Modification of a Previously Approved Contributing Zone Plan

Northgate Ranch Phase 3 Sections 11-13

Prepared for: PHAU-Lariat 108, LLC

Prepared by: BGE, Inc.

TBPE Registered Firm #: 1046

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Northgate Ranch Phase 3 Sections 11-13					**2. Regulated Entity No.:**				
3. Customer Name: PHAU-Lariat 108, LLC					**4. Customer No.:** 606040061				
5. Project Type: **(Please circle/check one)**	New	Modification			Extension		Exception		
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential	Non-residential				**8. Site (acres):**		39.86	
9. Application Fee:	$4,000.00	**10. Permanent BMP(s):**						Batch Detention Pond, Vegetative Filter Strip, Grassy Swale, Stormceptor	
11. SCS (Linear Ft.):		**12. AST/UST (No. Tanks):**							
13. County:	Williamson	**14. Watershed:**						North Fork San Gabriel River	

Application Distribution

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

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

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

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

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Jonathan Jones, PE, CFM
Print Name of Customer/Authorized Agent
Jonathan Jones 10/2/24 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):	

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jonathan Jones, PE, CFM

Date: 10/2/24

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: Northgate Ranch Phase 3 Section 12
   Original Regulated Entity Name: River Oaks Land Partners II, LLC
   Assigned Regulated Entity Number(s) (RN): 111525697
   Edwards Aquifer Protection Program ID Number(s): 11003147
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	136.122 AC	N/A
Type of Development	Residential	N/A
Number of Residential Lots	319	332
Impervious Cover (acres)	45.737 AC	46.777 AC
Impervious Cover (%)	33.60%	34.36%
Permanent BMPs	21	N/A
Other	N/A	N/A

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	N/A	N/A
Other	N/A	N/A

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	N/A	N/A
Other	N/A	N/A

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

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

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

7. ☒ Acreage has not been added to or removed from the approved plan.
   ☐ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

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

Attachment A – Original Approval Letter

See attached Approval of a Contributing Zone Plan letter, dated November 04, 2022.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 4, 2022

Mr. Grant Rollo
River Oaks Land Partners II, LLC
1404 West State Hwy 29, Suite 203
Liberty Hill, TX 78642

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Northgate Ranch Phase 3 Sections 11-13; Located 2.5 miles North on CR 214 from Hwy 29; Liberty Hill ETJ, Texas

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

Edwards Aquifer Protection Program ID No. 11003147; Regulated Entity No. RN111525697

Dear Mr. Rollo:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the Austin Regional Office by BGE, Inc. on behalf of River Oaks Land Partners II, LLC. on June 24, 2022. Final review of the CZP was completed after additional material was received on October 19, 2022, and November 1, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 136.12 acres. It will include 319 single-family residences, utilities, drives, sidewalks, and associated appurtenances. The impervious cover will be 45.74 acres (33.6 percent). Project wastewater will be disposed of by conveyance to the proposed Northgate Phase 1 Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, eight batch detention ponds (Pond J, Pond K, Pond L, Pond M, Pond N, Pond O, Pond P1 and P2), eleven engineered vegetative filter strips (VFS01 – VFS11), a grassy swale and a stormceptor, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 39,809 pounds of TSS generated from the 45.74 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

II. All sediment and/or media removed from the water quality basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

III. The proposed Northgate Phase 1 Wastewater Treatment Plant shall be operational prior to any occupancy of the residences.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during

construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

15. Owners of permanent BMPs and measures must ensure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
16. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is

transferred. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

17. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
18. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
19. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/rbc

Enclosures: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Nathan G. Kelly, P.E., BGE, Inc.
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Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Attachment B – Narrative of Proposed Modification

The Northgate Ranch Phase 3 Sections 11, 12 and 13 Contributing Zone Plan received approval on November 04, 2022. This narrative serves as a description of the changes being proposed to Section 12 of the previously approved CZP.

The nature of the Section 12 development remains the same as previously identified; the undeveloped site will be converted into a single-family residential subdivision. Previously, construction of 130 50-foot-width lots and their associated supporting infrastructure were proposed under the direction of River Oaks Land Partners II, LLC. Since receiving CZP approval, PHAU-Lariat 108, LLC has acquired the property and now proposes a mixed blend of 86 60-foot-width lots and 55 45-foot-width lots (141 total lots). This proposed increase in residential units generates increased impervious cover runoff that the previously proposed Best Management Practices are not properly sized to account for, hence the reason for the modification.

The areas receiving increased amounts of impervious cover runoff will be impacting a total of 5 BMPs: Batch Detention Pond M, Batch Detention Pond N, and Vegetative Filter Strips 5,6, and 11A/B. Drainage patterns and lot sizes outside of these areas remain unchanged, therefore all other BMPs collecting these areas' respective runoff will not require any modifications.

Previously, Pond M, Pond N, VFS 5, VFS 6, and VFS 11A/B accounted for 21.83 acres of runoff with 10.43 acres of impervious cover. In total, this impervious cover required 9,079 pounds of TSS removal. In order to account for untreated runoff flowing offsite, BMPs were oversized to treat a total of 9,907 pounds of TSS removal. This yielded an 828-pound differential between the required and provided TSS removal loads for these BMPs; this overtreatment of TSS loads will be accounted for in the modified BMP sizing such that the differential treatment is maintained. A summary table for the previously approved conditions is presented below in Table 1.

Table 1: Previously Approved BMP Performance

BMP	AREA (AC)	IMPERVIOUS COVER (AC)	REQUIRED TSS REMOVAL (LB)	PROVIDED TSS REMOVAL (LB)
POND M	11.64	6.02	5,240	5,815
POND N	7.60	3.57	3,107	3,275
VFS 5	1.06	0.32	279	312
VFS 6	0.70	0.24	209	233
VFS 11A/B	0.83	0.28	244	272
TOTAL	**21.83**	**10.43**	**9,079**	**9,907**

In the proposed modification, Pond M, Pond N, VFS 5, VFS 6, and VFS 11A/B now account for 21.99 acres of runoff and propose a total of 11.47 acres of impervious cover. The changes in proposed impervious cover require a total of 9,978 pounds of TSS removal. With the addition of the 828 pounds of over-treatment provided previously, the new required TSS removal totals 10,806 pounds. As demonstrated in the attached revisions of the construction plans, all modified BMPs have been collectively sized to treat 10,906 pounds of pollutant loads (100 additional pounds of treatment claimed). A summary table of the revised conditions is presented below in Table 2. All calculations for the revised impervious cover quantities, TSS removal requirements, and BMP sizing can be found in the revised construction plans.

Table 2: Revised BMP Performance

BMP	AREA (AC)	IMPERVIOUS COVER (AC)	REQUIRED TSS REMOVAL (LB)	PROVIDED TSS REMOVAL (LB)
POND M	10.93	5.92	5,156	5,614
POND N	8.41	4.54	3,948	4,321
VFS 5	1.06	0.37	319	356
VFS 6	0.70	0.25	220	245
VFS 11A/B	0.89	0.39	335	370
TOTAL	**21.99**	**11.47**	**9,978**	**10,906**

There is currently no existing impervious cover located within the project boundary and no changes to the areas of disturbance are proposed. Erosion and sedimentation in areas where regulated construction activities (road construction, grading, home construction, etc.) are to occur will be controlled with proper silt fence installation and other erosion control measures. As was the case previously, upstream drainage will pass through the site via culverts, as well as naturally existing and proposed drainage channels that flow to tributaries of the North Fork San Gabriel River.

Northgate Ranch Phase 3 Sections 11-13 is located within the Edward's Aquifer Contributing Zone. It is not located within the FEMA 100-yr Floodplain in accordance with Flood Insurance Rate Map (FIRM) Panel No. 48491C0235F, effective date December 20, 2019. Additionally, an engineered 100-year floodplain, per a study by BGE dated June 2022, is shown on all plan sheets.

Attachment C – Current Site Plan of Approved Project

Construction has commenced for Section 11 and Section 13 of the previously approved CZP. No construction has commenced on the Section 12 portion of the previously approved CZP; the site plan for the modified portion of project is shown in the revised construction plans which can be found in *Attachment M – Construction Plans* of the Contributing Zone Plan Application section of this submittal.

Contributing Zone Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jonathan Jones, PE, CFM

Date: 10/2/24

Signature of Customer/Agent:

Regulated Entity Name: Northgate Ranch Phase 3 Section 12

Project Information

1. County: Williamson
2. Stream Basin: North Fork San Gabriel River
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

   Contact Person: Nick McIntyre
   Entity: PHAU-Lariat 108, LLC
   Mailing Address: 1921 West State Highway 46
   City, State: New Braunfels, TX Zip: 78132
   Telephone: (512) 484-7469 Fax: N/A
   Email Address: Nick.McIntyre@perryhomes.com

5. Agent/Representative (If any):

   Contact Person: Jonathan Jones, PE, CFM
   Entity: BGE, Inc.
   Mailing Address: 101 West Louis Henna Blvd, Suite 400
   City, State: Austin, TX Zip: 78728
   Telephone: (512) 879-0408 Fax: N/A
   Email Address: JJones@bgeinc.com

6. Project Location:

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

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

   Approximately 2.5 miles north on CR 214 from Hwy 29 Intersection in Liberty Hill

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

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

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

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

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

11. Existing project site conditions are noted below:

    ☐ Existing commercial site
    ☐ Existing industrial site
    ☐ Existing residential site

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

12. The type of project is:

☒ Residential: # of Lots: 141
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 39.86 Acres

Total disturbed area: 39.33 Acres

14. Estimated projected population: 494

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

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	***Sq. Ft.***	***Sq. Ft./Acre***	***Acres***
Structures/Rooftops	303,125.00	÷ 43,560 =	6.96
Parking	0	÷ 43,560 =	0
Other paved surfaces	196,508.20	÷ 43,560 =	4.51
Total Impervious Cover	499,633.20	÷ 43,560 =	11.47

Total Impervious Cover 11.47 **÷ Total Acreage** 39.86 **X 100 =** 28.78**% Impervious Cover**

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

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

For Road Projects Only

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

☒ N/A

18. Type of project:

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

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

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

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

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

21. Pavement Area:

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

☒ N/A

26. Wastewater will be disposed of by:

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

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

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

☒ Sewage Collection System (Sewer Lines):

The sewage collection system will convey the wastewater to the Northgate Ranch Phase 1 WWTP (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

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

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

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

Total x 1.5 = _____ Gallons

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

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

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

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

Table 3 - Secondary Containment

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

Total: _____ Gallons

30. Piping:

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

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

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

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

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

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

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

Site Plan Requirements

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

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

    Site Plan Scale: 1" = 100'.

35. 100-year floodplain boundaries:

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

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): 48491C0235F, Revised December 20, 2019.

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

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

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

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

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

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

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

42. ☒ Surface waters (including wetlands).

    ☐ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

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

45. ☐ Permanent aboveground storage tank facilities.

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

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

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

☐ N/A

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

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

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

☐ N/A

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

☐ N/A

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

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

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

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

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

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

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

    ☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
    ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
    ☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

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

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

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

    ☐ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

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

☐ N/A

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

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

☐ N/A

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

☒ N/A

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

☐ N/A

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

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

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

or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

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

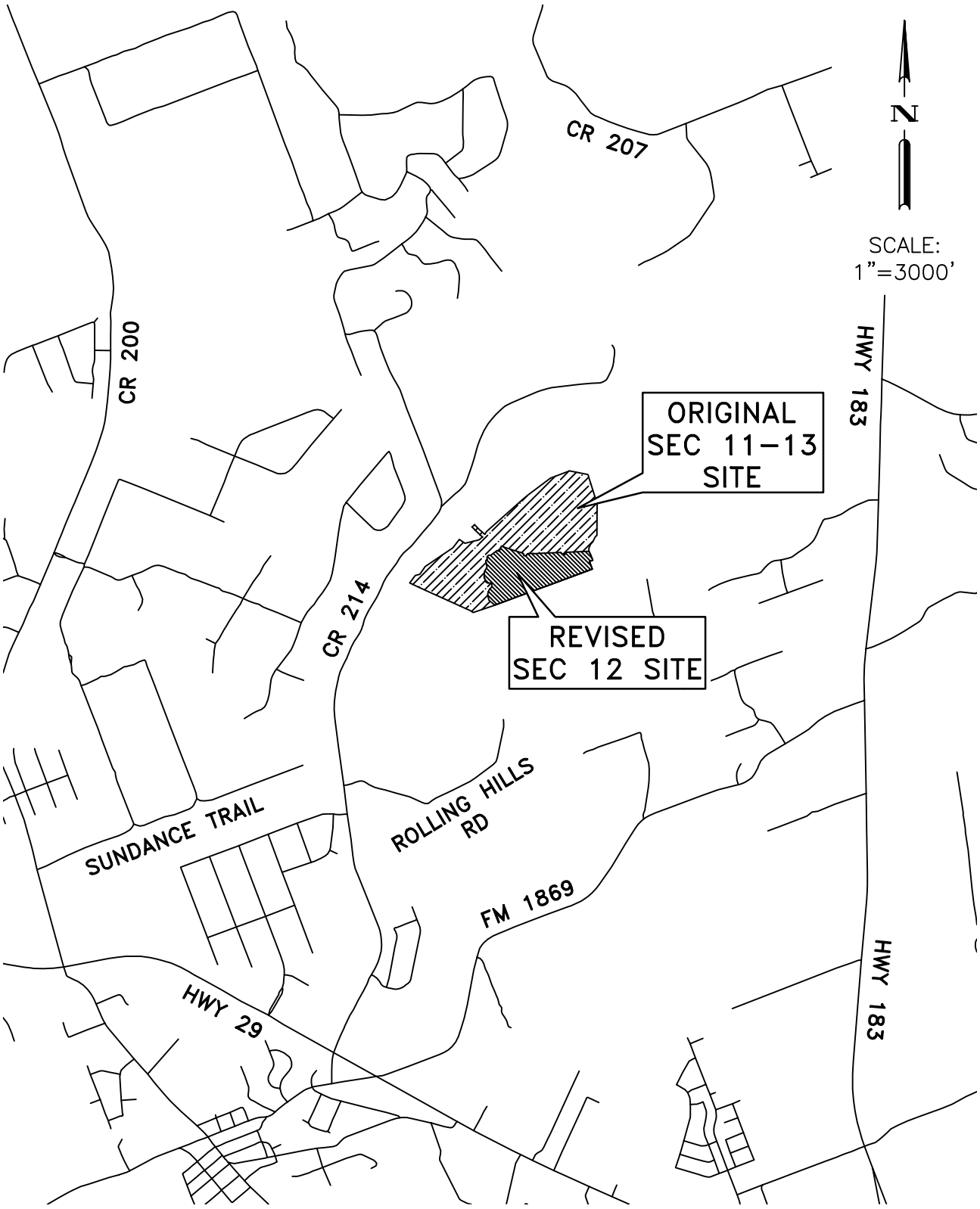
62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

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

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

Attachment A – Road Map

See Road Map attached.



NORTHGATE RANCH PHASE 3 SECTION 11 - 13

LOCATION MAP

BROWN & GAY ENGINEERS, INC.
101 W LOUIS HENNA BLVD, SUITE 400
AUSTIN, TX 78728 TBPE Registration No. F-1046
TEL: 512-879-0400 www.browngay.com

Attachment B – USGS Quadrangle Map

See USGS Quadrangle Map attached.

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

LIBERTY HILL QUADRANGLE
TEXAS
7.5-MINUTE SERIES

NORTHGATE RANCH
PHASE 3 SECTIONS 11-13
(RECEIVED CZP APPROVAL
11/04/2022)

NORTHGATE RANCH
PHASE 3 SECTIONS 12
(PROPOSED MODIFICATION)

Williams
Buck Cem

Cementerio
de las Tres
Marias

Liberty
Hill Cem

Flying
H Ranch
Airport

**Liberty
Hill**

BURNET CO
WILLIAMSON CO

WILLIAMSON CO
TRAVIS CO

3 060 000 FEET
3 040 000 FEET
10 240 000
FEET
10 200 000
FEET

NV PV
NU PU

Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (central zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2004
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN
GN
4° 11′
74 MILS
0° 32′
10 MILS
UTM GRID AND 2016 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
$^{6}00$ NV PV $^{34}00$ NU PU
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

TEXAS
QUADRANGLE LOCATION

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

1 Joppa
2 Mahomet
3 Florence
4 Bertram
5 Leander NE
6 Travis Peak
7 Nameless
8 Leander
ADJOINING QUADRANGLES

LIBERTY HILL, TX
2016

NSN. 7643016397012
NGA REF NO. USGSX24K25631

Attachment C – Project Narrative

Area of the Site

Northgate Ranch Phase 3 Sections 11-13 is a 136.122-acre proposed single-family development located east of San Gabriel Ranch Road and south of County Road 214 in Williamson County; portions of this development are currently under construction. A Contributing Zone Plan for this development received approval from the TCEQ on November 04, 2022. Construction of additional residential lots is being proposed for Section 12 of the development, which is a 39.86-acre portion of the previously approved regulated activity area. The increased impervious cover and associated pollutant treatment warrants a modification of the previously approved CZP. Any items discussed in this application only relate to the changes being proposed in Section 12, all other conditions from the approved Section 11 and Section 13 portions remain unchanged.

Offsite Areas

Runoff from offsite areas contributing to this tract's drainage include upgradient undeveloped land from neighboring properties; the runoff from these areas is either captured by proposed storm sewer improvements or is conveyed across the site through proposed culverts or open drainage channels and into tributaries of the North Fork San Gabriel River.

Impervious Cover

Details relating to the specific impervious cover related to this modification can be found in *Attachment B – Narrative of Proposed Modification*. All runoff resulting from the new impervious cover is adequately treated in the revised Best Management Practices.

Permanent BMPs

The site's proposed increase in impervious cover requires revisions to previously approved BMP sizing. A summary of these modifications can be found in *Attachment K – BMPs for On-Site Stormwater.* All descriptions, calculations, locations, sizing, and standard detail specifications can be found in *Attachment B – Narrative of Proposed Modification* and the revised construction plan set.

Proposed Site Use

Proposed use for the site's development remains the same as what was previously approved; 332 (increased from 319) single family residential and their associated infrastructure improvements are proposed.

Site History

Section 11 and Section 13 have begun construction under the provisions of the previously approved CZP. Excluding this construction, site history for Section 12 remains unchanged from what was presented in the previously approved CZP.

Previous Development & Areas to Be Demolished

Outside of minimal clearing activities and stockpiling, the Section 12 portion remains undeveloped. No new demolition activities are proposed with this modification.

Attachment D – Factors Affecting Surface Water Quality

Multiple factors have the potential of affecting surface water quality during construction. These include: oil, grease, gas, transmission fluids, and/or other vehicular fluids, as well as shifts in sediment that will occur during excavation and fill operations. Upon completion of construction, normal traffic on the site could be responsible for many of these same pollutants, as well as everyday activities, such as car washing and lawn watering.

Attachment E – Volume and Character of Stormwater

Volume and character of stormwater remains unchanged from what was presented in the previously approved CZP. Drainage patterns also remain similar, such that the majority of runoff drains to on-site BMP's where it will be treated. Specifications for the revised BMPs and drainage can be found in *Attachment B – Narrative of Proposed Modification* and the revised construction plan set.

Attachment F – Suitability Letter from Authorized Agent

Not applicable to this project.

Attachment G – Alternative Secondary Containment Methods

Not applicable to this project.

Attachment H – AST Containment Structure Drawings

Not applicable to this project.

Attachment I – 20% or Less Impervious Cover Declaration

Not applicable to this project.

Attachment J – BMPs for Upgradient Stormwater

Upgradient stormwater can be characterized as flowing from adjacent properties which contain either no impervious cover or are being treated by existing BMPs. The upgradient stormwater is being conveyed through the proposed site via culverts and channels to the tributaries of the North Fork San Gabriel River.

Attachment K – BMPs for On-Site Stormwater

Due to the proposed increase in impervious cover, five (5) BMPs need to be resized in order to adequately treat the new pollutant loads. The BMPs proposed within this revision account for all of the new proposed impervious cover, no other BMPs within the Northgate Ranch Phase 3 Sections 11-13 development were impacted by these modifications.

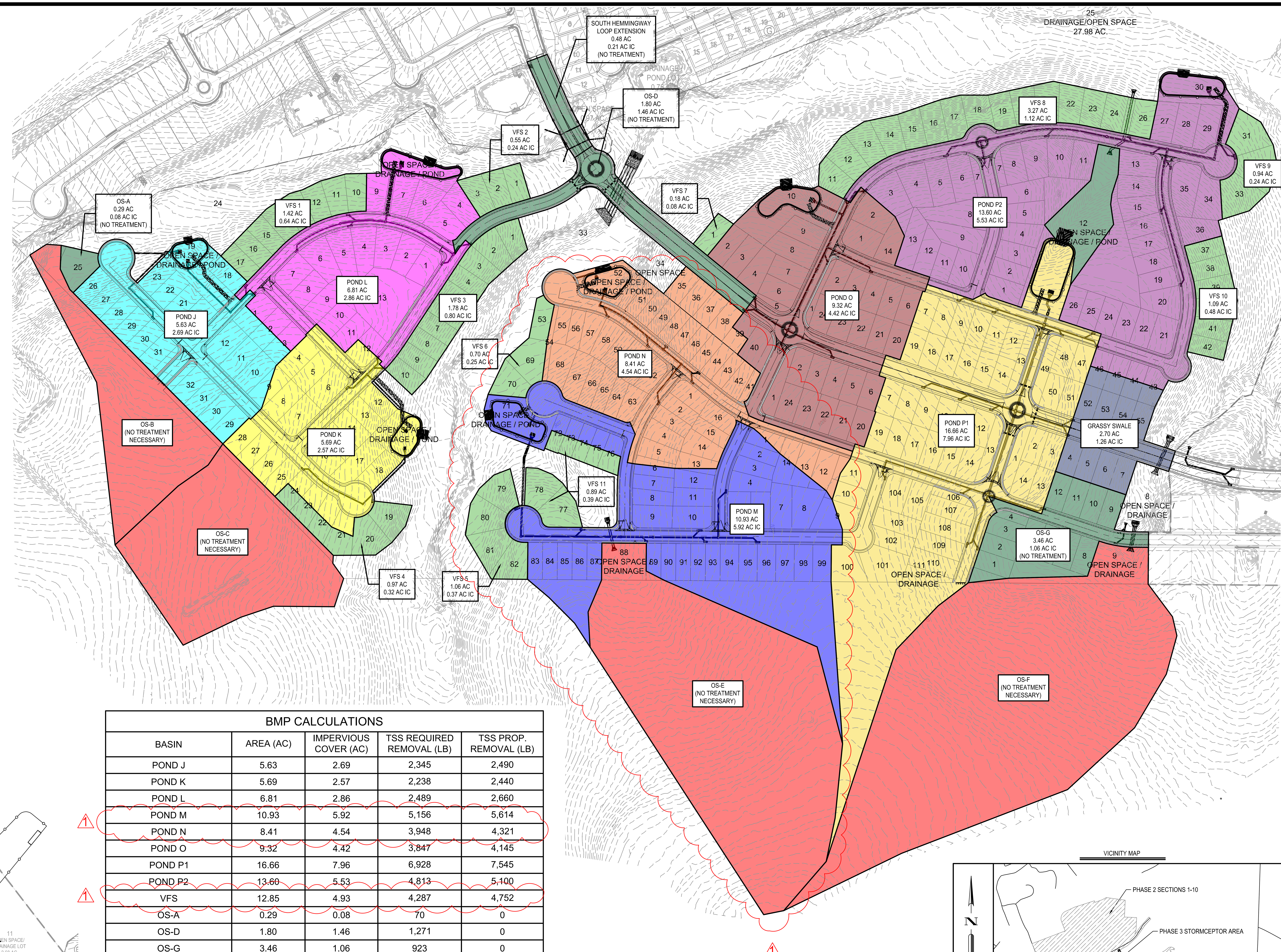
Batch Detention Pond M, Batch Detention Pond N, and Vegetative Filter Strips 5, 6, and 11A/B have been redesigned to fully capture and treat the increased pollutant runoff. In the previous approval, any runoff from areas draining offsite and bypassing treatment were accounted for in the oversizing of BMPs; all BMPs included in this modification were redesigned such that the TSS overtreatment previously being accounted for was retained, ensuring the site maintains the overall required 20% treatment capacity. Captured runoff will ultimately discharge to a naturally existing tributary of the North Fork San Gabriel River. The locations and calculations for these BMPs can be seen in the revised construction plans for reference. Descriptions and explanations for these modifications can be found in *Attachment B – Narrative of Proposed Modification.*

Attachment L – BMPs for Surface Streams

No BMPs are proposed specifically for surface streams. Proposed on-site BMPs and drainage systems are designed to maintain existing flow patterns.

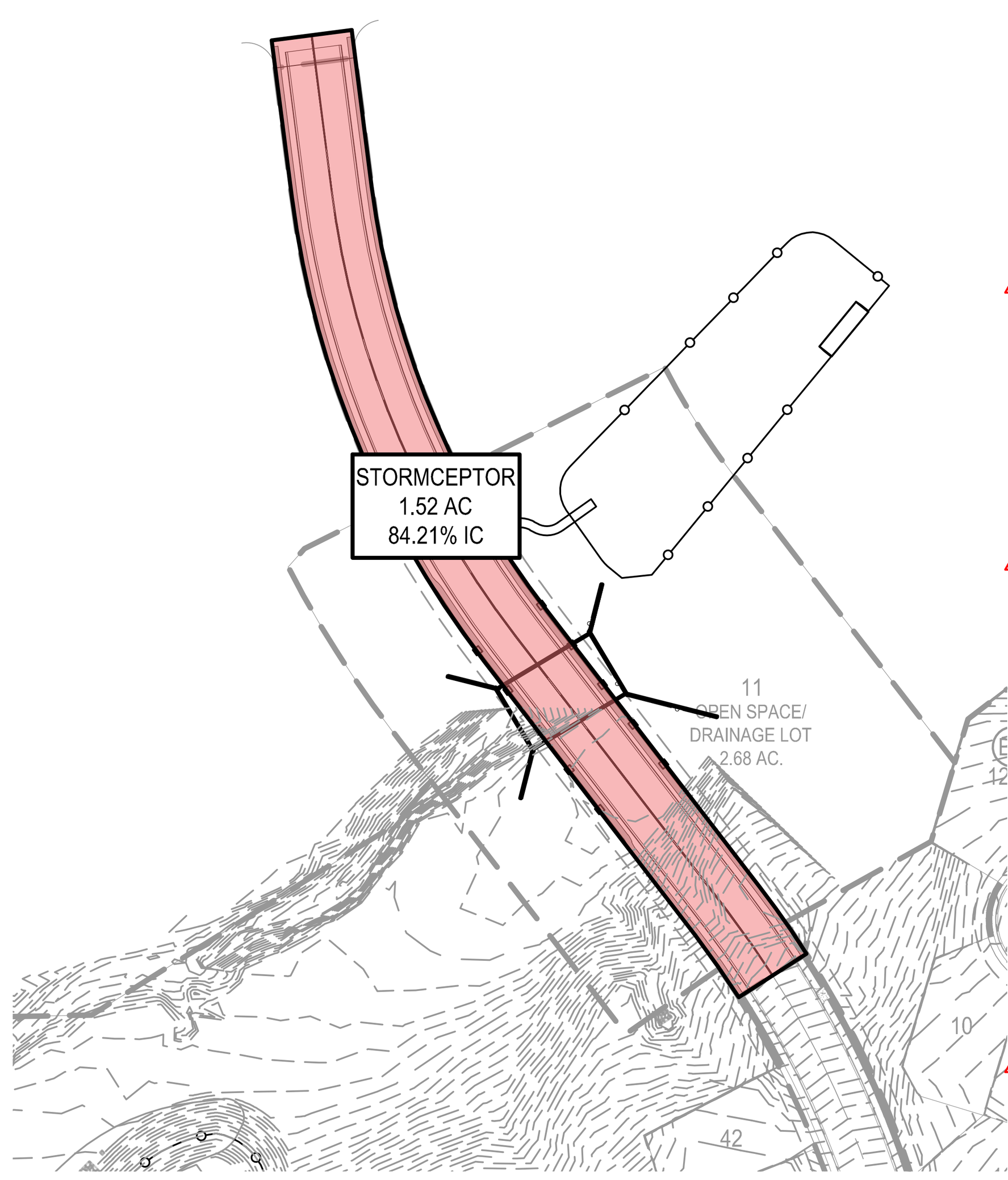
Attachment M – Construction Plans

Construction sheets for permanent BMPs, proposed storm improvements, and erosion controls are attached.



LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PH 3 SEC 11-13 BOUNDARY
- POND J DRAINAGE AREA
- POND K DRAINAGE AREA
- POND L DRAINAGE AREA
- POND M DRAINAGE AREA
- POND N DRAINAGE AREA
- POND O DRAINAGE AREA
- POND P1 DRAINAGE AREA
- POND P2 DRAINAGE AREA
- VEGETATIVE FILTER STRIPS DRAINAGE AREAS
- GRASSY SWALE DRAINAGE AREA
- STORMCEPTOR DRAINAGE AREA
- UNTREATED ONSITE DRAINAGE AREAS
- UNTREATED OFFSITE DRAINAGE AREAS

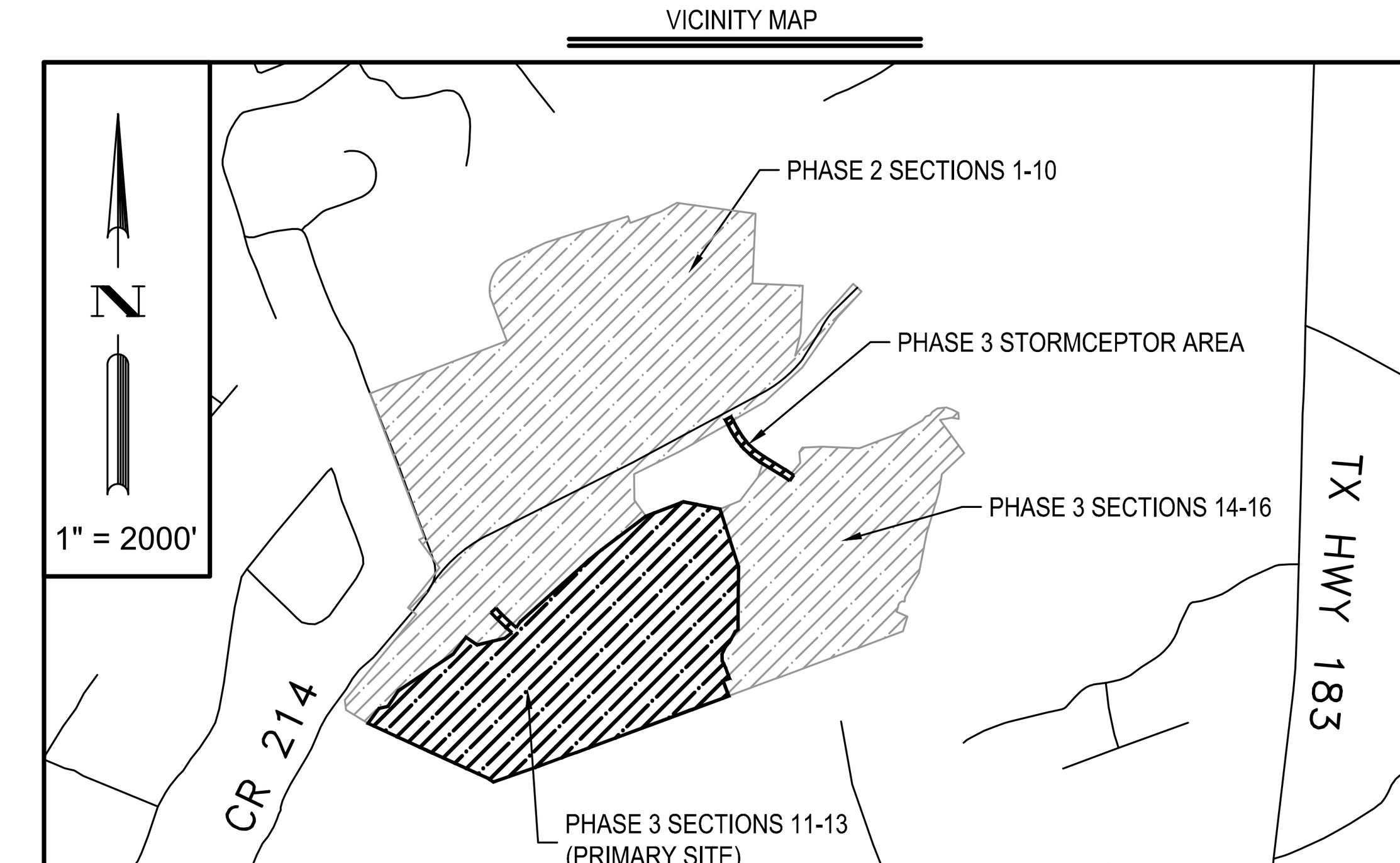


BMP CALCULATIONS

BASIN	AREA (AC)	IMPERVIOUS COVER (AC)	TSS REQUIRED REMOVAL (LB)	TSS PROP. REMOVAL (LB)
POND J	5.63	2.69	2,345	2,490
POND K	5.69	2.57	2,238	2,440
POND L	6.81	2.86	2,489	2,660
POND M	10.93	5.92	5,156	5,614
POND N	8.41	4.54	3,948	4,321
POND O	9.32	4.42	3,847	4,145
POND P1	16.66	7.96	6,928	7,545
POND P2	13.60	5.53	4,813	5,100
VFS	12.85	4.93	4,287	4,752
OS-A	0.29	0.08	70	0
OS-D	1.80	1.46	1,271	0
OS-G	3.46	1.06	923	0
GRASSY SWALE	2.70	1.26	1,097	994
STORMCEPTOR	1.52	1.28	1,113	810
ROAD EXTENSION	0.48	0.21	306	0
ADD. PROJECT AREA *	23.45	0.00	0	0
TOTAL	123.60	46.77	40,831	40,871

* THE ADDITIONAL PROJECT AREA IS COMPRISED OF ALL AREAS WITHIN THE STATED LIMITS OF CONSTRUCTION THAT ARE NOT INCLUDED IN DRAINAGE AREA CONSIDERATIONS, DO NOT DRAIN TO BMPS, AND DO NOT REQUIRE TSS TREATMENT.

VICINITY MAP



REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

DRAINAGE DESIGNATIONS EXHIBIT

EXHIBIT

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\05_Exhibits\9838-DRAINAGE DESIGNATIONS.dwg Layout: DRAINAGE DESIGNATIONS

SUMMARY NOTES

OWNER:

RIVER OAKS LAND PARTNERS II, LLC.
14001 WEST STATE HWY 29
SUITE 203
LIBERTY HILL, TX 78642
PHONE: 512-657-2992

ENGINEER:

BGE, INC.
101 WEST LOUIS HENNA BLVD.
SUITE 400
AUSTIN, TX 78728
PHONE: 512-879-0400

LEGAL DESCRIPTION:

AW0312 AW0312 - HACKETT, J. SUR., ACRES 55.514

REVIEWED FOR COMPLIANCE WITH WILLIAMSON COUNTY REQUIREMENTS

Andrew Hoge — WILLIAMSON COUNTY — DATE 9/12/23

Donald Munk — GEORGETOWN UTILITY SYSTEMS — DATE 1/17/23

~~WILLIAMSON COUNTY EMERGENCY SERVICE DISTRICT NO. 4~~ — ~~DATE~~

K. Kelly, P.E. — NORTH SAN GABRIEL MUD No. 1 — DATE 9/26/23

NOTES: REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

NOTES:

1. THIS PROJECT IS LOCATED WITHIN THE NORTH FORK SAN GABRIEL RIVER WATERSHED.
2. THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
3. NO PORTION OF THIS PLAN IS ENCROACHED BY SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 1% ANNUAL CHANCE FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBERS 48491C0335F, EFFECTIVE DATE DECEMBER 20, 2019 FOR WILLIAMSON COUNTY TEXAS.

BENCHMARK

TBM 1 – TEMPORARY BENCHMARK FOR THIS PROJECT IS A " " CHISEL MARK AT THE APPROXIMATE MIDDLE POINT OF THE CONCRETE HEADWALL ON THE EAST SIDE OF THE BOX CULVERTS CROSSING C.R. 214, ON THE WEST SIDE OF THE ESTATES AT NORTHGATE, PHASE 1, SECTION 1, AS RECORDED IN DOC. NO. 2018070591, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.

ELEVATION 993.74 FEET — NAVD 88 DATUM
GRID N. 10223889.38
GRID E. 3057450.22

TBM 64–60–1 – TEMPORARY BENCHMARK FOR THIS PROJECT IS A "X" CUT ON A CONCRETE CULVERT ON THE SOUTH SIDE OF THE DRIVE ENTRANCE JUST NORTH OF THE SUBJECT SITE ON THE WEST SIDE OF SAN GABRIEL RANCH ROAD, +/– 238' NORTHWEST OF THE MOST NORTHERLY DRIVE ENTRANCE TO THE SUBJECT SITE.

ELEVATION 979.69 FEET — NAVD 88 DATUM
GRID N. 10228314.19
GRID E. 3058670.76

TBM 64–60–2 – TEMPORARY BENCHMARK FOR THIS PROJECT IS A COTTON GIN SPINDLE SET IN POWER POLE ALONG THE SOUTHEASTERLY RIGHT–OF–WAY LINE OF C.R. 214, +/– 129' SOUTHEAST OF THE INTERSECTION OF C.R. 214 AND SAN GABRIEL RANCH ROAD.

ELEVATION 976.22 FEET — NAVD 88 DATUM
GRID N. 10226653.63
GRID E. 3059288.51

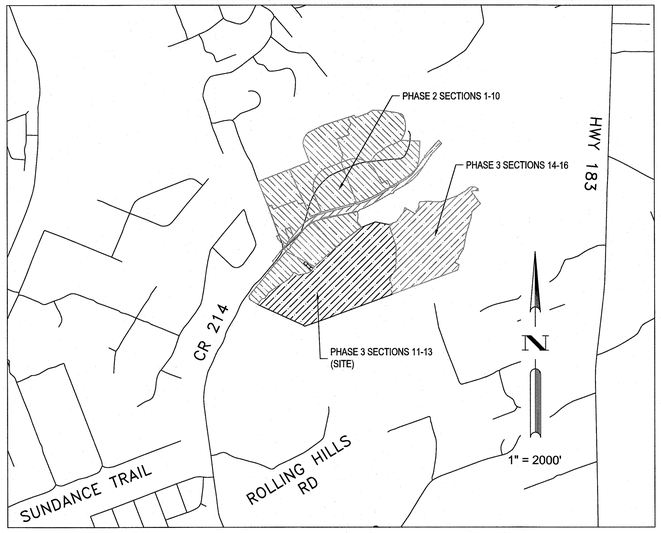
CONSTRUCTION PLANS FOR NORTHGATE RANCH PHASE 3 - SECTIONS ~~11~~, 12, & ~~13~~ WILLIAMSON COUNTY, TEXAS

NORTH SAN GABRIEL MUD NO. 1

PAVING, WATER, WASTEWATER & DRAINAGE IMPROVEMENTS

NOVEMBER 2022

VICINITY MAP



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6	PRELIMINARY PLAT (SHEET 3 OF 5)
7	PRELIMINARY PLAT (SHEET 4 OF 5)
8	PRELIMINARY PLAT (SHEET 5 OF 5)
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19	MCMILLIAN DRIVE (STA. 8+50 TO END)
20	STATUE DRIVE (STA. 1+00 TO 8+00)
21	STATUE DRIVE (STA. 8+00 TO END)
22	GIBBS DRIVE (STA. 1+00 TO END)
23	SMOKE SIGNAL DRIVE (STA. 1+00 TO END)
24	SMOKE SIGNAL COURT (STA. 1+00 TO END)
25	LEWIS LANE (STA. 1 +00 TO 7+00)
26	LEWIS LANE (STA. 7+00 TO 16+50)
27	LEWIS LANE (STA. 16+50 TO 23+00)
28	LEWIS LANE (STA. 23+00 TO END)
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30	LUTTRELL LANE (STA. 7+50 TO 15+00)
31	LUTTRELL LANE (STA. 15+00 TO 22+50)
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33	CLIVE COURT (STA. 1+00 TO END)
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35	LAMPPOST DRIVE (STA. 1+00 TO 7+50)
36	LAMPPOST DRIVE (STA. 7+50 TO END)
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76	STORMSEWER LINE L (STA. 1+00 TO END)
77	STORMSEWER LINE M (STA. 1+00 TO 4+00)
78	STORMSEWER LINE M (STA. 4+00 TO END)
79	STORMSEWER LINES N & P (STA. 1+00 TO END)
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111	WASTEWATER LINE C (STA. 6+50 TO END)
112	WASTWATER LINE D & WASTEWATER LINE E (STA. 1+00 TO END)
113	WASTEWATER LINE F (STA. 1+00 TO END)
114	WASTEWATER LINE G (STA. 1+00 TO END)
115	WASTEWATER LINE H (STA. 1+00 TO END)
116	WASTEWATER LINE J (STA. 1+00 TO END)
117	WASTEWATER LINE K (STA. 1+00 TO END)
118	WASTEWATER LINE L (STA. 1+00 TO END)
119	WASTEWATER LINE M (STA. 1+00 TO END)
120	WASTEWATER LINE N (STA. 1+00 TO END)
121	WASTEWATER LINE P (STA. 1+00 TO 8+00)
122	WASTEWATER LINE P (STA. 8+00 TO END)
123	WASTEWATER LINE Q (STA. 1+00 TO END)
124	WASTEWATER LINE R & WASTEWATER LINE S (STA. 1+00 TO END)
125	WASTEWATER LINE T (STA. 1+00 TO END)
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142	STREET DETAILS (SHEET 1 OF 3)
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144	STREET DETAILS (SHEET 3 OF 3)

REVISIONS/CORRECTIONS					
SHEET LIST	DESCRIPTION	DATE	REVISE (R) ADD (A) VOID (V) SHEET NO.'S	ACCEPTED BY	APPROVAL DATE

BGE, Inc.
101 WEST LOUIS HENNA BLVD, Suite 400
Austin, TX 78728
Tel: 512-879-0400 ● www.browngay.com
TBPE Registration No. F-1046

SUBMITTED BY

Nathan D. Kelly — 12-14-2022
NATHAN D. KELLY, P.E.
BGE, INC. TBPE NO. F-1046
101 WEST LOUIS HENNA BLVD
SUITE 400
AUSTIN, TX 78728
PHONE: 512-879-0400

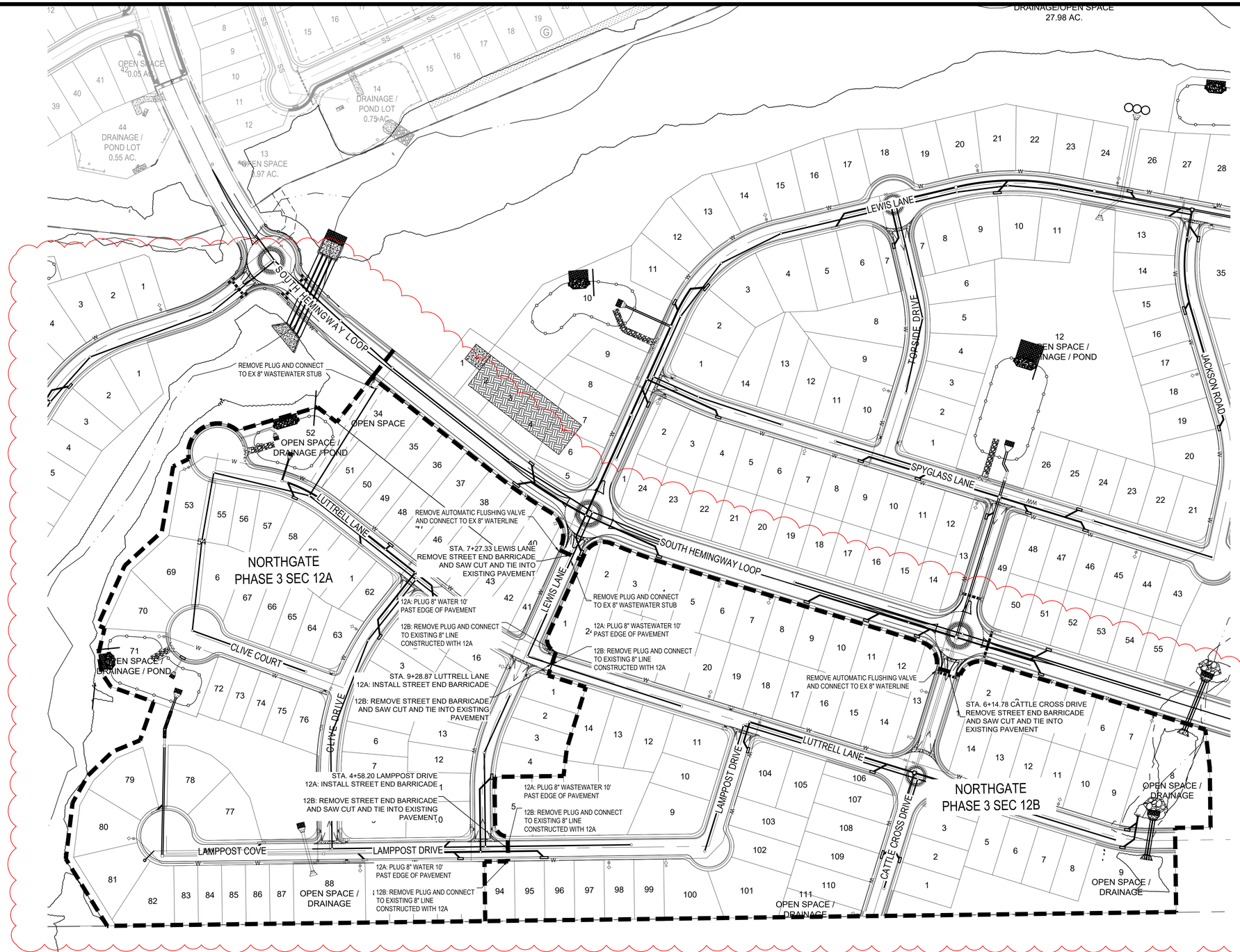
STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER

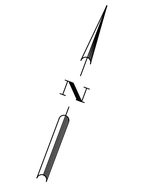
FOR REVISION 1 ONLY

STATE OF TEXAS — JONATHAN A. JONES — 147526 — LICENSED PROFESSIONAL ENGINEER — 10/16/2024

SHEET 1 OF 144

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-COVER.dwg Layout: COVER Plotted: 12/14/2022 3:40:45 PM





LEGEND

- PROPERTY BOUNDARY
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR

NOTE:

1. THIS PHASING PLAN ONLY INCLUDES PLUGS, VALVES, ETC. REQUIRED DUE TO CONSTRUCTION OF SECTION 11, 12A, & 13 PRIOR TO SECTION 12B THAT ARE NOT OTHER WISE INCLUDED IN THE WATER, WASTEWATER, AND STORM SHEETS. FOR ALL OTHER STRUCTURES, SEE APPLICABLE SHEETS.

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W. Louis Henna Blvd., Suite 400
AUSTIN, TX 78728
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TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

PHASING PLAN

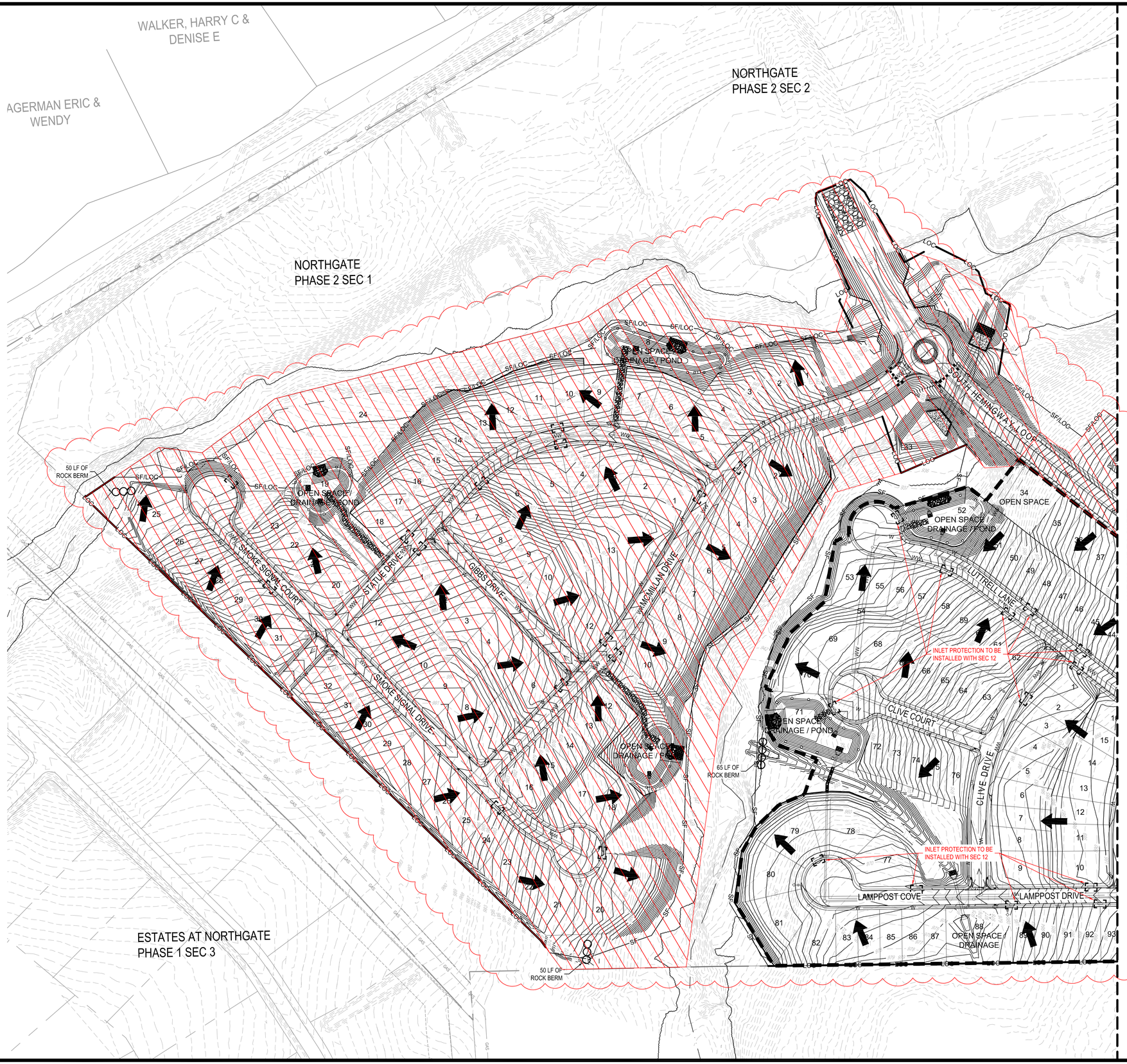
FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

SHEET
9 OF 144

G:\TXCI\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-PHASE.dwg Layout: 9 PHASING PLAN



0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

- PROPERTY BOUNDARY
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/ SILT FENCE
- SF — SILT FENCE
- CONSTRUCTION ENTRANCE
- STAGING / SPOILS AREA
- CONCRETE WASHOUT
- DIVERSION DIKE
- INLET PROTECTION
- ROCK BERM
- DIRECTION OF FLOW
- J-HOOK

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC

REVIEWED BY: JAJ

DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

EROSION CONTROL PLAN (SHEET 1 OF 2)

FOR REVISION 1 ONLY

STATE OF TEXAS — JONATHAN A. JONES — 147526 — LICENSED PROFESSIONAL ENGINEER

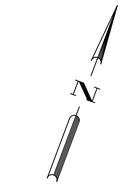
10/16/2024

STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER

5-9-2023

SHEET
10 OF 144

G:\TXCI\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-EROS.dwg Layout: EROSION CONTROL PLAN (SHEET 1 OF 2)



0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

- PROPERTY BOUNDARY
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/ SILT FENCE
- SF — SILT FENCE
- CONSTRUCTION ENTRANCE
- STAGING / SPOILS AREA
- CONCRETE WASHOUT
- DIVERSION DIKE
- INLET PROTECTION
- ROCK BERM
- DIRECTION OF FLOW
- J-HOOK

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED PROFESSIONAL ENGINEER

10/16/2024

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC

REVIEWED BY: JAJ

DRAWN BY: MTC

BGE, INC.
101 W. Louis Henna Blvd., Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

EROSION CONTROL PLAN (SHEET 2 OF 2)

STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED PROFESSIONAL ENGINEER

5-9-2023

WALKER, HARRY C & DENISE E

AGERMAN ERIC & WENDY

NORTHGATE PHASE 2 SEC 1

NORTHGATE PHASE 2 SEC 2

DO NOT GRADE PHASE 3 SEC 11

ESTATES AT NORTHGATE PHASE 1 SEC 3

MATCH LINE TO SHEET 13

SMOKE SIGNAL COURT

SMOKE SIGNAL DRIVE

STATUE DRIVE

GIBBS DRIVE

MCMILLAN DRIVE

SOUTH HEMINGWAY LOOP

LUTTRELL LANE

CLIVE COURT

CLIVE DRIVE

LAMPPOST COVE

LAMPPOST DRIVE

OPEN SPACE / DRAINAGE / POND

OPEN SPACE / DRAINAGE

478 LF OF RETAINING WALL

235 LF OF RETAINING WALL

61 LF OF RETAINING WALL

213 LF OF RETAINING WALL

607 LF OF RETAINING WALL

370 LF OF RETAINING WALL

615 LF OF RETAINING WALL

85 LF OF RETAINING WALL

194 LF OF RETAINING WALL

0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

- PHASE BOUNDARY
- XXX EXISTING MAJOR CONTOUR
- XXX EXISTING MINOR CONTOUR
- XXX PROPOSED MAJOR CONTOUR
- XXX PROPOSED MINOR CONTOUR
- PROPOSED RETAINING WALL

NOTES:

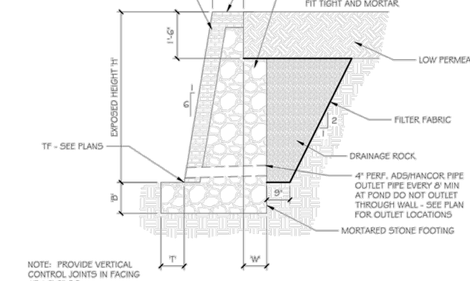
1. ALL STRUCTURAL DESIGN FOR RETAINING WALLS BY OTHERS.

ROSCH

DESIGN. BUILD. RETAIN.

www.roschcompany.com

Structural Gravity Wall
Preliminary Cross Section
Not for Construction – Final Engineering Required



1 GRAVITY WALL SECTION
3 NTS

MIDWEST REGION – Corporate Headquarters
406 East Wacker St. Saint Louis, MO 63366
Phone: 636.978.7770 ▫ Fax: 636.978.8796

SOUTHWEST REGION – Texas Main Office
3000 Joe DiMaggio Blvd., 28A, Austin, TX 78664
Phone: 512.850.6212 ▫ Fax: 512.233.0540

SOUTHWEST REGION – Local Office
3201 Cherry Ridge Dr, C-324, San Antonio, TX 78230
Phone: 210.317.1359 ▫ Fax: 210.201.0533

FOR REVISION 1 ONLY

JONATHAN A. JONES 147526 LICENSED PROFESSIONAL ENGINEER

10/16/2024

	DATE	DESCRIPTION
1		SECTION 12 REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

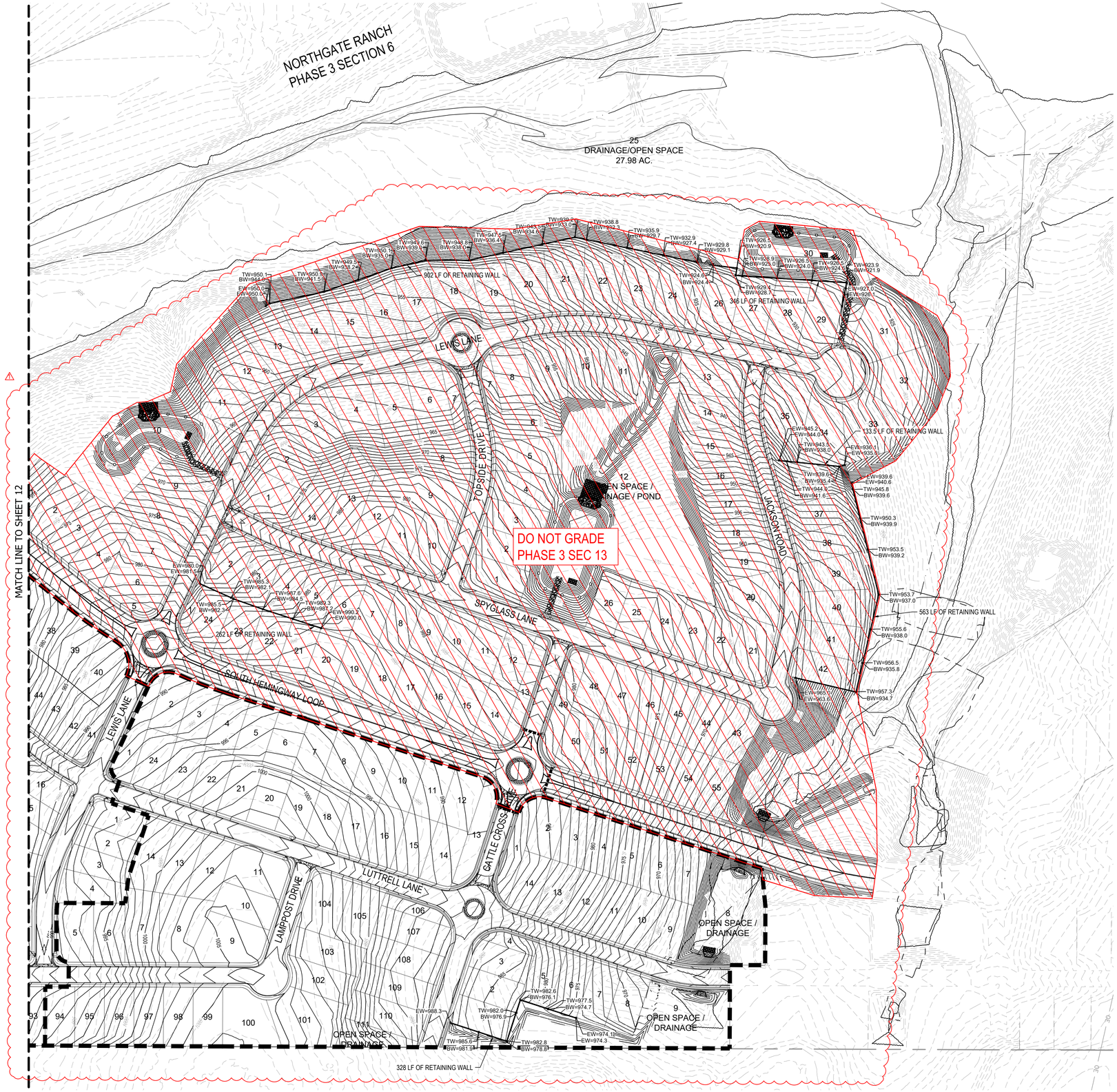
GRADING PLAN (SHEET 1 OF 2)

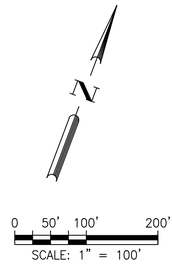
NATHAN D. KELLY 141451 LICENSED PROFESSIONAL ENGINEER

4-3-2023

SHEET
12 OF 144

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-GRAD.dwg Layout: 11 GRADING PLAN (SHEET 1 OF 2)





LEGEND

- PHASE BOUNDARY
- XXX — EXISTING MAJOR CONTOUR
- XXX — EXISTING MINOR CONTOUR
- XXX — PROPOSED MAJOR CONTOUR
- XXX — PROPOSED MINOR CONTOUR
- PROPOSED RETAINING WALL

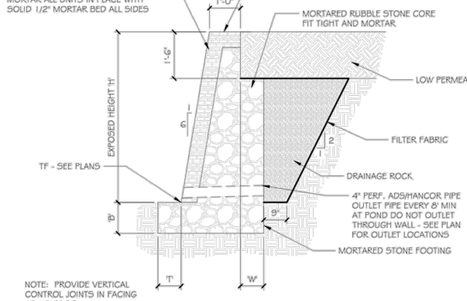
NOTES:

1. ALL STRUCTURAL DESIGN FOR RETAINING WALLS BY OTHERS.

ROSCH

DESIGN. BUILD. RETAIN.
www.roschcompany.com

Structural Gravity Wall
Preliminary Cross Section
Not for Construction – Final Engineering Required



GRAVITY WALL SECTION
1/3 NTS

MIDWEST REGION – Corporate Headquarters
406 East Wabash St. Saint Louis,MO 63306
Phone: 636.978.7770 ▫ Fax: 636.978.6796

SOUTHWEST REGION – Texas Main Office
3000 Joe DiMaggio Blvd., 28A Austin,TX 78664
Phone: 512.850.4272 ▫ Fax: 512.233.0540

SOUTHWEST REGION – Local Office
3201 Cherry Ridge Dr, C-324,San Antonio,TX 78230
Phone: 210.317.7359 ▫ Fax: 210.201.0533

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

	DATE	DESCRIPTION
1	APR	SECTION 12 GRADING REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

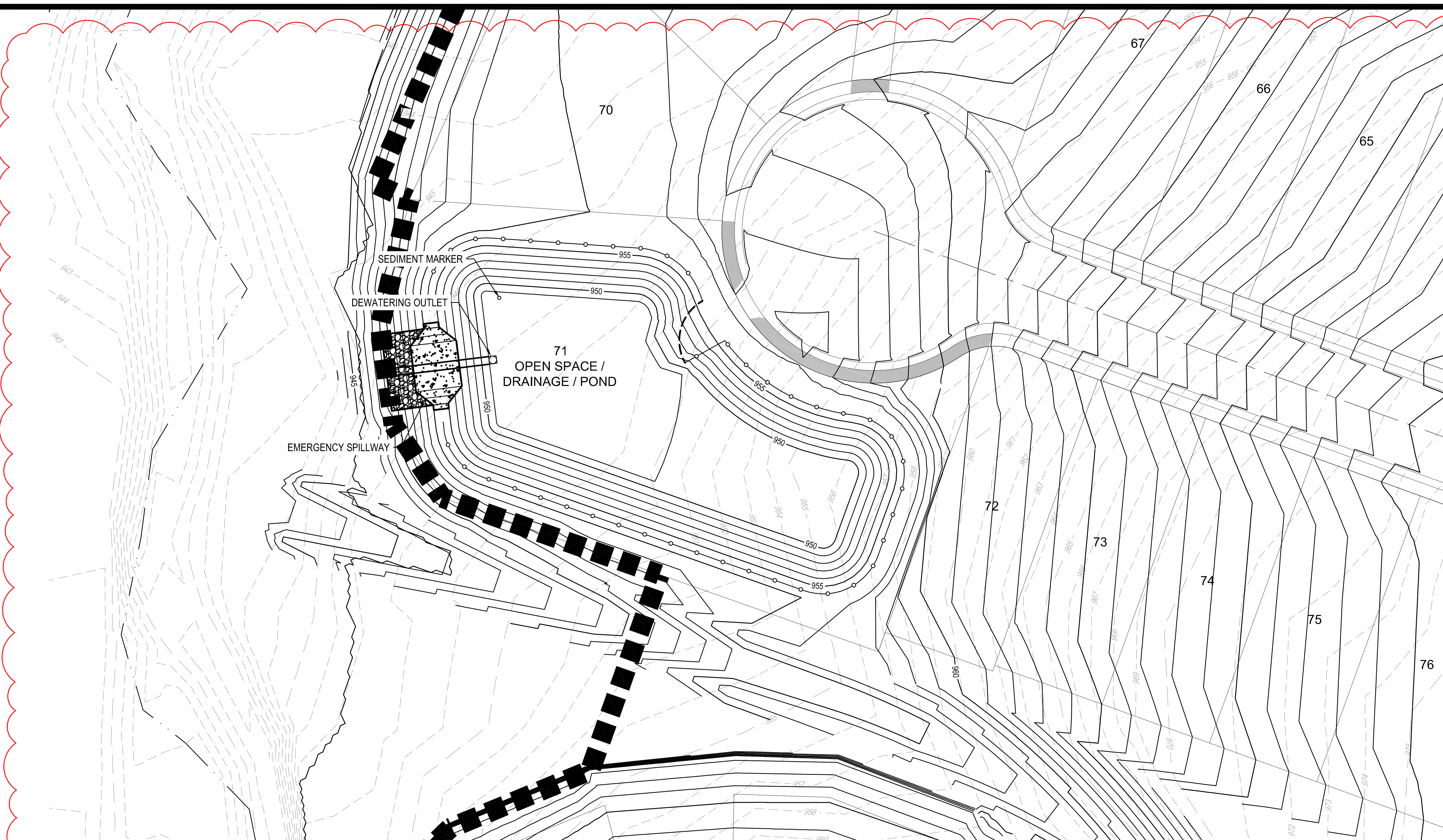
NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

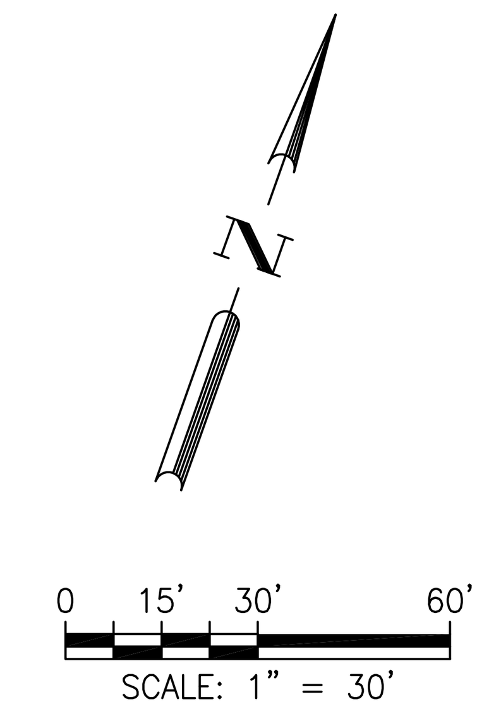
GRADING PLAN (SHEET 2 OF 2)

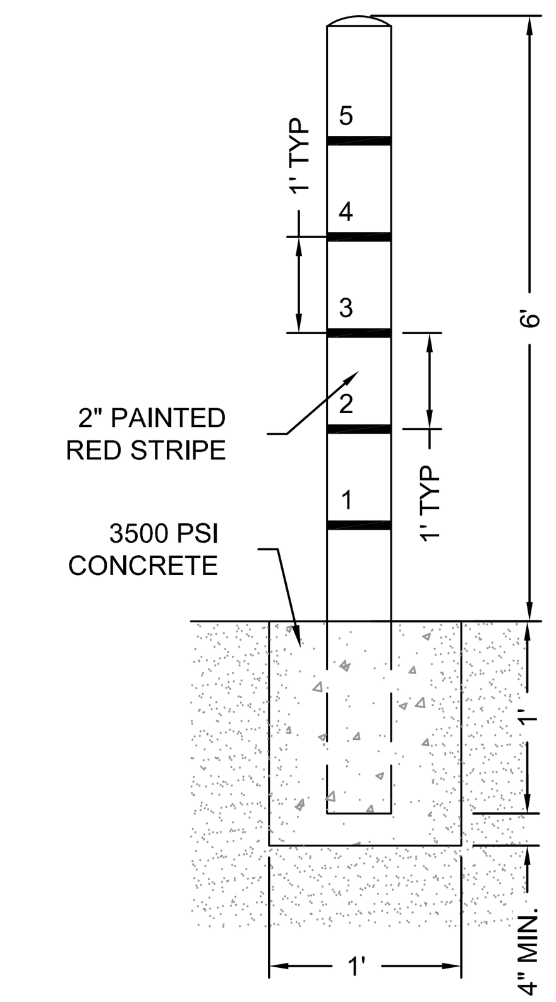
STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER
4-3-2023

SHEET
13 OF 144

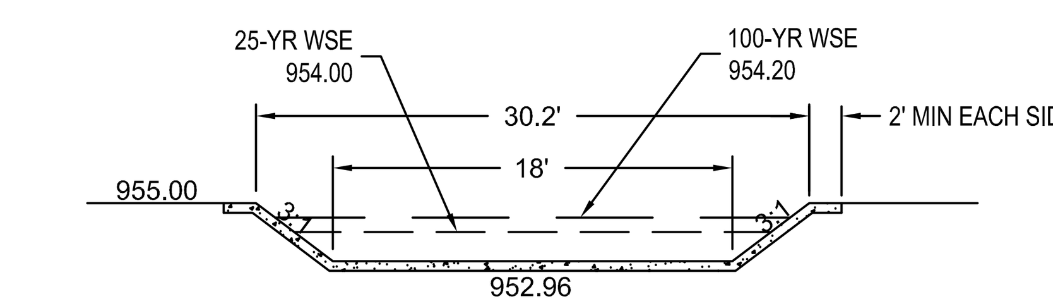
G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-GRAD.dwg Layout: 12 GRADING PLAN (SHEET 2 OF 2)







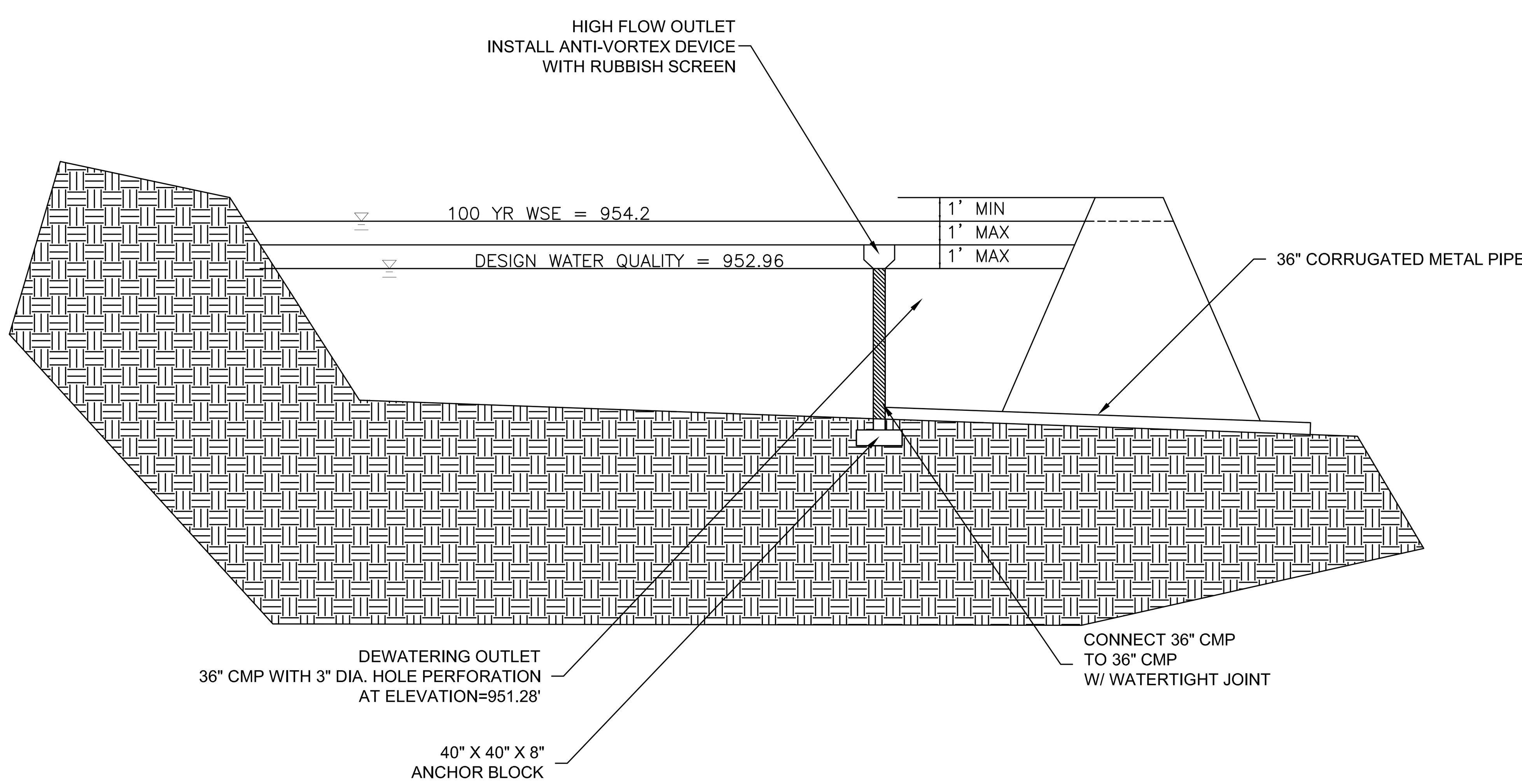
SEDIMENT MARKER DETAIL



18' WEIR DETAIL

NOT TO SCALE

(STRUCTURAL BY OTHERS)



TEMPORARY DEWATERING OUTLET DETAIL

NOT TO SCALE

BATCH DETENTION BASIN

	Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
	949.00	0.00	0.00	5883.31	0	0
	950.00	1.00	1.00	9042.63	7,407	7,407
	951.00	1.00	2.00	10343.01	9,686	17,092
1/2 WATER QUALITY VOLUME	951.28	0.28	2.28	10717.12	2,903	19,995
	952.00	1.00	3.00	11699.94	11,015	28,107
	952.96	0.96	3.96	13057.62	11,884	39,991
	953.00	0.04	4.00	13113.42	517	40,507
	954.00	1.00	5.00	14583.45	13,842	54,349
	955.00	1.00	6.00	14583.45	14,583	68,933

Required Opening Size

$$A_0 = \frac{A_s \times \mathrm{sqrt}(2*H)}{C_d * 980{,}000}$$

	C_d =	0.6
(Depth of pond)	H (ft) =	3.96
(Area of pond)	A_s (sf) =	13,058
(Area of opening for 48 hr drawdown)	A_0 (sf) =	0.062

Opening Size Calculation

$$A = \pi r^2$$

r (ft) =	0.125
A (sf) =	0.04909

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

6-15-22
STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		
2			
3			
4			
5			

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE

BGE, INC.
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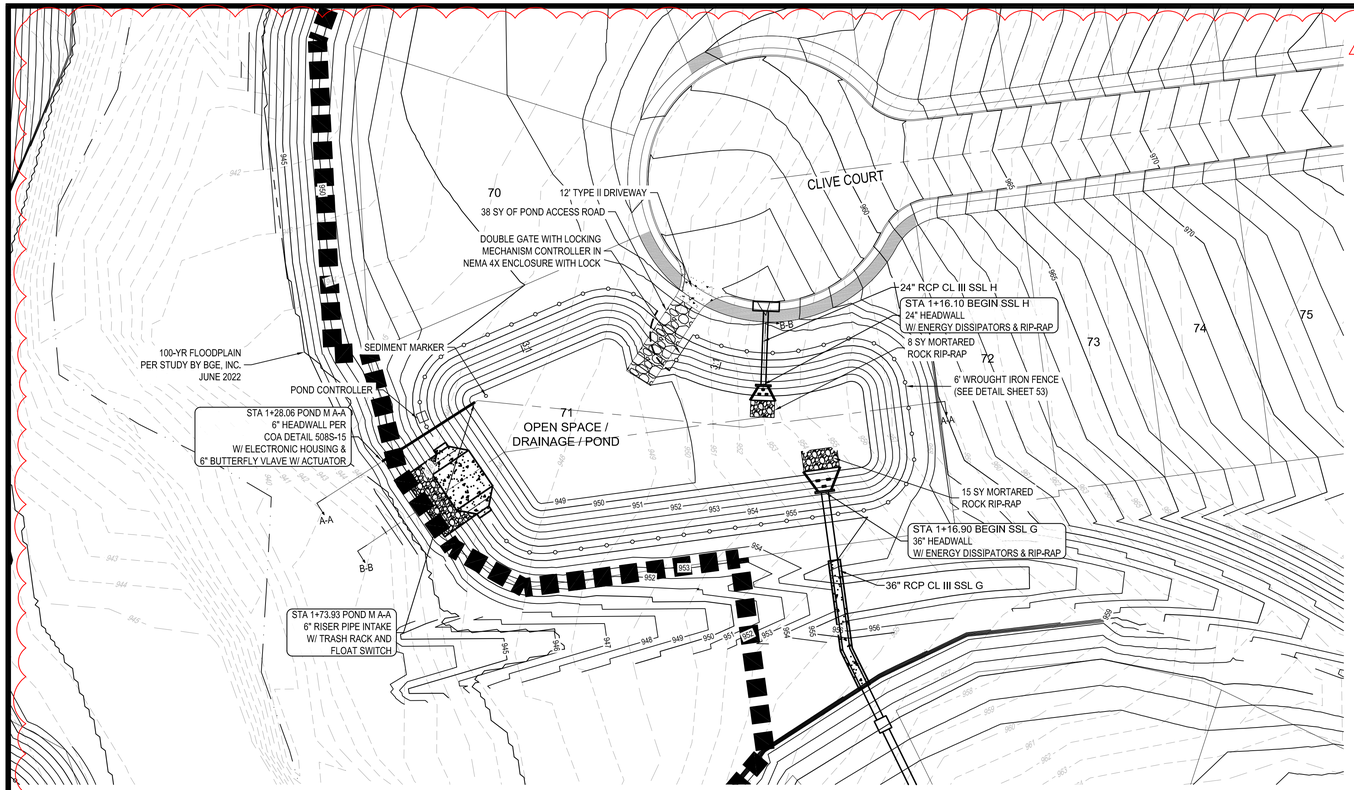
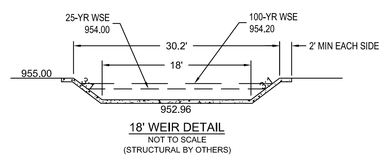
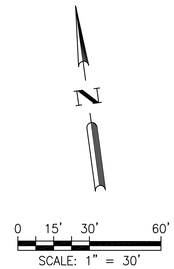
NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

TEMPORARY SEDIMENT BASIN M





18' WEIR DETAIL
NOT TO SCALE
(STRUCTURAL BY OTHERS)



SCALE: 1" = 30'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- SECTION BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- WROUGHT IRON FENCE

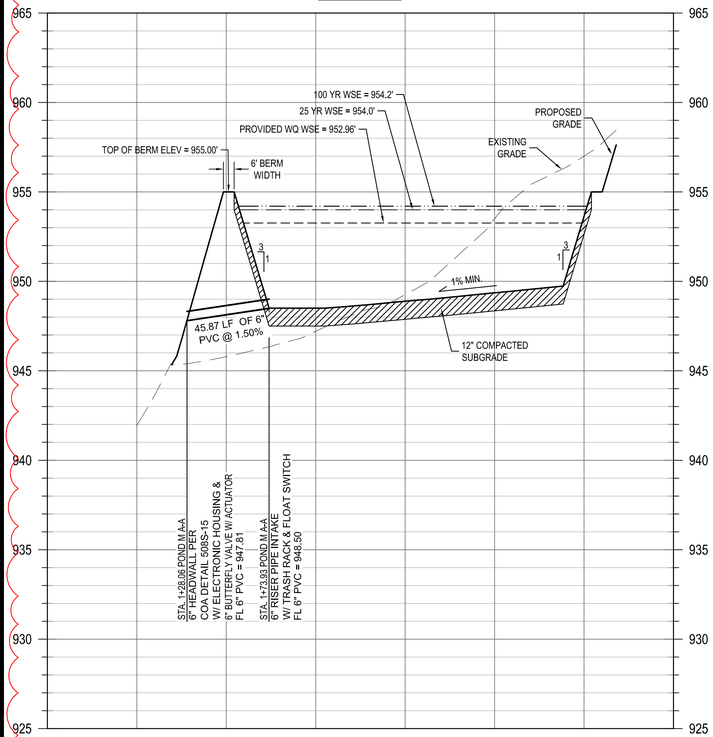
NOTES:

1. FLOAT SWITCH TO BE INSTALLED ON 4" CONCRETE PAD.
2. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY BE ALSO UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
3. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
4. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HRS FOLLOWING BASIN EMPTY SIGNALS.
5. CONTROLLER SHALL BE IN LOCKED ENCLOSURE WITH EXTERNAL INDICATOR.
6. CONTROLLER SHALL HAVE TEST SEQUENCE, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
7. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
8. CONTRACTOR SHALL TEST AND VERIFY POND IS FUNCTIONING AS DESIGNED PRIOR TO ACCEPTANCE. CONTRACTOR SHALL SUBMIT LIST OF CONTROL PANEL COMPONENTS AND OPERATIONS MANUAL TO ENGINEER.

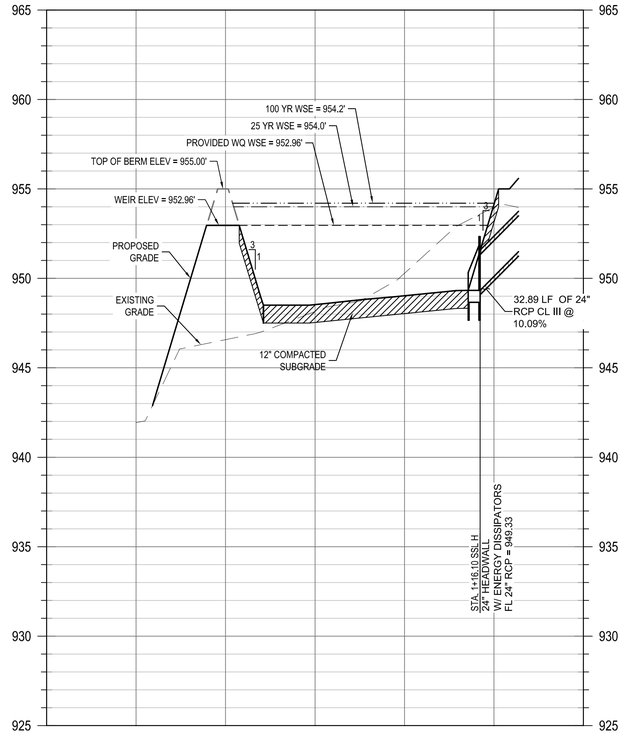
PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 YEAR HGL
- 100 YEAR HGL

POND M A-A



POND M B-B



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

Drainage Basin/Outfall Area No. =	**POND M**	
Total drainage basin/outfall area =	**10.93**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**5.92**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.54**	
$L_{M\ THIS\ BASIN}$ =	**5156**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**Batch Detention Pond**	
Removal efficiency =	**91**	percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

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

A_C =	**10.93**	acres
A_I =	**5.92**	acres
A_P =	**5.01**	acres
L_R =	**6047**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**5614**	lbs.
F =	**0.93**	

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

Rainfall Depth =	**2.20**	inches
Post Development Runoff Coefficient =	**0.38**	
On-site Water Quality Volume =	**33326**	cubic feet

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

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet
Storage for Sediment =	**6665**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**39991**	cubic feet

BATCH DETENTION BASIN

Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
949.00	0.00	0.00	5883.31	0	0
950.00	1.00	1.00	9042.63	7,407	7,407
951.00	1.00	2.00	10343.01	9,686	17,092
952.00	1.00	3.00	11699.94	11,015	28,107
952.96	0.96	3.96	13057.62	11,884	39,991
953.00	0.04	4.00	13113.42	517	40,507
954.00	1.00	5.00	14583.45	13,842	54,349
955.00	1.00	6.00	14583.45	14,583	68,933

STORM (YEAR)	ELEVATION (FT)	FLOW (CFS)
25	954.0	62.8
100	954.2	84.0

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED PROFESSIONAL ENGINEER
10/16/2024

	APR	DATE	DESCRIPTION
1			SECTION 12 REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

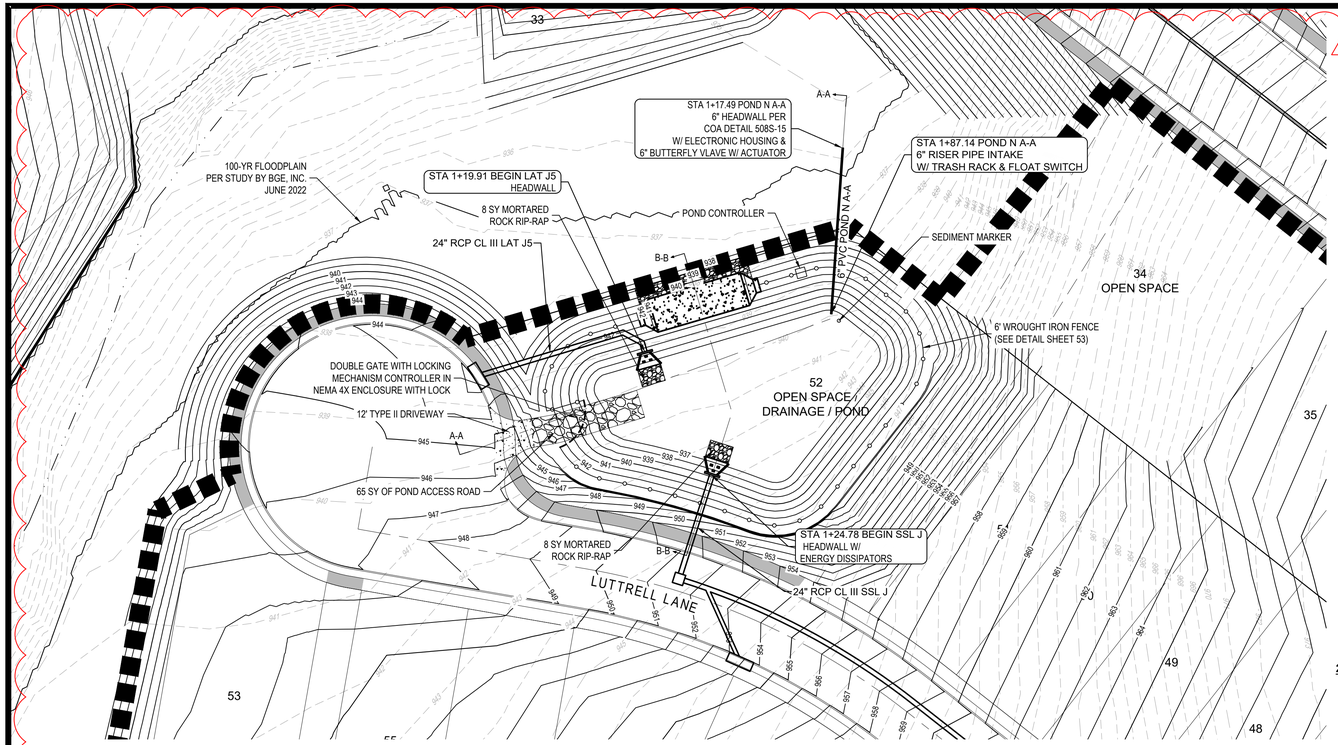
NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

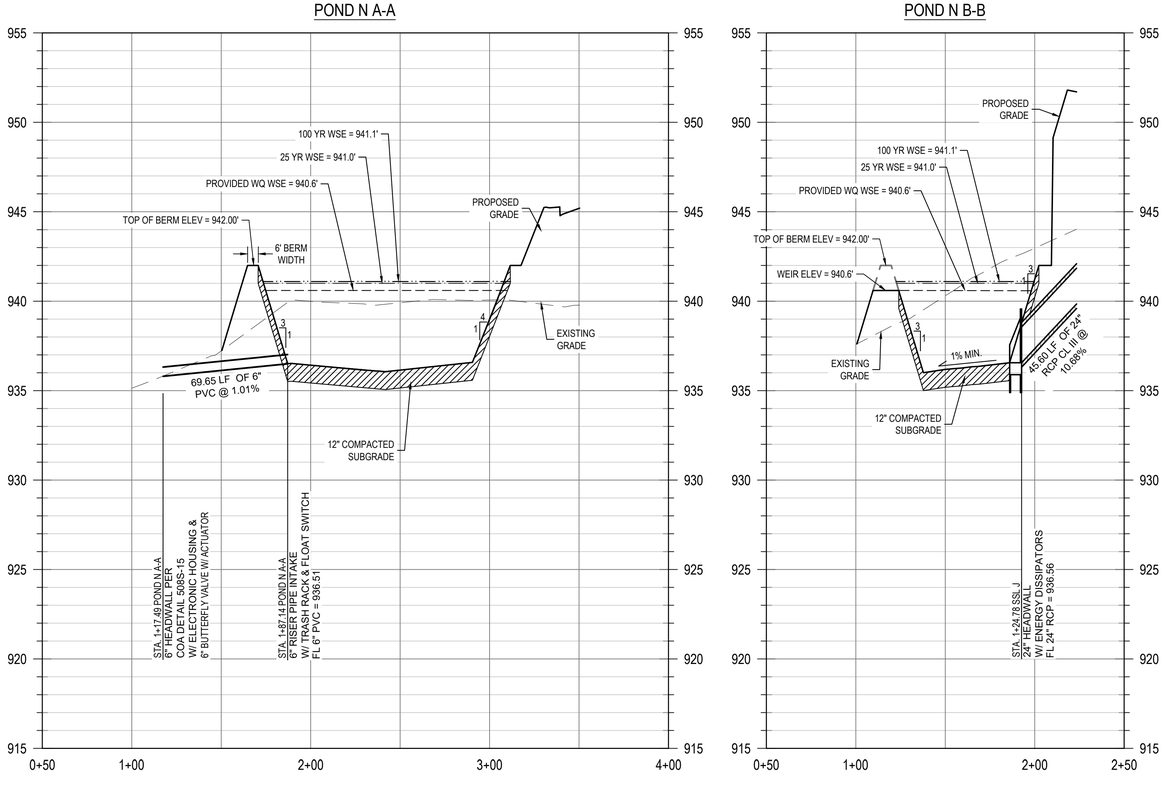
BATCH DETENTION POND M

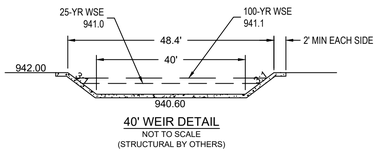
10-A-2022

STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED PROFESSIONAL ENGINEER

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-POND-12.dwg Layout: POND M







40' WEIR DETAIL
NOT TO SCALE
(STRUCTURAL BY OTHERS)

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

Drainage Basin/Outfall Area No. =	**POND N**	
Total drainage basin/outfall area =	**8.41**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**4.54**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.54**	
$L_{M\ THIS\ BASIN}$ =	**3948**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**Batch Detention Pond**	
Removal efficiency =	**91**	percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

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

A_C =	**8.41**	acres
A_I =	**4.54**	acres
A_P =	**3.87**	acres
L_R =	**4631**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**4321**	lbs.
F =	**0.93**	

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

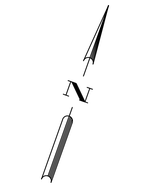
Rainfall Depth =	**2.20**	inches
Post Development Runoff Coefficient =	**0.38**	
On-site Water Quality Volume =	**25535**	cubic feet

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

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet
Storage for Sediment =	**5107**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**30642**	cubic feet

BATCH DETENTION BASIN

Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
936.00	0.00	0.00	4481.24	0	0
937.00	1.00	1.00	5374.34	4,921	4,921
938.00	1.00	2.00	6323.98	5,843	10,764
939.00	1.00	3.00	7330.17	6,821	17,585
940.00	1.00	4.00	8392.92	7,856	25,440
940.60	0.60	4.60	9060.23	5,202	30,642
941.00	0.40	5.00	9512.20	3,749	34,391
942.00	1.00	6.00	10688.04	10,094	44,486



LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- SECTION BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- WROUGHT IRON FENCE

NOTES:

1. FLOAT SWITCH TO BE INSTALLED ON 4" CONCRETE PAD.
2. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY BE ALSO UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
3. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
4. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HRS FOLLOWING BASIN EMPTY SIGNALS.
5. CONTROLLER SHALL BE IN LOCKED ENCLOSURE WITH EXTERNAL INDICATOR.
6. CONTROLLER SHALL HAVE TEST SEQUENCE, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
7. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
8. CONTRACTOR SHALL TEST AND VERIFY POND IS FUNCTIONING AS DESIGNED PRIOR TO ACCEPTANCE. CONTRACTOR SHALL SUBMIT LIST OF CONTROL PANEL COMPONENTS AND OPERATIONS MANUAL TO ENGINEER.

PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 YEAR HGL
- 100 YEAR HGL

FOR REVISION 1 ONLY

JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

STORM (YEAR)	ELEVATION (FT)	FLOW (CFS)
25	941.0	40.6
100	941.1	54.3

	APR	DATE	DESCRIPTION	REV
1			SECTION 12 GRADING REVISIONS	

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

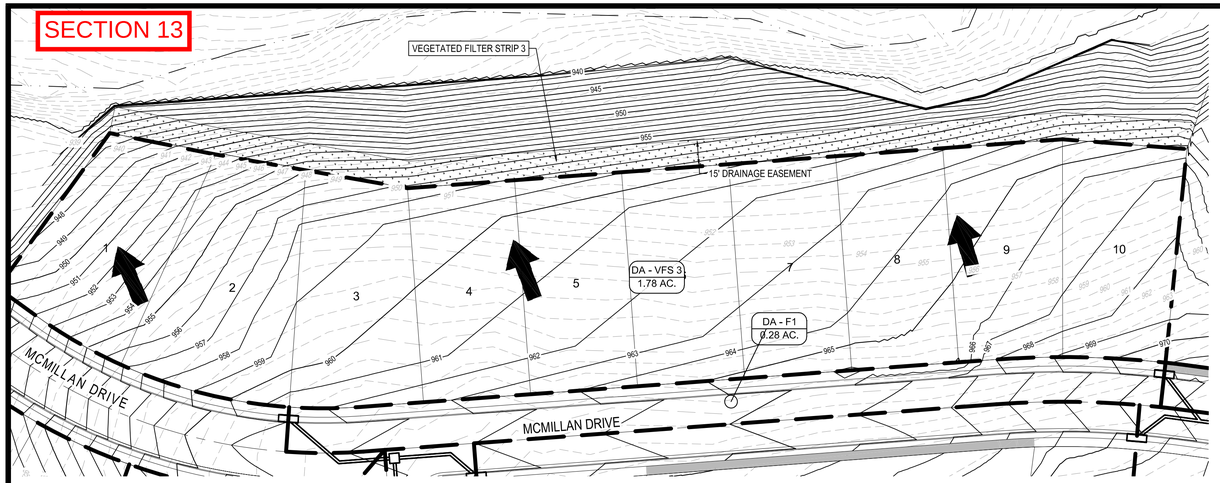
BATCH DETENTION POND N

10-16-2022
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER

SHEET
49 OF 144

G:\TX\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Sht\s\9838-C-POND-12.dwg Layout: POND N

SECTION 13



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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	136.12	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	45.74	acres
Total post-development impervious cover fraction * =	0.34	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = 39809 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 0

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

Drainage Basin/Outfall Area No. = VFS 3

Total drainage basin/outfall area =	1.78	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.80	acres
Post-development impervious fraction within drainage basin/outfall area =	0.45	
$L_{M\ THIS\ BASIN}$ =	696	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

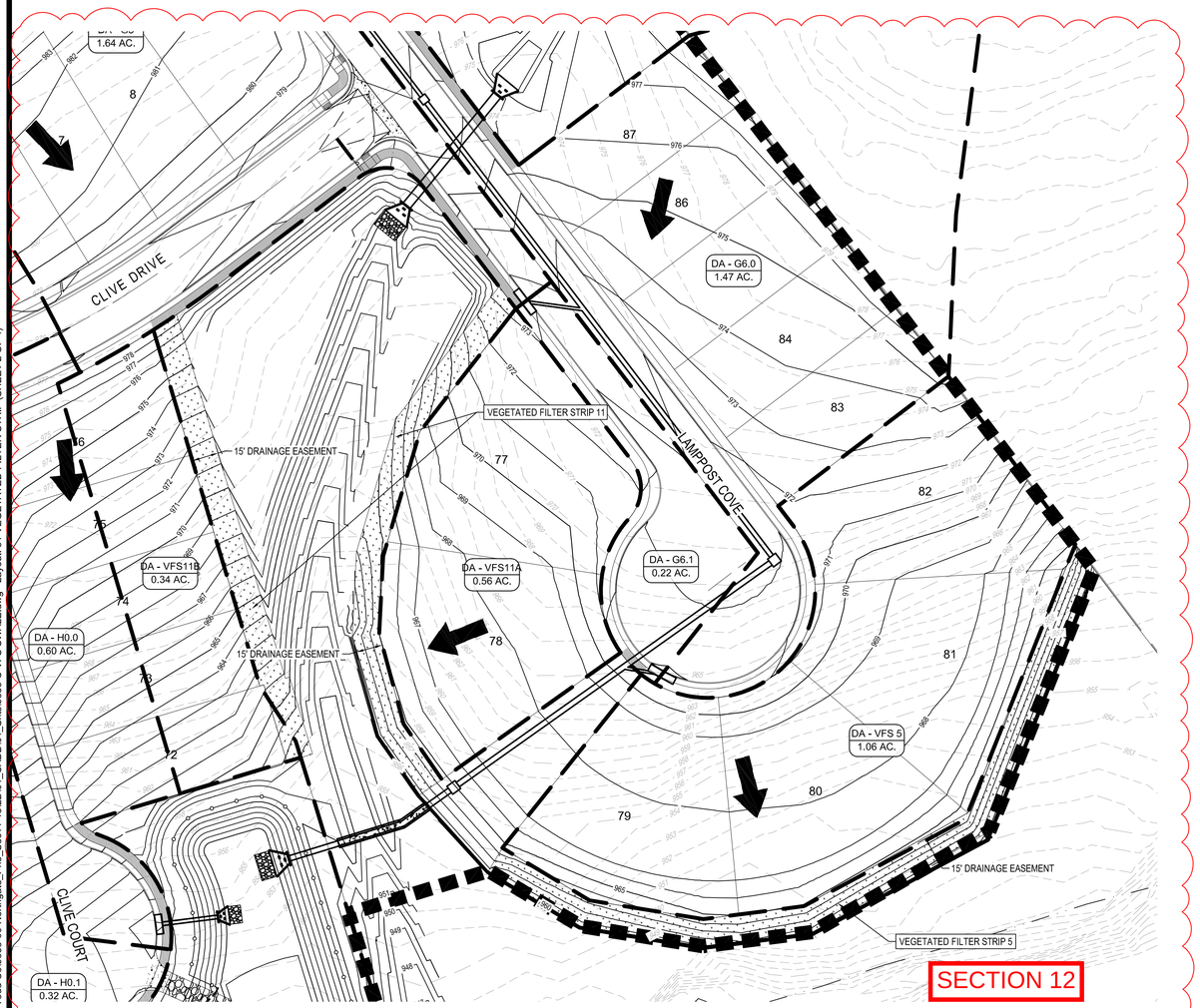
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	1.78	acres
A_I =	0.80	acres
A_P =	0.98	acres
L_R =	767	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 767 lbs.

F = 1.00



SECTION 12

1

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

Drainage Basin/Outfall Area No. = VFS 5

Total drainage basin/outfall area =	1.06	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.37	acres
Post-development impervious fraction within drainage basin/outfall area =	0.35	
$L_{M\ THIS\ BASIN}$ =	319	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

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

A_C =	1.06	acres
A_I =	0.37	acres
A_P =	0.69	acres
L_R =	356	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 356 lbs.

F = 1.00

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

Drainage Basin/Outfall Area No. = VFS 11A/B

Total drainage basin/outfall area =	0.89	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.39	acres
Post-development impervious fraction within drainage basin/outfall area =	0.43	
$L_{M\ THIS\ BASIN}$ =	335	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

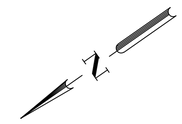
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed E

A_C =	0.89	acres
A_I =	0.39	acres
A_P =	0.51	acres
L_R =	370	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 370 lbs.

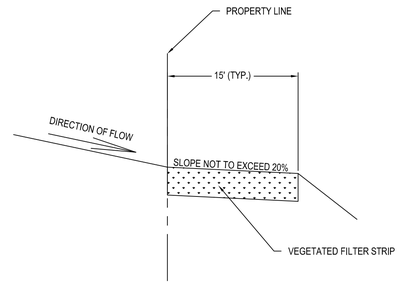
F = 1.00



0 20' 40' 80'
SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- SECTION BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- WROUGHT IRON FENCE



ENGINEERED VEGETATED FILTER STRIP DETAIL (TYP.)
N.T.S.

V.F.S. NOTES (TCEQ RG348)

1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 20%. THE MINIMUM DIMENSION OF THE FILTER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF THE CONTRIBUTING IMPERVIOUS AREA SHOULD NOT EXCEED 72 FEET. FOR ROADWAYS WITH A VEGETATED STRIP ALONG BOTH SIDES THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET (I.E., 72 FEET DRAINING TO EACH SIDE).
2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.
3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.
4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW (SCHUELER, 1987).
5. THE TOP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT WILL BE DESIGNED TO AVOID THE SITUATION WHERE RUNOFF WOULD TRAVEL ALONG THE TOP OF THE FILTER STRIP, RATHER THAN THROUGH IT.
6. TOP EDGE OF THE FILTER STRIP SHOULD BE LEVEL, OTHERWISE RUNOFF WILL TEND TO FORM A CHANNEL IN THE LOW SPOT. A LEVEL SPREADER SHOULD NOT BE USED TO DISTRIBUTE RUNOFF TO AN ENGINEERED FILTER STRIP.
7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

	APR	DATE	DESCRIPTION
2			SECTION 12 REVISIONS
1			

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

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101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
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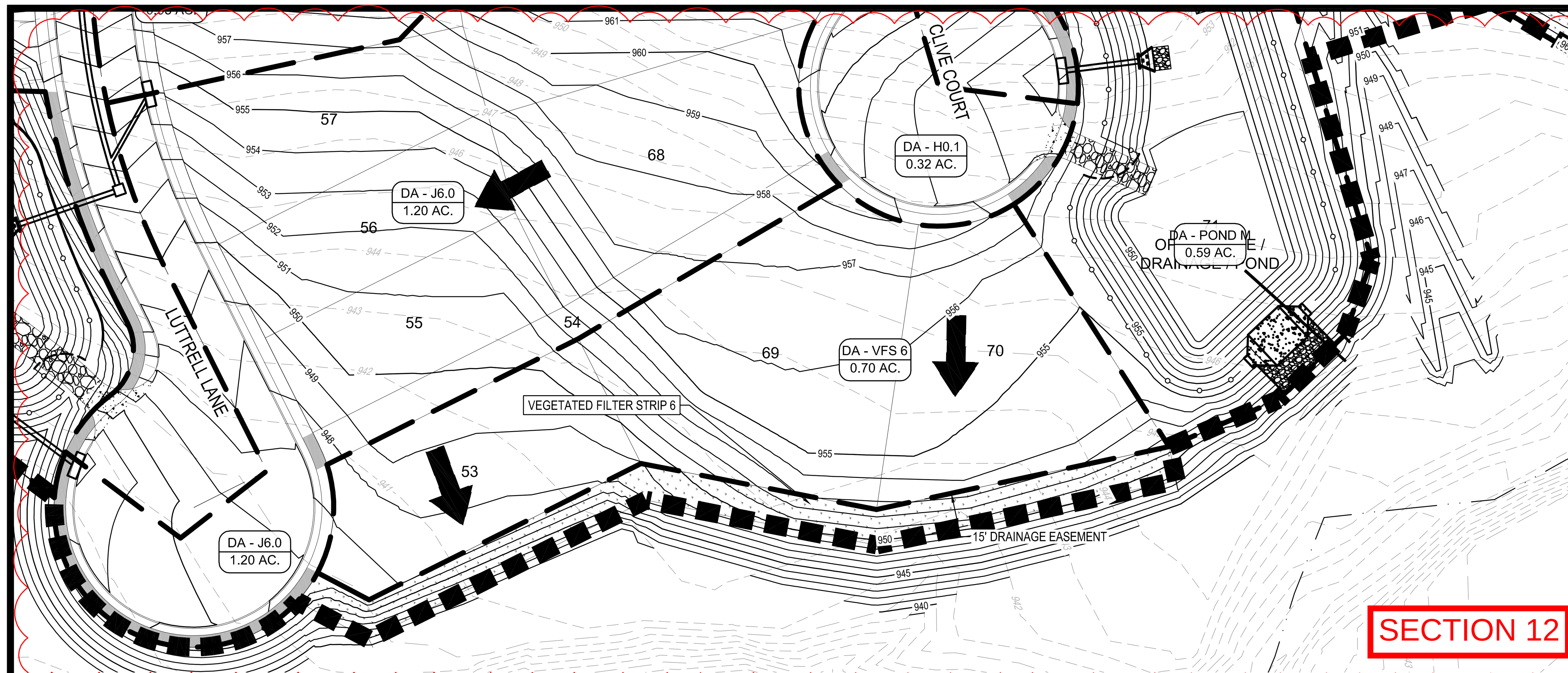
NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

VEGETATED FILTER STRIP (SHEET 2 OF 4)

8-8-2023
STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER

SHEET
55 OF 144

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LDI\01_CADD\01_Shts\9838-C-VFS SWALE.dwg Layout: 51 VEGETATED FILTER STRIP (SHEET 2 OF 4)



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

Drainage Basin/Outfall Area No. = VFS 6

Total drainage basin/outfall area =	0.70	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.25	acres
Post-development impervious fraction within drainage basin/outfall area =	0.36	
$L_{M\ THIS\ BASIN}$ =	220	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

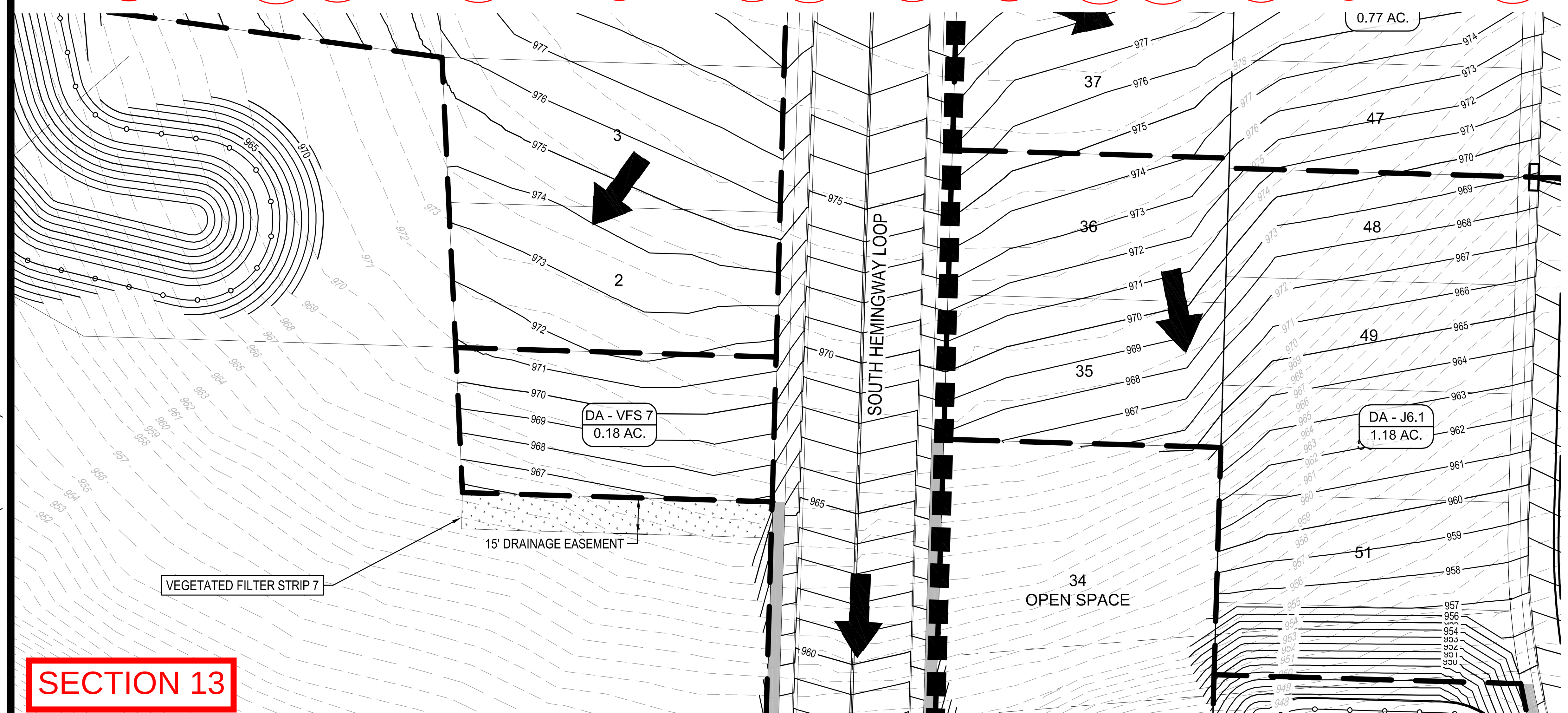
where:
A_C = Total On-Site drainage area in the BMP catchmer
A_I = Impervious area proposed in the BMP catchment
A_P = Pervious area remaining in the BMP catchment a
L_R = TSS Load removed from this catchment area by t

A_C =	0.70	acres
A_I =	0.25	acres
A_P =	0.45	acres
L_R =	245	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 245 lbs.

F = 1.00



1. The Required Load Reduction for the total project:

Calculations from RG-348 Pages 3-27 to 3-30

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

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

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

County =	Williamson	
Total project area included in plan * =	136.12	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	45.74	acres
Total post-development impervious cover fraction * =	0.34	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	39809	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 0

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

Drainage Basin/Outfall Area No. = VFS 7

Total drainage basin/outfall area =	0.18	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.08	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
$L_{M\ THIS\ BASIN}$ =	70	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

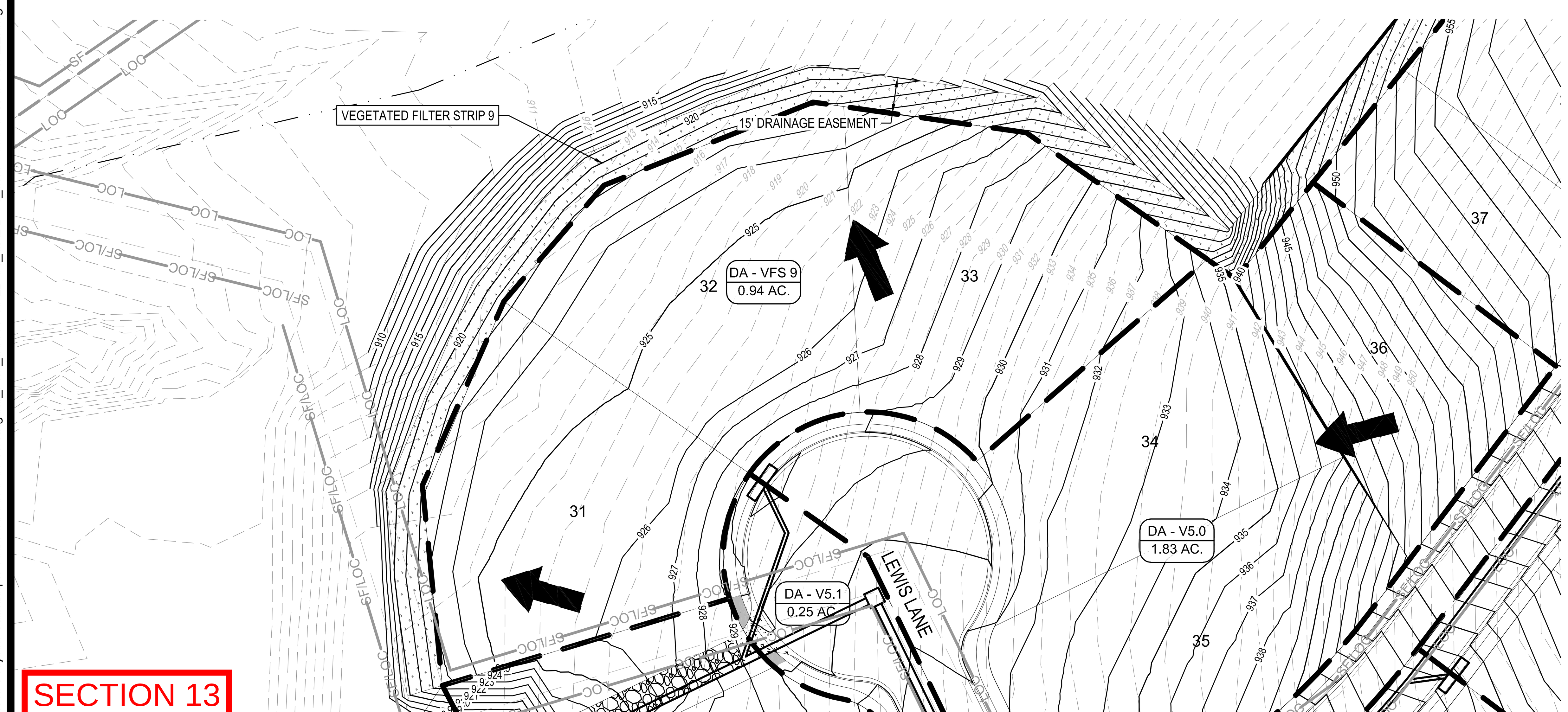
where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.18	acres
A_I =	0.08	acres
A_P =	0.10	acres
L_R =	77	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 77 lbs.

F = 1.00



1. The Required Load Reduction for the total project:

Calculations from RG-348 Pages 3-27 to 3-30

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

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

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

County =	Williamson	
Total project area included in plan * =	136.12	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	45.74	acres
Total post-development impervious cover fraction * =	0.34	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	39809	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 0

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

Drainage Basin/Outfall Area No. = VFS 9

Total drainage basin/outfall area =	0.94	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.24	acres
Post-development impervious fraction within drainage basin/outfall area =	0.26	
$L_{M\ THIS\ BASIN}$ =	209	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = VFS
Removal efficiency = 85 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	0.94	acres
A_I =	0.24	acres
A_P =	0.70	acres
L_R =	236	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 236 lbs.

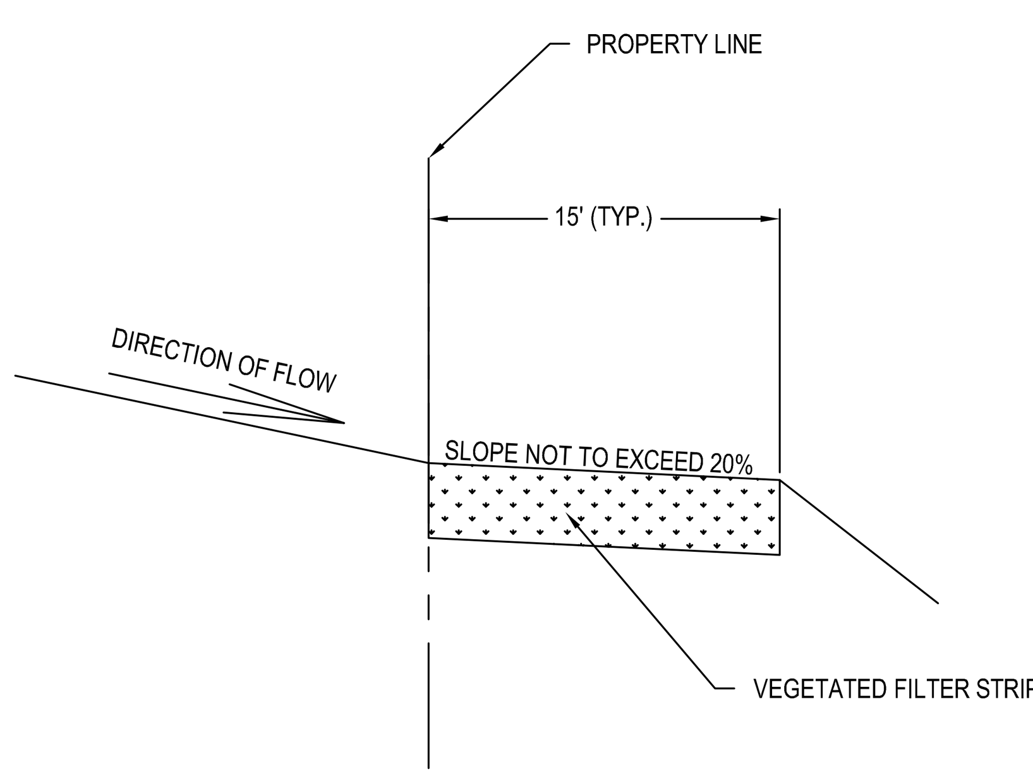
F = 1.00

N

0 20' 40' 80'
SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- SECTION BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- WROUGHT IRON FENCE



ENGINEERED VEGETATED FILTER STRIP DETAIL (TYP.)
N.T.S.

V.F.S. NOTES (TCEQ RG348)

1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 20%. THE MINIMUM DIMENSION OF THE FILTER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF THE CONTRIBUTING IMPERVIOUS AREA SHOULD NOT EXCEED 72 FEET. FOR ROADWAYS WITH A VEGETATED STRIP ALONG BOTH SIDES THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET (I.E., 72 FEET DRAINING TO EACH SIDE).
2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.
3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.
4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW (SCHUELER, 1987).
5. THE TOP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT WILL BE DESIGNED TO AVOID THE SITUATION WHERE RUNOFF WOULD TRAVEL ALONG THE TOP OF THE FILTER STRIP, RATHER THAN THROUGH IT.
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7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER

10/16/2024

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE

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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

VEGETATED FILTER STRIP (SHEET 3 OF 4)

STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER
8-8-2023

SHEET
56 OF 144

MATCH LINE TO SHEET 61

MATCH LINE TO SHEET 59

DA - J0 0.66 AC.
DA - K1 0.78 AC.
DA - K0 1.13 AC.
DA - R0 0.79 AC.
DA - R1 0.77 AC.
DA - R2 0.78 AC.
DA - P0 0.89 AC.
DA - OS G1.0 0.81 AC.
DA - OS G1.1 0.12 AC.
DA - J6.0 1.20 AC.
DA - J5 0.95 AC.
DA - J4 1.30 AC.
DA - J1 0.93 AC.
DA - M1 1.19 AC.
DA - N0.1 0.79 AC.
DA - N1.1 0.10 AC.
DA - OS G0.1 1.79 AC.
DA - OS G0.0 0.74 AC.
DA - VFS 6 0.70 AC.
DA - H0.1 0.32 AC.
DA - H0.0 0.60 AC.
DA - POND M 0.59 AC.
DA - VFS11B 0.34 AC.
DA - G1 0.99 AC.
DA - J2 0.97 AC.
DA - G3 1.44 AC.
DA - N0.0 0.09 AC.
DA - N0.0 3.31 AC.
DA - G5 1.64 AC.
DA - M0 1.21 AC.
DA - G0 1.67 AC.
DA - VFS11A 0.56 AC.
DA - G2 1.06 AC.
DA - G4 0.94 AC.
DA - G6.1 0.22 AC.
DA - VFS 5 1.06 AC.
DA - G6.0 1.47 AC.
DA - OS F 15.94 AC.
DA - OS E 12.53 AC.

VEG. FILTER STRIP #6
SEE SHEET 56

POND M - SEE SHEET 48

SSL M - SEE SHEETS 77-78

SSL P - SEE SHEET 79

SSL N - SEE SHEET 79

CULVERTS G1 & G2
SEE SHEET 90

VEG. FILTER STRIP #11
SEE SHEET 55

SSL G - SEE SHEETS 72-73

VEG. FILTER STRIP #5
SEE SHEET 55

CULVERT A
&
CHANNEL A
SEE SHEET 92

LUTTRELL LANE
CLIVE DRIVE
CLIVE COURT
LEWIS LANE
LAMPPOST DRIVE
LAMPPOST COVE
CATTLE CROSS DRIVE
OPEN SPACE / DRAINAGE

0 30' 60' 120'
SCALE: 1" = 60'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- PROPOSED BOX MANHOLE
- 10' CURB INLET
- 15' CURB INLET
- DRAINAGE AREA BOUNDARY
- XXX / X.XX AC — INLET ID / DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147508
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

NOTES:
1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
2. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED.

SECTION 12

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W. Louis Henna Blvd., Suite 400
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TEL: 512-879-0400 www.bgeinc.com

STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER
5-8-2023

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

OVERALL STORM AND DRAINAGE AREA MAP (2 OF 3)

SHEET
60 OF 144

G:\TXCIP\projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LDI\01_CADD\01_Shts\9838-C-ODAM.dwg Layout: OVERALL STORM AND DRAINAGE AREA MAP (2 OF 3)

N

0 40' 80' 160'

SCALE: 1" = 80'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- PROPOSED BOX MANHOLE
- 10' CURB INLET
- 15' CURB INLET
- DRAINAGE AREA BOUNDARY
- XXX / X.XX AC — INLET ID / DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

NOTES:
1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
2. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED.

25 DRAINAGE/OPEN SPACE 27.98 AC.

POND P2 - SEE SHEET 52

VEG. FILTER STRIP #9 SEE SHEET 56

CULVERT P SEE SHEET 91

DA - POND P2 0.79 AC.

DA - V5 0.25 AC.

DA - VFS 9 0.94 AC.

LEWIS LANE

VEG. FILTER STRIP #8 SEE SHEET 57

DA - V3 0.63 AC.

DA - V4 0.78 AC.

DA - V5.0 1.83 AC.

DA - VFS 8 3.27 AC.

SSL V - SEE SHEETS 83-84

VEG. FILTER STRIP #10 SEE SHEET 57

DA - V2 1.91 AC.

CHANNEL P SEE SHEET 91

SSL W - SEE SHEET 85

OPEN SPACE / DRAINAGE / POND

SECTION 13

DA - W1 1.87 AC.

DA - V0 1.62 AC.

DA - V1 1.14 AC.

DA - OS J 2.55 AC.

DA - VFS 10 1.09 AC.

POND O - SEE SHEET 50

POND P1 - SEE SHEET 51

VEG. FILTER STRIP #7 SEE SHEET 56

DA - K4 1.64 AC.

SSL T - SEE SHEET 82

SSL U - SEE SHEET 82

DA - W0 1.31 AC.

DA - U1 0.23 AC.

SPYGLASS LANE

DA - W2 0.95 AC.

MATCH LINE TO SHEET 58

DA - OS D 1.80 AC.

DA - VFS 7 0.18 AC.

DA - OS E 0.26 AC.

SSL K - SEE SHEET 75

DA - POND O7 1.50 AC.

DA - K3 1.09 AC.

DA - T0 0.71 AC.

DA - T1 0.72 AC.

DA - U2 1.27 AC.

DA - U0 0.72 AC.

CATTLE CROSS DRIVE

GRASSY SWALE SEE SHEET 58

DA - K2 0.61 AC.

DA - OS H1.0 1.41 AC.

DA - OS H1.1 0.04 AC.

POND N - SEE SHEET 49

SOUTH HEMINGWAY LOOP

34 OPEN SPACE

DA - L1 0.11 AC.

SSL J - SEE SHEET 74

DA - M2 0.54 AC.

DA - S1 0.14 AC.

SSL L - SEE SHEET 76

DA - L0 1.17 AC.

DA - OS H0.0 1.08 AC.

DA - OS H0.2 0.04 AC.

SSL R - SEE SHEET 80

CULVERTS C1 & C2 SEE SHEET 90

DA - K0 1.13 AC.

DA - R0 0.79 AC.

DA - R1 0.77 AC.

DA - R2 0.78 AC.

DA - S0 0.94 AC.

SSL S - SEE SHEET 81

DA - POND N 0.44 AC.

DA - J6.1 1.18 AC.

DA - J6.0 1.20 AC.

DA - J3 0.77 AC.

DA - J0 0.66 AC.

DA - J5 0.95 AC.

LUTRELL LANE

OPEN SPACE / DRAINAGE / POND

SECTION 12

MATCH LINE TO SHEET 60

VEG. FILTER STRIP #6 SEE SHEET 56

SECTION 13: STA 5+86.9 - SSL M
END 42" RCP (PLUG)
SECTION 12: STA 5+86.9 - SSL M
CONNECT TO EXISTING 42" RCP

FOR REVISION 1 ONLY

STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER — 4-8-2023

STATE OF TEXAS — JONATHAN A. JONES — 147526 — LICENSED PROFESSIONAL ENGINEER — 10/16/2024

	DATE	DESCRIPTION
1	APR	SECTION 12 REVISIONS
		REV

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

OVERALL STORM AND DRAINAGE AREA MAP (3 OF 3)

SHEET 61 OF 144

G:\TX\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-ODAM.dwg Layout: OVERALL_STORM_AND DRAINAGE AREA MAP (3 OF 3)

Drainage Basin	DRAINAGE AREA	AREA (SF)	AREA (acre)	# Homes Homes<10k (3500 SF IC)	# Homes 10k<Homes<15k (4000 SF IC)	# Homes 15k<Homes<1 acre (5000 SF IC)	Additional Impervious (1000 SF)	5' Sidewalk (FT)	1/2 Street 34' (LF)	1/2 Street 49' (LF)		Impervious Cover (Acres)	Offsite Pervious Cover (Acres)	Onsite Pervious Cover (Acres)	%IC	10 year							25 year							100 year						
																perv C offsite		perv C onsite		imp C		weighted C	perv C offsite		perv C onsite		imp C		weighted C	perv C offsite		perv C onsite		imp C		weighted C
																C Value	C x A	C Value	C x A	C Value	C x A		C Value	C x A	C Value	C x A	C Value	C x A		C Value	C x A	C Value	C x A	C Value	C x A	
POND J	A0	65,419	1.50	6.00	0.00	0.00	0.0	625	747	0	0.363	0.846	0.000	0.656	56.30%	0.40	0.00	0.35	0.23	0.81	0.68	0.61	0.42	0.00	0.39	0.26	0.86	0.73	0.65	0.49	0.00	0.46	0.30	0.95	0.80	0.74
	A1.0	40,145	0.92	4.00	0.00	0.00	0.0	282	257	0	0.132	0.454	0.000	0.468	49.24%	0.40	0.00	0.35	0.16	0.81	0.37	0.58	0.42	0.00	0.39	0.18	0.86	0.39	0.62	0.49	0.00	0.46	0.22	0.95	0.43	0.70
	A1.1	12,750	0.29	0.00	0.00	0.00	0.0	247	419	0	0.192	0.192	0.000	0.101	65.52%	0.40	0.00	0.35	0.04	0.81	0.16	0.65	0.42	0.00	0.39	0.04	0.86	0.16	0.70	0.49	0.00	0.46	0.05	0.95	0.18	0.78
	B0	58,522	1.34	4.50	0.50	0.00	0.0	504	563	0	0.278	0.685	0.000	0.658	51.01%	0.40	0.00	0.35	0.23	0.81	0.56	0.58	0.42	0.00	0.39	0.26	0.86	0.59	0.63	0.49	0.00	0.46	0.30	0.95	0.65	0.71
	B1	6,474	0.15	0.00	0.00	0.00	0.0	191	222	0	0.109	0.109	0.000	0.040	73.13%	0.40	0.00	0.35	0.01	0.81	0.09	0.69	0.42	0.00	0.39	0.02	0.86	0.09	0.73	0.49	0.00	0.46	0.02	0.95	0.10	0.82
	POND J	46,329	1.06	5.00	0.00	0.00	1.5	0	0	0	0.034	0.436	0.000	0.628	40.96%	0.40	0.00	0.35	0.22	0.81	0.35	0.54	0.42	0.00	0.39	0.24	0.86	0.37	0.58	0.49	0.00	0.46	0.29	0.95	0.41	0.66
POND K	C0	34,627	0.79	4.00	0.00	0.00	0.0	233	233	0	0.118	0.439	0.000	0.356	55.24%	0.40	0.00	0.35	0.12	0.81	0.36	0.60	0.42	0.00	0.39	0.14	0.86	0.38	0.65	0.49	0.00	0.46	0.16	0.95	0.42	0.73
	C1.0	25,706	0.59	1.50	0.50	0.00	0.0	317	248	0	0.133	0.299	0.000	0.291	50.75%	0.40	0.00	0.35	0.10	0.81	0.24	0.58	0.42	0.00	0.39	0.11	0.86	0.26	0.63	0.49	0.00	0.46	0.13	0.95	0.28	0.71
	C1.1	9,884	0.23	0.00	0.00	0.00	0.0	308	314	0	0.158	0.158	0.000	0.069	69.55%	0.40	0.00	0.35	0.02	0.81	0.13	0.67	0.42	0.00	0.39	0.03	0.86	0.14	0.72	0.49	0.00	0.46	0.03	0.95	0.15	0.80
	D0	28,895	0.66	1.50	0.50	0.00	0.0	377	437	0	0.214	0.380	0.000	0.283	57.30%	0.40	0.00	0.35	0.10	0.81	0.31	0.61	0.42	0.00	0.39	0.11	0.86	0.33	0.66	0.49	0.00	0.46	0.13	0.95	0.36	0.74
	D1	52,028	1.19	3.50	0.50	0.00	0.0	490	376	0	0.203	0.530	0.000	0.664	44.38%	0.40	0.00	0.35	0.23	0.81	0.43	0.55	0.42	0.00	0.39	0.26	0.86	0.46	0.60	0.49	0.00	0.46	0.31	0.95	0.50	0.68
	D2	9,710	0.22	0.00	0.00	0.00	0.0	368	398	0	0.198	0.198	0.000	0.025	88.64%	0.40	0.00	0.35	0.01	0.81	0.16	0.76	0.42	0.00	0.39	0.01	0.86	0.17	0.81	0.49	0.00	0.46	0.01	0.95	0.19	0.89
	POND K	57,540	1.32	6.00	1.00	0.00	0.0	0	0	0	0.000	0.574	0.000	0.747	43.45%	0.40	0.00	0.35	0.26	0.81	0.46	0.55	0.42	0.00	0.39	0.29	0.86	0.49	0.59	0.49	0.00	0.46	0.34	0.95	0.55	0.67
POND L	E0	51,444	1.18	3.00	1.00	0.00	0.0	538	429	0	0.229	0.562	0.000	0.619	47.59%	0.40	0.00	0.35	0.22	0.81	0.46	0.57	0.42	0.00	0.39	0.24	0.86	0.48	0.61	0.49	0.00	0.46	0.28	0.95	0.53	0.69
	E1.0	33,954	0.78	0.00	2.50	0.00	0.0	188	203	0	0.101	0.331	0.000	0.449	42.40%	0.40	0.00	0.35	0.16	0.81	0.27	0.55	0.42	0.00	0.39	0.18	0.86	0.28	0.59	0.49	0.00	0.46	0.21	0.95	0.31	0.67
	E1.1	46,986	1.08	3.00	1.00	0.00	0.0	343	423	0	0.204	0.537	0.000	0.541	49.80%	0.40	0.00	0.35	0.19	0.81	0.44	0.58	0.42	0.00	0.39	0.21	0.86	0.46	0.62	0.49	0.00	0.46	0.25	0.95	0.51	0.70
	E2.0	10,229	0.23	0.00	0.00	0.00	0.0	464	401	0	0.210	0.210	0.000	0.025	89.34%	0.40	0.00	0.35	0.01	0.81	0.17	0.76	0.42	0.00	0.39	0.01	0.86	0.18	0.81	0.49	0.00	0.46	0.01	0.95	0.20	0.90
	E2.1	9,291	0.21	0.00	0.00	0.00	0.0	362	373	0	0.187	0.187	0.000	0.026	87.63%	0.40	0.00	0.35	0.01	0.81	0.15	0.75	0.42	0.00	0.39	0.01	0.86	0.16	0.80	0.49	0.00	0.46	0.01	0.95	0.18	0.89
	F0	63,738	1.46	2.50	0.00	0.00	0.0	369	373	0	0.188	0.389	0.000	1.074	26.57%	0.40	0.00	0.35	0.38	0.81	0.31	0.47	0.42	0.00	0.39	0.42	0.86	0.33	0.51	0.49	0.00	0.46	0.49	0.95	0.37	0.59
	F1	12,262	0.28	0.00	0.00	0.00	0.0	479	490	0	0.246	0.246	0.000	0.035	87.43%	0.40	0.00	0.35	0.01	0.81	0.20	0.75	0.42	0.00	0.39	0.01	0.86	0.21	0.80	0.49	0.00	0.46	0.02	0.95	0.23	0.89
	POND L	47,483	1.09	5.00	0.00	0.00	1.7	0	0	0	0.040	0.441	0.000	0.649	40.49%	0.40	0.00	0.35	0.23	0.81	0.36	0.54	0.42	0.00	0.39	0.25	0.86	0.38	0.58	0.49	0.00	0.46	0.30	0.95	0.42	0.66
POND M (REVISED)	G0	72,686	1.67	4.00	0.00	0.00	18.54	275	275	0	0.565	0.886	0.000	0.783	53.10%	0.40	0.00	0.35	0.27	1.81	1.60	1.13	0.42	0.00	0.39	0.31	0.86	0.76	0.64	0.49	0.00	0.46	0.36	0.95	0.84	0.72
	G1	43,263	0.99	4.50	0.00	0.00	0.00	224	231	0	0.116	0.477	0.000	0.516	48.07%	0.40	0.00	0.35	0.18	1.81	0.86	1.05	0.42	0.00	0.39	0.20	0.86	0.41	0.62	0.49	0.00	0.46	0.24	0.95	0.45	0.70
	G2	46,200	1.06	3.00	0.00	0.00	10.95	168	168	0	0.336	0.577	0.000	0.483	54.43%	0.40	0.00	0.35	0.17	1.81	1.04	1.14	0.42	0.00	0.39	0.19	0.86	0.50	0.65	0.49	0.00	0.46	0.22	0.95	0.55	0.73
	G3	62,795	1.44	2.00	2.50	0.00	0.00	859	957	0	0.472	0.862	0.000	0.579	59.81%	0.40	0.00	0.35	0.20	1.81	1.56	1.22	0.42	0.00	0.39	0.23	0.86	0.74	0.67	0.49	0.00	0.46	0.27	0.95	0.82	0.75
	G4	40,880	0.94	4.00	0.00	0.00	7.00	192	192	0	0.258	0.579	0.000	0.360	61.69%	0.40	0.00	0.35	0.13	1.81	1.05	1.25	0.42	0.00	0.39	0.14	0.86	0.50	0.68	0.49	0.00	0.46	0.17	0.95	0.55	0.76
	G5	71,358	1.64	6.75	0.00	0.00	0.00	730	820	0	0.404	0.946	0.000	0.692	57.76%	0.40	0.00	0.35	0.24	1.81	1.71	1.19	0.42	0.00	0.39	0.27	0.86	0.81	0.66	0.49	0.00	0.46	0.32	0.95	0.90	0.74
	G6.0	63,816	1.47	5.00	0.00	0.00	10.30	563	486	0	0.491	0.892	0.000	0.573	60.91%	0.40	0.00	0.35	0.20	1.81	1.62	1.24	0.42	0.00	0.39	0.22	0.86	0.77	0.68	0.49	0.00	0.46	0.26	0.95	0.85	0.76
	G6.1	9,436	0.22	0.00	0.00	0.00	0.00	250	272	0	0.135	0.135	0.000	0.082	62.24%	0.40	0.00	0.35	0.03	1.81	0.24	1.26	0.42	0.00	0.39	0.03	0.86	0.12	0.68	0.49	0.00	0.46	0.04	0.95	0.13	0.76
	H0.0	26,001	0.60	2.00	0.00	0.00	0.00	393	443	0	0.218	0.379	0.000	0.218	63.44%	0.40	0.00	0.35	0.08	1.81	0.69	1.28	0.42	0.00	0.39	0.09	0.86	0.33	0.69	0.49	0.00	0.46	0.10	0.95	0.36	0.77
	H0.1	13,954	0.32	0.00	0.00	0.00	0.00	462	352	0	0.191	0.191	0.000	0.130	59.48%	0.40	0.00	0.35	0.05	1.81	0.34	1.22	0.42	0.00	0.39	0.05	0.86	0.16	0.67	0.49	0.00	0.46	0.06	0.95	0.18	0.75
	POND M	25,573	0.59	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	0.587	0.00%	0.40	0.00	0.35	0.21	1.81	0.00	0.35	0.42	0.00	0.39	0.23	0.86	0.00	0.39	0.49	0.00	0.46	0.27	0.95	0.00	0.46
POND N (REVISED)	J0	28,869	0.66	3.50	0.00	0.00	0.00	183	221	0	0.107	0.388	0.000	0.274	58.61%	0.40	0.00	0.35	0.10	1.81	0.70	1.21	0.42	0.00	0.39	0.11	0.86	0.33	0.67	0.49	0.00	0.46	0.13	0.95	0.37	0.75
	J1	40,571	0.93	2.50	0.00	0.00	0.00	533	595	0	0.293	0.494	0.000	0.437	53.05%	0.40	0.00	0.35	0.15	1.81	0.89	1.12	0.42	0.00	0.39	0.17	0.86	0.42	0.64	0.49	0.00	0.46	0.20	0.95	0.47	0.72
	J2	42,089	0.97	5.00	0.00	0.00	0.00	211	221	0	0.111	0.512	0.000	0.454	53.03%	0.40	0.00	0.35	0.16	1.81	0.93	1.12	0.42	0.00	0.39	0.18	0.86	0.44	0.64	0.49	0.00	0.46	0.21	0.95	0.49	0.72
	J3	33,671	0.77	5.00	0.00	0.00	0.00	144	144	0	0.073	0.474	0.000	0.298	61.38%	0.40	0.00	0.35	0.10	1.81	0.86	1.25	0.42	0.00	0.39	0.12	0.86	0.41	0.68	0.49	0.00	0.46	0.14	0.95	0.45	0.76
	J4	56,758	1.30	7.00	0.00	0.00	0.00	456	571	0	0.275	0.838	0.000	0.465	64.28%	0.40	0.00	0.35	0.16	1.81	1.52	1.29	0.42	0.00	0.39	0.18	0.86	0.72	0.69	0.49	0.00	0.46	0.21	0.95	0.80	0.77
	J5	41,548	0.95	6.00	0.00	0.00	0.00	162	168	0	0.084	0.566	0.000	0.388	59.35%	0.40	0.00	0.35	0.14	1.81	1.02	1.22	0.42	0.00	0.39	0.15	0.86	0.49	0.67	0.49	0.00	0.46	0.18	0.95	0.54	0.75
	J6.0	52,123	1.20	5.00	0.00	0.00	0.00	407	278	0	0.155	0.557	0.000	0.640	46.56%	0.40	0.00	0.35	0.22	1.81	1.01	1.03	0.42	0.00	0.39	0.25	0.86	0.48	0.61	0.49	0.00	0.46	0.29	0.95	0.53	0.69
	J6.1	51,563	1.18	6.00	0.00	0.00	0.00	367	467	0	0.224	0.706	0.000	0.477	59.68%	0.40	0.00	0.35	0.17	1.81	1.28	1.22	0.42	0.00	0.39	0.19	0.86	0.61	0.67	0.49	0.00	0.46	0.22	0.95	0.67	0.75
	POND N	19,056	0.44	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	0.437	0.00%	0.40	0.00	0.35	0.15	1.81	0.00	0.35	0.42	0.00	0.39	0.17	0.86	0.00	0.39	0.49	0.00	0.46	0.20	0.95	0.00	0.46
POND O	K0	49,157	1.13	6.00	0.00	0.00	0.0	163	0	162	0.110	0.592	0.000	0.537	52.46%	0.40	0.00	0.35	0.19	0.81	0.48	0.59	0.42	0.00	0.39	0.21	0.86	0.51	0.64	0.49	0.00	0.46	0.25	0.95	0.56	0.72
	K1	34,018	0.78	2.00	0.00	0.00	0.0	520	587	0	0.289	0.450	0.000	0.331	57.57%	0.40	0.00	0.35	0.12	1.81	0.81	1.19	0.42	0.00	0.39	0.13	0.86	0.39	0.66	0.49	0.00	0.46	0.15	0.95	0.43	0.74
	K2	26,389	0.61	1.00	0.00	0.00	0.0	490	221	323	0.324	0.404	0.000	0.201	66.75%	0.40	0.00	0.35	0.07	0.81	0.33	0.66	0.42	0.00	0.39	0.08	0.86	0.35	0.70	0.49	0.00	0.46	0.09	0.95	0.38	0.79
	K3	47,524	1.09	6.00	0.00	0.00	0.0	187	186	0	0.094	0.576	0.000	0.515	52.81%	0.40	0.00	0.35	0.18	0.81	0.47	0.59	0.42	0.00	0.39	0.20	0.86	0.50	0.64	0.49	0.00	0.46	0.24	0.95	0.55	0.72
	K4	71,446	1.64	4.00	2.00	0.00	0.0	637	736	0	0.360	0.865	0.000	0.775	52.76%	0.40	0.00	0.35	0.27	0.81	0.70	0.59	0.42	0.00	0.39	0.30	0.86	0.74	0.64	0.49	0.00	0.46	0.36	0.95	0.82	0.72
	K5	11,388	0.26	0.00	0.00	0.00	0.0	419	457	0	0.227	0.227	0.000	0.035	86.66%	1.40	0.00	0.35	0.01	1.81	0.41	1.62	0.42	0.00	0.39	0.01	0.86	0.19	0.80	0.49	0.00	0.46	0.02	0.95	0.22	0.88
	L0	50,883	1.17	3.50	0.00	0.00	0.0	523	333	314	0.367	0.648	0.000	0.520	55.48%	0.40	0.00	0.35	0.18	0.81	0.52	0.61	0.42	0.00	0.39	0.20	0.86	0.56	0.65	0.49	0.00	0.46	0.24	0.95	0.62	0.73
	L1	4,740	0.11	0.00	0.00	0.00	0.0	106	0	154	0.099	0.099	0.000	0.010	90.55%	0.40	0.00	0.35	0.00	0.81	0.08	0.77	0.42	0.00	0.39	0.00	0.86	0.08	0.82	0.49	0.00	0.46	0.00	0.95	0.09	0.90
	POND O	65,161	1.50	6.00	1.00	0.00	0.0	0	0	0	0.000	0.574	0.000	0.922	38.37%	0.40	0.00	0.35	0.32	0.81	0.46	0.53	0.42	0.00	0.39	0.36	0.86	0.49	0.57	0.49	0.00	0.46	0.42	0.95	0.55	0.65
POND P1	M0	52,751	1.21	0.00	1.00	0.00	15.81	341	264	0	0.505	0.597	0.000	0.614	49.29%	0.40	0.00	0.35	0.21	0.81	0.48	0.58	0.42	0.00	0.39	0.24	0.86	0.51	0.62	0.49	0.00	0.46	0.28	0.95	0.57	0.70
	M1	56,882	1.31	4.25	0.50	0.00	0.00	585	419	0	0.231	0.618	0.000	0.688	47.33%	0.40	0.00	0.35	0.24	1.81	1.12	1.04	0.42	0.00	0.39	0.27	0.86	0.53	0.61	0.49	0.00	0.46	0.32	0.95	0.59	0.69
	M2	23,368	0.54	0.00	0.00	0.00	0.00	628	217	461	0.416	0.416	0.000	0.121	77.51%	0.40	0.00	0.35	0.04	0.81	0.34	0.71	0.42	0.00	0.39	0.05	0.86	0.36	0.75	0.49	0.00	0.46	0.06	0.95	0.39	0.84
	N0.0	144,209	3.31	3.50	1.00	0.00	44.37	132	124	0	1.082	1.455	0.000	1.856	43.95%	0.40	0.00	0.35	0.65	0.81	1.18	0.55	0.42	0.00	0.39	0.72	0.86	1.25	0.60	0.49	0.00	0.46	0.85	0.95	1.38	0.68
	N0.1	34,599	0.79	2.75	0.00	0.00	0.00	179	253	0	0.119	0.340	0.000	0.454	42.84%	0.40	0.00	0.35	0.16	0.81	0.28	0.55	0.42	0.00	0.39	0.18	0.86	0.29	0.59	0.49	0.00	0.46	0.21	0.95	0.32	0.67
	N1.0	3,986	0.09	0.00	0.00	0.00	0.50	117	124	0	0.073	0.073	0.000	0.018	79.90%	0.40	0.00	0.35	0.01	0.81	0.06	0.72	0.42	0.00	0.39	0.01	0.86	0.06	0.77	0.49	0.00	0.46	0.01	0.95	0.07	0.85
	N1.1	4,306	0.10	0.00	0.00	0.00	0.00	134	171	0	0.082	0.082	0.000	0.017	83.17%	0.40	0.00	0.35	0.01	0.81	0.07	0.73	0.42	0.00	0.39	0.01	0.86	0.07	0.78	0.49	0.00	0.46	0.01	0.95	0.08	0.87
	P0	38,908	0.89	2.00	0.00	0.00	0.00	736	832	0	0.409	0.570	0.000	0.323	63.78%	0.40	0.00	0.35	0.11	0.81	0.46	0.64	0.42	0.00	0.39	0.13	0.86	0.49	0.69	0.49	0.00	0.46	0.15	0.95	0.54	0.77
	R0	34,386	0.79	4.00	0.00	0.00	0.00	148	0	148	0.100	0.422	0.000	0.368	53.40%	0.40	0.00	0.35	0.13	0.81	0.34	0.60	0.42	0.00	0.39	0.14	0.86	0.36	0.64	0.49	0.00	0.46	0.17	0.95	0.40	0.72
	R1	33,533	0.77	4.00	0.00	0.00	0.00	125	0	125	0.085	0.406	0.000	0.364	52.76%	0.40	0.00	0.35	0.13	0.81	0.33	0.59	0.42	0.00	0.39	0.14	0.86	0.35	0.64	0.49	0.00	0.46	0.17	0.95	0.39	0.72
	R2	34,043	0.78	4.00	0.00	0.00	0.00	128	0	104	0.073	0.394	0.000	0.387	50.47%	0.40	0.00	0.35	0.14	0.81	0.32	0.58	0.42	0.00	0.39	0.15	0.86	0.34	0.63	0.49	0.00	0.46	0.18	0.95	0.37	0.71
	S0	40,931	0.94	2.00	0.00	0.00	0.00	434	148	180	0.209	0.370	0.000	0.570	39.33%	0.40	0.00	0.35	0.20	0.81	0.30	0.53	0.42	0.00	0.39	0.22	0.86	0.32	0.57	0.49	0.00	0.46	0.26	0.95	0.35	0.65
	S1	5,998	0.14	0.00	0.00	0.00	0.00	146	0	180	0.118	0.118	0.000	0.020	85.68%	0.40	0.00	0.35	0.01	0.81	0.10	0.74	0.42	0.00	0.39	0.01	0.86	0.10	0.79	0.49	0.00	0.46	0.01	0.95	0.11	0.88
	T0	31,021	0.71	4.00	0.00	0.00	0.00	113	113	0	0.057	0.378	0.000	0.334	53.13%	0.40	0.00	0.35	0.12	0.81	0.31	0.59	0.42	0.00	0.39	0.13	0.86	0.33	0.64	0.49	0.00	0.46	0.15	0.95	0.36	0.72
	T1	31,200	0.72	4.00	0.00	0.00	0.00	120	120	0	0.061	0.382	0.000	0.334	53.33%	0.40	0.00	0.35	0.12	0.81	0.31	0.60	0.42	0.00	0.39	0.13	0.86	0.33	0.64	0.49	0.00	0.46	0.15	0.95	0.36	0.72
	U0	31,198	0.72	4.00	0.00	0.00	0.00	120	120	0	0.061	0.382	0.000	0.334	53.34%	0.40	0.00	0.35	0.12	0.81	0.31	0.60	0.42	0.00	0.39	0.13	0.86	0.33	0.64	0.49	0.00	0.46	0.15	0.95	0.36	0.72
	U1	9,909	0.23	0.00	0.00	0.00	0.00	376	406	0	0.202	0.202	0.000	0.026	88.65%	0.40	0.00	0.35	0.01	0.81	0.16	0.76	0.42	0.00	0.39	0.01	0.86	0.17	0.81	0.49	0.00	0.46	0.01	0.95	0.19	0.89
	U2	55,152	1.27	4.00	0.00	0.00	0.00	412	268	0	0.152	0.473	0.000	0.793	37.37%	0.40	0.00	0.35	0.28	0.81	0.38	0.52	0.42	0.00	0.39	0.31	0.86	0.41	0.57	0.49	0.00	0.46	0.36	0.95	0.45	0.64
POND P2	V0	70,785	1.62	1.00	4.00	0.00	0.00	288	304	0	0.152	0.599	0.000	1.026	36.89%	0.40	0.00	0.35	0.36	0.81	0.49	0.52	0.42	0.00	0.39	0.40	0.86	0.52	0.56	0.49	0.00	0.46	0.47	0.95	0.57	0.64
	V1	49,571	1.14	2.00	2.00	0.00	0.00	527	445	0	0.234	0.578	0.000	0.560	50.83%	0.40	0.00	0.35	0.20	0.81	0.47	0.58	0.42	0.00	0.39	0.22	0.86	0.50	0.63	0.49	0.00	0.46	0.26	0.95	0.55	0.71
	V2	83,143	1.91	4.00	1.00	0.00	0.00	774	395	0	0.243	0.656	0.000	1.253	34.37%	0.40	0.00	0.35	0.44	0.81	0.53	0.51	0.42	0.00	0.39	0.49	0.86	0.56	0.55	0.49	0.00	0.46	0.58	0.95	0.62	0.63
	V3	27,398	0.63	0.00	0.00	0.00	0.00	928	941	0	0.474	0.474	0.000	0.155	75.31%	0.40	0.00	0.35	0.05	0.81	0.38	0.70	0.42	0.00	0.39	0.06	0.86	0.41	0.74	0.49	0.00	0.46	0.07	0.95	0.45	0.83
	V4	34,005	0.78	2.00	0.00	0.00	0.00	346	352	0	0.177	0.338	0.000	0.443	43.28%	0.40	0.00	0.35	0.15	0.81	0.27	0.55	0.42	0.00	0.39	0.17	0.86	0.29	0.59	0.49	0.00	0.46	0.20	0.95	0.32	0.67
	V5.0	79,703	1.83	4.00	2.00	0.00	0.00	489	341	0	0.189	0.694	0.000	1.136	37.94%	0.40	0.00	0.35	0.40	0.81	0.56	0.52	0.42	0.00	0.39	0.44	0.86	0.60	0.57	0.49	0.00	0.46	0.52	0.95	0.66	0.65
	V5.1	10,869	0.25	0.00	0.00	0.00	0.00	405	269	0	0.151	0.151	0.000	0.098	60.63%	0.40	0.00	0.35	0.03	0.81	0.12	0.63	0.42	0.00	0.39	0.04	0.86	0.13	0.67	0.49	0.00	0.46	0.05	0.95	0.14	0.76
	W0	57,023	1.31	4.00	1.00	0.00	0.00	483	562	0	0.275	0.688	0.000	0.621	52.56%	0.40	0.00	0.35	0.22	0.81	0.56	0.59	0.42	0.00	0.39	0.24	0.86	0.59	0.64	0.49	0.00	0.46	0.29	0.95	0.65	0.72
	W1	81,331	1.87	6.00	0.00	0.00	0.00	246	247	0	0.125	0.607	0.000	1.260	32.50%	0.40	0.00	0.35	0.44	0.81	0.49	0.50	0.42	0.00	0.39	0.49	0.86	0.52	0.54	0.49	0.00	0.46	0.58	0.95	0.58	0.62
	W2	41,488	0.95	2.00	0.00	0.00	0.00	1026	928	0	0.480	0.641	0.000	0.312	67.27%	0.40	0.00	0.35	0.11	0.81	0.52	0.66	0.42	0.00	0.39	0.12	0.86	0.55	0.71	0.49	0.00	0.46	0.14	0.95	0.61	0.79
	POND P2	34,271	0.79	3.00	0.00	0.00	1.59	0	0	0	0.037	0.278	0.000	0.509	35.28%	0.40	0.00	0.35	0.18	0.81	0.22	0.51	0.42	0.00	0.39	0.20	0.86	0.24	0.56	0.49	0.00	0.46	0.23	0.95	0.26	0.63
OS A	OS A	12,566	0.29	0.00	1.00	0.00	0.00	0	0	0	0.000	0.092	0.000	0.197	31.83%	0.40	0.00	0.35	0.07	1.81	0.17	0.81	0.42	0.00	0.39	0.08	0.86	0.08	0.54	0.49	0.00	0.46	0.09	0.95	0.09	0.62
OS B	OS B	179,328	4.12	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	4.117	0.00%	0.40	0.00	0.35	1.44	1.81	0.00	0.35	0.42	0.00	0.39	1.61	0.86	0.00	0.39	0.49	0.00	0.46	1.89	0.95	0.00	0.46
OS C	OS C	260,640	5.98	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	5.983	0.00%	0.40	0.00	0.35	2.09	1.81	0.00	0.35	0.42	0.00	0.39	2.33	0.86	0.00	0.39	0.49	0.00	0.46	2.75	0.95	0.00	0.46
OS D	OS D	78,242	1.80	0.00	0.00	0.00	0.00	2335	968	1470	1.473	1.473	0.000	0.323	82.01%	0.40	0.00	0.35	0.11	1.81	2.67	1.55	0.42	0.00	0.39	0.13	0.86	1.27	0.78	0.49	0.00	0.46	0.15	0.95	1.40	0.86
OS E	OS E	545,728	12.53	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	12.528	0.00%	0.40	0.00	0.35	4.38	1.81	0.00	0.35	0.42	0.00	0.39	4.89	0.86	0.00	0.39	0.49	0.00	0.46	5.76	0.95	0.00	0.46
OS F	OS F	694,177	15.94	0.00	0.00	0.00	0.00	0	0	0	0.000	0.000	0.000	15.936	0.00%	0.40	0.00	0.35	5.58	1.81	0.00	0.35	0.42	0.00	0.39	6.22	0.86	0.00	0.39	0.49	0.00	0.46	7.33	0.95	0.00	0.46
OS G	OS G0.0	79,277	1.79	7.00	0.00	0.00	0.00	410	263	0	0.150	0.712	0.000	1.078	39.80%	0.40	0.00	0.35	0.38	1.81	1.29	0.93	0.42	0.00	0.39	0.42	0.86	0.61	0.58	0.49	0.00	0.46	0.50	0.95	0.68	0.66
	OS G0.1	32,038	0.74	2.00	0.00	0.00	0.00	240	212	0	0.110	0.271	0.000	0.465	36.85%	0.40	0.00	0.35	0.16	1.81	0.49	0.89	0.42	0.00	0.39	0.18	0.86	0.23	0.56	0.49	0.00	0.46	0.21	0.95	0.26	0.64
	OS G1.0	35,332	0.81	4.00	0.00	0.00	0.00	652	263	0	0.178	0.499	0.000	0.312	61.52%	0.40	0.00	0.35	0.11	1.81	0.90	1.25	0.42	0.00	0.39	0.12	0.86	0.43	0.68	0.49	0.00	0.46	0.14	0.95	0.47	0.76
	OS G1.1	5,257	0.12	0.00	0.00	0.00	0.00	117	212	0	0.096	0.096	0.000	0.025	79.69%	0.40	0.00	0.35	0.01	1.81	0.17	1.51	0.42	0.00	0.39	0.01	0.86	0.08	0.76	0.49	0.00	0.46	0.01	0.95	0.09	0.85
OS H	OS H0.0	46,850	1.08	4.00	0.00	0.00	0.00	433	0	432	0.293	0.614	0.000	0.462	57.08%	0.40	0.00	0.35	0.16	1.81	1.11	1.18	0.42	0.00	0.39	0.18	0.86	0.53	0.66	0.49	0.00	0.46	0.21	0.95	0.58	0.74
	OS H0.1	1,926	0.04	0.00	0.00	0.00	0.00	176	0	170	0.116	0.116	0.000	-0.071	261.38%	0.40	0.00	0.35	-0.02	1.81	0.21	4.17	0.42	0.00	0.39	-0.03	0.86	0.10	1.62	0.49	0.00	0.46	-0.03	0.95	0.11	1.74
	OS H1.0	61,327	1.41	6.00	0.00	0.00	0.00	430	0	432	0.292	0.774	0.000	0.634	55.00%	0.40	0.00	0.35	0.22	1.81	1.40	1.15	0.42	0.00	0.39	0.25	0.86	0.67	0.65	0.49	0.00	0.46	0.29	0.95	0.74	0.73
	OS H1.1	1,860	0.04	0.00	0.00	0.00	0.00	164	0	170	0.114	0.114	0.000	-0.071	267.41%	0.40	0.00	0.35	-0.03	1.81	0.21	4.25	0.42	0.00	0.39	-0.03	0.86	0.10	1.65	0.49	0.00	0.46	-0.03	0.95	0.11	1.77
OS J	OS J	111,155	2.55	4.00	0.00	0.00	1.13	0	0	0	0.026	0.347	0.000	2.204	13.61%	0.40	0.00	0.35	0.77	1.81	0.63	0.55	0.42	0.00	0.39	0.86	0.86	0.30	0.45	0.49	0.00	0.46	1.01	0.95	0.33	0.53

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORM INLET CAPACITY CALCULATIONS (1 OF 4)

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED PROFESSIONAL ENGINEER
Jonathan A. Jones
10/16/2024

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-ODAM.dwg Layout: STORM INLET CAPACITY CALCULATIONS (1 OF 4)

G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-CODAM.dwg   Layout: STORM INLET CAPACITY CALCULATIONS (2 OF 4)

Drainage Basin	DRAINAGE AREA	AREA (SF)	AREA (acre)	# Homes Homes<10k (3500 SF IC)	# Homes 10k<Homes<15k (4000 SF IC)	# Homes 15k<Homes<1 acre (5000 SF IC)	Additional Impervious (1000 SF)	5' Sidewalk (FT)	1/2 Street 34' (LF)	1/2 Street 49' (LF)		Impervious Cover (Acres)	Offsite Pervious Cover (Acres)	Onsite Pervious Cover (Acres)	%IC	10 year							25 year							100 year						
																perv C offsite		perv C onsite		imp C		weighted C	perv C offsite		perv C onsite		imp C		weighted C	perv C offsite		perv C onsite		imp C		weighted C
																C Value	C x A	C Value	C x A	C Value	C x A		C Value	C x A	C Value	C x A	C Value	C x A		C Value	C x A	C Value	C x A	C Value	C x A	
△1 VEG. FILTER STRIP (REVISED)	VFS 1	62,016	1.42	8.00	0.00	0.00	0.00	0	0	0	0.000	0.643	0.000	0.781	45.15%	0.40	0.00	0.35	0.27	1.81	1.16	1.01	0.42	0.00	0.39	0.30	0.86	0.55	0.60	0.49	0.00	0.46	0.36	0.95	0.61	0.68
	VFS 2	24,120	0.55	3.00	0.00	0.00	0.00	0	0	0	0.000	0.241	0.000	0.313	43.53%	0.40	0.00	0.35	0.11	1.81	0.44	0.99	0.42	0.00	0.39	0.12	0.86	0.21	0.59	0.49	0.00	0.46	0.14	0.95	0.23	0.67
	VFS 3	77,635	1.78	10.00	0.00	0.00	0.00	0	0	0	0.000	0.803	0.000	0.979	45.08%	0.40	0.00	0.35	0.34	1.81	1.45	1.01	0.42	0.00	0.39	0.38	0.86	0.69	0.60	0.49	0.00	0.46	0.45	0.95	0.76	0.68
	VFS 4	42,194	0.97	1.50	2.50	0.00	0.00	0	0	0	0.000	0.350	0.000	0.619	36.14%	0.40	0.00	0.35	0.22	1.81	0.63	0.88	0.42	0.00	0.39	0.24	0.86	0.30	0.56	0.49	0.00	0.46	0.28	0.95	0.33	0.64
	VFS 5	46,371	1.06	0.00	4.00	0.00	0.00	0	0	0	0.000	0.367	0.000	0.697	34.50%	0.40	0.00	0.35	0.24	1.81	0.66	0.85	0.42	0.00	0.39	0.27	0.86	0.32	0.55	0.49	0.00	0.46	0.32	0.95	0.35	0.63
	VFS 6	30,590	0.70	2.00	1.00	0.00	0.00	0	0	0	0.000	0.253	0.000	0.450	35.96%	0.40	0.00	0.35	0.16	1.81	0.46	0.88	0.42	0.00	0.39	0.18	0.86	0.22	0.56	0.49	0.00	0.46	0.21	0.95	0.24	0.64
	VFS 7	7,845	0.18	1.00	0.00	0.00	0.00	0	0	0	0.000	0.080	0.000	0.100	44.61%	0.40	0.00	0.35	0.03	1.81	0.15	1.00	0.42	0.00	0.39	0.04	0.86	0.07	0.60	0.49	0.00	0.46	0.05	0.95	0.08	0.68
	VFS 8	142,267	3.27	12.00	2.00	0.00	0.00	0	0	0	0.000	1.148	0.000	2.118	35.15%	0.40	0.00	0.35	0.74	1.81	2.08	0.86	0.42	0.00	0.39	0.83	0.86	0.99	0.56	0.49	0.00	0.46	0.97	0.95	1.09	0.63
	VFS 9	41,130	0.94	0.00	3.00	0.00	0.00	0	0	0	0.000	0.275	0.000	0.669	29.18%	0.40	0.00	0.35	0.23	1.81	0.50	0.78	0.42	0.00	0.39	0.26	0.86	0.24	0.53	0.49	0.00	0.46	0.31	0.95	0.26	0.60
	VFS 10	47,331	1.09	6.00	0.00	0.00	0.00	0	0	0	0.000	0.482	0.000	0.604	44.37%	0.40	0.00	0.35	0.21	1.81	0.87	1.00	0.42	0.00	0.39	0.24	0.86	0.41	0.60	0.49	0.00	0.46	0.28	0.95	0.46	0.68
	VFS11A	24,221	0.56	0.00	2.00	0.00	0.00	0	0	0	0.000	0.184	0.000	0.372	33.03%	0.40	0.00	0.35	0.13	1.81	0.33	0.83	0.42	0.00	0.39	0.15	0.86	0.16	0.55	0.49	0.00	0.46	0.17	0.95	0.17	0.62
	VFS 11B	14,739	0.34	2.50	0.00	0.00	0.00	0	0	0	0.000	0.201	0.000	0.137	59.36%	0.40	0.00	0.35	0.05	1.81	0.36	1.22	0.42	0.00	0.39	0.05	0.86	0.17	0.67	0.49	0.00	0.46	0.06	0.95	0.19	0.75

DRAINAGE AREA	AREA (acres)	COMPOSITE C			A·C_{10}	A·C_{25}	A·C_{100}	SHEET FLOW				SHALLOW CONCENTRATED FLOW				STREET GUTTER FLOW					Cumulative Tc (min)	INTENSITY			DISCHARGE		
		C_{10}	C_{25}	C_{100}				Length (ft)	Manning's (n)	Slope ft/ft	Tc (min)	Length (ft)	Paved? (YES/NO)	Slope ft/ft	Tc (min)	Length (ft)	Manning's (n)	Slope ft/ft	Velocity ft/s	Tc (min)		I 10yr (in/hr)	I 25yr (in/hr)	I 100yr (in/hr)	Q 10 (cfs)	Q 25 (cfs)	Q 100 (cfs)
ULTIMATE CONDITION DRAINAGE AREAS																											
A0	1.502	0.61	0.65	0.74	0.91	0.98	1.11	100	0.240	0.015	15.44	29	NO	0.015	0.240	450	0.015	0.043	8.0	0.9	16.62	6.1	7.1	8.7	5.6	7.0	9.6
A1.0	0.922	0.58	0.62	0.70	0.53	0.57	0.65	100	0.240	0.015	15.44	29	NO	0.015	0.240	312	0.015	0.050	8.6	0.6	16.29	6.1	7.1	8.7	3.3	4.1	5.7
A1.1	0.293	0.65	0.70	0.78	0.19	0.20	0.23	30	0.015	0.030	0.49	0	NO	0.020	0.000	427	0.015	0.500	27.2	0.3	5.00	8.6	9.8	11.9	1.6	2.0	2.7
B0	1.343	0.58	0.63	0.71	0.79	0.85	0.95	17	0.015	0.030	0.30	0	NO	0.020	0.000	525	0.015	0.020	5.4	1.6	5.00	8.6	9.8	11.9	6.8	8.3	11.3
B1	0.149	0.69	0.73	0.82	0.10	0.11	0.12	30	0.015	0.030	0.49	0	NO	0.020	0.000	202	0.015	0.020	5.4	0.6	5.00	8.6	9.8	11.9	0.9	1.1	1.4
C0	0.795	0.60	0.65	0.73	0.48	0.52	0.58	100	0.240	0.015	15.44	29	NO	0.015	0.242	233	0.015	0.047	8.3	0.5	16.15	6.1	7.2	8.8	3.0	3.7	5.1
C1.0	0.590	0.58	0.63	0.71	0.34	0.37	0.42	69	0.240	0.015	11.41	0	NO	0.020	0.000	292	0.015	0.038	7.5	0.6	12.06	6.9	7.9	9.7	2.4	2.9	4.0
C1.1	0.227	0.67	0.72	0.80	0.15	0.16	0.18	30	0.015	0.030	0.48	0	NO	0.020	0.000	332	0.015	0.038	7.5	0.7	5.00	8.6	9.8	11.9	1.3	1.6	2.2
D0	0.663	0.61	0.66	0.74	0.41	0.44	0.49	17	0.015	0.030	0.30	0	NO	0.020	0.000	397	0.015	0.048	8.4	0.8	5.00	8.6	9.8	11.9	3.5	4.3	5.8
D1	1.194	0.55	0.60	0.68	0.66	0.71	0.81	100	0.240	0.015	15.44	194	NO	0.015	1.634	315	0.015	0.032	6.9	0.8	17.83	5.9	6.9	8.5	3.9	4.9	6.8
D2	0.223	0.76	0.81	0.89	0.17	0.18	0.20	30	0.015	0.030	0.48	0	NO	0.020	0.000	379	0.015	0.032	6.9	0.9	5.00	8.6	9.8	11.9	1.5	1.8	2.4
E0	1.181	0.57	0.61	0.69	0.67	0.72	0.82	100	0.240	0.015	15.44	9	NO	0.015	0.072	371	0.015	0.079	10.8	0.6	16.09	6.2	7.2	8.8	4.1	5.2	7.2
E1.0	0.779	0.55	0.59	0.67	0.42	0.46	0.52	100	0.240	0.015	15.44	187	NO	0.015	1.577	193	0.015	0.015	4.7	0.7	17.70	5.9	6.9	8.5	2.5	3.2	4.4
E1.1	1.079	0.58	0.62	0.70	0.62	0.67	0.76	100	0.240	0.015	15.44	29	NO	0.015	0.246	329	0.015	0.010	3.8	1.4	17.11	6.0	7.0	8.6	3.8	4.7	6.5
E2.0	0.235	0.76	0.81	0.90	0.18	0.19	0.21	17	0.015	0.030	0.30	0	NO	0.020	0.000	458	0.015	0.015	4.7	1.6	5.00	8.6	9.8	11.9	1.5	1.9	2.5
E2.1	0.213	0.75	0.80	0.89	0.16	0.17	0.19	29	0.015	0.030	0.47	0	NO	0.020	0.000	365	0.015	0.010	3.8	1.6	5.00	8.6	9.8	11.9	1.4	1.7	2.3
F0	1.463	0.47	0.51	0.59	0.69	0.75	0.86	100	0.240	0.015	15.44	314	NO	0.015	2.649	94	0.015	0.014	4.6	0.3	18.44	5.8	6.8	8.3	4.0	5.1	7.2
F1	0.282	0.75	0.80	0.89	0.21	0.23	0.25	17	0.015	0.030	0.30	0	NO	0.020	0.000	491	0.015	0.014	4.6	1.8	5.00	8.6	9.8	11.9	1.8	2.2	3.0
△1 G0	1.669	1.13	0.64	0.72	1.88	1.07	1.20	100	0.240	0.015	15.44	555	NO	0.015	4.683	240	0.015	0.062	9.6	0.4	20.54	5.6	6.5	8.0	10.4	6.9	9.6
G1	0.993	1.05	0.62	0.70	1.04	0.61	0.69	100	0.240	0.015	15.44	227	NO	0.015	1.911	226	0.015	0.010	3.8	1.0	18.33	5.8	6.8	8.4	6.1	4.2	5.8
G2	1.061	1.14	0.65	0.73	1.21	0.68	0.77	61	0.240	0.015	10.45	364	NO	0.015	3.073	168	0.015	0.030	6.7	0.4	13.94	6.5	7.6	9.2	7.9	5.2	7.1
G3	1.442	1.22	0.67	0.75	1.76	0.97	1.09	100	0.240	0.015	15.44	219	NO	0.015	1.850	213	0.015	0.030	6.7	0.5	17.82	5.9	6.9	8.5	10.4	6.7	9.2
G4	0.938	1.25	0.68	0.76	1.17	0.64	0.72	100	0.240	0.015	15.44	450	NO	0.015	3.792	192	0.015	0.030	6.7	0.5	19.71	5.7	6.6	8.1	6.6	4.2	5.8
G5	1.638	1.19	0.66	0.74	1.95	1.08	1.22	100	0.240	0.015	15.44	175	NO	0.015	1.472	373	0.015	0.025	6.1	1.0	17.94	5.9	6.9	8.4	11.5	7.5	10.3
G6.0	1.465	1.24	0.68	0.76	1.82	0.99	1.11	100	0.240	0.015	15.44	0	NO	0.020	0.000	394	0.015	0.005	2.7	2.4	17.86	5.9	6.9	8.5	10.7	6.8	9.4
G6.1	0.217	1.26	0.68	0.76	0.27	0.15	0.17	17	0.015	0.030	0.31	0	NO	0.020	0.000	250	0.015	0.005	2.7	1.5	5.00	8.6	9.8	11.9	2.4	1.5	2.0
H0.0	0.597	1.28	0.69	0.77	0.76	0.41	0.46	17	0.015	0.030	0.31	0	NO	0.020	0.000	409	0.015	0.005	2.7	2.5	5.00	8.6	9.8	11.9	6.6	4.0	5.5
H0.1	0.320	1.22	0.67	0.75	0.39	0.21	0.24	29	0.015	0.030	0.47	0	NO	0.020	0.000	449	0.015	0.005	2.7	2.8	5.00	8.6	9.8	11.9	3.4	2.1	2.9
J0	0.663	1.21	0.67	0.75	0.80	0.44	0.50	66	0.240	0.015	11.06	129	NO	0.015	1.084	96	0.015	0.013	4.4	0.4	12.51	6.8	7.8	9.6	5.4	3.5	4.7
J1	0.931	1.12	0.64	0.72	1.05	0.60	0.67	44	0.240	0.015	8.00	89	NO	0.015	0.746	536	0.015	0.080	10.9	0.8	9.57	7.4	8.5	10.3	7.7	5.1	6.9
J2	0.966	1.12	0.64	0.72	1.09	0.62	0.70	100	0.240	0.015	15.44	175	NO	0.015	1.472	215	0.015	0.080	10.9	0.3	17.24	6.0	7.0	8.6	6.5	4.3	6.0
J3	0.773	1.25	0.68	0.76	0.96	0.52	0.59	100	0.240	0.015	15.44	145	NO	0.015	1.219	144	0.015	0.070	10.2	0.2	16.90	6.0	7.0	8.6	5.8	3.7	5.1
J4	1.303	1.29	0.69	0.77	1.68	0.90	1.01	100	0.240	0.015	15.44	168	NO	0.015	1.419	268	0.015	0.070	10.2	0.4	17.30	6.0	7.0	8.6	10.0	6.3	8.6
J5	0.954	1.22	0.67	0.75	1.16	0.64	0.72	96	0.240	0.015	14.96	181	NO	0.015	1.530	164	0.015	0.075	10.5	0.3	16.75	6.1	7.1	8.7	7.0	4.5	6.2
J6.0	1.197	1.03	0.61	0.69	1.23	0.73	0.82	100	0.240	0.015	15.44	163	NO	0.015	1.372	375	0.015	0.005	2.7	2.3	19.11	5.7	6.7	8.2	7.1	4.9	6.8
J6.1	1.184	1.22	0.67	0.75	1.45	0.79	0.89	100	0.240	0.015	15.44	207	NO	0.015	1.749	373	0.015	0.005	2.7	2.3	19.48	5.7	6.6	8.2	8.2	5.3	7.3
K0	1.128	0.59	0.64	0.72	0.67	0.72	0.81	100	0.240	0.015	15.44	148	NO	0.015	1.251	162	0.015	0.028	6.4	0.4	17.12	6.0	7.0	8.6	4.0	5.0	6.9
K1	0.781	1.19	0.66	0.74	0.93	0.52	0.58	17	0.015	0.030	0.30	0	NO	0.020	0.000	545	0.015	0.018	5.2	1.7	5.00	8.6	9.8	11.9	8.0	5.1	6.9
K2	0.606	0.66	0.70	0.79	0.40	0.43	0.48	24	0.015	0.030	0.41	0	NO	0.020	0.000	506	0.015	0.055	9.0	0.9	5.00	8.6	9.8	11.9	3.4	4.2	5.7
K3	1.091	0.59	0.64	0.72	0.65	0.70	0.78	100	0.240	0.015	15.44	144	NO	0.015	1.210	179	0.015	0.047	8.3	0.4	17.01	6.0	7.0	8.6	3.9	4.9	6.7
K4	1.640	0.59	0.64	0.72	0.97	1.05	1.18	100	0.240	0.015	15.44	144	NO	0.015	1.212	364	0.015	0.041	7.8	0.8	17.43	6.0	7.0	8.5	5.8	7.3	10.1
K5	0.261	1.62	0.80	0.88	0.42	0.21	0.23	51	0.015	0.030	0.74	0	NO	0.020	0.000	426	0.015	0.041	7.8	0.9	5.00	8.6	9.8	11.9	3.6	2.1	2.7
L0	1.168	0.61	0.65	0.73	0.71	0.76	0.85	100	0.240	0.015	15.44	26	NO	0.015	0.220	323	0.015	0.036	7.3	0.7	16.40	6.1	7.1	8.7	4.3	5.4	7.5
L1	0.109	0.77	0.82	0.90	0.08	0.09	0.10	51	0.015	0.030	0.74	0	NO	0.020	0.000	116	0.015	0.036	7.3	0.3	5.00	8.6	9.8	11.9	0.7	0.9	1.2
M0	1.211	0.58	0.62	0.70	0.70	0.75	0.85	100	0.240	0.026	12.39	560	NO	0.015	4.726	333	0.015	0.014	4.6	1.2	18.32	5.8	6.8	8.4	4.1	5.1	7.1
M1	1.306	1.04	0.61	0.69	1.36	0.80	0.90	100	0.240	0.015	15.44	60	NO	0.015	0.504	384	0.020	0.053	6.7	1.0	16.91	6.0	7.0	8.6	8.2	5.6	7.8
M2	0.536	0.71	0.75	0.84	0.38	0.40	0.45	24	0.015	0.030	0.41	0	NO	0.020	0.000	643	0.025	0.020	3.3	3.3	5.00	8.6	9.8	11.9	3.3	4.0	5.4
N0.0	3.311	0.55	0.60	0.68	1.83	1.97	2.24	100	0.240	0.070	8.34	959	NO	0.015	8.087	129	0.005	0.024	17.8	0.1	16.55	6.1	7.1	8.7	11.1	14.0	19.4
N0.1	0.794	0.55	0.59	0.67	0.43	0.47	0.53	100	0.240	0.015	15.44	223	NO	0.015	1.879	48	0.006	0.006	7.7	0.1	17.43	6.0	7.0	8.5	2.6	3.3	4.5
N1.0	0.092	0.72	0.77	0.85	0.07	0.07	0.08	100	0.240	0.020	13.76	22	NO	0.015	0.184	118	0.005	0.024	17.8	0.1	14.06	6.5	7.5	9.2	0.4	0.5	0.7
N1.1	0.099	0.73	0.78	0.87	0.07	0.08	0.09	51	0.015	0.030	0.74	0	NO	0.020	0.000	141	0.006	0.006	7.7	0.3	5.00	8.6	9.8	11.9	0.6	0.8	1.0
P0	0.893	0.64	0.69	0.77	0.57	0.62	0.69	17	0.015	0.030	0.31	0	NO	0.020	0.000	648	0.070	0.069	2.2	5.0	5.30	8.5	9.7	11.8	4.9	6.0	8.1
R0	0.789	0.60	0.64	0.72	0.47	0.51	0.57	100	0.240	0.015	15.44	146	NO	0.015	1.231	125	0.020	0.020	4.1	0.5	17.18	6.0	7.0	8.6	2.8	3.5	4.9
R1	0.770	0.59	0.64	0.72	0.46	0.49	0.55	100	0.240	0.015	15.44	146	NO	0.015	1.231	125	0.020	0.020	4.1	0.5	17.18	6.0	7.0	8.6	2.7	3.4	4.7
R2	0.782	0.58	0.63	0.71	0.45	0.49	0.55	100	0.240	0.015	15.44	146	NO	0.015	1.231	120	0.020	0.020	4.1	0.5	17.16	6.0	7.0	8.6	2.7	3.4	4.7
S0	0.940	0.53	0.57	0.65	0.50	0.54	0.61	100	0.240	0.015	15.44	173	YES	0.030	0.820	207	0.015	0.064	9.7	0.4	16.62	6.1	7.1	8.7	3.0	3.8	5.3
S1	0.138	0.74	0.79	0.88	0.10	0.11	0.12	51	0.015	0.030	0.74	0	NO	0.020	0.000	153	0.015	0.064	9.7	0.3	5.00	8.6	9.8	11.9	0.9	1.1	1.4
T0	0.712	0.59	0.64	0.72	0.42	0.46	0.51	100	0.240	0.015	15.44	144	NO	0.015	1.211	113	0.015	0.037	7.4	0.3	16.91	6.0	7.0	8.6	2.6	3.2	4.4
T1	0.716	0.60	0.64	0.72	0.43	0.46	0.52	100	0.240	0.015	15.44	144	NO	0.015	1.210	120	0.015	0.010	3.8	0.5	17.17	6.0	7.0	8.6	2.6	3.2	4.4
U0	0.716	0.60	0.64	0.72	0.43	0.46	0.52	100	0.240	0.015	15.44	143	NO	0.015	1.204	120	0.015	0.032	6.9	0.3	16.94	6.0	7.0	8.6	2.6	3.2	4.5
U1	0.227	0.76	0.81	0.89	0.17	0.18	0.20	30	0.015	0.030	0.48	0	NO	0.020	0.000	386	0.015	0.015	4.7	1.4	5.00	8.6	9.8	11.9	1.5	1.8	2.4
U2	1.266	0.52	0.57	0.64	0.66	0.72	0.81	100	0.240	0.015	15.44	144	NO	0.015	1.210	233	0.015	0.010	3.8	1.0	17.66	5.9	6.9	8.5	3.9	5.0	6.9
V0	1.625	0.52	0.56	0.64	0.84	0.92	1.04	100	0.240	0.015	15.44	256	NO	0.015	2.157	293	0.015	0.008	3.4	1.4	5.00	8.6	9.8	11.9	7.3	9.0	12.4
V1	1.138	0.58	0.63	0.71	0.66	0.72	0.81	100	0.240	0.015	15.44	264	NO	0.015	2.228	92	0.015	0.053	8.9	0.2	19.02	5.7	6.7	8.2	3.8	4.8	6.7
V2	1.909	0.51	0.55	0.63	0.97	1.05	1.20	100	0.240	0.015	15.44	57	NO	0.015	0.479	343	0.015	0.064	9.7	0.6	17.84	5.9	6.9	8.5	5.7	7.3	10.1
V3	0.629	0.70	0.74	0.83	0.44	0.47	0.52	17	0.015	0.030	0.30	0	NO	0.020	0.000	986	0.015	0.044	8.1	2.0	16.51	6.1	7.1	8.7	2.7	3.3	4.5
V4	0.781	0.55	0.59	0.67	0.43	0.46	0.52	100	0.240	0.015	15.44	138	NO	0.015	1.163	348	0.015	0.020	5.4	1.1	17.67	5.9	6.9	8.5	2.5	3.2	4.5
V5.0	1.830	0.52	0.57	0.65	0.96	1.04	1.18	100	0.240	0.015	15.44	61	NO	0.015	0.517	492	0.015	0.035	7.2	1.1	5.00	8.6	9.8	11.9	8.3	10.2	14.0
V5.1	0.250	0.63	0.67	0.76	0.16	0.17	0.19	17	0.015	0.030	0.30	0	NO	0.020	0.000	388	0.015	0.035	7.2	0.9	17.29	6.0	7.0	8.6	0.9	1.2	1.6
W0	1.309	0.59	0.64	0.72	0.77	0.83	0.94	100	0.240	0.015	15.44	173	NO	0.015	1.462	163	0.015	0.033	7.0	0.4	18.79	5.8	6.7	8.3	4.5	5.6	7.8
W1	1.867	0.50	0.54	0.62	0.93	1.01	1.16	100	0.240	0.015	15.44	386	NO	0.015	3.256	60	0.015	0.086	11.3	0.1	13.53	6.6	7.6	9.3	6.1	7.7	10.8
W2	0.952	0.66	0.71	0.79	0.63	0.67	0.75	69	0.240	0.015	11.41	0	NO	0.020	0.000	1014	0.015	0.043	8.0	2.1	17.10	6.0	7.0	8.6	3.8	4.7	6.5
OS G0.0	1.790	0.93	0.58	0.66	1.67	1.03	1.17	100	0.240	0.015	15.44	395	NO	0.015	3.335	61	0.015	0.069	10.1	0.1	18.88	5.8	6.7	8.3	9.6	7.0	9.7
OS G0.1	0.735	0.89	0.56	0.64	0.65	0.41	0.47	100	0.240	0.015	15.44	195	NO	0.015	1.645	215	0.015	0.020	5.4	0.7	17.75	5.9	6.9	8.5	3.9	2.9	4.0
OS G1.0	0.811	1.25	0.68	0.76	1.01	0.55	0.62	100	0.240	0.015	15.44	29	NO	0.015	0.240	261	0.015	0.069	10.1	0.4	16.11	6.2	7.2	8.8	6.2	3.9	5.4
OS G1.1	0.121	1.51	0.76	0.85	0.18	0.09	0.10	17	0.015	0.030	0.30	0	NO	0.200	0.000	210	0.015	0.020	5.4	0.6	5.00	8.6	9.8	11.9	1.6	0.9	1.2
OS H0.0	1.076	1.18	0.66	0.74	1.27	0.71	0.80	100	0.240	0.015	15.44	26	NO	0.015	0.219	433	0.015	0.092	11.7	0.6	16.28	6.1	7.1	8.7	7.8	5.1	7.0
OS H0.1	0.044	4.17	1.62	1.74	0.18	0.07	0.08	24	0.015	0.030	0.41	0	NO	0.200	0.000	176	0.015	0.008	3.4	0.9	5.00	8.6	9.8	11.9	1.6	0.7	0.9
OS H1.0	1.408	1.15	0.65	0.73	1.62	0.91	1.03	100	0.240	0.015	15.44	86	NO	0.015	0.725	431	0.015	0.092	11.7	0.6	16.78	6.1	7.1	8.7	9.8	6.4	8.9
OS H1.1	0.043	4.25	1.65	1.77	0.18	0.07	0.08	24	0.015	0.030	0.41	0	NO	0.200	0.000	166	0.015	0.008	3.4	0.8	5.00	8.6	9.8	11.9	1.6	0.7	0.9

REV	DESCRIPTION	DATE	APR
△1	SECTION 12 REVISIONS		
△			
△			
△			
△			

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W Louis Henna Blvd, Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORM INLET CAPACITY CALCULATIONS (2 OF 4)

FOR REVISION 1 ONLY

JONATHAN A. JONES
147526
Jonathan A. Jones
10/16/2024

SHEET
63 OF 144

STREET FLOW AND INLET CALCULATIONS
25 YEAR STORM

						STREET CAPACITY						INLET ON GRADE CAPACITY										SUMP INLET CAPACITY							
Inlet No.	Inlet Type	Drainage Area	Q 100 (cfs)	Q pass (cfs)	Q total (cfs)	Street Width Face-of-Curb to Face-of-Curb (ft)	Gutter Slope (%)	a (ft)	Z	Yo (ft)	Ponded Width (ft)	Reduction Factor (%)	Qa/La	La (ft)	Length (ft)	L/La	a/Yo	Q/Qa	Qa (this is the capacity of your inlet) (cfs)	Q pass (cfs)	Pass To Inlet #	Clogging Factor (%)	Q total (cfs)	Length (ft)	W (ft)	Opening Height (ft)	Cw	Co	h (ft)
A0	GRADE	1.50	6.96	0.00	6.96	33	4.33%	0.42	33	0.27	8.75	0%	0.72	9.62	10	1.04	1.58	0.96	7.2	0.00	A1.0								
A1.0	SUMP	0.92	4.09	0.00	4.09	33	5.00%	0.42	33	0.21	6.97											10%	6.1	15	2	0.583	2.3	0.67	0.15
A1.1	SUMP	0.29	2.01	0.00	2.01	33	50.00%	0.42	33	0.11	3.47											10%	6.1	15	2	0.583	2.3	0.67	0.15
B0	GRADE	1.34	8.32	0.00	8.32	33	2.00%	0.42	33	0.33	10.81	0%	0.79	10.56	15	1.42	1.28	0.70	11.8	0.00									
B1	GRADE	0.15	1.07	0.00	1.07	33	2.00%	0.42	33	0.15	5.01	0%	0.61	1.75	10	5.71	2.76	0.18	6.1	0.00									
C0	GRADE	0.79	3.70	0.00	3.70	33	4.70%	0.42	33	0.21	6.79	0%	0.66	5.56	10	1.80	2.04	0.56	6.6	0.00									
C1.0	SUMP	0.59	2.94	0.00	2.94	33	3.79%	0.42	33	0.20	6.49											10%	4.5	10	2	0.583	2.3	0.67	0.30
C1.1	SUMP	0.23	1.60	0.00	1.60	33	3.79%	0.42	33	0.16	5.17											10%	4.5	10	2	0.583	2.3	0.67	0.30
D0	GRADE	0.66	4.30	0.00	4.30	33	4.80%	0.42	33	0.22	7.16	0%	0.68	6.37	10	1.57	1.94	0.64	6.8	0.00									
D1	GRADE	1.19	4.93	0.00	4.93	33	3.24%	0.42	33	0.25	8.11	0%	0.70	6.99	10	1.43	1.71	0.70	7.0	0.00									
D2	GRADE	0.22	1.77	0.00	1.77	33	3.24%	0.42	33	0.17	5.52	0%	0.63	2.82	10	3.55	2.51	0.28	6.3	0.00									
E0	GRADE	1.18	5.20	0.00	5.20	33	7.88%	0.42	33	0.21	7.00	0%	0.67	7.74	10	1.29	1.98	0.77	6.7	0.00	E1.0								
E1.0	SUMP	0.78	3.17	0.00	3.17	33	1.50%	0.42	33	0.24	7.95	0%										10%	7.9	15	2	0.583	2.3	0.67	0.19
E1.1	SUMP	1.08	4.71	0.00	4.71	33	1.00%	0.42	33	0.30	9.94	0%										10%	7.9	15	2	0.583	2.3	0.67	0.19
E2.0	SUMP	0.23	1.87	0.00	1.87	33	1.50%	0.42	33	0.20	6.52	0%										10%	3.6	10	2	0.583	2.3	0.67	0.25
E2.1	SUMP	0.21	1.68	0.00	1.68	33	1.00%	0.42	33	0.20	6.76	0%										10%	3.6	10	2	0.583	2.3	0.67	0.25
F0	GRADE	1.46	5.12	0.00	5.12	33	1.40%	0.42	33	0.29	9.63	0%	0.75	6.82	10	1.47	1.44	0.68	7.5	0.00									
F1	GRADE	0.28	2.22	0.00	2.22	33	1.40%	0.42	33	0.21	7.04	0%	0.67	3.30	10	3.03	1.97	0.33	6.7	0.00									
G0	GRADE	1.67	6.94	0.00	6.94	33	6.20%	0.42	33	0.25	8.16	0%	0.71	9.83	15	1.53	1.70	0.66	10.6	0.00									
G1	GRADE	0.99	4.17	0.00	4.17	33	1.00%	0.42	33	0.29	9.50	0%	0.75	5.58	10	1.79	1.46	0.56	7.5	0.00									
G2	GRADE	1.06	5.17	0.00	5.17	33	3.00%	0.42	33	0.25	8.38	0%	0.71	7.26	10	1.38	1.65	0.73	7.1	0.00									
G3	GRADE	1.44	6.67	0.00	6.67	33	3.00%	0.42	33	0.28	9.22	0%	0.74	9.03	15	1.66	1.50	0.60	11.1	0.00									
G4	GRADE	0.94	4.22	0.00	4.22	33	3.00%	0.42	33	0.24	7.76	0%	0.69	6.08	10	1.64	1.78	0.61	6.9	0.00									
G5	GRADE	1.64	7.45	0.00	7.45	33	2.50%	0.42	33	0.30	9.94	0%	0.76	9.79	15	1.53	1.39	0.65	11.4	0.00									
G6.0	SUMP	1.47	6.82	0.00	6.82	33	0.50%	0.42	33	0.39	13.01											10%	8.3	15	2	0.583	2.3	0.67	0.20
G6.1	SUMP	0.22	1.45	0.00	1.45	33	0.50%	0.42	33	0.22	7.29											10%	8.3	15	2	0.583	2.3	0.67	0.20
H0.0	SUMP	0.60	4.04	0.00	4.04	33	0.50%	0.42	33	0.32	10.69											10%	6.2	10	2	0.583	2.3	0.67	0.36
H0.1	SUMP	0.32	2.11	0.00	2.11	33	0.50%	0.42	33	0.25	8.38											10%	6.2	10	2	0.583	2.3	0.67	0.36
J0	GRADE	0.66	3.46	0.00	3.46	33	1.30%	0.42	33	0.26	8.43	0%	0.71	4.84	10	2.07	1.64	0.48	7.1	0.00									
J1	GRADE	0.93	5.06	0.00	5.06	33	8.00%	0.42	33	0.21	6.92	0%	0.67	7.57	10	1.32	2.00	0.76	6.7	0.00									
J2	GRADE	0.97	4.31	0.00	4.31	33	8.00%	0.42	33	0.20	6.51	0%	0.66	6.57	10	1.52	2.13	0.66	6.6	0.00									
J3	GRADE	0.77	3.69	0.00	3.69	33	7.00%	0.42	33	0.19	6.30	0%	0.65	5.68	10	1.76	2.20	0.57	6.5	0.00									
J4	GRADE	1.30	6.29	0.00	6.29	33	7.00%	0.42	33	0.23	7.69	0%	0.69	9.09	15	1.65	1.80	0.61	10.4	0.00									
J5	GRADE	0.95	4.51	0.00	4.51	33	7.50%	0.42	33	0.20	6.70	0%	0.66	6.80	10	1.47	2.07	0.68	6.6	0.00									
J6.0	SUMP	1.20	4.88	0.00	4.88	33	0.50%	0.42	33	0.35	11.47											10%	10.2	15	2	0.583	2.3	0.67	0.25
J6.1	SUMP	1.18	5.28	0.00	5.28	33	0.50%	0.42	33	0.36	11.81											10%	10.2	15	2	0.583	2.3	0.67	0.25
K0	GRADE	1.13	5.03	0.00	5.03	48	2.76%	0.42	48	0.22	10.65	0%	0.68	7.39	10	1.35	1.89	0.74	6.8	0.00									
K1	GRADE	0.78	5.08	0.00	5.08	33	1.83%	0.42	33	0.28	9.13	0%	0.74	6.90	10	1.45	1.52	0.69	7.4	0.00									
K2	GRADE	0.61	4.19	0.00	4.19	33	5.50%	0.42	33	0.21	6.91	0%	0.67	6.27	10	1.59	2.00	0.63	6.7	0.00									
K3	GRADE	1.09	4.89	0.00	4.89	33	4.69%	0.42	33	0.23	7.54	0%	0.69	7.11	10	1.41	1.84	0.71	6.9	0.00									
K4	GRADE	1.64	7.28	0.00	7.28	33	4.07%	0.42	33	0.27	8.99	0%	0.73	9.95	15	1.51	1.54	0.66	11.0	0.00									
K5	GRADE	0.26	2.05	0.00	2.05	33	4.07%	0.42	33	0.17	5.59	0%	0.63	3.26	10	3.07	2.48	0.33	6.3	0.00									
L0	GRADE	1.17	5.41	0.00	5.41	48	3.60%	0.42	48	0.22	10.41	0%	0.68	8.01	10	1.25	1.94	0.80	6.8	0.00									
L1	GRADE	0.11	0.87	0.00	0.87	48	3.60%	0.42	48	0.11	5.25	0%	0.57	1.52	10	6.57	3.84	0.15	5.7	0.00									
M0	GRADE	1.21	5.13	0.00	5.13	33	1.43%	0.42	33	0.29	9.60	0%	0.75	6.84	10	1.46	1.44	0.68	7.5	0.00									
M1	GRADE	1.31	5.63	0.00	5.63	33	5.32%	0.42	33	0.24	7.77	0%	0.69	8.11	10	1.23	1.78	0.81	6.9	0.00									
M2	GRADE	0.54	3.98	0.00	3.98	33	2.00%	0.42	33	0.25	8.20	0%	0.71	5.63	10	1.78	1.69	0.56	7.1	0.00									
N0.0	SUMP	3.31	14.01	0.00	14.01	33	2.39%	0.42	33	0.39	12.71											10%	17.3	15	2	0.583	2.3	0.67	0.43
N0.1	SUMP	0.79	3.27	0.00	3.27	33	0.64%	0.42	33	0.29	9.42											10%	17.3	15	2	0.583	2.3	0.67	0.43
N1.0	SUMP	0.09	0.53	0.00	0.53	33	2.39%	0.42	33	0.11	3.72											10%	1.3	10	2	0.583	2.3	0.67	0.13
N1.1	SUMP	0.10	0.76	0.00	0.76	33	0.64%	0.42	33	0.17	5.45											10%	1.3	10	2	0.583	2.3	0.67	0.13
P0	GRADE	0.89	6.00	0.00	6.00	33	6.89%	0.42	33	0.23	7.58	0%	0.69	8.71	15	1.72	1.83	0.58	10.3	0.00									
R0	GRADE	0.79	3.54	0.00	3.54	48	2.00%	0.42	48	0.21	9.91	0%	0.67	5.32	10	1.88	2.03	0.53	6.7	0.00									
R1	GRADE	0.77	3.43	0.00	3.43	48	2.00%	0.42	48	0.20	9.80	0%	0.66	5.18	10	1.93	2.06	0.52	6.6	0.00									
R2	GRADE	0.78	3.43	0.00	3.43	48	2.00%	0.42	48	0.20	9.80	0%	0.66	5.17	10	1.93	2.06	0.52	6.6	0.00									
S0	GRADE	0.94	3.83	0.00	3.83	48	6.40%	0.42	48	0.17	8.21	0%	0.63	6.06	10	1.65	2.46	0.61	6.3	0.00									
S1	GRADE	0.14	1.07	0.00	1.07	48	6.40%	0.42	48	0.11	5.10	0%	0.57	1.88	10	5.31	3.96	0.19	5.7	0.00									
T0	GRADE	0.71	3.21	0.00	3.21	33	3.70%	0.42	33	0.20	6.73	0%	0.66	4.83	10	2.07	2.06	0.48	6.6	0.00									
T1	GRADE	0.72	3.21	0.00	3.21	33	1.00%	0.42	33	0.26	8.61	0%	0.72	4.46	10	2.24	1.61	0.45	7.2	0.00									
U0	GRADE	0.72	3.23	0.00	3.23	33	3.20%	0.42	33	0.21	6.94	0%	0.67	4.82	10	2.07	2.00	0.48	6.7	0.00									
U1	GRADE	0.23	1.81	0.00	1.81	33	1.50%	0.42	33	0.19	6.43	0%	0.65	2.76	10	3.62	2.16	0.28	6.5	0.00									
U2	GRADE	1.27	4.95	0.00	4.95	33	1.00%	0.42	33	0.31	10.13	0%	0.77	6.46	10	1.55	1.37	0.65	7.7	0.00									
V0	GRADE	1.62	9.01	0.00	9.01	33	0.80%	0.42	33	0.40	13.22	0%	0.87	10.40	15	1.44	1.05	0.69	13.0	0.00									
V1	GRADE	1.14	4.81	0.00	4.81	33	5.30%	0.42	33	0.22	7.33	0%	0.68	7.06	10	1.42	1.89	0.71	6.8	0.00									
V2	GRADE	1.91	7.25	0.00	7.25	33	6.40%	0.42	33	0.25	8.25	0%	0.71	10.23	15	1.47	1.68	0.68	10.6	0.00									
V3	GRADE	0.63	3.32	0.00	3.32	33	4.40%	0.42	33	0.20	6.61	0%	0.66	5.04	10	1.98	2.10	0.50	6.6	0.00									
V4	GRADE	0.78	3.20	0.00	3.20	33	2.00%	0.42	33	0.23	7.55	0%	0.69	4.66	10	2.15	1.83	0.47	6.9	0.00									
V5.0	SUMP	1.83	10.23	0.00	10.23	33	3.50%	0.42	33	0.32	10.51											10%	11.4	15	2	0.583	2.3	0.67	0.28
V5.1	SUMP	0.25	1.17	0.00	1.17	33	3.50%	0.42	33	0.14	4.67											10%	11.4	15	2	0.583	2.3	0.67	0.28
W0	GRADE	1.31	5.63	0.00	5.63	33	3.30%	0.42	33	0.26	8.50	0%	0.72	7.86	10	1.27	1.63	0.79	7.2	0.00	W1								
W1	GRADE	1.87	7.74	0.00	7.74	33	4.30%	0.42	33	0.28	9.11	0%	0.74	10.52	15	1.43	1.52	0.70	11.0	0.00	V5.0								
W2	SUMP	0.95	4.71	0.00	4.71	33	3.50%	0.42	33	0.24	7.86	0%	0.70	6.76	10	1.48	1.76	0.68	7.0	0.00									
OS G0.0	SUMP	1.79	6.96	0.00	6.96	33	6.89%	0.42	33	0.24	8.01											10%	9.8	15	2	0.583	2.3	0.67	0.24
OS G0.1	SUMP	0.74	2.86	0.00	2.86	33	2.00%	0.42	33	0.22	7.24											10%	9.8	15	2	0.583	2.3	0.67	0.24
OS G1.0	SUMP	0.81	3.95	0.00	3.95	33	6.89%	0.42	33	0.20	6.48											10%	4.9	10	2	0.583	2.3	0.67	0.31
OS G1.1	SUMP	0.12	0.91	0.00	0.91	33	2.00%	0.42	33	0.14	4.71											10%	4.9	10	2	0.583	2.3	0.67	0.31
OS H0.0	SUMP	1.08	5.06	0.00	5.06	48	9.24%	0.42	48	0.18	8.50											10%	5.8	10	2	0.583	2.3	0.67	0.35
OS H0.1	SUMP	0.04	0.70	0.00	0.70	48	0.80%	0.42	48	0.13	6.42											10%	5.8	10	2	0.583	2.3	0.67	0.35
OS H1.0	SUMP	1.41	6.44	0.00	6.44	48	9.24%	0.42	48	0.19	9.31											10%	7.1	10	2	0.583	2.3	0.67	0.40
OS H1.1	SUMP	0.04	0.69	0.00	0.69	48	0.80%	0.42	48	0.13	6.38											10%	7.1	10	2	0.583	2.3	0.67	0.40

*Per City of Georgetown DCM, all parabolic cross sections are approximated as triangular crowns for Y and Ponded

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G:\TXC\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LDI\01_CADD\01_Shts\9838-C-ODAM.dwg Layout: STORM INLET CAPACITY CALCULATIONS (3 OF 4)

APR | DATE | DESCRIPTION | REV

SECTION 12 REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORM INLET CAPACITY CALCULATIONS (3 OF 4)

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

SHEET
64 OF 144

STREET FLOW AND INLET CALCULATIONS
100 YEAR STORM

						STREET CAPACITY						INLET ON GRADE CAPACITY										SUMP INLET CAPACITY							
Inlet No.	Inlet Type	Drainage Area (ac)	Q 100 (cfs)	Q pass (cfs)	Q total (cfs)	Street Width Face-of-Curb to Face-of-Curb (ft)	Gutter Slope (%)	a (ft)	Z	Yo (ft)	Ponded Width (ft)	Reduction Factor (%)	Qa/La	La (ft)	Length (ft)	L/La	a/Yo	Q/Qa	Qa (this is the capacity of your inlet) (cfs)	Q pass (cfs)	Pass To Inlet #	Clogging Factor (%)	Q total (cfs)	Length (ft)	W (ft)	Opening Height (ft)	Cw	Co	h (ft)
A0	GRADE	1.50	9.59	0.00	9.59	33	4.33%	0.42	33	0.30	9.86	0%	0.76	12.65	10	0.79	1.41	1.27	7.6	2.01	A1.0								
A1.0	SUMP	0.92	5.65	2.01	7.66	33	5.00%	0.42	33	0.27	8.82											10%	10.4	15	2	0.583	2.3	0.67	0.26
A1.1	SUMP	0.29	2.72	0.00	2.72	33	50.00%	0.42	33	0.12	3.88											10%	10.4	15	2	0.583	2.3	0.67	0.26
B0	GRADE	1.34	11.33	0.00	11.33	33	2.00%	0.42	33	0.37	12.13	0%	0.83	13.64	15	1.10	1.14	0.91	12.5	0.00									
B1	GRADE	0.15	1.45	0.00	1.45	33	2.00%	0.42	33	0.17	5.60	0%	0.63	2.29	10	4.36	2.47	0.23	6.3	0.00									
C0	GRADE	0.79	5.10	0.00	5.10	33	4.70%	0.42	33	0.23	7.66	0%	0.69	7.38	10	1.36	1.81	0.74	6.9	0.00									
C1.0	SUMP	0.59	4.05	0.00	4.05	33	3.79%	0.42	33	0.22	7.31											10%	6.2	10	2	0.583	2.3	0.67	0.36
C1.1	SUMP	0.23	2.16	0.00	2.16	33	3.79%	0.42	33	0.18	5.78											10%	6.2	10	2	0.583	2.3	0.67	0.36
D0	GRADE	0.66	5.84	0.00	5.84	33	4.80%	0.42	33	0.24	8.03	0%	0.70	8.32	10	1.20	1.73	0.83	7.0	0.00									
D1	GRADE	1.19	6.84	0.00	6.84	33	3.24%	0.42	33	0.28	9.17	0%	0.74	9.28	10	1.08	1.51	0.93	7.4	0.00									
D2	GRADE	0.22	2.37	0.00	2.37	33	3.24%	0.42	33	0.19	6.16	0%	0.65	3.66	10	2.73	2.25	0.37	6.5	0.00									
E0	GRADE	1.18	7.19	0.00	7.19	33	7.88%	0.42	33	0.24	7.91	0%	0.70	10.30	10	0.97	1.75	1.03	7.0	0.21	E1.0								
E1.0	SUMP	0.78	4.41	0.21	4.62	33	1.50%	0.42	33	0.28	9.15											10%	11.1	15	2	0.583	2.3	0.67	0.28
E1.1	SUMP	1.08	6.52	0.00	6.52	33	1.00%	0.42	33	0.34	11.23											10%	11.1	15	2	0.583	2.3	0.67	0.28
E2.0	SUMP	0.23	2.50	0.00	2.50	33	1.50%	0.42	33	0.22	7.27											10%	4.8	10	2	0.583	2.3	0.67	0.31
E2.1	SUMP	0.21	2.25	0.00	2.25	33	1.00%	0.42	33	0.23	7.54											10%	4.8	10	2	0.583	2.3	0.67	0.31
F0	GRADE	1.46	7.21	0.00	7.21	33	1.40%	0.42	33	0.33	10.95	0%	0.79	9.09	10	1.10	1.27	0.91	7.9	0.00									
F1	GRADE	0.28	2.97	0.00	2.97	33	1.40%	0.42	33	0.24	7.85	0%	0.70	4.26	10	2.34	1.77	0.43	7.0	0.00									
G0	GRADE	1.67	9.61	0.00	9.61	33	6.20%	0.42	33	0.28	9.23	0%	0.74	13.01	15	1.15	1.50	0.87	11.1	0.00									
G1	GRADE	0.99	5.78	0.00	5.78	33	1.00%	0.42	33	0.33	10.73	0%	0.79	7.35	10	1.36	1.29	0.74	7.9	0.00									
G2	GRADE	1.06	7.12	0.00	7.12	33	3.00%	0.42	33	0.29	9.44	0%	0.75	9.55	10	1.05	1.47	0.95	7.5	0.00									
G3	GRADE	1.44	9.18	0.00	9.18	33	3.00%	0.42	33	0.31	10.39	0%	0.78	11.85	15	1.27	1.33	0.79	11.6	0.00									
G4	GRADE	0.94	5.82	0.00	5.82	33	3.00%	0.42	33	0.27	8.76	0%	0.72	8.03	10	1.25	1.58	0.80	7.2	0.00									
G5	GRADE	1.64	10.27	0.00	10.27	33	2.50%	0.42	33	0.34	11.21	0%	0.80	12.82	15	1.17	1.24	0.85	12.0	0.00									
G6.0	SUMP	1.47	9.39	0.00	9.39	33	0.50%	0.42	33	0.44	14.66											10%	11.4	15	2	0.583	2.3	0.67	0.28
G6.1	SUMP	0.22	1.97	0.00	1.97	33	0.50%	0.42	33	0.25	8.16											10%	11.4	15	2	0.583	2.3	0.67	0.28
H0.0	SUMP	0.60	5.47	0.00	5.47	33	0.50%	0.42	33	0.36	11.97											10%	8.3	10	2	0.583	2.3	0.67	0.44
H0.1	SUMP	0.32	2.86	0.00	2.86	33	0.50%	0.42	33	0.28	9.39											10%	8.3	10	2	0.583	2.3	0.67	0.44
J0	GRADE	0.66	4.74	0.00	4.74	33	1.30%	0.42	33	0.29	9.48	0%	0.75	6.34	10	1.58	1.46	0.63	7.5	0.00									
J1	GRADE	0.93	6.93	0.00	6.93	33	8.00%	0.42	33	0.24	7.78	0%	0.69	9.98	10	1.00	1.78	1.00	6.9	0.00									
J2	GRADE	0.97	5.96	0.00	5.96	33	8.00%	0.42	33	0.22	7.35	0%	0.68	8.74	10	1.14	1.89	0.87	6.8	0.00									
J3	GRADE	0.77	5.07	0.00	5.07	33	7.00%	0.42	33	0.22	7.10	0%	0.67	7.53	10	1.33	1.95	0.75	6.7	0.00									
J4	GRADE	1.30	8.64	0.00	8.64	33	7.00%	0.42	33	0.26	8.66	0%	0.72	11.97	15	1.25	1.60	0.80	10.8	0.00									
J5	GRADE	0.95	6.20	0.00	6.20	33	7.50%	0.42	33	0.23	7.55	0%	0.69	9.01	10	1.11	1.84	0.90	6.9	0.00									
J6.0	SUMP	1.20	6.78	0.00	6.78	33	0.50%	0.42	33	0.39	12.98											10%	14.1	15	2	0.583	2.3	0.67	0.35
J6.1	SUMP	1.18	7.28	0.00	7.28	33	0.50%	0.42	33	0.40	13.33											10%	14.1	15	2	0.583	2.3	0.67	0.35
K0	GRADE	1.13	6.95	0.00	6.95	48	2.76%	0.42	48	0.25	12.02	0%	0.71	9.80	10	1.02	1.68	0.98	7.1	0.00									
K1	GRADE	0.78	6.88	0.00	6.88	33	1.83%	0.42	33	0.31	10.23	0%	0.77	8.94	10	1.12	1.35	0.89	7.7	0.00									
K2	GRADE	0.61	5.66	0.00	5.66	33	5.50%	0.42	33	0.23	7.74	0%	0.69	8.17	10	1.22	1.79	0.82	6.9	0.00									
K3	GRADE	1.09	6.75	0.00	6.75	33	4.69%	0.42	33	0.26	8.51	0%	0.72	9.42	10	1.06	1.63	0.94	7.2	0.00									
K4	GRADE	1.64	10.05	0.00	10.05	33	4.07%	0.42	33	0.31	10.15	0%	0.77	13.09	15	1.15	1.37	0.87	11.5	0.00									
K5	GRADE	0.26	2.75	0.00	2.75	33	4.07%	0.42	33	0.19	6.24	0%	0.65	4.24	10	2.36	2.22	0.42	6.5	0.00									
L0	GRADE	1.17	7.46	0.00	7.46	48	3.60%	0.42	48	0.24	11.74	0%	0.70	10.60	10	0.94	1.72	1.06	7.0	0.42									
L1	GRADE	0.11	1.17	0.00	1.17	48	3.60%	0.42	48	0.12	5.86	0%	0.59	2.00	10	5.01	3.44	0.20	5.9	0.00									
M0	GRADE	1.21	7.11	0.00	7.11	33	1.43%	0.42	33	0.33	10.85	0%	0.79	9.00	10	1.11	1.28	0.90	7.9	0.00									
M1	GRADE	1.31	7.79	0.00	7.79	33	5.32%	0.42	33	0.27	8.78	0%	0.72	10.75	10	0.93	1.58	1.08	7.2	0.55									
M2	GRADE	0.54	5.35	0.00	5.35	33	2.00%	0.42	33	0.28	9.16	0%	0.74	7.27	10	1.38	1.51	0.73	7.4	0.00									
N0.0	SUMP	3.31	19.44	0.00	19.44	33	2.39%	0.42	33	0.44	14.37											10%	24.0	15	2	0.583	2.3	0.67	0.59
N0.1	SUMP	0.79	4.54	0.00	4.54	33	0.64%	0.42	33	0.32	10.66											10%	24.0	15	2	0.583	2.3	0.67	0.59
N1.0	SUMP	0.09	0.72	0.00	0.72	33	2.39%	0.42	33	0.13	4.17											10%	1.7	10	2	0.583	2.3	0.67	0.16
N1.1	SUMP	0.10	1.02	0.00	1.02	33	0.64%	0.42	33	0.18	6.09											10%	1.7	10	2	0.583	2.3	0.67	0.16
P0	GRADE	0.89	8.12	0.00	8.12	33	6.89%	0.42	33	0.26	8.49	0%	0.72	11.34	15	1.32	1.63	0.76	10.7	0.00									
R0	GRADE	0.79	4.88	0.00	4.88	48	2.00%	0.42	48	0.23	11.18	0%	0.69	7.06	10	1.42	1.80	0.71	6.9	0.00									
R1	GRADE	0.77	4.74	0.00	4.74	48	2.00%	0.42	48	0.23	11.06	0%	0.69	6.88	10	1.45	1.82	0.69	6.9	0.00									
R2	GRADE	0.78	4.74	0.00	4.74	48	2.00%	0.42	48	0.23	11.06	0%	0.69	6.88	10	1.45	1.82	0.69	6.9	0.00									
S0	GRADE	0.94	5.32	0.00	5.32	48	6.40%	0.42	48	0.19	9.29	0%	0.65	8.16	10	1.23	2.17	0.82	6.5	0.00									
S1	GRADE	0.14	1.44	0.00	1.44	48	6.40%	0.42	48	0.12	5.69	0%	0.58	2.47	10	4.04	3.54	0.25	5.8	0.00									
T0	GRADE	0.71	4.43	0.00	4.43	33	3.70%	0.42	33	0.23	7.60	0%	0.69	6.42	10	1.56	1.82	0.64	6.9	0.00									
T1	GRADE	0.72	4.43	0.00	4.43	33	1.00%	0.42	33	0.29	9.72	0%	0.75	5.88	10	1.70	1.43	0.59	7.5	0.00									
U0	GRADE	0.72	4.45	0.00	4.45	33	3.20%	0.42	33	0.24	7.83	0%	0.70	6.40	10	1.56	1.77	0.64	7.0	0.00									
U1	GRADE	0.23	2.42	0.00	2.42	33	1.50%	0.42	33	0.22	7.17	0%	0.68	3.57	10	2.80	1.93	0.36	6.8	0.00									
U2	GRADE	1.27	6.91	0.00	6.91	33	1.00%	0.42	33	0.35	11.48	0%	0.81	8.54	10	1.17	1.21	0.85	8.1	0.00									
V0	GRADE	1.62	12.37	0.00	12.37	33	0.80%	0.42	33	0.45	14.89	0%	0.92	13.42	15	1.12	0.93	0.89	13.8	0.00									
V1	GRADE	1.14	6.65	0.00	6.65	33	5.30%	0.42	33	0.25	8.28	0%	0.71	9.38	10	1.07	1.67	0.94	7.1	0.00									
V2	GRADE	1.91	10.14	0.00	10.14	33	6.40%	0.42	33	0.28	9.36	0%	0.74	13.65	15	1.10	1.48	0.91	11.1	0.00									
V3	GRADE	0.63	4.54	0.00	4.54	33	4.40%	0.42	33	0.23	7.43	0%	0.68	6.64	10	1.51	1.87	0.66	6.8	0.00									
V4	GRADE	0.78	4.45	0.00	4.45	33	2.00%	0.42	33	0.26	8.55	0%	0.72	6.20	10	1.61	1.62	0.62	7.2	0.00									
V5.0	SUMP	1.83	14.04	0.16	14.20	33	3.50%	0.42	33	0.36	11.89											10%	15.8	15	2	0.583	2.3	0.67	0.39
V5.1	SUMP	0.25	1.62	0.00	1.62	33	3.50%	0.42	33	0.16	5.26											10%	15.8	15	2	0.583	2.3	0.67	0.39
W0	GRADE	1.31	7.78	0.00	7.78	33	3.30%	0.42	33	0.29	9.59	0%	0.75	10.38	10	0.96	1.44	1.04	7.5	0.28	W1								
W1	GRADE	1.87	10.78	0.28	11.07	33	8.60%	0.42	33	0.28	9.15	0%	0.74	15.03	15	1.00	1.52	1.00	11.0	0.02	V5.0								
W2	SUMP	0.95	6.46	0.00	6.46	33	4.30%	0.42	33	0.26	8.51		0.72	9.01	10	1.11	1.63	0.90	7.2	0.00									
OS G0.0	SUMP	1.79	9.70	0.00	9.70	33	6.89%	0.42	33	0.28	9.08											10%	13.7	15	2	0.583	2.3	0.67	0.34
OS G0.1	SUMP	0.74	3.99	0.00	3.99	33	2.00%	0.42	33	0.25	8.20											10%	13.7	15	2	0.583	2.3	0.67	0.34
OS G1.0	SUMP	0.81	5.42	0.00	5.42	33	6.89%	0.42	33	0.22	7.30											10%	6.6	10	2	0.583	2.3	0.67	0.38
OS G1.1	SUMP	0.12	1.22	0.00	1.22	33	2.00%	0.42	33	0.16	5.26											10%	6.6	10	2	0.583	2.3	0.67	0.38
OS H0.0	SUMP	1.08	6.96	0.00	6.96	48	9.24%	0.42	48	0.20	9.59											10%	7.9	10	2	0.583	2.3	0.67	0.43
OS H0.1	SUMP	0.04	0.91	0.00	0.91	48	0.80%	0.42	48	0.15	7.08											10%	7.9	10	2	0.583	2.3	0.67	0.43
OS H1.0	SUMP	1.41	8.88	0.00	8.88	48	9.24%	0.42	48	0.22	10.51											10%	9.8	10	2	0.583	2.3	0.67	0.49
OS H1.1	SUMP	0.04	0.90	0.00	0.90	48	0.80%	0.42	48	0.15	7.04											10%	9.8	10	2	0.583	2.3	0.67	0.49

*Per City of Georgetown DCM, all parabolic cross sections are approximated as triangular crowns for Y and Ponded

1

APR | DATE | DESCRIPTION | REV
SECTION 12 REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W. Louis Henna Blvd., Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

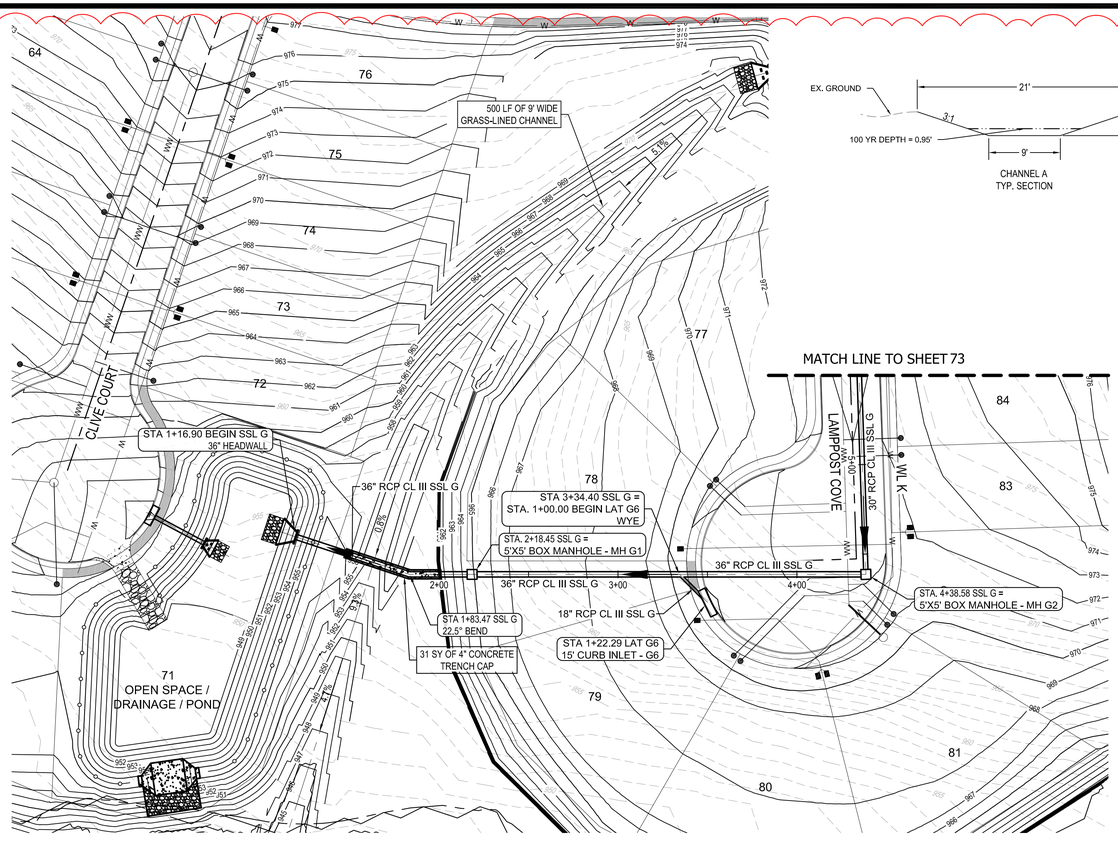
STORM INLET CAPACITY CALCULATIONS (4 OF 4)

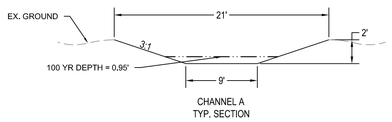
FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

SHEET
65 OF 144

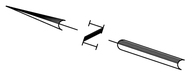
G:\TXCO\Projects\Randolph Todd Co\9838-00-Northgate_Ph3_Sec11-13\LD\01_CADD\01_Shts\9838-C-CODAM.dwg Layout: STORM INLET CAPACITY CALCULATIONS (4 OF 4)





Channel A 100yr

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Roughness Coefficient	0.030
Channel Slope	4.690 %
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	9.00 ft
Discharge	100.60 cfs
Results	
Normal Depth	0.955 ft
Flow Area	11.3 ft²
Wetted Perimeter	15.0 ft
Hydraulic Radius	0.753 ft
Top Width	14.73 ft
Critical Depth	1.344 ft
Critical Slope	1.345 %
Velocity	8.88 ft/s
Velocity Head	1.23 ft
Specific Energy	2.18 ft
Froude Number	1.785
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.000 ft
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.000 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.955 ft
Critical Depth	1.344 ft
Channel Slope	4.690 %
Critical Slope	1.345 %



0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- BOX MANHOLE
- MANHOLE
- 10' CURB INLET

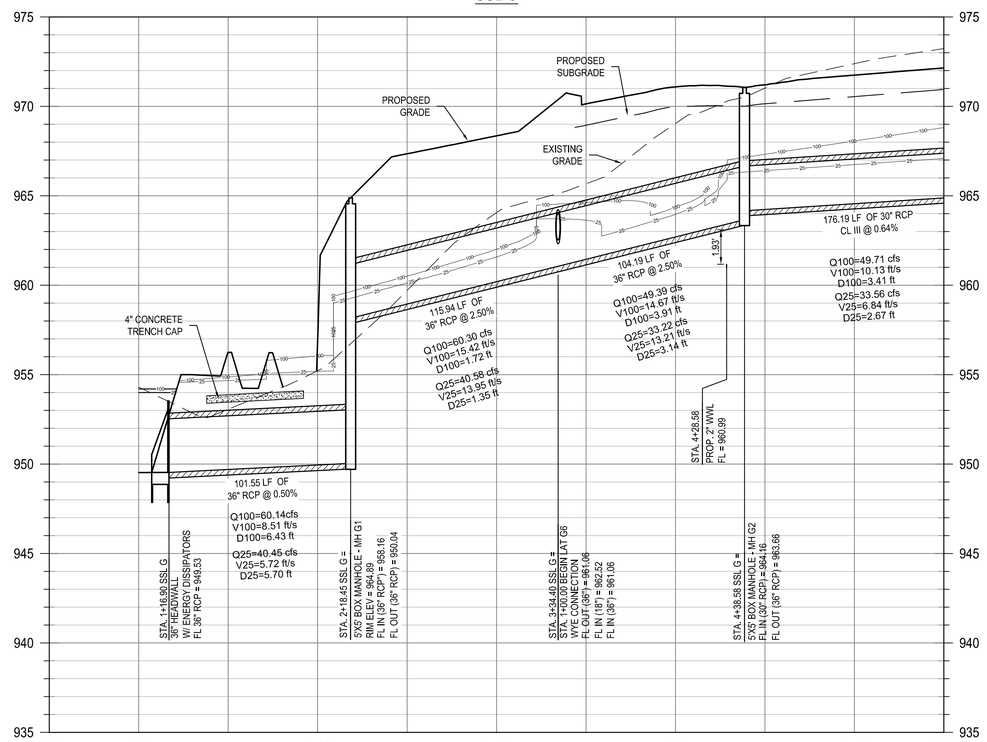
NOTES:

1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
2. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED.
3. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 — 25 YEAR HGL
- 100 — 100 YEAR HGL

SSL G



FOR REVISION 1 ONLY

STATE OF TEXAS — JONATHAN A JONES — 147526 — LICENSED PROFESSIONAL ENGINEER

10/16/2024

STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER

4-8-2023

SECTION 12

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC

REVIEWED BY: JAJ

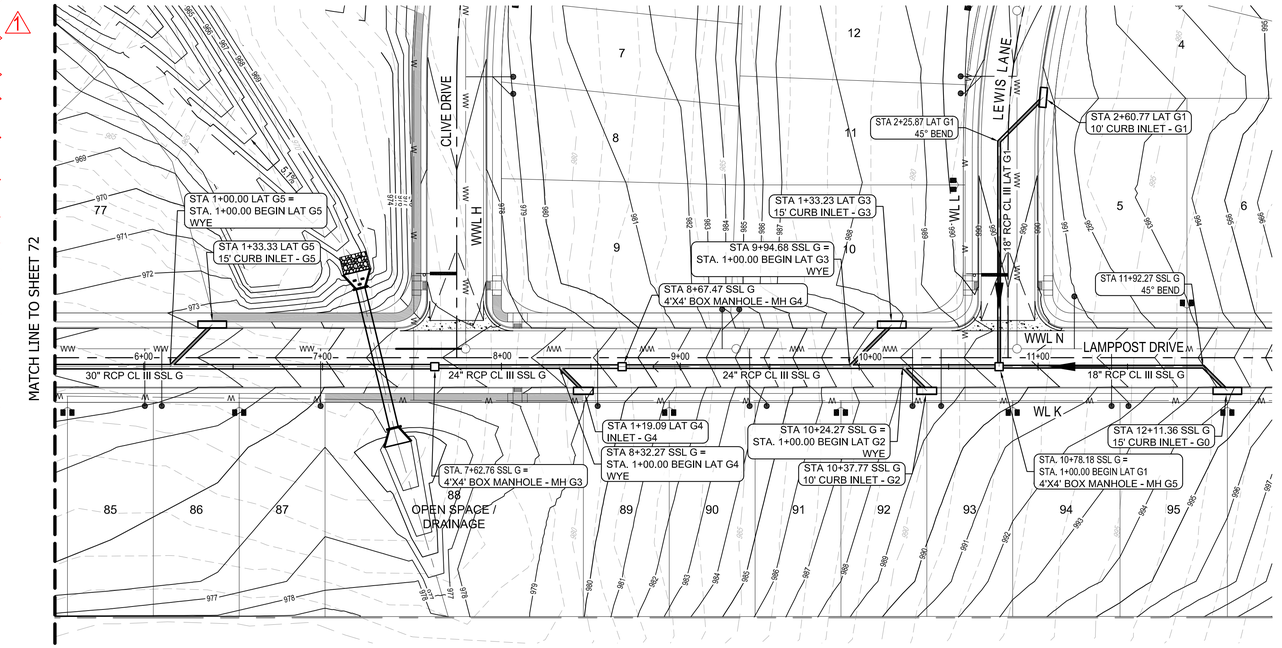
DRAWN BY: MTC

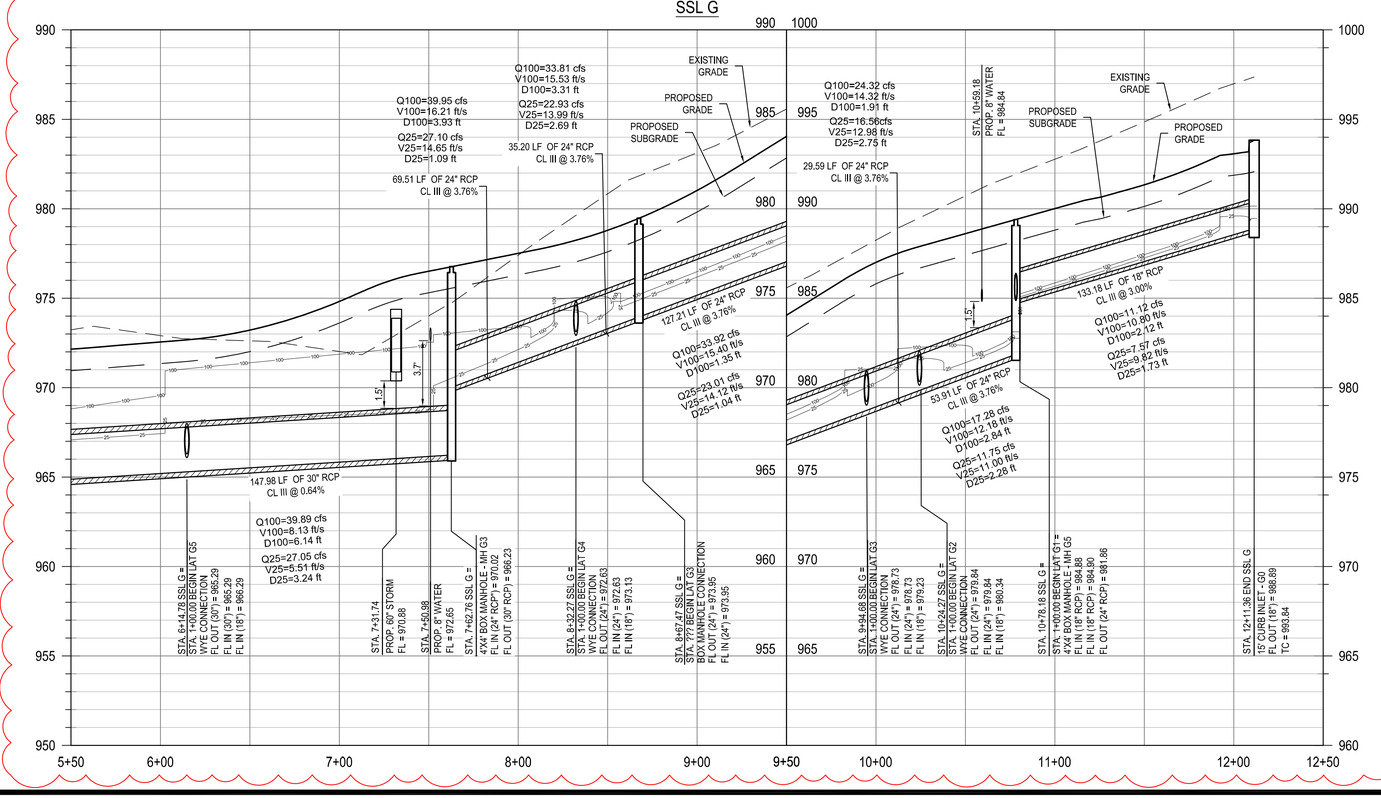
BGE, INC.
101 W. Louis Henna Blvd., Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

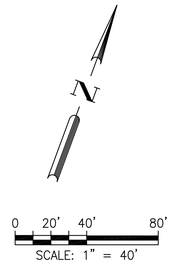
NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORMSEWER LINE G (STA. 1+00 TO 5+50)

SHEET
72 OF 144







LEGEND

- PROPERTY BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- BOX MANHOLE
- MANHOLE
- 10' CURB INLET

NOTES:

1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
2. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED.
3. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 YEAR HGL
- 100 YEAR HGL

FOR REVISION 1 ONLY

STATE OF TEXAS — JONATHAN A. JONES — 147526 — LICENSED PROFESSIONAL ENGINEER

10/16/2024

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE, INC.
101 W. Louis Henna Blvd., Suite 400
AUSTIN, TX 78728
TBPE Registration No. F-1046
TEL: 512-879-0400 www.bgeinc.com

STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER

8-8-2023

NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORMSEWER LINE G (STA. 5+50 TO END)

SHEET
73 OF 144

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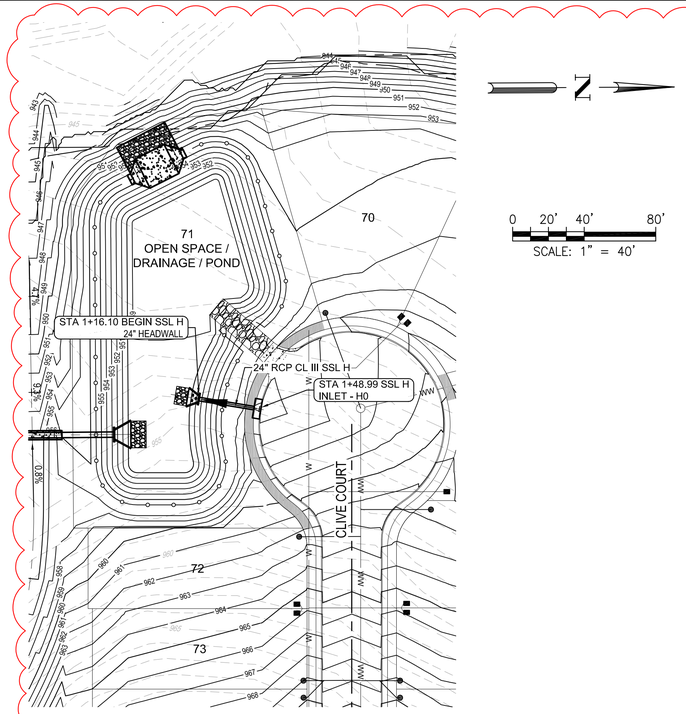

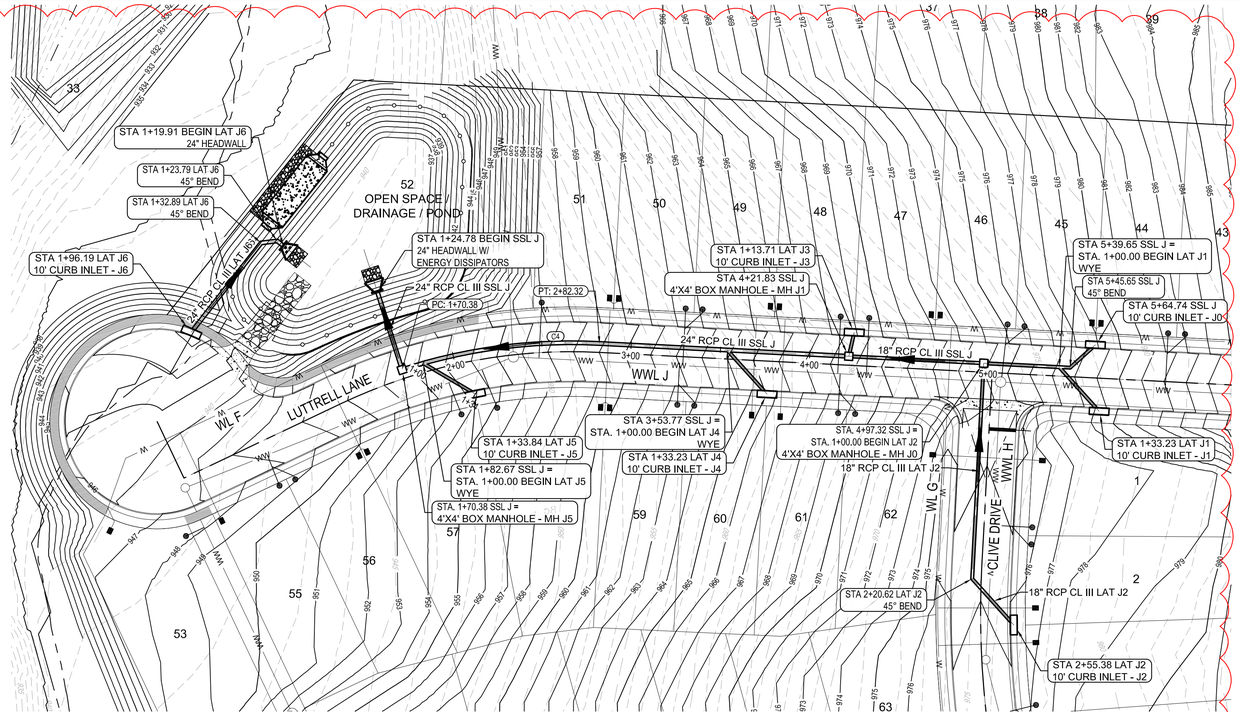

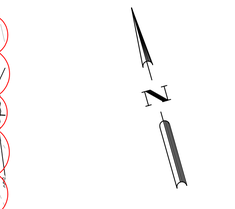

LEGEND

- PROPERTY BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- BOX MANHOLE
- MANHOLE
- 10' CURB INLET

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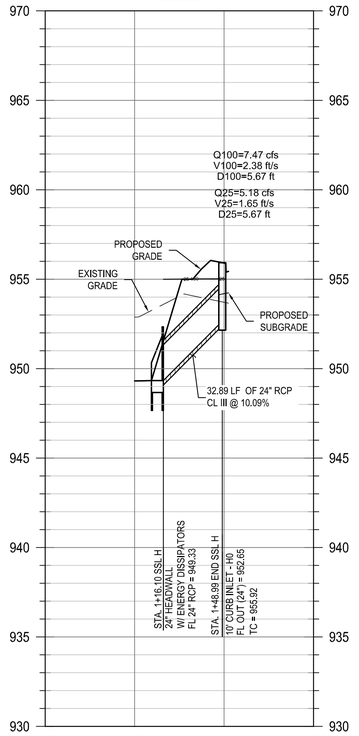
PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 YEAR HGL
- 100 YEAR HGL

Curve Table: Alignments					
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD DISTANCE
C4	21°01'40"	305.00'	111.94'	S81° 50' 51.59"E	111.31'

SSL H



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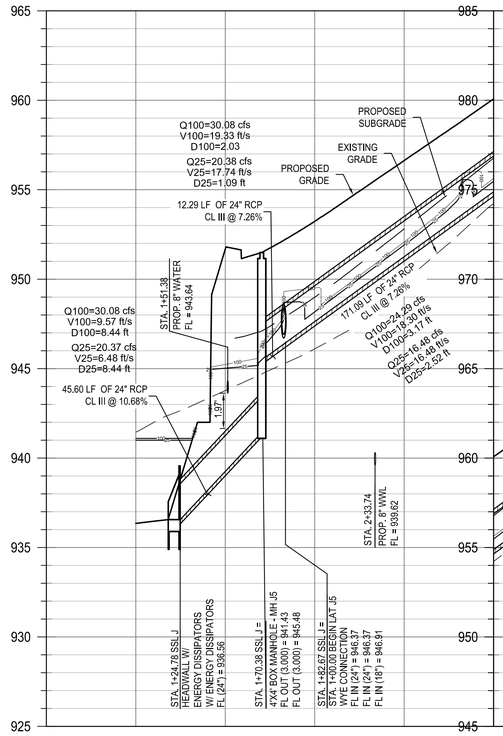

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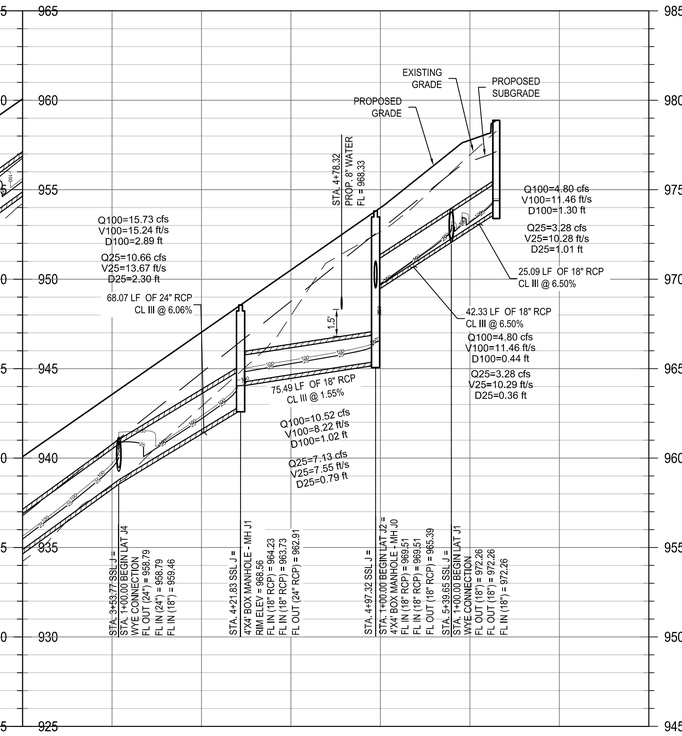

							APR
							DATE
							DESCRIPTION
1							REV

SECTION 12 REVISIONS

DESIGNED BY: MTC

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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORMSEWER LINES H & J (STA. 1+00 TO END)

FOR REVISION 1 ONLY

STATE OF TEXAS
JONATHAN A. JONES
147526
LICENSED
PROFESSIONAL ENGINEER
10/16/2024

4-8-2023
STATE OF TEXAS
NATHAN D. KELLY
141451
LICENSED
PROFESSIONAL ENGINEER

SHEET
74 OF 144

1

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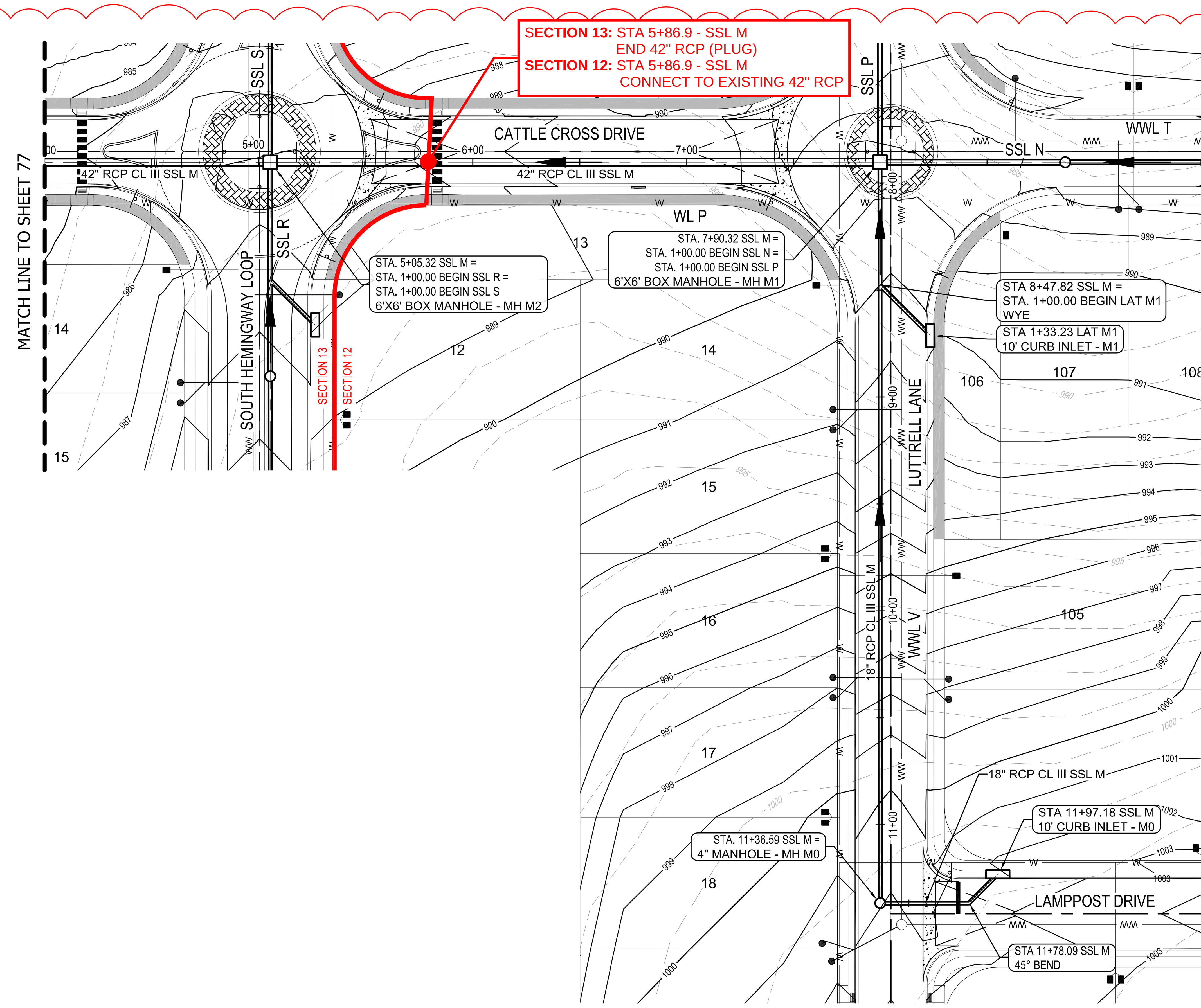

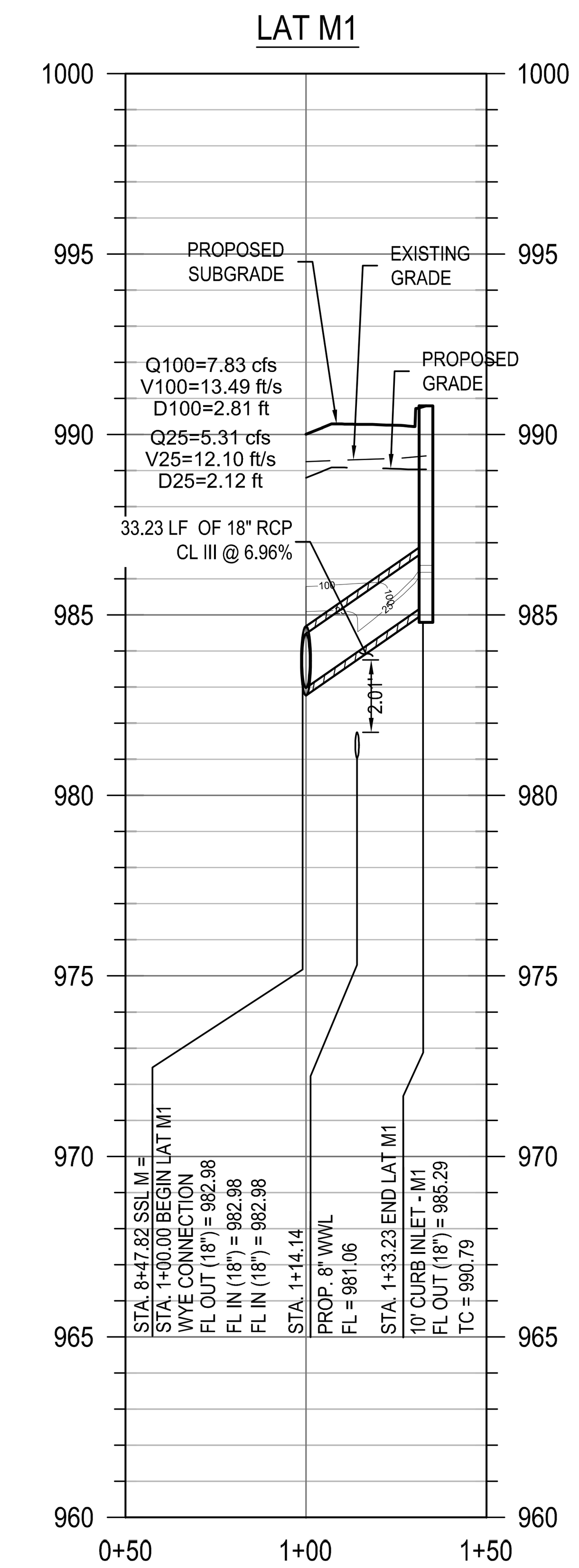

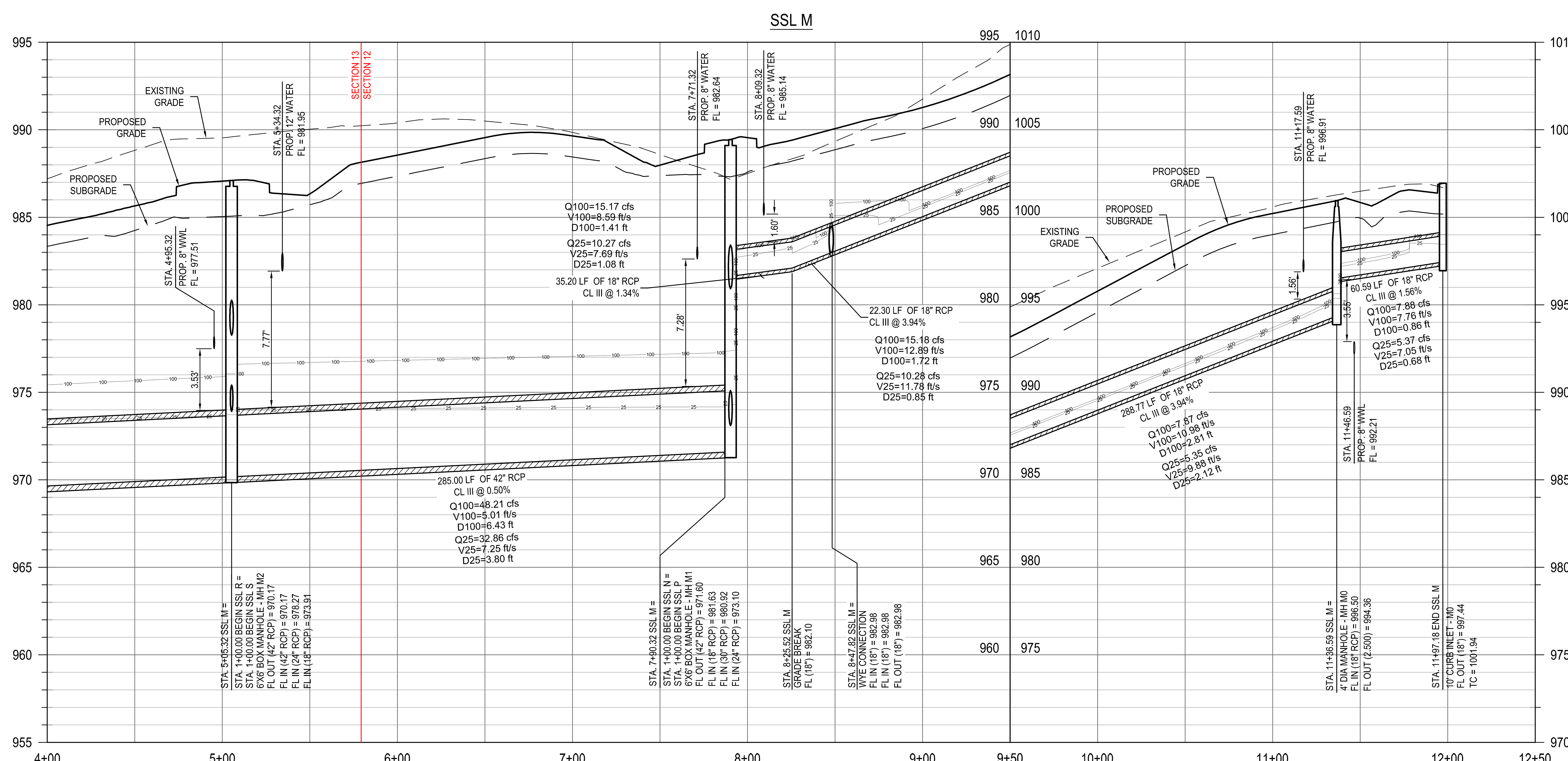

SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- BOX MANHOLE
- MANHOLE
- 10' CURB INLET

NOTES:

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PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 YEAR HGL
- 100 YEAR HGL

REV	DESCRIPTION	DATE	APR
1	SECTION 12 REVISIONS		

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

BGE

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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORMSEWER LINE M (STA. 4+00 TO END)

FOR REVISION 1 ONLY
JONATHAN A. JONES 147526 LICENSED PROFESSIONAL ENGINEER
10/16/2024

NATHAN D. KELLY 141451 LICENSED PROFESSIONAL ENGINEER
5-8-2023

SHEET
78 OF 144

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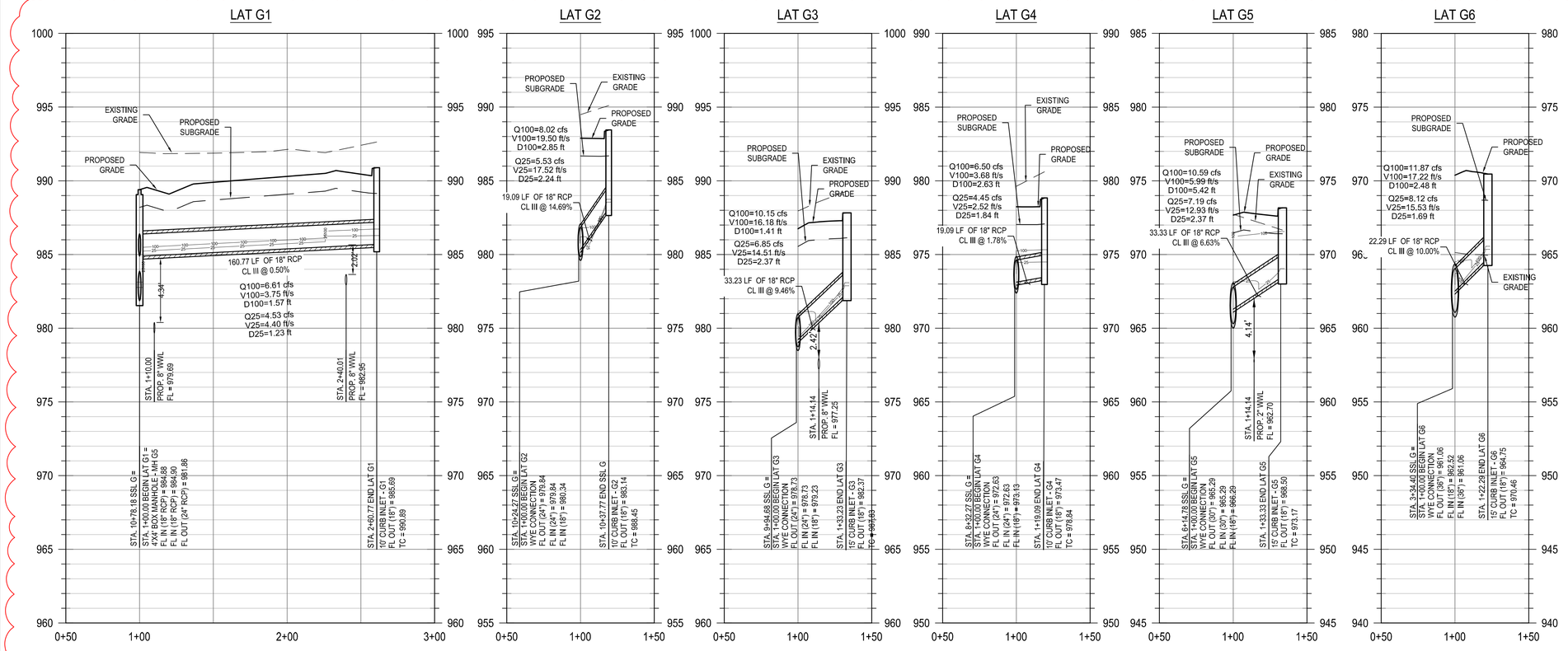

LEGEND

- PROPERTY BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- STORM SEWER FLOW DIRECTION
- BOX MANHOLE
- MANHOLE
- 10' CURB INLET

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PROFILE LEGEND

- FINISHED GRADE
- SUBGRADE
- EXISTING GRADE
- 25 — 25 YEAR HGL
- 100 — 100 YEAR HGL
- PROPOSED FILL

FOR REVISION 1 ONLY

STATE OF TEXAS — NATHAN D. KELLY — 141451 — LICENSED PROFESSIONAL ENGINEER — 5-8-2023

STATE OF TEXAS — JONATHAN A. JONES — 147526 — LICENSED PROFESSIONAL ENGINEER — 10/16/2024

	DATE	DESCRIPTION
1	APR	SECTION 12 REVISIONS

DESIGNED BY: MTC
REVIEWED BY: JAJ
DRAWN BY: MTC

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101 W. Louis Henna Blvd., Suite 400
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NORTHGATE RANCH PHASE 3 - SEC. 11, 12, & 13
WILLIAMSON COUNTY, TEXAS

STORM LATERALS G1-G6 & J1-J6

SHEET 87 OF 144

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Attachment N – Inspection, Maintenance, Repair, and Retrofit Plan

Batch Detention Pond:

Inspections should occur at least twice a year. If possible, these inspections should be conducted during wet weather to determine if the pond is meeting target detention times. Inspections should check for clogging of the primary outfall mechanism, as well as erosion problems in the upper stage pilot channel, all flow paths, and any erodible areas inside and downstream of the basin. If any slumping or erosion is discovered, immediate regrading or revegetation should be performed to correct the problems. Structural faults discovered during inspection should be identified and repaired immediately. Faults to check for include cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. All inlet/outlet and riser pipes will eventually deteriorate and require replacement.

The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. At the time of mowing, litter and debris should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed. Additionally at this time, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

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

Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

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

Vegetated Filter Strips:

Inspection of the VFS for erosion and damage to vegetation should occur at least twice per year; additional inspection periods, however, should occur after heavy rainfall. The BMPs should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. If areas are found that have bare spots or that need restoration, those areas should be replanted to meet the TCEQ requirements.

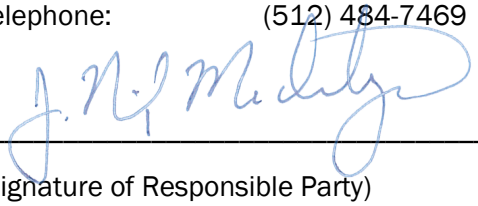
Inspections for debris and litter removal should be performed twice per year, at the minimum. Routine periodic checks are preferred. The filter strips should be kept free of obstructions and debris to allow for proper usage and minimal blockage. Additionally, monitoring to ensure channels and preferential flow paths have not developed should be conducted during routine inspection.

Grass areas in and around basins must be mowed at least four times a year to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed. Regular mowing should also include weed control practices; herbicide usage, however, should be kept to a minimum.

*All inspection and maintenance records must be kept at the office of the operator for the previous three years.

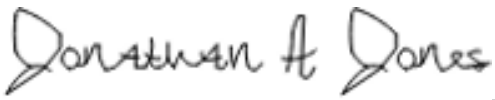
An amended copy of this document will be provided to the TCEQ within thirty (30) days of any changes in the following information.

Responsible Party:	Nick McIntyre
Company:	PHAU-Lariat 108, LLC
Mailing Address:	1921 West State Highway 46
City, State, Zip:	New Braunfels, TX 78132
Telephone:	(512) 484-7469



(Signature of Responsible Party)

Agent/Engineer:	Jonathan Jones, PE, CFM
Company:	BGE, Inc.
Mailing Address:	101 W Louis Henna Blvd, Suite 400
City, state, Zip:	Austin, Texas 78728
Telephone:	(512) 879-0408



(Signature of Agent/Engineer)

Attachment O – Pilot-Scale Field Testing Plan

Not applicable to this project.

Attachment P – Measures for Minimizing Surface Stream Contamination

The site will be stabilized using silt fence; all of the stabilization will be installed prior to construction and will be removed after construction has been completed. These methods will minimize any increases in erosion caused by construction. Additionally, the proposed permanent BMPs will treat any stormwater passing through the site prior to that stormwater's returning to existing drainage patterns and eventually flowing to surface streams.

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: Jonathan Jones, PE, CFM

Date: 10/2/24

Signature of Customer/Agent:

Regulated Entity Name: Northgate Ranch Phase 3 Section 12

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: Unnamed tributaries of the North Fork San Gabriel River

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

Attachment A – Spill Response Action

No spills of hydrocarbons or hazardous substances are expected. However, in the event that such an incidence does occur, the contractor should carefully follow the following TCEQ guidelines:

Cleanup:

1. Onsite personnel must be trained in spill prevention and spill clean up.
2. Clean up leaks and spill immediately.
3. Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If he spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
4. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly.

Minor Spills:

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

Semi-Significant Spills:

Semi-significant spills can still be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities. Spills should be cleaned up immediately, using the following practices:

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

Significant/Hazardous Spills:

For highly toxic materials, the Reportable Quantity (RQ) > 25 gallons. For petroleum/hydrocarbon liquids, RQ > 250 gallons (on land) or any amount which creates a "sheen" on water. Only certified Haz-Mat teams will be responsible for handling the material at the site.

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. Additionally, in the event of a hazardous material spill, local Williamson County and/or city of Liberty Hill police, fire, and potentially EMS should be contacted in order to initiate the hazardous material response team.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 191, and 302, the contractor should notify the National Response Center at (800) 424-8802.
3. Notification should first be made by telephone and followed up with a written report of which one copy is to be kept on-site in the report binder and one copy is to be provided to the TCEQ.
4. The services of a spill contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sherriff's Office, Fire Department, etc.

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

Attachment B – Potential Sources of Contamination

No particular activity or process during construction of the project is anticipated to present a significant risk of being a potential source of contamination. However, during regular construction operations, several common and minor risks of contamination are anticipated. Should any unforeseen mishaps occur during construction, the contractor shall follow the guidelines set forth in "Attachment A – Spill Response Plan".

Potential sources of sediment to stormwater runoff:

- Clearing and grubbing
- Grading and excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Combined Staging Area – small fueling, minor equipment maintenance, sanitary facility.
- Materials Storage Area – solvents, adhesives, paving materials, aggregates, trash, etc.
- Construction Activities – paving, concrete pouring
- Concrete washout areas

Potential on-site pollutants:

- Fertilizer
- Concrete
- Glue, adhesives
- Gasoline, diesel fuel, hydraulic fluids, antifreeze
- Sanitary toilets

Attachment C – Sequence of Major Activities

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved subdivision construction plans and in accordance with the stormwater pollution prevention plan (SWPPP) that is required to be posted on the site. Install tree protection and initiate tree mitigation measures.

2. The environmental project manager, and/or site supervisor, and/or designated responsible party, and the general contractor will follow the storm water pollution prevention plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with city inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion and sedimentation plan.

3. Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the storm water pollution prevention plan (SWPPP) posted on the site.

4. A sequence of major construction activities, as well as an estimated area of disturbance for each, is listed below:

    I. Clearing and grubbing – 37.5 acres
    II. Rough Cut BMP's – 1.5 acres
    III. Grading and excavation for roadway and lots – 37.5 acres
    IV. Excavation for utilities and storm sewer system – 3.9 acres
    V. Install final BMP's and stabilize – 1.5 acres
    VI. Construction of utilities and storm sewer system – 3.9 acres
    VII. Paving, striping, etc. – 3.9 acres
    VIII. Re-vegetation – 3.2 acres (30% of 1)
    IX. Landscaping – 1 acre

5. Upon completion of construction and re-vegetation, the design engineer shall submit an engineer's letter of concurrence to the City of Liberty Hill indicating that construction, including re-vegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate city inspector.

6. After construction is complete and all disturbed areas have been re-vegetated per plan to at least 90 percent established, remove the temporary erosion and sedimentation controls and complete any necessary final re-vegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the permanent BMPs.

Attachment D – Temporary Best Management Practices and Measures

Prior to the commencement of any construction activity, the contractor shall install silt fence, and construction entrances, per the Erosion and Sedimentation Control Plan. Once inlets are installed, inlet protections shall too be installed. All temporary BMPs are to be installed per TCEQ and local requirements.

As surface water flows from and through disturbed areas, the proposed temporary BMPs will prevent pollution by filtering the increased sediment loads and other pollutant sources (listed in "Attachment B – Potential Sources of Contamination") prior to any runoff leaving the site. As shown in the attached site plan, silt fence will be utilized downstream of any grading and construction activities to remove debris and sediment from run-off in the area (activities here will primarily involve road grading and storm sewer excavation). Inlet protection will prevent sediment laden runoff from entering the storm sewer system during construction. Concrete washout basins will contain pollutants discharged when concrete trucks are washed out, and stabilized construction entrances will prevent the transport of sediment off-site.

In using the aforementioned treatment methods and maintaining natural drainage patterns downgradient of the proposed site, any flow to naturally occurring sensitive features, both known and unknown, will be maintained.

Attachment E – Request to Temporarily Seal a Feature

Not applicable to this project.

Attachment F – Structural Practices

The following temporary BMP structural practices will be employed on the site:

A. Silt Fence – Used for sediment filtration along the downslope perimeter of portions of the project, as well as to prevent runoff from storage of excavated materials during utility construction. The fence retains sediment primarily by retarding flow and promoting deposition of sediment on the uphill side of the slope. Runoff is filtered as it passes through the geotextile.

B. Inlet Protection – To be provided around all proposed storm sewer inlets during construction. Locations are indicated on attached site plan. The measures will trap and settle out sediment and debris prior to runoff entering the proposed storm sewer system.

C. Construction Entrance – Stone pads will be constructed at entrances and exits to the project to prevent off-site transport of sediment by construction vehicles. The pads are a minimum of 50’ long and 8” deep. They will be graded to prevent runoff from leaving the site.

Attachment G – Drainage Area Map

Updated drainage area maps are shown in the revised construction plans.

Attachment H – Temporary Sediment Pond(s) Plans and Calculations

As part of managing erosion control during construction, the contractor will rough cut Pond M to be a temporary sedimentation basin that provides stormwater management. The temporary sedimentation pond will then be converted into a batch detention pond for permanent stormwater management. Please see calculations for Temporary Sediment Basin M in the revised construction plans.

Attachment I – Inspection and Maintenance for BMPs

The inspection and maintenance of temporary BMPs will be made according to TCEQ RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices.

Inspection Personnel:

Inspections shall be conducted by qualified representatives of the contractor acting on behalf of the owner or a designated party, if hired separately by the owner. Each operator must delegate authority to the specifically described position or person performing inspections, as provided by 30 TAC 305.128, as an authorized person for signing reports and performing certain activities requested by the director or required by the TPDES general permit. This delegation of authority must be provided to the director of TCEQ in writing and a copy shall be kept along with the signed effective copy of the SWPPP.

Inspection Schedule and Procedures:

An inspection shall occur weekly and after any rain event.

The authorized party shall inspect all disturbed areas of the site, areas used for storage of materials that exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site.

Disturbed areas and areas used for storage of materials that are exposed to precipitation or within limits of the 1% annual chance (100 year) floodplain must be inspected for evidence of, or the potential for, pollutants entering the runoff from the site. Erosion and sediment control measures identified in the plan must be observed to ensure that they are operating correctly. Observations can be made during wet or dry weather conditions. Where discharge locations or points are accessible, they must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. This can be done by inspecting receiving waters to see where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

Based on the results of the inspection, the site description and the pollution prevention measures identified in the plan must be revised as soon as possible after an inspection that reveals inadequacies. The inspection and plan review process must provide for timely implementation of any changes to the plan within 7 calendar days of the inspection.

An inspection report shall be completed, which summarizes the scope of the inspection, name(s) and qualifications of personnel conducting the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP. Major observations shall include, as a minimum, location of discharges of sediment or other pollutants from the site, location of BMPs that need to be maintained, location of BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where BMPs are needed.

Actions taken as a result of the inspections must be described within, and retained as a part of, the SWPPP. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWPPP and the TPDES general permit. The report must be signed by the authorized representative delegated by the operators in accordance with TAC 305.128.

Maintenance and Corrective Actions – Maintenance of erosion control facilities shall consist of the minimum requirements as follows:

A. In ongoing construction areas inspect erosion control improvements to confirm facilities are in place and operable. Where facilities have been temporarily set aside or damaged due to construction activity, place facilities in service before leaving job site.

B. If weather forecast predicts possibility of rain, check entire facilities throughout site to ensure that they are in place and operable. If job site weather conditions indicate high probability of rain, make special inspection of erosion control facilities.

C. After rainfall events, review erosion control facilities as soon as site is accessible. Clean rock berms, construction entrances, and other structural facilities. Determine where additional facilities or alternative techniques are needed to control sediment leaving site.

D. After portions of site have been seeded, review these areas on regular basis in accordance with project specifications to assure proper watering until grass is established. Re-seed areas where grass is not well-established.

E. Spills are to be handled as specified by the manufacturer of the product in a timely and safe manner by qualified personnel. The site superintendent will be responsible for coordinating spill prevention and cleanup operations.

F. Concrete trucks will discharge extra concrete or wash out drum only at an approved location on site. Residual product shall be properly disposed of.

G. Inspect vehicle entrance and exits for evidence of off-site tracking and correct as needed.

H. Remove sediment from traps/ponds no later than when the design capacity has been reduced by 50%.

I. If sediment escapes the site, the contractor, where feasible and where access is available, shall collect and remove sedimentation material by appropriate non-damaging methods. Additionally, the contractor shall correct the condition causing discharges.

J. If inspections or other information sources reveal a control has been used incorrectly, or that control is performing inadequately, the contractor must replace, correct, or modify the control as soon as practical after discovery of the deficiency.

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Silt fence will be used during the period of construction near the perimeter of the disturbed area to intercept sediment while allowing water to percolate through. Silt fencing will be installed prior to any site clearing. This silt fence will remain in place until the disturbed area is permanently stabilized. Tree protection fencing will be installed around all protected trees. A stabilized pad of crushed stone will be placed at the point where traffic will be entering and leaving the construction site to eliminate the tracking or flowing of sediment onto public rights-of-way. Once all site grading activities and landscaping plantings have been completed, all disturbed areas and exposed soil will be revegetated with hydro-mulch as needed. All controls will remain in place until the revegetated areas are permanently stabilized.

If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization (via hydro-mulch revegetation) in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

Should construction activities be interrupted for a period of at least 4 weeks of non-activity, Contractor shall revegetate all disturbed areas as required for permanent revegetation. Contractor shall keep all temporary BMPs in place until the disturbed areas become permanently stabilized.

TCEQ Office Use Only
Permit No:
CN:
RN:

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

IMPORTANT INFORMATION

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

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

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

ePERMITS

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

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

APPLICATION FEE AND PAYMENT

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

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

Provide your payment information for verification of payment:

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

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

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

If Yes, provide the authorization number here: TXR15 Click here to enter text

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

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN 606040061

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

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

PHAU-Lariat 108, LLC

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

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Nick McIntyre Suffix: N/A

Title: Click here to enter text Credentials: Click here to enter text

Phone Number: (512) 484-7469 Fax Number: N/A

E-mail: nick.mcintyre@perryhomes.com

Mailing Address: 1921 West State Highway 46

City, State, and Zip Code: New Braunfels, TX 78132

Mailing Information if outside USA:

Territory: N/A

Country Code: N/A Postal Code: N/A

d) Indicate the type of customer:

☐ Individual	☐ Federal Government
☑ Limited Partnership	☐ County Government
☐ General Partnership	☐ State Government
☐ Trust	☐ City Government
☐ Sole Proprietorship (D.B.A.)	☐ Other Government
☐ Corporation	☐ Other: Click here to enter text
☐ Estate	

e) Is the applicant an independent operator? ☑ Yes ☐ No

(If a governmental entity, a subsidiary, or part of a larger corporation, check No.)

f) Number of Employees. Select the range applicable to your company.

☑ 0-20 ☐ 251-500

☐ 21-100 ☐ 501 or higher

☐ 101-250

g) Customer Business Tax and Filing Numbers: (**Required** for Corporations and Limited Partnerships. **Not Required** for Individuals, Government, or Sole Proprietors.)

State Franchise Tax ID Number: Click here to enter text.

Federal Tax ID: Click here to enter text.

Texas Secretary of State Charter (filing) Number: Click here to enter text.

DUNS Number (if known): Click here to enter text.

SECTION 2. APPLICATION CONTACT

Is the application contact the same as the applicant identified above?

☑ Yes, go to Section 3

☐ No, complete this section

Prefix (Mr. Ms. Miss): Click here to enter text.

First and Last Name: Click here to enter text. Suffix: Click here to enter text.

Title: Click here to enter text. Credential: Click here to enter text.

Organization Name: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail: Click here to enter text.

Mailing Address: Click here to enter text.

Internal Routing (Mail Code, Etc.): Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Mailing information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code: Click here to enter text.

SECTION 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) If this is an existing permitted site, what is the Regulated Entity Number (RN) issued to this site? RN Click here to enter text.

(Refer to Section 3.a) of the Instructions)

b) Name of project or site (the name known by the community where it's located):
Northgate Ranch Phase 3 Section 12

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Click here to enter
Residential

d) County or Counties (if located in more than one): Williamson

e) Latitude: 30.696420 Longitude: -97.900495

f) Site Address/Location

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete *Section A*.

If the site does not have a physical address, provide a location description in *Section B*. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Section A:

Street Number and Name: Click here to enter text

City, State, and Zip Code: Click here to enter text

Section B:

Location Description: Approximately 2.5 miles north on CR 214 from Hwy 29 intersection.

City (or city nearest to) where the site is located: Liberty Hill

Zip Code where the site is located: Click here to enter text

SECTION 4. GENERAL CHARACTERISTICS

a) Is the project or site located on Indian Country Lands?

☐ Yes, do not submit this form. You must obtain authorization through EPA Region 6.

☐ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes. Note: The construction stormwater runoff may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA Region 6.

☐ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? Click here to enter text

d) What is the Secondary SIC Code(s), if applicable? Click here to enter text

e) What is the total number of acres to be disturbed? Click here to enter text

f) Is the project part of a larger common plan of development or sale?

☐ Yes

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

g) What is the estimated start date of the project? Click here to enter text

h) What is the estimated end date of the project? Click here to enter text

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

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Click here to enter text

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? Click here to enter text

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

☐ Yes ☐ No

If Yes, provide the name of the MS4 operator: Click here to enter text

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

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

☐ Yes, complete the certification below.

☐ No, go to Section 5

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

SECTION 5. NOI CERTIFICATION

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

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

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

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

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

SECTION 6. APPLICANT CERTIFICATION SIGNATURE

Operator Signatory Name: Nick McIntyre

Operator Signatory Title: Vice President

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

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

Signature (use blue ink):  Date: 9/30/2024

NOTICE OF INTENT CHECKLIST (TXR150000)

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

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

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

APPLICATION FEE

If paying by check:

☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)

☐ Check number and name on check is provided in this application.

If using ePay:

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

RENEWAL

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

OPERATOR INFORMATION

☑ Customer Number (CN) issued by TCEQ Central Registry

☑ Legal name as filed to do business in Texas. (Call TX SOS 512-463-5555 to verify.)

☑ Name and title of responsible authority signing the application.

☑ Phone number and e-mail address

☑ Mailing address is complete & verifiable with USPS. www.usps.com

☑ Type of operator (entity type). Is applicant an independent operator?

☑ Number of employees.

☑ For corporations or limited partnerships – Tax ID and SOS filing numbers.

☑ Application contact and address is complete & verifiable with USPS. http://www.usps.com

REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

☐ Regulated Entity Number (RN) (if site is already regulated by TCEQ)

☐ Site/project name and construction activity description

☐ County

☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html

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

GENERAL CHARACTERISTICS

☐ Indian Country Lands –the facility is not on Indian Country Lands.

☐ Construction activity related to facility associated to oil, gas, or geothermal resources

☐ Primary SIC Code that best describes the construction activity being conducted at the site. www.osha.gov/oshstats/sicser.html

☐ Estimated starting and ending dates of the project.

☐ Confirmation of concrete truck washout.

☐ Acres disturbed is provided and qualifies for coverage through a NOI.

☐ Common plan of development or sale.

☐ Receiving water body or water bodies.

☐ Segment number or numbers.

☐ MS4 operator.

☐ Edwards Aquifer rule.

CERTIFICATION

☐ Certification statements have been checked indicating Yes.

☐ Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original.

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

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

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

By Overnight or Express Mail:
TCEQ
Stormwater Processing Center (MC228)
12100 Park 35 Circle
Austin, TX

Application Fee:

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

Mailed Payments:

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

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

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

TCEQ Contact List:

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

Notice of Intent Process:

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

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

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

  or

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

General Permit (Your Permit)

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

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

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

Change in Operator

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

TCEQ Central Registry Core Data Form

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

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

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

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

Renewal of General Permit. Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied, a new permit number will be issued.

Section 1. OPERATOR (APPLICANT)

a) Customer Number (CN)

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

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

b) Legal Name of Applicant

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

c) Contact Information for the Applicant (Responsible Authority)

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

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

The phone number should provide contact to the applicant.

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

d) Type of Customer (Entity Type)

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

Individual

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

Partnership

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

Trust or Estate

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

Sole Proprietorship (DBA)

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

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

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

Corporation

A customer that meets all of these conditions:

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

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

Government

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

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

Other

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

e) Independent Entity

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

f) Number of Employees

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

g) Customer Business Tax and Filing Numbers

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

State Franchise Tax ID Number

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

Federal Tax ID

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

TX SOS Charter (filing) Number

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

DUNS Number

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

Section 2. APPLICATION CONTACT

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

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

a) Regulated Entity Number (RN)

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

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

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

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

b) Name of the Project or Site

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

c) Description of Activity Regulated

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

d) County

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

e) Latitude and Longitude

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: http://www.tceq.texas.gov/gis/sqmaview.html.

f) Site Address/Location

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

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

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

Section 4. GENERAL CHARACTERISTICS

a) Indian Country Lands

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

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

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

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a

carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

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

For more information about the jurisdictions of the RRC and the TCEQ, read the Memorandum of Understanding (MOU) between the RRC and TCEQ at 16 Texas Administrative Code, Part 1, Chapter 3, Rule 3.30, by entering the following link into an internet browser: http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30 or contact the TCEQ Stormwater Team at 512-239-4671 for additional information.

c) Primary Standard Industrial Classification (SIC) Code

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

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Buildings Other than Single Family Homes
- 1541 - Construction of Industrial Buildings and Warehouses

- 1542 - Construction of Non-residential Buildings, other than Industrial Buildings and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Local Government Assistance Section at 800-447-2827 for assistance.

d) Secondary SIC Code

Secondary SIC Code(s) may be provided. Leave this blank if not applicable. For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Environmental Assistance Section at 800-447-2827 for assistance.

e) Total Number of Acres Disturbed

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

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

f) Common Plan of Development

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

For more information on what a common plan of development is, refer to the definition of "Common Plan of Development" in the Definitions section of the general permit or enter the following link into your internet browser: www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

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

g) Estimated Start Date of the Project

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

h) Estimated End Date of the Project

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

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

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

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

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

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

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

Identify the classified segment number(s) receiving a discharge directly or indirectly. Enter the following link into your internet browser to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

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

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

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

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

l) Discharge into MS4 – Identify the MS4 Operator

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a

copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at 512-239-4671.

m) Discharges to the Edwards Aquifer Recharge Zone and Certification

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

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

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

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

Section 5. NOI CERTIFICATION

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

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

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

b) Certification of Legal Name

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

c) Understanding of Notice of Termination

A permittee shall terminate coverage under the Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has

been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

d) Certification of Stormwater Pollution Prevention Plan

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

Section 6. APPLICANT CERTIFICATION SIGNATURE

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

If you are a corporation:

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

If you are a municipality or other government entity:

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

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

30 Texas Administrative Code

§305.44. Signatories to Applications

(a) All applications shall be signed as follows.

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

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

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

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

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

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

Instructions:

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

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

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

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

Fee Code: GPA General Permit: TXR150000

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

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

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

   Project/Site (RE) Name: Click here to enter text

   Project/Site (RE) Physical Address: Click here to enter text

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

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

I NICK MCINTYRE,
Print Name

VICE PRESIDENT,
Title - Owner/President/Other

of PHAU-LARIAT 108, LLC,
Corporation/Partnership/Entity Name

have authorized JONATHAN JONES, PE, CFM
Print Name of Agent/Engineer

of BGE, INC.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

9/30/24
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Nick McIntyre 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 30th day of October, 2024.

NOTARY PUBLIC

NANCY MADDEX
Notary Public, State of Texas
Comm. Expires 04-18-2028
Notary ID 134859401

Nancy Maddex
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 04/18/2028

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Northgate Ranch Phase 3 Section 12
Regulated Entity Location: Approx. 2.5 mi north on CR 214 from Hwy 29 intersection
Name of Customer: PHAU-Lariat 108, LLC
Contact Person: Nick McIntyre Phone: (512) 484-7469
Customer Reference Number (if issued):CN 606040061
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	39.860 Acres	$ 4,000.00
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: Jonathon James 10/02/2024

Date: _____

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 60604006		**RN**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	07/18/2022

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

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

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
PHAU-Lariat 108, LLC	

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

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

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **Yes** ☐ **No**

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

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

15. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**	

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

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

( ) -		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Northagte Ranch Phase 3 Section 12

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

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

25. Description to Physical Location:	Approximately 2.5 miles north on CR 214 from Hwy 29 intersection in Liberty Hill.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Liberty Hill			TX	78642	

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

27. Latitude (N) In Decimal:	30.696420		**28. Longitude (W) In Decimal:**	-97.900495	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	41	47.111	-97	54	1.782

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
6552		236117	

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

Single Family Residential

34. Mailing Address:	**1921 West State Highway 46**							
	City	**New Braunfels**	**State**	**TX**	**ZIP**	**78132**	**ZIP + 4**	
35. E-Mail Address:	**nick.mcintyre@perryhomes.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 484-7469		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Jonathan Jones, PE, CFM	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 879-0408		( ) -	jjones@bgeinc.com

SECTION V: Authorized Signature

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

Company:	BGE, Inc.	Job Title:	Project Manager	
Name *(In Print)*:	Jonathan Jones, PE, CFM		Phone:	(512) 879- 408
Signature:	Jonathan Jones		Date:	10/2/24

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: RIVER OAKS LAND PARTNERS II, LLC (CN605909704)

Regulated Entity Name: NORTHGATE RANCH PHASE 3 SECTIONS 11 TO 13

Site Address: 2.5 MI NORTH ON CR 214 FROM HWY 29

City, Texas, Zip: LIBERTY HILL ETJ, TEXAS

County: WILLIAMSON

Approval Letter Date: NOVEMBER 04, 2022

BMPs for the project: 5

New Responsible Party: PHAU-LARIAT 108, LLC

Name of contact: NICK MCINTYRE

Mailing Address: 1921 WEST STATE HWY 46

City, State: NEW BRAUNFELS, TX Zip: 78132

Telephone: (512) 484-7469 FAX: N/A

Signature of New Responsible Party Date 9/30/2024

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

03-2343859-MDK

RECORD AND RETURN TO:

PHAU – Lariat 108, LLC
3200 Southwest Freeway, Ste 2800
Houston, Texas 77027

NOTICE OF CONFIDENTIALITY RIGHTS; IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS. YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED

STATE OF TEXAS)
ss.: KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF WILLIAMSON)

THAT **RIVER OAKS LAND PARTNERS II, LLC,** a Texas limited liability company ("Grantor"), for and in consideration of the sum of $10.00 and other good and valuable consideration paid to Grantor by **PHAU – LARIAT 108, LLC,** a Texas limited liability company ("Grantee"), having an address at 3200 Southwest Freeway, Ste 2800, Houston, Texas 77027, the receipt and sufficiency of which are hereby acknowledged, has GRANTED, SOLD AND CONVEYED, and by these presents does hereby GRANT, SELL AND CONVEY unto Grantee, all of that certain real property situated in Williamson County, Texas, more particularly described in **Exhibit A** attached hereto and incorporated herein by reference, together with all buildings, improvements and fixtures (to the extent owned by Grantor) located thereon, and all rights, ways, privileges and appurtenances pertaining thereto, including without limitation, Grantor's right, title and interest, if any, to the adjacent streets, alleys and rights-of-ways, strips and gores adjacent thereto, any easement rights, air rights, surface rights, sub-surface rights, subsurface rights, and any rights, privileges and appurtenances pertaining thereto; SAVE AND EXCEPT for all right, title and interest in and to the receipt of any payments, reimbursements, proceeds, credits or offsets of any kind or character to which Seller or any affiliate of Seller is or may become entitled to under any agreement involving North San Gabriel MUD No. 1 (collectively, the "Property").

SUBJECT, HOWEVER, to the matters set forth in **Exhibit B** attached hereto and made a part hereof (the "Permitted Exceptions"), the state of facts that would be disclosed by a current accurate survey of the Property, standby fees, taxes and assessments by any taxing authority for the years 2024 and thereafter, not yet due and payable.

Further, Grantor hereby declares and conveys the Property subject to the restrictions that (i) no mobile home(s) shall be attached to and used as a residence on any portion of the Property, and (ii) no modular or pre-fabricated home(s) shall be assembled, located on or resided in on any portion of the Property, and (iii) Grantee, Perry Homes, LLC, and/or an entity controlled by Grantee (whether directly or indirectly) or their successors or assigns will not sell any of the Property in an unimproved condition to a person or entity other than (a) an affiliate of Grantee, (b) another homebuilder approved in writing by Grantor, in Grantor's sole discretion or (c) a homebuyer who signs an earnest money contract with Perry Homes to purchase a home to be

constructed on the Property. Notwithstanding anything to the contrary, the foregoing restrictions shall not be construed to prohibit the use of sales trailers or construction trailers on any portion of the Property during the development period, provided that all such trailers shall be removed from the Property by not later than December 31, 2027.

TO HAVE AND TO HOLD the Property, subject to the aforesaid encumbrances, unto Grantee, Grantee's successors and assigns, forever, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND all singular the Property, subject to the aforesaid encumbrances, unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under Grantor, but not otherwise.

GRANTEE, BY ACCEPTANCE OF THIS DEED, ACKNOWLEDGES THAT IT HAS INSPECTED AND ASSESSED THE PROPERTY AND HAS SATISFIED ITSELF AS TO THE CONDITION OF SAME AND THAT IT ACCEPTS THE PROPERTY "AS IS" AND "WHERE IS" AND WITH ALL FAULTS, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESSED, IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WITHOUT IMPLIED WARRANTY AS TO HABITABILITY, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR FITNESS FOR ANY PURPOSE, SAVE AND EXCEPT THE WARRANTIES OF TITLE CONTAINED HEREIN AND THE EXPRESS REPRESENTATIONS AND WARRANTIES CONTAINED WITHIN THE PURCHASE AND SALE AGREEMENT FOR THE PROPERTY BETWEEN GRANTOR AND GRANTEE.

IN WITNESS WHEREOF, Grantor has executed this document to be effective as of July 15, 2024.

GRANTOR:

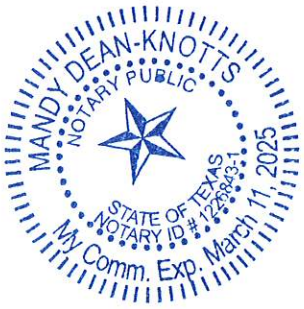
RIVER OAKS LAND PARTNERS II, LLC,
a Texas limited liability company

By: _____
Name: Grant Rollo
Title: Vice President

STATE OF TEXAS §

COUNTY OF Travis §

This instrument was acknowledged before me on the 15 day of July, 2024, by Grant Rollo, Vice President of River Oaks Land Partners II, LLC, a Texas limited liability company, on behalf of said company.



_____
Notary Public, State of Texas

EXHIBIT A

RIVER OAKS LAND PARTNERS II, LLC
39.860 ACRES
JOB NO. 9838-00

DESCRIPTION OF A 39.860 ACRE TRACT OF LAND
WILLIAMSON COUNTY, TEXAS

ALL THAT CERTAIN PARCEL OR TRACT OF LAND OUT OF THE JOHN McDEVITT SURVEY, ABSTRACT NO. 415, THE J.L. BROWN SURVEY, ABSTRACT NO. 788, THE J.H. LEE SURVEY, ABSTRACT NO. 835 AND THE JAMES HACKETT SURVEY, ABSTRACT NO. 312, SITUATED IN WILLIAMSON COUNTY, TEXAS; BEING A PORTION OF THE REMAINDER OF A CALLED 678.09 ACRE TRACT OF LAND DESCRIBED AS TRACT 1 AS CONVEYED TO RIVER OAKS LAND PARTNERS II, LLC RECORDED IN DOCUMENT NO. 2021137550 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING for POINT OF REFERENCE at a 1/2-inch rod found at the most southerly corner of a called 5.95 acre tract of land as conveyed to Williamson County by Donation Deed (Future Arterial Road Right of Way) as recorded in Document Number 2023076722 of the Official Public Records of Williamson County, Texas, and at the northwest corner of a called 95.34 acre tract of land described as Tract A as conveyed to Watson Ranch, Ltd. by General Warranty Deed recorded in Document Number 2009017881 of the Official Public Records of Williamson County, Texas, from which a 1/2-inch iron rod with cap stamped "FOREST 1847" found on the west line of said Watson tract, at a southerly corner of said River Oaks remainder tract and at the northeast corner of ESTATES AT NORTHGATE PHASE I SECTION 3, a subdivision as recorded in Document Number 2022031088 of the Official Public Records of Williamson County, Texas, bears S 23°42'58" E a distance of 105.26 feet; Thence, with the south lines of said Williamson County 5.95 acre tract and said River Oaks remainder tract and the north line of said Watson tract, N 69°15'35" E a distance of 472.02 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for the southwest corner and **POINT OF BEGINNING** of the herein described tract;

THENCE, departing the north line of said Watson tract, over and across said River Oaks remainder tract, the following twenty three (23) courses:

1) N 11°53'27" W a distance of 557.18 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an exterior corner of the herein described tract;

2) N 07°55'29" E a distance of 541.71 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an exterior corner of the herein described tract;

3) N 53°57'18" E a distance of 149.66 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an angle point;

4) N 47°00'42" E a distance of 152.27 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an exterior corner of the herein described tract;

5) S 59°58'43" E a distance of 65.25 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an interior corner of the herein described tract;

6) N 66°33'43" E a distance of 61.60 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an angle point;

7) N 18°39'52" E a distance of 18.71 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an exterior corner of the herein described tract;

8) S 71°20'08" E a distance of 317.90 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of curvature of a curve to the left;

9) Along said curve to the left, an arc distance of 130.63 feet, having a radius of 1,035.00 feet, a central angle of 07°13'53" and a chord which bears S 74°57'04" E a distance of 130.54 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of reverse curvature;

10) Along said curve to the right, an arc distance of 79.19 feet, having a radius of 54.50 feet, a central angle of 83°15'12" and a chord which bears S 36°56'25" E a distance of 72.41 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an interior corner of the herein described tract;

11) S 85°18'49" E a distance of 50.00 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an interior corner of the herein described tract;

12) N 04°41'11" E a distance of 5.61 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of curvature of a curve to the right;

13) Along said curve to the right, an arc distance of 64.49 feet, having a radius of 41.50 feet, a central angle of 89°02'30" and a chord which bears N 49°12'26" E a distance of 58.20 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of reverse curvature;

14) Along said curve to the left, an arc distance of 110.98 feet, having a radius of 1,035.00 feet, a central angle of 06°08'37" and a chord which bears S 89°20'37" E a distance of 110.92 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for corner;

15) N 87°35'04" E a distance of 543.54 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of curvature of a curve to the right;

16) Along said curve to the right, an arc distance of 67.54 feet, having a radius of 43.00 feet, a central angle of 90°00'00" and a chord which bears S 47°24'56" E a distance of 60.81 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an interior corner of the herein described tract;

17) N 87°35'04" E a distance of 50.00 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set at a point of curvature of a curve to the right, for an interior corner of the herein described tract;

18) Along said curve to the right, an arc distance of 67.54 feet, having a radius of 43.00 feet, a central angle of 90°00'00" and a chord which bears N 42°35'04" E a distance of 60.81 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for corner;

19) N 87°35'04" E a distance of 459.89 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for the northeast corner of the herein described tract;

20) S 26°13'36" E a distance of 77.01 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for angle point;

21) S 20°19'14" E a distance of 120.00 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an exterior corner of the herein described tract;

22) S 69°40'46" W a distance of 71.44 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set for an interior corner of the herein described tract; and

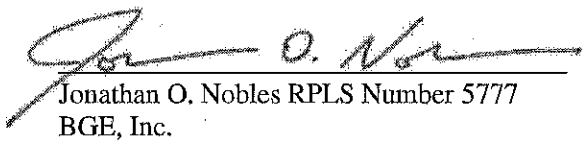
23) S 20°19'14" E a distance of 169.23 feet to a 1/2-inch iron rod with cap stamped "BGE INC" set on the south line of said River Oaks remainder tract and the north line of said Watson tract, for the southeast corner of the herein described tract, from which a 1/2-inch iron rod found at the northeast corner of said Watson tract and at the northwest corner of LIBERTY OAKS, a subdivision recorded in Cabinet D, Slide 143 of the Plat Records of Williamson County, Texas, bears N 69°42'01" E a distance of 592.46 feet;

THENCE, with the south line of said River Oaks remainder tract and the north line of said Watson tract, S 69°42'01" W a distance of 2,011.02 feet to a 1/2-inch iron rod with cap stamped "FOREST 1847" found for an angle point;

THENCE, continuing with the south line of said River Oaks remainder tract and the north line of said Watson tract, S 69°53'25" W a distance of 262.61 feet to a cotton spindle found for an angle point;

THENCE, continuing with the south line of said River Oaks remainder tract and the north line of said Watson tract, S 69°15'35" W a distance of 64.68 feet to the **POINT OF BEGINNING** and containing 39.860 acres of land, more or less.

I hereby certify that these notes were prepared by BGE from a survey made on the ground on October 10, 2023 under my supervision and are true and correct to the best of my knowledge. Bearing orientation is based on the Texas State Plane Coordinate System, Central Zone, NAD 83.



11/09/2023
Date

Jonathan O. Nobles RPLS Number 5777
BGE, Inc.
101 West Louis Henna Blvd., Suite 400
Austin, Texas 78728
Telephone: 512-879-0400
TBPELS Licensed Surveying Firm Number 10106502

Date: November 9, 2023
Project No.: 9838-00

EXHIBIT "B"
To Special Warranty Deed

PERMITTED EXCEPTIONS

1. Easement, Right of Way and/or Agreement by and between H. C. Carothers and Chisholm Trail Special Utility District, by instrument dated February 16, 1994, recorded in/under Volume 2548, Page 63 of the Official Public Records, Williamson County, Texas.

2. Easement, Right of Way and/or Agreement by and between M Bar Ranch, LP and Pedernales Electric Cooperative, Inc., by instrument dated March 24, 2021, recorded in/under County Clerk's File No. 2021061317 of the Official Public Records, Williamson County, Texas.

3. All the oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same of all which are expressly excepted herefrom and not insured hereunder, as same are set forth in instrument recorded in/under Volume 392, Page 584 of the Deed Records of Williamson County, Texas.

4. All the oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same of all which are expressly excepted herefrom and not insured hereunder, as same are set forth in instrument recorded in/under County Clerk's File No. 2019124416 of the Official Public Records of Williamson County,

5. A stated undivided 1/2 interest of all the oil, gas and other minerals, the royalties, bonuses, rentals and all other rights in connection with same are excepted herefrom as the same are set forth in instrument recorded in/under Volume 831, Page 831 of the Deed Records of Williamson County, Texas.

6. .Oil, gas and mineral lease recorded March 17, 1981, recorded in/under Volume 829, Page 527 of the Deed Records of Williamson County, Texas in favor of M. L. McGinnis. to its date of execution.)geothermal energy and associated resources below the surface of the land that are not listed.

7. Property is located in North San Gabriel Municipal Utility District No. 1 and is subject to the rights, rules and regulations of said district and the payment of taxes or assessments levied by said district.

8. Notice of Applicability dated July 15, 2024 for Lariat Section 12 executed by River Oaks Land Partners II, LLC for Lariat, A Master Planned Community in Williamson County, Texas, aka as Northgate Ranch Phase 2 and Phase 3, cross-referenced to that certain Lariat Master Covenant [Residential], recorded as Document No. 2021137551 of the Official Public Records of Williamson County, Texas.

ELECTRONICALLY RECORDED 2024056097
Williamson County, Texas Total Pages: 7

03-2343859-MOK

MEMORANDUM OF DEVELOPMENT SERVICES AGREEMENT

PHAU-LARIAT 108, LLC, a Texas limited liability company (**"Owner"**), and **RANDOLPH TEXAS DEVELOPMENT, LLC**, a Texas limited partnership (**"RTX"**), have entered into a Development Services Agreement (the **"Development Services Agreement"**) dated effective July 15, 2024 (the **"Effective Date"**).

Pursuant to the Development Service Agreement, Owner has engaged RTX to develop single family lots on certain Property in Williamson County, Texas, and agreed to pay to RTX all Development Costs and Development Fees, in accordance with and subject to the terms and conditions of the Development Services Agreement. The *"Property"* is described as follows:

> All that certain tract, piece, or parcel of land containing approximately 39.86 acres located in Williamson County, Texas more particularly described on Exhibit "A" attached hereto and made a part hereof for all purposes.

The Development Services Agreement will remain in full force and effect from the Effective Date until the of termination of the Development Services Agreement pursuant to its terms, at which time Owner and RTX agree to execute and record a release of this Memorandum of Development Services Agreement in the Real Property Records of Williamson County, Texas.

Subject to the limitations on assignment included in the Development Services Agreement, the rights granted therein will inure to the benefit of and will be binding upon Owner and RTX, and their respective legal representatives, executors, administrators, successors and assigns. The obligations of Owner in the Development Services Agreement will run with the title to the Property and be binding on all parties having any right, title or interest in all or any portion of the Property,

This Memorandum of Development Services Agreement may be amended only by written agreement of the parties.

This Memorandum of Development Services Agreement may be executed in a number of identical counterparts which, taken together, will constitute collectively one agreement. The signature pages taken from separate individually executed counterparts of this Memorandum of Development Services Agreement may be combined to one fully executed and conformed original.

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ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS

2024056097

Pages: 7 Fee: $45.00
07/15/2024 03:48 PM
OSALINAS

Nancy E. Rister, County Clerk
Williamson County,Texas