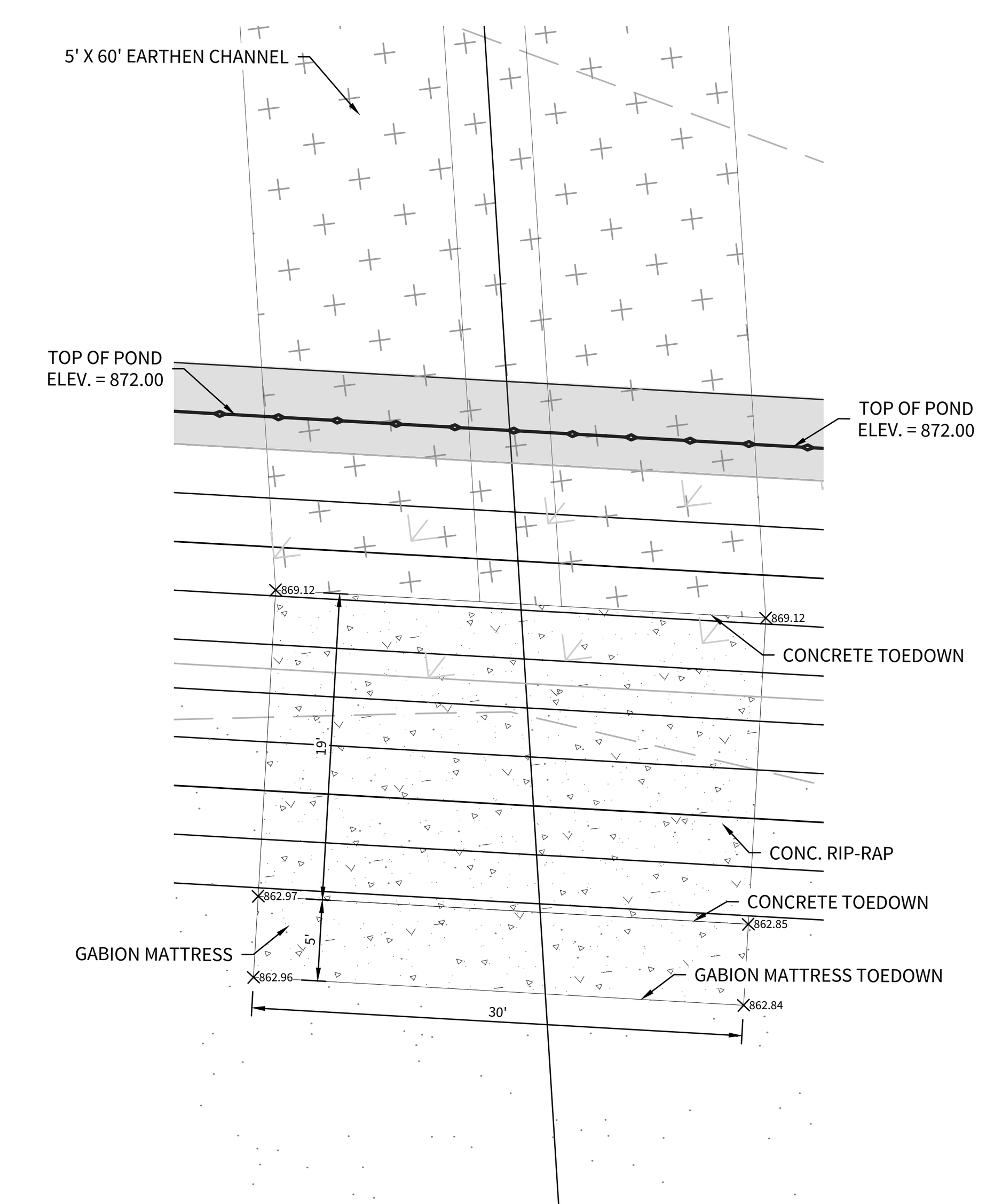
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- 892 PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER



BASIN & PIPE OUTFALL DETAIL
SCALE: 1" = 10'



POND "3" & DRAIN "C" INTERSECTION DETAIL
SCALE: 1" = 10'



POND "3" & DRAIN "E" INTERSECTION DETAIL
SCALE: 1" = 10'

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DETENTION POND '3' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
DRAWN BY	CG/JG/LJ/TCD
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LEGEND

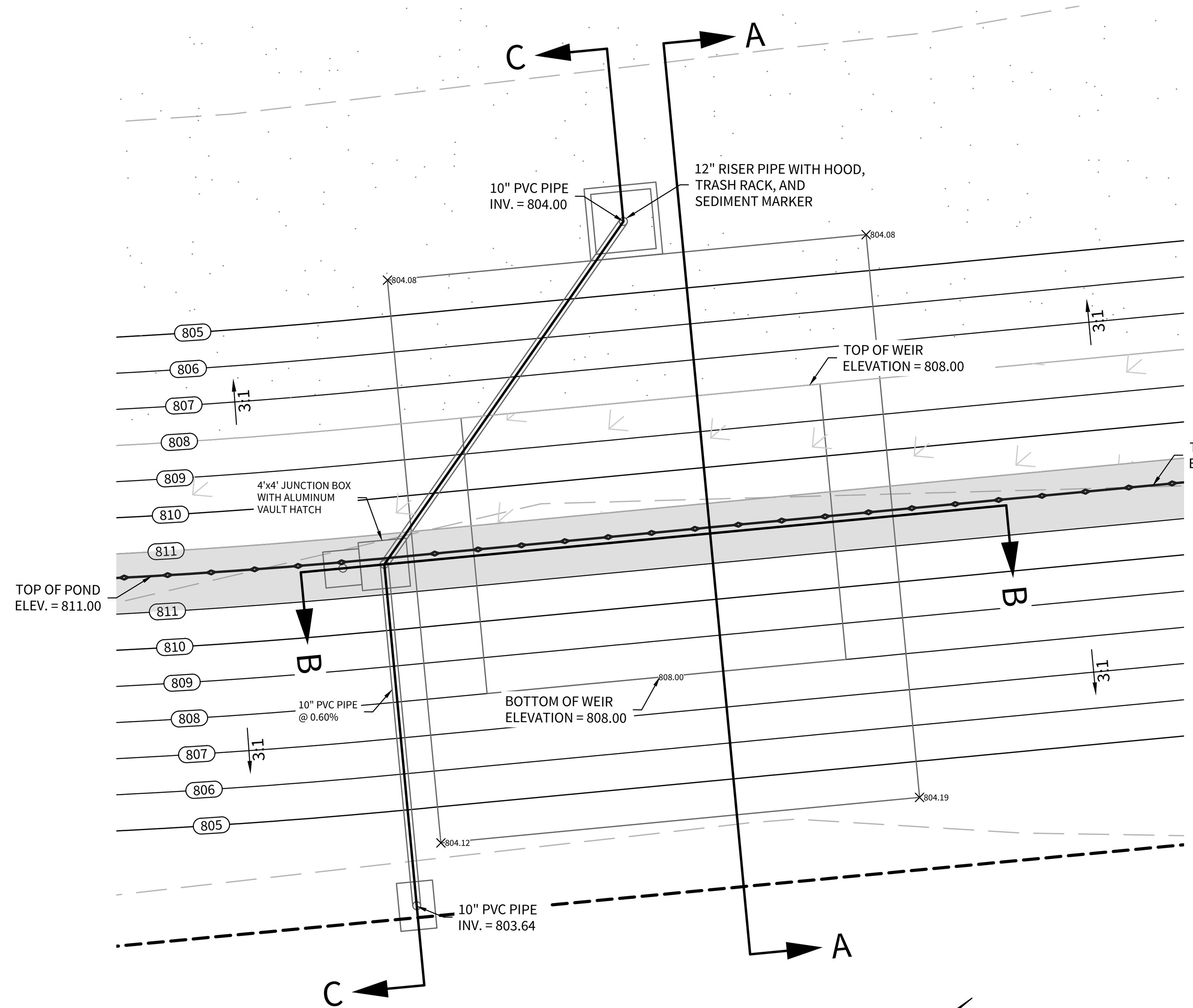
Symbol	Description
	CONC. RIP RAP
	GABION MATTRESS
	EARTHEN VEGETATION
892	PROPOSED CONTOUR
890	EXISTING CONTOUR
3:1	PROPOSED SLOPE
	DRAINAGE FLOW LINE
	1% ANNUAL CHANCE FLOODPLAIN
	CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 10,942 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 215,220 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 13,720 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 10" CAPACITY AT 0.60% SLOPED OUTFALL = 2.56 CFS
   b. DRAWDOWN TIME = 215,220 CF / 2.56 CFS = 23.34 HOURS

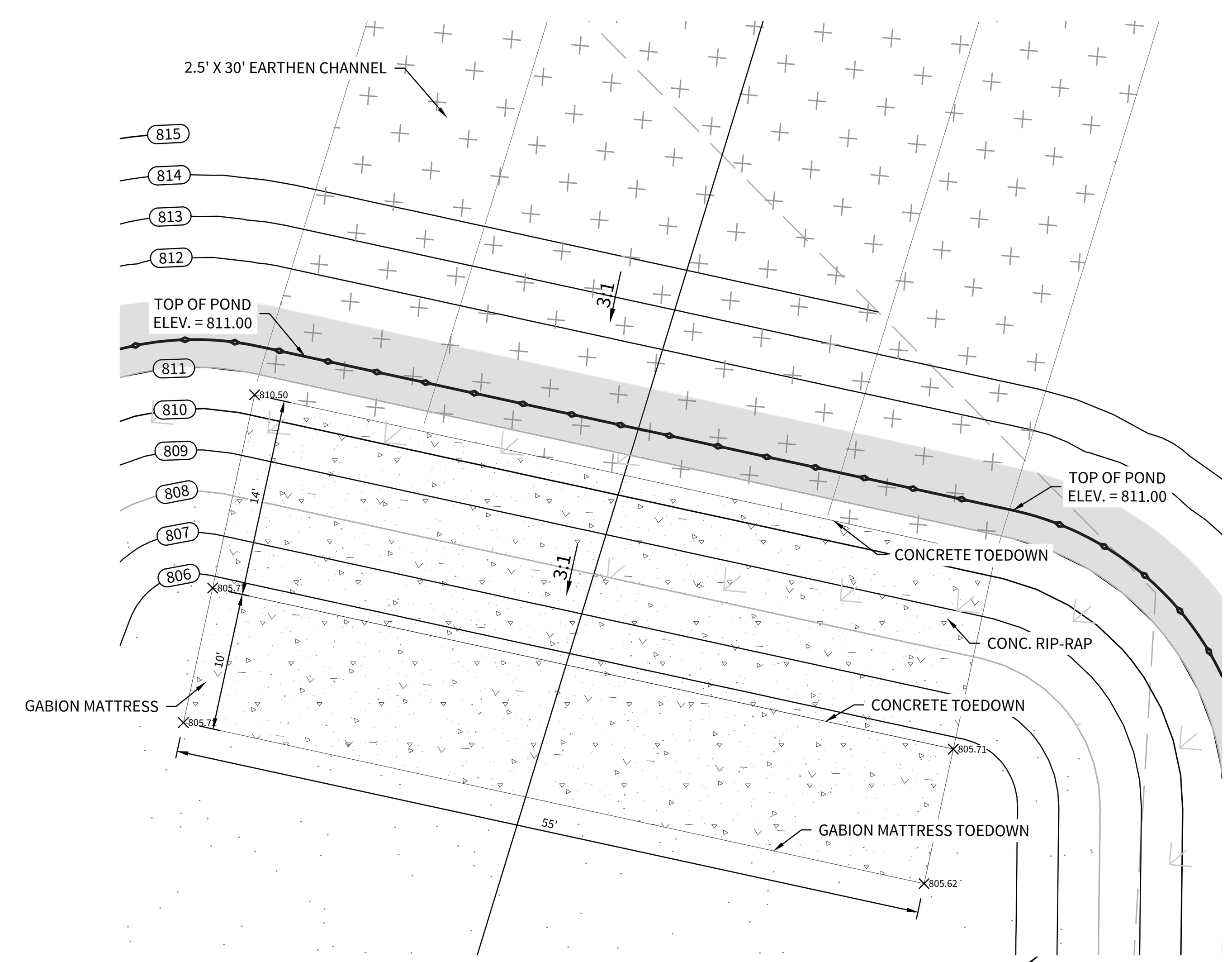
SEQUENCE OF OPERATION

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 10" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 10"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



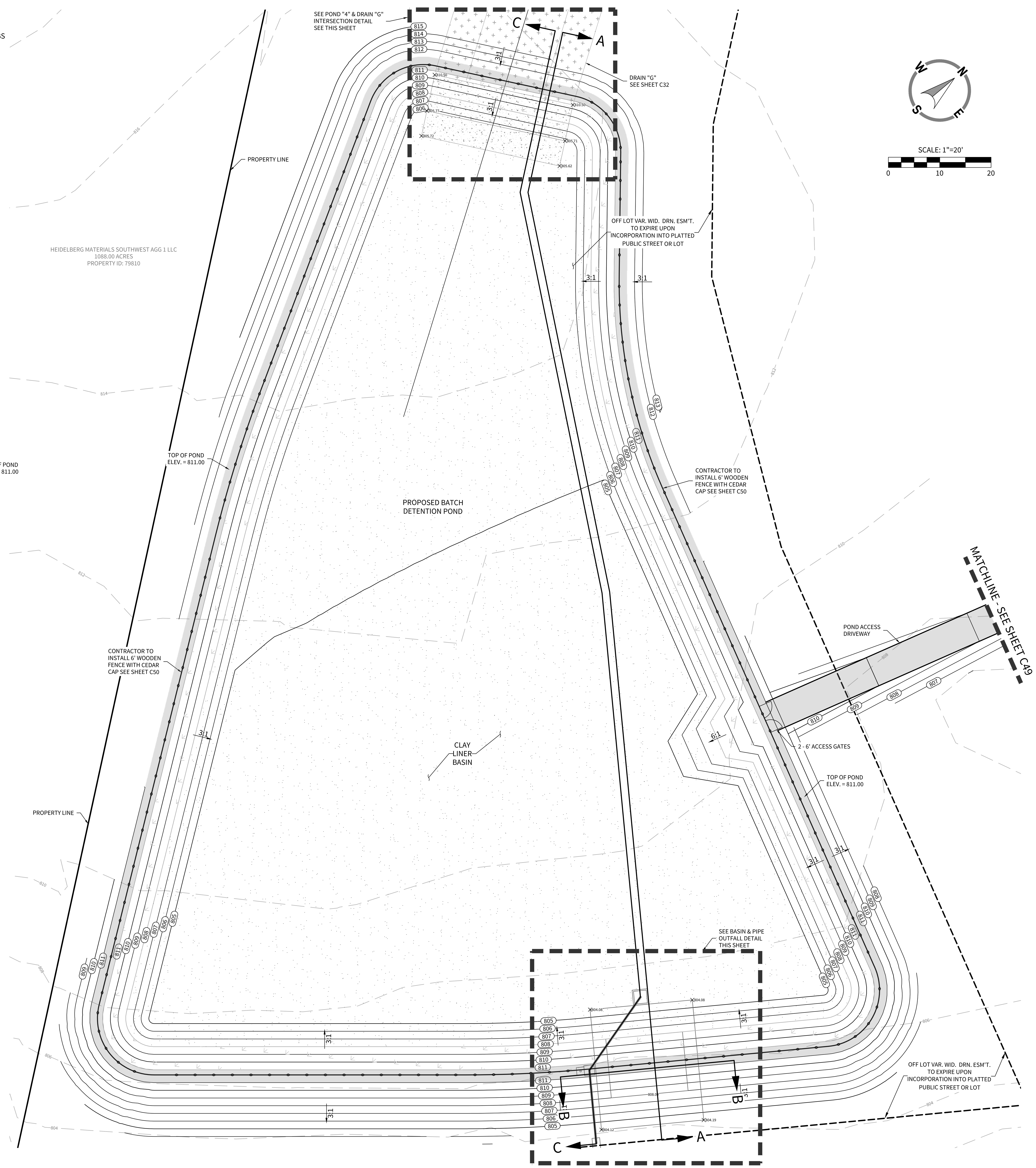
BASIN & PIPE OUTFALL DETAIL

SCALE: 1" = 10'



POND "4" & DRAIN "G" INTERSECTION DETAIL

SCALE: 1" = 10'



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CONTESSA SUBDIVISION PHASE I

DETENTION POND '4' PLAN

DATE
03/13/2025

PROJECT NO.
04343.002

DRAWN BY
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XV/AL

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ANDREW R. LOWRY
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03/13/2025

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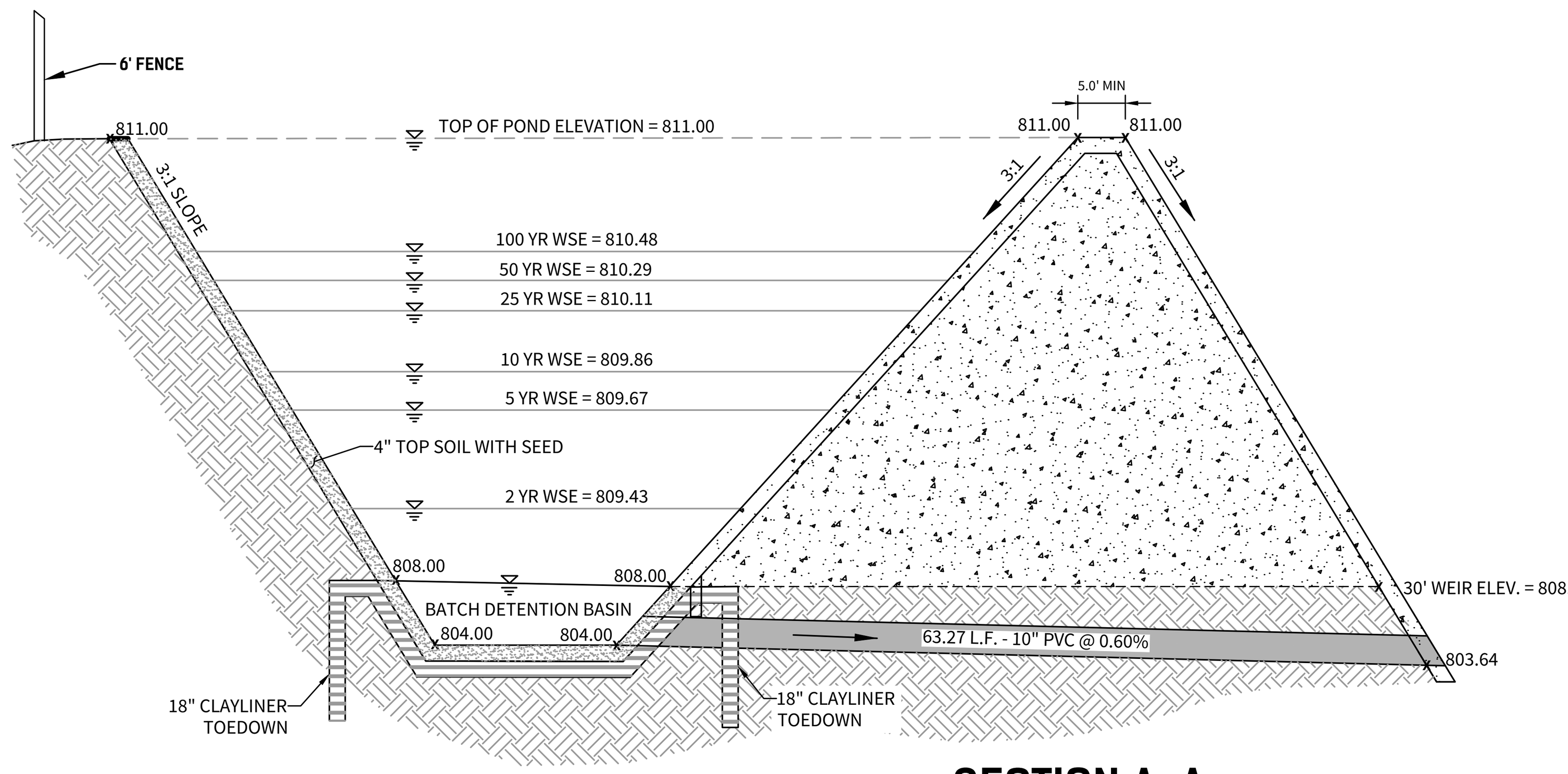
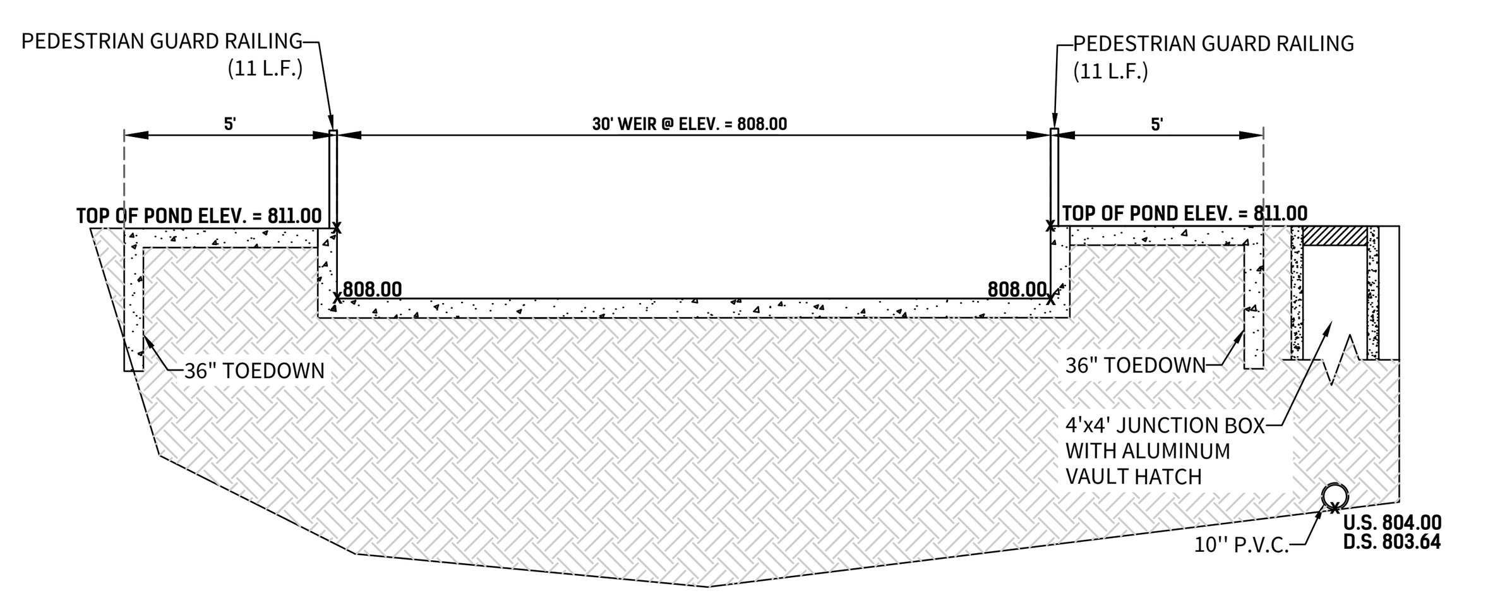


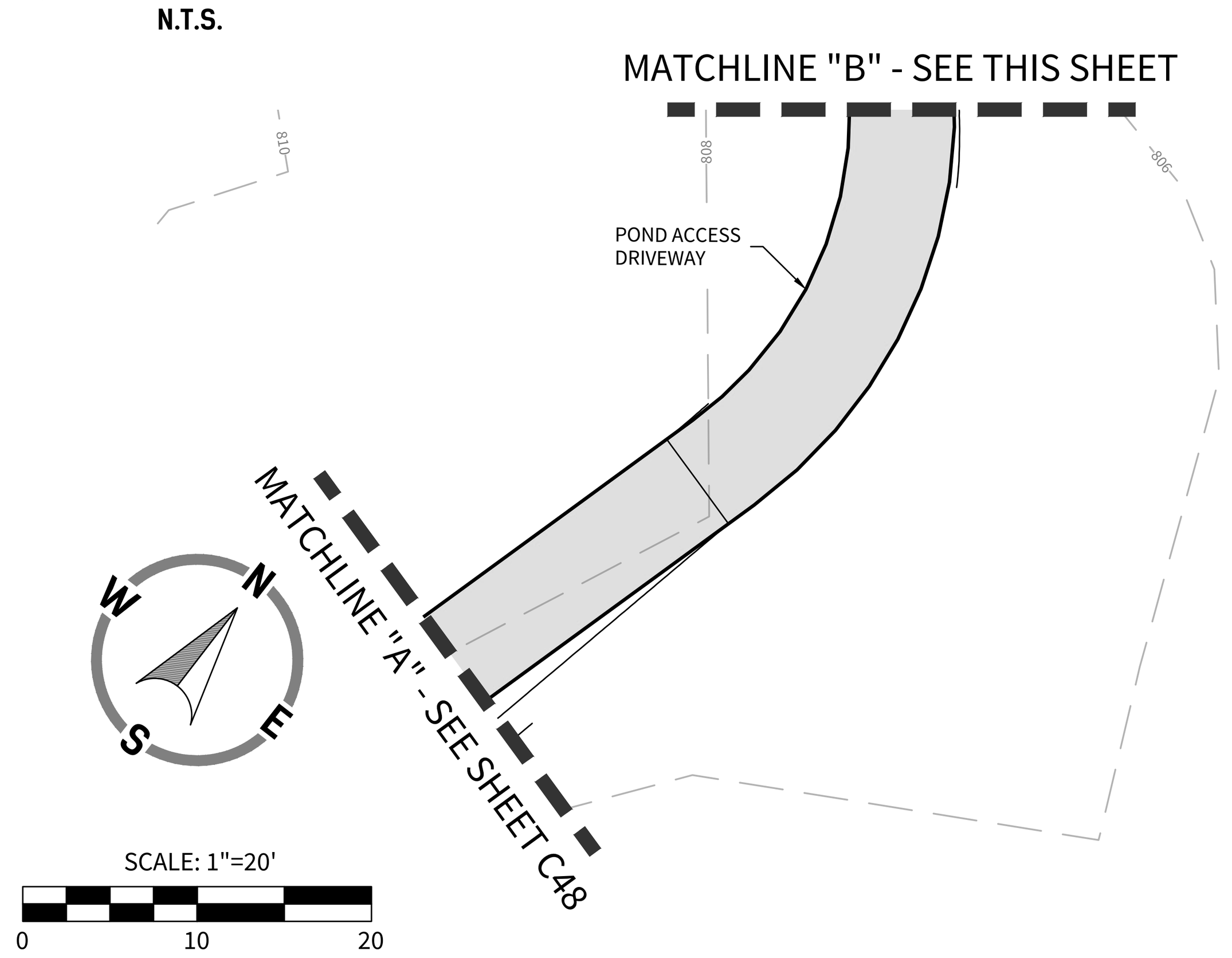
SECTION A–A

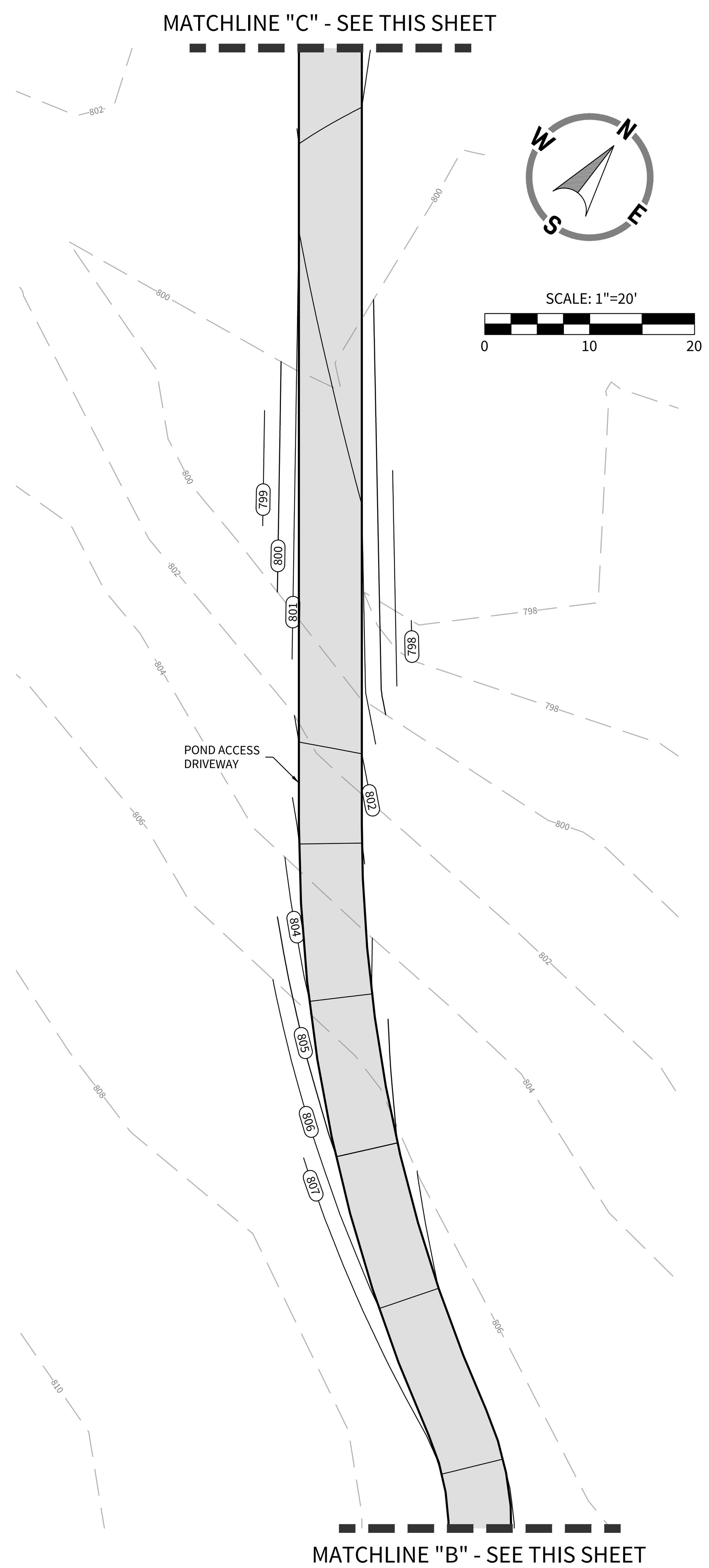
N.T.S.

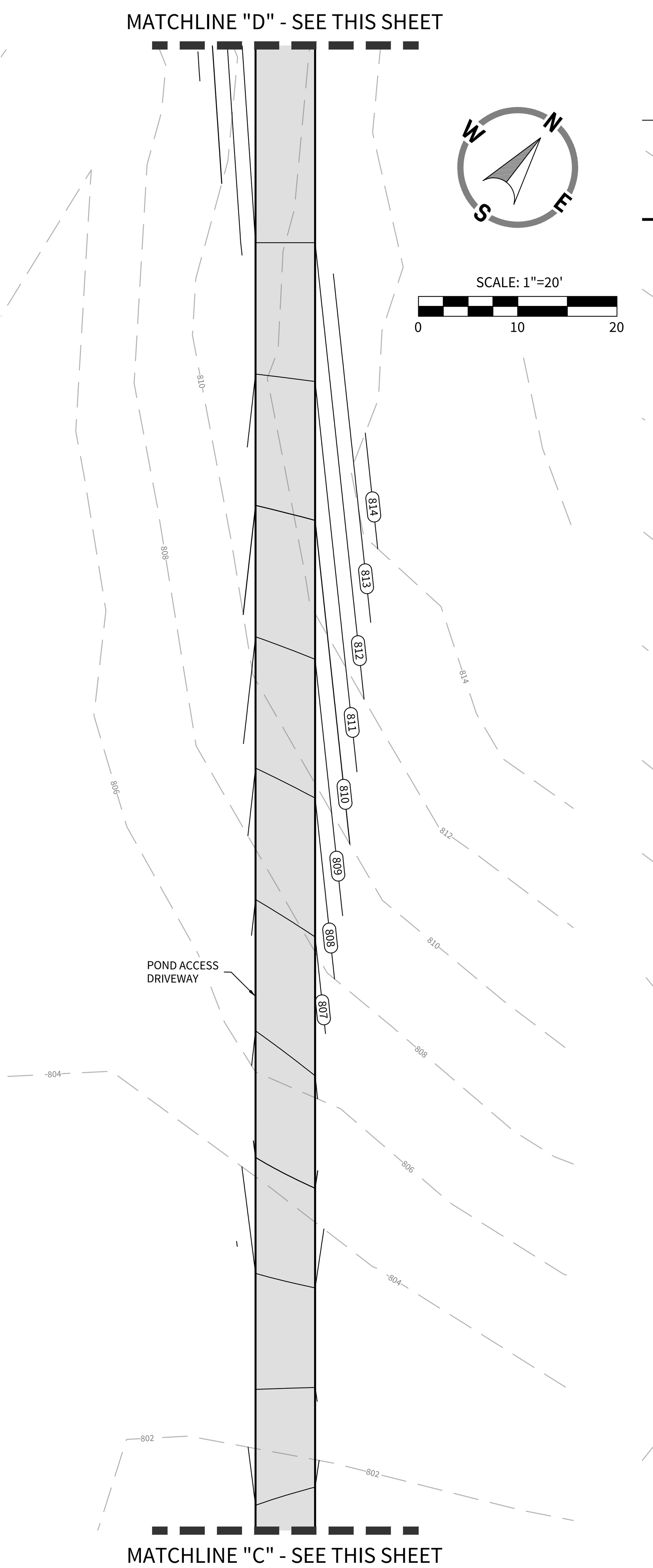


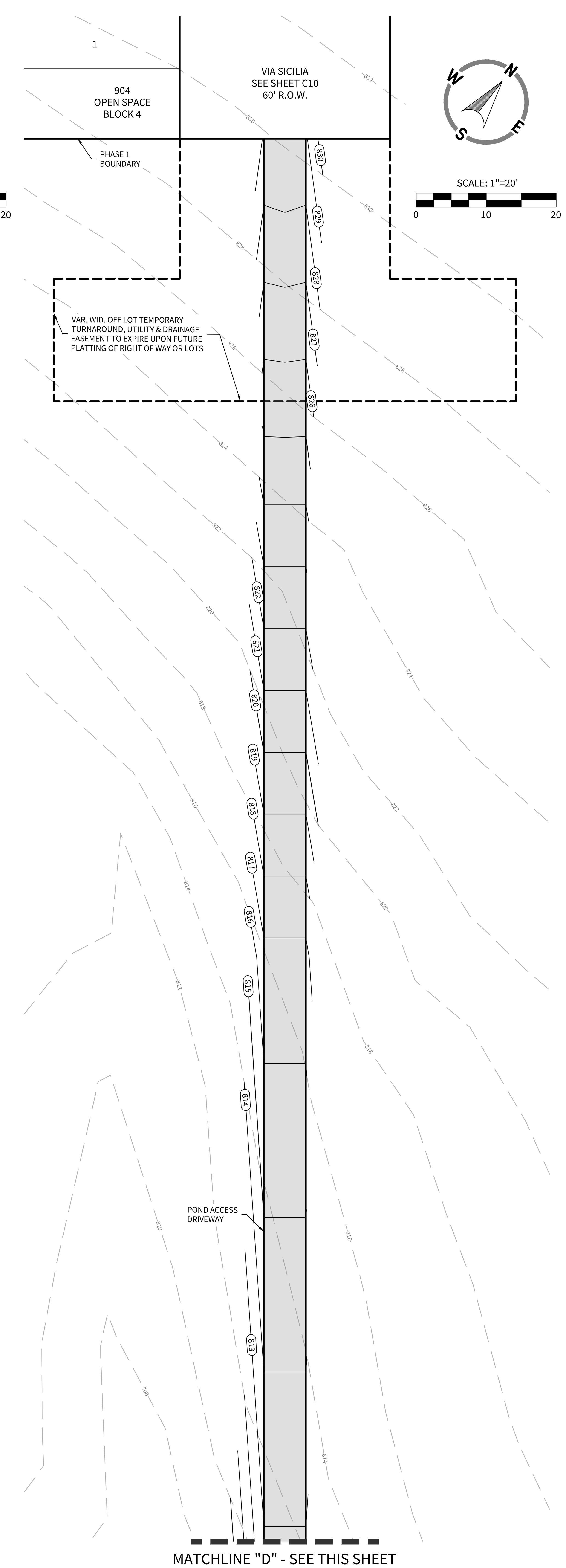
SECTION B–B

N.T.S.







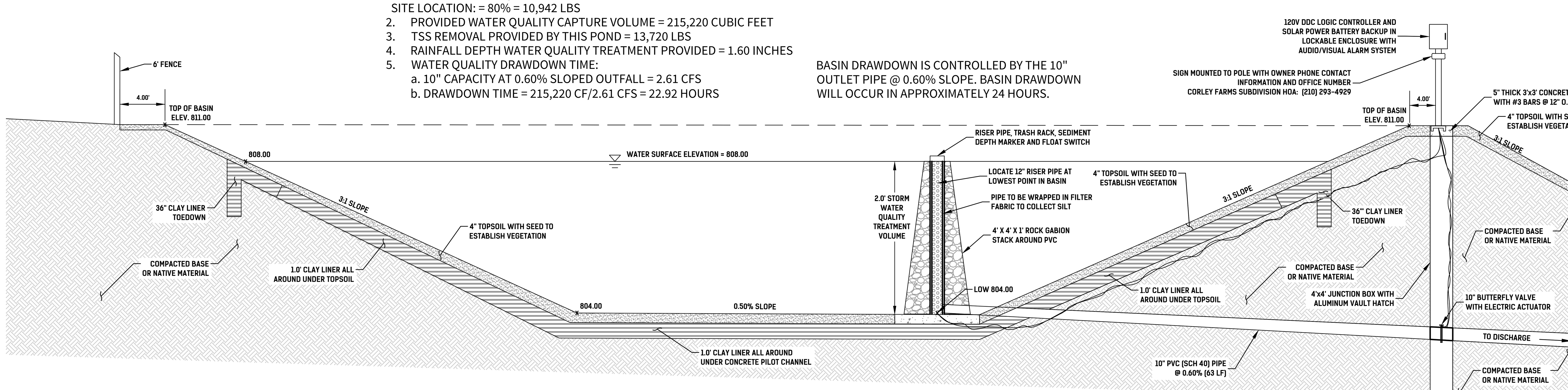


BASIN DESIGN DATA

BASIN WATERSHED: 80.07 Ac. (3,487,843 SF)
DESIGN WATER SURFACE ELEV. = 808.00'
TOP OF CLAY LINER ELEVATION = 804.00'
WATER QUALITY STORAGE DEPTH = 4.00 FEET

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 10,942 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 215,220 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 13,720 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 10" CAPACITY AT 0.60% SLOPED OUTFALL = 2.61 CFS
   b. DRAWDOWN TIME = 215,220 CF/2.61 CFS = 22.92 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 10" OUTLET PIPE @ 0.60% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



SECTION C–C

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CONTESSA SUBDIVISION PHASE I

DETENTION POND '4' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
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REVISIONS

DATE

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ANDREW R. LOWRY
123410
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PROFESSIONAL ENGINEER
03/13/2025

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TBPE No. 455
TBPLS No. 10048500

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LEGEND

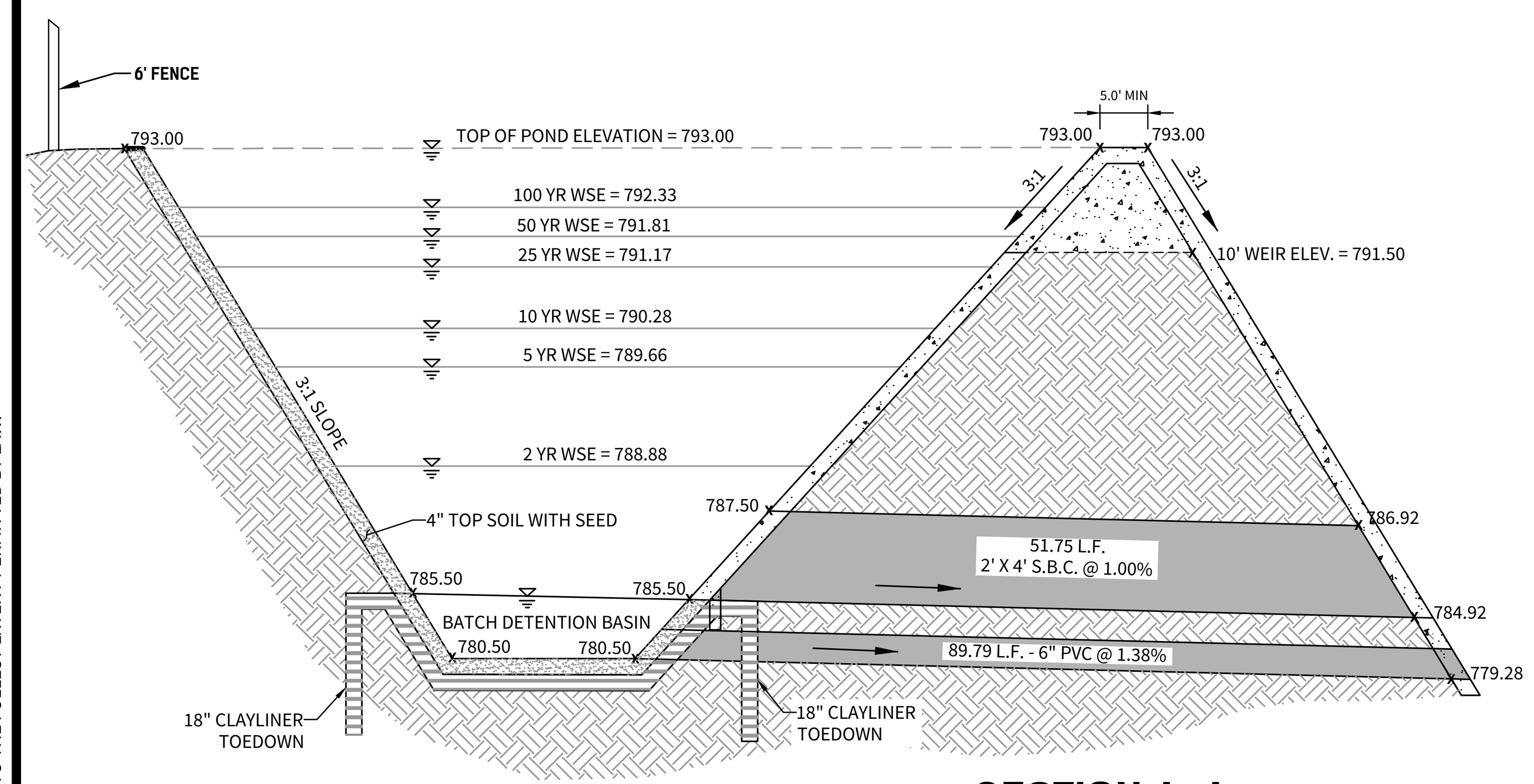
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- 892 PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

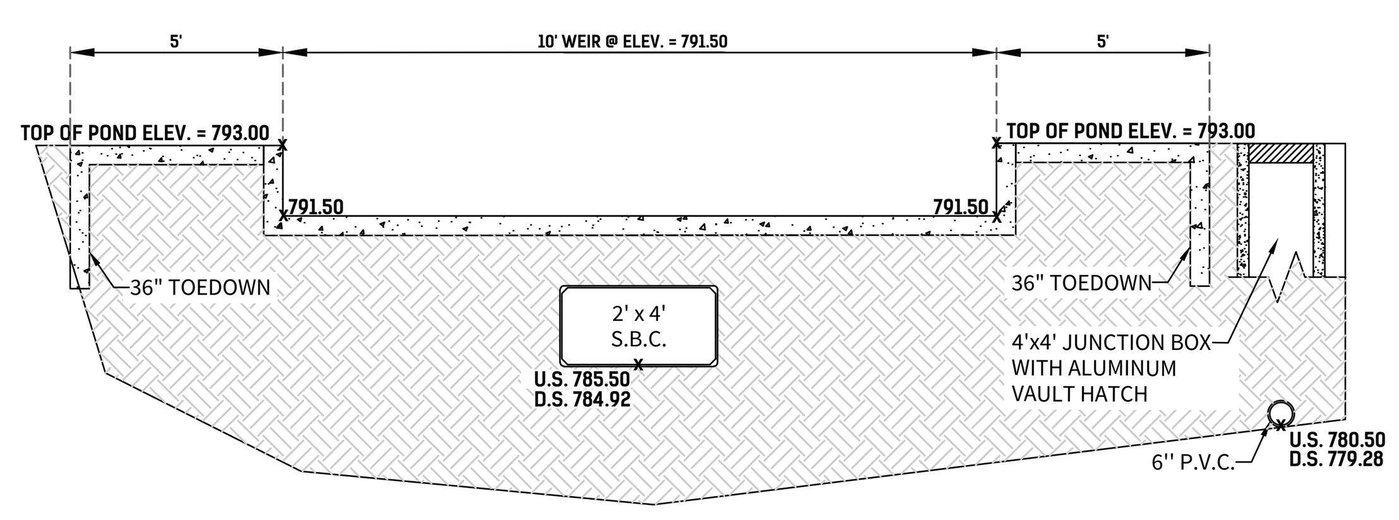
1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 16,211 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 81,569 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 16,340 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 1.38% SLOPED OUTFALL = 1.02 CFS
   b. DRAWDOWN TIME = 81,569 CF / 1.02 CFS = 22.15 HOURS

SEQUENCE OF OPERATION

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



SECTION A–A
N.T.S.



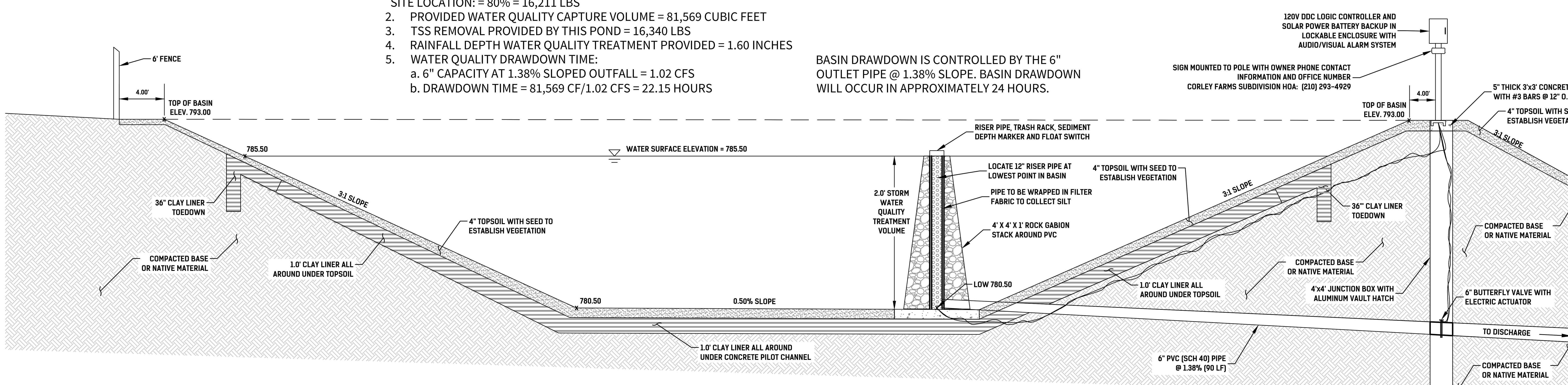
SECTION B–B
N.T.S.

BASIN DESIGN DATA

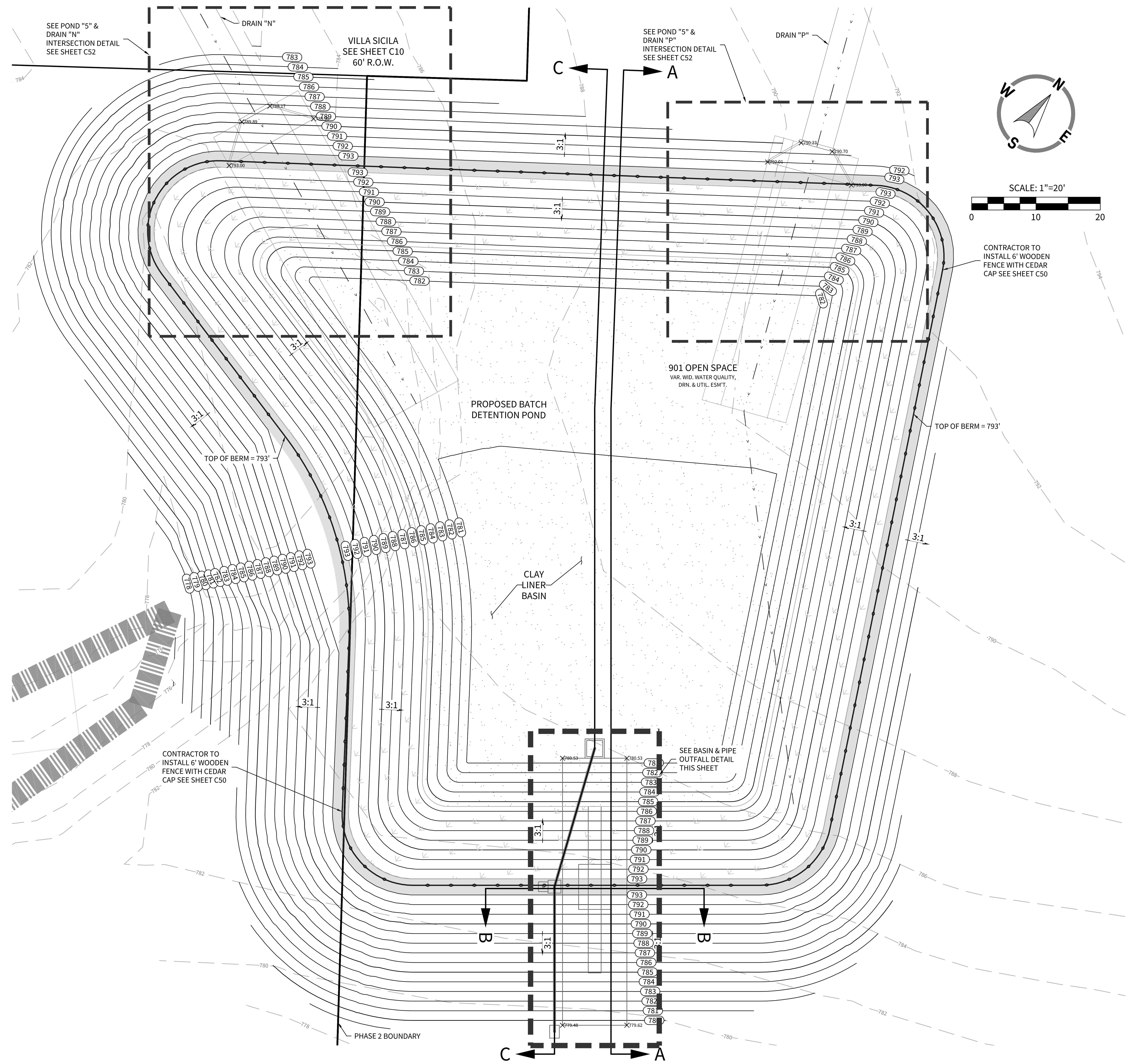
BASIN WATERSHED: 55.51 Ac. (2,287,506 SF)
DESIGN WATER SURFACE ELEV. = 785.50'
TOP OF CLAY LINER ELEVATION = 780.50'
WATER QUALITY STORAGE DEPTH = 5.00 FEET

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 16,211 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 81,569 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 16,340 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 1.38% SLOPED OUTFALL = 1.02 CFS
   b. DRAWDOWN TIME = 81,569 CF/1.02 CFS = 22.15 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 6" OUTLET PIPE @ 1.38% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



SECTION C–C
N.T.S.



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EST. 1980 CUDE ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

CONTESSA SUBDIVISION PHASE II

DETENTION POND '5' PLAN

DATE	03/13/2025
PROJECT NO.	04343.002
DRAWN BY	CG/JG/LJ/TCD
CHECKED BY	XV/AL

REVISIONS
DATE
1. 2. 3. 4. 5. 6. 7. 8. 9.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED PROFESSIONAL ENGINEER
03/13/2025

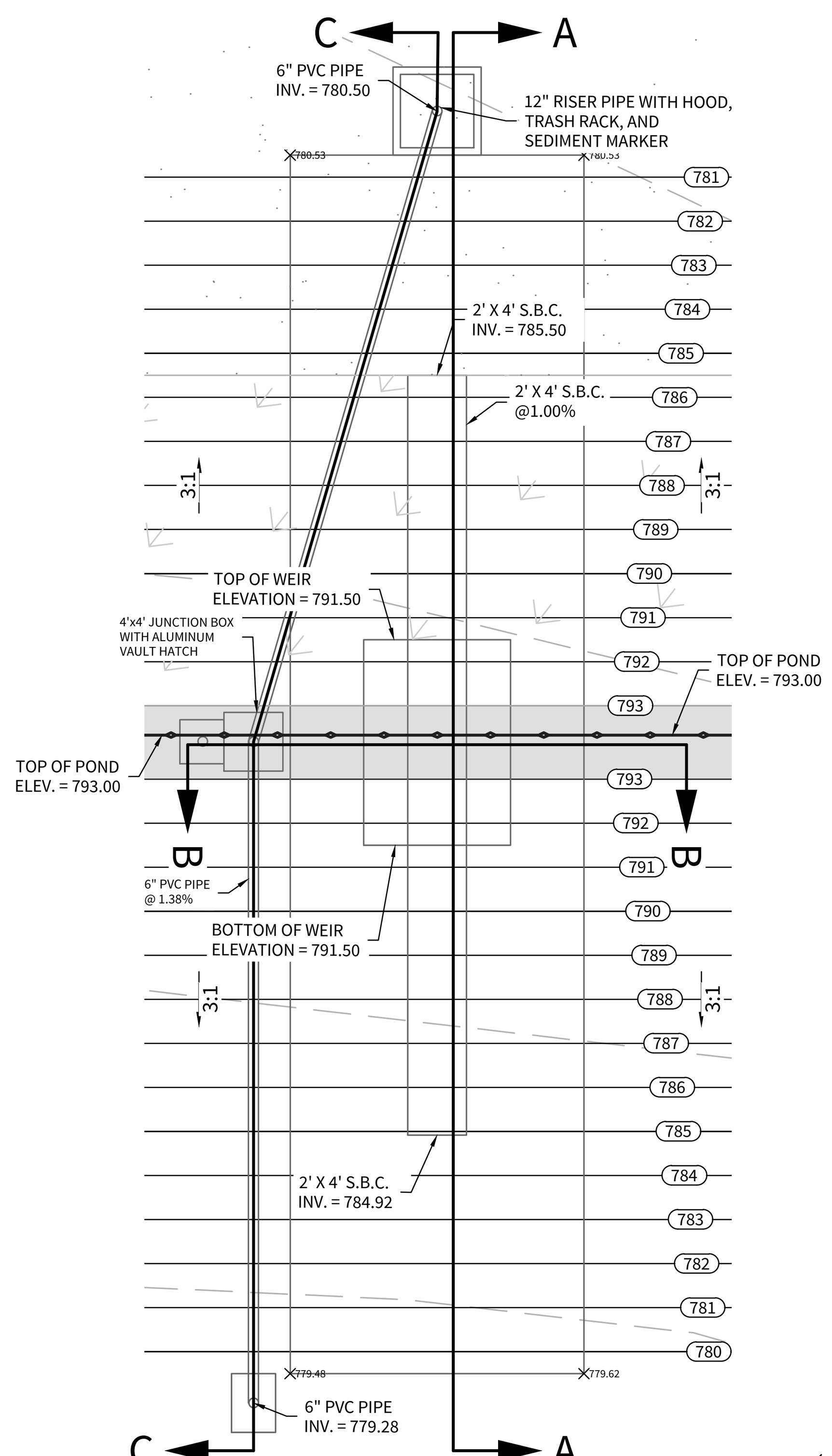
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-11

CUDEENGINEERS.COM

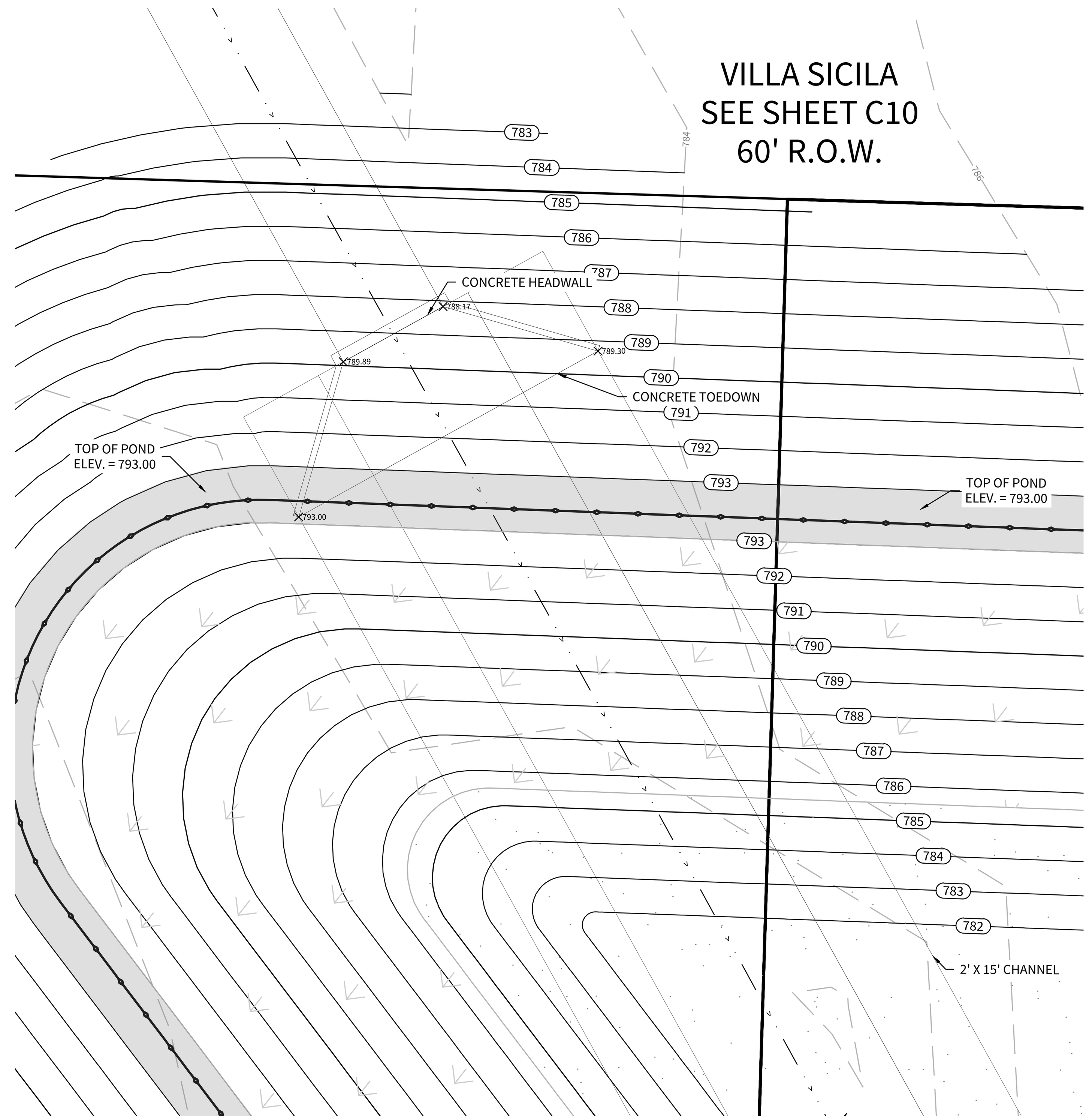
LEGEND

- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- 892 PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER



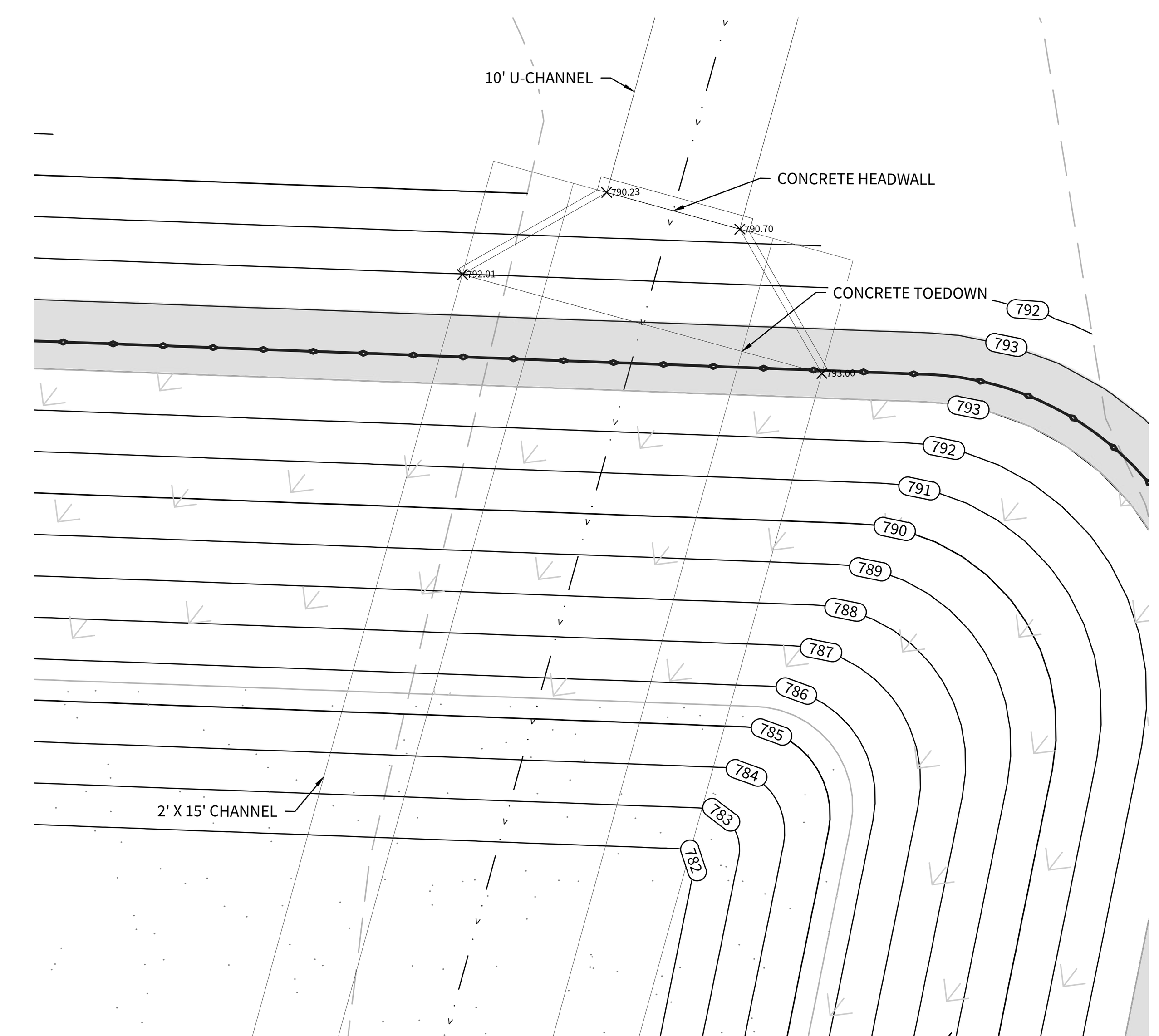
BASIN & PIPE OUTFALL DETAIL

SCALE: 1" = 10'



POND "5" & DRAIN "N" INTERSECTION DETAIL

SCALE: 1" = 10'



POND "5" & DRAIN "P" INTERSECTION DETAIL

SCALE: 1" = 10'

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CONTESSA SUBDIVISION PHASE II

DETENTION POND '5' PLAN

DATE
03/13/2025
PROJECT NO.
04343.002
DRAWN BY
CG/JG/LJ/TCD
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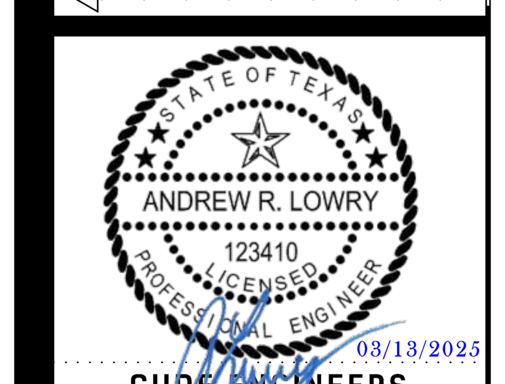
XV/AL

REVISIONS
DATE
1. 2. 3. 4. 5. 6. 7. 8. 9.



CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M -12

LEGEND

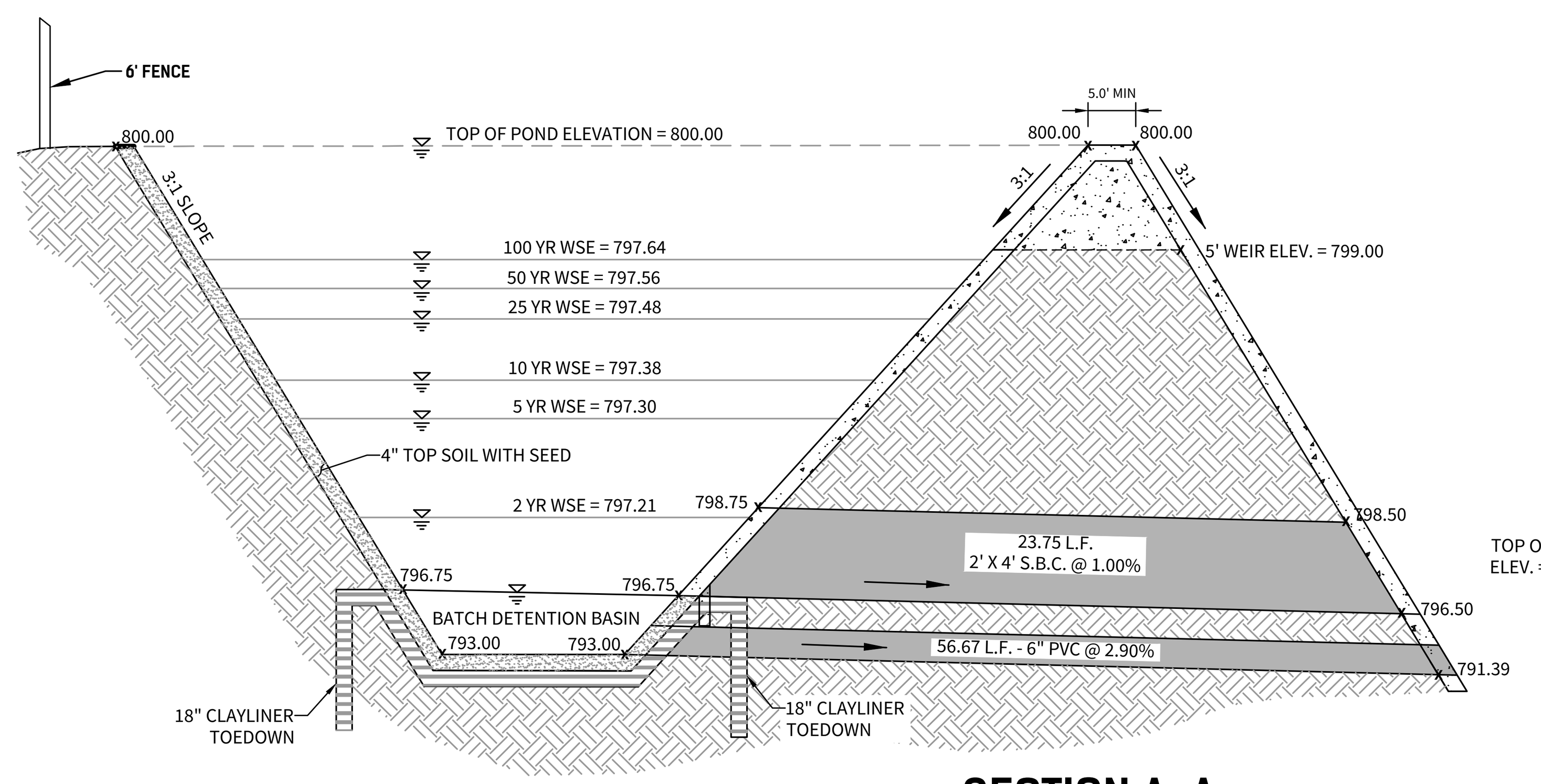
- CONC. RIP RAP
- GABION MATTRESS
- EARTHEN VEGETATION
- (892) PROPOSED CONTOUR
- 890 EXISTING CONTOUR
- 3:1 PROPOSED SLOPE
- DRAINAGE FLOW LINE
- 1% ANNUAL CHANCE FLOODPLAIN
- CLAY LINER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 2,477 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 36,417 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 2,931 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 2.90% SLOPED OUTFALL = 1.48 CFS
   b. DRAWDOWN TIME = 36,417 CF / 1.48 CFS = 6.62 HOURS

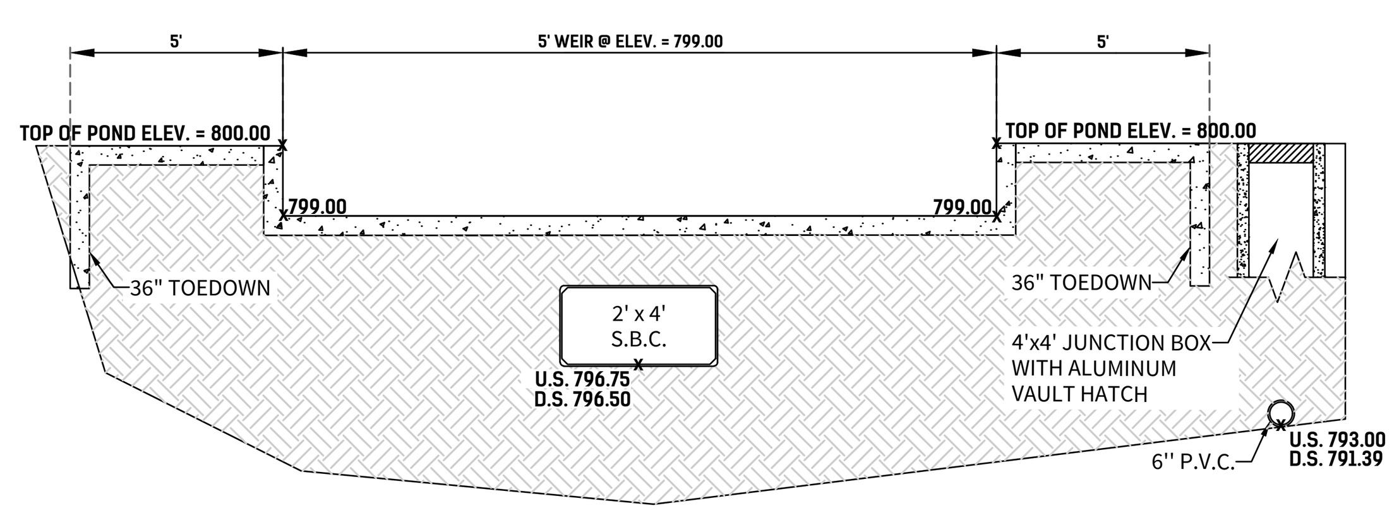
SEQUENCE OF OPERATION

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO STRT DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 24 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6"BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTIVATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



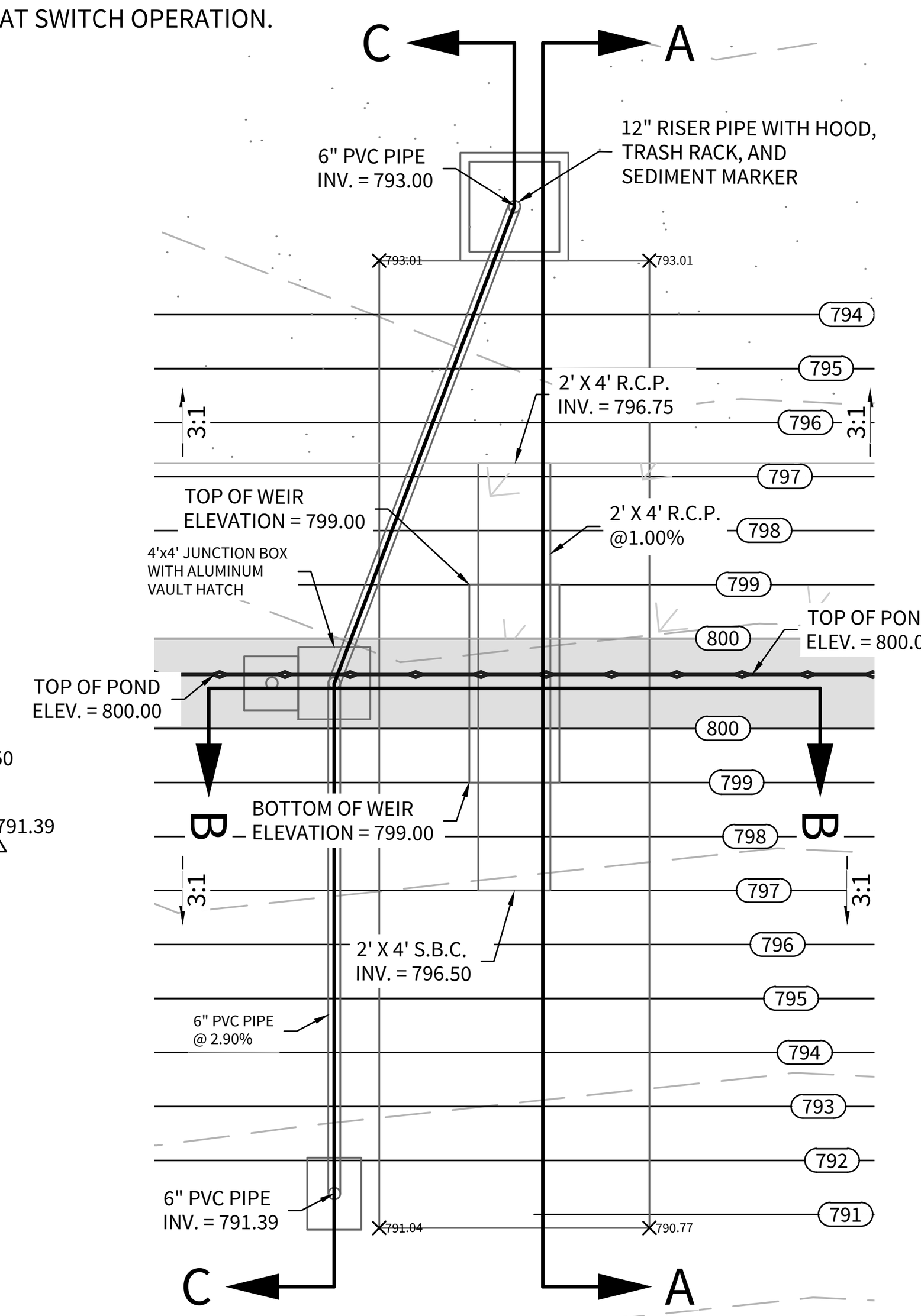
SECTION A–A

N.T.S.



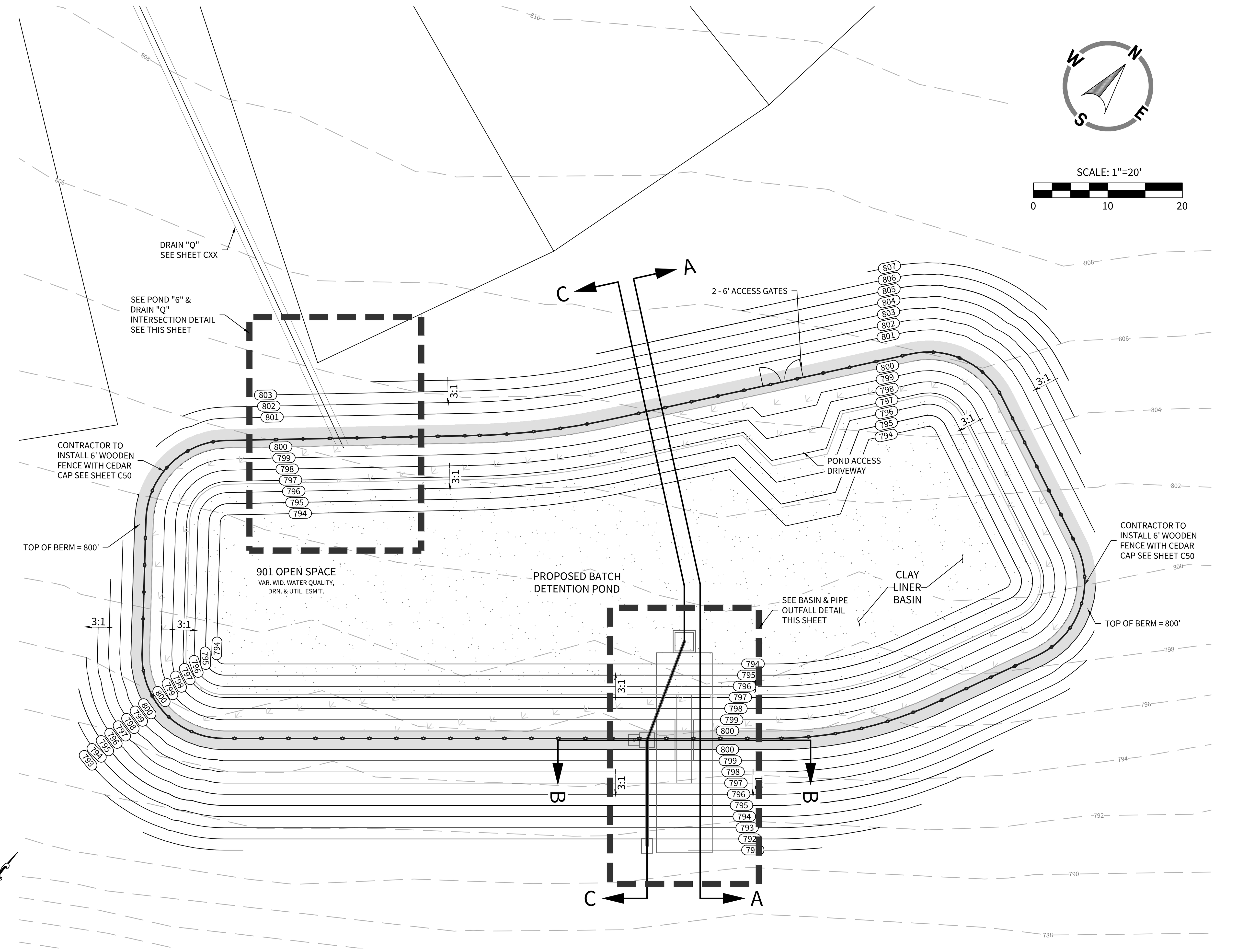
SECTION B–B

N.T.S.



BASIN & PIPE OUTFALL DETAIL

SCALE: 1" = 10'

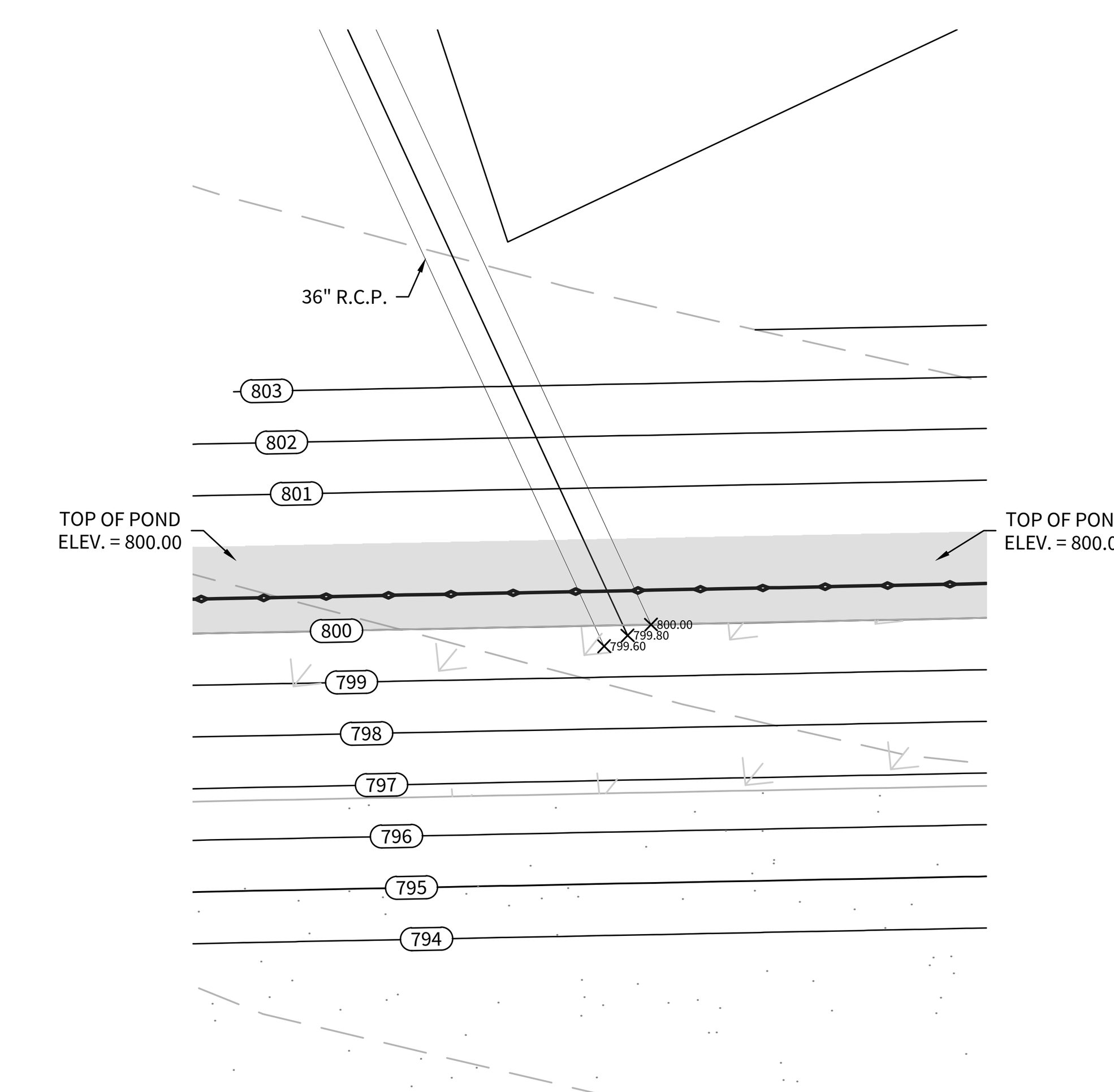


BASIN DESIGN DATA

BASIN WATERSHED: 3.83 Ac. (166,915 SF)
DESIGN WATER SURFACE ELEV. = 796.75'
TOP OF CLAY LINER ELEVATION = 793.00'
WATER QUALITY STORAGE DEPTH = 3.75 FEET

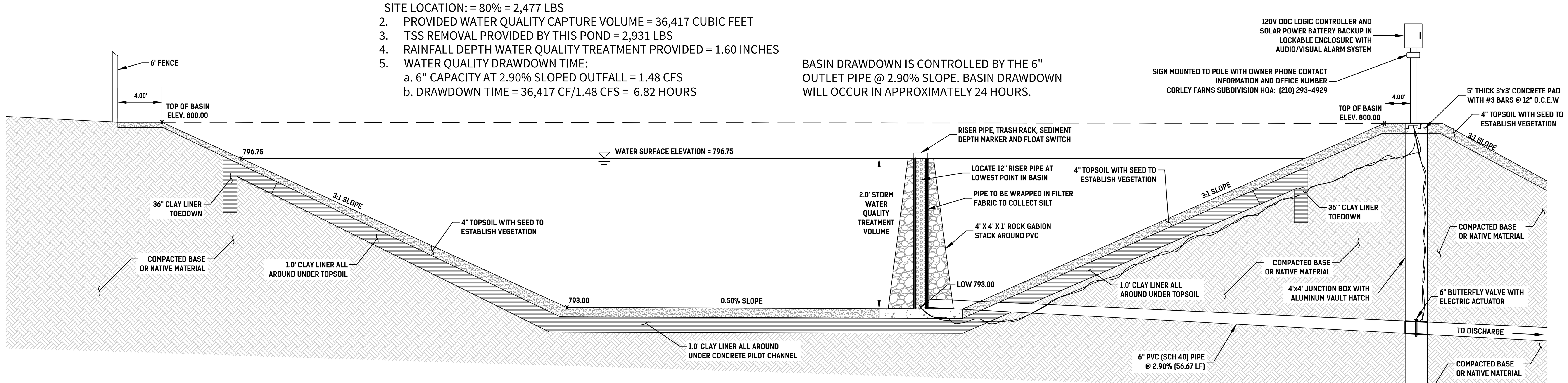
1. TSS REMOVAL REQUIRED BY APPLICABLE ORDINANCE & RG 348 FOR THIS SITE LOCATION: = 80% = 2,477 LBS
2. PROVIDED WATER QUALITY CAPTURE VOLUME = 36,417 CUBIC FEET
3. TSS REMOVAL PROVIDED BY THIS POND = 2,931 LBS
4. RAINFALL DEPTH WATER QUALITY TREATMENT PROVIDED = 1.60 INCHES
5. WATER QUALITY DRAWDOWN TIME:
   a. 6" CAPACITY AT 2.90% SLOPED OUTFALL = 1.48 CFS
   b. DRAWDOWN TIME = 36,417 CF/1.48 CFS = 6.82 HOURS

BASIN DRAWDOWN IS CONTROLLED BY THE 6" OUTLET PIPE @ 2.90% SLOPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.



POND "6" & DRAIN "Q" INTERSECTION DETAIL

SCALE: 1" = 10'



SECTION C–C

N.T.S.

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CONTESSA SUBDIVISION PHASE II

DETENTION POND '6' PLAN

DATE: 03/31/2025
PROJECT NO.: 04343.002
DRAWN BY: CG/JG/LJ/TCD
CHECKED BY: XV/AL

REVISIONS | DATE
1. 2. 3. 4. 5. 6. 7. 8. 9.

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED PROFESSIONAL ENGINEER
03/13/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-13

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GENERAL NOTES:

1. THE DETENTION POND FACILITY SHALL ALSO BE USED AS A TEMPORARY SEDIMENT TRAP FOR THE PURPOSES OF THE TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM CONSTRUCTION PERMIT FOR THIS SITE. THE CONTRACTOR SHALL CLEAN ALL SEDIMENT OUT OF THE DETENTION FACILITY UPON FINAL STABILIZATION OF THE SITE.
2. CONTRACTOR TO HYDROMULCH ENTIRE DISTURBED LIMITS OF EARTHEN PORTION OF POND. 85% OF POND SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF COMAL COUNTY.
3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.
4. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTER STRIPS AND BASIN) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
5. THE CONTRACTOR SHALL NOTIFY A UTILITY LOCATOR AT LEAST 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION ACTIVITY ADJACENT TO THE CONSTRUCTION OF ANY ON-SITE DRAINAGE FACILITIES TO PROTECT ANY UNIDENTIFIED EXISTING UNDERGROUND UTILITY FACILITY FROM DAMAGE OR HARM. THE CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY FOR ANY DAMAGES TO UTILITIES AS A RESULT OF NOT LOCATING UNDERGROUND UTILITY RESOURCES.
6. THE CONTRACTOR SHALL ALERT ENGINEER FOR FIELD OBSERVATION A MIN. OF 24 HOURS PRIOR TO EACH OF THE FOLLOWING EVENTS; DRAIN PIPE INSTALLATION COMPLETION, AND ANY CONCRETE POURS. THE CONTRACTOR SHALL ALSO PROVIDE A MATERIAL SUBMITTAL TO THE ENGINEER FOR REVIEW ON THE FOLLOWING MATERIALS; PERMEABLE GEOTEXTILE FABRIC, CLAY LINER.
7. ANY AREAS EXPOSED TO HIGH VELOCITY FLOWS SHALL EITHER HAVE A 6" THICK ROCK GABION MATTRESS INSTALLED OR THE INSTALLATION OF APPROPRIATE GEOTECHNICAL LINER AS DIRECTED BY THE CONSTRUCTION ENGINEER IN CHARGE.
8. ALL CONCRETE SHALL BE A MINIMUM OF 3500 PSI @ 28 DAYS COMPRESSIVE STRENGTH UNLESS OTHERWISE SPECIFIED HEREIN ON THESE DOCUMENTS.
9. ALL REBAR SPLICES AND LAPS SHALL BE A MINIMUM OF 40 BAR DIAMETERS UNLESS OTHERWISE SPECIFIED.
10. A 6 FOOT HIGH FENCE (WOOD, CHAINLINK, OR OTHER DECORATIVE FENCE AS SPECIFIED BY THE OWNER OR BY RESTRICTIVE COVENANT) SHALL BE INSTALLED AT THE TOP OF THE WATER QUALITY BASIN ALONG ALL SIDES. AT THE LOCATION OF THE 12' WIDE (MIN) MAINTENANCE RAMP, A 12 FOOT WIDE GATE (EITHER BEING A SINGLE GATE OR TWO 6' WIDE GATES) WITH LOCK SHALL BE PROVIDED TO ALLOW ACCESS TO THE WATER QUALITY POND.
11. BASIN DRAWDOWN IS CONTROLLED BY THE PVC PIPE (6" FOR PONDS 1, 2, 5, & 6 AND 10" FOR PONDS 3 & 4). BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 24 HOURS.
12. CONTRACTOR TO SET THE VALVE POSITION TO FULLY OPEN.
13. CLAY SUBGRADE CONDITIONS ONSITE TODAY. DURING CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE GEOTECH ENGINEER OF RECORD AND CIVIL ENGINEER TO DETERMINE IF EXISTING CLAY SUBGRADE IS SUITABLE IN LIEU OF NEW CLAY PLACEMENT.
14. CONTRACTOR IS REQUIRED ELECTRICAL PLANS/SPECIFICATIONS FOR REVIEW BY CIVIL ENGINEER PRIOR TO THE START OF CONSTRUCTION.
15. REFER TO STORMWATER MANAGEMENT PLAN INFORMATION REGARDING DETENTION STAGE AND MITIGATION OF 5 YEAR, 25 YEAR AND 100 YEAR PEAK STORM EVENTS. UPPER LEVEL WEIRS (ABOVE THE DESIGN WATER SURFACE ELEVATION) FOR MITIGATION OF THESE STORM EVENT WILL BE FINALIZED WITH THE CIVIL PLANS.

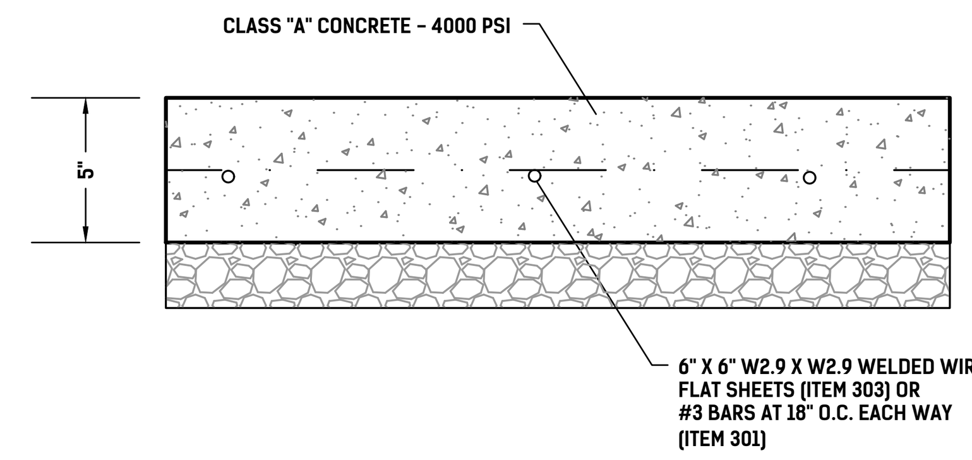
NOTES TO CONTRACTOR

(EACH PHASE OF BASIN CONSTRUCTION)

1. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:
   - REINFORCING STEEL FOR BASIN OVERFLOW WALL HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE AND RISER PIPE IS IN PLACE. CONTRACTOR SHALL PROVIDE ENGINEER WITH SURVEY DATA WHICH DEMONSTRATES THE RISER PIPE HAS BEEN SET AT PROPER ELEVATION AND GRADE.
   - BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD OR SEED PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE)
2. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR APPROVAL.
3. UPON SUBSTANTIAL COMPLETION, OR AS REQUIRED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELDS SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
   - TOP OF BANK/WALL AT EACH CORNER OF BASIN
   - TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
   - OVERFLOW WEIRS
4. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
5. THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS. CONTRACTOR TO SET BUTTERFLY VALVE TO FULLY OPEN TO BE CONTROLLED DDC CONTROLLER.
6. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

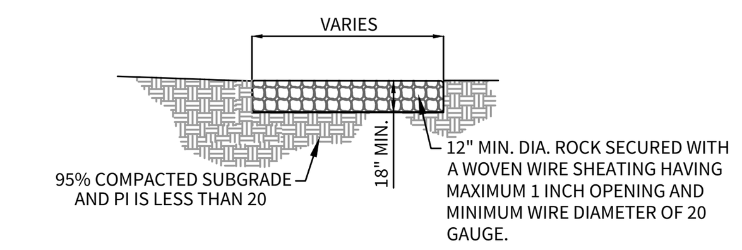
CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	NOTES
PERMEABILITY	ASTM D-2434	0.000001 CM/SEC
PLASTICITY INDEX	ASTM D-423 & D424	NOT LESS THAN 15%
LIQUID LIMIT OF CLAY	ASTM D-2216	NOT LESS THAN 30%
CLAY PARTICLE PASSING	ASTM D-422	NOT LESS THAN 30%
CLAY COMPACTION	ASTM D-2216	95% OF STANDARD PROCTOR DENSITY



CONCRETE RIP-RAP DETAIL

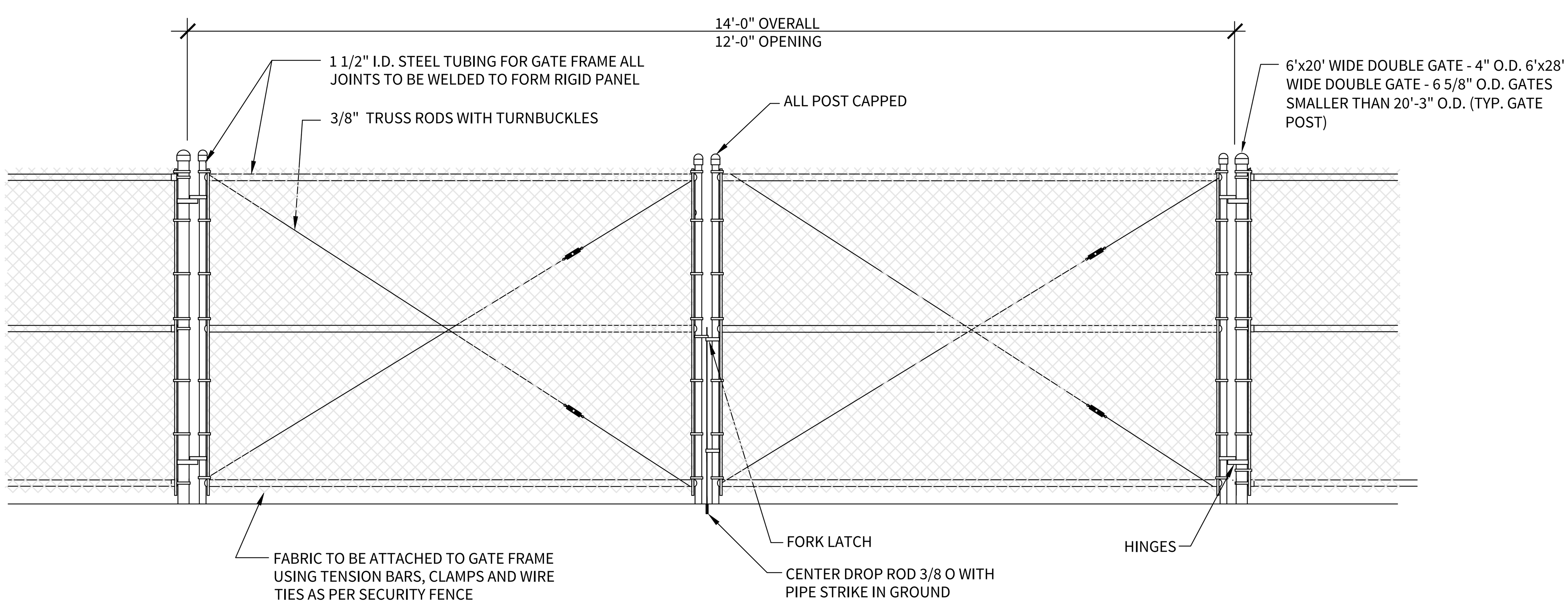
N.T.S.



GABION STYLE ROCK EROSION CONTROL MATRESS DETAIL

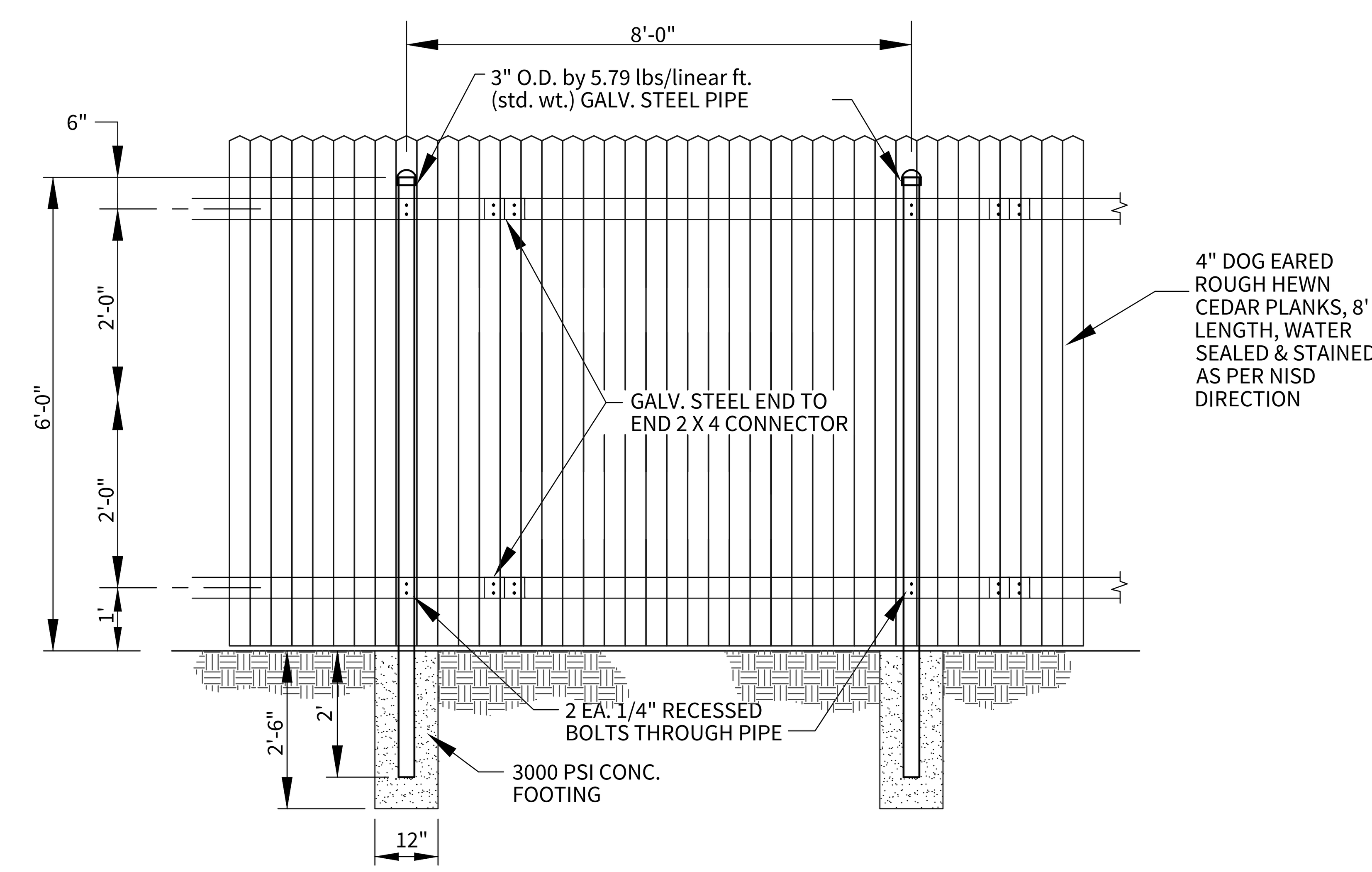
NOTE: GABION MATTRESS TO BE FREE OF GEO-TEXTILE FABRIC LINING AT DETENTION POND OUTFALL.

(N.T.S.)



CHAIN LINK FENCE GATE DETAIL

NTS



WOODEN PRIVACY FENCE DETAIL

N.T.S.

NOTE: THE OWNER SHALL SPECIFY THE USE OF EITHER A CHAINLINK FENCE OR A WOODEN PRIVACY FENCE. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO INSTALLATION AND CONSTRUCTION.

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San Antonio, Texas 78231
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CONTESSA SUBDIVISION

DETENTION POND DETAILS

DATE
03/13/2025

PROJECT NO.
04343.002

DRAWN BY
CG/JG/LJ/TCD

CHECKED BY
XV/AL

REVISIONS

DATE

STATE OF TEXAS
ANDREW R. LOWRY
123410
LICENSED
PROFESSIONAL ENGINEER
03/13/2025

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

M-14

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ATTACHMENT H – PILOT SCALE FIELD TESTING PLAN

Not applicable to this project.

ATTACHMENT I – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Silt fence has been specified downstream of the areas of proposed soil disturbance to provide pollution abatement of onsite flows. Bagged gravel filters will be utilized to minimize contamination entering storm drainage facilities. Rock berms will be implemented to abate sediment contamination for drainage facilities exiting the site. Temporary BMPs will be maintained and kept onsite until re-growth of the natural vegetation occurs to provide the required soil stabilization in the event any areas are more than minimally disturbed. If required, appropriate seeding measures will be employed.

CORE DATA SECTION

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 603298068		**RN**

SECTION II: Customer Information

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

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

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

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

Meritage Himes of Texas, L.L.C.

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0800832535	32033186605	651308131	

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

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

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	2722 W BITTERS ROAD						
	SUITE 200						
	City	SAN ANTONIO	**State**	TX	**ZIP**	78248	**ZIP + 4**

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210) 402-6045		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

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

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core 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.)*

CONTESSA TRACT

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

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	Southeast corner of the Montanio Dr. and Schoenthal Rd. N intersection.				
26. Nearest City			**State**	**Nearest ZIP Code**	
City of San Antonio			Tx	78132	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.673689		**28. Longitude (W) In Decimal:**	98.285894	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	40	25.28	98	17	9.22

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

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

Infrastructure and Home Builders

34. Mailing Address:	**2722 W. Bitters Rd.**						
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78231**	**ZIP + 4**
35. E-Mail Address:							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(210) 402-6045		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

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

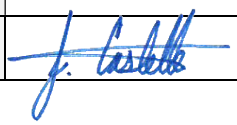
SECTION IV: Preparer Information

40. Name:	Javier Castello, PE	**41. Title:**	Associate

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210 **)** 681-2951		**( ) -**	jcastello@cudeengineers.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:	Cude Engineers	**Job Title:**	Associate	
Name *(In Print):*	Javier Castello, PE		**Phone:**	**(** 210 **)** 681- **2951**
Signature:			**Date:**	04/21/2025

AGENT AUTHORIZATIONS, FORMS & FEES

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Contessa Tract
Regulated Entity Location: Comal County
Name of Customer: Meritage Homes of Texas, L.L.C.
Contact Person: Brian Otto Phone: (210)-402-6045
Customer Reference Number (if issued):CN 603298068
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☒ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	249.74 Acres	$ 8,000
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: DocuSigned by: Brian Otto 7996911FEC05404... Date: _____

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

Owner Authorization Form

Edwards Aquifer Protection Program

Instructions

Complete the following form by adding the requested information in the fields below. The form must be notarized for it to be considered complete. Attach it to other programmatic submittals required by 30 Texas Administrative Code (30 TAC), Chapter 213, and provide it to TCEQ's Edwards Aquifer Protection Program (EAPP) as part of your application.

If you have questions on how to fill out this form or about EAPP, please contact us by phone at 512-339-2929 or by e-mail at eapp@tceq.texas.gov.

Landowner Authorization

I, JOHN R. WEISMAN of Flying W Properties LTD

am the owner of the property located at:

southeast of the intersection of Montanio Dr and Schoenthal Rd N

and am duly authorized in accordance with 30 TAC 213.4(c)(2) and 213.4(d)(1), or 30 TAC 213.23(c)(2) and 213.23(d), relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize Meritage Homes
To conduct water pollution abatement application submittals
At Contessa Tract

Landowner Acknowledgement

I understand that Flying W Properties LTD

Is ultimately responsible for the compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation and subject to administrative rule or orders and penalties as provided under 30 TAC 213.10, relating to enforcement. Such violations may also be subject to civil penalties.

Landowner Signature

Landowner Signature

Date APRIL 2, 2025

THE STATE § OF Texas

County § of Hays

BEFORE ME, the undersigned authority, on this day personally appeared

John R. Weisman

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 2nd day of April 2025

NOTARY PUBLIC

JENNIFER GARZA
Notary Public
STATE OF TEXAS
ID# 125923919
My Comm. Exp. Feb. 13, 2028

MY COMMISSION EXPIRES: February 13, 2028

Optional Attachments

Select All that apply:

☐ Lease Agreement

☐ Signed Contract

☐ Deed Restricted Easement

☐ Other legally binding documents

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

I Brian Otto,
Print Name

Vice President of Land Acquisition and Development,
Title - Owner/President/Other

of Meritage Homes,
Corporation/Partnership/Entity Name

have authorized Javier Castello
Print Name of Agent/Engineer

of Cude Engineers
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:

DocuSigned by:
Brian Otto
Applicant's Signature 5404...

3/13/2025
Date

THE STATE OF TX §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Brian Otto 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 13 day of March, 2025.

KENIA EILEEN MARTINEZ
Notary Public, State of Texas
Comm. Expires 10-25-2025
Notary ID 131328847

NOTARY PUBLIC

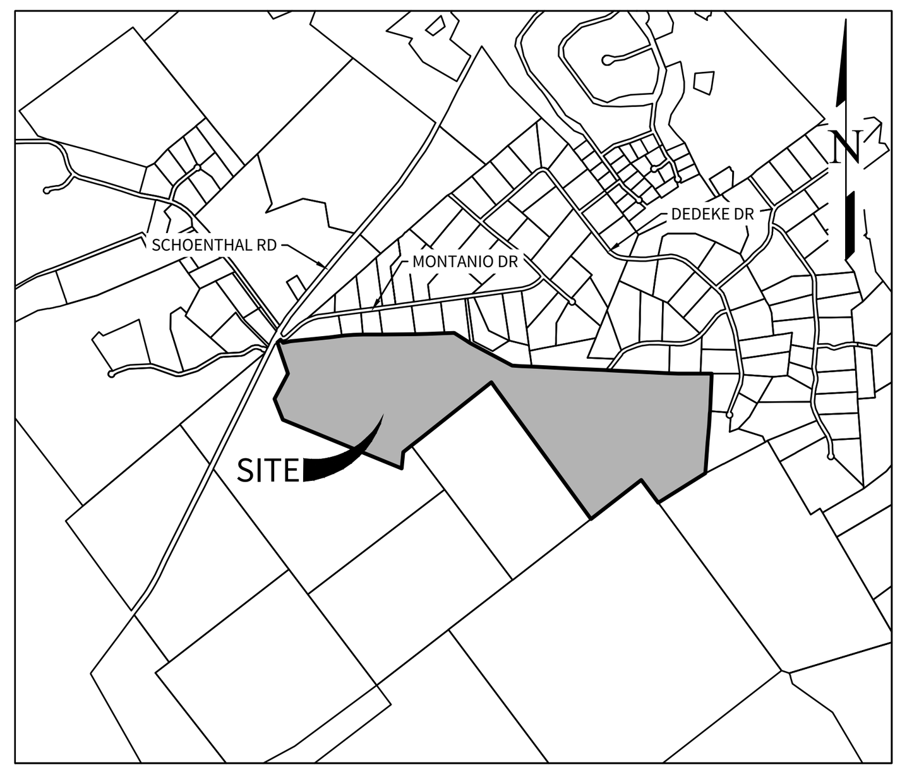
Kenia Eileen Martinez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10/25/2025

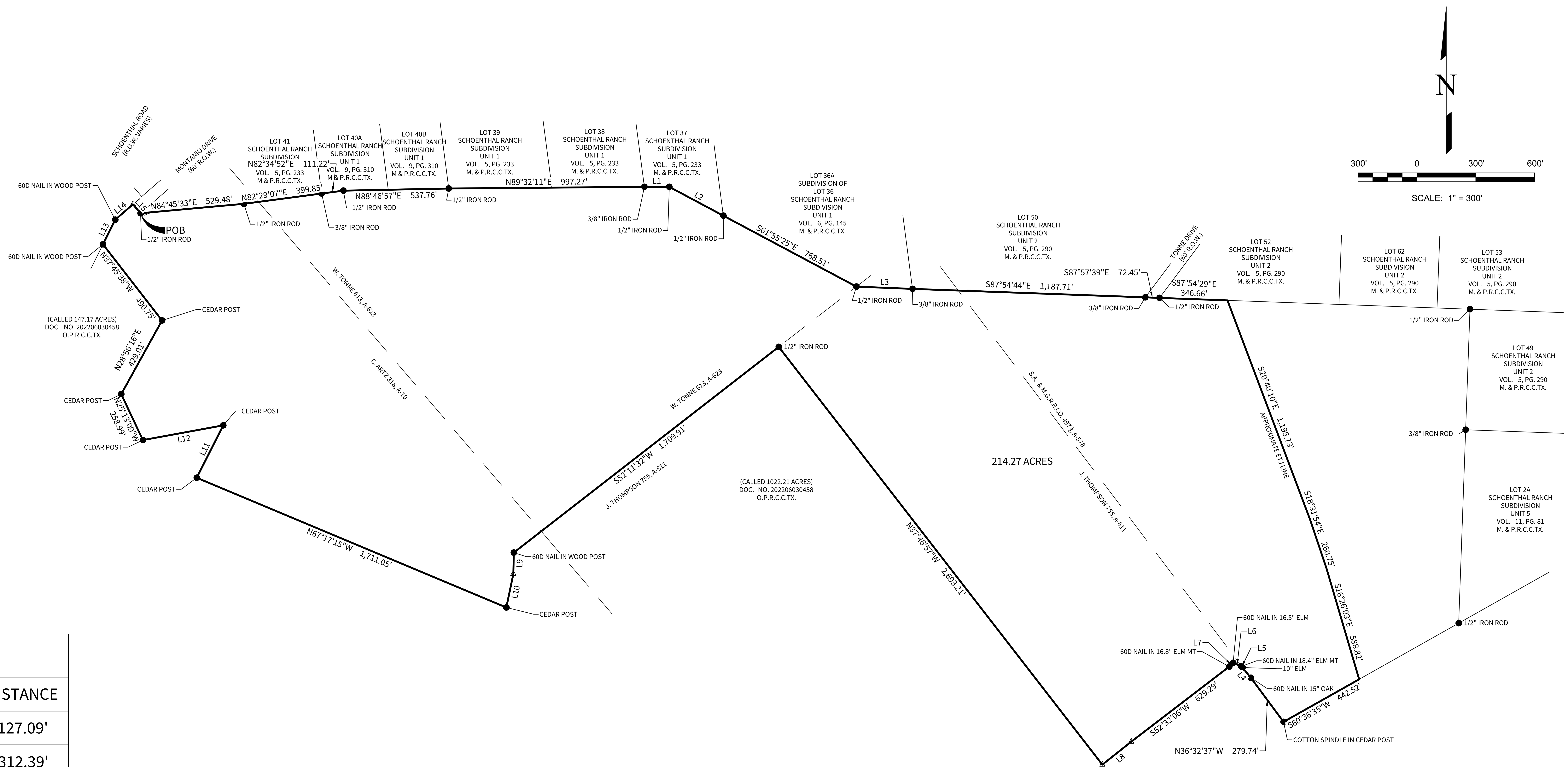
PROPERTY DEEDS & SURVEY

CONTESSA TRACT

CUDE ENGINEERS
4122 POND HILL ROAD, STE 101
SAN ANTONIO, TEXAS 78231
PHONE: (210) 681-2951
CUDEENGINEERS.COM
TBPE NO. 455
TBPLS NO. 10048500



LOCATION MAP
NOT TO SCALE



LINE TABLE		
LINE NO.	BEARING	DISTANCE
L1	N89°51'27"E	127.09'
L2	S61°54'35"E	312.39'
L3	S87°45'40"E	286.41'
L4	N39°28'49"W	67.80'
L5	N50°04'42"W	8.26'
L6	N65°23'22"W	44.87'
L7	S45°52'29"W	27.93'
L8	S51°37'33"W	187.98'
L9	S01°05'08"W	107.95'
L10	S11°51'38"W	175.20'
L11	N26°51'00"E	299.52'
L12	S79°36'00"W	416.38'
L13	N26°27'43"E	140.16'
L14	N48°55'24"E	118.99'
L15	S40°31'52"E	60.00'

LEGEND

POB = POINT OF BEGINNING
OPR = OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS
MPR = MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS
VOL = VOLUME
PG = PAGE
DOC = DOCUMENT
△ = CALCULATED POINT
● = FOUND AS NOTED

NOTES:

1. BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NAD 83 (2011), ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES USING A COMBINED SCALE FACTOR OF 1.00013.
2. SETBACKS OR EASEMENTS PER RESTRICTIONS OR ZONING MAY EXIST.
3. THE FIELD WORK WAS COMPLETED ON APRIL 10, 2024

STATE OF TEXAS
REGISTERED
CHRIS WALTERSCHEIDT
6180
PROFESSIONAL
LAND SURVEYOR

Chris Walterscheidt

CUDEENGINEERS.COM
EST. 1980 CUDE ENGINEERS
4122 POND HILL RD. • SUITE 101
SAN ANTONIO, TEXAS 78231
T:210.681.2951 • F:210.523.7112
WWW.CUDEENGINEERS.COM
TBPELS FIRM #10048500 • TBPE FIRM #455

EXHIBIT OF

214.27 ACRES OF LAND LOCATED IN THE C. ARTIZ SURVEY NO. 318, A-10, W. TONNE SURVEY NO. 613, A-623, J. THOMPSON SURVEY NO. 755, A-611 AND THE S.A. & M.G.R.R. CO. SURVEY 497 ½, A-578, COMAL COUNTY, TEXAS AND BEING OUT OF A CALLED 249.7 ACRES OF LAND AS DESCRIBED IN DOCUMENT 201706004645, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS

DATE	10-07-2024
PROJECT NO.	04343.000
DRAWN BY	JS
CHECKED BY	CW

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

V-1

LEGAL DESCRIPTION
214.27 ACRES OF LAND

214.27 ACRES OF LAND LOCATED IN THE C. ARTIZ SURVEY NO. 318, A-10, W. TONNE SURVEY NO. 613, A-623, J. THOMPSON SURVEY NO. 755, A-611 AND THE S.A. & M.G.R.R. CO.. SURVEY 497 ½, A-578, COMAL COUNTY, TEXAS AND BEING OUT OF A CALLED 249.7 ACRES OF LAND AS DESCRIBED IN DOCUMENT 201706004645, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS; SAID 214.27 ACRES BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING, AT A 1/2 INCH IRON ROD FOUND AT THE INTERSECTION OF THE SOUTHEAST RIGHT-OF-WAY LINE OF MONTANIO DRIVE (60' R.O.W.) AND THE SOUTHEAST RIGHT-OF-WAY LINE OF SCHOENTHAL ROAD (R.O.W. VARIES), FOR THE WEST CORNER OF LOT 41, SCHOENTHAL SUBDIVISION UNIT 1, RECORDED IN VOLUME 5, PAGE 233, MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS AND FOR AN INTERIOR CORNER ALONG THE NORTH LINE OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE OF SAID LOT 41 THE FOLLOWING TWO (2) COURSES:

1) N 84°45'33" E, A DISTANCE OF 592.48 FEET TO A 1/2 INCH IRON ROD FOUND,
2) N 82°29'07" E, A DISTANCE OF 399.85 FEET TO A 3/8 INCH IRON ROD FOUND FOR THE SOUTHWEST CORNER OF LOT 40A, SCHOENTHAL RANCH SUBDIVISION UNIT 1 - REPLAT, AS RECORDED IN VOLUME 9, PAGE 31O, MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS, FOR THE SOUTHEAST CORNER OF SAID LOT 41 AND FOR A CORNER ON THE NORTH LINE OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE OF SAID SCHOENTHAL RANCH SUBDIVISION UNIT 1 – REPLAT THE FOLLOWING TWO (2) COURSES:

1) N 82°34'52" E, A DISTANCE OF 111.22 FEET TO A 1/2 INCH IRON FOUND,
2) N 88°46'57" E, A DISTANCE OF 537.76 FEET TO A 1/2 INCH IRON ROD FOUND FOR THE SOUTHWEST CORNER OF LOT 39 OF SAID SCHOENTHAL RANCH SUBDIVISION, FOR THE SOUTHEAST CORNER OF LOT 40B OF SAID SCHOENTHAL RANCH SUBDIVISION UNIT 1 – REPLAT AND FOR A CORNER ON THE NORTH LINE OF THE HERIEN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE OF SAID SCHOENTHAL RANCH SUBDIVISION UNIT 1 THE FOLLOWING THREE (3) COURSES:

1) N 89°32'11" E, A DISTANCE OF 997.27 FEET TO A 3/8 INCH IRON FOUND,
2) N 89°51'27" E, A DISTANCE OF 127.09 FEET TO A 1/2 INCH IRON FOUND,
3) S 61°54'35" E, A DISTANCE OF 312.39 FEET TO A 1/2 INCH IRON FOUND FOR THE WEST CORNER OF LOT 36A, SUBDIVISION OF LOT 36, SCHOENTHAL RANCH SUBDIVISION UNIT 1, RECORDED IN VOLUME 6, PAGE 145, MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS, FOR THE SOUTHEAST CORNER OF LOT 37 OF SAID SCHOENTHAL RANCH SUBDIVISION UNIT 1 AND FOR A CORNER IN THE NORTH LINE OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE OF SAID SUBDIVISION OF LOT 36 SCHOENTHAL RANCH SUBDIVISION UNIT 1 THE FOLLOWING TWO (2) COURSES:

1) S 61°55'25" E, A DISTANCE OF 768.51 FEET TO A 1/2 INCH IRON FOUND,
2) S 87°45'40" E, A DISTANCE OF 286.41 FEET TO A 3/8 INCH IRON FOUND FOR THE SOUTHWEST CORNER OF LOT 50, SCHOENTHAL SUBDIVISION UNIT 2, RECORDED IN VOLUME 5, PAGE 290, MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS, FOR THE SOUTHEAST CORNER OF SAID LOT 36A AND FOR A CORNER IN THE NORTH LINE OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE AND WEST LINE OF SAID SCHOENTHAL RANCH SUBDIVISION UNIT 2 THE FOLLOWING FOUR (4) COURSES:

1) S 87°54'44" E, A DISTANCE OF 1,187.71 FEET TO A 3/8 INCH IRON FOUND,
2) S 87°57'39" E, A DISTANCE OF 72.45 FEET TO A 1/2 INCH IRON FOUND,
3) S 87°54'29" E, A DISTANCE OF 346.66 FEET TO A POINT FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, ENTERING INTO AND SEVERING SAID 249.7 ACRE TRACT THE FOLLOWING THREE (3) COURSES:

1) S 20°40'10" E, A DISTANCE OF 1,195.73 FEET TO A POINT,
2) S 18°31'54" E, A DISTANCE OF 260.75 FEET TO A POINT,
3) S 16°26'03" E, A DISTANCE OF 588.82 FEET TO A POINT IN THE NORTH LINE OF A CALLED 1,022.21 ACRE TRACT DESCRIBED IN DOCUMENT NO. 202206030458, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS AND FOR THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE NORTH LINE OF SAID 1,022.21 ACRE TRACT THE FOLLOWING TEN (10) COURSES:

1) S 60°36'35" W, A DISTANCE OF 442.52 FEET TO A COTTON SPINDLE FOUND IN CEDAR FENCE POST,
2) N 36°32'37" W, A DISTANCE OF 279.74 FEET TO A 60D NAIL FOUND IN A 15 INCH OAK TREE,
3) N 39°28'49" W, A DISTANCE OF 67.80 FEET TO A 60D NAIL FOUND IN 9 INCH ELM TREE,
4) N 50°04'42" W, A DISTANCE OF 8.26 FEET TO A 60D NAIL FOUND IN 18.4 INCH MULTITRUNK ELM TREE
5) S 65°23'22" W, A DISTANCE OF 44.87 FEET TO A 60D NAIL FOUND IN 16.5 INCH OAK TREE,
6) S 45°52'29" W, A DISTANCE OF 27.93 FEET TO A 60D NAIL IN 16.8 INCH MULTITRUNK ELM TREE,
7) S 52°32'06" W, A DISTANCE OF 629.29 FEET TO A 1/2 INCH IRON ROD SET WIITH “CUDE” CAP,
8) S 51°37'33" W, A DISTANCE OF 187.98 FEET TO A 1/2 INCH IRON ROD SET WIITH “CUDE” CAP,
9) N 37°46'57" W, A DISTANCE OF 2,693.21 FEET TO A 1/2 INCH IRON ROD FOUND,
10) S 52°11'32" W, A DISTANCE OF 1,709.91 FEET TO A 60D NAIL FOUND IN WOOD POST IN THE NORTH LINE OF A CALLED 147.17 ACRE TRACT DESCRIBED IN DOCUMENT NO. 202206030458, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS AND FOR A CORNER IN THE SOUTH LINE OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE NORTH LINE OF SAID 147.17 ACRE TRACT THE FOLLOWING EIGHT (8) COURSES:

1) S 01°05'08" W, A DISTANCE OF 107.95 FEET TO A 1/2 INCH IRON ROD WITH “CUDE” CAP SET,
2) S 11°51'38" W, A DISTANCE OF 175.20 FEET TO A CEDAR FENCE POST,
3) N 67°17'15" W, A DISTANCE OF 1,711.05 FEET TO A CEDAR FENCE POST,
4) S 26°51'00" W, A DISTANCE OF 299.52 FEET TO A CEDAR FENCE POST,
5) S 79°36'00" W, A DISTANCE OF 416.38 FEET TO A CEDAR FENCE POST,
6) N 25°13'09" W, A DISTANCE OF 258.99 FEET TO A CEDAR FENCE POST,
7) N 28°56'16" E, A DISTANCE OF 429.01 FEET TO A CEDAR FENCE POST,
8) N 37°45'38" W, A DISTANCE OF 490.75 FEET TO A 60D NAIL FOUND IN WOOD POST IN SAID SOUTHEAST RIGHT-OF-WAY LINE OF SCHOENTHAL ROAD, FOR THE NORTH CORNER OF SAID 147.17 ACRE TRACT AND FOR THE WEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH SAID RIGHT-OF-WAY LINE OF SCHEONTHAL ROAD THE FOLLOWING THREE (3) COURSES:

1) N 26°27'43" E, A DISTANCE OF 140.16 FEET TO A 60D NAIL FOUND IN WOOD POST,
2) N 48°55'24" E, A DISTANCE OF 118.99FEET TO A 1/2 INCH IRON ROD WITH "CUDE" CAP,
3) S 40°31'52" E, A DISTANCE OF 60.00 FEET TO THE **POINT OF BEGINNING** AND CONTAINING 214.27 ACRES OF LAND, MORE OR LESS.

BASIS OF BEARINGS IS THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NAD 83 (2011). ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES USING A SCALE FACTOR OF 1.00013.

Chris Walterscheidt 05/09/2024

CHRIS WALTERSCHEIDT
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6180
CUDE ENGINEERS
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TEXAS 78231
TBPELS FIRM NO. 10048500
TBPE FIRM NO. 455
JOB NO. 04343.000

LEGEND

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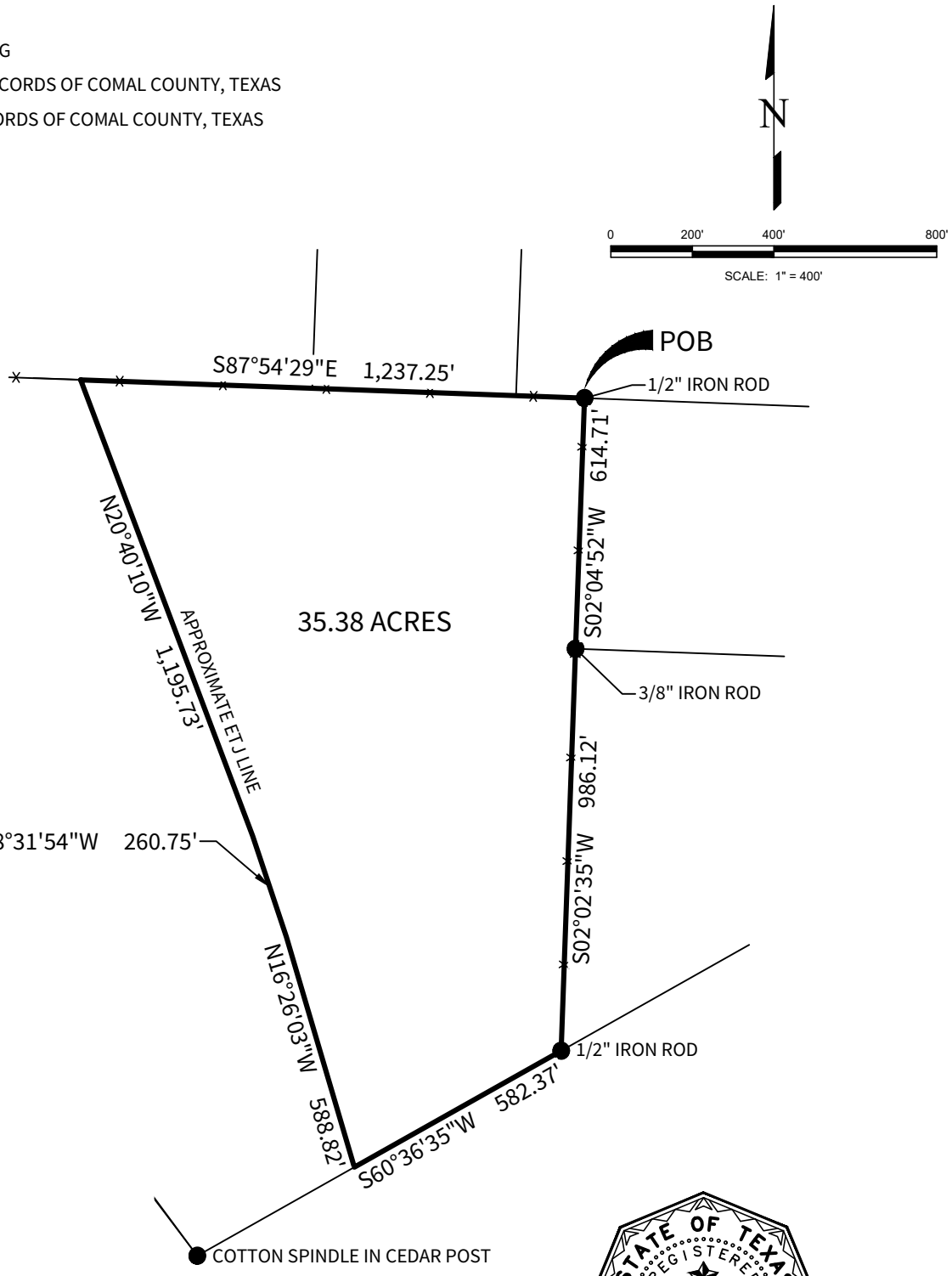

NOTES:

1. BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NAD 83 (2011), ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES USING A COMBINED SCALE FACTOR OF 1.00013.
2. SETBACKS OR EASEMENTS PER RESTRICTIONS OR ZONING MAY EXIST.
3. THE FIELD WORK WAS COMPLETED ON APRIL 10, 2024

STATE OF TEXAS
REGISTERED
CHRIS WALTERSCHEIDT
6180
PROFESSIONAL
LAND SURVEYOR

Chris Walterscheidt 05/09/2024

CUDE ENGINEERS
4122 POND HILL RD. ● SUITE 101
SAN ANTONIO, TEXAS 78231
T:210.681.2951 ● F:210.523.7112
WWW.CUDEENGINEERS.COM
TBPELS FIRM #10048500
TBPE FIRM #455

EXHIBIT OF

35.38 ACRES OF LAND LOCATED IN THE S.A. & M.G.R.R. CO.. SURVEY 497 ½, A-578, COMAL COUNTY, TEXAS AND BEING OUT OF A CALLED 249.7 ACRES OF LAND AS DESCRIBED IN DOCUMENT 201706004645, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS

PROJECT NO.: 04343.000 **DATE:** 05-09-2024 **BY:** DB **PM:** CW **PAGE:** 1 **OF** 1

P:\04343\000\0-Survey\Drawings\BASE_04343.000 Schoenthal-NB ETJ.dwg 2024/05/09 5:00pm dblair

LEGAL DESCRIPTION
35.38 ACRES OF LAND

35.38 ACRES OF LAND LOCATED IN THE S.A. & M.G.R.R. CO.. SURVEY 497 ½, A-578, COMAL COUNTY, TEXAS AND BEING OUT OF ACALLED 249.7 ACRES OF LAND AS DESCRIBED IN DOCUMENT 201706004645, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS; SAID 35.38 ACRES BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING, AT A 1/2 INCH IRON ROD FOUND FOR THE NORTHEAST CORNER OF SAID 249.7 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE EAST LINE OF SAID 249.7 ACRE TRACT THE FOLLOWING TWO (2) COURSES:

1) S 02°04'52" W, A DISTANCE OF 614.71 FEET TO A 3/8 INCH IRON ROD FOUND,
2) S 02°02'35" W, A DISTANCE OF 986.12 FEET TO A 1/2 INCH IRON ROD FOUND FOR THE SOUTHEAST CORNER OF SAID 249.7 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE SOUTH LINE OF SAID 249.7 ACRE TRACT, S 60°36'35" W, A DISTANCE OF 582.37 FEET TO A POINT FOR THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE ENTERING INTO AND SEVERING SAID 249.7 ACRE TRACT THE FOLLOWING THREE (3) COURSES;

1) N 16°26'03" W, A DISTANCE OF 588.82 FEET TO A POINT,
2) N 18°31'54" W, A DISTANCE OF 260.75 FEET TO A POINT,
3) N 20°40'10" W, A DISTANCE OF 1.195.73 FEET TO A POINT IN THE NORTH LINE OF SAID 249.7 ACRE TRACT AND FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE NORTH LINE OF SAID 249.7 ACRE TRACT, S 87°54'29" E, A DISTANCE OF 1,237.25 FEET TO THE **POINT OF BEGINNING** AND CONTAINING 249.66 ACRES OF LAND, MORE OR LESS.

BASIS OF BEARINGS IS THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NAD 83 (2011). ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES USING A SCALE FACTOR OF 1.00013.

Chris Walterscheidt 05/09/2024

CHRIS WALTERSCHEIDT
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6180
CUDE ENGINEERS
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TEXAS 78231
TBPELS FIRM NO. 10048500
TBPE FIRM NO. 455
JOB NO. 04343.000

GF 9000702300088 FNT

202306039361 12/18/2023 03:04:22 PM 1/14

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER

SPECIAL WARRANTY DEED

THE STATE OF TEXAS

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF COMAL

THAT **LYNDA DIERKS HOOVER, RENAY DIERKS HOMEWOOD, AND AUDRA K. DIERKS** (hereinafter collectively "**Grantor**"), for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration in hand paid to the undersigned by **HEIDELBERG MATERIALS SOUTHWEST AGG 1 LLC,** a Texas limited liability company **("Grantee"),** whose mailing address is 300 E. John Carpenter, Suite 1645, Irving, Texas 75062, the receipt and sufficiency of such consideration being hereby acknowledged by Grantor, and for the further consideration of the execution and delivery by Grantee of that certain promissory note (the "Note") dated of even date herewith, executed by Grantee payable to the order of Grantor, does hereby grant, bargain, sell, and convey unto Grantee that certain real property being more particularly described on Exhibit A attached hereto and made a part hereof for all purposes, together with all improvements and fixtures situated thereon (collectively, the **"Property"**, which is Grantor's sole and separate property); SUBJECT TO the matters set forth on Exhibit B attached hereto and made a part hereof for all purposes (collectively, the **"Permitted Exceptions"),** the reference to which shall not operate to reimpose the same.

TO HAVE AND TO HOLD the Property and easements rights, with all and singular the rights, privileges, appurtenances and immunities thereto belonging or in any wise appertaining unto Grantee, its successors and assigns forever, Grantor hereby covenanting that the Property is free and clear from any encumbrance done or suffered by it, but is subject to the Permitted Exceptions; and Grantor hereby agrees to WARRANT AND FOREVER DEFEND all and singular the Property unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming the same, or any part thereof, by, through, or under Grantor, but not otherwise, subject to the Permitted Exceptions.

Except for Grantor's special warranty of title to be contained in this Deed, and except for the express representations, covenants, agreements, promises and warranties expressly provided in the Contract to purchase the Property (collectively, the "Express Representations"), Grantee is not relying on any written, oral, implied, or other representations, statements, or warranties by Grantor or any agent of Grantor or any real estate broker or salesman. Except for the Express Representations, Grantor hereby specifically disclaims any warranty, guaranty, or representation, oral or written concerning (i) the nature and condition of the Property, including but not by way of limitation, the water, soil, geology and the suitability thereof, for any and all activities and uses which Grantee may elect to conduct thereon, income to be derived therefrom or expenses to be incurred with respect thereto, or any obligations or any other matter or thing relating to or affecting the same; (ii) the manner of construction and condition and state of repair or lack of repair of any improvements located thereon; (iii) the nature and extent of any easement, right-of-way, lien, encumbrance, restriction, license or reservation; and (iv) the compliance of the Property or the operation of the Property with any laws, rules, ordinances, or regulations of any government or other body. EXCEPT FOR THE EXPRESS REPRESENTATIONS, GRANTOR HAS NOT MADE AND DOES NOT MAKE, ANY REPRESENTATIONS,

WARRANTIES OR COVENANTS OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE QUALITY OR CONDITION OF THE PROPERTY, THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, COMPLIANCE BY THE PROPERTY WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SPECIFICALLY, GRANTOR DOES NOT MAKE ANY REPRESENTATIONS REGARDING HAZARDOUS WASTE, AS DEFINED BY THE LAWS OF THE STATE OF TEXAS AND ANY REGULATIONS ADOPTED PURSUANT THERETO OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS AT 40 C.F.R., PART 261, OR THE DISPOSAL OF ANY HAZARDOUS WASTE OR ANY OTHER HAZARDOUS OR TOXIC SUBSTANCES IN OR ON THE PROPERTY, EXCEPT FOR THOSE ENVIRONMENTAL REPRESENTATIONS AND WARRANTIES THAT ARE A PART OF THE EXPRESS REPRESENTATIONS. Except for the Express Representations, Grantee accepts the Property with the Property being in its present AS IS condition WITH ALL FAULTS. In addition, Grantee acknowledges that the disclaimer set forth in this Paragraph and the provisions of the Paragraph below are a material part of the consideration for this Deed and but for Grantee's agreement to accept the Property in its present AS IS condition WITH ALL FAULTS pursuant to the terms and provisions of this Disclaimer and Property Condition Grantor would not have entered into this Deed.

GRANTEE ACKNOWLEDGES AND AGREES THAT GRANTEE HAS ENGAGED AND IS, EXCEPT FOR THE EXPRESS REPRESENTATIONS, RELYING ON PERSONS (EXCLUDING GRANTOR) WHO ARE, EXPERIENCED IN THE OWNERSHIP, DEVELOPMENT AND/OR OPERATION OF PROPERTIES SIMILAR TO THE PROPERTY AND THAT GRANTEE PRIOR TO THE CLOSING INSPECTED THE PROPERTY OR CAUSED THE PROPERTY TO BE INSPECTED TO ITS SATISFACTION AND IS QUALIFIED TO MAKE SUCH INSPECTION. GRANTEE ACKNOWLEDGES THAT, EXCEPT FOR THE EXPRESS REPRESENTATIONS, IT IS FULLY RELYING ON GRANTEE'S (OR GRANTEE'S REPRESENTATIVES') INSPECTIONS OF THE PROPERTY AND EXCEPT FOR THE EXPRESS REPRESENTATIONS, NOT UPON ANY STATEMENT (ORAL OR WRITTEN) WHICH MAY HAVE BEEN MADE OR MAY BE MADE (OR PURPORTEDLY MADE) BY GRANTOR OR ANY OF ITS REPRESENTATIVES. GRANTEE ACKNOWLEDGES THAT GRANTEE HAS (OR GRANTEE'S REPRESENTATIVES HAD), THOROUGHLY INSPECTED AND EXAMINED THE PROPERTY TO THE EXTENT DEEMED NECESSARY BY GRANTEE IN ORDER TO ENABLE GRANTEE TO EVALUATE THE CONDITION OF THE PROPERTY AND ALL OTHER ASPECTS OF THE PROPERTY (INCLUDING, BUT NOT LIMITED TO, THE ENVIRONMENTAL CONDITION OF THE PROPERTY); AND GRANTEE ACKNOWLEDGES THAT GRANTEE IS RELYING SOLELY UPON ITS OWN (OR ITS REPRESENTATIVES') INSPECTION, EXAMINATION AND EVALUATION OF THE PROPERTY, EXCEPT FOR THE EXPRESS REPRESENTATIONS. EXCEPT FOR THE EXPRESS REPRESENTATIONS AND GRANTOR'S OBLIGATIONS HEREUNDER WITH RESPECT THERETO, GRANTEE HEREBY EXPRESSLY ASSUMES ALL RISKS, LIABILITIES, CLAIMS, DAMAGES AND COSTS (AND AGREES THAT GRANTOR SHALL NOT BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR OTHER DAMAGES) RESULTING OR ARISING FROM OR RELATED TO THE OWNERSHIP, USE, CONDITION, LOCATION, MAINTENANCE, REPAIR OR OPERATION OF THE PROPERTY. GRANTEE FURTHER ACKNOWLEDGES THAT THE PROVISIONS OF

THIS DISCLAIMER AND RELEASE HAVE BEEN FULLY EXPLAINED TO GRANTEE AND THAT GRANTEE FULLY UNDERSTANDS AND ACCEPTS THE SAME.

✓ EXECUTED effective the 15 day of December, 2023.

GRANTOR:

LYNDA DIERKS HOOVER

✓ Lynda Dierks Hoover
Lynda Dierks Hoover, individually

ACKNOWLEDGEMENT

✓ STATE OF TEXAS §
COUNTY OF Bexar §

Before me, (insert the name and character of the officer), on this day personally appeared LYNDA DIERKS HOOVER, known to me through driver's license to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 15th day of December, 2023.

GREGORY W. CRANE, JR.
Notary Public, State of Texas
My Comm. Exp. 10-11-2026
ID No. 2602712

(Notary's Signature)
Notary Public, State of Texas
My Commission Expires:_____

GRANTOR:

RENAY DIERKS HOMEWOOD

Renay Dierks Homewood, individually

ACKNOWLEDGEMENT

STATE OF TEXAS §
§
COUNTY OF Bexar §

Before me, (insert the name and character of the officer), on this day personally appeared RENAY DIERKS HOMEWOOD, known to me through driver's license to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 15th day of December, 2023.

GREGORY W. CRANE, JR.
Notary Public, State of Texas
My Comm. Exp. 10-11-2026
ID No. 2602712

(Notary's Signature)
Notary Public, State of Texas
My Commission Expires:

GRANTOR:

AUDRA K. DIERKS

Audra K Dierks

Audra K. Dierks, individually

ACKNOWLEDGEMENT

STATE OF TEXAS §

§

COUNTY OF Bexar §

Before me, (insert the name and character of the officer), on this day personally appeared AUDRA K. DIERKS, known to me through driver's license to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 15th day of December, 2023.

GREGORY W. CRANE, JR.
Notary Public, State of Texas
My Comm. Exp. 10-11-2026
ID No. 2602712

(Notary's Signature)
Notary Public, State of Texas
My Commission Expires:

EXHIBIT A

Legal Description

1,088 ACRES [47,373,679 SQ. FT.]

BEING A 1,088-ACRE [47,373,679 SQ. FT.] TRACT COMPRISED OF THE GEORGE WB SIMMONS SURVEY SECTION 497, ABSTRACT 610, AND A PORTION OF THE SA & MA RR CO SURVEY SECTION 497.5, ABSTRACT 578, THE JOESEPH THOMPSON SURVEY SECTION 755, ABSTRACT 611, THE CHARLES HERMAN ARTZT SURVEY SECTION 318, ABSTRACT 10, THE SA & MA RR CO SURVEY SECTION 317, ABSTRACT 592, THE JOHANN WILLIMSON SURVEY SECTION 576, ABSTRACT 677, THE FRITZ ZURCHER SURVEY, ABSTRACT 693, AND THE NICOLAUS ZUERCHER SURVEY SECTION 440, ABSTRACT 688, COMAL COUNTY, TEXAS, BEING A PORTION OF THAT CALLED 1022.21-ACRE TRACT DESCRIBED AS "TRACT I" , AND A PORTION OF THAT CALLED 147.17-ACRE TRACT DESCRIBED AS "TRACT III" TO LYNDA DIERKS HOOVER, RENAY DIERKS HOMEWOOD, AND AUDRA K. DIERKS AS RECORDED IN DOCUMENT NUMBER 202206030458 OF THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS [O.P.R.C.C.T.], SAID 1,088-ACRE TRACT BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at an 8-inch cedar fence post in concrete (Texas Coordinate System, NAD 1983, South Central Zone, GRID Coordinates – N:13,790,831.77, E:2,193,430.66) found in the southeast right-of-way line of Schoenthal Road, an 80-feet wide right-of-way, described as 10.00-acre tract as recorded in Volume 153, Page 139 O.P.R.C.C.T., same being the northwest line of said 1,022.21-acre tract, for the northwest corner of the 1,088-acre tract described herein;

THENCE leaving said right-of-way line of Schoenthal Road, and said northwest line of the 1022.21-acre tract, crossing said 1,022.21-acre tract, and said 147.17-acre tract the following ten [10] courses and distances:

1) S69°15'58"E 78.71 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

2) N71°22'12"E 131.14 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

3) S85°05'58"E 2,484.56 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

4) S28°13'57"E 303.96 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

5) S81°01'35"E 265.45 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

6) N65°44'39"E 303.61 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

7) N21°42'30"E 486.95 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

8) N08°00'45"W 431.98 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

9) N63°15'39"W 133.99 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein, and

10) S65°08'13"W 146.44 feet to an 8-inch cedar fence post in the south line of that called 249.7-acre tract described to Flying W Properties as recorded in Document Number 201706004645 O.P.R.C.C.T., same being the north line of said 147.17-acre tract, for an angle point in the north line of the 1,088-acre tract described herein;

THENCE continuing with said south line of the 249.7-acre tract, and said north line of the 147.17-acre tract the following two [2] courses and distances:

1) N11°48'19"E 174.32 feet to a 6-inch cedar fence post against a 19-inch forked live oak tree found for an angle point in the north line of the 1,088-acre tract described herein, and

2) N01°12'07"E 109.11 feet to a 60D nail in a 6-inch cedar fence post found for an angle point in the north line of the 1,088-acre tract described herein;

THENCE continuing with said south line of the 249.7-acre tract, same being said north line of the 147.17-acre tract, continuing with said south line of the 249.7-acre tract, same being the north line of said 1,022.21-acre tract the following ten [10] courses and distances:

1) N52°11'47"E 1,710.46 feet to a 1/2-inch iron rod found at the base of a 24-inch forked live oak for an angle point in the north line of the 1,088-acre tract described herein,

2) S37°46'44"E 2,692.92 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the north line of the 1,088-acre tract described herein,

3) N51°39'42"E 187.95 feet to a 4-inch wood fence post found for an angle point in the north line of the 1,088-acre tract described herein,

4) N52°39'22"E 627.55 feet to a 60D nail in a 16-inch elm tree found for an angle point in the north line of the 1,088-acre tract described herein,

5) N44°26'57"E 29.90 feet to a 60D nail in a 16-inch elm tree found for an angle point in the north line of the 1,088-acre tract described herein,

6) S64°08'37"E 44.70 feet to a 60D nail in a 17-inch elm tree found for an angle point in the north line of the 1,088-acre tract described herein,

7) S51°23'26"E 8.53 feet to a 9-inch elm tree found for an angle point in the north line of the 1,088-acre tract described herein,

8) S40°04'15"E 67.34 feet to a 60D nail in a 14-inch oak tree found for an angle point in the north line of the 1,088-acre tract described herein,

9) S36°38'12"E 279.59 feet to a cotton spindle in a 6-inch cedar fence post in a rock mound found for an angle point in the north line of the 1,088-acre tract described herein, and

10) N60°37'48"E 1,024.53 feet to a 1/2-inch iron rod found for the southeast corner of said 249.7-acre tract, the southwest corner of Lot 2A, Schoenthal Ranch Unit 5, a subdivision according to the plat of record in Volume 6, Page 200 of the Plat Records of Comal County, Texas [P.R.C.C.T.], and an angle point in the north line of the 1,088-acre tract described herein;

THENCE with said north line of the 1,022.21-acre tract, same being the south line of said Lot 2A, N60°25'59"E 320.89 feet to a 1/2-inch iron rod found for the southeast corner of said Lot 2A, the southwest corner of Lot 2B, of said Schoenthal Ranch Unit 5 subdivision, and an angle point in the north line of the 1,088-acre tract described herein;

THENCE continuing with said north line of the 1,022.21-acre tract, same being the south line of said Lot 2B, N60°34'18"E 747.40 feet to a 1/2-inch iron rod found for the southeast corner of said Lot 2B, the south corner of Lot 13, Schoenthal Ranch Unit 4, a subdivision according to the plat of record in Volume 6, Page 156 P.R.C.C.T., the west corner of Lot 12, of said Schoenthal Ranch Unit 4 subdivision, and the northeast corner of the 1,088-acre tract described herein;

THENCE with the east line of said 1,022.21-acre tract, same being the southwest line of said Schoenthal Ranch Unit 4 the following five [5] courses and distances:

1) with the southwest line of said Lot 12, S30°22'54"E 194.66 feet to a 5-inch wood fence post found for an angle point in the east line of the 1,088-acre tract described herein,

2) continuing with said southwest line of Lot 12, S30°22'29"E 203.35 feet to a 1/4-inch iron rod found for the south corner of said Lot 12, the west corner of Lot 11 of said Schoenthal Ranch Unit 4 subdivision, and an angle point in the east line of the 1,088-acre tract described herein,

3) with the southwest line of said Lot 11, S30°10'55"E 358.91 feet to a point for the south corner of said Lot 11 and the west corner of Lot 10 of said Schoenthal Ranch Unit 4 subdivision, for an angle point in the east line of the 1,088-acre tract described herein, from which a leaning 1/4-inch iron rod found bears S59°47'13"W 0.27 feet,

4) with the southwest line of said Lot 10, S30°12'51"E 305.72 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in said southwest line of Lot 10 and the east line of the 1,088-acre tract described herein, and

5) continuing with said southwest line of Lot 10, S29°50'35"E 313.25 feet to a 1/2-inch iron rod found for the south corner of said Lot 10, and an angle point in the east line of the 1,088-acre tract described herein;

THENCE continuing with said east line of the 1,022.21-acre tract, same being the south line of said Lot 10, N55°28'28"E 178.18 feet to an 80D nail found for the southeast corner of said Lot 10, the west corner of Lot 9 of said Schoenthal Ranch Unit 4 subdivision, and an angle point in the east line of the 1,088-acre tract described herein;
THENCE continuing with said east line of the 1,022.21-acre tract, same being the southwest line of said Lot 9, S32°20'15"E, passing at a distance of 86.61 feet a 4-inch cedar fence post for the south corner of said Lot 9, the southeast corner of said Schoenthal Ranch Unit 4 subdivision, and the west corner of the remainder of that called 300.00-acre tract described to Leroy E. Wilson and Dorthlin R. Wilson as recorded in Volume 211, Page 521 O.P.R.C.C.T., and continuing with said east line of the 1,022.21-acre tract, same being the southwest line of said 300.00-acre tract, for a cumulative distance of 197.61 feet to a 6-inch cedar fence post found for an angle point in the east line of the 1,088-acre tract described herein;
THENCE continuing with said east line of the 1,022.21-acre tract and said southwest line of the 300.00-acre tract, S30°34'04"E 1,457.81 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for the south corner of said 300.00-acre tract, the northwest corner of a tract described as parcel ID "78747", "80507", "81351" to Lehigh Beazer East Inc. in Document Number 202106051393 O.P.R.C.C.T., being further described as a 350.194-acre tract described in Document Number 200706046979 O.P.R.C.C.T., and an angle point in the east line of the 1,088-acre tract described herein;
THENCE continuing with said east line of the 1,022.21-acre tract, same being the northwest line of said 350.194-acre tract, S30°07'08"E 748.64 feet to an 6-inch wood fence post found for an angle point in said northwest line of the 350.194-acre tract, the east corner of said 1,022.21-acre tract, and the east corner of the 1,088-acre tract described herein;

THENCE with the south line of said 1,022.21-acre tract, and said northwest line of the 350.194-acre tract, S73°21'15"W 1773.41 feet to a 1/2-inch iron rod found for the northwest corner of said 350.194-acre tract, the northeast corner of that called 335.850-acre tract described as "Tract 4" to 8364 Fordyce Property LLC as recorded in Document Number 201306052859 O.P.R.C.C.T., and an angle point in the south line of the 1,088-acre tract described herein;

THENCE continuing with said south line of the 1,022.21-acre tract, same being the north line of said 335.850-acre tract the following six [6] courses and distances:

1) S73°40'34"W 169.27 feet to a 1/2-inch iron rod found at the base of a fence post for an angle point in the south line of the 1,088-acre tract described herein,

2) S85°05'16"W 77.09 feet to a 1/2-inch iron rod found at the base of a 14-inch cedar tree on top of bluff for an angle point in the south line of the 1,088-acre tract described herein,

3) S51°00'11"W 1,421.20 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein,

4) S56°43'40"W 166.31 feet to a 1/2-inch iron rod found at base of 16-inch cedar tree for an angle point in the south line of the 1,088-acre tract described herein;

5) S52°16'48"W 2,108.59 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein, and

6) N35°42'08"W 983.45 feet to a 1/2-inch iron rod found for the northwest corner of said 335.850-acre tract, the east corner of a tract described to Lehigh Hanson Materials South LLC as recorded in Document Number 202106050997 O.P.R.C.C.T., being further described as a 37-acre tract as recorded in Volume 66, Page 325 O.P.R.C.C.T., and an angle point in the south line of the 1,088-acre tract described herein;

THENCE continuing with said south line of the 1,022.21-acre tract, same being the north line of said 37-acre tract, and the north line of said Lehigh Hanson Materials South LLC tract, N37°19'08"W 94.91 feet to a 1/2-inch iron rod found for the north corner of said 37-acre tract, an angle point in said north line of Lehigh Hanson Materials South LLC tract, being further described as the east corner of that called 935.258-acre tract as recorded in Volume 628, Page 200 O.P.R.C.C.T., and an angle point in the south line of the 1,088-acre tract described herein;

THENCE continuing with said south line of the 1,022.21-acre tract, same being the north line of said 935.258-acre tract, and the north line of said Lehigh Hanson Materials South LLC tract, the following eleven [11] courses and distances:

1) N36°48'33"W 376.14 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein,

2) N37°20'12"W 2,312.94 feet to a 1/2-inch iron rod found for an angle point in the south line of the 1,088-acre tract described herein,

3) S52°07'22"W 382.49 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein,

4) S52°34'40"W 2,849.75 feet to a 1/2-inch iron rod found for an angle point in the south line of the 1,088-acre tract described herein,

5) S64°17'42"W 62.93 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein,

6) S64°17'42"W 739.80 feet to a wire fence in a 16-inch live oak tree found for an angle point in the south line of the 1,088-acre tract described herein,

7) S60°11'09"W 577.00 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point in the south line of the 1,088-acre tract described herein,

8) S60°11'10"W 534.23 feet to a 6-inch wood fence post found for an angle point in the south line of the 1,088-acre tract described herein,

9) S61°54'39"W 122.75 feet to a 6-inch wood fence post found for an angle point in the south line of the 1,088-acre tract described herein,

10) S60°07'23"W 539.77 feet to a 6-inch cedar fence post found for an angle point in the south line of the 1,088-acre tract described herein, and

11) S59°47'28"W 875.14 feet to a 1/4-inch iron rod found for the southeast corner of that called 17.359-acre tract described to Evelyn Teel Carlisle as recorded in Document Number 202006008822 O.P.R.C.C.T., the southwest corner of said 1,022.21-acre tract, and the southwest corner of the 1,088-acre tract described herein;

THENCE leaving said north line of said 935.258-acre tract, with the southwest line of said 1,022.21-acre tract, same being the northeast line of said 17.359-acre tract the following two [2] courses and distances:

1) N09°22'53"W 566.01 feet to a 8-inch wood fence post found for an angle point in the southwest line of the 1,088-acre tract described herein, and

2) N38°17'08"W 187.94 feet to a 1/4-inch iron rod found for the southeast corner of that called 3.067-acre tract described to Ronald Lee Classy, II and Jennifer Gail Classy as recorded in Document Number 200406014101 O.P.R.C.C.T., and an angle point in the southwest line of the 1,088-acre tract described herein;

THENCE continuing with said southwest line of the 1,022.21-acre tract, same being the northeast line of said 3.067-acre tract, N39°39'59"W 404.31 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for the northeast corner of said 3.067-acre tract, the southeast corner of that called 2.113-acre tract described to Jack A. Efron as recorded in Document Number 200206038038 O.P.R.C.C.T., and an angle point in the southwest line of the 1,088-acre tract described herein;

THENCE continuing with said southwest line of the 1,022.21-acre tract, same being the northeast line of said 2.113-acre tract, N39°40'01"W 396.16 feet to a 1/2-inch iron rod found for the north corner of said 2.113-acre tract, the southeast corner of that called 5.762-acre tract described to James R. Lowe and Sandra L. Lowe as recorded in Document Number 200406006964 O.P.R.C.C.T., and an angle point in the southwest line of the 1,088-acre tract described herein,

THENCE continuing with said southwest line of the 1,022.21-acre tract, same being the northeast line of said 5.762-acre tract the following two [2] courses and distances:

1) N39°42'20"W 232.20 feet to a 1/2-inch iron rod found for an angle point in the southwest line of the 1,088-acre tract described herein, and

2) N10°18'45"W 296.34 feet to a 1/2-inch iron rod marked "BASELINE CORP." set in the southeast right-of-way line of Schoenthal Road, a varying width right-of-way, no record information found, for the west corner of said 1,022.21-acre tract, and the west corner of the 1,088-acre tract described herein, from which a 1/4-inch iron rod found for the north corner of said 5.762-acre tract, and an angle point in said southeast right-of-way of Schoenthal Road, bears N10°18'45"W 24.36 feet;

THENCE leaving said northeast line of the 5.762-acre tract, with said southeast right-of-way line of Schoenthal Road, and said northwest line of the 1,022.21-acre tract, N36°42'49"E 2,565.98 feet to a 1/2-inch iron rod marked "BASELINE CORP." set in said southeast right-of-way line of Schoenthal Road, an 80-feet wide right-of-way, described as 10.00-acre tract as recorded in Volume 153, Page 139 O.P.R.C.C.T., for a point of curvature of a non-tangent circular curve to the left, and a point in the northwest line of the 1,088-acre tract described herein;

THENCE with said southeast right-of-way of Schoenthal Road, and said northwest line of said 1,022.21-acre tract the following two [2] courses and distances:

1) with the arc of said curve to the left a distance of 735.41 feet, said curve having a radius of 2,904.90 feet, a central angle of 14°30'18" and a chord bearing N33°41'22"E 733.45 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for a point of tangency, and

2) N26°26'13"E 1,356.51 feet to said **POINT OF BEGINNING** and containing 1,088 acres [47,373,679 SQ. FT.] as surveyed by Payton C. Johnson, R.P.L.S. No. 6961.

EXHIBIT B

PERMITTED EXCEPTIONS

a. Easement(s) for the purpose(s) shown below and rights incidental thereto as condemned by an instrument,

Entitled:	Judgment
Court:	County Court at Law of Comal County, Texas
Cause No.:	526C
In favor of:	City of San Antonio
Purpose:	a perpetual electrical transmission line easement and right-of-
way, 100	feet in width
Recording Date:	June 28, 1984
Recording No:	in Volume 395, Page 752, Deed Records, Comal County,
Texas	

Shown and noted on revised survey dated October 17, 2023, prepared by Payton C. Johnson, Registered Professional Land Surveyor Number 6961, on behalf of Baseline - DCCM, under Project: 200000159.021

b. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Central Texas Regional Water Supply Corporation
Purpose:	85' wide Water Line Easement
Recording Date:	November 1, 2016
Recording No:	Document No. 20166036867; corrected by Document No. 201606041516, Official Public Records, Comal County,
Texas.	
Affects:	As described therein. (Tract 1)

First Amendment to Water Line Easement Agreement filed March 28, 2018 and recorded in Document Number 201806011515, Official Public Records, Comal County, Texas.

Second Amendment to Water Line Easement Agreement filed October 18, 2018 and recorded in Document Number 201806041058, Official Public Records, Comal County, Texas.

Shown and noted on revised survey dated October 17, 2023, prepared by Payton C. Johnson, Registered Professional Land Surveyor Number 6961, on behalf of Baseline - DCCM, under Project: 200000159.021

c. Terms, conditions and provisions of that certain Memorandum of Vista Ridge Regional Supply Project water Transmission and Purchase Agreement, recorded on November 14, 2016 in Document No. 201606043200,. Official Public Records of Comal County, Texas.

Shown and noted on revised survey dated October 17, 2023, prepared by Payton C. Johnson, Registered Professional Land Surveyor Number 6961, on behalf of Baseline - DCCM, under Project: 200000159.021

d. All leases, grants, exceptions or reservations of coal, lignite, oil, gas and other minerals, together with all rights, privileges, and immunities relating thereto, appearing in the Public Records. There may be leases, grants, exceptions or reservations of mineral interest that are not listed.

e. Easement(s) and rights incidental thereto, as granted in a document:

Granted to:	City of San Antonio, Texas
Purpose:	electric transmission and distribution line and appurtenances
Recording Date:	November 29, 1946
Recording No:	in Volume 85, Page 281, Deed Records of Comal County, Texas

Noted on revised survey dated October 17, 2023, prepared by Payton C. Johnson, Registered Professional Land Surveyor Number 6961, on behalf of Baseline - DCCM, under Project: 200000159.021

f. All leases, grants, exceptions or reservations of the geothermal energy and associated resources below the surface of the Land, together with all rights, privileges, and immunities relating thereto, appearing in the Public Records. There may be leases, grants, exceptions or reservations of the geothermal energy and associated resources below the surface of the Land that are not listed.

g. Any rights, interests, or claims which may exist or arise by reason of the following matters disclosed by survey:

Project/Job No.:	200000159.021
Revised Survey Dated:	October 17, 2023
Prepared by:	Payton C. Johnson, Registered Professional Land Surveyor Number 6961 on behalf of Baseline – DCCM
Matters shown:	Protrusion of fence over the central north property line; encroachment/protrusion of gravel roads over the westerly and central north property lines

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
12/18/2023 03:04:22 PM
TERRI 14 Pages(s)
202306039361

County Court of Comal County Texas

Bobbie Koepp

General Warranty Deed

Notice of confidentiality rights: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

Date: 4/12, 2024

Grantor: Renay Dierks Homewood, as her sole and separate property, joined pro forma by her husband, Jim D. Homewood

Grantor's Mailing Address: 9880 Schoenthal Road, New Braunfels, Comal County, Texas 78132

Grantee: Lynda Dierks Hoover, as her sole and separate property, and Audra K. Dierks, as her sole and separate property

Grantee's Mailing Address: 8022 Devonshire, Spring Branch, Comal County, Texas 78070

Consideration: Ten Dollars ($10.00) and other good and valuable consideration

Property (including any improvements): All of Grantor's undivided interest in and to the following real property situated in Comal County, Texas, to-wit:

> 296.89 acres, more or less, located in Comal County, Texas, and being Tract I, a 96.79 acre tract, and Tract II, being a 200.1 acre tract, and being more particularly described on Exhibit A-1 and Exhibit A-2.

Reservations from and Exceptions to Conveyance and Warranty:

1. Easement and Right of Way to the City of San Antonio, Texas, recorded in Volume 85, Page 281, Deed Records of Comal County, Texas.

2. Electric Transmission and Distribution Line Right of Way established by judgment in Condemnation recorded in Volume 395, Page 752, Deed Records of Comal County, Texas.

3. Water Line Easement Agreement to the Central Regional Water Supply Corporation recorded in Document No. 201606036867, as affected by Correction Water Line Easement Agreement recorded in Document No. 201606041516, by First Amendment of Water Line Easement Agreement recorded in Document No, 201806011515, by Second Amendment to Water Line Easement Agreement recorded in in Document No. 201806041058, and by Memorandum of Vista Ridge Regional Soppy Project Water Transmission and Purchase Agreement recorded in Document No. 201606043200, Official Public Records of Comal County, Texas.

4. All leases, grants, exceptions or reservations of coal, lignite, oil, gas and other minerals, together with all rights, privileges, and immunities relating thereto, appearing in the Comal County Public Records.

This conveyance is further made and subject to and Grantee assumes the payment of any legally imposed ad valorem taxes and assessments from and after the date of this Deed and for subsequent years.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

EXCEPT FOR THE REPRESENTATIONS SET FORTH IN THIS DEED, GRANTOR HAS NOT MADE AND DOES NOT MAKE ANY REPRESENTATIONS, WARRANTIES OR COVENANTS OF ANY KIND OR CHARACTER, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE QUALITY OR CONDITION OF THE PROPERTY, THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, COMPLIANCE BY THE PROPERTY WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR AS TO HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. GRANTEE SHALL MAKE A PHYSICAL INSPECTION OF THE PROPERTY AND SATISFY ITSELF AS TO THE CONDITION OF THE PROPERTY FOR GRANTEE'S INTENDED USE. GRANTOR MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE COMPLIANCE WITH REGULATIONS OR LAWS PERTAINING TO THE HEALTH OR ENVIRONMENT, AND THE SALE AND CONVEYANCE OF THE PROPERTY SHALL BE "AS IS, WHERE IS" AND GRANTEE EXPRESSLY ACKNOWLEDGES THAT THE SALES PRICE REFLECTS SUCH CONDITION. GRANTOR EXPRESSLY DENIES, AND MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE ENVIRONMENTAL CONDITIONS ON THE SURFACE OR SUBSURFACE OF THE PROPERTY AND ANY SURROUNDING PROPERTY. THE TERMS OF THIS PARAGRAPH SHALL SURVIVE THE CLOSING OF THE SALE OF THE PROPERTY.

When the context requires, singular nouns and pronouns include the plural.

RENAY DIERKS HOMEWOOD

JIM D. HOMEWOOD, pro forma

(Acknowledgments)

THE STATE OF TEXAS §
§
COUNTY OF Brazos §

This instrument was acknowledged before me on this 12th day of April, 2024, by RENAY DIERKS HOMEWOOD.

NOTARY PUBLIC in and for the State of Texas

EVERITT DONALD WALKER
Notary Public, State of Texas
My Comm. Exp. 07-18-2025
ID No. 695665-2

THE STATE OF TEXAS §
§
COUNTY OF Brazos §

This instrument was acknowledged before me on this 12th day of April, 2024, by JIM D. HOMEWOOD.

NOTARY PUBLIC in and for the State of Texas

EVERITT DONALD WALKER
Notary Public, State of Texas
My Comm. Exp. 07-18-2025
ID No. 695665-2

AFTER RECORDING RETURN TO:

Exhibit A-1
Tract I - 96.79 acres

BASELINE | DCCM

14350 Northbrook Drive, Suite 110
San Antonio, TX 78232
Office: 210.490.7847

BaselineSurveyors.net
TxSurv F-10030200

Heidelberg Materials
Comal County, Texas

Project No. 2000000300.000
July 21, 2023

96.79-ACRE [4,215,953 SQ. FT.]

BEING A 96.79-ACRE [4,215,953 SQ. FT.] TRACT OUT OF THE CHARLES HERMAN ARTZT SURVEY, ABSTRACT 10, AND THE SA & MG RR CO SURVEY, ABSTRACT 592, COMAL COUNTY, TEXAS, BEING A PORTION OF THAT CALLED 1022.21-ACRE TRACT DESCRIBED AS "TRACT I" , AND A PORTION OF THAT CALLED 147.17-ACRE TRACT DESCRIBED AS "TRACT III" TO LYNDA DIERKS HOOVER, RENAY DIERKS HOMEWOOD, AND AUDRA K. DIERKS AS RECORDED IN DOCUMENT NUMBER 202206030458 OF THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS [O.P.R.C.C.T.], SAID 96.79-ACRE TRACT BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a 60-D Nail in Cedar Fence Post found in the east right-of-way line of Schoenthal Road, a varying width right-of-way, no record information found, for the north corner of said 147.17-acre tract, the west corner of that called 249.7-acre tract as described to Flying W Properties, LTD. as recorded in Document Number 201706004645 O.P.R.C.C.T., and the north corner of the 96.79-acre tract described herein;

THNECE leaving said east right-of-way line of Schoenthal Road, with the northeast line of said 147.17-acre tract, same being the southwest line of said 249.7-acre tract the following six [6] courses and distances:

1) S37°44'05"E 491.21 feet to a 6-inch Cedar Fence Post for an angle point,

2) S29°01'49"W 428.64 feet to an 8-inch Cedar Fence Post for an angle point,

3) S25°11'19"E 260.02 feet to a 6-inch Cedar Fence Post for an angle point,

4) N79°32'04"E 416.99 feet to a 6-inch Cedar Fence Post for an angle point,

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San Antonio, TX 78232
Office: 210.490.7847

BaselineSurveyors.net
TxSurv F-10030200

5) S26°52'18"W 299.96 feet to a 8-inch Cedar Fence Post for an angle point, and

6) S67°17'34"E 1,711.35 feet to a 8-inch Cedar Fence Post for the south corner of said 249.7-acre tract,

THENCE leaving said northeast line of the 147.17-acre tract, crossing said 147.17-acre tract, and said 1022.21-acre tract the following ten [10] courses and distances:

1) N65°08'13"E 146.44 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

2) S63°15'39"E 133.99 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

3) S08°00'45"E 431.98 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

4) S21°42'30"W 486.95 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

5) S65°44'39W 303.61 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

6) N81°01'35"W 265.45 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

7) N28°13'57"W 303.96 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

8) N85°05'58"W 2,484.56 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point,

9) S71°22'12"W 131.14 feet to a 1/2-inch iron rod marked "BASELINE CORP." set for an angle point, and

10) N69°15'58"W 78.71 feet to an 8-inch Cedar Fence Post in said southeast right-of-way line of Schoenthal Road, same being the northwest line of said 1022.21-acre tract, for the west corner of the 96.79-acre tract described herein;

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San Antonio, TX 78232
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THENCE with said southeast right-of-way line of Schoenthal Road and said northwest line of the 1022.21-acre tract, continuing with said southeast right-of-way line of Schoenthal Road, same being the northwest line of said 147.17-acre tract, N26°26'13"E 2621.34 feet to said POINT OF BEGINNING and containing 96.79 acres [4,215,953 SQ. FT.].

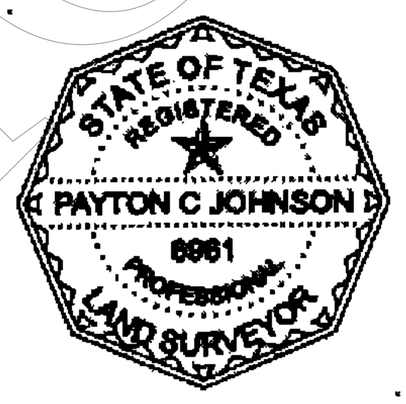
Basis of bearings is the Texas Coordinate System, South Central Zone (4204), North American Datum of 1983, 2011 adjustment (Epoch 2010.00) using the Leica Smartnet Network. All distances are surface values and may be converted to grid by using the surface adjustment factor of 0.999843856555. Units: US Survey Feet.

This survey was performed without the benefit of a commitment for title insurance. Easements or other matters of record may exist where none are shown.

I, Payton C. Johnson, Registered Professional Land Surveyor, hereby certify that this property description and accompanying plat of even date represent an actual survey performed on the ground under my supervision.

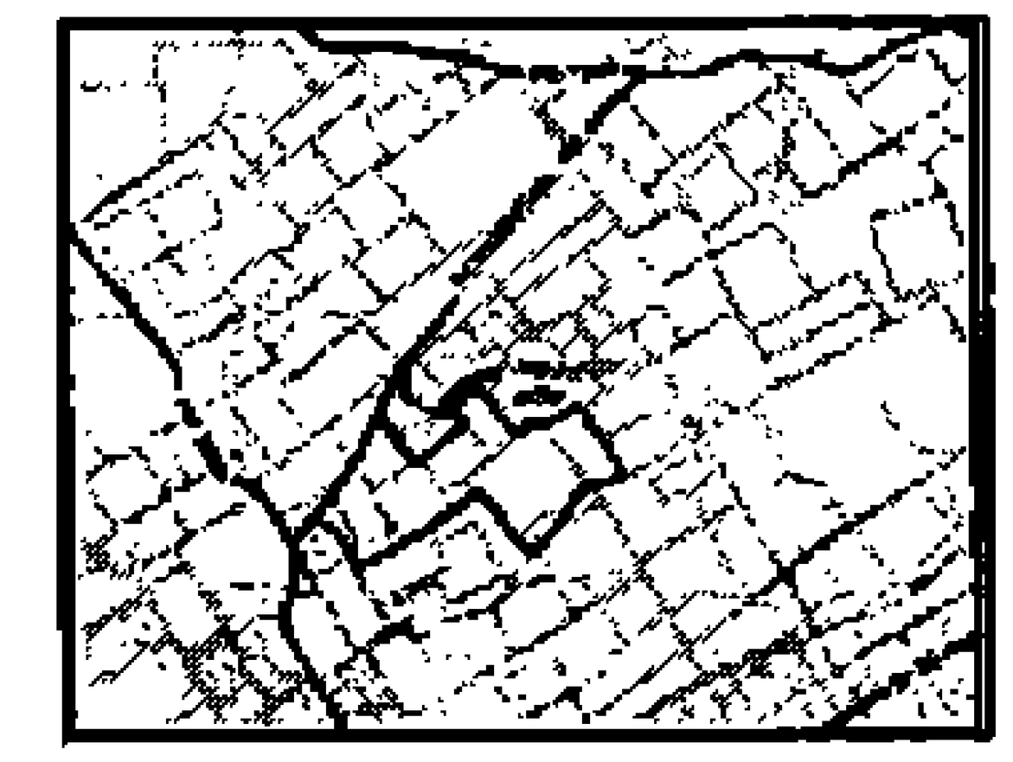
07/21/2023
Date

Payton C. Johnson
Registered Professional Land Surveyor
Texas Registration No. 6961
Baseline Corporation | TxSurv F-10030200
pjohnson@baselinesurveyors.net



VICINITY MAP

SCALE: N.T.S.



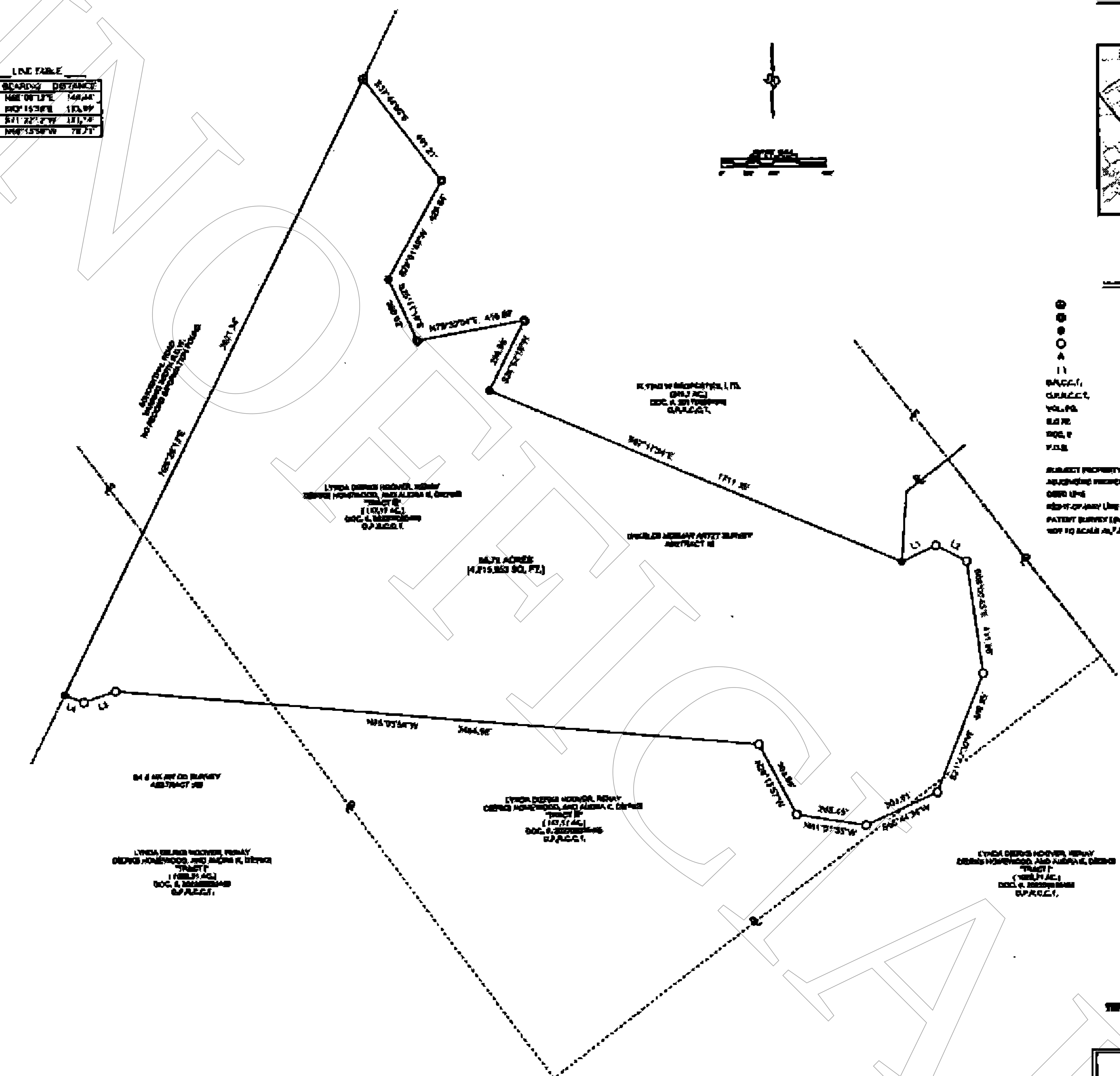
LEGEND

⊕	60D NAIL IN 8" CEDAR FENCE POST
●	8" CEDAR FENCE POST
●	6" CEDAR FENCE POST
○	1/2-INCH IRON ROD MARKED "BASELINE CORP." SET
▲	CALCULATED POINT
( )	RECORD INFORMATION
D.R.C.C.T.	DEED RECORDS OF COMAL COUNTY, TEXAS
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS
VOL. PG.	VOLUME, PAGE
R.O.W.	RIGHT-OF-WAY
DOC. #	DOCUMENT NUMBER
P.O.B.	POINT OF BEGINNING

SUBJECT PROPERTY LINE
ADJOINING PROPERTY LINE
DEED LINE
RIGHT-OF-WAY LINE
PATENT SURVEY LINE
NOT TO SCALE (N.T.S.)

LINE TABLE

LINE	BEARING	DISTANCE
L1	N88°09'13"E	146.44'
L2	N00°15'30"E	153.99'
L3	S11°22'27"W	131.74'
L4	N46°15'58"W	78.71'



LEGAL DESCRIPTION OF LAND:

[illegible]

SURVEYORS NOTES:

[illegible]

TSPS CATEGORY 1B, CONDITION II STANDARD LAND SURVEY OF [illegible] ACRES OUT OF TRACT I AND TRACT II AS RECORDED IN DOC. # [illegible] O.P.R.C.C.T.

BASELINE

DCCM

Exhibit A-2

Tract II - 200.1 acres

54.98 acres, a part of F. Zercher Survey No. 679, Abst. No. 693; 9.78 acres, a part of the N. Zercher Survey No. 440, Abst. No. 688; 74.84 acres, a part of S. A. & M. G. RR. Survey No. 317, Abst. 592; 15.00 acres, a part of Chas. H. Artzt Survey No. 318, Abst. No. 10; 45.50 acres, a part of Joseph Thompson Survey No. 756, Abst. No. 612, in Comal County, Texas;

Out of a 1250.6 acres tract conveyed by Herman Dierks et ux to Eldor Dierks by deed dated May 6, 1933, and recorded in Volume 62, pages 343-344, of the Comal County Deed Records, and being more particularly described by metes and bounds as follows, to-wit:

BEGINNING at a corner fence post in the northwest line of the Joseph Thompson Survey No. 756, at the south corner of the Adolph Haag survey No. 489, for the west corner of the Eldor Dierks 1250.6 acre tract and for the west corner of this 200,1 acre tract;

THENCE, with fence, N. 52° 09' E. 604.3 varas and N. 50° 40' E. 63.05 varas; N. 50° 07' E. 256.9 varas, and N. 49° 50' E. 126.13 varas to a corner post:

THENCE N, 14° 42' W. 9.6 varas to a pile of rocks at the south corner of the John J. Mickesch 231 acre tract;

THENCE, with the southeast line of said Mickesch tract and northwest line of said Eldor Dierks 1250.6 acre tract as fenced, N. 46° E. 745 varas, and N. 52° E. 624.4 varas to a stake in the northwest line of the relocated Schoenthal Road;

THENCE, in a southwesterly direction with the northwest line of said road, S, 26° 58' W. 3885 feet to a stake at the beginning of a curve to the right; and along the arc of said curve to the right having a radius of 2824.93 feet and a central angle of 10° 18', a distance of 507.8 feet to a stake at the end of said curve; and S. 37° 16' W. 2752.1 feet to a stake in the southwest line of said Eldor Dierks 1250.6 acre tract and northeast line of said Otto Zercher 145.5 acre tract;

THENCE, with the southwest line of said 1250.6 acre tract as fenced, N. 10° W, 54 varas; and N. 43° 11' W. 778.45 varas to the place of beginning, containing 200.1 acres of land.

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
04/15/2024 08:10:53 AM
LAURA 8 Pages(s)
202406011063

County Court of Comal County, Texas

Bobbie Koepp