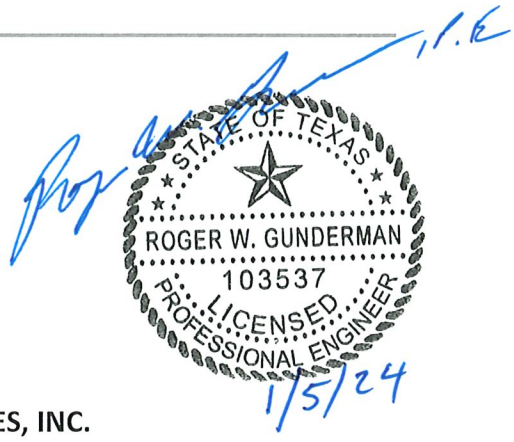
MANSIONS AT LIBERTY HILL

TCEQ CONTRIBUTING ZONE PLAN

January 5, 2024

MBC Job. No.33045-WILLIAMSON

PREPARED BY:



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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: Mansions at Liberty Hill					2. Regulated Entity No.: N/A			
3. Customer Name: 4400 CR 277 Investments, LLC					4. Customer No.: N/A			
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):		251.25	
9. Application Fee:	$10,000		10. Permanent BMP(s):		5			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):		N/A			
13. County:	Williamson		14. Watershed:		South Fork San Gabriel Creek			

Application Distribution

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

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

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	__	__	√
Region (1 req.)	__	__	√
County(ies)	__	__	√
Groundwater Conservation District(s)	__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.
ROGER W. GUNDERMAN, P.E Print Name of Customer/Authorized Agent
Roger W. Gunderman, P.E 1/10/2024 Signature of Customer/Authorized Agent Date

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

Contributing Zone Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Roger W. Gunderman, P.E.

Date: 1/10/2024

Signature of Customer/Agent:

Roger W. Gunderman, P.E.

Regulated Entity Name: Mansions at Liberty Hill

Project Information

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

   Contact Person: Matthew J. Hiles
   Entity: 4400 CR 277 Investments LLC
   Mailing Address: 2505 N. State Hwy. 360, Suite 800
   City, State: Grand Prairie, TX Zip: 75050
   Telephone: 972.471.8700 Fax: N/A
   Email Address: MattH@livew3.com

5. Agent/Representative (If any):

Contact Person: Roger W. Gunderman, P.E.
Entity: Macina, Bose, Copeland & Asscoiates
Mailing Address: 1035 Central Parkway N.
City, State: San Antonio, Texas Zip: 78232
Telephone: 210.545.1122 Fax: 210.545.9302
Email Address: rgunderman@mbcengineers.com

6. Project Location:

☒ The project site is located inside the city limits of Liberty Hill.
☐ 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.

0.5 miles north of SH 29 & CR 277, City of Liberty Hill, Williamson County

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

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

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

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

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

11. Existing project site conditions are noted below:

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

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

12. The type of project is:

☐ Residential: # of Lots: _____
☒ Residential: # of Living Unit Equivalents: 1260
☒ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 251.11 Acres

Total disturbed area: 251.25 Acres

14. Estimated projected population: 1,260

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	2,220,539	÷ 43,560 =	50.977
Parking	124,918	÷ 43,560 =	2.868
Other paved surfaces	1,732,163	÷ 43,560 =	39.765
Total Impervious Cover	4,077,620	÷ 43,560 =	93.61

Total Impervious Cover 93.61 ÷ Total Acreage 251.11 X 100 = 37.28% 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 Liberty Hill Regional Wastewater (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" = 200'.

35. 100-year floodplain boundaries:

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

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Map Panel No. 48491C0240F, dated 12-20-2019.

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.

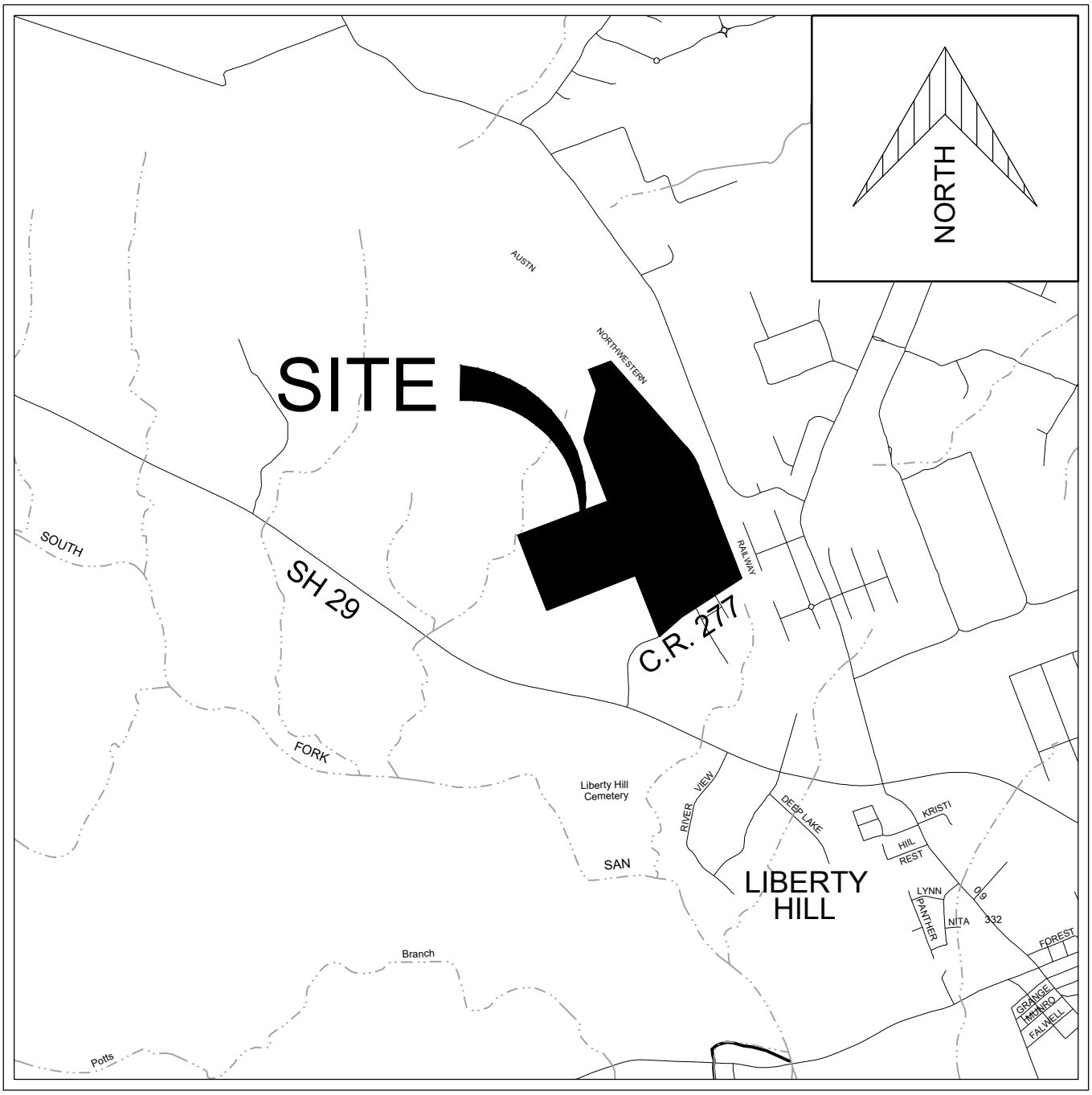
Administrative Information

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.



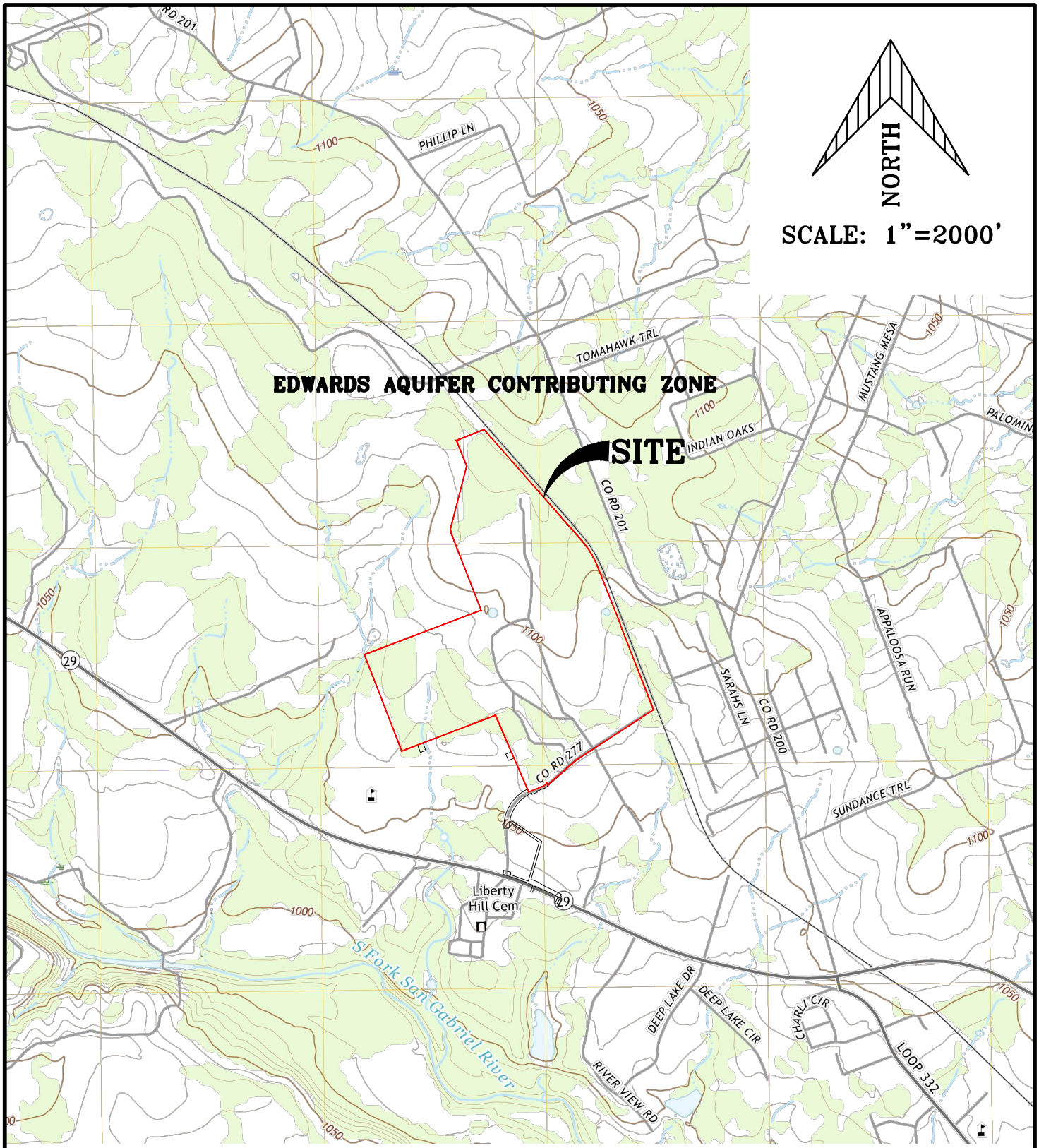
mbc ENGINEERS
1035 Central Parkway North
San Antonio, Texas 78232
(210) 545-1122 FAX (210) 545-9302
TEXAS REGISTERED ENGINEERING FIRM F-784

MANSIONS AT LIBERTY HILL

LIBERTY HILL, TEXAS
LOCATION MAP

DESIGN	JF
DRAWN	JF
CHECKED	JF
DATE	11-10-2023
JOB NO.	33045-WILL

Date: Nov 10, 2023, 8:49am User ID: jfriesenhahn Layout: USGS EXHIBIT
File: P:\Williamson\33045-W3 Liberty Hill ETJ\Design\Exhibit\EX83-Location Map-33045.dwg Layout name: USGS EXHIBIT



USGS QUAD: LIBERTY HILL

mbc ENGINEERS
1035 Central Parkway North
San Antonio, Texas 78232
(210) 545-1122 FAX (210) 545-9302
TEXAS REGISTERED ENGINEERING FIRM F-784

MANSIONS AT LIBERTY HILL

LIBERTY HILL, TEXAS
USGS EXHIBIT

DESIGN	JF
DRAWN	JF
CHECKED	JF
DATE	11-10-2023
JOB NO.	33045-WILL

Date: Nov 10, 2023, 8:43am User ID: jfriesenhahn Layout: USGS EXHIBIT
File: P:\Williamson\33045-W3 Liberty Hill ETJ\Design\Exhibit\EX82-USGS Exhibit-33045.dwg Layout name: USGS EXHIBIT

CONTRIBUTING ZONE PLAN APPLICATION
Mansions at Liberty Hill
TCEQ Form-10257

Attachment "C" – Project Description

Mansions at Liberty Hill is a proposed Multi-Family/Duplex/Townhome Residential development located on the north side of County Road 277, approximately 1/2 mile north of State Highway 29, within the City of Liberty Hill, Williamson County. The property consists of (2) tracts of lands described as follows: A 242.30 acre tract of land situated in Richard West Survey, Abstract 643, Williamson County, Texas, and being all of a called 242.07 acre tract of land described in General Warranty deed, recorded in document number 2020035896, Official Public Records, Williamson County, Texas. A 9.04 acre tract of land situated in Richard West Survey, Abstract 643, Williamson County, Texas, and being all of a 9.03 acre tract of land described in General Warranty deed recorded in document number 2021019436, Official Public Records, Williamson County, Texas. The 251.11-acre site is located within the Edwards Aquifer Contributing Zone.

The 251.11-acre site is largely undeveloped, and contains areas of dense trees and underbrush and areas of scattered trees and open grassland. Existing topography of the tract consists of natural slopes ranging from flat to slopes in excess of 15%, with the majority of the site area being between 0-45% slopes. The majority of the property consists of moderate to mild slopes with an average slope of 3.1%, the few excessive slopes are located in the vicinity of man-made stock tanks. The property generally drains from the North to the South, and ultimately to the San Gabriel River. There are (5) separate sub-basins located on-site identified as A, B, C, D and E. The site does not received any appreciable up-gradient runoff. There is approximately 0.53 acres of existing impervious cover within the project limits. The existing impervious cover consists primarily of paved roadway.

The site will be developed into uses consistent with Multi-Family/Duplex/Townhome Residential development. As part of this project, drive lanes, sidewalks, utility and drainage infrastructure will be constructed. Storm water detention for this development will be provided by proposed Batch Detention Ponds located at the downstream areas of the proposed watersheds. The limits of associated with the proposed project cover an area of approximately 251.25 acres. Of the 251.25 acre project limits, 251.11 acres are owned by 4400 CR 277 Investments, LLC and the being of the Liberty Hill High School property. Work proposed within the Liberty Hill High School Property consists of construction of proposed drainage outfalls. Included in this report is a letter from LHISD authorizing this work. The proposed project will have an increase in impervious area of approximately 93.08 acres. The proposed impervious surfaces will include the pavement, curbs, sidewalks, rooftops, driveways, dumpster pads, and pool areas. Five (5) Batch Detention Water Quality Ponds (A, B1, B2, C & D) will be constructed as part of this project. These ponds have been designed to remove 80% of the increase of total suspended solids (TSS) resulting from the proposed development. Over treatment for un-captured drainage areas (Area "E") is being provided by the proposed Batch Detention Ponds. The proposed Batch Detention Ponds will discharge to the natural low of the watershed.

Attachment "D" – Factors Affecting Surface Water Quality

The major factors which may affect the water quality is oil and grease from the parking facilities. There is also the possibility for fertilizer runoff and litter. This is to be addressed with by the installation of the five Batch Detention Ponds as outlined in this Contributing Zone Plan.

Attachment "E" – Volume and Character of Stormwater

The volume of storm water runoff is a function of rainfall rate, runoff rate, and the duration of time measurement. Storm water runoff generated from the site will come from roof tops, streets, sidewalks, parking areas, and from grassy areas and landscaping. Runoff will be treated by five Batch Detention Ponds. No unusual contaminants other than oil and grease from streets and parking areas are expected.

The permanent BMP's design allows for large events to bypass the system without causing a backwater effect.

See the attached Permanent Pollution Abatement Plan and Batch Detention Pond Plans.

Attachment "F" – Sustainability Letter From Authorized Agent

Not applicable.

Attachment "I" – 20% or Less Impervious Cover Waiver

Not applicable.

Attachment "J" – BMP for Upgradient Storm Water

There is no up-gradient water that enters the proposed development drain system. Please reference the Permanent Pollution Abatement Plan.

Attachment "K" – BMP for On-Site Storm Water

This site will have five permanent BMP's consisting of Batch Detention Ponds. The Batch Detention Ponds have been designed to serve as Permanent Best Management Practice (BMP) for the proposed development. The ponds have been designed to remove 80% of the increased Total Suspended Solids (TSS) for the proposed improvements. The latest TCEQ calculation sheet was used for the design of this BMP and is included at the end of this attachment.

Attachment "L" – BMP for Surface Streams

Not applicable.

Attachment "M" –Construction Plans

See attached construction plans.

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

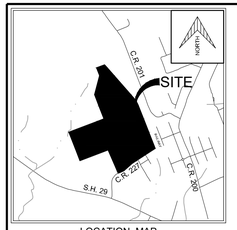
See attached maintenance plan.

Attachment "O" – Pilot-Scale Field Testing Plan

Not applicable.

Attachment "P" – Measure for Minimizing Surface Stream Contamination

The proposed Batch Detention Ponds will discharge near the existing natural low of their respective watershed. Pond "A" will discharge to an existing underground storm drain constructed with Liberty Hill High School. Ponds "B' and "B1" will discharge to the existing earthen drainage channel constructed withy Liberty Hill High School. Ponds "C" and "D" will discharge near the existing natural low. In order to minimize erosion, energy dissipaters will be proposed to reduce the velocity of the runoff at the outflow below 6 feet per second.



LOCATION MAP
NOT TO SCALE

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1.) TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE RESPECTIVE WATERSHED HAS BEEN STABILIZED.

2.) ALL AREAS OF DISTURBED SOIL WHICH WILL NOT OTHERWISE BE STABILIZED SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID BLOCK SOD IN A STAGGERED PATTERN. FOR AREAS OUTSIDE THE BASINS, THE CONTRACTOR MAY SUBSTITUTE SEED-IMPREGNATED EROSION CONTROL MATS OR HYDRAULIC MULCHING AND WATERING UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER.

3.) PERMANENT BMP'S FOR THIS SITE INCLUDE BATCH DETENTION PONDS "A", "B1", "B2" "C", AND "D." THESE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR DRAINAGE AREAS "A", "B1", "B2", "C", "D" AND "E" (UNCAPTURED) IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL RG 348 (2005).

4.) ENERGY DISSIPATERS (TO HELP REDUCE EROSION) WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.

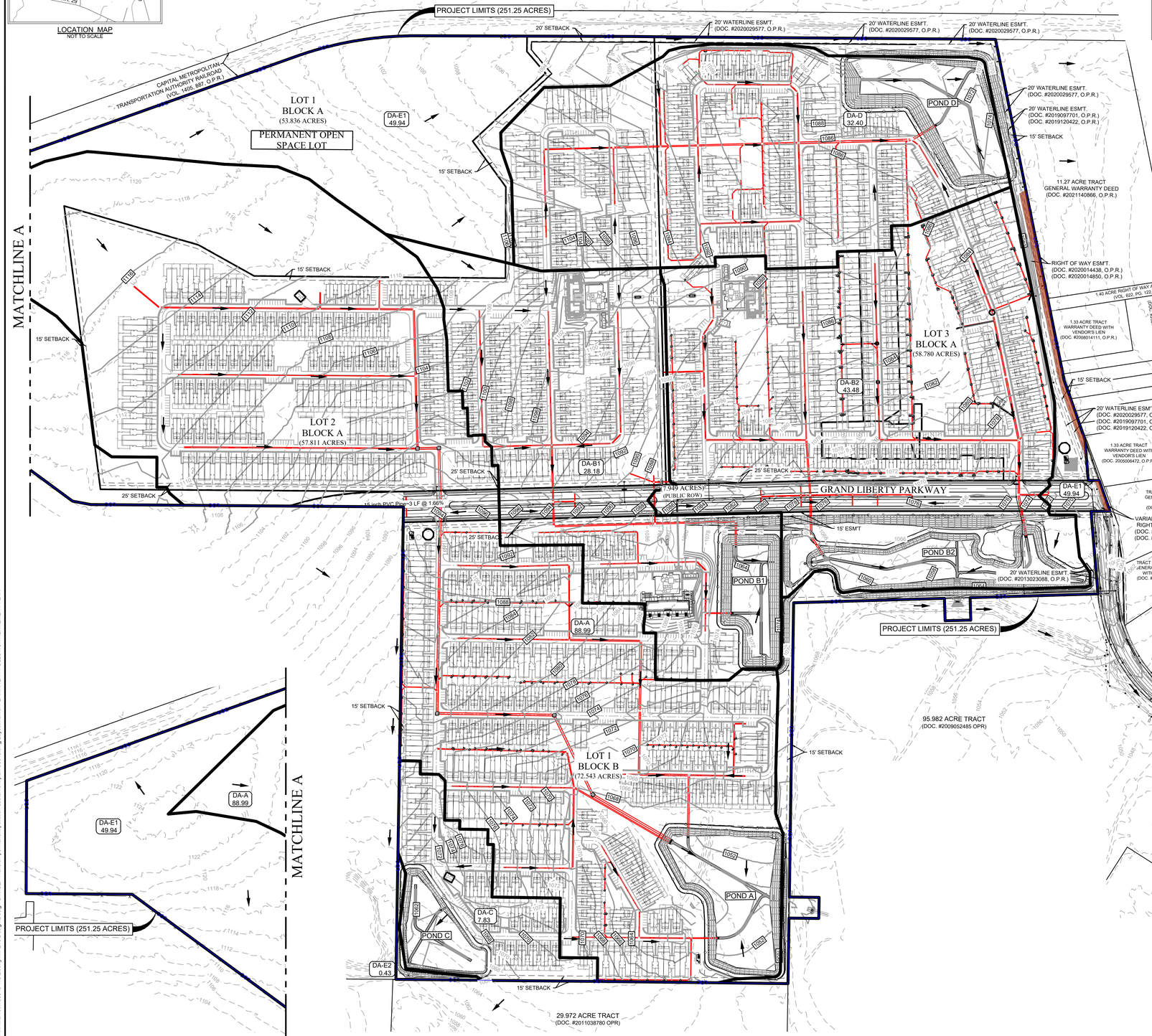
LEGEND

- 780 — EXISTING CONTOUR
- 1001 — PROPOSED CONTOUR
- DRAINAGE FLOW
- DRAINAGE AREA
- PROPOSED STORM DRAIN
- DA / ACRES — DRAINAGE AREA LABEL
- LOC — LIMITS OF CONSTRUCTION
- EXISTING IMPERVIOUS COVER (1.82 ACRES)

NORTH

SCALE: 1" = 200'

200 0 100 200 400



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED). NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE EDS APPROVAL WHETHER OR NOT IS CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION

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

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 339-2929
FAX (512) 339-3795

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

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

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS
PERMANENT POLLUTION ABATEMENT PLAN

Know what's below. Call before you dig.

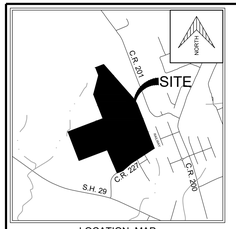
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DATE 03-03-2023

JOB NO.
WILL-33045

CZP

Date: Jan 05, 2024, 11:28am User ID: tgonzalez Layout: PERMANENT POLLUTION ABATEMENT PLAN
File: P:\Williamson\33045-W3 Liberty Hill ET 2\Design\Design Civil\CZP Plans\tcn-permanent pollution abatement plan-33045.dwg Layout name: PERMANENT POLLUTION ABATEMENT PLAN



LOCATION MAP
NOT TO SCALE

29.972 ACRE TRACT
(DOC. #2011038780 OPR)

95.982 ACRE TRACT
(DOC. #2009052485 OPR)

BATCH DETENTION POND A

LIBERTY HILL HIGH SCHOOL

REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.

15' SETBACK

EARTHEN EMBANKMENT TO BE COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH CITY OF ROUND ROCK DACS - STANDARD SPECIFICATIONS MANUAL. CONTRACTOR TO COORDINATE WITH GEOTECHNICAL ENGINEER FOR ADDITIONAL REQUIREMENTS

REMOVE EXISTING CONCRETE HEADWALL AND TIE EXIST STORM DRAIN TO NEW JUNCTION STRUCTURE

4' X 4' GI
TOP:1053.00
INV OUT: 1048.00 - 24" HDPE

24" HDPE=11.31 LF @ 0.500%

EXIST. 60" CMP

EXIST. 60" CMP

5' X 17' JUNCTION STRUCTURE
TOP:1055.00
INV IN: 1047.80 - 60" HDPE
INV IN: 1047.80 - 60" HDPE
INV IN: 1047.94 - 24" HDPE
INV IN: 1047.93 - 24" HDPE

24" HDPE=11.31 LF @ 0.588%

60" HDPE=101.80 LF @ 0.508%

60" HDPE=154.14 LF @ 0.500%

4' X 4' GI
TOP:1053.00
INV OUT: 1048.00 - 24" HDPE

TIE INTO STORM DRAIN
INV IN: 1048.16 - 6" PVC

PVC=12.66 LF @ 0.700%

REF. SHEET 50 FOR JUNCTION BOX/VALVE DETAIL

CONCRETE PAD W/ POWER/LOGIC CONTROLLER REF. SHEET 50 FOR DETAIL

4'X4' JUNCTION BOX W/ 6" PLUG VALVE & ELECTRIC ACUATOR
TOP:1059.35
INV IN: 1048.35 - 6" PVC
INV OUT: 1048.25 - 6" PVC

PVC=58.87 LF @ 0.700%

TOP OF PAD ELEV. 1049.00

RISER PIPE & TRASH RACK
INV OUT: 1048.76 - 6" PVC

REF. SHEET 50 FOR TRASH RACK DETAIL

OUTLET STRUCTURE
INV OUT: 1048.57 - 60" HDPE

DETAIL "A"
REF. SHEET 42

SEE SHEET 42 FOR SECTION DETAILS

SLOPE 4H:1V

SLOPE 2.0%

SLOPE 0.50%

SLOPE 1.50%

R100.0'

CONCRETE CHANNEL
REF. SHEET 50 FOR DETAIL

CONCRETE HEADWALL
MITERED TO SLOPE
INV IN: 1050.38 - 36" SD

REF. SHEET 50 FOR
BAFFLE LAYOUT DETAIL

CONSTRUCT 24" TOE-DOWN
ALONG PERIMETER OF HEADWALL

36" HDPE=101.40 LF @ 0.500%

1050.28 INV

1050.37 INV

1049.73 INV

1049.14 INV

1049.16 INV

1049.08 INV

1049.04 INV

1049.06 INV

1049.02 INV

1052.70T

1054.60T

1057.00T

1048.57B

1048.59B

1054.601

1056.50

1059.20

1059.50

1048.76

1051.76

1053.67

1054.14

1054.08

12' WIDE MAINTENANCE RAMP
SH:1V MAX SLOPE

(2) 6' WIDE GATES FOR MAINTENANCE ACCESS
REF. LANDSCAPE ARCHITECT PLANS DETAILS.

REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.

1050.60 INV

1050.75 INV

1050.79 INV

1051.16 INV

1051.11 INV

1051.08 INV

1051.09 INV

1051.02 INV

1052.07

1052.03

1052.97

1053.72

1053.77

1053.68

CONCRETE HEADWALL
MITERED TO SLOPE
INV IN: 1051.02 - 60" SD

CONCRETE HEADWALL
MITERED TO SLOPE
INV IN: 1051.16 - 72" HDPE

CONCRETE HEADWALL
MITERED TO SLOPE
INV IN: 1051.16 - 48" HDPE

48" HDPE=423.44 LF @ 0.500%

72" RCP=344.58 LF @ 0.500%

68" HDPE=233.07 LF @ 0.500%

CONSTRUCT 24" TOE-DOWN
ALONG PERIMETER OF HEADWALL

NOTE:
1. CONTRACTOR SHALL COORDINATE WITH LIBERTY HILL HIGH SCHOOL PRIOR TO ANY WORK ON SCHOOL PROPERTY, CONTACT AT (000)000-0000
2. EXISTING CONCRETE HEADWALL SHALL BE REMOVED AND REPLACED WITH JUNCTION BOX AS SHOWN.
3. EXISTING LOW SHALL BE FILLED IN A MANNER ALLOWING POSITIVE DRAINAGE.
4. ANY DISTURBANCE ON SCHOOL PROPERTY SHALL BE REVEGETATED.

NORTH

SCALE: 1" = 30'

30 0 15 30 60

NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS

POND A DESIGN DATA

WATERSHED AREA	=	88.99 AC
WATER STORAGE ELEVATION	=	1052.70 FT
POND CAPTURE VOLUME	=	176,546 CF (DESIGNED)
FLOW (Q_{100})	=	242.7 CFS
OVERFLOW	=	6' RECT. WEIR @ ELEV. 1052.70 15' RECT. WEIR @ ELEV. 1054.60

BASIN DRAWDOWN IS APPROXIMATELY 43 HOURS AND BASED ON THE 6" Ø OUTFALL PIPE @ 0.70% SLOPE.

LEGEND

- PROPOSED CONCRETE HEADER CURB
- PROPOSED CONCRETE CURB
- EXISTING CONCRETE CURB
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED REMOTE FIRE DEPARTMENT CONNECTION
- MISC. TRAFFIC SIGN
- GUARD POST
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- LIGHT POLE
- POWER POLE
- EXISTING MANHOLE
- PROPOSED MANHOLE
- GRATE
- TRAFFIC LIGHT
- GUY WIRE ANCHOR
- ACCESSIBLE PARKING
- DETAIL REFERENCE — DETAIL C06.00 SITE DETAILS SHEET NUMBER
- EXISTING CONCRETE AREAS
- WHEELSTOP
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OVERHEAD ELECTRIC
- RETAINING WALL - MODULAR OR GravITY (REF. STRUCTURAL DWGS)
- CONCRETE RETAINING WALL (REF. STRUCTURAL DWGS)
- SAWTOOTH CURB
- SINGLE LAMP LIGHT POLE
- DOUBLE LAMP LIGHT POLE
- PROPOSED ELECTRIC TRANSFORMER
- EXISTING TOP OF CURB AND GUTTER ELEVATIONS
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- EXISTING CONTOUR
- PROPOSED RIDGE
- DEFINED SWALE
- PROPOSED FIN. FLOOR ELEVATION
- PROPOSED "FLOATING GARAGE"
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- BENCHMARK
- GRATE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED POND INVERT
- PROPOSED TOP OF RETAINING WALL
- PROPOSED BOTTOM OF RETAINING WALL
- TOP OF CURB
- FLATWORK
- ASPHALT, CONCRETE, GRASS, ETC.

ISSUED TO TCEQ
01-05-2024

ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

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MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND A

Know what's below. Call before you dig.

REVISIONS:			
DATE	No.	DESCRIPTION	BY

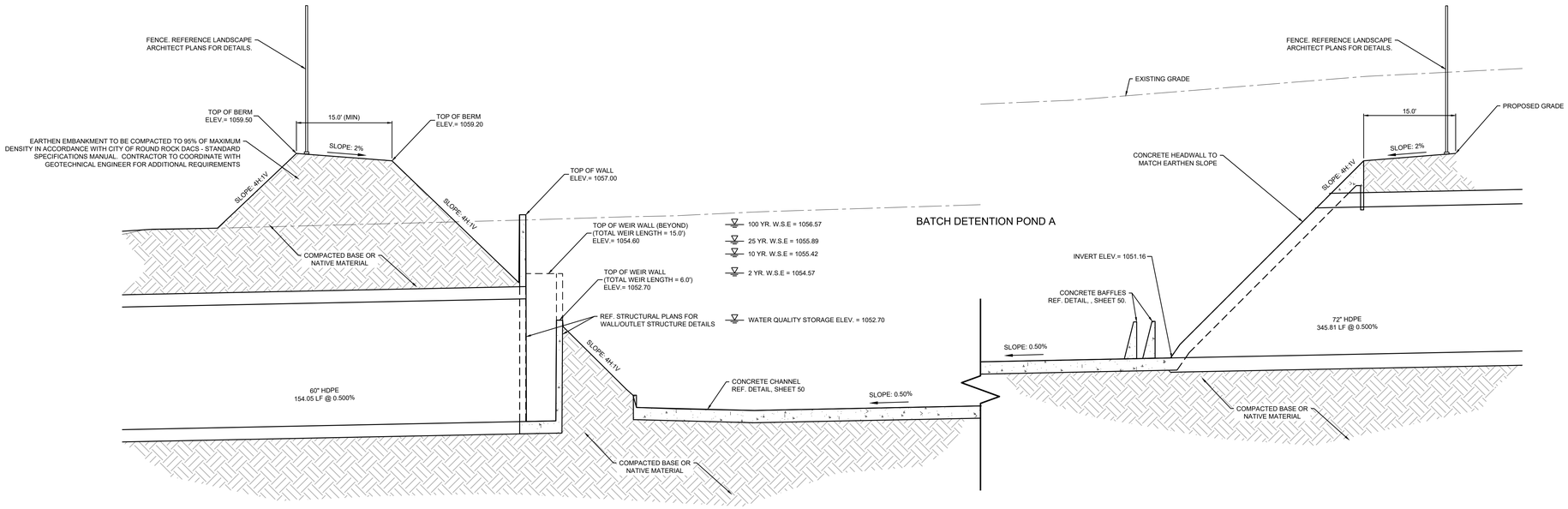
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DATE 03-03-2023

JOB NO.
WILL-33045

41

Date: Jan 05, 2024, 11:11am User ID: tgonzalez Layout: 40 BATCH DETENTION POND A
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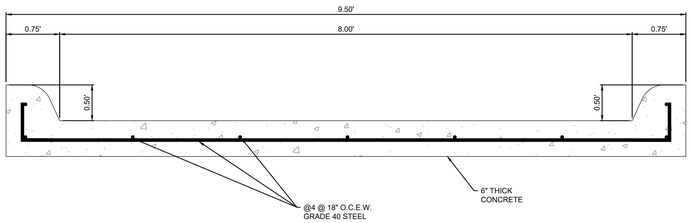
NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS



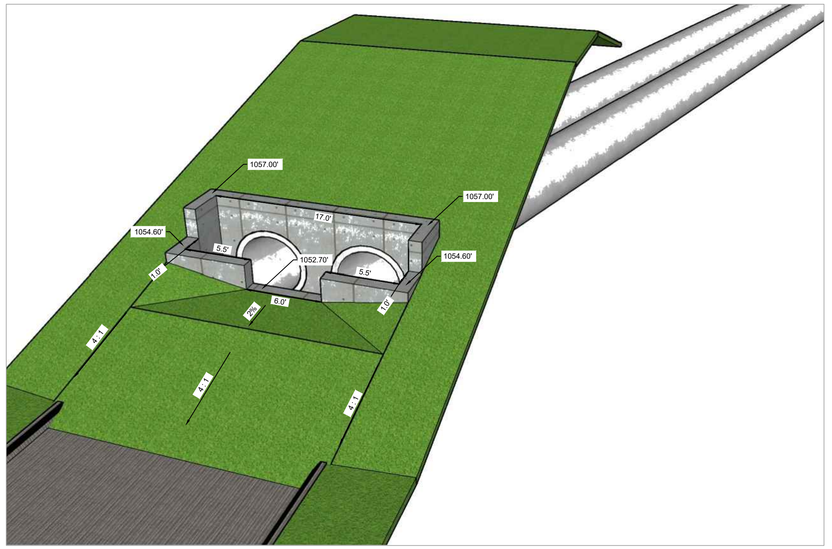
SECTION "A-A"
N.T.S.

DRAINAGE NOTES:

1. CONCRETE SHALL ACHIEVE A MINIMUM OF 3000 P.S.I. 28 DAY STRENGTH.
2. REINFORCENT STEEL SHALL CONFORM TO ASTM A-615 GRADE 60.
3. EXPOSED CONCRETE SURFACES SHALL BE BROOM FINISHED.
4. ANY IRREGULAR AREA SHALL BE HAND RUBBED TO A SMOOTH FINISH.
5. ALL EXPOSED EDGES SHALL RECEIVE A ¾" CHAMFER.
6. ALL FILL PLACED WITHIN DRAIN EASEMENT SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY.



TRICKLE CHANNEL SECTION
SCALE: 1" = 1'



DETAIL "A"
N.T.S.

ISSUED TO TCEQ
01-05-2024

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS
BATCH DETENTION POND A
DETAILS

Know what's below. Call before you dig.

REVISIONS:
DATE | No. | DESCRIPTION | BY

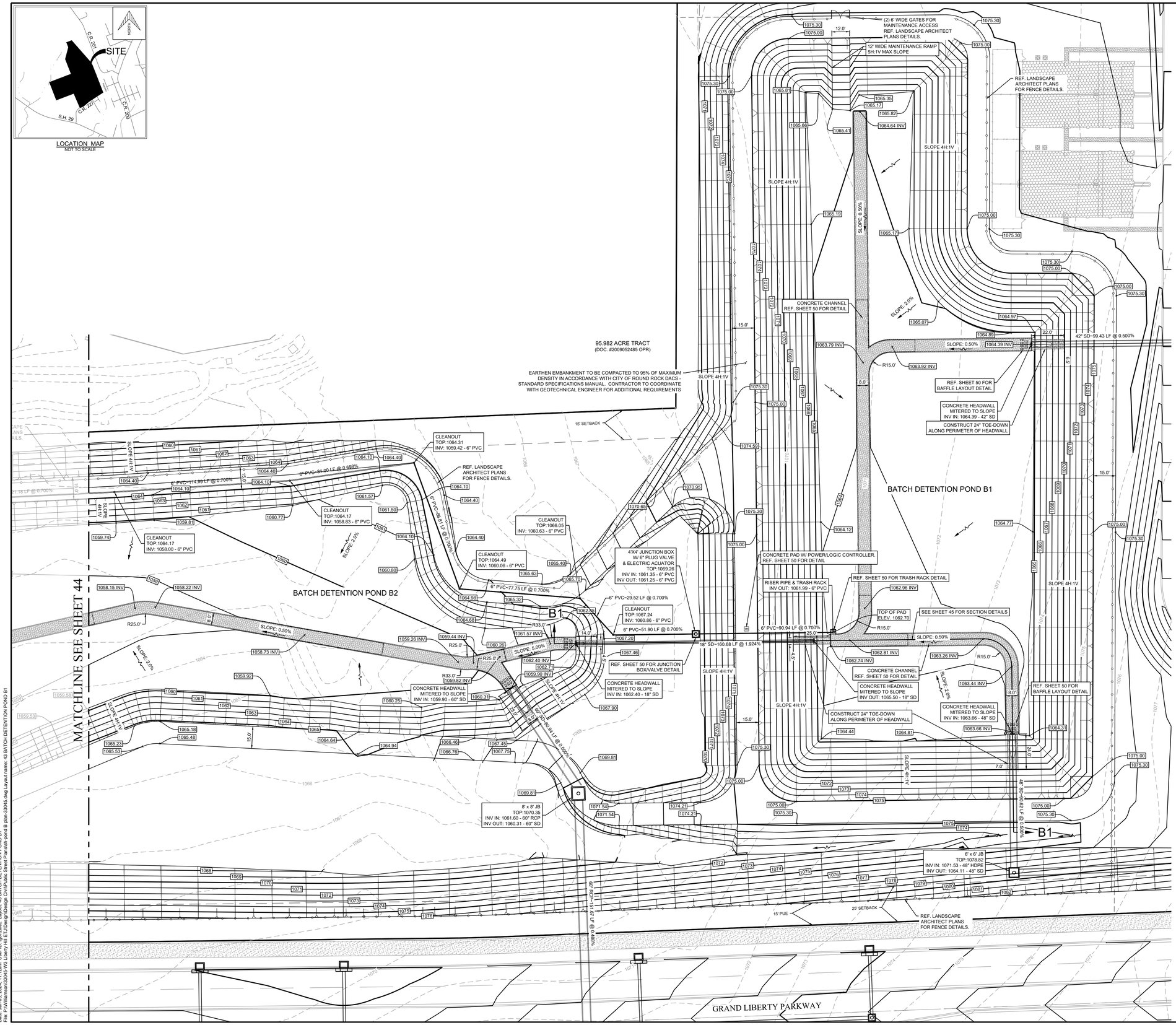
PLAT ID# -
DESIGN RWG
DRAWN ADG
CHECKED -
DATE 03-03-2023

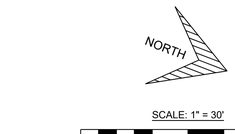
JOB NO.
WILL-33045

42

Date: Jan 05, 2024, 11:11am User ID: tgonzalez Layout: 41 BATCH DETENTION POND A DETAILS
File: P:\Williamson\33045-W1 Liberty Hill ET\Design\Design Civil\Public Street Plans\sht-s-pond A plan-33045.dwg Layout name: 41 BATCH DETENTION POND A DETAILS

LOCATION MAP
NOT TO SCALE





NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS

POND B1 DESIGN DATA

WATERSHED AREA	=	28.18 AC
WATER STORAGE ELEVATION	=	1065.50 FT
POND CAPTURE VOLUME	=	61,092 CF (DESIGNED)
FLOW (Q_{25})	=	96.3 CFS
OVERFLOW	=	18" CULVERT @ ELEV. 1065.50

BASIN DRAWDOWN IS APPROXIMATELY 26 HOURS AND BASED ON THE 6" Ø OUTFALL PIPE @ 0.70% SLOPE.

LEGEND

- PROPOSED CONCRETE HEADER CURB
- PROPOSED CONCRETE CURB
- EXISTING CONCRETE CURB
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED REMOTE FIRE DEPARTMENT CONNECTION
- MISC. TRAFFIC SIGN
- GUARD POST
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- LIGHT POLE
- POWER POLE
- EXISTING MANHOLE
- PROPOSED MANHOLE
- GRATE
- TRAFFIC LIGHT
- GUY WIRE ANCHOR
- ACCESSIBLE PARKING
- DETAIL REFERENCE (DETAIL — C06.00 SITE DETAILS SHEET NUMBER)
- EXISTING CONCRETE AREAS
- WHEELSTOP
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OVERHEAD ELECTRIC
- RETAINING WALL - MODULAR OR GRAVITY (REF. STRUCTURAL DWGS)
- CONCRETE RETAINING WALL (REF. STRUCTURAL DWGS)
- SAWTOOTH CURB
- SINGLE LAMP LIGHT POLE
- DOUBLE LAMP LIGHT POLE
- PROPOSED ELECTRIC TRANSFORMER
- EXISTING TOP OF CURB AND GUTTER ELEVATIONS
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- EXISTING CONTOUR
- PROPOSED RIDGE
- DEFINED SWALE
- PROPOSED FIN. FLOOR ELEVATION
- PROPOSED "FLOATING GARAGE"
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- BENCHMARK
- GRATE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED POND INVERT
- PROPOSED TOP OF RETAINING WALL
- PROPOSED BOTTOM OF RETAINING WALL
- TOP OF CURB
- FLATWORK
- ASPHALT, CONCRETE, GRASS, ETC.

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

PRIMARY CONTACT:
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MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND B1

Know what's below. Call before you dig.

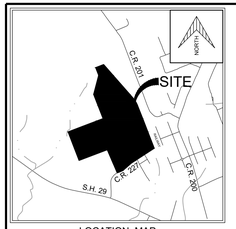
REVISIONS: DATE	No.	DESCRIPTION	BY

PLAT ID# -
DESIGN RWG
DRAWN ADG
CHECKED -
DATE 03-03-2023

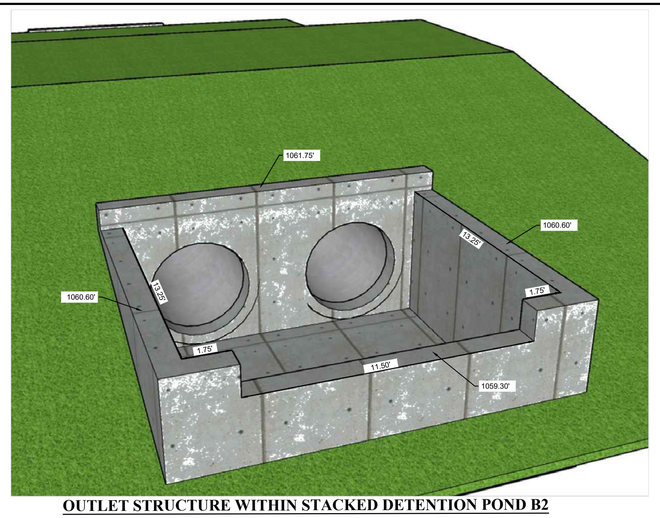
JOB NO.
WILL-33045

43

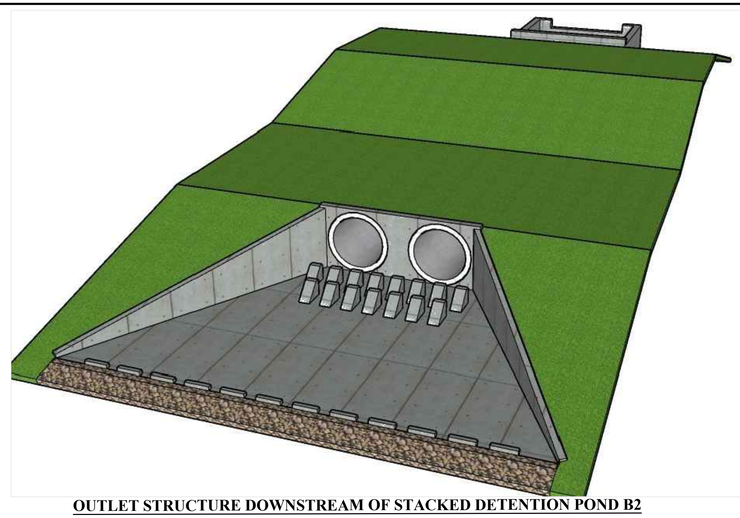
Date: Jan 05, 2024, 11:12am User ID: tgonzalez Layout: 43 BATCH DETENTION POND B1
File: P:\Williamson\33045-WG Liberty Hill ET AD\design\Design Civil\Public Street Plans\bh-pond B plan-33045.dwg Layout name: 43 BATCH DETENTION POND B1



LOCATION MAP
NOT TO SCALE



OUTLET STRUCTURE WITHIN STACKED DETENTION POND B2
N.T.S.



OUTLET STRUCTURE DOWNSTREAM OF STACKED DETENTION POND B2
N.T.S.

NORTH

SCALE: 1" = 30'

30 0 15 30 60

NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS

POND B2 DESIGN DATA

WATERSHED AREA	=	18.18 AC
WATER STORAGE ELEVATION	=	1059.30 FT
POND CAPTURE VOLUME	=	92,864 CF (DESIGNED)
FLOW (Q_{100})	=	226.9 CFS
OVERFLOW	=	11.5' RECT. WEIR @ ELEV. 1159.30 30' RECT. WEIR @ ELEV. 1060.60

BASIN DRAWDOWN IS APPROXIMATELY 22 HOURS AND BASED ON THE 6" Ø OUTFALL PIPE @ 0.50% SLOPE.

NOTE:
1. CONTRACTOR SHALL COORDINATE WITH LIBERTY HILL HIGH SCHOOL PRIOR TO ANY WORK ON SCHOOL PROPERTY, CONTACT AT (000)000-0000
2. EXISTING CONCRETE HEADWALL SHALL BE REMOVED AND REPLACED WITH JUNCTION BOX AS SHOWN.
3. EXISTING LOW SHALL BE FILLED IN A MANNER ALLOWING POSITIVE DRAINAGE.
4. ANY DISTURBANCE ON SCHOOL PROPERTY SHALL BE REVEGETATED.

LEGEND

- PROPOSED CONCRETE HEADER CURB
- PROPOSED CONCRETE CURB
- EXISTING CONCRETE CURB
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED REMOTE FIRE DEPARTMENT CONNECTION
- MISC. TRAFFIC SIGN
- GUARD POST
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- LIGHT POLE
- POWER POLE
- EXISTING MANHOLE
- PROPOSED MANHOLE
- GRATE
- TRAFFIC LIGHT
- GUY WIRE ANCHOR
- ACCESSIBLE PARKING
- DETAIL REFERENCE — DETAIL — C06.00 SITE DETAILS SHEET NUMBER
- EXISTING CONCRETE AREAS
- WHEELSTOP
- EXISTING FENCE
- PROPOSED FENCE
- OHE — EXISTING OVERHEAD ELECTRIC
- RETAINING WALL - MODULAR OR GRAVITY (REF. STRUCTURAL DWGS)
- CONCRETE RETAINING WALL (REF. STRUCTURAL DWGS)
- SAWTOOTH CURB
- SINGLE LAMP LIGHT POLE
- DOUBLE LAMP LIGHT POLE
- PROPOSED ELECTRIC TRANSFORMER
- 59.50TC / 59.00GU — EXISTING TOP OF CURB AND GUTTER ELEVATIONS
- + 59.00 — EXISTING SPOT ELEVATION
- 100 — PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- 950 — EXISTING CONTOUR
- PROPOSED RIDGE
- DEFINED SWALE
- FF=1000.00 — PROPOSED FIN. FLOOR ELEVATION
- FGL=100.00 — PROPOSED "FLOATING GARAGE"
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- BENCHMARK
- GRATE
- SD — PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN
- 100.00 INV — PROPOSED POND INVERT
- 798.82T — PROPOSED TOP OF RETAINING WALL
- 798.73B — PROPOSED BOTTOM OF RETAINING WALL
- 798.85 — TOP OF CURB
- 798.83F — FLATWORK
- 798.74 — ASPHALT, CONCRETE, GRASS, ETC.

B2

LIBERTY HILL HIGH SCHOOL

95.982 ACRE TRACT
(DOC. #2009052485 OPR)

EXISTING EARTHEN CHANNEL

2'WX2'D ROCK GABION
ROCK TO BE 5"-8" DIAMETER

REF. SHEET 50 FOR BAFFLE LAYOUT DETAIL

HEADWALL (TXDOT DETAIL CH-FW-0) W/ ENERGY DISSIPATERS.
INV IN: 1053.50 - 2-60" SD

TIE INTO STORM DRAIN
INV IN: 1055.08 - 6" PVC

CONCRETE PAD W/ POWER/LOGIC CONTROLLER. REF. SHEET 50 FOR DETAIL

REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.

2~60" SD~70.36 LF @ 0.500%

CLEANOUT
TOP:1064.17
INV IN: 1057.12 - 6" PVC
INV OUT: 1057.12 - 6" PVC

TIE INTO STORM DRAIN
INV IN: 1056.24 - 6" PVC

6" PVC~123.14 LF @ 0.700%

6" PVC~121.18 LF @ 0.700%

(2) 6' WIDE GATES FOR MAINTENANCE ACCESS
REF. LANDSCAPE ARCHITECT PLANS DETAILS.

12' WIDE MAINTENANCE RAMP
SH:1V MAX SLOPE

4'X4' JUNCTION BOX
W/ 6" PLUG VALVE
& ELECTRIC ACUATOR
TOP:1064.17
INV IN: 1055.22 - 6" PVC
INV OUT: 1055.12 - 6" PVC
6" PVC~49.71 LF @ 0.520%

SEE DETAIL, THIS SHEET

OUTLET STRUCTURE
INV OUT: 1053.85 - 60" SD

CONCRETE CHANNEL
REF. SHEET 50 FOR DETAIL

REF. SHEET 50 FOR TRASH RACK DETAIL

TOP OF PAD
ELEV. 1056.15

SEE SHEET 45 FOR SECTION DETAILS

RISER PIPE & TRASH RACK
INV OUT: 1055.48 - 6" PVC

BATCH DETENTION POND B2

20' WATERLINE ESMT.
(DOC. #2013023088, O.P.R.)

CONCRETE CHANNEL
REF. SHEET 50 FOR DETAIL

CONCRETE HEADWALL
MITERED TO SLOPE
INV IN: 1058.32 - 60" RCP

REF. SHEET 50 FOR BAFFLE LAYOUT DETAIL

CONSTRUCT 24" TOE-DOWN ALONG PERIMETER OF HEADWALL

REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.

MATCHLINE SEE SHEET 43

15' PUE

25' SETBACK

GRAND LIBERTY PARKWAY

ISSUED TO TCEQ
01-05-2024

ROGER W. GUNDERMAN
103537
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
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FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND B2

Know what's below. Call before you dig.

REVISIONS:			
DATE	No.	DESCRIPTION	BY

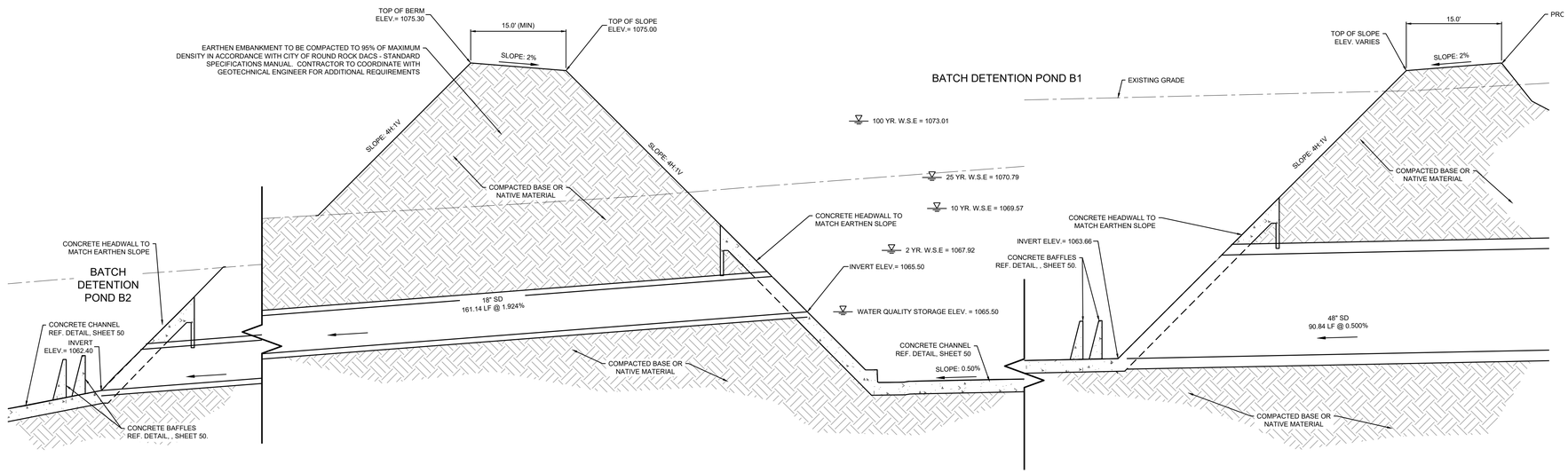
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CHECKED .
DATE 03-03-2023

JOB NO.
WILL-33045

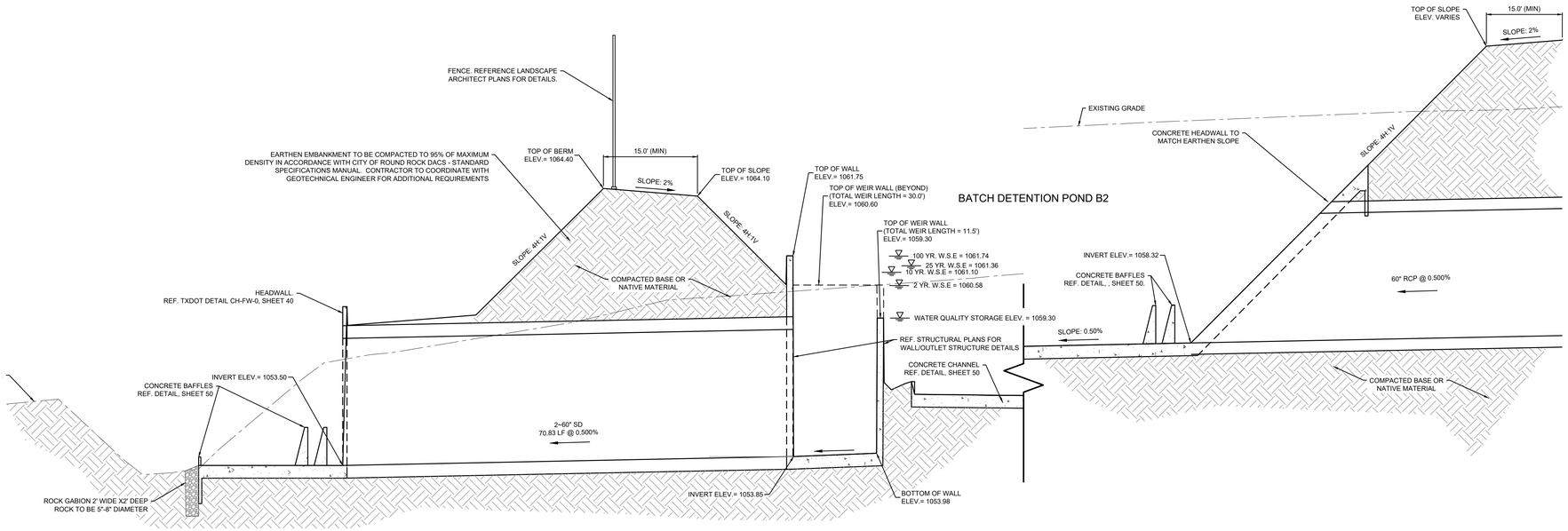
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Date: Jan 05, 2024, 11:13am User ID: tgonzalez Layout: 44 BATCH DETENTION POND B2
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NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS



SECTION "B1-B1"
N.T.S.



SECTION "B2-B2"
N.T.S.

ISSUED TO TCEQ
01-05-2024

ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.
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MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS
BATCH DETENTION PONDS
B1 & B2 DETAILS

811 Know what's below. Call before you dig.

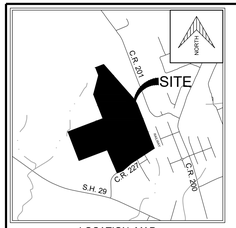
REVISIONS:	DATE	No.	DESCRIPTION	BY

PLAT ID# _____
DESIGN RWG
DRAWN ADG
CHECKED _____
DATE 03-03-2023

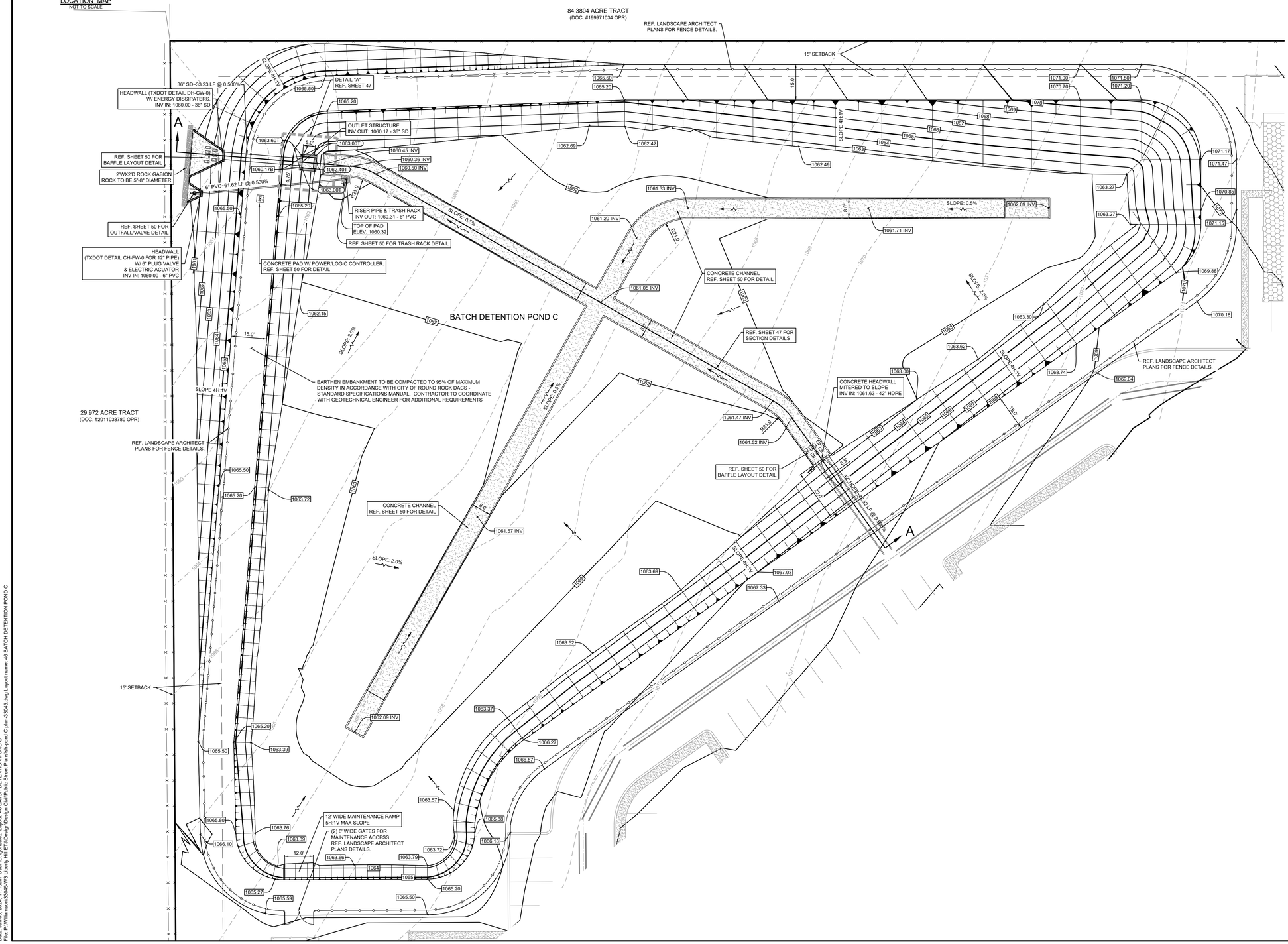
JOB NO.
WILL-33045

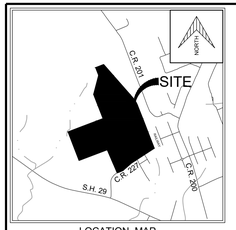
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Date: Jan 05, 2024, 11:13am User ID: Igonzalez Layout: 45 BATCH DETENTION PONDS B1 & B2 DETAILS
File: P:\Williamson-33045-W3 Liberty Hill E T J\Design\Design Civil\Public Street Plans\sh-pond B plan-33045.dwg Layout name: 45 BATCH DETENTION PONDS B1 & B2 DETAILS



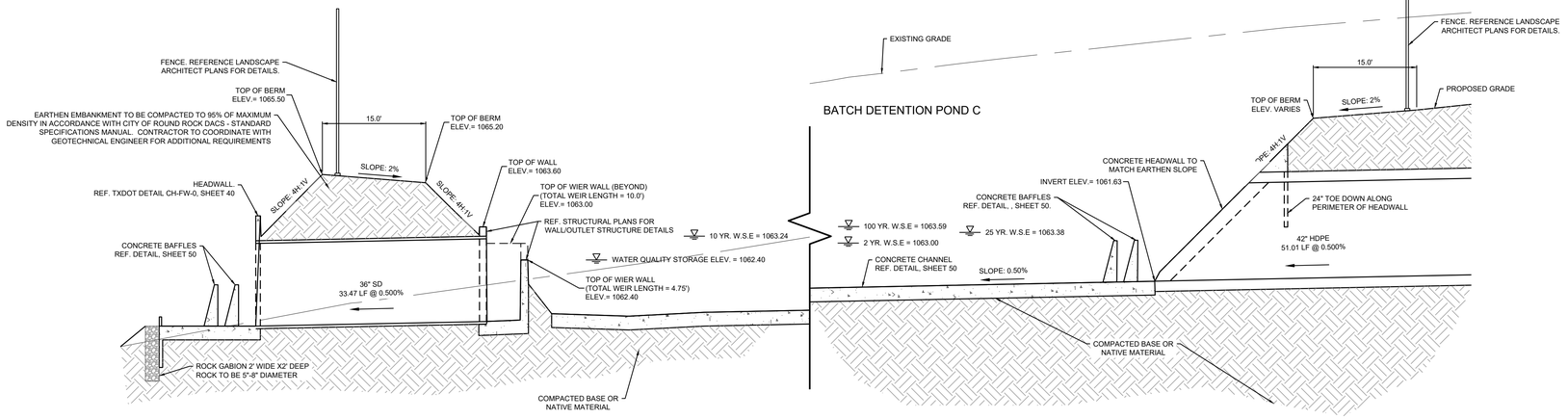
LOCATION MAP
NOT TO SCALE


84.3804 ACRE TRACT
(DOC. #199971034 OPR)
REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.
15' SETBACK
36" SD~33.23 LF @ 0.500%
HEADWALL (TXDOT DETAIL DH-CW-0) W/ ENERGY DISSIPATERS. INV IN: 1060.00 - 36" SD
DETAIL "A" REF. SHEET 47
OUTLET STRUCTURE INV OUT: 1060.17 - 36" SD
REF. SHEET 50 FOR BAFFLE LAYOUT DETAIL
2'WX2'D ROCK GABION ROCK TO BE 5"-8" DIAMETER
6" PVC~61.62 LF @ 0.500%
RISER PIPE & TRASH RACK INV OUT: 1060.31 - 6" PVC
TOP OF PAD ELEV. 1060.32
REF. SHEET 50 FOR TRASH RACK DETAIL
REF. SHEET 50 FOR OUTFALL/VALVE DETAIL
HEADWALL (TXDOT DETAIL CH-FW-0 FOR 12" PIPE) W/ 6" PLUG VALVE & ELECTRIC ACUATOR INV IN: 1060.00 - 6" PVC
CONCRETE PAD W/ POWER/LOGIC CONTROLLER. REF. SHEET 50 FOR DETAIL.
BATCH DETENTION POND C
EARTHEN EMBANKMENT TO BE COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH CITY OF ROUND ROCK DACS - STANDARD SPECIFICATIONS MANUAL. CONTRACTOR TO COORDINATE WITH GEOTECHNICAL ENGINEER FOR ADDITIONAL REQUIREMENTS
29.972 ACRE TRACT
(DOC. #2011038780 OPR)
REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.
15' SETBACK
CONCRETE CHANNEL REF. SHEET 50 FOR DETAIL
CONCRETE CHANNEL REF. SHEET 50 FOR DETAIL
REF. SHEET 47 FOR SECTION DETAILS
CONCRETE HEADWALL MITERED TO SLOPE INV IN: 1061.63 - 42" HDPE
REF. SHEET 50 FOR BAFFLE LAYOUT DETAIL
REF. LANDSCAPE ARCHITECT PLANS FOR FENCE DETAILS.
12' WIDE MAINTENANCE RAMP 5H:1V MAX SLOPE
(2) 6' WIDE GATES FOR MAINTENANCE ACCESS REF. LANDSCAPE ARCHITECT PLANS DETAILS.
SLOPE 4H:1V
SLOPE: 0.5%
SLOPE: 2.0%
SLOPE: 15.0%
SLOPE: 4.0%
SLOPE: 4H:1V
SLOPE: 4H:1V
SLOPE: 4H:1V

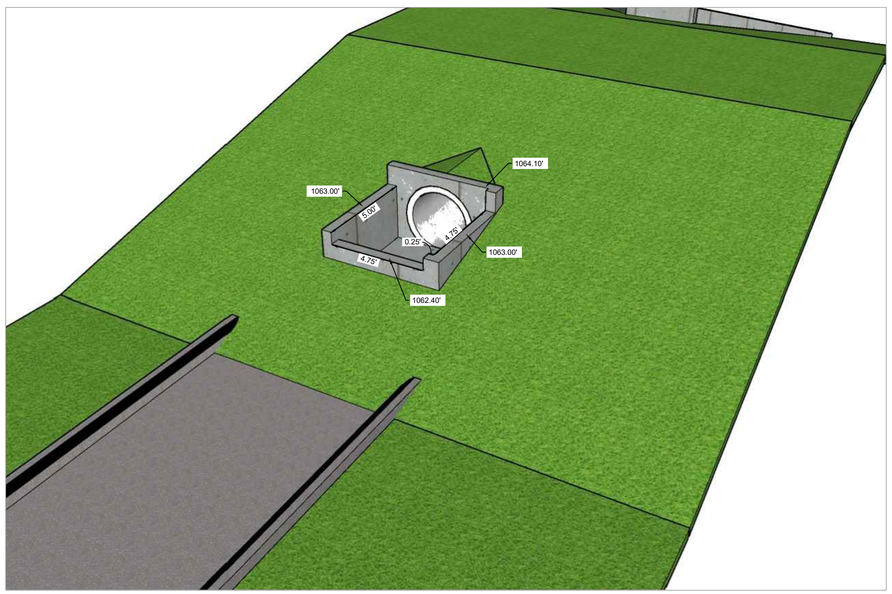


LOCATION MAP
NOT TO SCALE

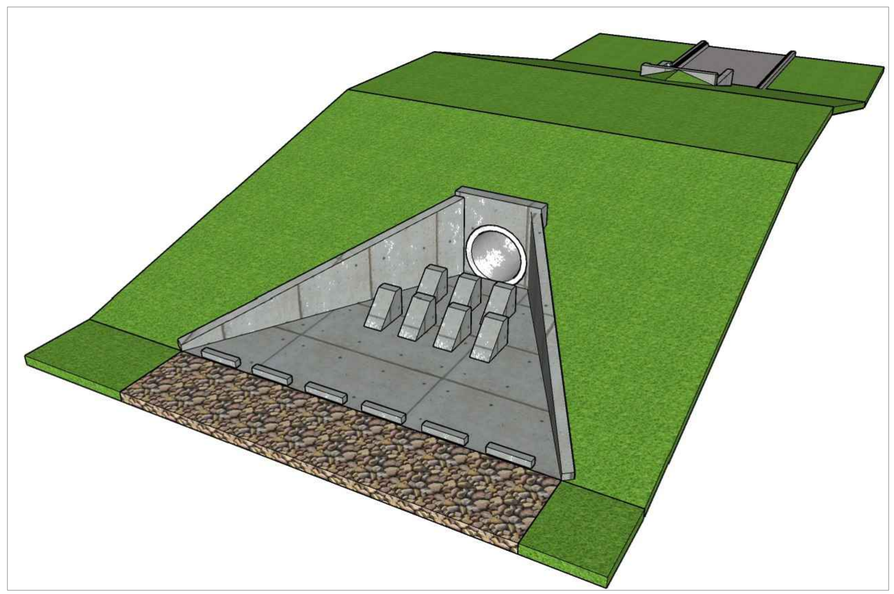
NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS



SECTION "A-A"
N.T.S.



DETAIL "A" OUTFALL STRUCTURE WITHIN BATCH DETENTION POND C
N.T.S.



DETAIL "B" OUTFALL STRUCTURE DOWNSTREAM OF BATCH DETENTION POND C
N.T.S.

ISSUED TO TCEQ
01-05-2024

PRIMARY CONTACT:
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MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND C DETAILS

Know what's below. Call before you dig.

REVISIONS:
DATE | No. | DESCRIPTION | BY

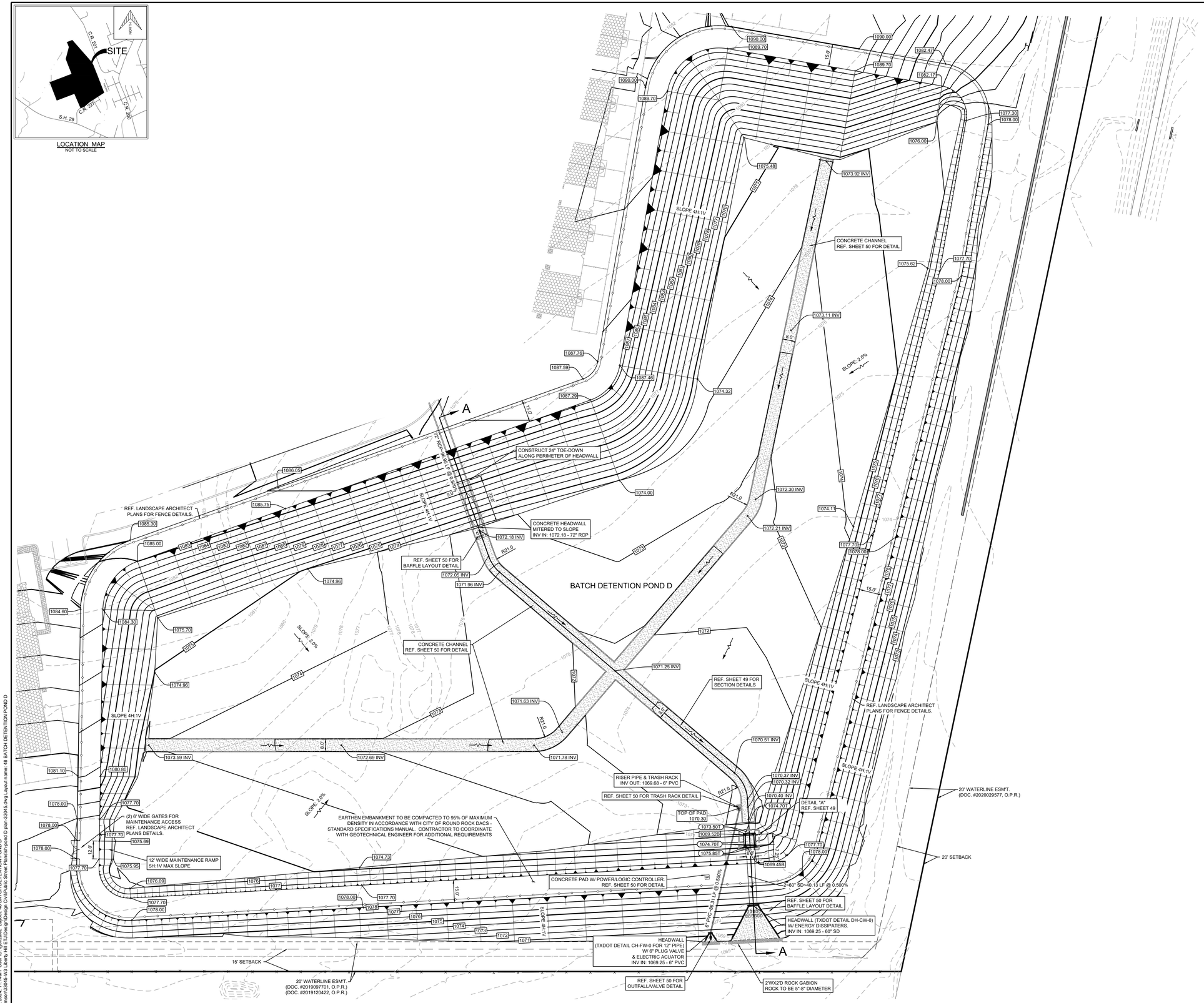
PLAT ID# .
DESIGN RWG
DRAWN ADG
CHECKED .
DATE 03-03-2023

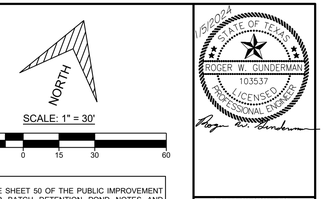
JOB NO.
WILL-33045

47

Date: Jan 05, 2024, 11:14am User ID: Ignozalez Layout: 47 BATCH DETENTION POND C DETAILS
File: P:\Williamson\33045-W3 Liberty Hill ET\Design\Design Civil\Public Street Plans\bri-pond c.pen~3.3045.dwg Layout name: 47 BATCH DETENTION POND C DETAILS

LOCATION MAP
NOT TO SCALE





NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS

POND D DESIGN DATA

WATERSHED AREA	=	32.40 AC
WATER STORAGE ELEVATION	=	1073.50 FT
POND CAPTURE VOLUME	=	68,513 CF (DESIGNED)
FLOW (Q_{25})	=	124.3 CFS
OVERFLOW	=	6' RECT. WEIR @ ELEV. 1073.50 14.5' RECT. WEIR @ ELEV. 1074.70

BASIN DRAWDOWN IS APPROXIMATELY 18 HOURS AND BASED ON THE 6" Ø OUTFALL PIPE @ 0.5% SLOPE.

LEGEND

- PROPOSED CONCRETE HEADER CURB
- PROPOSED CONCRETE CURB
- EXISTING CONCRETE CURB
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED REMOTE FIRE DEPARTMENT CONNECTION
- MISC. TRAFFIC SIGN
- GUARD POST
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- LIGHT POLE
- POWER POLE
- EXISTING MANHOLE
- PROPOSED MANHOLE
- GRATE
- TRAFFIC LIGHT
- GUY WIRE ANCHOR
- ACCESSIBLE PARKING
- DETAIL REFERENCE — DETAIL — C06.00 SITE DETAILS SHEET NUMBER
- EXISTING CONCRETE AREAS
- WHEELSTOP
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OVERHEAD ELECTRIC
- RETAINING WALL - MODULAR OR GravITY (REF. STRUCTURAL DWGS)
- CONCRETE RETAINING WALL (REF. STRUCTURAL DWGS)
- SAWTOOTH CURB
- SINGLE LAMP LIGHT POLE
- DOUBLE LAMP LIGHT POLE
- PROPOSED ELECTRIC TRANSFORMER
- $59.50TC / $59.00GU — EXISTING TOP OF CURB AND GUTTER ELEVATIONS
- +$9.00 — EXISTING SPOT ELEVATION
- 100 — PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- 950 — EXISTING CONTOUR
- PROPOSED RIDGE
- DEFINED SWALE
- FF=1000.00 — PROPOSED FIN. FLOOR ELEVATION
- FGL=100.00 — PROPOSED "FLOATING GARAGE"
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- BENCHMARK
- GRATE
- SD — PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN
- 100.00 INV — PROPOSED POND INVERT
- 798.82T — PROPOSED TOP OF RETAINING WALL
- 798.73B — PROPOSED BOTTOM OF RETAINING WALL
- 798.85 — TOP OF CURB
- 798.83F — FLATWORK
- 798.74 — ASPHALT, CONCRETE, GRASS, ETC.

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND D

Know what's below. Call before you dig.

REVISIONS: DATE	No.	DESCRIPTION	BY

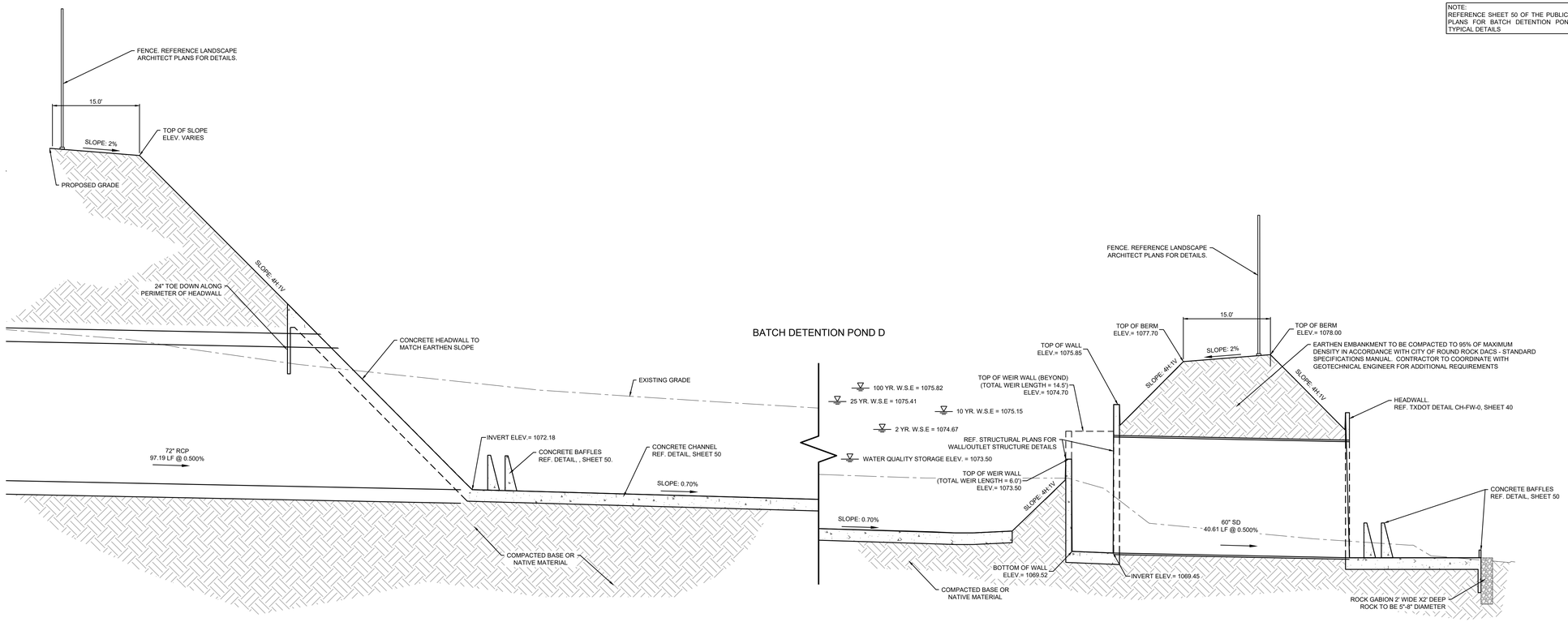
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DRAWN ADG
CHECKED -
DATE 03-03-2023

JOB NO.
WILL-33045

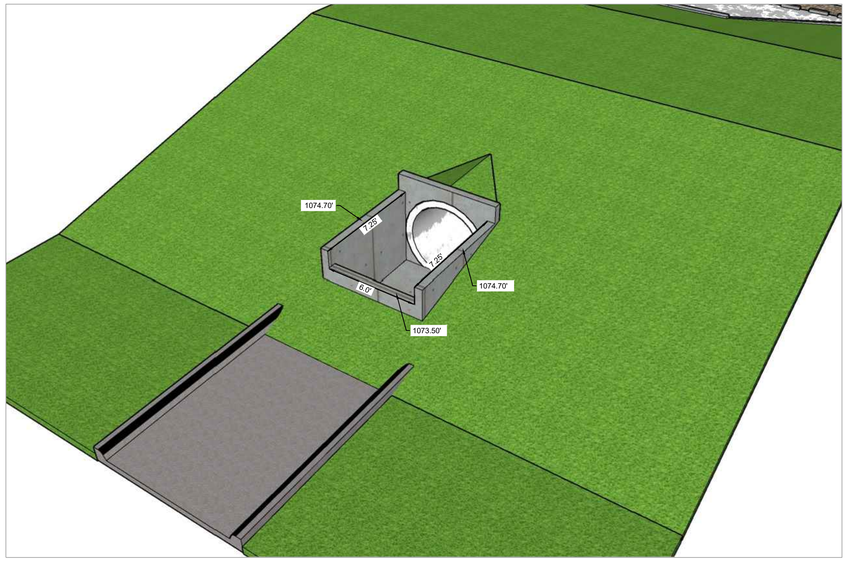
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Date: Jan 05, 2024, 11:14am User ID: tgonzalez Layout: 48 BATCH DETENTION POND D
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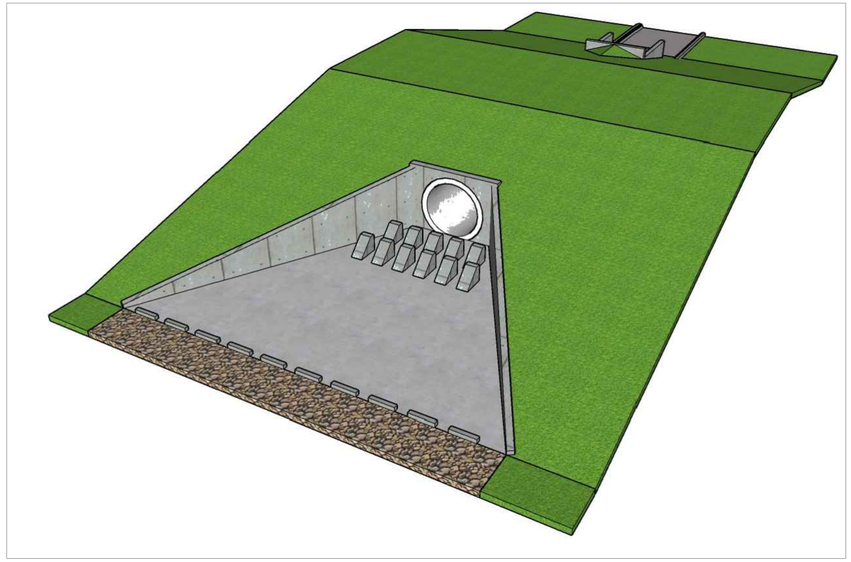
NOTE:
REFERENCE SHEET 50 OF THE PUBLIC IMPROVEMENT PLANS FOR BATCH DETENTION POND NOTES AND TYPICAL DETAILS



SECTION "A-A"
N.T.S.



DETAIL "A" OUTFALL STRUCTURE WITHIN BATCH DETENTION POND D
N.T.S.



DETAIL "B" OUTFALL STRUCTURE DOWNSTREAM OF BATCH DETENTION POND D
N.T.S.

ISSUED TO TCEQ
01-05-2024

ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

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MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

BATCH DETENTION POND D DETAILS

Know what's below. Call before you dig.

REVISIONS:

No.	DESCRIPTION	BY	DATE

PLAT ID# -
DESIGN RWG
DRAWN ADG
CHECKED -
DATE 03-03-2023

JOB NO.
WILL-33045

49

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THIS ED'S APPROVAL, WHETHER OR NOT IN CONTRACTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

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

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 339-2929
FAX (512) 339-3795

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

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

NOTES TO CONTRACTOR:

1. THIS SHEET HAS BEEN PREPARED FOR THE PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.
2. CONTRACTOR SHALL INSTALL THE PERMANENT BMP BASIN PER CIVIL AND STRUCTURAL PLANS AT THE START OF PHASE 1 CONSTRUCTION. IN PLACE OF THE PERMANENT RISER, A TEMPORARY RISER PIPE MAY BE INSTALLED AS SHOWN ON THE TEMPORARY SEDIMENT POND DETAIL, SHEET 6. ALSO, THE CONTRACTOR IS TO INSTALL A SEDIMENT DEPTH MARKER AT 50% CAPACITY OF THE TEMPORARY BASIN. INSPECTIONS SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL. TRASH AND OTHER DEBRIS SHALL BE REMOVED WHEN FOUND TO PREVENT CLOGGING OF THE OUTLET STRUCTURE. ONCE SEDIMENT REACHES THE 50% MARKER THEN ALL SEDIMENT SHALL BE REMOVED FROM THE TEMPORARY BASIN. UPON COMPLETION OF PHASE 1 THE TEMPORARY RISER SHALL BE REPLACED WITH THE RISER/TRASH RACK AND ELECTRIC VALVE & CONTROL SYSTEM.
3. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER/ARCHITECT PRIOR TO BID AND CONSTRUCTION REGARDING THE FINISH OF THE EXPOSED EXTERIOR WALLS. THE CONCRETE WALLS SHALL BE CONSTRUCTED WITH A CHAMFERED EDGE AT THE TOP OF WALL.
4. CONTRACTOR TO SUBMIT STRUCTURAL DESIGN FOR POND SEALED BY LICENSED PROFESSIONAL ENGINEER.
5. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:

   A.) REINFORCING STEEL FOR BASIN WALL HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE IS IN PLACE.
   B.) CONCRETE WALLS IN PLACE AND UNDER DRAIN SYSTEM IS IN PLACE WITHOUT GRAVEL.
   C.) GRAVEL AROUND UNDER DRAIN SYSTEM IS IN PLACE AND FILTER FABRIC IS INSTALLED AND ATTACHED TO WALLS OR.
   D.) SAND FILTER MEDIA HAS BEEN PLACED AND BASIN HAS BEEN COMPLETELY FINISHED.

6. ELEVATIONS SHOWN INSIDE BASIN ARE AT BASIN FLOOR UNLESS NOTED OTHERWISE.
7. DIMENSIONS ARE FROM FACE OF WALL. WALL THICKNESS TO BE DETERMINED BY A STRUCTURAL ENGINEER.
8. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
9. PRIOR TO PROCEEDING TO NEXT STAGE OF CONSTRUCTION, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
   -TOP OF SLOPE AT EACH CORNER OF BASIN
   -TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
   -SPLASH PAD/INLET PIPES
   -OVERFLOW WEIRS
10. UPON COMPLETION OF CONSTRUCTION AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (BASIN) MUST BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
11. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE STORM DRAIN SYSTEM MUST BE CLEAN OF ALL SEDIMENT AND ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASIN REMOVED AND REESTABLISHED TO THE PROPER OPERATING CONDITION.
12. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION. POND BOTTOM AND SIDE SLOPES SHALL BE SODDED, SEEDED OR HYDROMULCHED. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT PLANS FOR ANY ADDITIONAL SPECIFICATIONS. CONTRACTOR TO PROVIDE WATER AS REQUIRED TO ESTABLISH 85% VEGETATIVE COVER PRIOR TO ACCEPTANCE. SITE WORK CONTRACTOR SHALL CONSIDER THE TYPE OF GRASS TO BE USED WHEN ROUGH CUTTING THE BASIN SUCH THAT THE FINAL GRADE MATCHES THE FINISHED GRADES SHOWN ON THIS PLAN. SITE WORK CONTRACTOR SHALL FINE GRADE THE BOTTOM OF THE BASIN JUST PRIOR TO GRASS INSTALLATION TO ENSURE IT DRAINS AS INTENDED.
13. ALL FILL MATERIAL, WHICH MAY CONSIST OF APPROVED ONSITE SOILS AND/OR OFFSITE BORROW MATERIAL, SHALL BE FREE OF ALL DEBRIS, ORGANIC MATERIAL, AND CLUMPS AND SHALL BE ADJUSTED TO THE PROPER MOISTURE CONTENT. ALL FILL SHALL BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 95% DENSITY PER ASTM D1557.

SITE CONCRETE DRAINAGE NOTES:

1. EXPOSED CONCRETE SURFACES SHALL BE BROOM FINISHED.
2. ANY IRREGULAR AREA SHALL BE HAND RUBBED TO A SMOOTH FINISH.
3. ALL EXPOSED EDGES SHALL RECEIVE A 3/4" CHAMFER.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE DONE IN ACCORDANCE WITH CITY OF SAN ANTONIO STANDARD SPECIFICATIONS, AS WELL AS ITEM 360 (TXDOT STD SPECS, LATEST ED.)
5. JOINTS TO BE COMPLETED PRIOR TO CONCRETE SHRINKAGE OCCURRING.
6. CONCRETE RIP-RAP SHALL BE CLASS "A" 3,000 PSI.
7. NEW RIP-RAP SHALL BE ATTACHED TO EXISTING RIP-RAP BY NO. 4 BARS DOWELED 6" INTO EXISTING RIP-RAP. THESE BARS ARE TO BE PLACED 18" O.C. AND HAVE A LENGTH OF 18".
8. CONCRETE RIP-RAP SHALL BE 5" THICK, WITH NO. 4 REINFORCING BARS AT 18" O.C.E.W. (MIN. GRADE 40 STEEL).
9. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN.

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

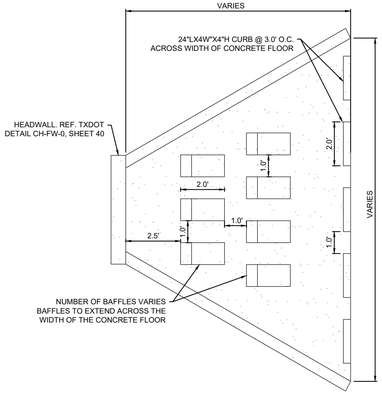
1.) TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE RESPECTIVE WATERSHED HAS BEEN STABILIZED.

2.) ALL AREAS OF DISTURBED SOIL WHICH WILL NOT OTHERWISE BE STABILIZED SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID BLOCK SOD IN A STAGGERED PATTERN. FOR AREAS OUTSIDE THE BASINS, THE CONTRACTOR MAY SUBSTITUTE SEED-IMPREGNATED EROSION CONTROL MATS OR HYDRAULIC MULCHING AND WATERING UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER.

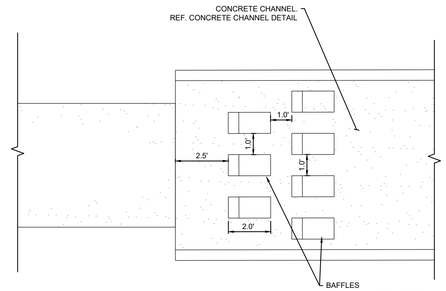
3.) PERMANENT BMP'S FOR THIS SITE INCLUDE BATCH DETENTION PONDS "A", "B1", "B2", "C" AND "D" THESE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR DRAINAGE AREAS "A", "B1", "B2", "C", "D" AND "E" (UNCAPTURED) IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL RG 348 (2005).

4.) ENERGY DISSIPATERS (TO HELP REDUCE EROSION) WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.

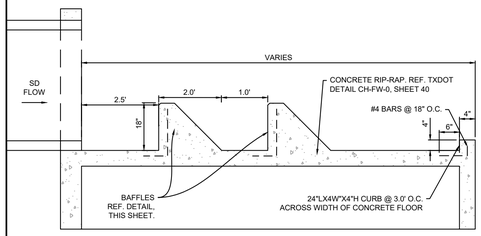
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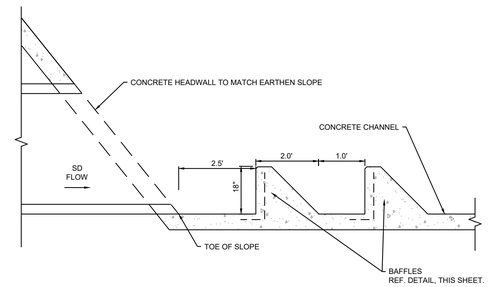


CHANNEL APPLICATION



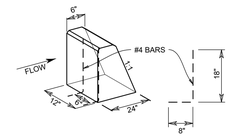
TOP VIEW



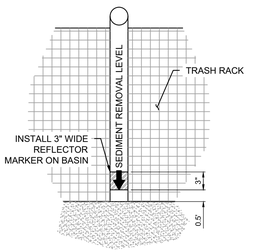


SIDE VIEW

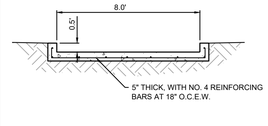
TYPICAL BAFFLE LAYOUT
N.T.S.



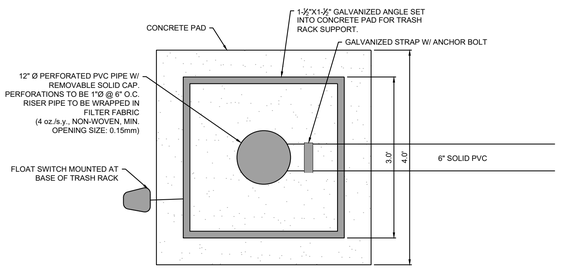
BAFFLE DETAIL
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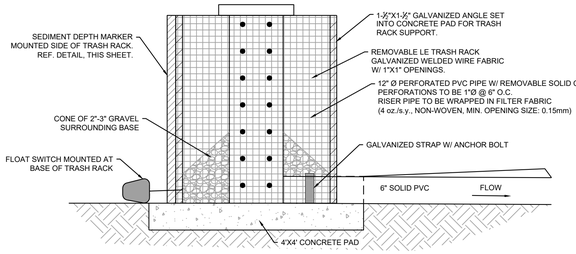
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CONCRETE CHANNEL DETAIL
N.T.S.

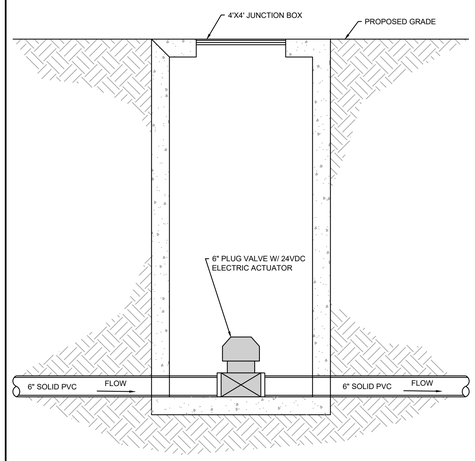


TOP VIEW

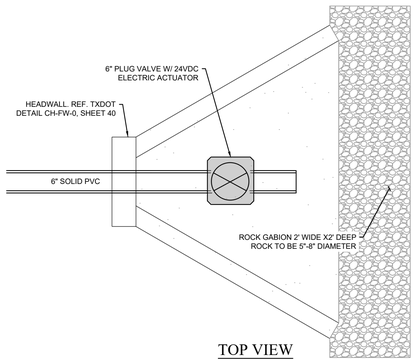


SIDE VIEW

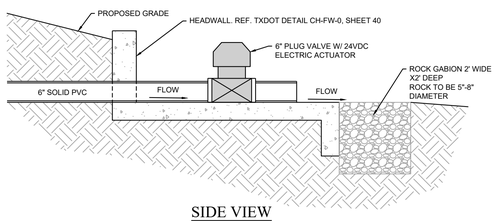
TRASH RACK DETAIL
N.T.S.



JUNCTION BOX /VALVE DETAIL
N.T.S.



TOP VIEW

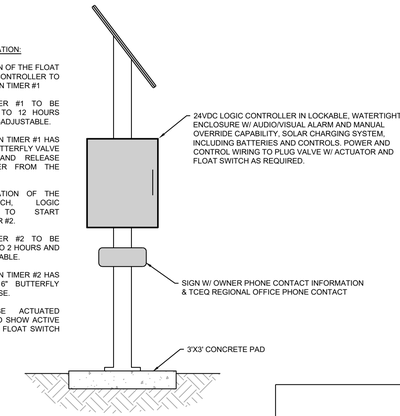


SIDE VIEW

OUTFALL/VALVE DETAIL
N.T.S.

SEQUENCE OF OPERATION:

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



POWER/LOGIC CONTROLLER DETAIL
N.T.S.

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED
PROFESSIONAL ENGINEER

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS
BATCH DETENTION NOTES & DETAILS

Know what's below. Call before you dig.

REVISIONS:	DESCRIPTION	BY
DATE	No.	

PLAT ID# -
DESIGN RWG
DRAWN ADG
CHECKED -
DATE 03-03-2023
JOB NO.
WILL-33045

50

Date: Jan 05, 2024, 11:15am User ID: tgonzalez Layout: 50 BATCH DETENTION NOTES & DETAILS
File: P:\Williamson\33045-WI3 Liberty Hill ET\Design\Design Civil\Public Street Plans\er-pond details-33045.dwg Layout name: 50 BATCH DETENTION NOTES & DETAILS

MANSIONS AT LIBERTY HILL

TSS REMOVAL SUMMARY

	Area (acres)	Proposed Impervious Cover (acres)	Increase in Impervious Cover (acres)	Treatment Device	Required TSS Removal (lbs)	TSS Removal Provided (lbs)	Required Water Quality Volume (cf)	Water Quality Volume Provided (cf)
Drainage Area A	88.99	38.90	38.90	Batch Detention Pond A	33859	34580	173,805	176,546
Drainage Area B1	28.18	13.59	13.59	Batch Detention Pond B1	11829	12040	58,938	61,092
Drainage Area B2	43.48	20.75	20.75	Batch Detention Pond B2	18061	18390	90,244	92,864
Drainage Area C	7.83	3.54	3.54	Batch Detention Pond C	3081	3140	15,644	17,937
Drainage Area D	32.40	15.70	15.70	Batch Detention Pond D	13665	13910	68,003	68,531
Uncaptured Area "E"	50.37	1.13	0.60	Overtreatment provided by Ponds A, B1, B2, C, & D	522	0	0	0
Total	251.25	93.61	93.08		81017	82060	406,634	416,970



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill A
Date Prepared: 1/5/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **81017** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	88.99	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	38.90	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
$L_{M\ THIS\ BASIN}$ =	33859	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	88.99	acres
A_I =	38.90	acres
A_P =	50.09	acres
L_R =	39981	lbs

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

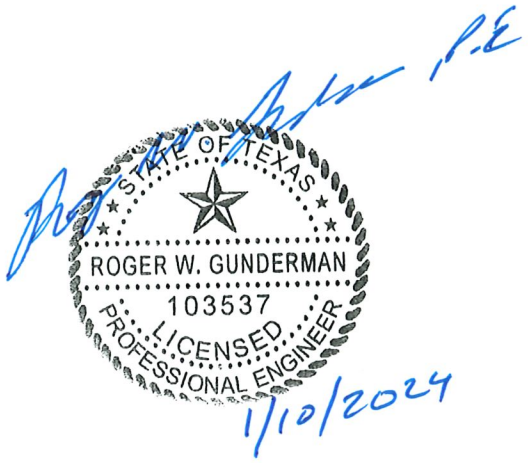
Desired $L_{M\ THIS\ BASIN}$ =	34580	lbs.
F =	0.86	

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.32	
On-site Water Quality Volume =	144838	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 =	28968	
Total Capture Volume (required water quality volume(s) x 1.20) =	173805	cubic feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill B1
Date Prepared: 1/5/2024

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **81017** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **6**

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

Drainage Basin/Outfall Area No. = **2**

Total drainage basin/outfall area =	28.18	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	13.59	acres
Post-development impervious fraction within drainage basin/outfall area =	0.48	
$L_{M\ THIS\ BASIN}$ =	11829	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	28.18	acres
A_I =	13.59	acres
A_P =	14.59	acres
L_R =	13922	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **12040** lbs.

F = **0.86**

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

Rainfall Depth =	**1.38**	inches
Post Development Runoff Coefficient =	**0.35**	
On-site Water Quality Volume =	**49115**	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 =	**9823**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**58938**	cubic feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill B2
Date Prepared: 1/5/2024

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **81017** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = 3

Total drainage basin/outfall area =	43.48	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	20.75	acres
Post-development impervious fraction within drainage basin/outfall area =	0.48	
$L_{M\ THIS\ BASIN}$ =	18061	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	43.48	acres
A_I =	20.75	acres
A_P =	22.73	acres
L_R =	21264	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	18390	lbs.
F =	0.86	

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.35	
On-site Water Quality Volume =	75203	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 =	15041	
Total Capture Volume (required water quality volume(s) x 1.20) =	90244	cubic feet



1/10/2024

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill C
Date Prepared: 1/5/2024

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	81017	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = 4

Total drainage basin/outfall area =	7.83	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.54	acres
Post-development impervious fraction within drainage basin/outfall area =	0.45	
$L_{M\ THIS\ BASIN}$ =	3081	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	7.83	acres
A_I =	3.54	acres
A_P =	4.29	acres
L_R =	3634	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	3140	lbs.
F =	0.86	

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.33	
On-site Water Quality Volume =	13037	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 =	2607	
Total Capture Volume (required water quality volume(s) x 1.20) =	15644	cubic feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill D
Date Prepared: 1/5/2024

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **81017** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **6**

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

Drainage Basin/Outfall Area No. = **5**

Total drainage basin/outfall area =	32.40	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	15.70	acres
Post-development impervious fraction within drainage basin/outfall area =	0.48	
$L_{M\ THIS\ BASIN}$ =	13665	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	32.40	acres
A_I =	15.70	acres
A_P =	16.70	acres
L_R =	16081	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **13910** lbs.

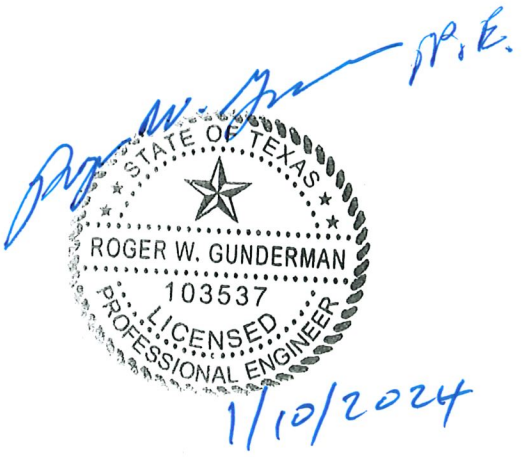
F = **0.86**

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

Rainfall Depth =	**1.38**	inches
Post Development Runoff Coefficient =	**0.35**	
On-site Water Quality Volume =	**56669**	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 =	**11334**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**68003**	cubic feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mansions at Liberty Hill E
Date Prepared: 1/5/2024

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

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

where:

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

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

County =	Williamson	
Total project area included in plan * =	251.25	acres
Predevelopment impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious area within the limits of the plan* =	93.61	acres
Total post-development impervious cover fraction * =	0.37	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	81017	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = 6

Total drainage basin/outfall area =	50.37	acres
Predevelopment impervious area within drainage basin/outfall area =	0.53	acres
Post-development impervious area within drainage basin/outfall area =	1.13	acres
Post-development impervious fraction within drainage basin/outfall area =	0.02	
$L_{M\ THIS\ BASIN}$ =	522	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention Basin
Removal efficiency = 91 percent

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

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

where:

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

A_C =	0.00	acres
A_I =	0.00	acres
A_P =	0.00	acres
L_R =	0	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 0 lbs.

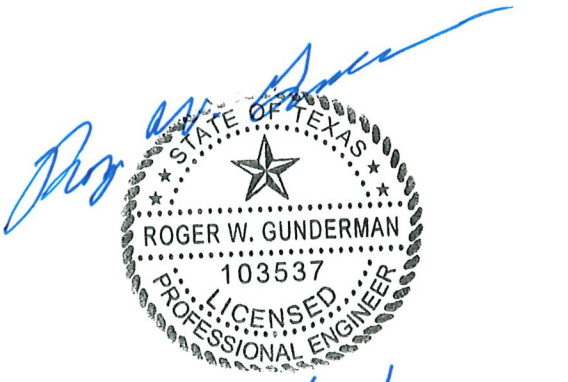
F = #DIV/0!

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

Rainfall Depth =	#DIV/0!	inches
Post Development Runoff Coefficient =	#DIV/0!	
On-site Water Quality Volume =	#DIV/0!	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 =	#DIV/0!	cubic feet
Storage for Sediment =	#DIV/0!	
Total Capture Volume (required water quality volume(s) x 1.20) =	#DIV/0!	cubic feet



1/10/2024

ATTACHMENT "N" Maintenance Plan and Schedule for Batch Detention Ponds

PROJECT NAME *Mansions at Liberty Hill*

ADDRESS *±0.5 miles north of the intersection of SH 29 & CR 277*

CITY, STATE ZIP *Liberty Hill, Texas 78642*

BATCH DETENTION PONDS

Monthly

Inspect structural integrity and silt accumulation of the batch detention basin. 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.

Quarterly

The level of accumulated silt shall be checked. If depth of silt exceeds 6 inches, or is such that it impedes the capture volume of the basins, it shall be removed and disposed of.

The batch detention basin in the water quality pond shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive.

Bi-Annually

The batch detention basin shall be inspected at least twice a year (once during or immediately following wet weather) to evaluate the facility operation. With each inspection, any damage to the structural elements of the system must be identified and repaired immediately and all debris and trash shall be removed. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Inspect the Logic Controller, verifying that the external indicators (active, cycle in progress) are operating properly 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.
Annually	Sediment shall be removed from the inlet and outlet structure when it is impaired or when the basin does not drain within 48 hours and at least once a year.
Five Years	All sediment shall be removed at a minimum of every 5 years.

With each inspection, remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired.

With each inspection, any damage to the structural elements of the system (pipes retaining walls, etc.) must be identified and repaired immediately. Erosion areas inside and downstream of the Batch Detention Pond must be identified and repaired or revegetated immediately during each inspection.

"Proper" disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality specifications. BMP maintenance frequently requires the disposal of accumulated sediment and other material. These materials are normally classified as special wastes when disposed of in municipal landfills. A Type 1 Municipal Solid Waste (MSW) landfill can accept household waste; anything else is a special waste as defined in 30TAC 330.2 (137). Special waste is a waste that requires special handling at a Type 1 MSW landfill. Labeling a filter media or sediment as a waste is not a waste characterization. The process to obtain authorization to dispose of a special waste begins with a request for approval called the "Request for Authorization for Disposal Waste, TCEQ Form 0152." The request is completed by the generator and submitted to the MSW permits section of the TCEQ for Executive Director review/approval. The MSW permits section performs the review described in 30 TAC 330.136.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

After all inspections results shall be written and records maintained and made available on request by TCEQ officials.

Upon transfer of ownership or maintenance responsibility: The seller must inform the buyer of all requirements of the basin maintenance. TCEQ must be notified and receive the form "TCEQ - 10623 change in responsibility for maintenance on permanent Best Management Practices and Measures". In addition, TCEQ and SAWS Resource Protection Division shall receive a signed, dated copy of this maintenance plan from the new owner.

[Signatures on following page]

Responsible Party for Maintenance: 4400 CR 277 Investments LLC

Address: 2505 N. State Hwy. 360, Suite 800

City, State Zip: *Grand Prairie, TX 78050*

Telephone Number: (972) 471-8700

Signature of Responsible Party: 

Print name of Responsible Party: Matthew J. Hiles

Permanent Stormwater Section Attachment "N" continued

Sample Maintenance Table

ITEM #	DATE	DESCRIPTION OF ACTION(S) TAKEN	INITIALS

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: Roger W. Gunderman

Date: 11-10-2023

Signature of Customer/Agent:

Roger W. Gunderman, P.E.

Regulated Entity Name: Mansions at Liberty Hill

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: N/A

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.

FORM 0602 ATTACHMENTS

ATTACHMENT "A" - SPILL RESPONSE

In the event of a spill involving hydrocarbons or other hazardous substances, the contractor will immediately notify TCEQ (at 210-490-3096) and the engineer (210 545-1122) explaining the type and nature of the spill. The contractor shall be required to maintain a sufficient stockpile of sand material in the staging area. This sand material shall be used to immediately isolate and provide containment of the spill by constructing dikes. Furthermore, this sand material shall act as an absorbent material that can be disposed of offsite and out of the Recharge Zone during cleanup operations. All contaminated soils resulting from an accidental release will be required to be removed and disposed of in accordance with all local, state, and federal regulations.

The objective of this attachment is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. The following steps will help reduce the storm water impacts of leaks and spills:

Education

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information is available in 30 TAC 327.4 and 40 CFR 302.4.

(2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

(4) Establish a continuing education program to indoctrinate new employees.

(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

(2) Store hazardous materials and wastes in covered containers and protect from vandalism.

(3) Place a stockpile of spill cleanup materials where it will be readily accessible.

(4) Train employees in spill prevention and cleanup.

(5) Designate responsible individuals to oversee and enforce control measures.

(6) Spills should be covered and protected from storm-water runoff during rainfall to the extent that it doesn't compromise clean-up activities.

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

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

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM.

After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. (2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

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

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

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.
More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrcc.state.tx.us/enforcement/emergency_response.html

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of storm-water and the runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately

(3) Check incoming vehicles and equipment (including delivery trucks, employee, and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute storm-water. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(9) Store cracked batteries in a non- leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of storm-water and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

ATTACHMENT "B" – POTENTIAL SOURCES OF CONTAMINATION

Other potential sources are:

1. Oil and gasoline leaks from construction equipment.
2. Vehicles tracking in and out of the project.
3. Asphaltic paving and associated materials.
4. Minor leakage or spillage of paints, lacquers, solvents, etc, used in conjunctions with building construction which may occur simultaneously with infrastructure construction.
5. Leakage from self contained portable toilet facilities.

ATTACHMENT "C" – SEQUENCE OF MAJOR ACTIVITIES

1. Install all Temporary BMP's (rock berms and silt fencing), construction entrance, and tree protection for on-site construction. (251.25 acres)
2. Clear site & prepare area for construction (251.25 acres)
3. Excavate and fill site as dictated by the grading plan (251.25 acres)
4. Cut road to grade (251.25 acres)
5. Install utilities; sewer mains and laterals, water mains and services, underground storm drains, and underground electric (251.25 acres)
6. Construct roads (251.25 acres)
7. Construct building pads (251.25 acres)
8. Install inlet protection on all curb and grate inlets (251.25 acres)
9. Fine grade site (251.25 acres)
10. Construct paved surfaces; concrete parking areas & sidewalks (251.25 acres)
11. Clean site (251.25 acres)
12. Remove temporary BMPs (251.25 acres)

ATTACHMENT "D" - Temporary Best Management Practices

A) The erosion control barriers will be placed down gradient of the proposed disturbed area as shown on the site plan. These barriers will in turn filter the up gradient water preventing pollution.

B) All contractors, subcontractors, and builders shall endeavor to avoid the pollution of runoff water by using "best management practices" and reasonable foresight to avoid contact between runoff water and polluting materials.

Some best management practices to which all parties are expected to conform are as follows:

1. Prior to the beginning of the work listed in "Attachment C", the contractor will install the sediment control barriers as specified on the separate "Temporary Pollution Abatement Plan" which is attached at the end of this section. These barriers (silt fences, etc.) will be maintained during the entire time construction is in progress. Thus erodible material and pollution that might be generated during construction will be intercepted by these same barriers.

2. The silt fences specified on the "Temporary Pollution Abatement Plan" were positioned to be down-gradient of all construction zones. Thus, with proper installation and maintenance these barriers shall be effective in preventing potentially contaminated runoff from leaving the site.

3. The general contractor shall develop a written plan to control the generation of dust during construction phase and submit it to the developer.

4. Builders and their contractors shall clean equipment only onto areas protected by their silt fences or dikes. Set forth in the TBMP's plan is a location where a "Concrete Truck Washout Pit" will be constructed. The builder shall inform his concrete supplier that this Washout Pit is the only point in the project where washout and waste concrete mix may be discharged.

5. Stockpiles of erodible material (topsoil, sand, etc.) shall be placed in areas only protected by silt fences or other erosion barriers.

6. All contractors shall provide self-contained toilet facilities for their employees.

7. Chemicals, solvents, paints, and other potentially toxic materials must be stored in such a manner that they are protected from rainfall and surface runoff water.

8. All contractors shall provide waste receptacles at locations convenient to their construction area; to protect from leaching by rainfall; and provide regular collection.

C) Once site grading has commenced, swales will be constructed (shaped and sloped as depicted by the grading plan) to direct storm-water run-off to the various inlets located throughout the project. These swales will be used on a temporary and permanent basis. The location of theses swales once constructed will be permanent.

D) The proposed silt fences and rock berms should be adequate measures to maintain flow to any naturally occurring sensitive features downstream.

ATTACHMENT "E" – Request to Temporarily Seal a Feature

Not Applicable

ATTACHMENT "F" – Structural Practices

The proposed silt fences, rock berms, swales, and multiple inlet protection locations on-site should be adequate structural practices for this project.

ATTACHMENT "G" – Drainage Area Map

Please reference the attached drawing illustrating the proposed drainage areas and sub-areas.

ATTACHMENT "H"- Temporary Sediment Pond Plans and Calculations

The proposed Batch Detention Ponds will be used as a temporary sediment basin during site construction. The ponds will be converted to a permanent pollution abatement pond after 70% of the pavement in the watershed has been paved.

Prior to final acceptance by the owner, the contractor shall remove trach, debris and accumulated silt from the sedimentation/filtration basin and re-establish it to proper operating condition.

The minimum drain time for a full sedimentation/filtration basin is 24 hours. The contractor shall restrict the flow through the sedimentation/filtration basin by adjusting the valve on the discharge pipe so as to provide a minimum 24-hour draw down time.

Basin Capture Volume Calculations:

Drainage Area "A"

Required Volume = 3600 cubic feet per acre x 88.99 acres = 320,364 cubic feet.
Volume of Basin A: 1,334,351 cubic feet
The proposed basin has the capacity and will be used as temporary sediment basin for the proposed project.

Drainage Area "B1"

Required Volume = 3600 cubic feet per acre x 28.18 acres = 101,448 cubic feet.
Volume of Basin B1: 805,930 cubic feet
The proposed basin has the capacity and will be used as temporary sediment basin for the proposed project.

Drainage Area "B2"

Required Volume = 3600 cubic feet per acre x 43.48 acres = 156,528 cubic feet.
Volume of Basin B2: 785,549 cubic feet

The proposed basin has the capacity and will be used as temporary sediment basin for the proposed project.

Drainage Area "D"

Required Volume = 3600 cubic feet per acre x 32.40 acres = 116,640 cubic feet.
Volume of Basin D: 604,323 cubic feet
The proposed basin has the capacity and will be used as temporary sediment basin for the proposed project.

ATTACHMENT "I" – Inspection and Maintenance

All TBMP'S shall be inspected by the contractor on a weekly basis and after all substantial rain events. The contractor shall keep records of all inspections that were made. Also the contractor shall repair or replace any damaged or dysfunctional TBMP's. The contactor shall insure that all TBMP's are maintained and inspected according to TCEQ's Technical Guidance Manual.

Inspection and Maintenance shall include but is not limited to:

For the Construction Entrance:

- The contractor shall maintain the entrance in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- The contractor shall immediately remove any and all sediment spilled, dropped, washed or tracked onto public rights-of-way.
- When necessary, the contractor shall clean wheels to remove sediment prior to entrance onto public rights-of-way.
- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- The contractor shall prevent all sediment from entering any storm drain, ditch, or water course by using approved methods.
- Records will be kept with the construction site Superintendent of all inspection and maintenance actions. See maintenance record chart.

For Silt Fencing:

- The contractor shall inspect all silt fencing weekly and after any rainfall for sediment accumulation, torn fabric and crushed or collapsed sections throughout the duration of construction.
- Sediment shall be removed when sediment buildup reaches 6 inches, or a second line of fencing shall be installed parallel to the original fence.
- Torn fabric shall be replaced by the contractor; a second line of fencing shall be erected parallel to the torn section if replacement is not feasible.
- Contractor shall replace or repair any fence sections crushed or collapsed during the course of construction. Silt fence may be relocated by the contractor to a location

where it will provide equal protection should the original/planned installation obstruct vehicular access to the site.

- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be re-vegetated. The fence itself should be disposed of in an approved landfill.
- Records will be kept with the construction site Superintendent of all inspection and maintenance actions. See maintenance record chart.

For Rock Berms:

- The contractor shall inspect all rock berms weekly and after any rainfall for sediment accumulation, debris building up, or damage throughout the duration of construction.
- Sediment and other debris shall be removed when sediment buildup reaches 6 inches. The accumulated silt and debris shall be disposed in an approved manner that will not cause any additional siltation.
- The contractor to repair any loose wire sheathing.
- The contractor shall reshape the berm as needed during inspection throughout the duration of construction.
- The contractor shall replace the berm when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- The rock berm shall remain in place until all upstream areas are stabilized and accumulated silt removed.
- Records will be kept with the construction site Superintendent of all inspection and maintenance actions. See maintenance record chart next.

For Grate and Curb Inlet Protection:

- The contractor shall inspect all inlet protection weekly and after any rainfall for sediment accumulation, debris building up, or damage throughout the duration of construction. Repair or replacement should be made promptly as needed by the contractor.
- Sediment and other debris shall be removed when sediment buildup reaches 3 inches. The removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The contractor shall check placement of inlet protection measures to prevent gaps between these measures and the curb.
- The contractor shall inspect the filter fabric and patch or replace if torn or missing.
- Records will be kept with the construction site Superintendent of all inspection and maintenance actions. See maintenance record chart next on the next page.

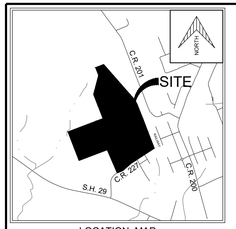
Temporary Stormwater Section Attachment "I" continued

ITEM #	DATE	DESCRIPTION OF ACTION(S) TAKEN	INITIALS

ATTACHMENT "J" – Interim and Permanent Soil Stabilization

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

Examples of acceptable temporary and permanent soil stabilization measures are establishment of temporary vegetation, establishment of permanent vegetation, mulching, geo-textiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation. The soil stabilization method used in this project **SHALL** be an approved method within the TCEQ Technical Guidance Manuel and **MUST** be approved by MBC Engineers before it is implemented in the project. The method of soil stabilization approved for this project will be a combination of sod stabilization around the buildings and parking areas, tree protection, and hydro-mulching those areas disturbed away from the buildings which will not be landscaped.

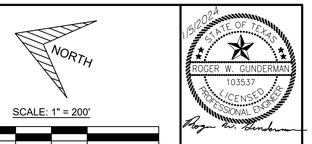


LOCATION MAP
NOT TO SCALE

BENCHMARK "1"	BENCHMARK "2"	BENCHMARK "3"	BENCHMARK "5"
DESCRIPTION FOUND 3/8" IRON ROD ELEVATION = 1071.53 NOTE: PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE BENCHMARK DEPICTED ON THIS DRAWING AND REPORT ANY DISCREPANCIES IN THE ELEVATION OR DESCRIPTION TO THE CIVIL ENGINEER IMMEDIATELY.	DESCRIPTION FOUND 3/8" IRON ROD ELEVATION = 1074.93 NOTE: PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE BENCHMARK DEPICTED ON THIS DRAWING AND REPORT ANY DISCREPANCIES IN THE ELEVATION OR DESCRIPTION TO THE CIVIL ENGINEER IMMEDIATELY.	DESCRIPTION FOUND 3/8" IRON ROD ELEVATION = 1085.51 NOTE: PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE BENCHMARK DEPICTED ON THIS DRAWING AND REPORT ANY DISCREPANCIES IN THE ELEVATION OR DESCRIPTION TO THE CIVIL ENGINEER IMMEDIATELY.	DESCRIPTION FOUND 3/8" IRON ROD ELEVATION = 1083.48 NOTE: PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE BENCHMARK DEPICTED ON THIS DRAWING AND REPORT ANY DISCREPANCIES IN THE ELEVATION OR DESCRIPTION TO THE CIVIL ENGINEER IMMEDIATELY.

CONTRACTOR SHALL COORDINATE WITH OWNER FOR TREE PROTECTION AREAS PRIOR TO START OF CONSTRUCTION.

FILL MATERIAL ORIGINATING FROM THE LAND THAT IS THE SUBJECT OF A SUBDIVISION APPLICATION MAY BE TEMPORARILY STORED ON SAID LAND PROVIDED THAT THE DEVELOPER COMPLIES AT ALL TIMES WITH THE FOLLOWING REQUIREMENTS:
(a) THE FILL MATERIAL SHALL BE STORED AT THE LOCATION SHOWN ON THE APPROVED CONSTRUCTION PLANS.
(b) THE FILL MATERIAL SHALL CONSIST OF EARTHEN MATERIAL ORIGINATING FROM THE SUBDIVISION ONLY, SHALLREMAIN FREE FROM DEBRIS, AND SHALL BE SUITABLE FOR USE AS FILL MATERIAL ON THE FUTURE PHASES OF THE SUBDIVISION. THE FILL MATERIAL MAY NOT INCLUDE ANY MATERIAL FROM OUTSIDE OF THE SUBDIVISION
(c) STORAGE OF THE FILL MATERIAL SHALL COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN INCLUDING REVEGETATION OF DISTURBED AREAS AND OTHER SEDIMENTATION AND EROSION CONTROLS ADOPTED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY.
(d) THE FILL MATERIAL WILL BE PLACED AND STORED IN SUCH MANNER SO THAT IT IS STABLE, WITH THE SIDE SLOPES NO STEEPER THAN A 3:1 (H:V) SLOPE.
(e) THE FILL MATERIAL WILL BE LOCATED SO AS NOT TO DISTURB ANY WETLAND AREAS THAT MAY EXIST IN THE SUBDIVISION, AND WILL BE PLACED IN A MANNER AND LOCATION SO AS NOT TO ADVERSELY AFFECT THE NATURAL COURSE OF DRAINAGE ACROSS THE LAND OR IMPEDE DRAINAGE FROM NEIGHBORING PROPERTIES.
(f) FISCAL SURETY THAT COMPLIES WITH SECTION 28 OF THIS ORDINANCE IN AN AMOUNT EQUAL TO 110% OF THE COST OF REMOVAL OF THE FILL MATERIAL WILL BE FILED WITH THE CITY PRIOR TO THE ACCEPTANCE OF THE SUBDIVISION THAT GENERATES THE FILL MATERIAL. THE FISCAL SURETY WILL BE BASED ON AN ESTIMATE PREPARED BY THE ENGINEER FOR THE SUBDIVISION AND APPROVED BY THE CITY ENGINEER.
(g) THE HEIGHT OFTHE FILL MATERIAL SHALL NOT EXCEED TEN (10') FEET.
(h) PERMISSION TO STORE FILL MATERIAL IN THE SUBDIVISION WILL EXPIRE AND TERMINATE IN THE EVENT THAT A PRELIMINARY PLAT, CONSTRUCTION PLANS, OR A FINAL PLAT FOR ANY PORTION OF THE LAND EXPIRES, OR AT SUCH TIME THAT THE IMPROVEMENTS FOR THE LAST PHASE OF THE SUBDIVISION ARE ACCEPTED.



SCALE: 1" = 200'

200 0 100 200 400

LEGEND

- SF — SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE TRUCK WASHOUT PIT
- GRATE & CURB INLET PROTECTION
- FIBER ROLL BERM
- ROCK BERM
- 780 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- DEFINED SWALE
- PROPOSED RETAINING WALL
- PROPOSED SAWTOOTH CURB
- PROPOSED RIDGE
- FF=000.00 — PROPOSED FIN. FLOOR ELEVATION
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- GRATE
- DRAINAGE FLOW (PROPOSED)
- LOC — PROJECT LIMITS AREA OF SOIL DISTURBANCE (TO BE REVEGITATED)

GENERAL EROSION CONTROL NOTES

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS: AS DICTATED BY THE T.C.E.Q. WHILE CONSTRUCTION IS IN PROGRESS, THE CONTRACTOR SHALL ENDEAVOR TO IMPEDE THE TRANSMISSION OFF THE CONSTRUCTION SITE OF ERODED TOPSOIL AND SHALL AVOID POLLUTION OF TOPSOIL/RUNOFF DUE TO FUELING OR SERVICING OF EQUIPMENT OR IMPROPER MATERIALS.

2. EXCAVATED MATERIAL NOT USED FOR STREET FILL ON-SITE SHALL NOT BE STOCKPILED INDEFINITELY ON-SITE, BUT SHALL BE PROMPTLY TRANSPORTED OFF THE SITE. A SILT FENCE SHALL BE INSTALLED DOWN- SLOPE OF ANY PLACED FILL TO INHIBIT EROSION OF THE FILL MATERIAL.

3. THE DEVELOPER WILL SEED CLEARED STREET PARKWAYS WITH BERMUDA GRASS OR SOME OTHER FORM OF HARDY GRASS/PLANTS AS SOON AS POSSIBLE AFTER STREET AND UTILITY CONSTRUCTION IS COMPLETED.

4. THE SILT FENCING AND ROCK BERM SHOWN HERE-ON IS DESIGNED TO INTERCEPT SILT-CARRYING RUNOFF ON A UNIT-BY-UNIT BASIS AND INHIBIT ITS BEING CARRIED OUTSIDE THE BOUNDARIES OF THE UNIT AND THE DEVELOPMENT TO DOWNGRADE FEATURES. IT IS OUR INTENTION AND ANY CONTRACTOR'S DIRECTION TO INSTALL SILT FENCES AND ROCK BERM AS SHOWN PRIOR TO ANY EXCAVATION OR TRENCHING WITHIN A DELINEATED UNIT.

5. REFERENCE POLLUTION PREVENTION PLAN AND WATER POLLUTION ABATEMENT PLAN FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

6. LOCATION OF SILT FENCE AND ROCK BERM IS APPROXIMATE. CONTRACTOR TO DETERMINE EXACT LOCATION BASED ON WORK TO BE PERFORMED UNDER THIS CONTRACT AND WORK TO BE PERFORMED BY VARIOUS AGENCIES INVOLVED WITH THIS PROJECT.

7. THIS SHEET IS TO BE USED FOR EROSION CONTROL PURPOSES ONLY.

8. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE IS TO BE AS SHOWN ON THIS PLAN UNLESS CONTRACTOR RECEIVES PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

9. CONTRACTOR TO INSTALL ROCK GABION IN LOCATIONS WHERE SIGNIFICANT CONCENTRATED STORM WATER DISCHARGE OCCURS TOWARDS AN ERODABLE AREA.

THIS SHEET TO BE USED FOR EROSION CONTROL PURPOSES ONLY.

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

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FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

EROSION CONTROL PLAN 1

811 Know what's below. Call before you dig.

REVISIONS:	No.	DESCRIPTION	BY
DATE			

PLAT ID# -
DESIGN RWG
DRAWN ADG
CHECKED -
DATE 03-03-2023

JOB NO.
WILL-33045

4

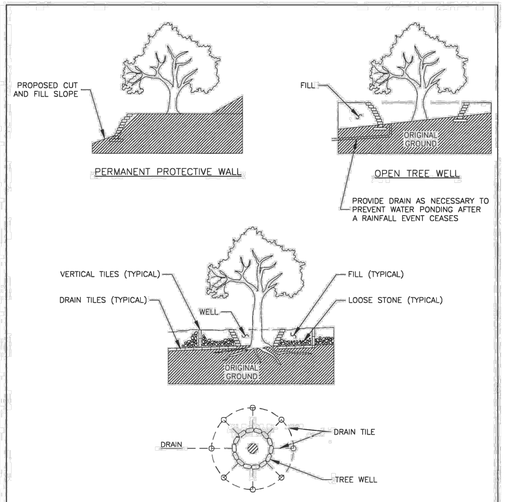
Date: Jan 05, 2024, 11:10am User ID: lgonzalez Layout: PUBLIC EC 1
File: P:\Williamson\33045-W3 Liberty Hill ET\Design\Design Civil\Public Street Plans\sh-erosion control plan-33045.dwg Layout name: PUBLIC EC 1

1. ALL TREES NOT LOCATED WITHIN THE LIMITS OF CONSTRUCTION AND OUTSIDE OF DISTURBED AREAS SHALL BE PRESERVED. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL TREES TO BE PRESERVED FROM HIS ACTIVITIES.
2. ALL TREES SHOWN TO BE RETAINED ON THE PLANS, SHALL BE PROTECTED DURING CONSTRUCTION WITH FENCING. SEE: TREE PROTECTION TREE WELLS (EC-02), TREE PROTECTION TREE LOCATION (EC-03) AND TREE PROTECTION FENCE-CHAIN LINK (EC-04).
3. TREE PROTECTION FENCES SHALL BE ERECTED ACCORDING TO CITY STANDARDS FOR TREE PROTECTION, INCLUDING TYPES OF FENCING AND SIGNAGE.
4. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING) AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
5. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
6. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES, LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE) OR CRITICAL ROOT ZONE (CRZ), WHICHEVER IS GREATER; AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   6A. SOIL COMPACTION IN CRZ AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIAL.
   6B. CRZ DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE FORESTRY MANAGER.
   6C. WOUNDS TO EXPOSED ROOTS, TRUNK, OR LIMBS BY MECHANICAL EQUIPMENT
   6D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING TREE FENCES AT THE TREE DRIPLINES OR CRZ, WHICHEVER IS GREATER, MAY BE PERMITTED IN THE FOLLOWING CASES:
   7A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, OR TREE WELL;
   7B. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   7C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
   7D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE FORESTRY MANAGER TO DISCUSS ALTERNATIVES.
8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE THAT IS CLOSER THAN 5 FEET TO A TREE TRUNK, THE TRUNK SHALL BE PROTECTED BY STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES UNDER THE DRIPLINE OR CRZ, WHICHEVER IS GREATER, THOSE AREAS SHOULD BE COVERED WITH 4 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION.
10. ALL GRADING WITHIN CRZ AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA.
11. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL AND BACKFILLED WITH GOOD QUALITY TOP SOIL WITHIN TWO DAYS. IF EXPOSED ROOT AREAS CANNOT BE BACKFILLED WITHIN 2 DAYS, AN ORGANIC MATERIAL WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION SHALL BE PLACED TO COVER THE ROOTS UNTIL BACKFILL CAN OCCUR.
12. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, A CLEAN CUT SHALL BE MADE BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, IN A LOCATION AND TO A DEPTH APPROVED BY THE FORESTRY MANAGER, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
13. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES WILL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS ARE TO BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON LEAVES.
14. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, A PLASTIC VAPOR BARRIER SHALL BE PLACED BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE CRZ.
15. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
16. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN FOUR (4) INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OR CRZ OF TREES, WHICHEVER IS GREATER. NO TOPSOIL IS PERMITTED ON ROOT FLARES OF ANY TREE.
17. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND CONSTRUCTION EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS. ALL PRUNING MUST BE DONE ACCORDING TO CITY STANDARDS AND AS OUTLINED IN LITERATURE PROVIDED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA PRUNING TECHNIQUES).
18. ALL OAK TREE CUTS, INTENTIONAL OR UNINTENTIONAL, SHALL BE SEALED WITH AN APPROVED PRUNING SEALER IMMEDIATELY (WITHIN 10 MINUTES). PRUNING SEAL OR TREE PAINT MUST BE KEPT ON SITE AT ALL TIMES.
19. THE FORESTRY MANAGER HAS THE AUTHORITY TO REQUIRE ADDITIONAL TREE PROTECTION BEFORE OR DURING CONSTRUCTION.
20. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED. REFER TO THE CITY OF ROUND ROUND ROCK TREE TECHNICAL MANUAL FOR APPROPRIATE REMOVAL METHODS.
21. PRIOR TO CONSTRUCTION, ALL LOWER TREE LIMBS OVER ROADWAYS MUST BE PRUNED TO A HEIGHT OF 14 FEET USING THE TECHNIQUES DESCRIBED IN THE CITY OF ROUND ROCK TREE TECHNICAL MANUAL.
22. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS NON COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-01
APPROVED 01-28-21 DATE	TREE PROTECTION NOTES	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



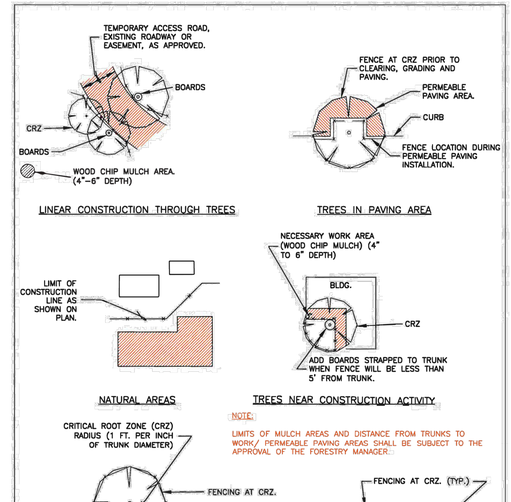
NOTE:

LOCATION, TYPE, DEPTHS AND CONSTRUCTION SPECIFICATIONS OF FILL, DRAINS AND WALLS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-02
APPROVED 01-28-21 DATE	TREE PROTECTION TREE WELLS	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



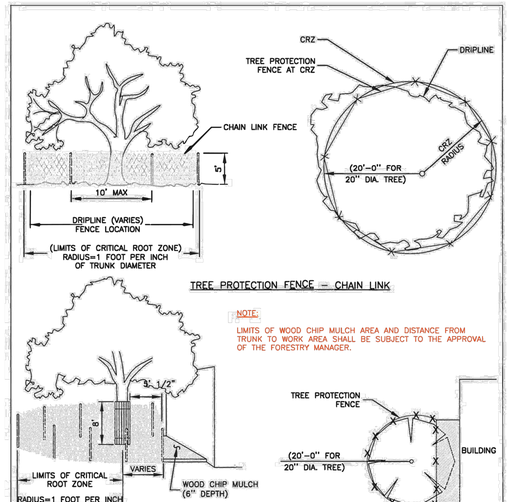
NOTE:

LIMITS OF MULCH AREAS AND DISTANCE FROM TRUNKS TO WORK/ PERMEABLE PAVING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

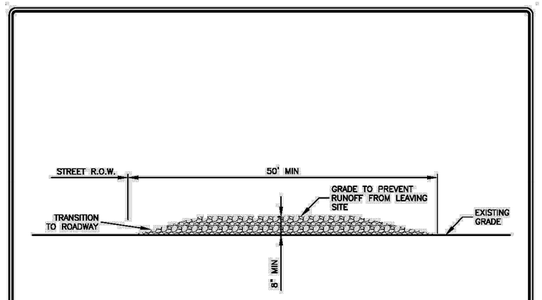
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-03
APPROVED 01-28-21 DATE	TREE PROTECTION FENCE LOCATIONS	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

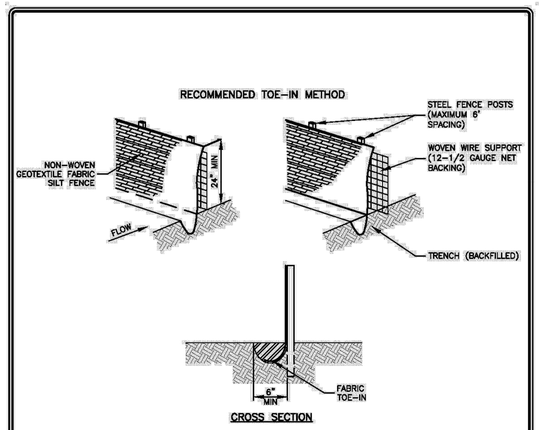
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-04
APPROVED 01-28-21 DATE	TREE PROTECTION FENCE CHAIN LINK	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. STONE SIZE SHALL BE 3" – 8" OPEN GRADED ROCK.
2. THICKNESS OF CRUSHED STONE PAD TO BE NOT LESS THAN 8".
3. LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY, AND WIDTH NOT LESS THAN FULL WIDTH OF INGRESS/EGRESS.
4. ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
6. AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

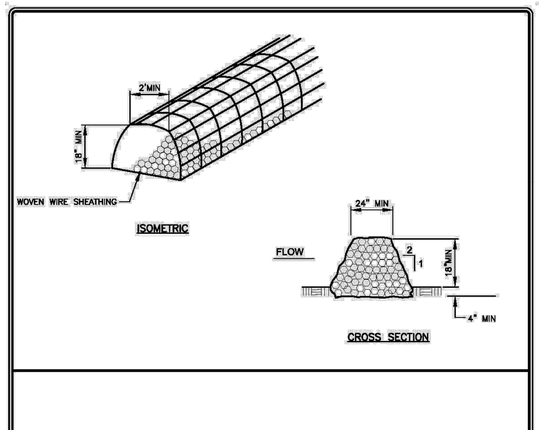
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-09
APPROVED 03-25-11 DATE	STABILIZED CONSTRUCTION ENTRANCE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MIN. OF ONE (1') FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-10
APPROVED 03-25-11 DATE	SILT FENCE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. USE ONLY OPEN GRADED ROCK (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/ OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH OF 6", THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTATION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-12
APPROVED 03-25-11 DATE	ROCK BERM DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

ISSUED TO TCEQ
01-05-2024

ROGER W. GUNDERMAN 103537 LICENSED PROFESSIONAL ENGINEER
PRIMARY CONTACT: ROGER GUNDERMAN, P.E.
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FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

EROSION CONTROL PLAN 2

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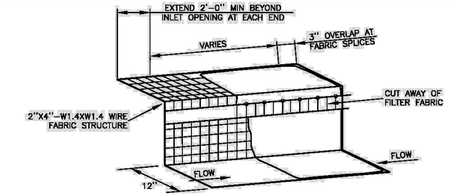
REVISIONS: No.	DATE:	DESCRIPTION	BY

PLAT ID# ____
DESIGN RWG
DRAWN ADG
CHECKED ____
DATE 03-03-2023

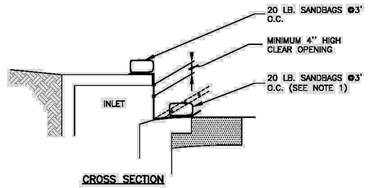
JOB NO. WILL-33045

5

Date: Jan 05, 2024, 11:10am User ID: Ignacio Gonzalez Layout: PUBLIC EC 2
File: P:\Williamson\33045-W3 Liberty Hill E T\Design\Design Civil\Public Sheet Plans\tr-erosion control plan-33045.dwg Layout name: PUBLIC EC 2



ISOMETRIC

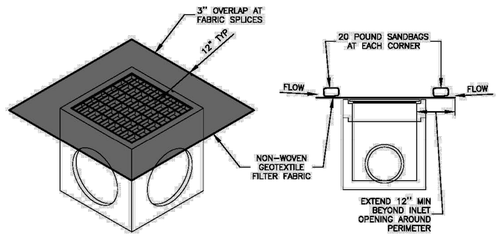


CROSS SECTION

NOTES:

1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVERTOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-14
APPROVED 03-25-11 DATE	CURB INLET PROTECTION DETAIL	ROUND ROCK, TEXAS FOREVER TEXAN COUNTRY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. [NOT TO SCALE]		



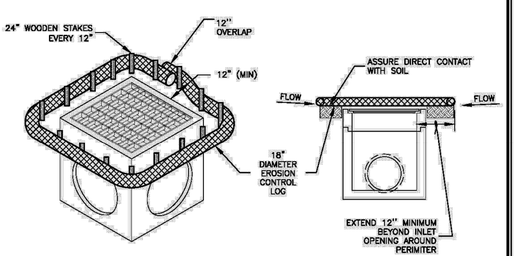
ISOMETRIC

CROSS SECTION

NOTES:

1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
3. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-15
APPROVED 03-25-11 DATE	AREA INLET PROTECTION DETAIL	ROUND ROCK, TEXAS FOREVER TEXAN COUNTRY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. [NOT TO SCALE]		



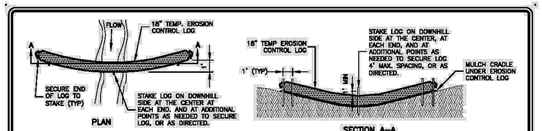
ISOMETRIC

CROSS SECTION

NOTES:

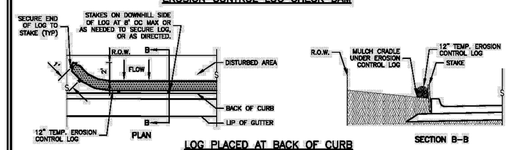
1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE; AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING STRAW AND HAY.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-16
APPROVED 03-25-11 DATE	AREA INLET PROTECTION WITH EROSION CONTROL LOG DETAIL	ROUND ROCK, TEXAS FOREVER TEXAN COUNTRY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. [NOT TO SCALE]		



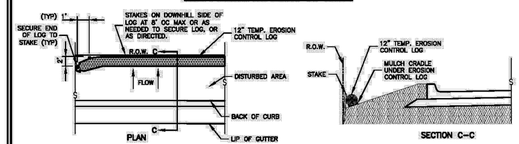
PLAN SECTION A-A

EROSION CONTROL LOG CHECK DAM



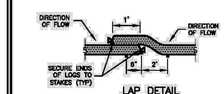
PLAN SECTION B-B

LOG PLACED AT BACK OF CURB



PLAN SECTION C-C

LOG PLACED AT EDGE OF RIGHT-OF-WAY

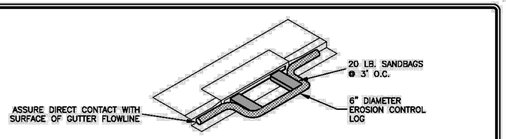


LAP DETAIL

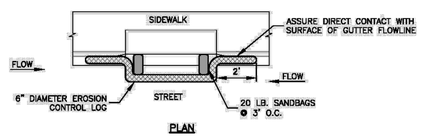
NOTES:

1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF LOGS DURING RAINFALL EVENT FOR PROPER PERFORMANCE.
3. LOGS SHALL CONSIST OF 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE CONTAINMENT MESH STUFFED WITH FILTER MATERIAL.
4. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION. FILTER MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR WOOD FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS,100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL, EXCLUDING STRAW AND HAY.
5. STAKES SHALL BE 2" X 2" WOOD, 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED.

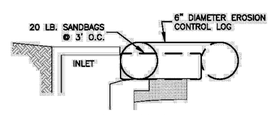
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-17
APPROVED 03-25-11 DATE	EROSION CONTROL LOG DETAIL	ROUND ROCK, TEXAS FOREVER TEXAN COUNTRY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. [NOT TO SCALE]		



ISOMETRIC



PLAN

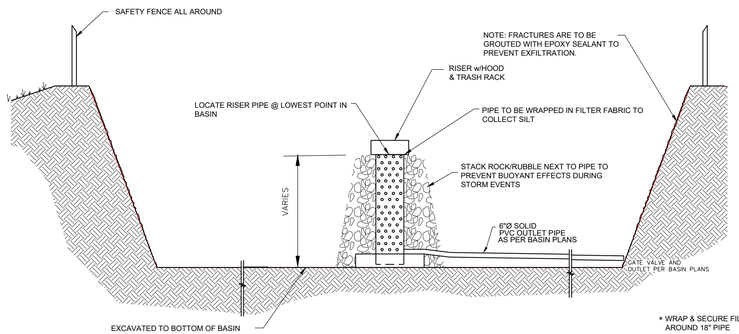


CROSS SECTION

NOTES:

1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE; AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING STRAW AND HAY.
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3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM WATER BEGINS TO OVERTOP THE CURB.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-13
APPROVED 03-25-11 DATE	CURB INLET PROTECTION WITH EROSION CONTROL LOG DETAIL	ROUND ROCK, TEXAS FOREVER TEXAN COUNTRY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. [NOT TO SCALE]		



TEMPORARY SEDIMENT POND TYPICAL DETAIL

NOT-TO-SCALE

TEMPORARY SEDIMENTATION BASIN NOTES:

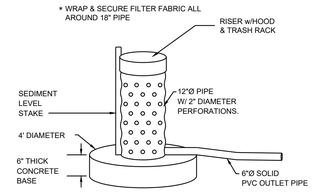
1) CONTRACTOR TO CONSTRUCT BASINS IN ACCORDANCE WITH CONSTRUCTION PLANS FOR PERMANENT SEDIMENTATION/FILTRATION WITH THE EXCEPTION OF THE GRAVEL DRAIN LAYER AND SAND FILTER LAYERS.

2) INSTALL PERMANENT STAKE TO INDICATE SEDIMENT LEVEL IN THE BASIN. STAKE SHOULD BE MARKED TO INDICATE WHEN SEDIMENT OCCUPIES 50% OF THE VOLUME OF THE BASIN.

3) SEDIMENT WILL BE REMOVED WHEN MORE THAN 50% OF THE BASIN CAPACITY IS EXCEEDED.

4) CONTRACTOR TO SECURE PIPE TO BOTTOM OF BASIN TO PREVENT BOUYANCY DURING A RAIN EVENT. A CONCRETE ANCHOR MAY BE USED.

5) DISCHARGE PIPE TO BE INSTALLED SO AS TO BE IN PLACE FOR PERMANENT STRUCTURE.



OUTLET STRUCTURE DETAIL

NOT-TO-SCALE

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

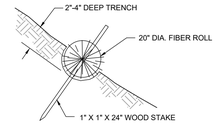
THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT); SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION

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

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 339-2929
FAX (512) 339-3795

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

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



FIBER ROLL DETAIL

NOT TO SCALE

FIBER ROLL NOTES:

1. CORE MATERIAL WILL BE BIODEGRADABLE. ACCEPTABLE MATERIALS ARE AGRICULTURAL RICE, WHEAT STRAW, OR COCONUT FIBER.
2. CONTAINMENT MESH WILL BE BIODEGRADABLE OR RECYCLABLE SUCH AS BURLAP, TWINE, OR UV PHOTO DEGRADABLE PLASTIC.
3. DRIVE STAKES AT EACH END OF FIBER ROLL AND SPACE 4FT MAXIMUM ON CENTER.
4. FIBER ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED.

ISSUED TO TCEQ
01-05-2024

STATE OF TEXAS
ROGER W. GUNDERMAN
103537
LICENSED PROFESSIONAL ENGINEER

PRIMARY CONTACT:
ROGER GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

MANSIONS AT LIBERTY HILL
LIBERTY HILL, TEXAS

EROSION CONTROL PLAN 3

811 Know what's below. Call before you dig.

REVISIONS: DATE	No.	DESCRIPTION	BY

PLAT ID# _____
DESIGN RWG
DRAWN ADG
CHECKED _____
DATE 03-03-2023

JOB NO.
WILL-33045

6

Date: Jan 05, 2024, 11:10am User ID: Igonzalez Layout: PUBLIC EC 3
File: P:\Williamson\33045-V93 Liberty Hill Et Al\Design\Design Civil\Public Sheet Plans\tch-erosion control plan-33045.dwg Layout name: PUBLIC EC 3

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:
  - Name printed on Check:
- If payment was made via ePay, provide the following:
  - Voucher Number:
  - A copy of the payment voucher is attached to this paper NOI form.

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

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

If Yes, provide the authorization number here: TXR15

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

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN 605435999

(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.)

N^3 Owner, LP

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

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Matthew J. Hiles Suffix:

Title: Vice President Credentials:

Phone Number: (972) 471-8700 Fax Number:

E-mail: MattH@livew3.com

Mailing Address: 2505 N. State Hwy 360, Suite 800

City, State, and Zip Code: Grand Prairie, Texas 75050

Mailing Information if outside USA:

Territory:

Country Code: Postal Code:

d) Indicate the type of customer:

☐ Individual	☐ Federal Government
☒ Limited Partnership	☐ County Government
☐ General Partnership	☐ State Government
☐ Trust	☐ City Government
☐ Sole Proprietorship (D.B.A.)	☐ Other Government
☐ Corporation	☐ Other:
☐ Estate	

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

(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
☒ 21-100
☐ 101-250
☐ 251-500
☐ 501 or higher

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:

Federal Tax ID: 364833558

Texas Secretary of State Charter (filing) Number:

DUNS Number (if known):

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):

First and Last Name: Suffix:

Title: Credential:

Organization Name:

Phone Number: Fax Number:

E-mail:

Mailing Address:

Internal Routing (Mail Code, Etc.):

City, State, and Zip Code:

Mailing information if outside USA:

Territory:

Country Code: Postal Code:

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

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

b) Name of project or site (the name known by the community where it's located): Mansions at Liberty Hill

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Multiple residential dwellings on a single lot

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

e) Latitude: 30.684119 Longitude: 97.944922

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:

City, State, and Zip Code:

Section B:

Location Description: 0.5 miles north of Intersection of SH29 and CR277

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

Zip Code where the site is located: 78642

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? **1522**

d) What is the Secondary SIC Code(s), if applicable?

e) What is the total number of acres to be disturbed? 255

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? 2/1/24

h) What is the estimated end date of the project? 1/1/27

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? South Fork San Gabriel River

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1250/1248

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

☒ Yes ☐ No

If Yes, provide the name of the MS4 operator: Liberty Hill/Williamson County

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: Matthew J. Hiles

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: _____

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

I MATTHEW J. HILES,
Print Name

VICE PRESIDENT,
Title - Owner/President/Other

of 4400 CR 277 INVESTMENTS LLC
Corporation/Partnership/Entity Name

have authorized MACINA, BOSE, COPELAND & ASSOCIATES, INC
Print Name of Agent/Engineer

of MACINA, BOSE, COPELAND & ASSOCIATES, 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

10/25/23
Date

THE STATE OF TEXAS §

County of Tarrant §

BEFORE ME, the undersigned authority, on this day personally appeared Matthew Hiles 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 25 day of October ,2023 .

NOTARY PUBLIC

NICKELLE BENSON
My Notary ID # 128109768
Expires November 18, 2025

Nickelle Benson
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: November 18,2025

January 9, 2024

Mr. Matthew J. Hiles
4400 CR 277 Investments, LLC
2505 N. State Highway 360, Suite 800
Grand Prairie, Texas 75050

RE: Mansions at Liberty Hill
4400 CR 277 Investments
CZP Storm Drainage Connection

Dear Mr. Hiles:

Liberty Hill Independent School District (LHISD) authorizes 4400 CR 277 Investments, LLC. to connect storm water discharge from the proposed detention and water quality ponds on the Mansions at Liberty Hill Project to the existing drainage system within the Liberty Hill High School Property. This connection will more efficiently convey upstream runoff around the High School. The proposed work will also eliminate a potential safety issue by importing fill to remove a large sump and open culvert situation within the school's property.

The LISD shall be notified at least 48 hours prior to the start of construction. Work within the school property shall be done on days and times agreed to by LISD district that will not interfere with school activities.

Sincerely,

Dustin Akin
Director of Construction
Liberty Hill Independent School District

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Mansions at Liberty Hill
Regulated Entity Location: 16532 Bandera Rd
Name of Customer: 4400 CR 277 Investements LLC
Contact Person: Matthew J. Hiles Phone: (210) 545-1122
Customer Reference Number (if issued):CN N/A
Regulated Entity Reference Number (if issued):RN N/A

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	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	251.25 Acres	$ 10,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature:

Date: 10/24/2023

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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 Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

☒ 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		RN

SECTION II: Customer Information

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

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

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

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

4400 CR 277 INVESTMENTS, 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)*
805345241		92-1964377	

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

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

13. Independently Owned and Operated?
☒ Yes ☐ No

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

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:	2505 N. State Hwy. 360, Suite 800						
	City	Grand Prairie	State	TX	ZIP	75050	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)*
(972) 471-8700		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ 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 Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

MANSIONS AT LIBERTY HILL

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City	Liberty Hill	State	TX	ZIP	78642	ZIP + 4	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	0.5 miles north of intersection of SH 29 & CR 277				
26. Nearest City			State	Nearest ZIP Code	
Liberty Hill			TX	78642	
27. Latitude (N) In Decimal:	30.684119		28. Longitude (W) In Decimal:	97.944922	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	41	2.83	97	56	41.72

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)
5812		531110	

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

34. Mailing Address:								
	City		State		ZIP		ZIP + 4	
35. E-Mail Address:								

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

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	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Joe Friesenhahn	41. Title:	Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 545-1122		(210) 545-9302	jfriesenhahn@mbcengineers.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:	MBC ENGINEERS	Job Title:	Engineer
Name *(In Print):*	Roger W. Gunderman	Phone:	(210) 545- 1122

Signature:	, P.E.	Date:	1/11/2024