

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
(TCEQ)

WATER POLLUTION ABATEMENT PLAN  
(WPAP)

For Regulated Entity:

DRAINAGE PLAN FOR 201 VALE STREET

a 0.36-acre property located at:  
201 Vale Street  
Rollingwood, Texas 78746

Prepared for the Customer:

Nalle Custom Homes, Inc.  
105 Applewood Drive  
Cedar Creek, Texas 78612

Prepared by the Applicant:

Mr. Robert Thompson, P.E.  
Thompson Land Engineering, LLC  
904 N Cuernavaca DR  
Austin, Texas 78733

**April 2023**

# Water Pollution Abatement Plan (WPAP) 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 sealing a feature
  - Attachment F - Structural Practices
  - Attachment G - Drainage Area Map
  - Attachment H - Temporary Sediment Pond(s) Plans and Calculations
  - Attachment I - Inspection and Maintenance for BMPs
  - Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices
- ✓ **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)**
- ✓ **Check Payable to the “Texas Commission on Environmental Quality (TCEQ)”**
- ✓ **Core Data Form (TCEQ-10400)**

# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### Our Review of Your Application

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

### Administrative Review

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

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

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

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

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

### Technical Review

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



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

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

<b>1. Regulated Entity Name:</b> Drainage Plan for 201 Vale Street					<b>2. Regulated Entity No.:</b>				
<b>3. Customer Name:</b> Nalle Custom Homes, Inc.					<b>4. Customer No.:</b> CN602982498				
<b>5. Project Type:</b> (Please circle/check one)	<input checked="" type="radio"/> New	Modification			Extension		Exception		
<b>6. Plan Type:</b> (Please circle/check one)	<input checked="" type="radio"/> WPAP	<input type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EXP	<input type="radio"/> EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	<input checked="" type="radio"/> Residential		Non-residential			<b>8. Site (acres):</b>		0.36-acre	
<b>9. Application Fee:</b>	\$650.00		<b>10. Permanent BMP(s):</b>			2 (two) grassy swales			
<b>11. SCS (Linear Ft.):</b>	0 (zero)		<b>12. AST/UST (No. Tanks):</b>			0 (zero)			
<b>13. County:</b>	Travis		<b>14. Watershed:</b>			Lady Bird Lake			

# Application Distribution


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

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf)

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

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

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Trinity-Glen Rose	<u>—</u> Edwards Aquifer Authority	<u>—</u> Kinney	<u>—</u> EAA <u>—</u> Medina	<u>—</u> EAA <u>—</u> Uvalde
City(ies) Jurisdiction	<u>—</u> Castle Hills <u>—</u> Fair Oaks Ranch <u>—</u> Helotes <u>—</u> Hill Country Village <u>—</u> Hollywood Park <u>—</u> San Antonio (SAWS) <u>—</u> Shavano Park	<u>—</u> Bulverde <u>—</u> Fair Oaks Ranch <u>—</u> Garden Ridge <u>—</u> New Braunfels <u>—</u> Schertz	NA	<u>—</u> 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.	
Robert Thompson	
Print Name of Customer/Authorized Agent	
	05/06/2023
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 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: Robert Thompson

Date: 04/24/2023

Signature of Customer/Agent:



## Project Information

1. Regulated Entity Name: Drainage Plan for 201 Vale Street
2. County: Travis
3. Stream Basin: Lady Bird Lake
4. Groundwater Conservation District (If applicable): Barton Springs / Edwards Aquifer
5. Edwards Aquifer Zone:  
☒ Recharge Zone  
☐ Transition Zone
6. Plan Type:  

<input checked="" type="checkbox"/> WPAP	<input type="checkbox"/> AST
<input type="checkbox"/> SCS	<input type="checkbox"/> UST
<input type="checkbox"/> Modification	<input type="checkbox"/> Exception Request

7. Customer (Applicant):

Contact Person: Paul Zubeldia

Entity: Nalle Custom Homes, Inc.

Mailing Address: 105 Applewood Drive

City, State: Cedar Creek, Texas

Zip: 78612

Telephone: \_\_\_\_\_

FAX: \_\_\_\_\_

Email Address: \_\_\_\_\_

8. Agent/Representative (If any):

Contact Person: Robert Thompson, P.E.

Entity: Thompson Land Engineering, LLC

Mailing Address: 904 N Cuernavaca Drive

City, State: Austin, Texas

Zip: 78733

Telephone: 512-328-0002

FAX: 512-328-1112

Email Address: ric@tleng.net

9. Project Location:

- ☒ The project site is located inside the city limits of Rollingwood.
- ☐ 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 site is located on the east side of Vale Street, directly across the street where Hatley Drive ends at Vale street (north of Rollingwood Drive and south of Stratford Drive).

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: already an established lot

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)

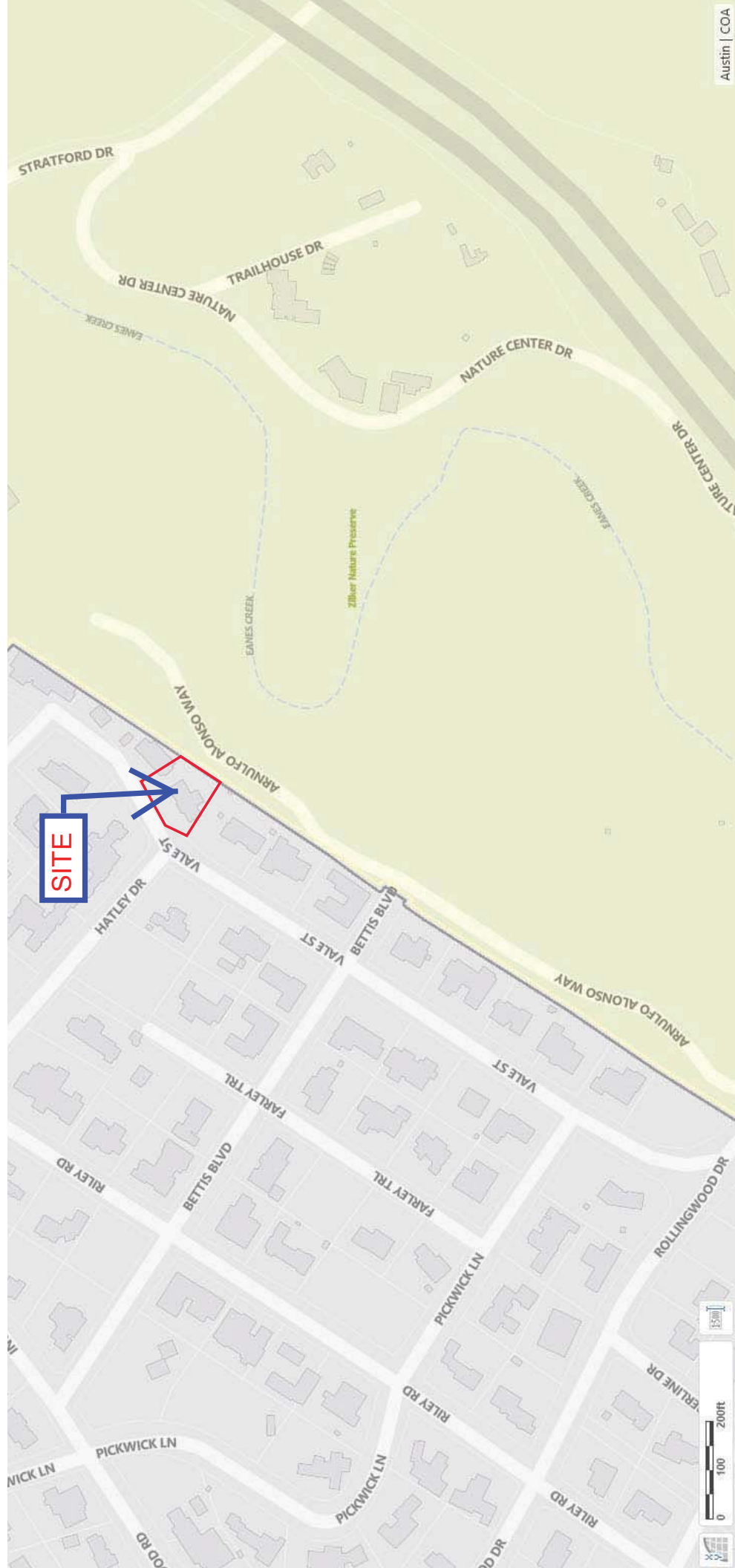
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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



# ATTACHMENT A

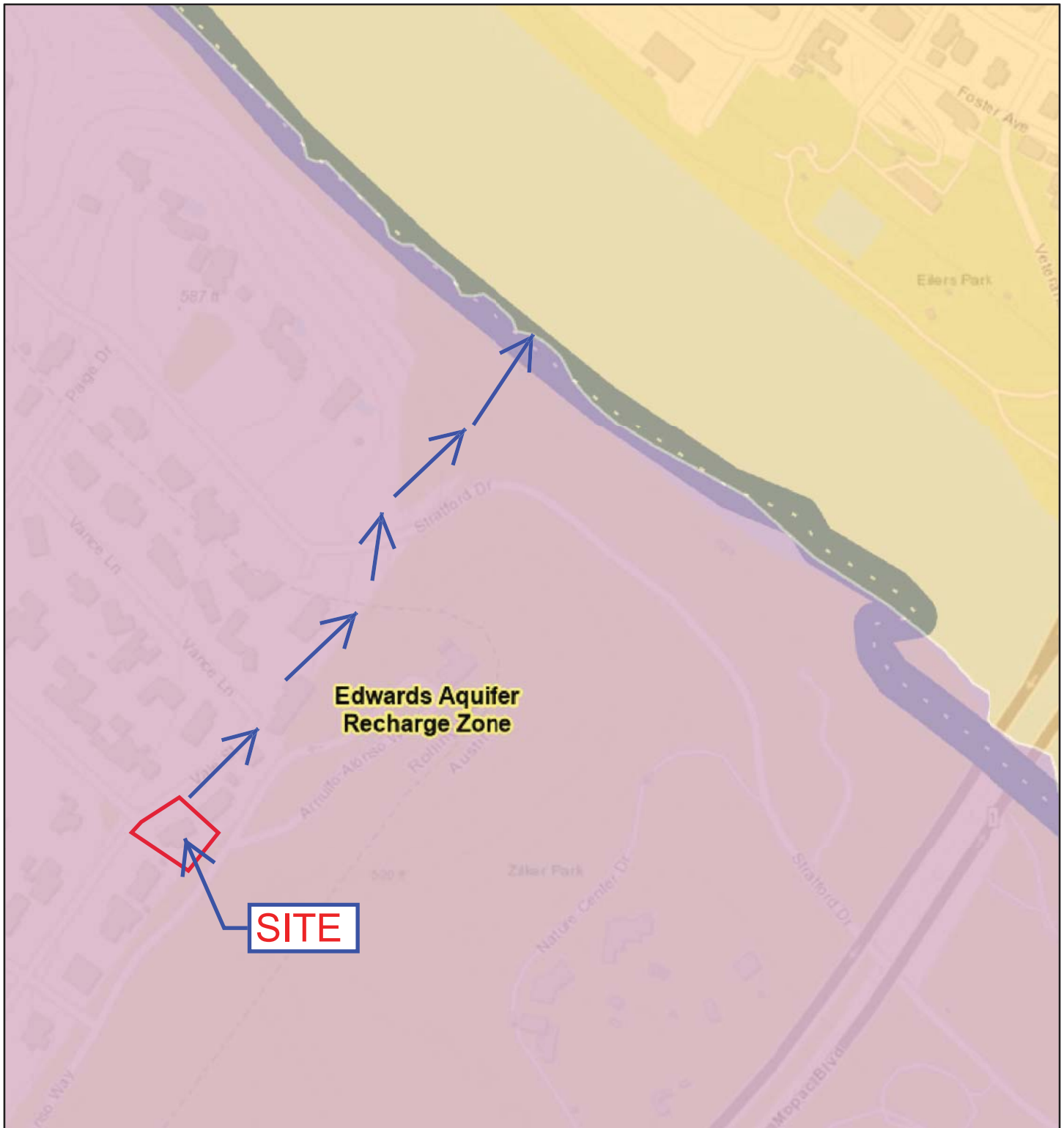
## Road Map





# ATTACHMENT B

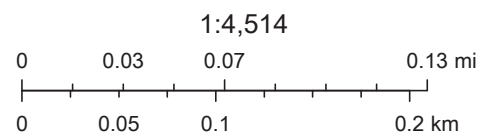
## Edwards Recharge Zone Map



4/24/2023, 7:15:21 PM

- Edwards Aquifer Label
- Edwards Aquifer Boundary
- Edwards Aquifer Boundary central line
- City/Place

- Groundwater Conservation Districts
- Barton Springs/Edwards Aquifer CD
- TX Counties
- 7.5 Minute Quad Grid
- TCEQ\_EDWARDS\_OFFICIAL\_MAPS



Austin Community College, City of Austin, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, TCEQ

## **ATTACHMENT C – PROJECT DESCRIPTION**

This Water Pollution Abatement Plan (WPAP) application is being submitted for the proposed construction on a 0.36-acre lot in the City of Rollingwood, Travis County, Texas. The property located at 201 Vale Street, an existing residential structure that is estimated to have been built in 1965. The planned construction with this application includes the demolition of the existing residence, including the driveway and associated pavement. A new residential structure and associated improvements, such as the driveways, utilities, swimming pool and the water quality and detention facilities that are proposed with this WPAP.

All the work will take place onsite, except for the driveway and sidewalk approaches along Vale Street. There will not be any aboveground or underground storage tanks that are proposed for this project.

For the total suspended solids (TSS) removal calculations, approximately 0.3-acres of proposed onsite impervious cover (IC) and 0.1-acres of offsite IC will be treated by two (2) Grassy Swales that will be located on two (2) separate sides of the proposed residential structure (west and north sides of this property). The Grassy Swales have been designed per the current TCEQ Technical Guidance Manual – see the attached construction plan sheets for further information and a breakdown of IC and drainage area going to each swale, along with their required and proposed widths, slopes, velocities, and lengths.

These swales are designed to have bottom widths of 10 and 5 feet, respectively per swale, and both having 3:1 side slopes and a 1.5% swale slopes. The design flow water depth will be less than two (2) inches in each swale.

The runoff from both swales combines in the northwest corner of the property where a small proposed wall will detain the water to match the existing flow conditions. There are no additional water quality controls proposed with this application.

# 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: Robert Thompson

Date: 04/24/2023

Signature of Customer/Agent:



**Regulated Entity Name:** Drainage Plan for 201 Vale Street

## Regulated Entity Information

1. The type of project is:

- ☒ Residential: Number of Lots: 1
- ☐ Residential: Number of Living Unit Equivalents:
- ☐ Commercial
- ☐ Industrial
- ☐ Other:

2. Total site acreage (size of property): 0.362

3. Estimated projected population: 3.0

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

**Table 1 - Impervious Cover Table**

<b>Impervious Cover of Proposed Project</b>	<b>Sq. Ft.</b>	<b>Sq. Ft./Acre</b>	<b>Acres</b>
Structures/Rooftops	6,193	÷ 43,560 =	0.142
Parking	1,048	÷ 43,560 =	0.024
Other paved surfaces	1,221	÷ 43,560 =	0.028
Total Impervious Cover	8,462	÷ 43,560 =	0.194

**Total Impervious Cover 0.194 ÷ Total Acreage 0.362 X 100 = 53.6% 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<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

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

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

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/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:

<u>100%</u> Domestic	<u>245</u> Gallons/day
<u>      </u> % Industrial	<u>      </u> Gallons/day
<u>      </u> % Commingled	<u>      </u> Gallons/day
TOTAL gallons/day <u>245</u>	

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 South Austin Regional WW (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" = 10'.

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): FEMA FIRM 48453C0445K, dated 01/22/2020

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**

*The following are believed to be the potential sources of sediment to stormwater:*

- 1) Disturbed earth from rough grading,
- 2) road base for pavement, and
- 3) disturbed earth from the construction of the water quality control

*The following are believed to be potential pollutants and sources, other than sediment, to stormwater runoff:*

- 1) Construction debris (e.g., wood form boards, nails, tie wire for rebar, survey laths, survey tape, etc.),
- 2) Floatable items, such as cups and paper,
- 3) possible oils from leaking machinery,
- 4) possible fuel should any refueling activity occur,
- 5) possible concrete materials from truck washout activities (if not bound in the solidifying mass), and
- 6) possible paint from striping activities (if not adhered to something large).

## **ATTACHMENT B – VOLUME AND CHARACTER OF STORM WATER**

The proposed work with this application is not expected to produce a significant amount of volume from the stormwater, due to the relatively small site and disturbance area. Additionally, the quality of the stormwater is expected to be improved from the existing conditions, since the proposed impervious cover being added will be treated by a proposed water quality control.

Pre-construction runoff coefficient = 83.76

Post-construction runoff coefficient = 86.23

## **ATTACHMENT C – SUITABILITY LETTER FROM AUTHORIZED AGENT**

This is not applicable for this project

## **ATTACHMENT D – EXCEPTION TO THE REQUIRED GEOLOGIC ASSESSMENT**

This property is in a single-family subdivision constructed on less than 10-acres and is, therefore, exempt from providing a Geologic Assessment (per the Texas Administrative Code, Title 30, Chapter 213).



# 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: Robert Thompson

Date: 05/06/2023

Signature of Customer/Agent:



Regulated Entity Name: Drainage Plan for 201 Vale Street

## 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: Lady Bird Lake

### ***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 response actions will be in accordance with Texas Administrative Code (TAC) Title 30, Chapter 327. Corresponding notes have been developed based on that section of the TAC and are included on the General Notes page (in the attached construction plan set) and is also copied below (and continues through to page 7).

The person responsible for cleaning up a spill is:

- the owner or operator of a **facility** from which a spill emanates;
- the owner, operator, or demise charterer of a **vessel** from which a spill emanates; or
- any other person who **causes, suffers, allows, or permits** a spill or discharge.

### **Notification, emergency response, spill cleanups that take less than 180 days:**

- See <https://www.tceq.texas.gov/response/index.html>. Most spills requiring less than 6 months of cleanup are reviewed by the **TCEQ Austin Regional** office staff at (512) 339-2929 (Monday-Friday, 8 a.m. – 5 p.m.) or
- State of Texas Spill-Reporting Hotline at (800) 832-8224 (24-hours)

Cleanups requiring **more than 180 days and spills that impact groundwater** may be referred from the Region office to the Remediation Division for oversight.

Contact:

- The **TCEQ Austin Regional office** at (512) 339-2929, for Travis county or
- The TCEQ Remediation Division, Environmental Cleanup sections at: (512) 239-2200.

## **SPILL PREVENTION AND CONTROL NOTES** **(BASED ON TAC 30.327)**

A DISCHARGE OR SPILL IS AN ACT OR OMISSION BY WHICH OIL, HAZARDOUS SUBSTANCES, WASTE, OR OTHER SUBSTANCES ARE SPILLED, LEAKED, PUMPED, POURED, EMITTED, ENTERED, OR DUMPED ONTO OR INTO WATERS IN THE STATE OF TEXAS OR BY WHICH THOSE SUBSTANCES ARE DEPOSITED WHERE, UNLESS

CONTROLLED OR REMOVED, THEY MAY DRAIN, SEEP, RUN, OR OTHERWISE ENTER WATER IN THE STATE OF TEXAS.

**NOTIFICATION REQUIREMENTS**

(A) REPORTABLE DISCHARGE OR SPILL. A REPORTABLE DISCHARGE OR SPILL IS A DISCHARGE OR SPILL OF OIL, PETROLEUM PRODUCT, USED OIL, HAZARDOUS SUBSTANCES, INDUSTRIAL SOLID WASTE, OR OTHER SUBSTANCES INTO THE ENVIRONMENT IN A QUANTITY EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY LISTED IN SECTION 327.4 OF THIS TITLE (RELATING TO REPORTABLE QUANTITIES) IN ANY 24-HOUR PERIOD.

(B) INITIAL NOTIFICATION. UPON THE DETERMINATION THAT A REPORTABLE DISCHARGE OR SPILL HAS OCCURRED, THE CONTRACTOR SHALL NOTIFY THE TCEQ AS SOON AS POSSIBLE BUT NOT LATER THAN 24 HOURS AFTER THE DISCOVERY OF THE SPILL OR DISCHARGE.

(C) METHOD OF NOTIFICATION. THE CONTRACTOR SHALL NOTIFY THE TCEQ IN ANY REASONABLE MANNER INCLUDING BY TELEPHONE, IN PERSON, OR BY ANY OTHER METHOD APPROVED BY THE TCEQ. IN ALL CASES, THE INITIAL NOTIFICATION SHALL PROVIDE, TO THE EXTENT KNOWN, THE INFORMATION LISTED IN SUBSECTION (D) OF THIS SECTION. NOTICE PROVIDED UNDER THIS SECTION SATISFIES THE FEDERAL REQUIREMENT TO NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION IN THE STATE OF TEXAS. THE CONTRACTOR SHALL NOTIFY ONE OF THE FOLLOWING:

- (1) THE STATE EMERGENCY RESPONSE CENTER AT 1-800-832-8224;
- (2) DURING NORMAL BUSINESS HOURS ONLY, THE REGIONAL OFFICE FOR THE TCEQ REGION IN WHICH THE DISCHARGE OR SPILL OCCURRED; OR
- (3) THE TCEQ AT THE TCEQ 24-HOUR SPILL REPORTING NUMBER (512) 239-2507 OR (512) 463-7727.

(D) INFORMATION REQUIRED IN INITIAL NOTIFICATION. THE INITIAL NOTIFICATION SHALL PROVIDE, TO THE EXTENT KNOWN, THE INFORMATION IN THE FOLLOWING LIST. COPIES OF SPILL REPORTS PREPARED FOR OTHER GOVERNMENTAL AGENCIES SHALL SATISFY THIS REQUIREMENT IF THEY CONTAIN, OR ARE SUPPLEMENTED TO CONTAIN, ALL THE INFORMATION REQUIRED BY THIS SUBSECTION. THE INITIAL NOTIFICATION SHALL CONTAIN:

(1) THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PERSON MAKING THE TELEPHONE REPORT;

(2) THE DATE, TIME, AND LOCATION OF THE SPILL OR DISCHARGE;

(3) A SPECIFIC DESCRIPTION OR IDENTIFICATION OF THE OIL, PETROLEUM PRODUCT, HAZARDOUS SUBSTANCES OR OTHER SUBSTANCES DISCHARGED OR SPILLED;

(4) AN ESTIMATE OF THE QUANTITY DISCHARGED OR SPILLED;

(5) THE DURATION OF THE INCIDENT;

(6) THE NAME OF THE SURFACE WATER OR A DESCRIPTION OF THE WATERS IN THE STATE AFFECTED OR THREATENED BY THE DISCHARGE OR SPILL;

(7) THE SOURCE OF THE DISCHARGE OR SPILL;

(8) A DESCRIPTION OF THE EXTENT OF ACTUAL OR POTENTIAL WATER POLLUTION OR HARMFUL IMPACTS TO THE ENVIRONMENT AND AN IDENTIFICATION OF ANY ENVIRONMENTALLY SENSITIVE AREAS OR NATURAL RESOURCES AT RISK;

(9) IF DIFFERENT FROM PARAGRAPH (1) OF THIS SUBSECTION, THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF THE CONTRACTOR AND THE CONTACT PERSON AT THE LOCATION OF THE DISCHARGE OR SPILL;

(10) A DESCRIPTION OF ANY ACTIONS THAT HAVE BEEN TAKEN, ARE BEING TAKEN, AND WILL BE TAKEN TO CONTAIN AND RESPOND TO THE DISCHARGE OR SPILL;

(11) ANY KNOWN OR ANTICIPATED HEALTH RISKS;

(12) THE IDENTITY OF ANY GOVERNMENTAL REPRESENTATIVES, INCLUDING LOCAL AUTHORITIES OR THIRD PARTIES, RESPONDING TO THE DISCHARGE OR SPILL; AND

(13) ANY OTHER INFORMATION THAT MAY BE SIGNIFICANT TO THE RESPONSE ACTION.

(E) UPDATE NOTIFICATION. THE CONTRACTOR SHALL NOTIFY THE TCEQ AS SOON AS POSSIBLE WHENEVER NECESSARY TO PROVIDE INFORMATION THAT WOULD TRIGGER A CHANGE IN THE RESPONSE TO THE SPILL OR DISCHARGE.

(F) CORRECTION OF RECORDS. NOTIFYING THE TCEQ THAT A REPORTABLE DISCHARGE OR SPILL HAS OCCURRED SHALL NOT BE CONSTRUED AS AN ADMISSION THAT POLLUTION HAS OCCURRED. FURTHERMORE, IF THE CONTRACTOR DETERMINES, AFTER NOTIFICATION, THAT A REPORTABLE DISCHARGE OR SPILL DID NOT OCCUR, THE CONTRACTOR MAY SEND A LETTER TO



THE TCEQ DOCUMENTING THAT DETERMINATION. IF THE EXECUTIVE DIRECTOR AGREES WITH THAT DETERMINATION, THE EXECUTIVE DIRECTOR WILL NOTE THE DETERMINATION IN COMMISSION RECORDS. IF THE EXECUTIVE DIRECTOR DISAGREES WITH THAT DETERMINATION, THE EXECUTIVE DIRECTOR WILL NOTIFY THE CONTRACTOR WITHIN 30 DAYS.

(G) NOTIFICATION OF LOCAL GOVERNMENTAL AUTHORITIES. IF THE DISCHARGE OR SPILL CREATES AN IMMINENT HEALTH THREAT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY AND COOPERATE WITH LOCAL EMERGENCY AUTHORITIES (FIRE DEPARTMENT, FIRE MARSHAL, LAW ENFORCEMENT AUTHORITY, HEALTH AUTHORITY, OR LOCAL EMERGENCY PLANNING COMMITTEE (LEPC), AS APPROPRIATE). THE RESPONSIBLE PARTY WILL COOPERATE WITH THE LOCAL EMERGENCY AUTHORITY IN PROVIDING SUPPORT TO IMPLEMENT APPROPRIATE NOTIFICATION AND RESPONSE ACTIONS. THE LOCAL EMERGENCY AUTHORITY, AS NECESSARY, WILL IMPLEMENT ITS EMERGENCY MANAGEMENT PLAN, WHICH MAY INCLUDE NOTIFYING AND EVACUATING AFFECTED PERSONS. IN THE ABSENCE OF A LOCAL EMERGENCY AUTHORITY, THE CONTRACTOR SHALL TAKE REASONABLE MEASURES TO NOTIFY POTENTIALLY AFFECTED PERSONS OF THE IMMINENT HEALTH THREAT.

(H) NOTIFICATION TO PROPERTY OWNER AND RESIDENTS. AS SOON AS POSSIBLE, BUT NO LATER THAN TWO WEEKS AFTER DISCOVERY OF THE SPILL OR DISCHARGE, THE CONTRACTOR SHALL REASONABLY ATTEMPT TO NOTIFY THE OWNER (IF IDENTIFIABLE) OR OCCUPANT OF THE PROPERTY UPON WHICH THE DISCHARGE OR SPILL OCCURRED AS WELL AS THE OCCUPANTS OF ANY PROPERTY THAT THE CONTRACTOR REASONABLY BELIEVES IS ADVERSELY AFFECTED.

(I) ADDITIONAL NOTIFICATION REQUIRED.

(1) NOTICE PROVIDED UNDER THIS SECTION SATISFIES THE FEDERAL REQUIREMENT TO NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION IN THE STATE OF TEXAS. HOWEVER, COMPLYING WITH THE NOTIFICATION REQUIREMENTS SET FORTH IN THIS SECTION DOES NOT RELIEVE, SATISFY, OR FULFILL ANY OTHER NOTIFICATION REQUIREMENTS IMPOSED BY PERMIT OR OTHER LOCAL, STATE, OR FEDERAL LAW. THE CONTRACTOR SHOULD CONTACT THE LOCAL AUTHORITIES TO DETERMINE IF ANY ADDITIONAL NOTIFICATION IS REQUIRED AND SHOULD CONSULT WITH THE TECQ AS TO WHETHER ANY ADDITIONAL STATE OR FEDERAL NOTIFICATION IS REQUIRED.

(J) ALTERNATIVE NOTIFICATION PLANS.

(1) CONTRACTORS IN CHARGE OF ACTIVITIES AND FACILITIES MAY SUBMIT AND IMPLEMENT AN ALTERNATIVE NOTIFICATION PLAN. THIS ALTERNATIVE NOTIFICATION PLAN SHALL COMPLY WITH THE TEXAS WATER CODE, SECTION 26.039. CONTRACTORS SHALL OBTAIN THE TCEQ'S WRITTEN APPROVAL BEFORE IMPLEMENTING ANY ALTERNATIVE NOTIFICATION PLAN.

(2) UPON APPROVAL OF THE TCEQ REGIONAL MANAGER, CONTRACTORS MAY PROVIDE THE INITIAL NOTIFICATION BY FACSIMILE TO THE REGIONAL OFFICE DURING NORMAL BUSINESS HOURS.

**REPORTABLE QUANTITIES (RQ)**

(A) HAZARDOUS SUBSTANCES. THE REPORTABLE QUANTITIES FOR HAZARDOUS SUBSTANCES SHALL BE:

(1) FOR SPILLS OR DISCHARGES ONTO LAND--THE QUANTITY DESIGNATED AS THE FINAL REPORTABLE QUANTITY (RQ) IN TABLE 302.4 IN 40 CFR SECTION 302.4; OR

(2) FOR SPILLS OR DISCHARGES INTO WATERS IN THE STATE--THE QUANTITY DESIGNATED AS THE FINAL RQ IN TABLE 302.4 IN 40 CFR SECTION 302.4, EXCEPT WHERE THE FINAL RQ IS GREATER THAN 100 POUNDS IN WHICH CASE THE RQ SHALL BE 100 POUNDS.

(B) OIL, PETROLEUM PRODUCT, AND USED OIL.

(1) THE RQ FOR CRUDE OIL AND OIL OTHER THAN THAT DEFINED AS PETROLEUM PRODUCT OR USED OIL SHALL BE:

(A) FOR SPILLS OR DISCHARGES ONTO LAND--210 GALLONS (FIVE BARRELS); OR

(B) FOR SPILLS OR DISCHARGES DIRECTLY INTO WATER IN THE STATE--QUANTITY SUFFICIENT TO CREATE A SHEEN.

(2) THE RQ FOR PETROLEUM PRODUCT AND USED OIL SHALL BE:

(A) EXCEPT AS NOTED IN SUBPARAGRAPH (B) OF THIS PARAGRAPH, FOR SPILLS OR DISCHARGES ONTO LAND--25 GALLONS;

(B) FOR SPILLS OR DISCHARGES TO LAND FROM PST EXEMPTED FACILITIES--210 GALLONS (FIVE BARRELS); OR

(C) FOR SPILLS OR DISCHARGES DIRECTLY INTO WATER IN THE STATE--QUANTITY SUFFICIENT TO CREATE A SHEEN.

(C) INDUSTRIAL SOLID WASTE OR OTHER SUBSTANCES. THE RQ FOR SPILLS OR DISCHARGES INTO WATER IN THE STATE SHALL BE 100 POUNDS.

**ACTIONS REQUIRED**

(A) THE CONTRACTOR SHALL IMMEDIATELY ABATE AND CONTAIN THE SPILL OR DISCHARGE AND COOPERATE FULLY WITH THE EXECUTIVE DIRECTOR AND THE LOCAL INCIDENT COMMAND SYSTEM. THE CONTRACTOR SHALL ALSO BEGIN REASONABLE RESPONSE ACTIONS WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING ACTIONS:

- (1) ARRIVAL OF THE CONTRACTOR OR RESPONSE PERSONNEL HIRED BY THE CONTRACTOR AT THE SITE OF THE DISCHARGE OR SPILL;
- (2) INITIATING EFFORTS TO STOP THE DISCHARGE OR SPILL;
- (3) MINIMIZING THE IMPACT TO THE PUBLIC HEALTH AND THE ENVIRONMENT;
- (4) NEUTRALIZING THE EFFECTS OF THE INCIDENT;
- (5) REMOVING THE DISCHARGED OR SPILLED SUBSTANCES; AND
- (6) MANAGING THE WASTES.

(B) UPON REQUEST OF THE LOCAL GOVERNMENT RESPONDERS OR THE EXECUTIVE DIRECTOR, THE CONTRACTOR SHALL PROVIDE A VERBAL OR WRITTEN DESCRIPTION, OR BOTH, OF THE PLANNED RESPONSE ACTIONS AND ALL ACTIONS TAKEN BEFORE THE LOCAL GOVERNMENTAL RESPONDERS OR THE EXECUTIVE DIRECTOR ARRIVE. WHEN THE TCEQ ON-SCENE COORDINATOR REQUESTS THIS INFORMATION, IT IS SUBJECT TO POSSIBLE ADDITIONAL RESPONSE ACTION REQUIREMENTS BY THE EXECUTIVE DIRECTOR. THE INFORMATION WILL SERVE AS A BASIS FOR THE EXECUTIVE DIRECTOR TO DETERMINE THE NEED FOR:

- (1) FURTHER RESPONSE ACTIONS BY THE CONTRACTOR;
- (2) INITIATING STATE FUNDED ACTIONS FOR WHICH THE CONTRACTOR MAY BE HELD LIABLE TO THE MAXIMUM EXTENT ALLOWED BY LAW; AND
- (3) SUBSEQUENT REPORTS ON THE RESPONSE ACTIONS.

(C) EXCEPT FOR DISCHARGES OR SPILLS OCCURRING DURING THE NORMAL COURSE OF TRANSPORTATION ABOUT WHICH CARRIERS ARE REQUIRED TO FILE A WRITTEN REPORT WITH THE U.S. DEPARTMENT OF TRANSPORTATION UNDER 49 CFR SECTION 171.16, THE CONTRACTOR SHALL SUBMIT WRITTEN INFORMATION, SUCH AS A LETTER, DESCRIBING THE DETAILS OF THE DISCHARGE OR SPILL AND SUPPORTING THE ADEQUACY OF THE RESPONSE ACTION, TO THE APPROPRIATE TCEQ REGIONAL MANAGER WITHIN 30 WORKING DAYS OF THE DISCOVERY OF THE REPORTABLE DISCHARGE OR SPILL. THE REGIONAL MANAGER HAS THE

DISCRETION TO EXTEND THE DEADLINE. THE DOCUMENTATION SHALL CONTAIN ONE OF THE FOLLOWING ITEMS:

(1) A STATEMENT THAT THE DISCHARGE OR SPILL RESPONSE ACTION HAS BEEN COMPLETED AND A DESCRIPTION OF HOW THE RESPONSE ACTION WAS CONDUCTED. THE STATEMENT SHALL INCLUDE THE INITIAL REPORT INFORMATION REQUIRED BY SECTION 327.3(C) OF THIS TITLE (RELATING TO NOTIFICATION REQUIREMENTS). THE EXECUTIVE DIRECTOR MAY REQUEST ADDITIONAL INFORMATION. APPROPRIATE RESPONSE ACTIONS AT ANY TIME FOLLOWING THE DISCHARGE OR SPILL INCLUDE USE OF THE TEXAS RISK REDUCTION PROGRAM RULES IN CHAPTER 350 OF THIS TITLE (RELATING TO TEXAS RISK REDUCTION PROGRAM).

(2) A REQUEST FOR AN EXTENSION OF TIME TO COMPLETE THE RESPONSE ACTION, ALONG WITH THE REASONS FOR THE REQUEST. THE REQUEST SHALL ALSO INCLUDE A PROJECTED WORK SCHEDULE OUTLINING THE TIME REQUIRED TO COMPLETE THE RESPONSE ACTION. THE EXECUTIVE DIRECTOR MAY GRANT AN EXTENSION UP TO SIX MONTHS FROM THE DATE THE SPILL OR DISCHARGE WAS REPORTED. UNLESS OTHERWISE NOTIFIED BY THE APPROPRIATE REGIONAL MANAGER OR THE EMERGENCY RESPONSE TEAM, THE CONTRACTOR SHALL PROCEED ACCORDING TO THE TERMS OF THE PROJECTED WORK SCHEDULE.

(3) A STATEMENT THAT THE DISCHARGE OR SPILL RESPONSE ACTION HAS NOT BEEN COMPLETED NOR IS IT EXPECTED TO BE COMPLETED WITHIN THE MAXIMUM ALLOWABLE SIX MONTH EXTENSION. THE STATEMENT SHALL EXPLAIN WHY COMPLETION OF THE RESPONSE ACTION IS NOT FEASIBLE AND INCLUDE A PROJECTED WORK SCHEDULE OUTLINING THE REMAINING TASKS TO COMPLETE THE RESPONSE ACTION. THIS INFORMATION WILL ALSO SERVE AS NOTIFICATION THAT THE RESPONSE ACTIONS TO THE DISCHARGE OR SPILL WILL BE CONDUCTED UNDER THE TEXAS RISK REDUCTION PROGRAM RULES IN CHAPTER 350 OF THIS TITLE (RELATING TO TEXAS RISK REDUCTION PROGRAM).

## **ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION**

The only “pollutants” expected from the work during construction are sediment. Mostly inert materials (i.e. pipe, wood, drywall, concrete, etc.) will be stored or installed on the site. No off-site fill material is expected to be brought onto the site (other than crushed limestone base, asphalt and concrete). No significant chemicals are planned to be stored or distributed on the site. A portable toilet might be on the site during construction, but no spill is expected from maintaining this toilet. Re-fueling of the vehicles is the only other perceived threat, but short of an accidental spill, no threat should be posed. Trash containers shall be used for the construction debris. The only possible “pollutants” expected after the construction has been completed are: pesticides, fertilizers, automotive fluids, and air conditioning condensate.

## **ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES**

-	Install erosion controls:	less than a 0.1-acre
	Control measure: Silt Fence	approximately 1-week
-	Clear, grub, and rough grade site (for the paving and building pads):	approximately 0.4-acres
	Control measure: Silt Fence	approximately 2-weeks
-	Install water & WW utilities:	approximately 0.2-acres
	Control measure: Silt Fence & Tri. Filter Dikes	approximately 4-weeks
-	Install water quality and detention ponds:	less than a 0.1-acre
	Control measure: Silt Fence	approximately 3-weeks

## **ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)**

As shown on the Erosion and Sedimentation Controls Plan in the construction set, silt fence is shown to be located along the entire down slope grade of this project. No run-off should be able to leave the site without first being filtered by that silt fence. A stabilized construction entrance will be used to facilitate mud on the

wheels of vehicles being removed on site. A concrete washout area shall be provided onsite to prevent or reduce the discharge of pollutants from concrete waste. See further descriptions of these TBMPs in Attachment I in this report.

Any pollutants are expected to be either soil or attached to soil (unless it is trash which will float) and with the silt fence described, that soil (or any floating trash) is expected to be caught and held until removal. Notes are included in the plan set (in relation to the Storm Water Pollution Prevention Plan, SW3P) that specify the minimum maintenance required for silt fence, including cleaning of soil and debris.

There are no sensitive features known to exist near the site; however, run-off will still be released after either filtering through the silt fence or infiltrating through the soil.

#### **ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE**

*This subject is not applicable (n/a) for this project.*

#### **ATTACHMENT F – STRUCTURAL PRACTICES**

The drainage area to the work area will be relatively small; therefore, the flows are not diverted around it. Rather, all of the run-off is caught and filtered through a silt fence. See the discussion under Temporary BMPs and Measures above.

#### **ATTACHMENT G – DRAINAGE AREA MAP**

See the attached construction plan set.

#### **ATTACHMENT H – TEMPORARY SEDIMENT POND(S) PLAN & CALCS**

*This subject is n/a for this project.*

#### **ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPs**

See the attached taken from the TCEQ's Technical Guidance, in addition to the plan sheets for the storm water pollution prevention plan (SWPPP) notes on the General Notes sheet and the Erosion and Sedimentation Controls (ESC) details (stabilized construction entrance, silt fence and concrete washout area) in the

construction plan set for the inspection plan of each of these temporary BMPs and measures.

## **ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES**

The work at this site is relatively small, will happen quickly, and will occur in one phase. The time from the beginning of grading to stabilization is not expected to be more than 11-months; therefore, there is no particular schedule, other than to complete construction as quickly as possible and then to re-vegetate the site as quickly as possible, in accordance with the re-vegetation notes on the construction plans, which are copied below:

### **PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:**

- A. UNLESS DIRECTED OTHERWISE BY THE OWNER, A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND 1-INCH OF TOPSOIL IN OTHER AREAS.
- B. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS:

### **BROADCAST SEEDING:**

- 1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000-SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
- 2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
- 3. OTHER REQUIREMENTS:
  - A. FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000-SF.
  - B. MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000-SF.

**HYDRAULIC SEEDING:**

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000-SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000-SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
3. OTHER REQUIREMENTS:
  - A. FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
  - B. MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
  - C. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF « INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK.
  - D. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1« INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.



# ATTACHMENT I

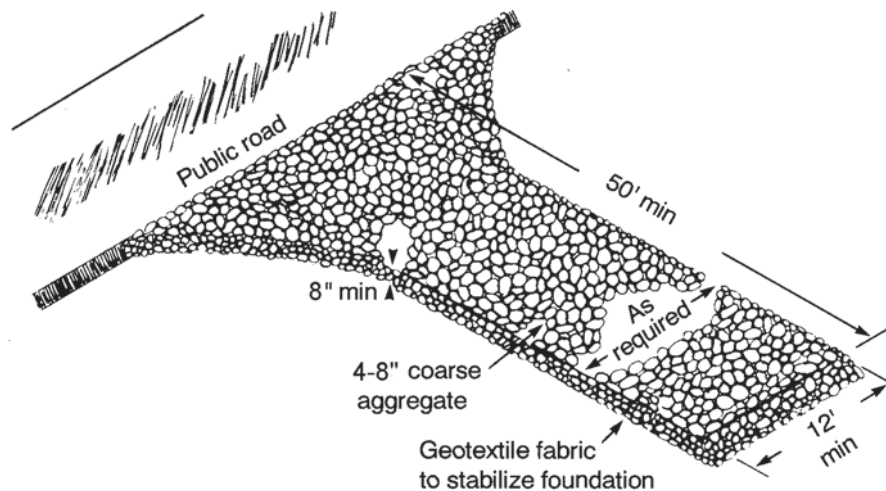
## INSPECTION AND MAINTENANCE OF BMPs

(next 11 pages)

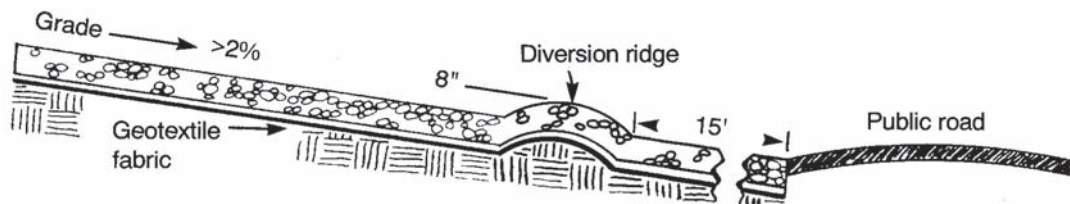
### 1.4.2 Temporary Construction Entrance/Exit

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

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



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



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

**Materials:**

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

**Installation:** (North Carolina, 1993)

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

### **Common trouble points**

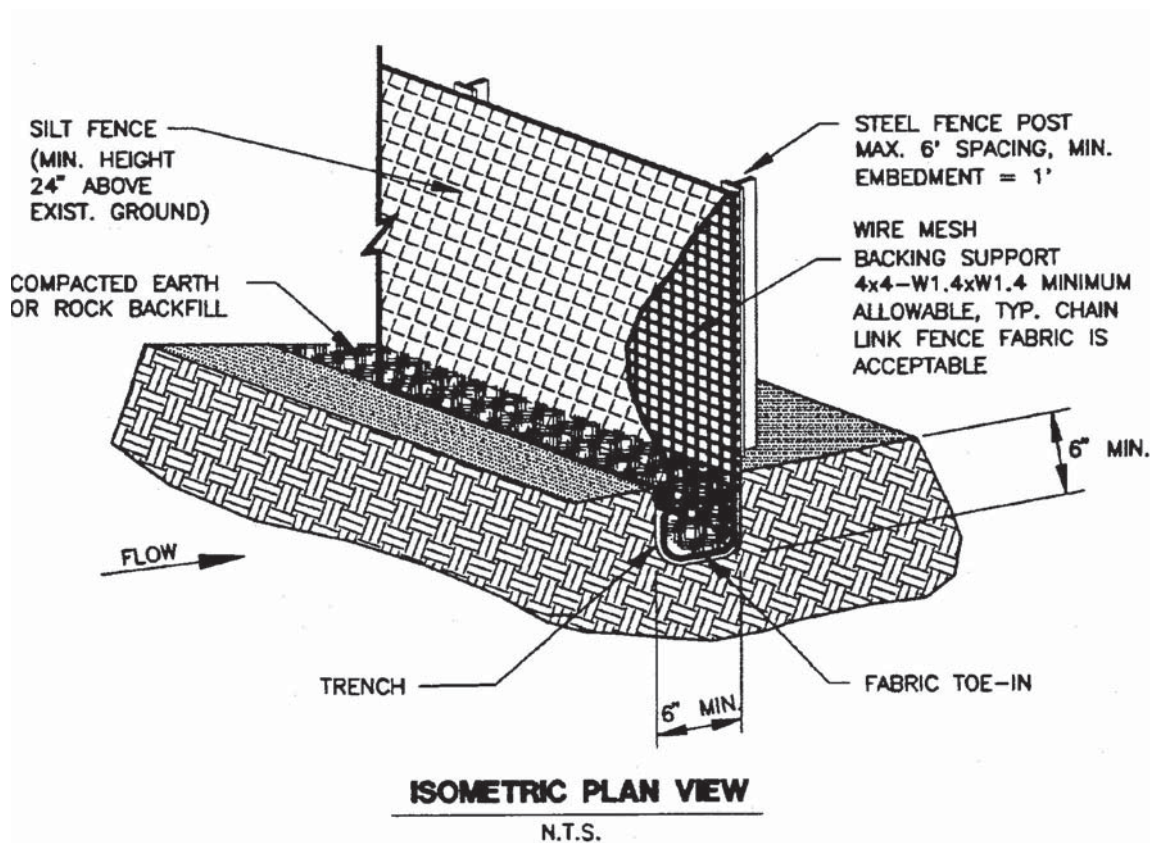
- (1) Inadequate runoff control – sediment washes onto public road.
- (2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.
- (3) Pad too short for heavy construction traffic – extend pad beyond the minimum 50 foot length as necessary.
- (4) Pad not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

### **Inspection and Maintenance Guidelines:**

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

### 1.4.3 Silt Fence

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



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

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

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

### **Materials:**

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

### **Installation:**

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

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

**Common Trouble Points:**

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

**Inspection and Maintenance Guidelines:**

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

#### 1.4.4 Triangular Sediment Filter Dikes

The purpose of a triangular sediment filter dike (Figure 1-27) is to intercept and detain water-borne sediment from unprotected areas of limited extent. The triangular sediment filter dike is used where there is no concentration of water in a channel or other drainage way above the barrier and the contributing drainage area is less than one acre. If the uphill slope above the dike exceeds 10%, the length of the slope above the dike should be less than 50 feet. If concentrated flow occurs after installation, corrective action should be taken such as placing rock berm in the areas of concentrated flow.

This measure is effective on paved areas where installation of silt fence is not possible or where vehicle access must be maintained. The advantage of these controls is the ease with which they can be moved to allow vehicle traffic, then reinstalled to maintain sediment control.

##### **Materials:**

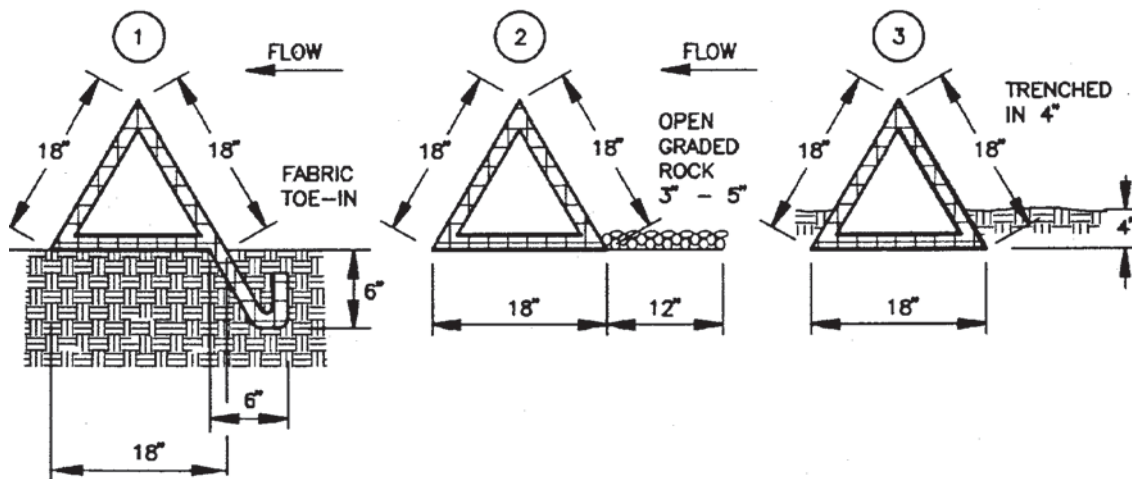
- (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in<sup>2</sup>, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
- (2) The dike structure should be 6 gauge 6" x 6" wire mesh folded into triangular form being eighteen (18) inches on each side.

##### **Installation:**

- (1) As shown in the diagram (Figure 1-27), the frame should be constructed of 6" x 6", 6 gauge welded wire mesh, 18 inches per side, and wrapped with geotextile fabric the same composition as that used for silt fences.
- (2) Filter fabric should lap over ends six (6) inches to cover dike to dike junction; each junction should be secured by shoat rings.
- (3) Position dike parallel to the contours, with the end of each section closely abutting the adjacent sections.
- (4) There are several options for fastening the filter dike to the ground as shown in Figure 1-27. The fabric skirt may be toed-in with 6 inches of compacted material, or 12 inches of the fabric skirt should extend uphill and be secured with a minimum of 3 inches of open graded rock, or with staples or nails. If these two options are not feasible the dike structure may be trenched in 4 inches.



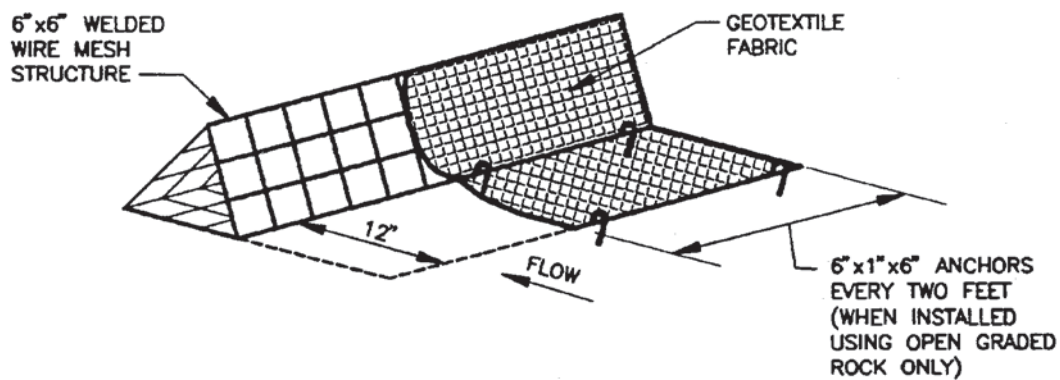
- (5) Triangular sediment filter dikes should be installed across exposed slopes during construction with ends of the dike tied into existing grades to prevent failure and should intercept no more than one acre of runoff.
- (6) When moved to allow vehicular access, the dikes should be reinstalled as soon as possible, but always at the end of the workday.



### **CROSS SECTION OF INSTALLATION OPTIONS**

N.T.S.

1. TOE-IN 6" MIN
2. WEIGHTED W/ 3" - 5" OPEN GRADED ROCK
3. TRENCHED IN 4"



### **ISOMETRIC PLAN VIEW**

N.T.S.

Figure 1-27 Schematic of a Triangular Filter Dike (NCTCOG, 1993)



**Common Trouble Points:**

- (1) Fabric skirt missing, too short, or not securely anchored (flows passing under dike).
- (2) Gap between adjacent dikes (runoff passing between dikes).
- (3) Dike not placed parallel to contour (runoff flowing around dike).

**Inspection and Maintenance Guidelines:**

- (1) Inspection should be made weekly or after each rainfall event and repair or replacement should be made promptly as needed by the contractor.
- (2) Inspect and realign dikes as needed to prevent gaps between sections.
- (3) Accumulated silt should be removed after each rainfall, and disposed of in a manner which will not cause additional siltation.
- (4) After the site is completely stabilized, the dikes and any remaining silt should be removed. Silt should be disposed of in a manner that will not contribute to additional siltation.

#### 1.4.18 Concrete Washout Areas

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

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

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

For onsite washout:

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

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

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

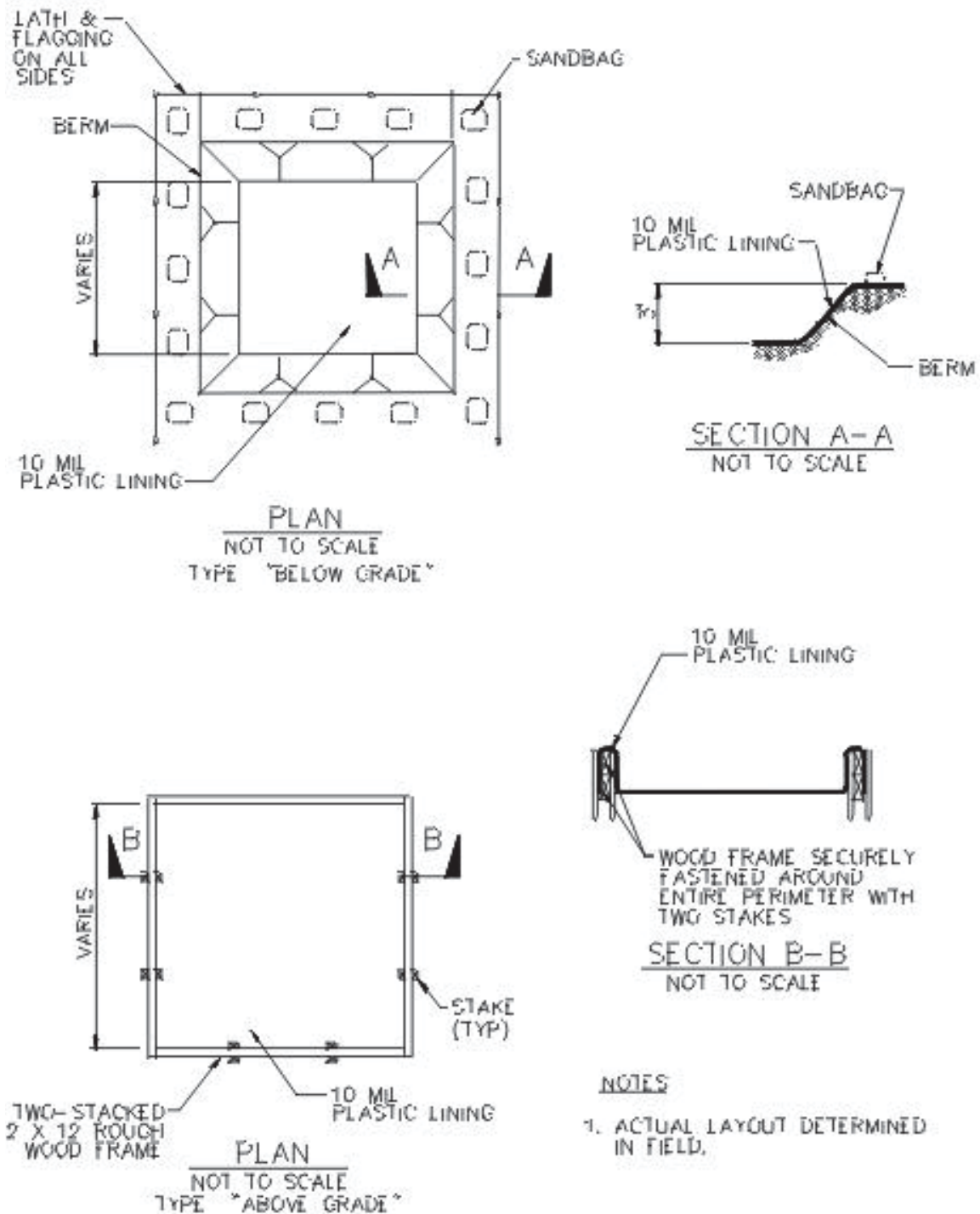


Figure 1-43 Schematics of Concrete Washout Areas

# 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)(li), (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: Robert Thompson

Date: 05/06/2023

Signature of Customer/Agent



Regulated Entity Name: Drainage Plan for 201 Vale Street

## 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**

*This subject is not applicable (n/a) for this project.*

## **ATTACHMENT B – BMPs FOR UPGRADIENT STORMWATER**

This project will have approximately 0.6-acres of up-gradient offsite flow to control, due to the existing topography, as seen on the Existing Drainage Area Map (in the construction plan set). This small area will continue to be routed through the proposed development with this project (and treated by the same two Grassy Swales that will treat the on-site stormwater).

## **ATTACHMENT C – BMPs FOR ON-SITE STORMWATER**

There will be two (2) grassy swales that are proposed to prevent the pollution of surface water or groundwater that originates on-site. All run-off that contacts the proposed impervious areas will flow into one of these water quality controls. (If a pollutant is released, it is most likely expected to be on the impervious area or would end up on the impervious cover that will ultimately be treated by a grassy swale.) The swales will be constructed of earth with 3:1 (33.3%) side slopes and a 1.5% swale slope, as seen in the construction plan set. The TCEQ TSS calculations are provided on the Water Pollution Prevention Plan (sheet 5 of 5). After flowing across the vegetation in the swales, the runoff will enter the proposed detention basin (with a short vertical wall) to detain the flows to pre-existing conditions.

## **ATTACHMENT D – BMPs FOR SURFACE STREAMS**

There are no surface streams, sensitive features, or direct access to the aquifer on this property or immediately downstream; therefore, this subject is n/a.

## **ATTACHMENT E – REQUEST TO SEAL A FEATURE**

*This subject is n/a for this project.*



## **ATTACHMENT F – CONSTRUCTION PLANS**

See attached construction plan set (5 sheets, total), including:

- Sheet 4 = General Notes sheet (for the TCEQ construction notes)
- Sheet 5 = Water Pollution Prevention Plan sheet (for the TCEQ TSS removal calculations)
- There are no known geologic features on this existing residential lot

## **ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN**

See next two (2) pages (the second page is signed by the owner)

## **ATTACHMENT H – PILOT-SCALE FIELD TESTING PLAN**

*This subject is not applicable (n/a) for this project.*

## **ATTACHMENT I – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION**

The storm water discharge from this project is planned to be released out of a detention outfall (slats in a short wall) at the northwest corner of the property. From there, the water will flow into the existing Vale Street right-of-way (ROW) and ultimately, towards and into Lady Bird Lake, as it does in the current flow conditions. The design storm in the grassy swale is proposed to be less than 2-inches with velocities being less than 0.3-fps (and similarly to the detention outfall); therefore, no stream contamination or changes to the way water enters a stream is expected or known to be likely. The overflow discharge into the detention pond will also mitigate runoff to pre-existing conditions, which means, the regulated activity of this project will not increase stream flashing, cause stronger flows or any other in-stream effects.

# ATTACHMENT G

## INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN FOR:

### GRASSY SWALE

#### Bi-Annually:

The areas shall be inspected twice annually to check for:

- (1) Erosion or damage to the vegetation and uniformity of the grass. Areas of erosion shall be filled and compacted in such a manner that final grade matches bottom swale elevation. Some sediment may be considered hazardous waste or toxic material, and are therefore subject to restrictions for disposal. Damaged bare areas should be replaced using the same seed mix used during filter strip establishment.
- (2) Sedimentation at or near the upstream boundary of the filter strip. Sediment accumulating near culverts and in channel should not exceed 3 inches. Excess sediment shall be removed and disposed of “properly”.

Further maintenance activities should occur more regularly:

- (1) The basins shall be checked for accumulation of debris and trash. The debris and trash shall be removed. This should occur no less than 4 times a year.
- (2) Regular mowing should occur as often as necessary. Fertilizers should be used at a minimum.

#### After Rainfall:

Filter strip inspections should occur after heavy rainfall events to ensure that flow is not obstructed and to determine if any problems are developing. If proper flow does not occur, corrective measures should be taken.

Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Once established, all vegetated BMPs require some basic maintenance to ensure the health of the plants including:

- ***Pest Management.*** An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.
- ***Seasonal Mowing and Lawn Care.*** If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum. Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.
- ***Inspection.*** Inspect filter strips and swales at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment



Thompson Land  
Engineering, LLC  
(F-10220)

05/08/2023

accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

- **Debris and Litter Removal.** Trash tends to accumulate in vegetated areas, particularly along highways. Any swale or filter strip areas should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.

- **Sediment Removal.** Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.

- **Grass Reseeding and Mulching.** A healthy dense grass should be maintained on the filter strip and grassy swale channels. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

- **Public Education.** Private homeowners are often responsible for roadside swale maintenance. Do not mow the swale too close to the ground, or apply excessive fertilizer and pesticides. Pet waste can also be a problem in swales, and should be removed to avoid contamination from fecal coliform and other waste-associated bacteria. The delegation of maintenance responsibilities to individual landowners is a cost benefit to the locality.

Responsible Party: Nalle Custom Homes, Inc. (Paul Zubeldia)  
Name

  
Signature

4/24/23  
Date

Mailing Address: 105 Applewood Drive

City, State: Cedar Creek, Texas 78612

Telephone: \_\_\_\_\_

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

I \_\_\_\_\_ Paul Zubeldia \_\_\_\_\_,  
Print Name  
\_\_\_\_\_  
Representative \_\_\_\_\_,  
Title - Owner/President/Other  
of \_\_\_\_\_ Nalle Custom Homes, Inc. \_\_\_\_\_,  
Corporation/Partnership/Entity Name  
have authorized \_\_\_\_\_ Robert Thompson \_\_\_\_\_  
Print Name of Agent/Engineer  
of \_\_\_\_\_ Thompson Land Engineering, LLC \_\_\_\_\_  
Print Name of Firm

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

I also understand that:

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

SIGNATURE PAGE:

  
Applicant's Signature

4/24/23  
Date

THE STATE OF Texas §

County of Travis §

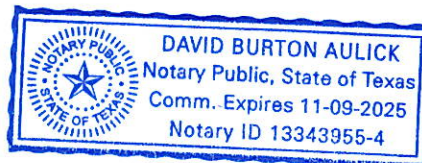
BEFORE ME, the undersigned authority, on this day personally appeared Paul Zubeldia known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 24 day of April, 2023.

  
NOTARY PUBLIC

David Burton Aulick  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/9/2025





# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Drainage Plan for 201 Vale Street

Regulated Entity Location: 201 Vale Street, Austin, Texas 78746

Name of Customer: Nalle Custom Homes, Inc.

Contact Person: Paul Zubeldia

Phone: \_\_\_\_\_

Customer Reference Number (if issued): CN 602982498

Regulated Entity Reference Number (if issued): RN \_\_\_\_\_

### Austin Regional Office (3373)

☐ Hays

☒ Travis

☐ Williamson

### San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☒ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

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

☒ Recharge Zone

☐ Contributing Zone

☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	0.36 Acres	\$ 650
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

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

Date: 4/24/2023

# Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

## ***Water Pollution Abatement Plans and Modifications***

### ***Contributing Zone Plans and Modifications***

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

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

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

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

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

### ***Exception Requests***

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

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

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



# 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

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 602982498		RN

## SECTION II: Customer Information

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



(   )   -		(   )   -
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### SECTION III: Regulated Entity Information

<b>21. General Regulated Entity Information</b> <i>(If 'New Regulated Entity' is selected, a new permit application is also required.)</i>								
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>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).</i>								
<b>22. Regulated Entity Name</b> <i>(Enter name of the site where the regulated action is taking place.)</i>								
Drainage Plan for 201 Vale Street								
<b>23. Street Address of the Regulated Entity:</b>  <i>(No PO Boxes)</i>	201 Vale Street							
	<b>City</b>	Rollingwood	<b>State</b>	TX	<b>ZIP</b>	78746	<b>ZIP + 4</b>	
<b>24. County</b>								

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

<b>25. Description to Physical Location:</b>											
<b>26. Nearest City</b>						<b>State</b>	<b>Nearest ZIP Code</b>				
	Rollingwood					TX	78746				
<i>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).</i>											
<b>27. Latitude (N) In Decimal:</b>						<b>28. Longitude (W) In Decimal:</b>					
Degrees		Minutes		Seconds		Degrees		Minutes		Seconds	
<b>29. Primary SIC Code</b>			<b>30. Secondary SIC Code</b>			<b>31. Primary NAICS Code</b>			<b>32. Secondary NAICS Code</b>		
(4 digits)			(4 digits)			(5 or 6 digits)			(5 or 6 digits)		
1542						236220					
<b>33. What is the Primary Business of this entity?</b> <i>(Do not repeat the SIC or NAICS description.)</i>											
a single-family house and improvements											
<b>34. Mailing Address:</b>	201 Vale Street										
	<b>City</b>	Rollingwood	<b>State</b>	TX	<b>ZIP</b>	78746	<b>ZIP + 4</b>				
<b>35. E-Mail Address:</b>											
<b>36. Telephone Number</b>				<b>37. Extension or Code</b>				<b>38. Fax Number</b> <i>(if applicable)</i>			
(   )   -								(   )   -			


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

## **SECTION IV: Preparer Information**

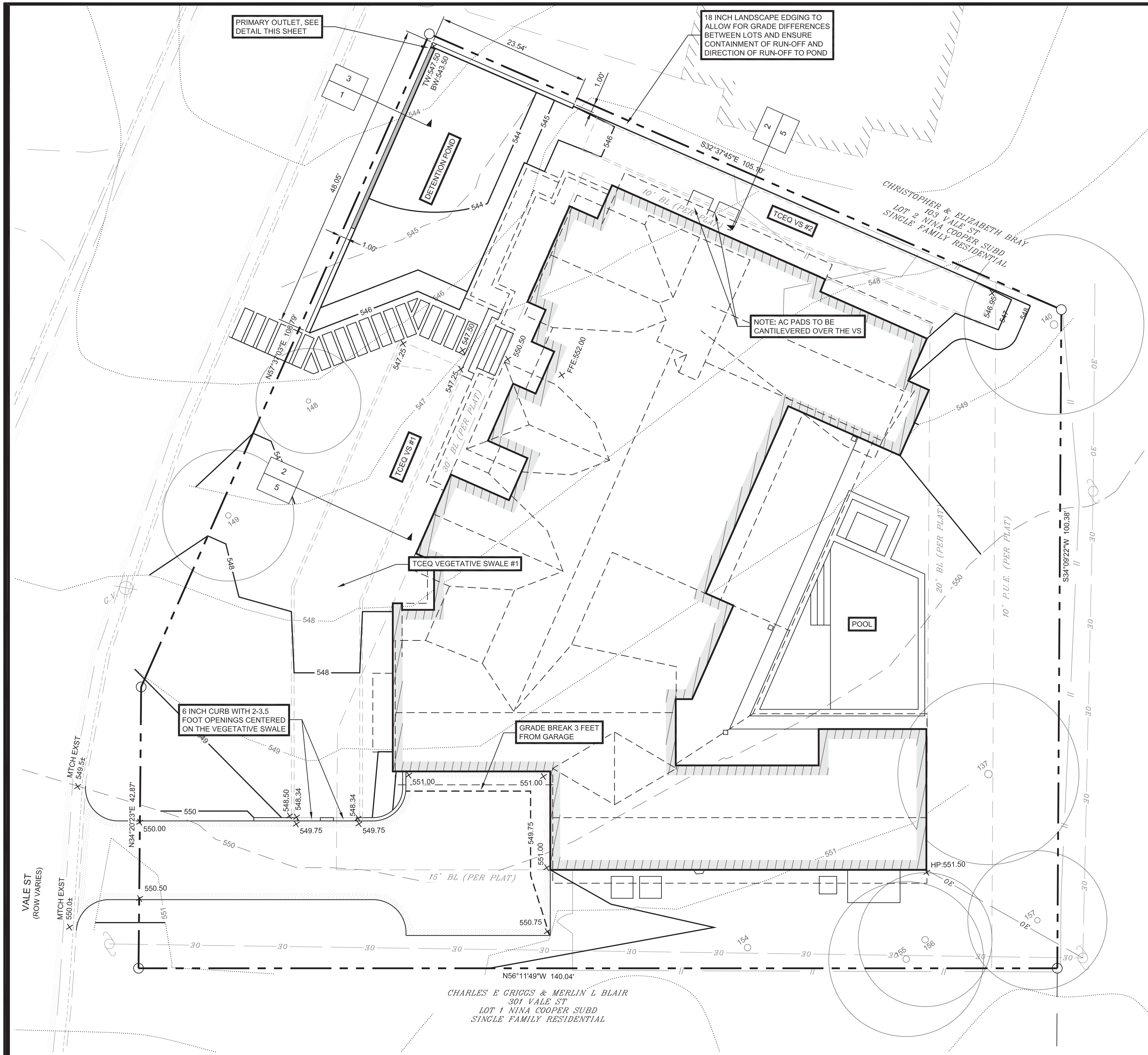
<b>40. Name:</b>	Robert Thompson, P.E.	<b>41. Title:</b>	Civil Engineer
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>
( 512 ) 328-0002		( 512 ) 328-1112	ric@tleng.net

## **SECTION V: Authorized Signature**

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

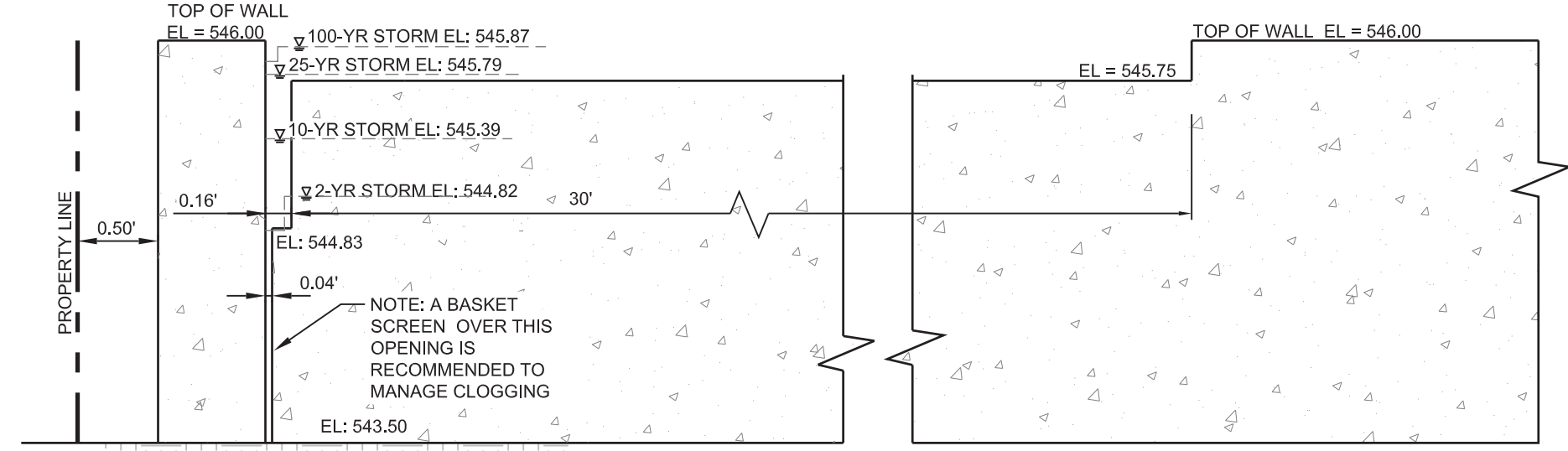
<b>Company:</b>	Nalle Custom Homes, Inc.	<b>Job Title:</b>	New Project Coordinator
<b>Name (In Print):</b>	Paul Zubeldia	<b>Phone:</b>	512 985 6825
<b>Signature:</b>		<b>Date:</b>	4/24/23





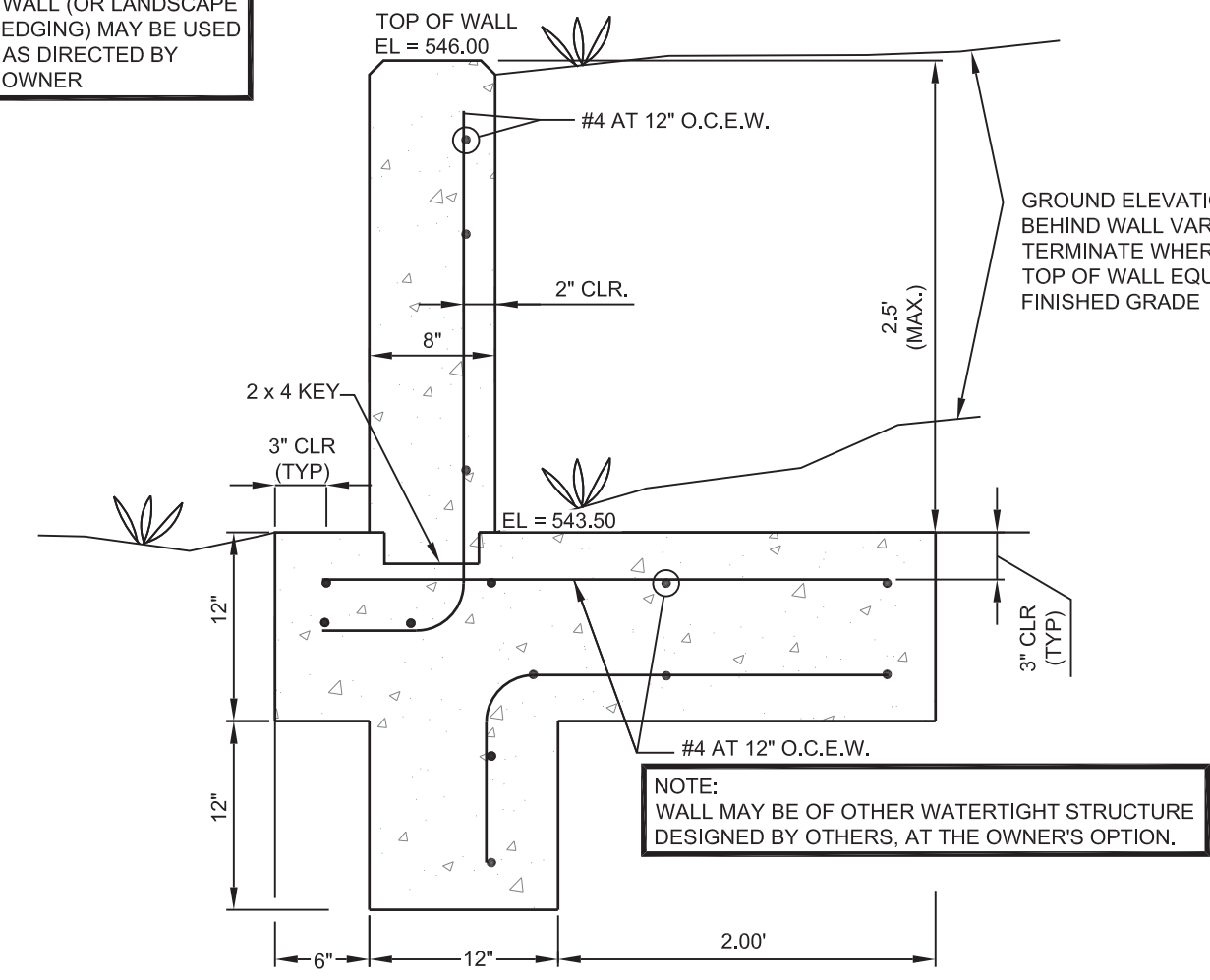
1 GRADING & DRAINAGE PLAN  
SCALE: 1" = 10'

NOTE: ALTERNATE WALL (OR LANDSCAPE EDGING) MAY BE USED AS DIRECTED BY OWNER.



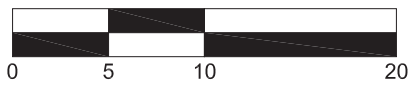
2 POND OUTLET DETAIL  
SCALE: 1" = 1'

NOTE: ALTERNATE WALL (OR LANDSCAPE EDGING) MAY BE USED AS DIRECTED BY OWNER.



3 POND WALL DETAIL  
SCALE: 1" = 1'

SCALE: 1" = 10'



LEGEND

- 88. TREE TO REMAIN
- 88. HERITAGE TREE
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPOSED CONTOURS MINOR
- PROPOSED CONTOURS MAJOR
- OE EXISTING OVERHEAD ELECTRIC
- UT EXISTING UNDERGROUND TELEPHONE
- G EXISTING UNDERGROUND GAS
- W EXISTING WATER LINE
- WW EXISTING WASTEWATER LINE
- PP EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING WATER METER
- PROP. WATER METER
- EXISTING GATE VALVE
- PROP. GATE VALVE

NOTE: ALL GRATED INLETS, UNLESS OTHERWISE SPECIFIED, SHALL BE PRECAST H20 RATED CONCRETE INLETS WITH BAR GRATES THAT ARE AT LEAST 90% OPEN.

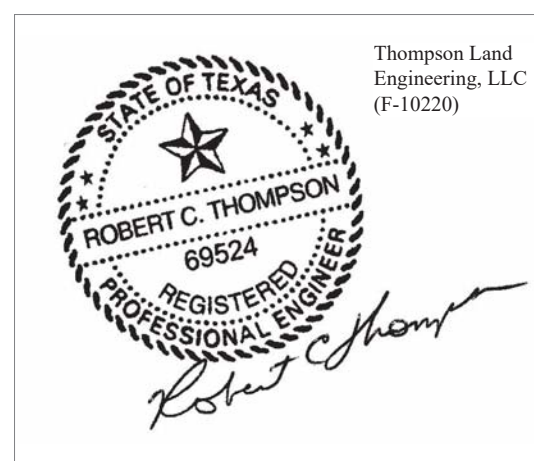
!!! WARNING !!!:  
UTILITIES SHOWN ON THESE PLANS ARE A BEST ESTIMATE BASED ON RECORDS THAT COULD BE OBTAINED AND PHYSICAL FEATURES VISIBLE AT THE GROUND LEVEL. THE ENGINEER MAKES NO ASSERTIONS BEYOND THAT THEY ARE A BEST ESTIMATE AND AN ATTEMPT TO HELP IDENTIFY POSSIBLE UTILITIES IN THE AREA. THE CONTRACTOR MUST CALL ONE CALL IN ACCORDANCE WITH THE NOTES TO BETTER LOCATE ANY UNDERGROUND UTILITIES.

PURPOSE OF PLAN AND EXPLANATION OF COMPUTATIONS  
1) PURPOSE OF THIS PLAN IS TO PROVIDE A PLAN TO ROUTE THE MAJOR STORMWATER DISCHARGE AROUND THE HABITABLE STRUCTURES WITHOUT RUN-OFF ENTERING THE FINISHED FLOORS. SPECIFIC FINE GRADING IS NOT INTENDED TO BE ADDRESSED BY THIS PLAN AND NOT ALL AREAS ARE INTENDED TO BE ADDRESSED BY THIS PLAN.  
2) THIS PLAN WAS PREPARED BASED ON LIMITED SITE TOPOGRAPHY AS BLENDED WITH GIS TOPOGRAPHY TO PROVIDE A MORE COMPLETE PRESENTATION. THE DIFFERENT SOURCES OF INFORMATION DO NOT NECESSARILY MATCH WELL BUT ARE BELIEVED TO BE SUFFICIENT FOR THE OVERALL DRAINAGE PLAN.  
3) THE HYDROLOGIC COMPUTATIONS PRESENTED WERE BASED ON THE SCS METHOD AND THE USE OF HEC-HMS 4.10. THE INITIAL ABSTRACTION FOR THE HYDROLOGY WAS MODELED BY DETERMINING THE HYDROLOGIC SOIL GROUP AND THEN DETERMINING THE ASSOCIATED CN VALUE. ONCE THE CN VALUE WAS DETERMINED AND PUT IN THE MODEL, THE EFFECT OF IMPERVIOUS COVER ON THE INITIAL ABSTRACTION WAS MODELED BY DETERMINING THE PERCENTAGE OF IMPERVIOUS COVER IN EACH AREA AND PUTTING THAT PERCENTAGE IN THESE PLANS. THAT EFFECT WAS ALSO COMPUTED EXPLICITLY FOR REVIEW (THE COMPOSITE CN) AND IS SHOWN. THE RESULTS OF THIS ASSESSMENT MAY BE FOUND IN THE TABLES IN THE PLANS.  
4) THE TIME OF CONCENTRATION (AND RELATED LAG FOR USE IN THE HMS MODEL) WAS COMPUTED USING THE EQUATIONS IN THE SCS PUBLICATION TR-55. THE SPECIFIC INFORMATION USED TO PERFORM THE COMPUTATIONS, AS WELL AS THE RESULTS OF THOSE COMPUTATIONS, ARE INCLUDED ON A SHEET IN THE PLANS.

OPERATION AND MAINTENANCE PLAN  
THE "OPERATION AND MAINTENANCE PLAN" DESCRIPTION IS THE "DETENTION" (SLOWING OF THE RUN-OFF) CAUSED BY RUN-OFF GETTING POOLED BEHIND THE LANDSCAPE WALL AND PASSING THROUGH SLOTS IN THE WALL.

MAINTENANCE: THE POND (AND WALL) SHOULD NOT TAKE ANY MAINTENANCE OTHER THAN PERIODIC CLEANING OF ACCUMULATED DEBRIS AT THE OUTFALL SLOTS AND MOWING OF THE GRASS. DEBRIS AND LITTER SHOULD BE REMOVED AFTER EACH SIGNIFICANT RAINFALL EVENT. POND IN AREA TO REMAIN NATURAL, NO MOWING SHOULD BE REQUIRED.

INSPECTIONS: THE POND AREA AND WALL SHOULD BE INSPECTED TWICE A YEAR TO EVALUATE FACILITY OPERATION. ONE OF THESE INSPECTIONS SHOULD BE DURING OR IMMEDIATELY FOLLOWING WET WEATHER.



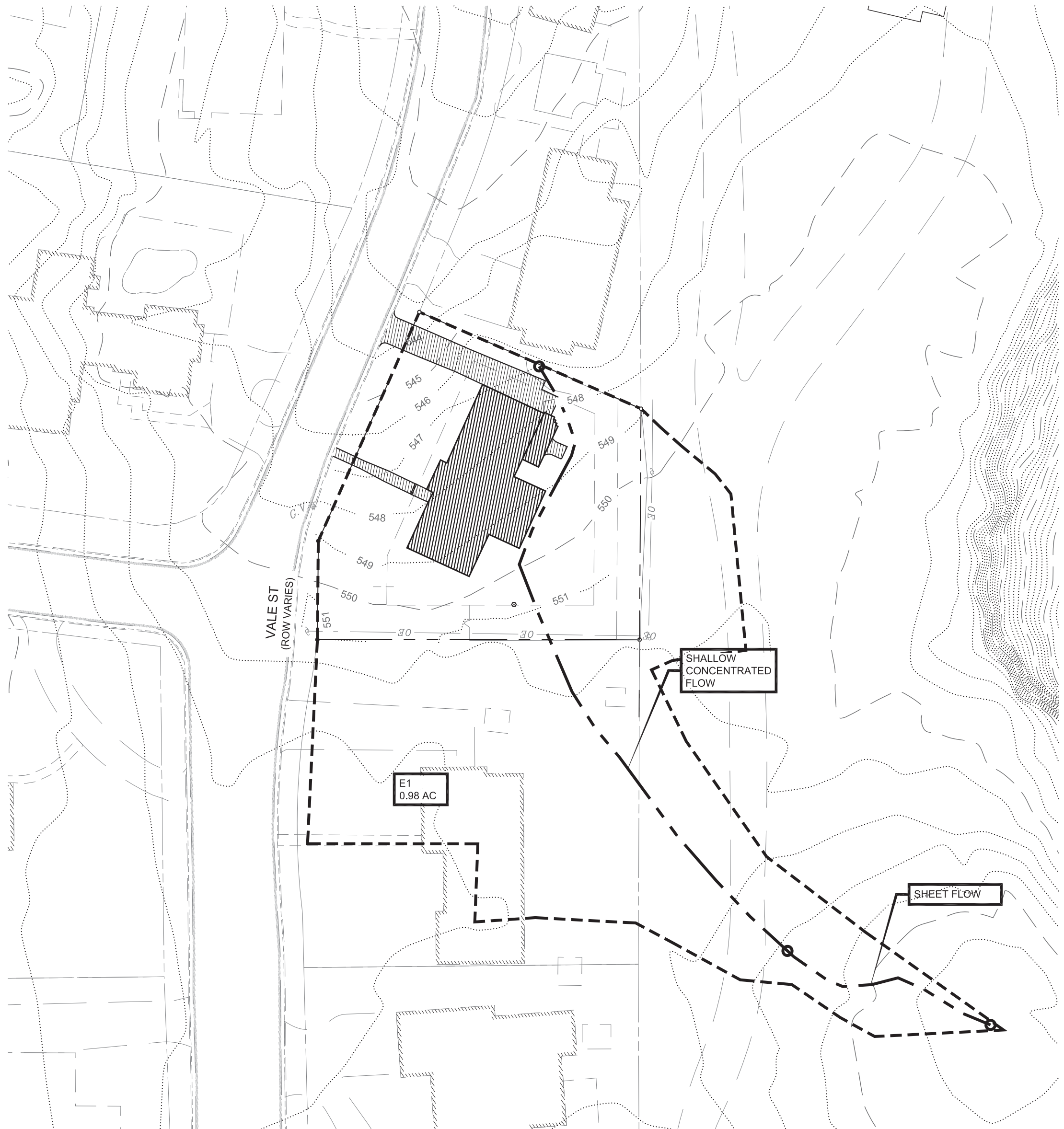
THOMPSON LAND ENGINEERING, LLC  
Land Planning, Site Design, Subdivision Engineering  
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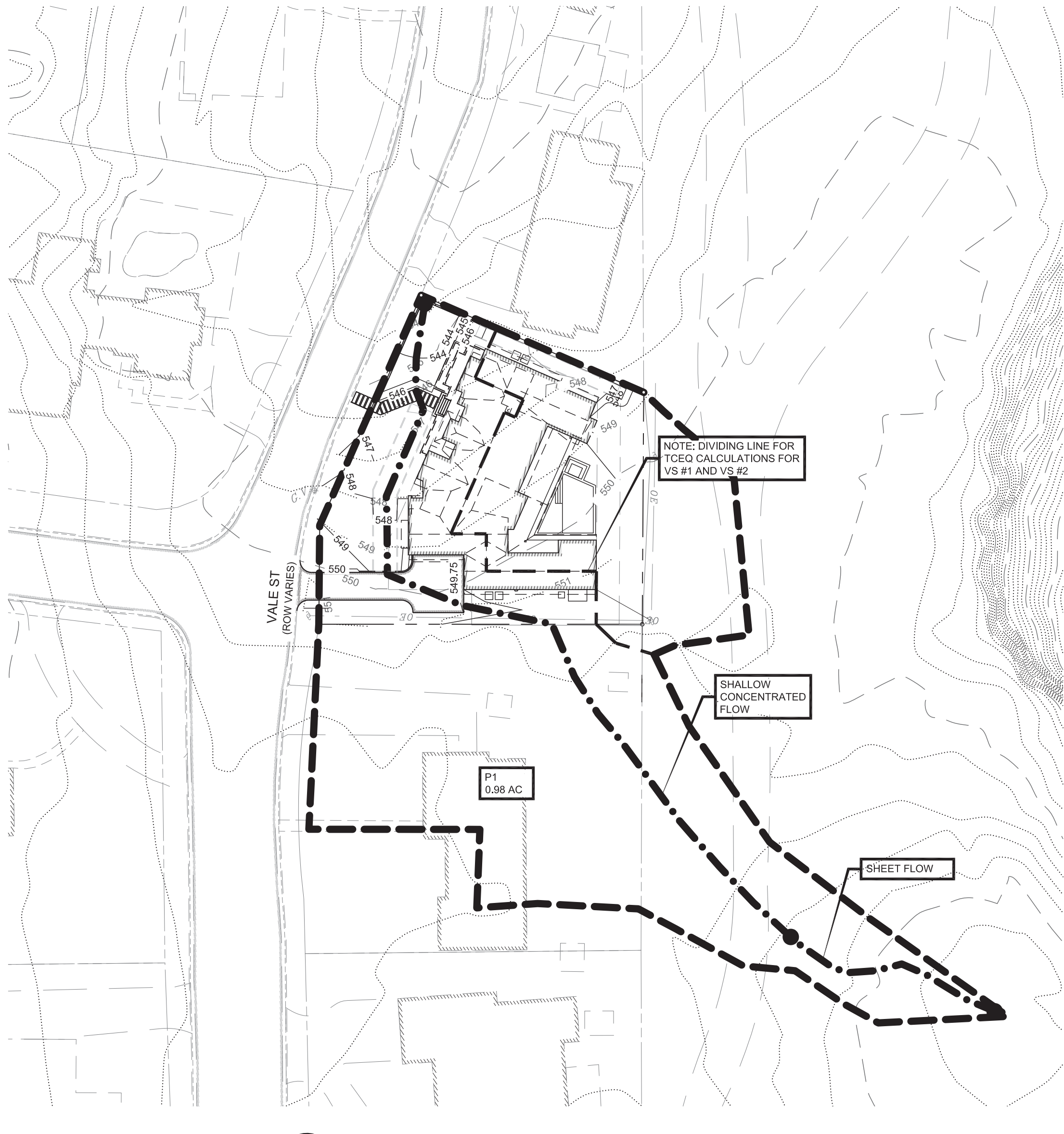
GRADING, DRAINAGE & WPAP  
201 VALE ST ROLLINGWOOD, TX  
GRADING & DRAINAGE PLAN

PROJECT	
SHEET NAME	
DATE ISSUED	April, 2023
DESIGNED BY	RCT
DRAFTED BY	RH
JOB NUMBER	1873
SHEET	1 OF 5





1 EXIST SITE DRAINAGE AREA MAP  
SCALE: 1:40

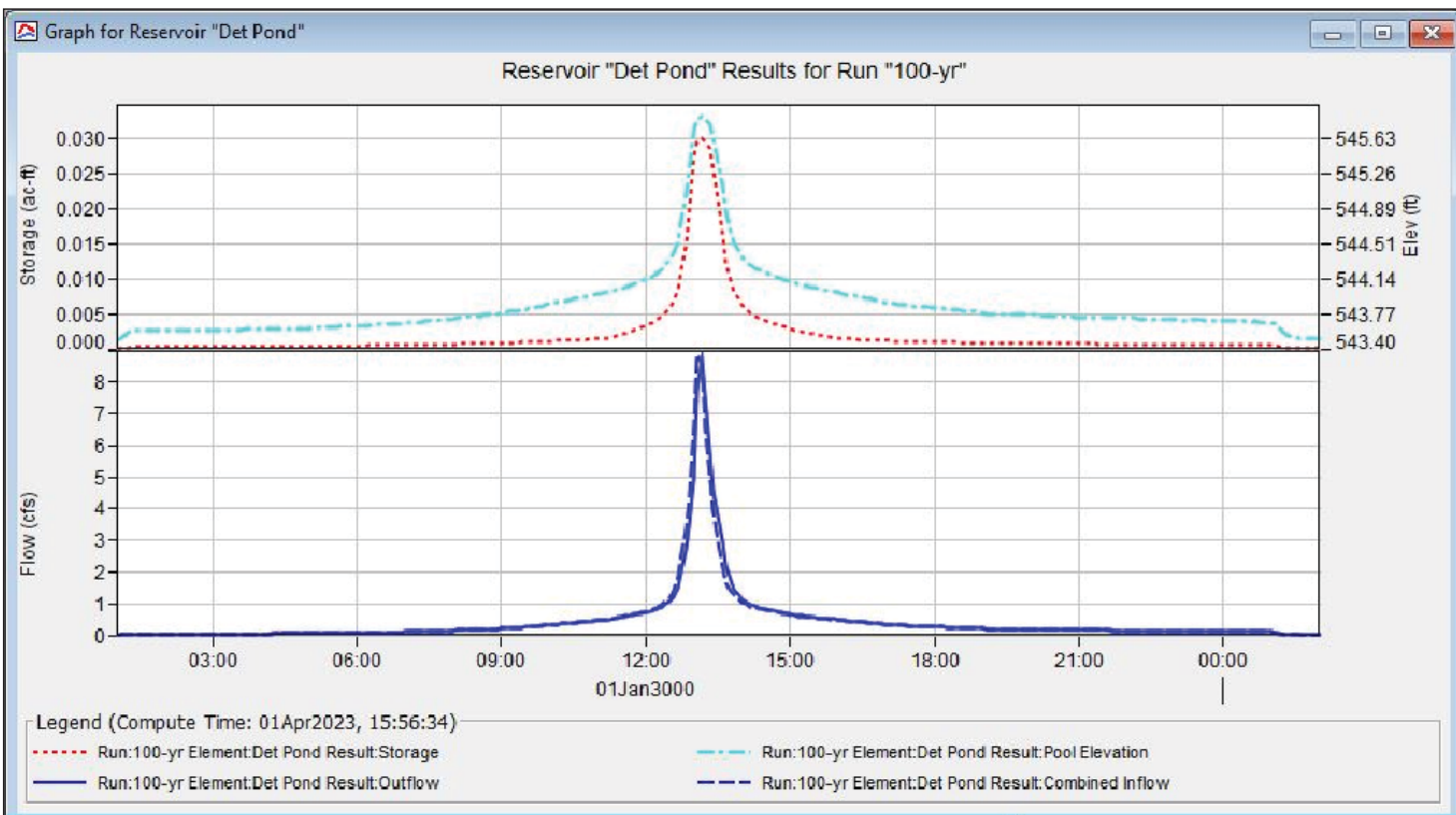


2 PROPOSED SITE DRAINAGE AREA MAP  
SCALE: 1:40

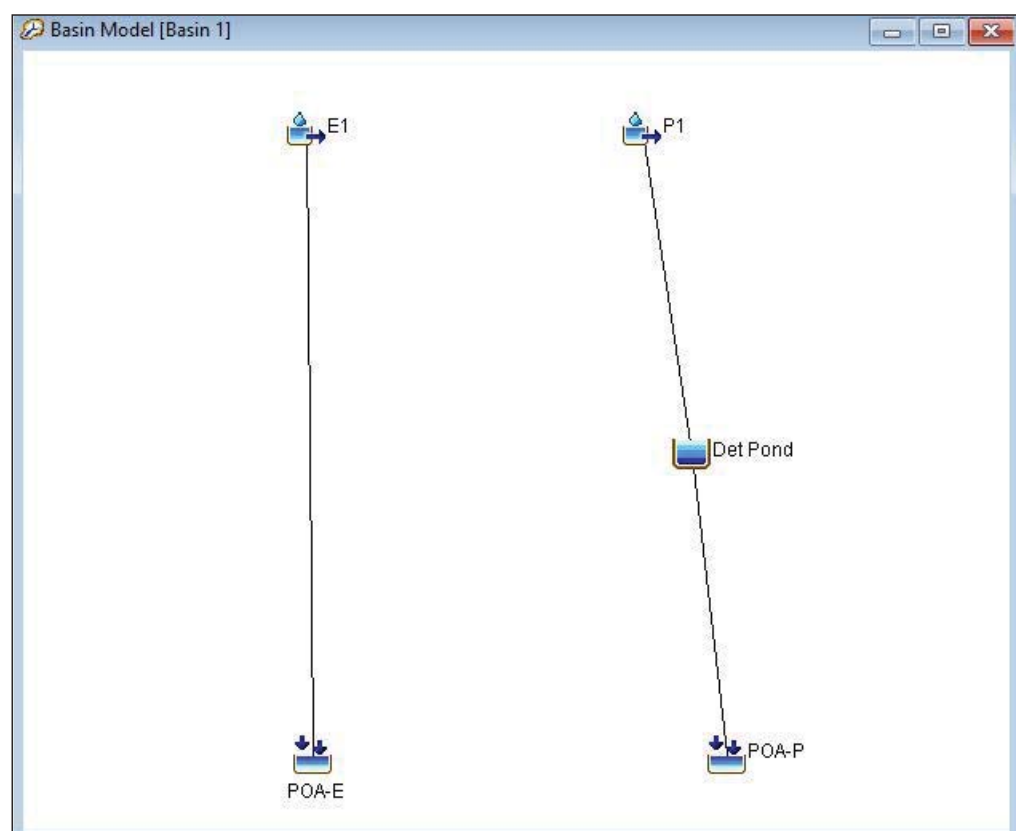
#### SCS RUN-OFF CURVE NUMBER CALCULATIONS

	E1 CN <sup>(1)</sup> (Ac)	P1 CN <sup>(1)</sup> (Ac)	E1 CN <sup>(1)</sup> (Ac)	P1 CN <sup>(1)</sup> (Ac)
From Table 2-2a				
Plastic/Open Space (Lawns, Parks, etc.)				
Good Condition (75% to 100% grass)	80	0.78	62.0	0.64
D Soils				
Woods-Good	77	0.00	0.0	0.00
D Soils				
Impervious Areas (excl ROW)				
All Soils	98	0.204	20.0	0.34
Sum				
Total Area (Ac)	0.98		0.98	
Total Area (sqm)	0.00153		0.00153	
Composite "C"				
Percent IC	20.9%		34.6%	

Notes:  
1) From Tables in 1986 TR-55 Manual by Soil Conservation Service.  
2) Based on existing per GIS. Amount of D soils from WSS web site.



DEMONSTRATION THAT POND IS EMPTY WITHIN 24 HRS



#### SUMMARY of the Hydrologic Computations (Using the SCS Method)

Hydrologic Element	Drainage Area (MI <sup>2</sup> )	2-yr Peak Discharge (CFS)	10-yr Peak Discharge (CFS)	25-yr Peak Discharge (CFS)	100-yr Peak Discharge (CFS)	Notes
Existing Discharges						All storm events are Atlas-14
E1	0.001530	2.1	4.0	5.8	8.9	
POA-E	0.001530	2.1	4.0	5.8	8.9	Compare to POA-P
Proposed Discharges						
P1	0.001530	2.3	4.1	5.9	8.9	
Det Pond	0.001530	2.1	3.8	5.8	8.7	
POA-P	0.001530	2.1	3.8	5.8	8.7	Compare to POA-E

POA = Point Of Analysis  
NOTE Rainfall Used: 2-yr = 4.14, 10-yr = 6.84, 25-yr = 8.9, and 100-yr = 12.80 in/hr

Peak Inflows and Discharges	Elevation	Length	Coef	No.	Wier (ft)
Pond-DET (OUT)	2.10	3.60	4.90	5.10	
Peak Velocity from Lowest Pond Wier	3.18	3.81	4.28	4.30	
Pond Water Surface Elevations	544.82	545.39	545.79	545.87	
Pond-DET					

Pond Outlets					
Pond-DET					
Elevation	Length	Coef	No.		
543.50	0.50	2.8	1	Wier (ft)	
544.83	0.12	2.8	1	Wier (ft)	
545.75	30.0	2.8	1	Overflow spillway (ft)	

Pond - Elevation - Area - Storage - Outflow Table					Outflow			
Elevation—	Area—		Storage—	1	2	3	Total	
(mean sea level)	(sf)	(ac)	(cubic feet)	(cfs)	(cfs)	(cfs)	(cfs)	
543.50	0	0.000000	0	0.00	0.00	0.00	0.00	
544.0	388	0.008907	97	0.49	0.00	0.00	0.49	
545.0	692	0.015896	637	2.57	0.02	0.00	2.60	
546.0	834	0.019146	1,400	5.53	0.43	10.50	16.46	

#### DETERMINING THE TIME OF CONCENTRATION CALCULATIONS USING THE SOIL CONSERVATION SERVICE (SCS) METHOD

- INPUT PARAMETERS  
A) Rainfall Volumes - See US Weather Bureau Technical Paper 40  
4.14 2-year, 24-h 2-year, 24-hour Rainfall "P2" (inches)  
B) Watershed Factors (excluding any upstream area as noted)

Sheet Flow (flow depth to 0.1 ft per SCS TR-55, p.3-3 (June 1986))

Reach	E1	P1	(n1)	Manning's "n"
Reach 1	0.24	0.240	(L1)	Length, ft
	100	100	(s1)	Slope, ft/ft
	0.070	0.070		
Reach 2	0.010	0.010	(n1)	Manning's "n"
	0	0	(L1)	Length, ft
	0.010	0.010	(s1)	Slope, ft/ft

Shallow Concentrated Flow (R of 0.2 to 0.4 per SCS TR-55, Appendix F (June 1986))

Reach	N	N	Paved? (Y or N)
Reach 1	300	365	(L2)
	0.033	0.033	(s2)
			Length, ft
Reach 2	N	N	Paved? (Y or N)
	0	0	(L2)
	0.010	0.010	(s2)
			Length, ft

Channel Flow

	0.0	0.0	(V3)	Velocity (ft/s)
	0.005	0.005	(s3)	Slope, ft/ft
	0	0	(L3)	Length, ft

#### RESULTS

E1	P1	min (Tc-1a)	min (Tc-1b)
7.6	7.6		
0.0	0.0		
2.9	2.9	V-2a (ft/s)	2.1
1.7	2.1	min (Tc-2a)	
1.6	1.6	V-2b (ft/s)	0.0
0.0	0.0	min (Tc-2b)	
0.0	0.0	min = Channel Tc (Tc-3)	
8.3	9.7	Total (min)	
8.3	9.7	Total Used (min)	
5.6	5.8	Lag for HEC-HMS	
1.6	1.7	Min Modeling Instrument	

Equations:  
Tc1 = 0.007 \* (L1 \* n1)^0.8 / (P2^0.5 \* s1^0.4) in hours  
Tc2 = L / V where, per Appendix F-V = 16.1345(s)^0.5 (unpaved) or V = 20.3282(s)^0.5 (paved)  
Tc3 = L3 / V3 where, V either assumed or = 1.2 \* 16.1345(s)^0.5 like Tc2 but w/ 20% increase for channel efficiency

SCALE: 1" = 40'

#### LEGEND

---	EXISTING DRAINAGE AREA
---	-LONG COURSE
---	EXISTING DRAINAGE AREA
---	-LONG COURSE
---	PROPOSED DRAINAGE AREA
---	PROPOSED DRAINAGE AREA

EXISTING DRAINAGE AREAS				IMPERVIOUS COVER	
name	acres	sq mile	acres	%	
E1	0.979	0.001530	0.204	20.9%	
Total =	0.979	0.001530	0.204	20.9%	

PROPOSED DRAINAGE AREAS				IMPERVIOUS COVER	
name	acres	sq mile	acres	%	
P1	0.979	0.001530	0.339	34.6%	
Total =	0.979	0.001530	0.339	34.6%	

Existing IC by DA		E1
Office House	2175	
Offsite Drive and Walk	2730	
House	2750	
Driveway	820	
Sidewalk+Deck	430	
Total	8905	

Proposed IC by DA		P1
Office House	2175	
Offsite Drive and Walk	2730	
House	6103	(Roof outline, not HVAC)
Driveway	1048	
Sidewalk	200	
Patio/deck	768	
Pool	155	(Less water surface per 103-236)
Misc	165	
Extra (10%)	1343	
Total (w/o extra)	13434	
Total (with extra)	14777	

IMPERVIOUS COVER ACCOUNTING	
15784 Lot Area (sf)	
Existing	
2750 House (sf)	
820 Driveway (sf)	
430 Sidewalk+patio (sf)	
4000 Total (sf)	
25.4% Percentage of lot area	
Proposed	
4789 House (sf)	
1404 House overhangs (sf)	
1048 Driveway (sf)	
133 Sidewalk (sf)	
768 Patio/deck (sf)	
155 Pool and pool deck (less water surface per 103-236)	
165 Misc (sf)	
1343 Extra Imperv Cover (conservative)	
7058 Total (sf, without overhang)	
44.3% Percentage of lot area	
8462 Total (sf, without extra)	
53.7% Percentage of lot area	
8905 Total (sf, with extra)	
62.2% Percentage of lot area	



Thompson Land Engineering, LLC (F-10220)

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DESIGNED BY

RCT

DRAWN BY

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SHEET

2 OF 5

DRAINAGE AREA MAPS & CALCULATIONS

SHEET NAME



