Improving Quality of Life in Our Communities

Contributing Zone Plan

for

CREEK BEND APARTMENTS

PREPARED FOR:

PEDCOR Investments, A Limited Liability Company
One Pedcor Square
770 3RD Avenue, S.W.
Carmel, IN 46032

June 2024

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EDWARDS AQUIFER APPLICATION COVER PAGE

(TCEQ-20705)

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: Creek Bend Apartments					**2. Regulated Entity No.:**				
3. Customer Name: Pedcor Investments, A Limited Liability Company					**4. Customer No.: CN605738301**				
5. Project Type: **(Please circle/check one)**	New		Modification		Extension		Exception		
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		39.70	
9. Application Fee:	$6,500.00		**10. Permanent BMP(s):**			Batch Detention Basin			
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**						
13. County:	Bexar		**14. Watershed:**			Cibolo Creek			

Application Distribution

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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	_X_	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority X 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. **David P. Beales, P.E.**
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent Date: 06/19/2024

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 FORM

(TCEQ-10257)

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.

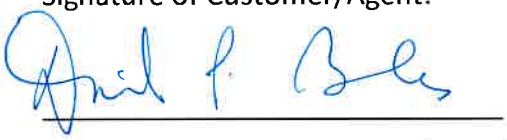
Signature

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: David P. Beales

Date: June 14, 2024

Signature of Customer/Agent:



Regulated Entity Name: Creek Bend Apartments

Project Information

1. County: Bexar
2. Stream Basin: Cibolo Creek
3. Groundwater Conservation District (if applicable): Trinity Glen Rose
4. Customer (Applicant):

   Contact Person: Craig Lintner
   Entity: Pedcor Investments, A Limited Liability Company
   Mailing Address: 770 3rd Avenue, S.W.
   City, State: Carmel, Indiana Zip: 46032
   Telephone: 317-208-3769 Fax: 317-587-0340
   Email Address: clintner@pedcor.net

5. Agent/Representative (If any):

Contact Person: David P. Beales
Entity: CDS Muery
Mailing Address: 100 N.E. Loop 410, Ste. 300
City, State: San Antonio, Texas Zip: 78216
Telephone: 210-581-1111 Fax: _____
Email Address: david.beales@cdsmuery.com

6. Project Location:

☒ The project site is located inside the city limits of San Antonio.
☐ 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.

Project is located at the northwest intersection of US 281 and Borgfeld Dr.

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: 312
☒ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 39.70 Acres

Total disturbed area: 32.2 Acres

14. Estimated projected population: 950

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	140,178	÷ 43,560 =	3.22
Parking	341,559	÷ 43,560 =	7.84
Other paved surfaces	93,996	÷ 43,560 =	2.16
Total Impervious Cover	575,733	÷ 43,560 =	13.22

Total Impervious Cover 13.22 **÷ Total Acreage** 39.70 **X 100 =** 33.30**% Impervious Cover**

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

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

For Road Projects Only

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

☒ N/A

18. Type of project:

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

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

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

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

Length of R.O.W.: _____ feet.
Width of R.O.W.: _____ feet.
L 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 Steven M. Clouse Water Recycling Center (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): NFIP-FIRM 48029C0130G, Effective Date September 29, 2010.

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

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

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

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

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

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

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

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☒ Locations where stormwater discharges to surface water.

    ☐ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

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

45. ☐ Permanent aboveground storage tank facilities.

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

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

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

☐ N/A

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

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

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

☐ N/A

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

☐ N/A

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

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

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

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

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

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

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

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

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

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

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

    ☒ N/A

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

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

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

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

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

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

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

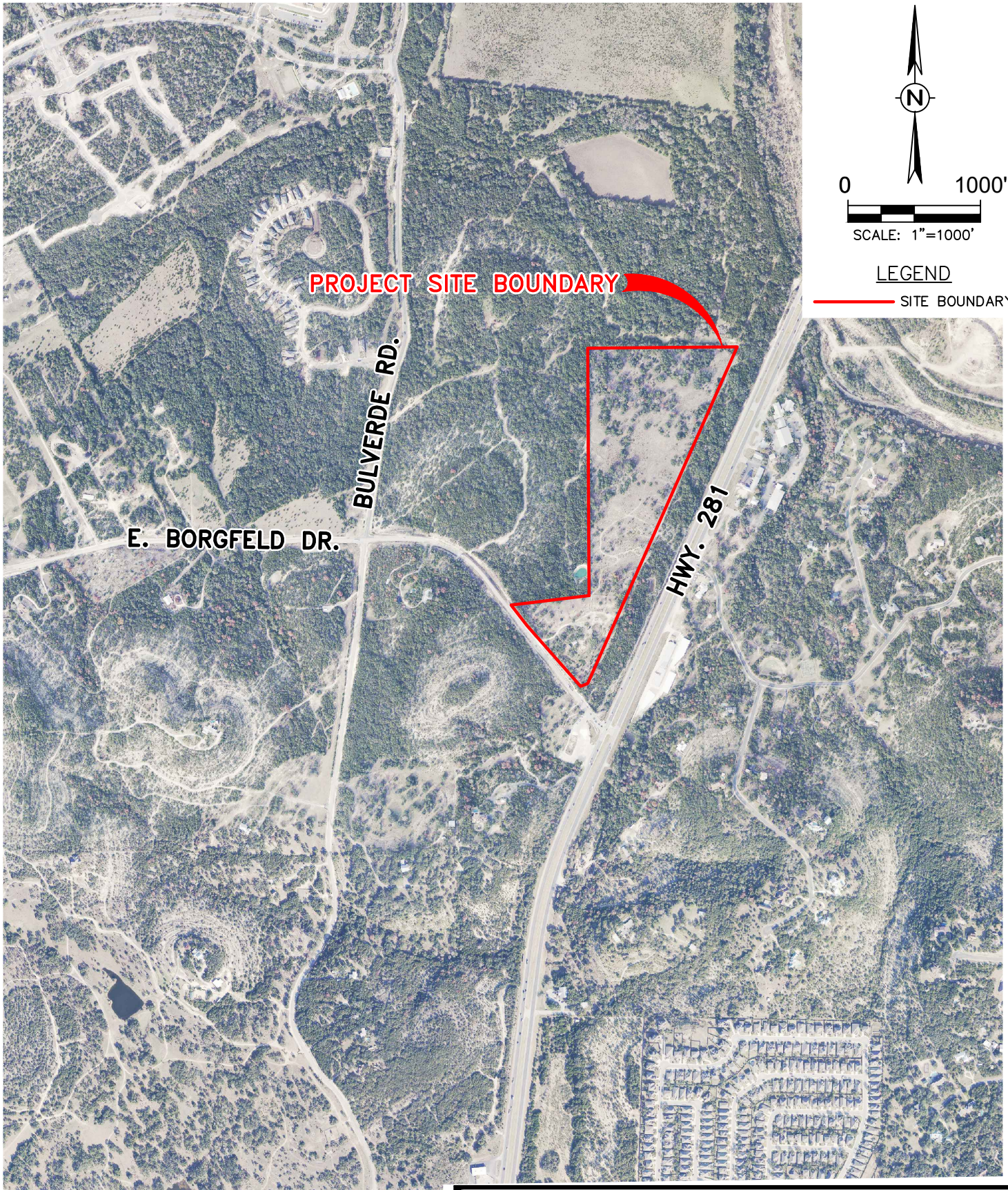
Administrative Information

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

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

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

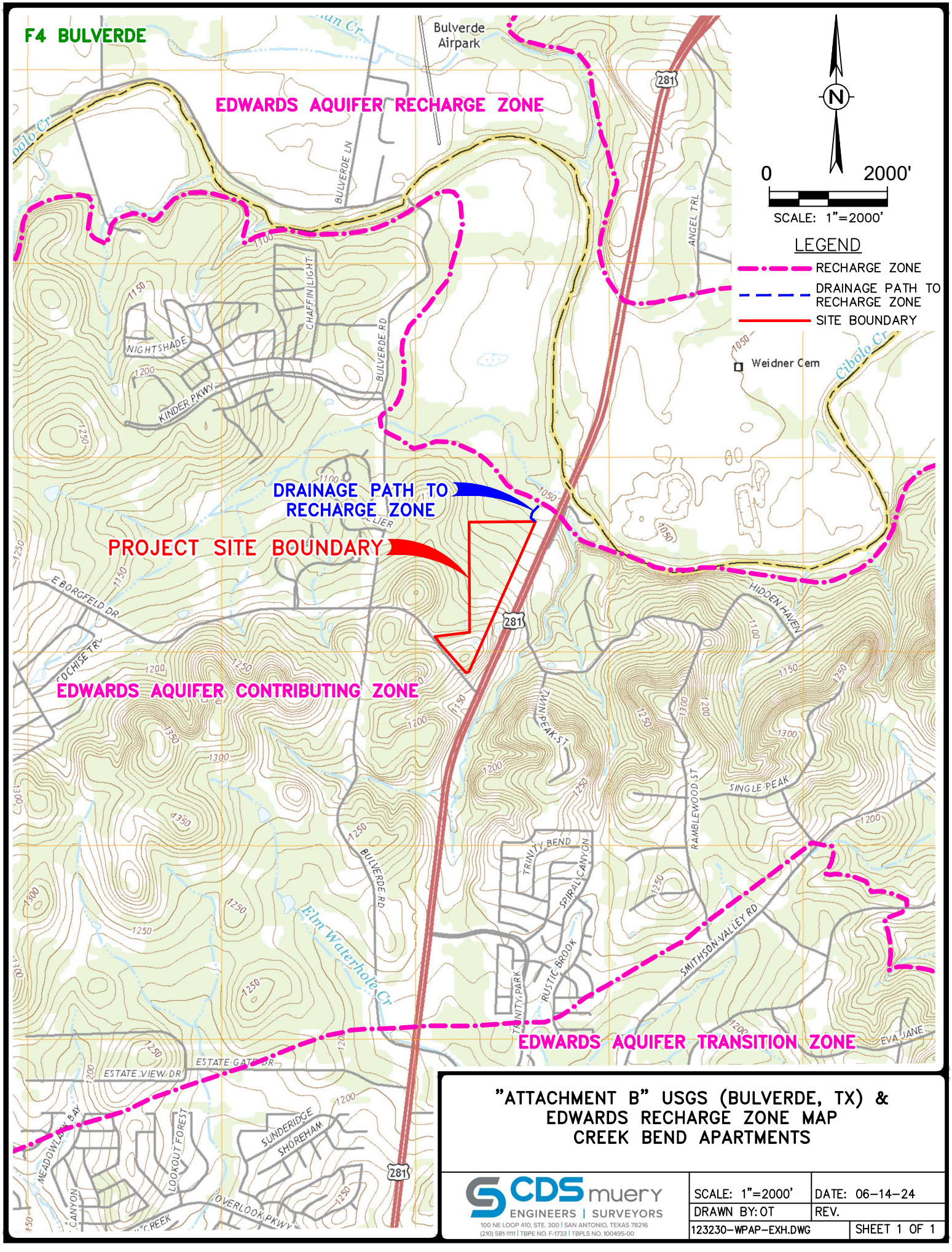
☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.



"ATTACHMENT A"
ROAD MAP
CREEK BEND APARTMENT

CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-1733 | TBPLS NO. 100495-00

SCALE: 1"=1000'	DATE: 06-14-24
DRAWN BY: OT	REV.
123230-WPAP-EXH.DWG	SHEET 1 OF 1



"ATTACHMENT B" USGS (BULVERDE, TX) &
EDWARDS RECHARGE ZONE MAP
CREEK BEND APARTMENTS

CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-1733 | TBPLS NO. 100495-00

SCALE: 1"=2000'	DATE: 06-14-24
DRAWN BY: OT	REV.
123230-WPAP-EXH.DWG	SHEET 1 OF 1

ATTACHMENT C - PROJECT NARRATIVE CREEK BEND APARTMENTS

Creek Bend Apartments is a proposed 37.729-acre (hereafter call 37.73-acres), 3-lot apartment development located at the northwest intersection of US 281 and East Borgfeld Drive within the San Antonio city limits. This property is in the Cibolo Creek watershed.

The overall project area for the TCEQ Contributing Zone Plan (CZP) submittal is 39.70-acres. The project area within the legal boundary (hereafter called on-site) is 37.73-acres. Off-site improvements are proposed within the rights-of way of US 281 and Borgfeld Drive, and this accounts for the CZP project area being 1.96-acres larger than the legal boundary.

Improvements in US 281 include an extension of the south bound access road to serve a proposed driveway to the site. These improvements have been coordinated with TxDOT during the project planning phase and a permit is being submitted to TxDOT for this work. The improvements along Borgfeld include two drives, and curb and sidewalk across the project frontage. All proposed impervious cover lies within the 37.73-acres on-site area or the 1.96-acre offsite area.

Offsite drainage from the west flows across the site in the existing condition and discharges along the north property line. There are two distinct discharge locations along project's north boundary. One is located at the east end of the north boundary and the other approximately 300-feet from the west boundary.

40-acres of offsite-drainage will be intercepted with this project and routed through the site in an underground box culvert to discharge at the north east boundary of the project. No on-site water will tie into the storm drain. This offsite area has no new impervious cover and will bypass the proposed batch detention basin. Flow from the offsite area, the basin, and from drainage along US 281 will connect prior to exiting the property.

20.1-acres of offsite drainage area flows across the site to the western outfall. There is no impervious cover associated with this area or the onsite area through which it flows with this project.

Offsite water and sanitary sewer improvements are required for the development on Borgfeld Dr. and Bulverde Road. These utility improvements, and the project area are entirely located in the Edwards Aquifer Contributing Zone.

The development will include a full build out of 13- apartment buildings on Lot 1, utility extensions through Lot 2 to a batch detention pond and sanitary sewer lift station on Lot 3. Lot 2 may be developed as an apartment project in the future.

Post-development impervious cover is 13.22 acres. 12.53-acres of impervious cover will drain to the batch detention pond. The remaining 0.69-acres of impervious cover does not drain to the pond but overtreatment in the pond ensures that the project's required suspended solid treatment is met. A proposed batch detention basin, designed in accordance with RG-348 criteria, will remove pollutants from stormwater runoff prior to release downstream.

There is an existing home and various sheds and a drive access off Borgfeld Drive located on the property. Pre-development impervious cover has not been included in the calculations within the project area.

Other existing improvements include a water well, an electric transmission line within a 100' easement abutting US 281, power poles along US 281, Borgfeld Drive and service poles to the house and fences throughout the property.

Demolition of the home, fences and the power poles serving the home is proposed. The water well on-site will be plugged.

ATTACHMENT D | Factors Affecting Surface Water Quality

There are several factors that can affect water quality because of the proposed apartment development. These may include, but are not limited to:

- Increased storm water runoff from the increase in impervious area.
- Increase contamination from vehicle traffic. This includes trash and debris from waste collection trucks as well as chemical contaminants (vehicle fluids) from personal vehicles.
- Contamination of soils from grading and site excavation activities during construction.
- Erosion and silt runoff from construction activities.

To address these potential factors, Temporary Best Management Practices (TBMPs) will be installed during construction and monitored/inspected periodically to prevent adverse impact to the water quality during construction. More detailed information can be found in the “Temporary Storm Water” Section of this CZP Application. A batch detention pond is proposed as a Permanent BMP. The pond will be installed at the beginning of the project and will also act as a Temporary BMP. The water quality pond will provide sufficient capture volume to treat the required TSS removal associated with the increase in impervious cover for the project area.

ATTACHMENT E | Volume and Character of Stormwater

A batch detention Permanent BMP is proposed at the northeast corner of the project site. The batch detention basin provides both water quality treatment and attenuation of stormwater flowrates prior to downstream release. The water quality component of the basin, designed according to RG-348 criteria, removes required pollutants associated with project area impervious cover. Drainage improvements direct runoff from most on-site impervious cover to the batch detention basin. The basin removes excess pollutants to account for untreated runoff from uncaptured project area impervious cover.

The stormwater detention component of the basin, designed according to the City of San Antonio's Storm Water Design Criteria Manual, reduces post-development 5-, 25, and 100-year peak flow rates to less than pre-development peak flow rates. The detention volume is stored above the water quality volume within the same basin.

The pond outflow is routed to an onsite natural low and then discharges to the Cibolo Creek floodplain located approximately 340' north of the project boundary.

TABLE 1: PRE-PROJECT CONDITIONS

Creek Bend Apartments Project Area

DRAINAGE AREA (AC)	IMPERVIOUS COVER (AC)	C (RUNOFF COEFFICIENT)	STORM EVENT (YR)	TIME OF CONCENTRATION (MIN)	INTENSITY	FLOW (CFS)
39.70	0.00	0.54	5	25	4.10	88.2
39.70	0.00	0.54	25	25	5.70	122.6
39.70	0.00	0.54	100	25	7.19	154.5

The development results in an increase of 13.22-acres of impervious cover within the CZP boundary.

TABLE 2: POST-PROJECT CONDITIONS (FLOWS DO NOT REFLECT THE IMPACT OF STORMWATER DETENTION)

Creek Bend Apartments Project Area

DRAINAGE AREA (AC)	IMPERVIOUS COVER (AC)	C (RUNOFF COEFFICIENT)	STORM EVENT (YR)	TIME OF CONCENTRATION (MIN)	INTENSITY	FLOW (CFS)
39.70	13.22	0.68	5	13	5.71	154.5
39.70	13.22	0.68	25	13	8.03	217.4
39.70	13.22	0.68	100	13	10.19	275.9

ATTACHMENT F | Suitability Letter from Authorized Agent

This section does not apply. An onsite sewage facility is not proposed for this project. A Sewage Collection System (SCS) Application is submitted concurrently for this project.

ATTACHMENT G | Alternative Secondary Containment Methods and

ATTACHMENT H | AST Containment Structure Drawings

These sections do not apply as no secondary containment is required or provided.

ATTACHMENT I | 20% or Less Impervious Cover Waiver

This waiver does not apply. The site will not be used for multi-family residential development, schools, or small business with 20% or less impervious cover.

ATTACHMENT J | BMPs for Upgradient Stormwater

1. Western Project Boundary.

   Two drainage areas originate upgradient from the west side of the site and flow across the site. Refer to the Master Drainage Plan – Post-Project Conditions included in the attached TCEQ 0602-Temporary Stormwater Section.

   Drainage Area 1 and 2: This 40-acre drainage area discharges onto the site along the west boundary. The flow will be intercepted by a rectangular concrete channel and routed through the site in a concrete box culvert discharging immediately downstream of the batch detention facility outfall (point B1). No site drainage is connected to the culvert. There will be no change in impervious cover associated with this drainage system and therefore no BMP treatment will be required.

   Drainage Area 7: A 20.10-acre drainage area discharges onto the site along the west boundary north of Drainage Areas 1 and 2. This discharge continues to flow naturally across the site, combines with drainage area 8 and discharges at the natural low at point C. No grading or structural improvements are proposed with the project in this watershed so there is no change in discharge, impervious cover, or BMP treatment necessary in this watershed.

2. US 281 Proposed Access Road.

There are two offsite drainage areas upgradient of the proposed US 281 access road.

   Drainage Area 9 discharges to the proposed storm drain crossing of the new access road. This area was constructed as a concrete drain by TxDOT on the recent US 281 project improvement.

   Drainage Area 10 is the existing access road recently constructed with US 281 and ties to the proposed access road improvement.

There is no increase in impervious cover associated with these upstream areas and therefore BMP treatment is not required.

Note that the BMP treatment for the proposed access road and driveway entrance to the site off the access road will be accomplished by excess treatment in the batch detention basin.

3. Natural Low at the Northeast Corner of the Project.

Drainage Area 5A is partially on-site and offsite. No impervious cover improvements are associated with this drainage area which will discharge from the site at drainage Point

B1. No impervious cover is proposed in this watershed and therefore BMP treatment is not required.

ATTACHMENT K | BMPs for On-Site Stormwater

A batch detention Permanent BMP is proposed at the northeast corner of the project site. The batch detention basin provides both water quality treatment and attenuation of stormwater flowrates prior to downstream release. The water quality component of the basin, designed according to RG-348 criteria, removes required pollutants associated with project area impervious cover. Drainage improvements direct runoff from most on-site impervious cover to the batch detention basin. The basin removes excess pollutants to account for runoff from uncaptured project area.

CROSSWINDS APARTMENTS – PERMANENT BMP WATER QUALITY VOLUME AND TSS REMOVAL						
BMP	DRAINAGE AREA (AC.)	IMPERVIOUS COVER (AC)	REQUIRED WATER QUALITY VOLUME (FT^3)	WATER QUALITY VOLUME PROVIDED IN BASIN (FT^3)	REQUIRED TSS REMOVAL (LBS)	DESIGN TSS REMOVAL (LBS)
BATCH DETENTION BASIN	25.54	12.53	94,088	94,088	10,224	11,365
UNCAPTURED PROJECT AREA	14.16	0.69	N.A.	N.A.	563	N.A.
TOTAL AREA	39.70	13.22	94,088	94,088	10,788	11,365

The following pages are the TSS Load calculation sheets for the project.

Crosswinds At Bulverde Apartments
TSS LOADING CALCULATION

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Creek Bend Apartments - Phase 1
Date Prepared: 6/13/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

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

where:

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Bexar	
Total project area included in plan * =	39.70	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	13.22	acres
Total post-development impervious cover fraction * =	0.33	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	10788	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	25.54	acres	**BMP Contributing Drainage Area**
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	12.53	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.49		
$L_{M\ THIS\ BASIN}$ =	10224	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

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

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 =	25.54	acres
A_I =	12.53	acres
A_P =	13.01	acres
L_R =	12027	lbs

STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL ENGINEER
06/19/2024

Crosswinds At Bulverde Apartments
TSS LOADING CALCULATION

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

Desired $L_{M\ THIS\ BASIN}$ =	11365	lbs
F =	0.94	

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

Rainfall Depth =	2.40	inches
Post Development Runoff Coefficient =	0.35	
On-site Water Quality Volume =	78407	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 =	15681	
Total Capture Volume (required water quality volume(s) x 1.20) =	94088	cubic feet

Crosswinds At Bulverde Apartments
TSS LOADING CALCULATION

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Creek Bend Apartments - Phase 1
Date Prepared: 6/13/2024

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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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 =	Bexar	
Total project area included in plan * =	39.70	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	13.22	acres
Total post-development impervious cover fraction * =	0.33	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	10788	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area =	14.16	acres	**BMP Contributring Drainage Area**
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	0.69	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.05		
$L_{M\ THIS\ BASIN}$ =	563	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =
Removal efficiency = #N/A percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

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

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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	#N/A	lbs

Crosswinds At Bulverde Apartments
TSS LOADING CALCULATION

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

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

F = **#N/A**

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

ATTACHMENT L | BMPs for Surface Streams

There are natural lows at drainage points B1 and C along the north property line. No improvements, other than the installation of underground utilities, are occurring in the drainage watershed to point C and therefore no BMPs are proposed.

The discharge leaving the site at drainage point B1 will have a peak discharge that is less than the post development condition because of the Batch Detention Pond just upstream from this outlet. The Batch Detention Permanent BMP removes required pollutant loading from stormwater runoff prior to release from the site at this location.

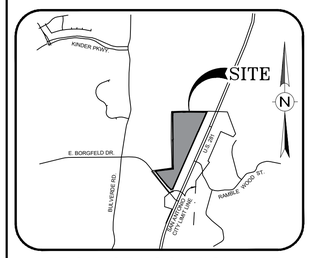
Drainage point B1 is approximately 340’ south of the Cibolo Creek floodplain. The site and natural lows leaving the site are entirely within the Contributing Zone of the Edwards Aquifer.

All uncaptured disturbed area will be stabilized with vegetation or impervious cover prior to discharge to the project area boundary and ultimately Cibolo Creek. The Permanent BMP overtreats the captured area to account for impervious cover within the uncaptured area.

ATTACHMENT M | Construction Plans

Attached are construction plans for the proposed water quality batch detention pond and related details.

PLAT ID 23-11800532



PROJECT LOCATION MAP
N.T.S.

CREEK BEND APARTMENTS - IMPERVIOUS COVER CALCULATIONS							
DRAINAGE AREA DESCRIPTION	DRAINAGE AREA (ACRES)	STRUCTURES / ROOFTOPS (SF)	PARKING/DRIVES (SF)	OTHER PAVED SURFACES (SF)	TOTAL IMPERVIOUS (SF)	TOTAL IMPERVIOUS (AC)	PRE-DEVELOPMENT IMPERVIOUS (ACRES)
DRAINING TO POND	25.54	140,178	341,559	64,056	545,793	12.53	0.00
UNCAPTURED AREA	14.16	0	0	29,940	29,940	0.69	0.00
TOTAL PROJECT AREA	39.70	140,178	341,559	93,996	575,733	13.22	0.00

NOTES:
1. THIS PROJECT IS LOCATED IN THE CONTRIBUTING ZONE OF THE EDWARDS AQUIFER.

2. THE PROJECT IS NOT LOCATED IN A 100-YEAR FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN AS IDENTIFIED ON FLOOD INSURANCE RATE MAP 48029C0130G.

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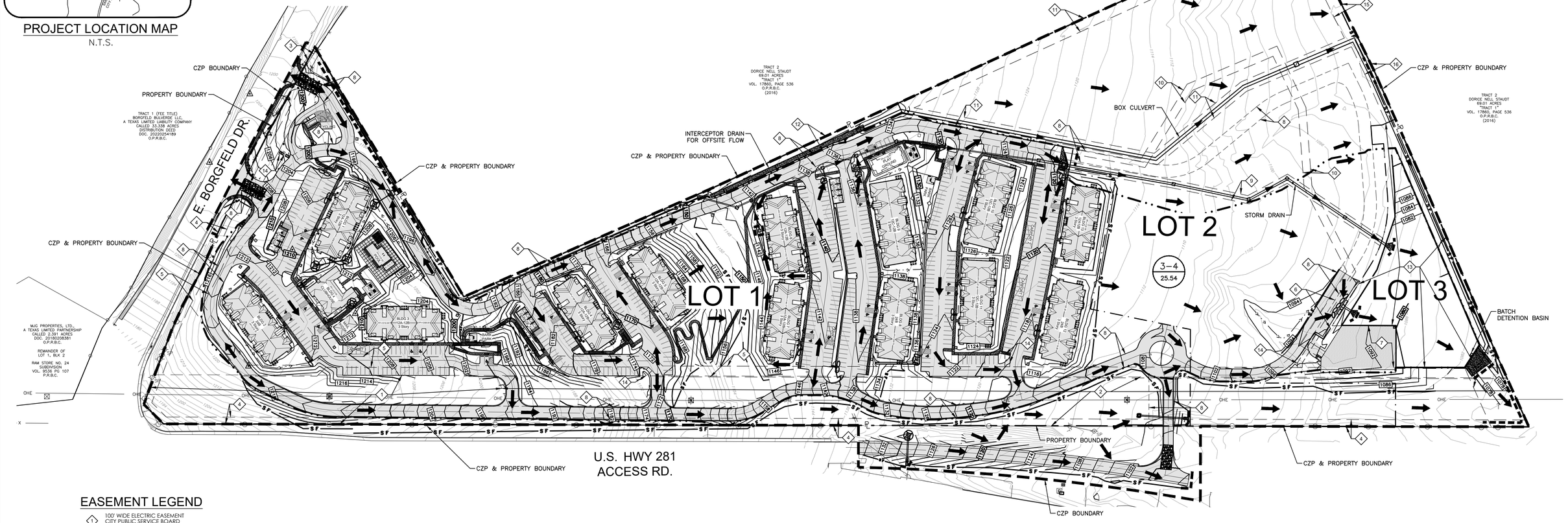
SCALE IN FEET
1"=100'



EASEMENT LEGEND

1. 100' WIDE ELECTRIC EASEMENT CITY PUBLIC SERVICE BOARD DOC. 20160074511 P.R.B.C.T.
2. 100' WIDE ELECTRIC EASEMENT CITY PUBLIC SERVICE BOARD DOC. 20160072935 P.R.B.C.T.
3. 0.004 ACRES CHANNEL EASEMENT BEXAR COUNTY DOC. 20080201870 O.P.R.B.C.T.
4. 14' G.E.T.TV.E.
5. 22' WATER & SANITARY SEWER EASEMENT
6. 23' DRAIN EASEMENT
7. PUBLIC LIFT STATION VARIABLE WIDTH SANITARY SEWER EASEMENT
8. VARIABLE WIDTH (25' MIN.) INGRESS/ EGRESS ACCESS EASEMENT
9. 16' STORM DRAIN EASEMENT
10. 16' SANITARY SEWER EASEMENT
11. 22' STORM DRAIN EASEMENT
12. 16.34' DRAIN EASEMENT
13. VARIABLE WIDTH DRAINAGE EASEMENT (1.91 AC.)
14. WATER EASEMENT
15. 25' DRAIN EASEMENT
16. 20' DRAIN EASEMENT

LEGEND

- LEGAL PROPERTY BOUNDARY
- CZP BOUNDARY = 39.70 ACRES (37.73 ACRES ON-SITE + 1.97 ACRES OFF-SITE)
- NATURAL GROUND CONTOUR
- FINISHED GROUND CONTOUR
- DRAINAGE FLOW DIRECTION
- DRAINAGE SWALE
- PROPOSED IMPERVIOUS COVER
- SILT FENCE
- GRAVEL FILTER BAGS
- ROCK FILTER DAM
- CONSTRUCTION EXIT/ENTRANCE
- CONCRETE WASHOUT PIT
- DRAINAGE AREA TO POND
- LOT LINE BOUNDARY
- DRAINAGE AREA TO BMP (1C / 17.85 ACREAGE)
- PROPOSED STORM DRAIN WITH INLETS
- PROPOSED STORM DRAIN WITH JUNCTION BOX
- PROPOSED CULVERT FLOW DIRECTION

REFER TO SHEET C8.1 FOR OFFSITE DRAINAGE WATER SHED.

NO	DATE	REVISION	BY

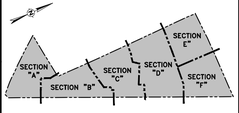
DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

CONTRIBUTING ZONE PLAN
SITE PLAN

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



SHEET NO. C8.0
FILE NO. 123230.00

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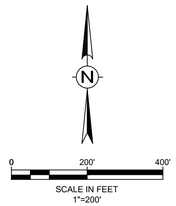

LEGEND

- PROPERTY BOUNDARY
- 852 — EXISTING CONTOURS
- DRAINAGE AREA
- FLOW PATH (TC)
- A1 / 2.05 — AREA / ACREAGE
- A — STUDY POINT
- DRAINAGE FLOW DIRECTION
- CZP BOUNDARY = 39.70 ACRES (37.73 ACRES ON-SITE + 1.97 ACRES OFF-SITE)
- 100-YR FLOODPLAIN
- CONTRIBUTING ZONE LIMIT

NOTES:
1. OFFSITE DRAINAGE AREAS 1 AND 2 DRAIN TO LOT 1 AND ARE COLLECTED IN AN INTERCEPTOR DRAIN AND ROUTED AROUND THE SITE TO DISCHARGE IN THE EXISTING LOW DOWNSTREAM OF THE BATCH DETENTION BASIN.

2. OFFSITE DRAINAGE AREA 7 DISCHARGES TO LOT 2, HAS NO IMPERVIOUS COVER AND ITS DRAINAGE PATTERN WILL NOT BE ALTERED WITH THIS PHASE OF THE DEVELOPMENT.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL
ENGINEER
06/24/2024

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100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

CONTRIBUTING ZONE PLAN
OFFSITE DRAINAGE PLAN

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.1

FILE NO. 123230.00

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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 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.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL ENGINEER
04/24/2024

CDS muery
ENGINEERS | SURVEYORS
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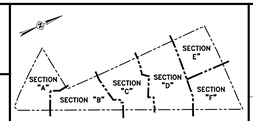
CONTRIBUTING ZONE PLAN
TCEQ GENERAL CONSTRUCTION NOTES

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



SHEET NO. C8.2

FILE NO. 123230.00

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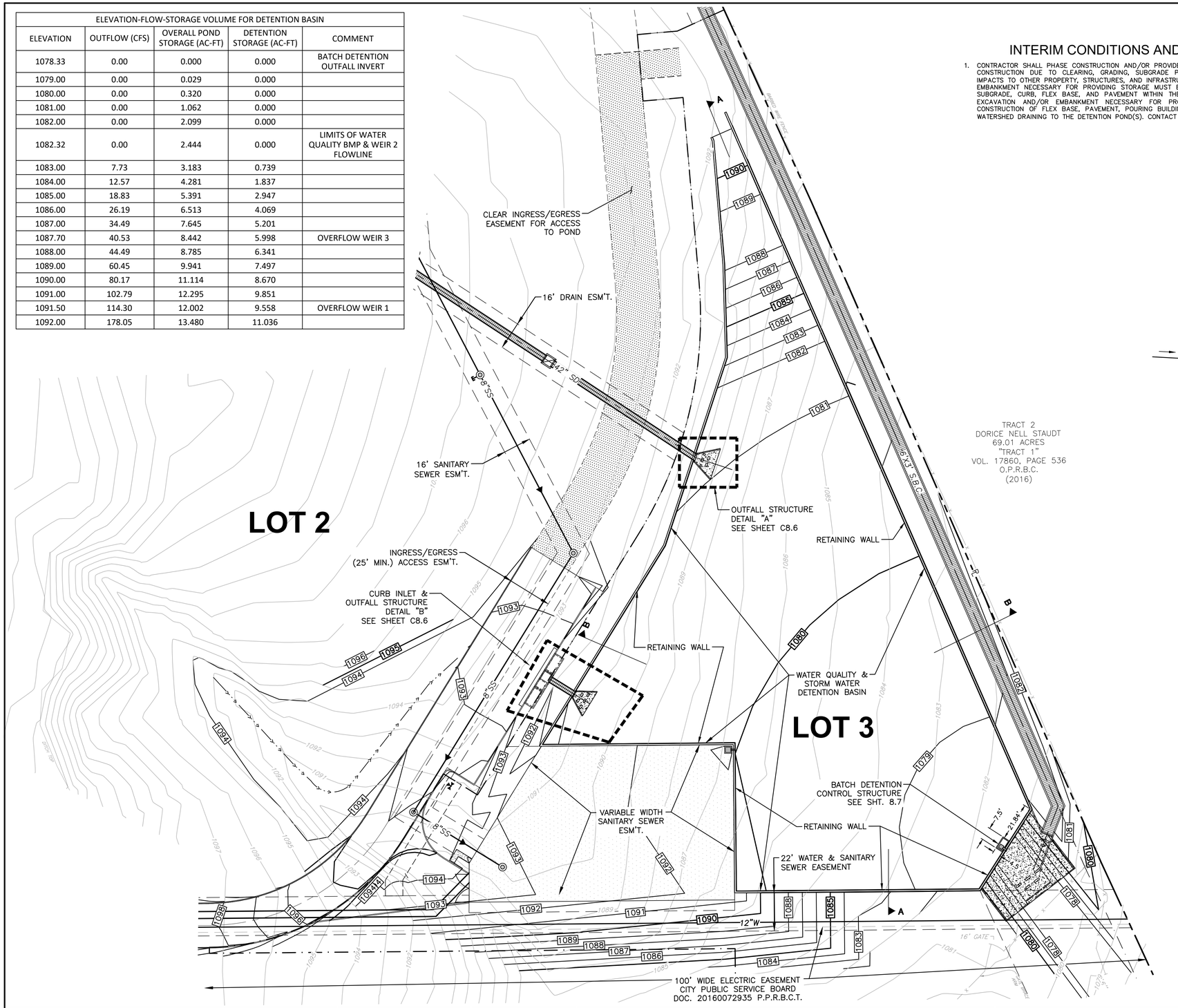
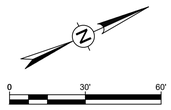
PLAT ID 23-11800532

ELEVATION-FLOW-STORAGE VOLUME FOR DETENTION BASIN				
ELEVATION	OUTFLOW (CFS)	OVERALL POND STORAGE (AC-FT)	DETENTION STORAGE (AC-FT)	COMMENT
1078.33	0.00	0.000	0.000	BATCH DETENTION OUTFALL INVERT
1079.00	0.00	0.029	0.000	
1080.00	0.00	0.320	0.000	
1081.00	0.00	1.062	0.000	
1082.00	0.00	2.099	0.000	
1082.32	0.00	2.444	0.000	LIMITS OF WATER QUALITY BMP & WEIR 2 FLOWLINE
1083.00	7.73	3.183	0.739	
1084.00	12.57	4.281	1.837	
1085.00	18.83	5.391	2.947	
1086.00	26.19	6.513	4.069	
1087.00	34.49	7.645	5.201	
1087.70	40.53	8.442	5.998	OVERFLOW WEIR 3
1088.00	44.49	8.785	6.341	
1089.00	60.45	9.941	7.497	
1090.00	80.17	11.114	8.670	
1091.00	102.79	12.295	9.851	
1091.50	114.30	12.002	9.558	OVERFLOW WEIR 1
1092.00	178.05	13.480	11.036	



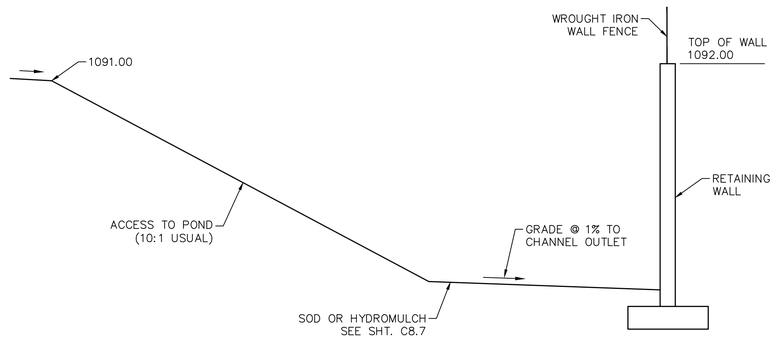
INTERIM CONDITIONS AND DETENTION POND NOTES

1. CONTRACTOR SHALL PHASE CONSTRUCTION AND/OR PROVIDE NECESSARY BMPs TO MITIGATE INTERIM CONDITIONS RUNOFF DURING CONSTRUCTION DUE TO CLEARING, GRADING, SUBGRADE PREPARATION, PAVING, BUILDINGS, ETC., AND TO PREVENT ADVERSE IMPACTS TO OTHER PROPERTY, STRUCTURES, AND INFRASTRUCTURE DURING CONSTRUCTION. DETENTION POND EXCAVATION AND/OR EMBANKMENT NECESSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CITY INSPECTION OF STREET SUBGRADE, CURB, FLEX BASE, AND PAVEMENT WITHIN THE WATERSHED DRAINING TO THE DETENTION POND. DETENTION POND EXCAVATION AND/OR EMBANKMENT NECESSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CONSTRUCTION OF FLEX BASE, PAVEMENT, POURING BUILDING SLABS, OR CONSTRUCTING OTHER IMPERVIOUS COVER WITHIN THE WATERSHED DRAINING TO THE DETENTION POND(S). CONTACT (PUBLIC WORKS) FOR A SITE INSPECTION.



GRADING LEGEND

- PROPERTY BOUNDARY
- 1251 — EXISTING GROUND CONTOUR
- 1250 — PROPOSED GROUND CONTOUR
- 836.70 — PROPOSED SPOT ELEVATION
- WATER QUALITY LINER (SEE SHT C8.5)



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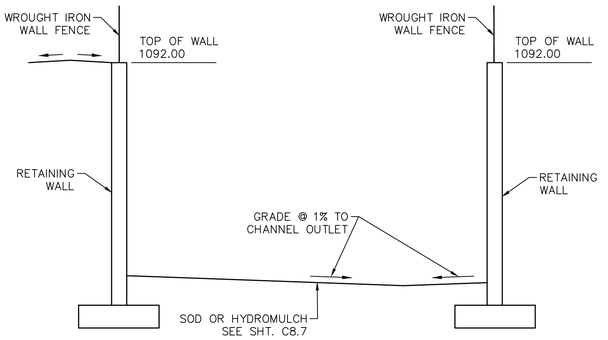
NOT TO SCALE



SECTION "B-B"
NOT TO SCALE

NO	DATE	REVISION	BY

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DRAWN BY OT
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REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
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06/24/2024

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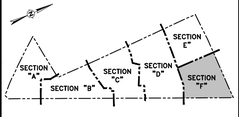
BATCH DETENTION BASIN PLAN

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



SHEET NO. C8.3

FILE NO. 123230.00

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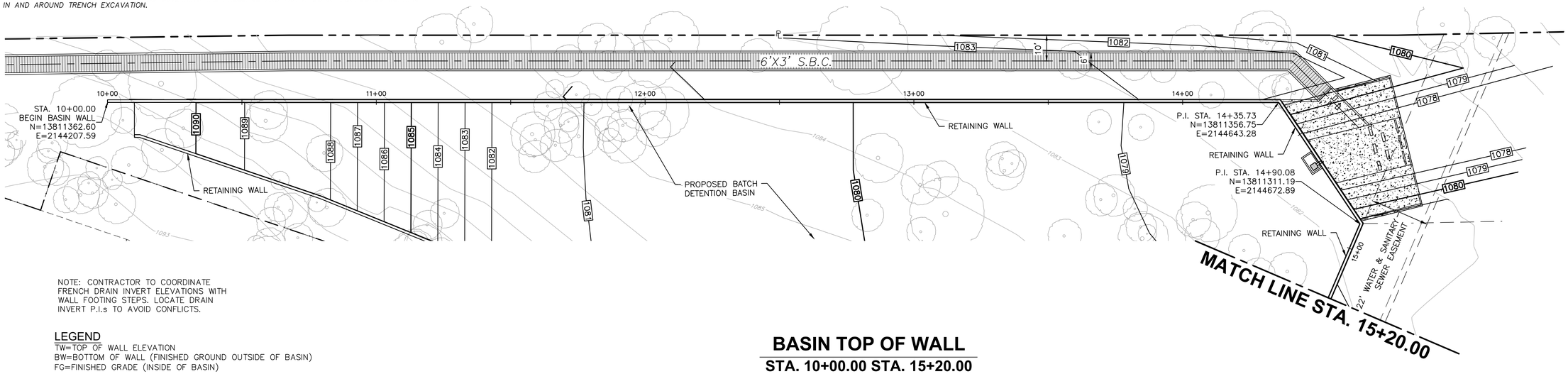
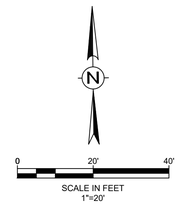
PLAT ID 23-11800532

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



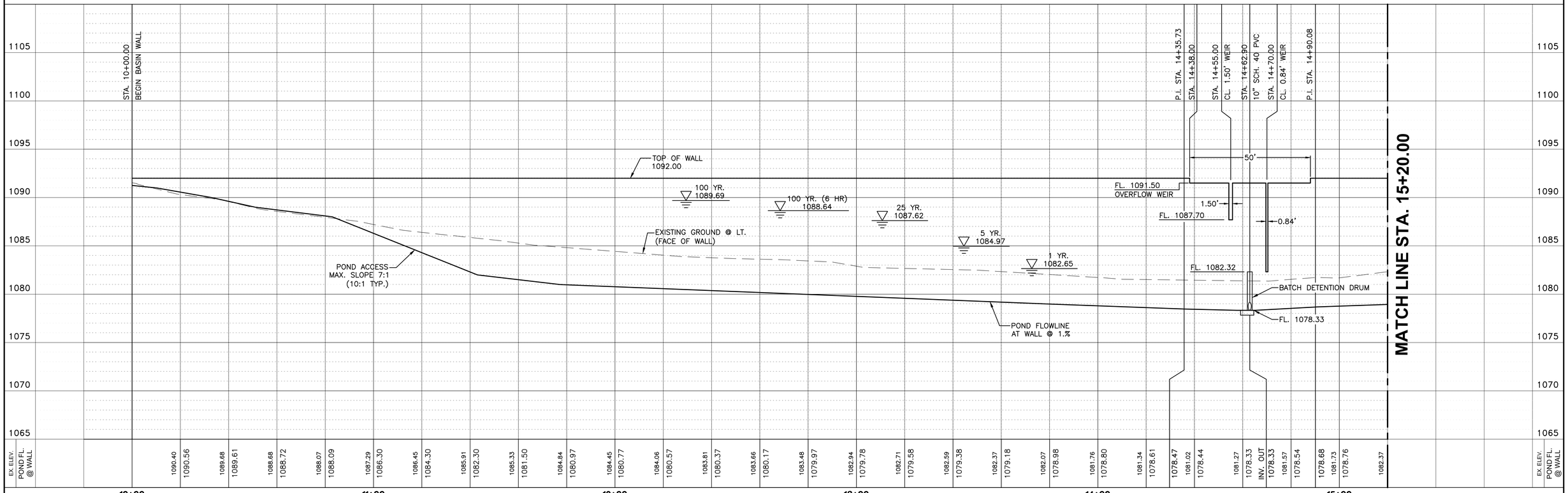


NOTE: CONTRACTOR TO COORDINATE FRENCH DRAIN INVERT ELEVATIONS WITH WALL FOOTING STEPS. LOCATE DRAIN INVERT P.I.s TO AVOID CONFLICTS.

LEGEND
TW=TOP OF WALL ELEVATION
BW=BOTTOM OF WALL (FINISHED GROUND OUTSIDE OF BASIN)
FG=FINISHED GRADE (INSIDE OF BASIN)

BASIN TOP OF WALL
STA. 10+00.00 STA. 15+20.00

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



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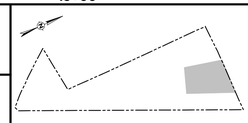
BASIN TOP OF WALL
PLAN & PROFILE (1)

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



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FILE NO. 123230.00
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PLAT ID 23-11800532

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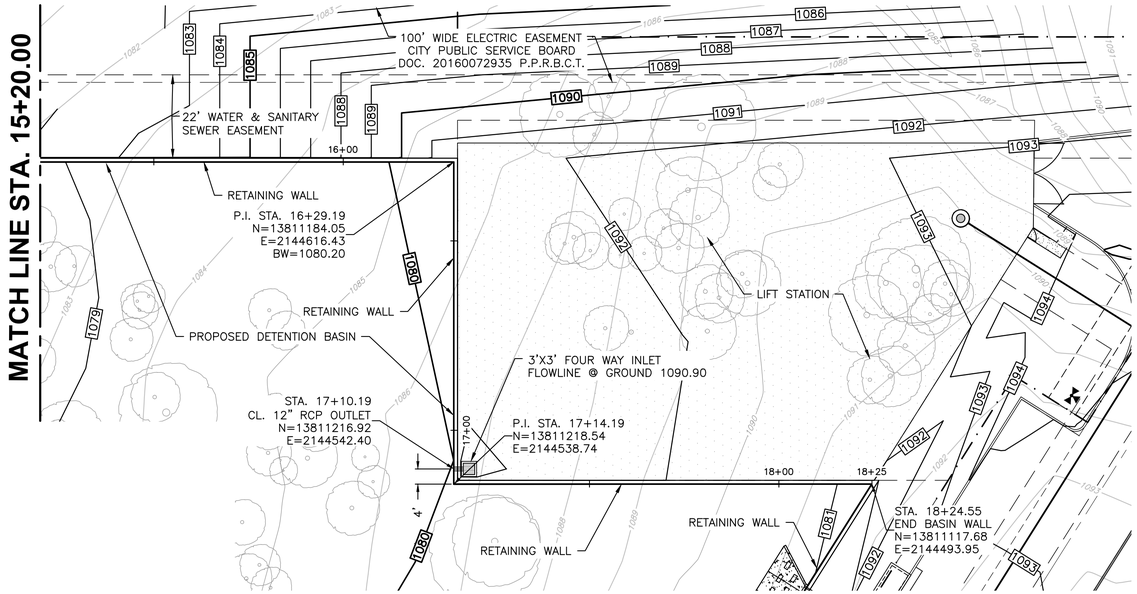

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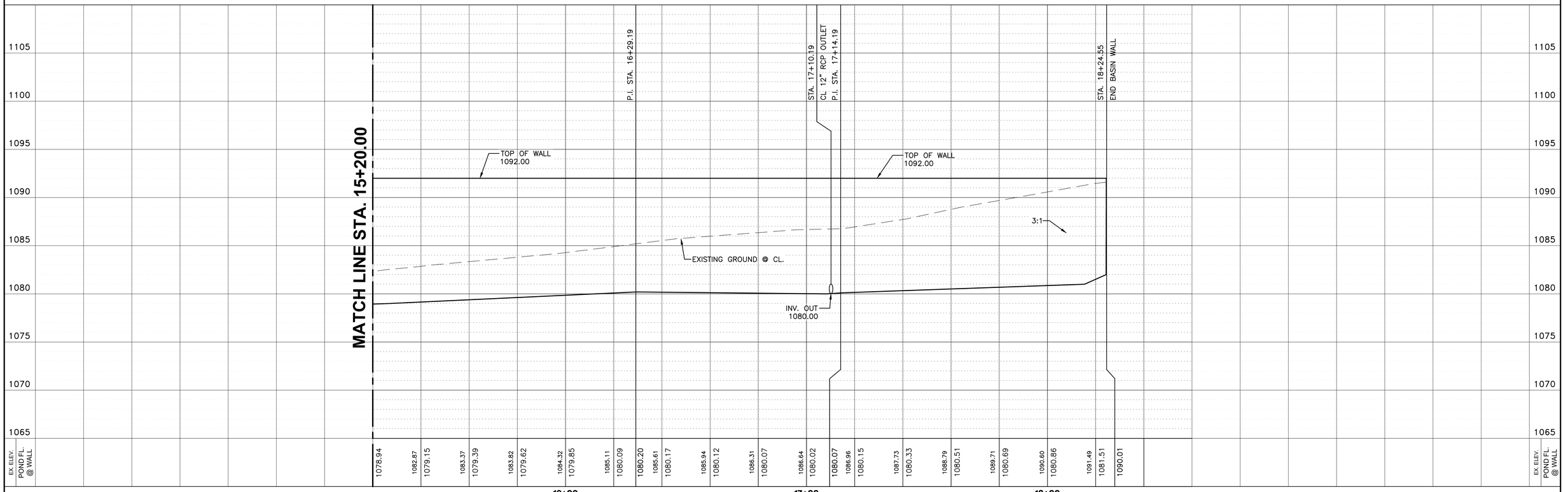
LEGEND

TW=TOP OF WALL ELEVATION
BW=BOTTOM OF WALL (FINISHED GROUND OUTSIDE OF BASIN)
FG=FINISHED GRADE (INSIDE OF BASIN)

BASIN TOP OF WALL
STA. 15+20.00 STA. 18+24.55

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



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BASIN TOP OF WALL
PLAN & PROFILE (2)

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.5

FILE NO. 123230.00

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PLAT ID 23-11800532

TRENCH EXCAVATION SAFETY PROTECTION

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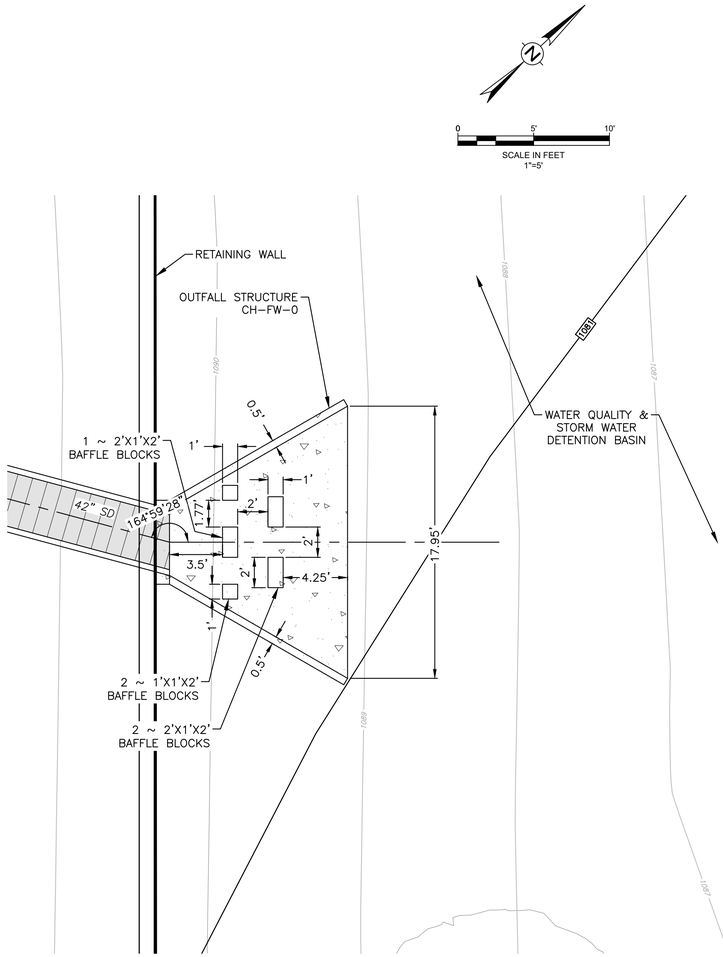
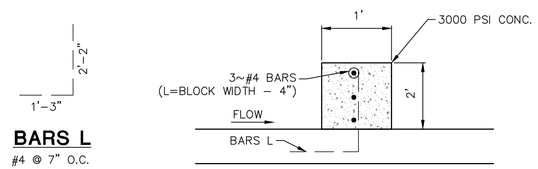
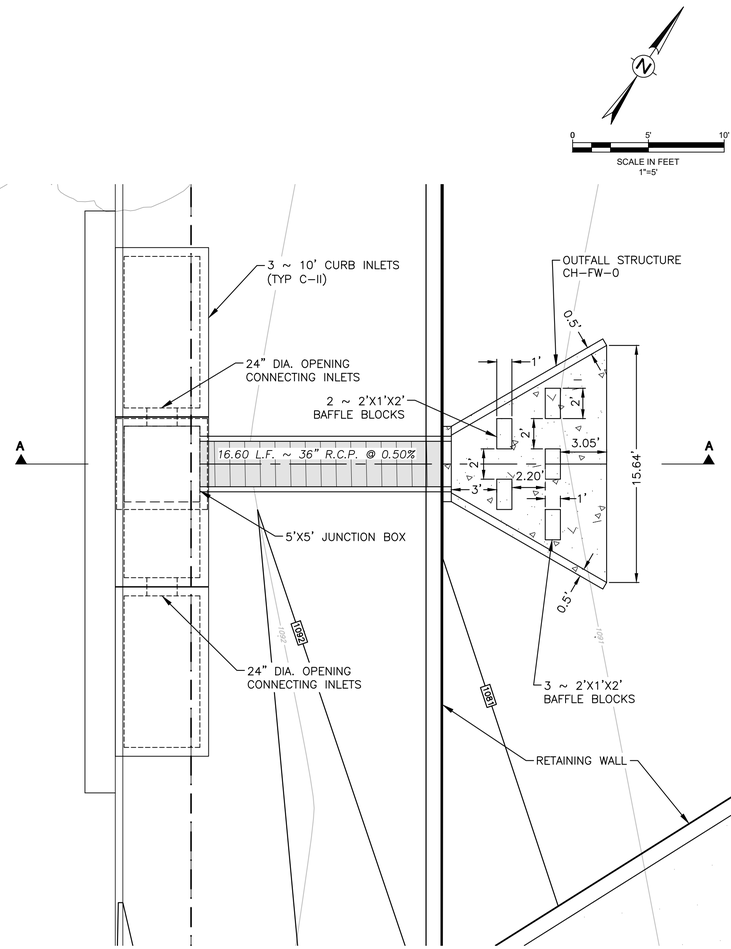


DETAIL "A"

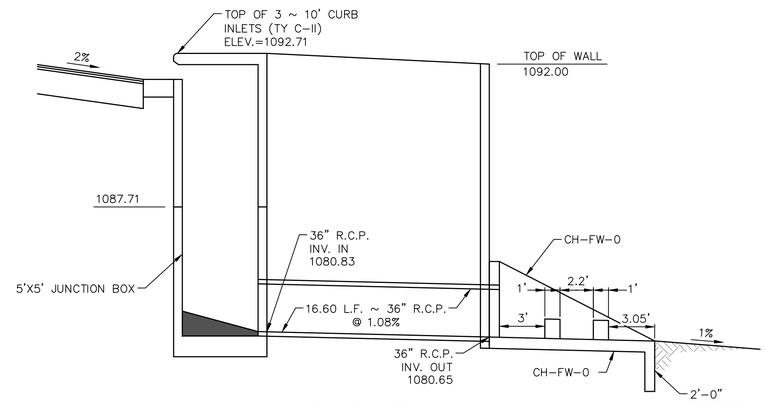


BAFFLE BLOCK DETAIL

NOT TO SCALE



DETAIL "B"



SECTION "A-A"

NOT TO SCALE

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POND INLET HEADWALL DETAILS

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.6

FILE NO. 123230.00

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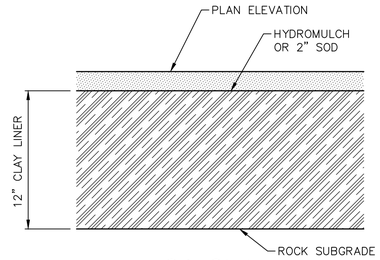
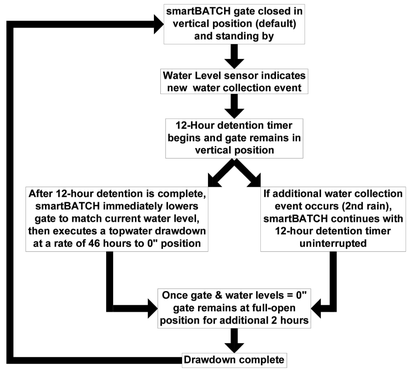
PLAT ID 23-11800532

CLAY LINER SPECIFICATION			
PROPERTY	TEST METHOD	UNIT	SPECIFICATION
PERMEABILITY	ASTM D-2434	cm/sec	1 x 10-6
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	Not less than 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	Not less than 30
CLAY PARTICLES PASSING	ASTM D-422	%	Not less than 30
CLAY COMPACTION	ASTM D-2216	%	95% of Standard Proctor Density

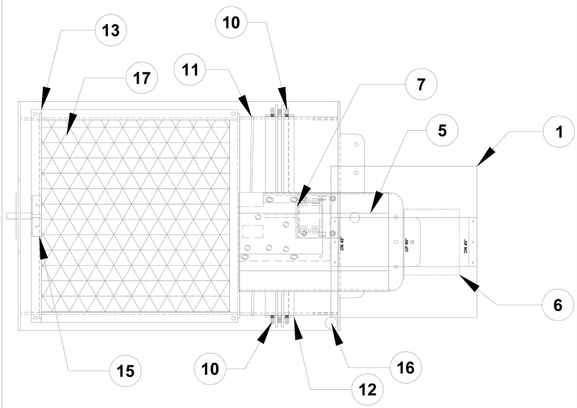


OPTION 1
CLAY LINER
NOT TO SCALE

PROGRAMMABLE LOGIC FLOW CHART

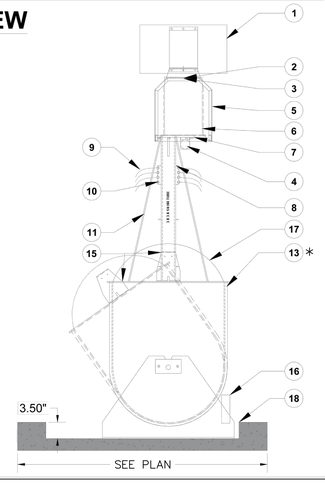


TOP VIEW

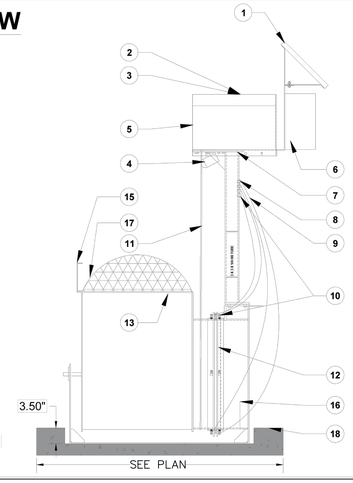


Parts List	
Item	smartBATCH Components
1	12 V SOLAR PANEL WITH 30 WATT CHARGING CAPACITY
2	ANTENNA (NOT DISPLAYED)
3	CELL DATA MODEM (NOT DISPLAYED)
4	CAMERA
5	WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX
7	PEDESTAL
8	REMOTE GREASE MANIFOLD
9	GREASE TUBES
10	GREASE FITTINGS
11	$\frac{3}{16}$" Galvanized Cables
12	24" Rotary Valve
13	24" Drum (30"-70" TALL) *
14	Outlet Pipe (Size TBD By Engineer, Max 24")
15	Inclinometer
16	Level Transducer
17	Beehive Grate
18	6" Concrete Pad (By Others, Size Varies)

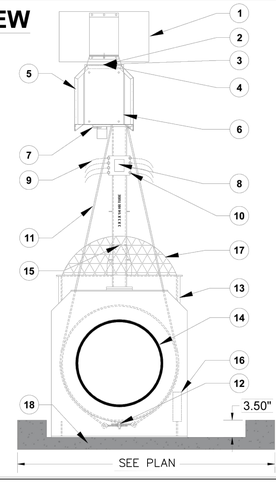
FRONT VIEW



SIDE VIEW



BACK VIEW



BATCH DETENTION CONTROL VALVE DETAILS

*TOP OF DRUM ELEV=840.50

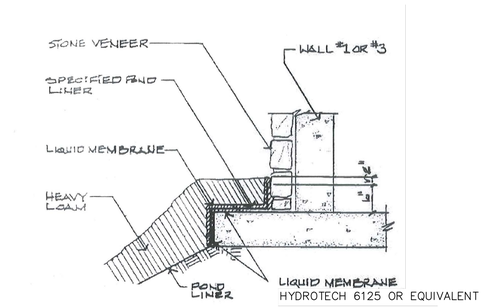
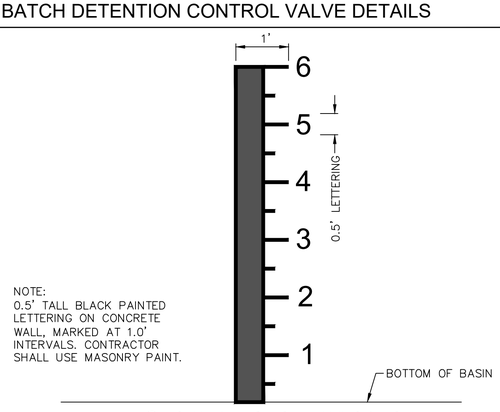


Figure 3-14 Pond Liner Attached to Exterior of Rock Wall (Courtesy COA)

Figure 3-15 presents an installation where the liner is installed prior to concrete forming. The liner is installed and keyed in above the maximum water level. The excavation is backfilled before forming and pouring the concrete.

MEMBRANE LINER AT WALL



NOTE:
0.5' TALL BLACK PAINTED LETTERING ON CONCRETE WALL, MARKED AT 1.0' INTERVALS. CONTRACTOR SHALL USE MASONRY PAINT.

SEDIMENT DEPTH MARKER
NOT TO SCALE

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL ENGINEER
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

BASIN DETAILS

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.7

FILE NO. 123230.00

P:\JOBS\2023\123230 Pedcor Creek Bend Apts Ph1_FF\Civil 3D\Dwg\Engineer\123230-BASIN-LINING-DTLS.dwg

PLAT ID 23-11800532

DATE:
FILE:

TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (4)

SLOPE	DIA OF PIPE, D	Values for one Pipe W	X	Y	L	Reinf (Lbs)	Conc (CY) (1)	Values to be added for each addt'l Pipe X and W	Reinf (Lbs)	Conc (CY) (1)
2:1	12"	4'- 7 1/2"	2'- 6"	2'-10"	3'- 3 1/4"	84	0.6	1'- 9"	20	0.2
	15"	5'- 5 3/4"	2'- 9 1/2"	3'- 4"	3'-10 1/4"	99	0.7	2'- 2"	24	0.3
	18"	6'- 4 1/4"	3'- 1"	3'-10"	4'- 5"	120	0.9	2'- 8"	32	0.3
	21"	7'- 2 3/4"	3'- 4 1/2"	4'- 4"	5'- 0"	137	1.1	3'- 1"	43	0.4
	24"	8'- 2 1/2"	3'- 9 1/2"	4'-10"	5'- 7"	158	1.3	3'- 7"	50	0.5
	27"	9'- 1"	4'- 1"	5'- 4"	6'- 2"	173	1.5	3'-11"	56	0.6
	30"	9'-11 1/2"	4'- 4 1/2"	5'-10"	6'- 8 3/4"	197	1.7	4'- 4"	65	0.8
	33"	10'-10"	4'- 8"	6'- 4"	7'- 3 3/4"	216	2.0	4'- 8"	71	0.9
	36"	11'- 8 1/4"	4'-11 1/2"	6'-10"	7'-10 3/4"	241	2.2	5'- 1"	81	1.0
	42"	13'- 5 1/4"	5'- 6 1/2"	7'-10"	9'- 0 1/2"	290	2.8	5'-10"	97	1.3
	48"	15'- 9"	6'- 1 1/2"	9'- 4"	10'- 9 1/4"	350	3.8	6'- 7"	117	1.7
	54"	17'- 5 3/4"	6'- 8 1/2"	10'- 4"	11'-11 1/4"	415	4.5	7'- 6"	151	2.1
	60"	19'- 2 3/4"	7'- 3 1/2"	11'- 4"	13'- 1"	469	5.3	8'- 3"	174	2.5
	66"	20'-11 1/2"	7'-10 1/2"	12'- 4"	14'- 3"	530	6.2	8'- 9"	194	2.9
	72"	22'- 8 1/2"	8'- 5 1/2"	13'- 4"	15'- 4 3/4"	587	7.1	9'- 4"	213	3.3
3:1	12"	6'- 3"	2'- 6"	4'- 3"	4'-11"	114	0.8	1'- 9"	22	0.2
	15"	7'- 5"	2'- 9 1/2"	5'- 0"	5'- 9 1/4"	133	1.1	2'- 2"	28	0.3
	18"	8'- 6 3/4"	3'- 1"	5'- 9"	6'- 7 3/4"	166	1.3	2'- 8"	37	0.5
	21"	9'- 8 3/4"	3'- 4 1/2"	6'- 6"	7'- 6"	189	1.6	3'- 1"	48	0.6
	24"	11'- 0"	3'- 9 1/2"	7'- 3"	8'- 4 1/2"	221	2.0	3'- 7"	58	0.7
	27"	12'- 2"	4'- 1"	8'- 0"	9'- 2 3/4"	245	2.3	3'-11"	67	0.8
	30"	13'- 4"	4'- 4 1/2"	8'- 9"	10'- 1 1/4"	287	2.7	4'- 4"	77	1.0
	33"	14'- 5 3/4"	4'- 8"	9'- 6"	10'-11 3/4"	310	3.1	4'- 8"	84	1.2
	36"	15'- 7 3/4"	4'-11 1/2"	10'- 3"	11'-10"	343	3.5	5'- 1"	96	1.4
	42"	17'-11 1/2"	5'- 6 1/2"	11'- 9"	13'- 6 3/4"	424	4.5	5'-10"	119	1.7
	48"	21'- 1 3/4"	6'- 1 1/2"	14'- 0"	16'- 2"	527	6.1	6'- 7"	146	2.3
	54"	23'- 5 1/2"	6'- 8 1/2"	15'- 6"	17'-10 3/4"	618	7.3	7'- 6"	186	2.9
	60"	25'- 9 1/4"	7'- 3 1/2"	17'- 0"	19'- 7 1/2"	707	8.7	8'- 3"	219	3.4
	66"	28'- 1"	7'-10 1/2"	18'- 6"	21'- 4 1/4"	797	10.1	8'- 9"	242	3.9
	72"	30'- 4 3/4"	8'- 5 1/2"	20'- 0"	23'- 1 1/4"	910	11.7	9'- 4"	272	4.4
4:1	12"	7'-10 3/4"	2'- 6"	5'- 8"	6'- 6 1/2"	144	1.1	1'- 9"	24	0.3
	15"	9'- 4"	2'- 9 1/2"	6'- 8"	7'- 8 1/2"	177	1.5	2'- 2"	32	0.4
	18"	10'- 9 1/2"	3'- 1"	7'- 8"	8'-10 1/4"	217	1.9	2'- 8"	42	0.5
	21"	12'- 2 3/4"	3'- 4 1/2"	8'- 8"	10'- 0"	254	2.3	3'- 1"	57	0.7
	24"	13'- 9 1/2"	3'- 9 1/2"	9'- 8"	11'- 2"	295	2.8	3'- 7"	67	0.9
	27"	15'- 3"	4'- 1"	10'- 8"	12'- 3 3/4"	328	3.3	3'-11"	77	1.0
	30"	16'- 8 1/4"	4'- 4 1/2"	11'- 8"	13'- 5 3/4"	379	3.8	4'- 4"	89	1.3
	33"	18'- 1 3/4"	4'- 8"	12'- 8"	14'- 7 1/2"	417	4.5	4'- 8"	101	1.4
	36"	19'- 7"	4'-11 1/2"	13'- 8"	15'- 9 1/4"	464	5.1	5'-1"	115	1.7
	42"	22'- 5 3/4"	5'- 6 1/2"	15'- 8"	18'- 1"	575	6.5	5'-10"	141	2.1
	48"	26'- 6 1/4"	6'- 1 1/2"	18'- 8"	21'- 6 3/4"	720	8.9	6'- 7"	175	2.8
	54"	29'- 5"	6'- 8 1/2"	20'- 8"	23'-10 1/4"	863	10.7	7'- 6"	226	3.6
	60"	32'- 3 3/4"	7'- 3 1/2"	22'- 8"	26'- 2"	984	12.7	8'- 3"	264	4.3
	66"	35'- 2 1/2"	7'-10 1/2"	24'- 8"	28'- 5 3/4"	1126	14.9	8'- 9"	300	4.9
	72"	38'- 1 1/4"	8'- 5 1/2"	26'- 8"	30'- 9 1/2"	1283	17.3	9'- 4"	334	5.6
6:1	12"	11'- 2"	2'- 6"	8'- 6"	9'- 9 3/4"	220	1.9	1'- 9"	28	0.4
	15"	13'- 2 1/4"	2'- 9 1/2"	10'- 0"	11'- 6 1/2"	264	2.5	2'- 2"	37	0.5
	18"	15'- 2 1/2"	3'- 1"	11'- 6"	13'- 3 1/4"	326	3.2	2'- 8"	50	0.7
	21"	17'- 2 3/4"	3'- 4 1/2"	13'- 0"	15'- 0 1/4"	381	3.9	3'- 1"	69	0.9
	24"	19'- 4 1/2"	3'- 9 1/2"	14'- 6"	16'- 9"	447	4.8	3'- 7"	80	1.2
	27"	21'- 4 3/4"	4'- 1"	16'- 0"	18'- 5 3/4"	506	5.7	3'-11"	96	1.4
	30"	23'- 5 1/4"	4'- 4 1/2"	17'- 6"	20'- 2 1/2"	587	6.7	4'- 4"	110	1.7
	33"	25'- 5 1/2"	4'- 8"	19'- 0"	21'-11 1/4"	667	7.8	4'- 8"	127	2.0
	36"	27'- 5 3/4"	4'-11 1/2"	20'- 6"	23'- 8"	727	9.0	5'- 1"	144	2.3
	42"	31'- 6 1/4"	5'- 6 1/2"	23'- 6"	27'- 1 1/2"	914	11.5	5'-10"	179	3.0
	48"	37'- 3 1/2"	6'- 1 1/2"	28'- 0"	32'- 4"	1181	15.9	6'- 7"	231	4.0
	54"	41'- 4 1/4"	6'- 8 1/2"	31'- 0"	35'- 9 1/2"	1412	19.2	7'- 6"	300	5.0
	60"	45'- 4 3/4"	7'- 3 1/2"	34'- 0"	39'- 3"	1619	22.9	8'- 3"	353	6.0

ELEVATION
Showing dimensions

(1) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(2) For vehicle safety, curbs shall project no more than 3" above finished grade. Curb heights shall be reduced, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(3) Provide a 1'-0" footing as shown where required to maintain 4" Min cover for pipes.

(4) Quantities shown are for one structure end only (one headwall).

(5) Min Length = $6" + 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right)$

Max Length = $12 \times H - 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right) - 1"$

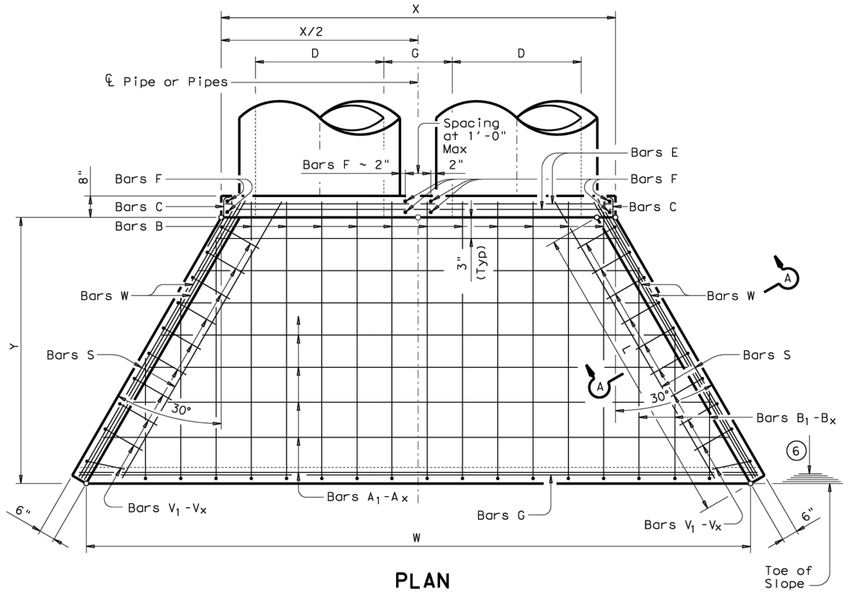
(6) Lengths of wings based on SL:1 Slope along this line.

TABLE OF REINFORCING STEEL (4)

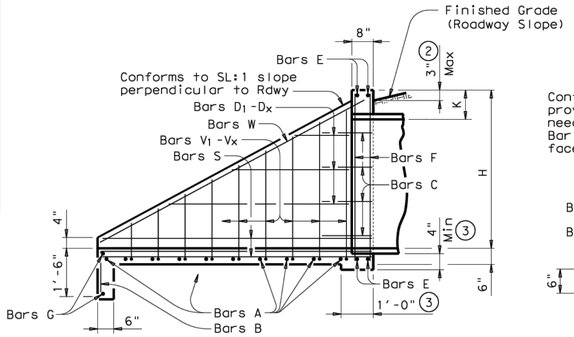
Bar	Size	Spa	No.
A	# 4	1'-0"	~
B	# 3	1'-6"	~
C	# 4	1'-0"	~
D	# 3	1'-0"	~
E	# 5	~	4
F	# 5	~	~
G	# 3	~	2
S	# 4	~	6
V	# 4	1'-0"	~
W	# 5	~	4

TABLE OF CONSTANT DIMENSIONS

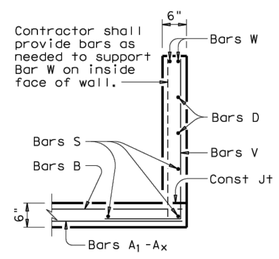
DIA OF PIPE, D	G	K	H
12"	9"	1'- 0"	2'- 0"
15"	11"	1'- 0"	2'- 3"
18"	1'- 2"	1'- 0"	2'- 6"
21"	1'- 4"	1'- 0"	2'- 9"
24"	1'- 7"	1'- 0"	3'- 0"
27"	1'- 8"	1'- 0"	3'- 3"
30"	1'-10"	1'- 0"	3'- 6"
33"	1'-11"	1'- 0"	3'- 9"
36"	2'- 1"	1'- 0"	4'- 0"
42"	2'- 4"	1'- 0"	4'- 6"
48"	2'- 7"	1'- 3"	5'- 3"
54"	3'- 0"	1'- 3"	5'- 9"
60"	3'- 3"	1'- 3"	6'- 3"
66"	3'- 3"	1'- 3"	6'- 9"
72"	3'- 4"	1'- 3"	7'- 3"



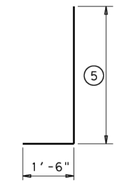
PLAN



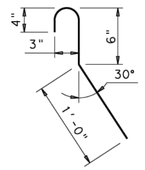
TYPICAL WING ELEVATION



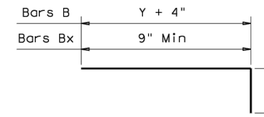
SECTION A-A



BARS V



BARS C
(2'-0" long)



BARS B & B1-Bx

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.

Reinforcing steel shall be placed with the center of the outside layer of bars 2" from the surface of the concrete.

All reinforcing steel shall be Grade 60.

All concrete shall be Class "C" and shall have a minimum compressive strength of 3600 psi.

No bridge rails of any type may be mounted directly to these culvert headwalls.

Texas Department of Transportation | Bridge Division Standard

CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS

CH-FW-0

FILE: chfw00se.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
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CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
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CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

STANDARD HEADWALL DETAILS (1)

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.8

FILE NO. 123230.00

P:\JOBS\2023\123230 Pedcor Creek Bend Apts Ph1_FF\Civil 3D\Dwg\Engineer\123230-BASIN-HW-DTLS.dwg

DATE:
FILE:

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	W	X	Y	Z	Variable Reinforcing Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Estimated Quantities per ft of wing length (2~wings) ③ Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING
(2~wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:
(All values are in feet.)

$Hw = H + T + C - 0.250'$
$A = (Hw - 0.333') (SL)$
$B = (A)$ tangent $(30°)$
$Lw = (A) \div$ cosine $(30°)$

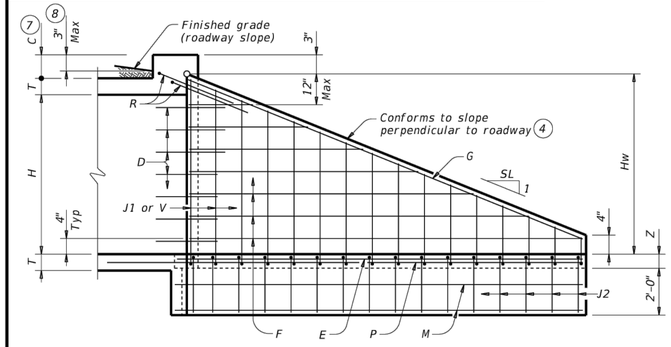
For cast-in-place culverts:
$Ltw = (N) (S) + (N + 1) (U)$

For precast culverts:
$Ltw = (N) (2U + S) + (N - 1) (0.5')$

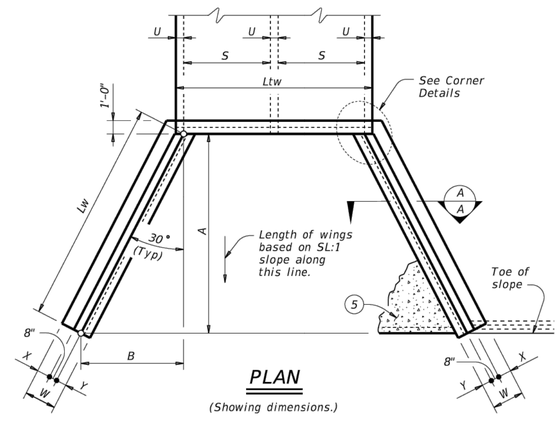
Total wingwall area (two wings ~ SF) = $(Hw + 0.333') (Lw)$

Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

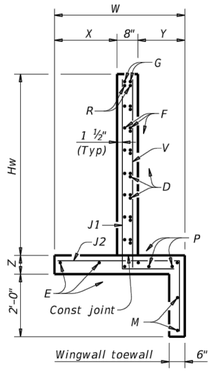
See applicable box culvert standard sheet for H, S, T, and U values.



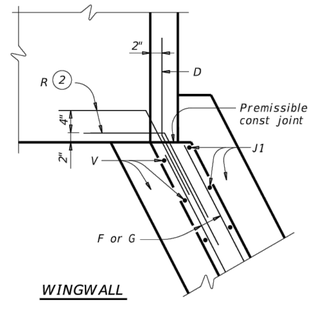
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



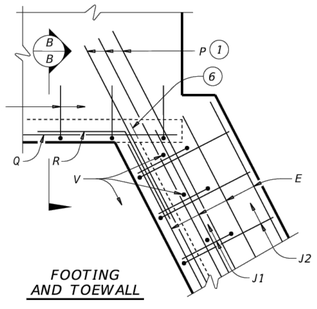
PLAN
(Showing dimensions.)



SECTION A-A

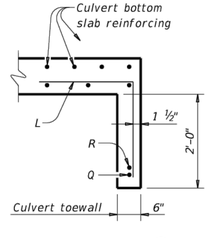


WINGWALL

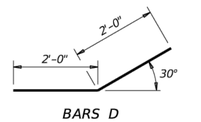


FOOTING AND TOEWALL

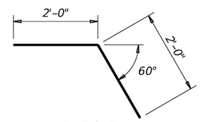
CORNER DETAILS
(Culvert and culvert toewall reinforcing not shown for clarity.)



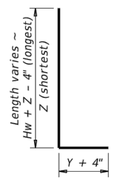
SECTION B-B ⑤



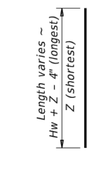
BARS D



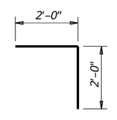
BARS R



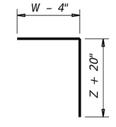
BARS J1



BARS V



BARS L



BARS J2

1. Extend Bars P 3'-0" minimum into bottom slab of box culvert.
2. Adjust as necessary to maintain 1 1#2" clear cover and 4" minimum between bars.
3. Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.
4. Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.
5. When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap." Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'-6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.
6. At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.
7. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
8. For vehicle safety, the following requirements must be met:
   - For structures without bridge rail, construct curbs no more than 3" above finished grade.
   - For structures with bridge rail, construct curbs flush with finished grade.

   Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
In riprap concrete synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation | Bridge Division Standard

CONCRETE WINGWALLS
WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

FILE: CD-FW0-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733 — STATE OF TEXAS — DAVID P. BEALES — 58552 — REGISTERED — ENGINEER — 05/24/2024

CDS muery ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

STANDARD HEADWALL DETAILS (2)

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.9

FILE NO. 123230.00

P:\JOBS\2023\123230 Pedcor Creek Bend Apts Ph1_FF\Civil 3D\Dwg\Engineer\123230-BASIN-HW-DTLS.dwg

PLAT ID 23-11800532

PLAT ID 23-11800532

DATE:
FILE:

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

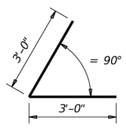
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2–wings) (4)		Estimated Quantities per ft of Toewall (1–toewall)	
Maximum Wingwall Height Hw	W	X	Y	Z	Bars J1		Bars J2		Reinf Lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
					Size	Spa	Size	Spa				
2'–6"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	48.64	0.406	6.85	0.071
2'–9"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	49.31	0.424	6.85	0.071
3'–0"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	49.98	0.444	6.85	0.071
3'–3"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	53.32	0.462	6.85	0.071
3'–6"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	53.98	0.480	6.85	0.071
4'–0"	3'–2"	1'–2"	1'–0"	7"	#4	1'–0"	#4	1'–0"	55.77	0.532	6.85	0.071
4'–6"	3'–2"	1'–2"	1'–0"	7"	#4	1'–0"	#4	1'–0"	59.77	0.568	6.85	0.071
5'–0"	3'–9"	1'–7"	1'–2"	7"	#4	1'–0"	#4	1'–0"	63.45	0.632	6.96	0.075
5'–6"	3'–9"	1'–7"	1'–2"	7"	#4	1'–0"	#4	1'–0"	67.46	0.668	6.96	0.075
6'–0"	4'–4"	2'–0"	1'–4"	7"	#5	1'–0"	#5	1'–0"	80.67	0.730	7.07	0.078
6'–6"	4'–4"	2'–0"	1'–4"	7"	#5	1'–0"	#5	1'–0"	85.05	0.768	7.07	0.078
7'–0"	5'–0"	2'–3"	1'–9"	8"	#5	1'–0"	#5	1'–0"	92.15	0.864	8.07	0.093
7'–6"	5'–0"	2'–3"	1'–9"	8"	#5	1'–0"	#5	1'–0"	96.54	0.902	8.07	0.093
8'–0"	5'–6"	2'–8"	1'–10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'–6"	5'–6"	2'–8"	1'–10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'–6"	6'–0"	2'–10"	2'–2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'–6"	6'–5"	3'–0"	2'–5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'–6"	7'–2"	3'–6"	2'–8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'–6"	7'–8"	3'–9"	2'–11"	1'–0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'–6"	8'–2"	4'–0"	3'–2"	1'–2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'–6"	8'–10"	4'–5"	3'–5"	1'–4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'–6"	9'–6"	4'–10"	3'–8"	1'–6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'–0"	9'–11"	5'–0"	3'–11"	1'–7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2–wings)

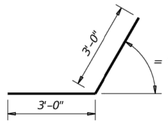
Bar	Size	No.	Spa
D1	#6	~	1'–0"
D2	#6	~	1'–0"
E1	#4	~	1'–0"
F	#4	~	1'–0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'–0"
V	#4	~	1'–0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No.	Spa
J3	#4	~	1'–0"
M2	#4	2	~
E2	#4	~	1'–0"



BARS D1



BARS D2

WING DIMENSION FORMULAS:
(All values are in feet.)

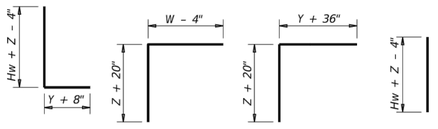
Hw = H + T + C
Lw = (Hw) (SL) ÷ cosine (θ) for Type PW–1
= (Hw – 1') (SL) ÷ cosine (θ) for Type PW–2 and Hw ≥ 4'
= (Hw – 0.5') (SL) ÷ cosine (θ) for Type PW–2 and Hw < 4'

For cast–in–place culverts:
Ltw = [(N) (S) + (N + 1) (U)] ÷ cosine (θ)

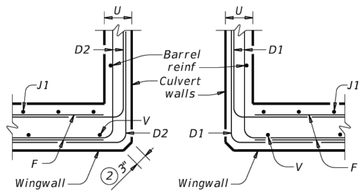
For precast culverts:
Ltw = [(N) (2 U + S) + (N – 1) (0.5')] ÷ cosine (θ)
Total Wingwall Area (two wings ~ SF)
= (2)(Hw)(Lw) for Type PW–1
= (2)(Hw)(Lw) – 6 SF for Type PW–2 and Hw ≥ 4'
= (2)(Hw)(Lw) – 1.5 SF for Type PW–2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Channel slope ratio. (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

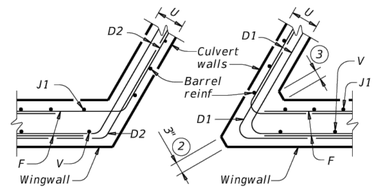
See applicable box culvert standard sheet for S, H, T, and U values.



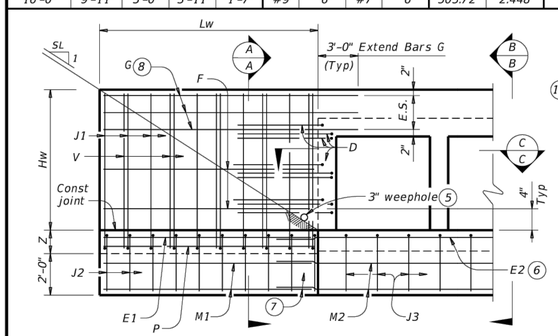
BARS J1 BARS J2 BARS J3 BARS V



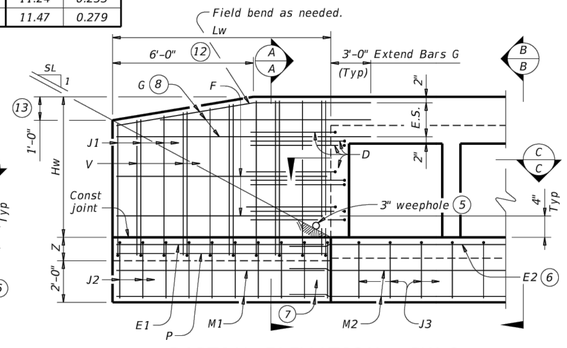
SECTION C-C - PW-1



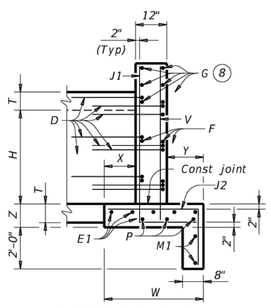
SECTION C-C - PW-2



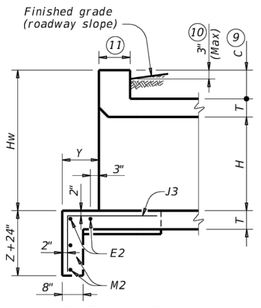
PARTIAL ELEVATION - PW-1



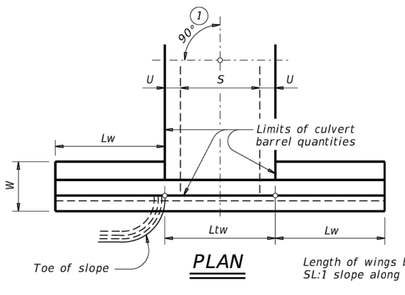
PARTIAL ELEVATION - PW-2



SECTION A-A
(Showing wing reinforcement.)

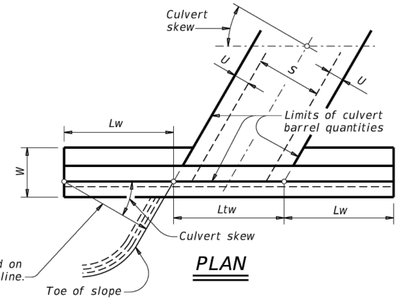


SECTION B-B
(Showing wing reinforcement.)



PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS



PLAN

DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° skew.)

(1) Skew = 0°

(2) At discharge end, chamfer may be ¾" minimum.

(3) For 15° skew ~ 1"
For 30° skew ~ 2"
For 45° skew ~ 3"

(4) Quantities shown are for two Type PW–1 wings. Adjust concrete volume for Type PW–2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.

(5) Provide weepholes for Hw = 5'–0" and greater. Fill around weepholes with coarse gravel.

(6) Extend Bars E2 1'–6" minimum into the wingwall footing.

(7) Lap Bars M1 1'–6" minimum with Bars M2.

(8) Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.

(9) 0" Min to 5'–0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'–0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631–CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(10) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(11) 1'–0" typical. 2'–3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.

(12) 3'–0" for Hw < 4'.

(13) 6" for Hw < 4'.

DESIGNER NOTES:
Type PW–1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW–2 can only be used for applications without a railing mounted to the wingwall.

MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out–to–out of bars.

Texas Department of Transportation | Bridge Division Standard

CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2

PW

FILE: CD-PW-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL
ENGINEER
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

STANDARD HEADWALL DETAILS (3)

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. C8.10

FILE NO. 123230.00

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ATTACHMENT N | Inspection, Maintenance, Repair and Retrofit Plan

Below are the inspection and maintenance guidelines required for the batch detention water quality pond as regulated by this Contributing Zone Plan. The owner/responsible party shall be responsible for the required inspection, maintenance, and repair of the pond as well as keep all records of such events. Records are to be retained, along with a copy of this approved plan, and should be made available upon request or inspection by the Texas Commission on Environmental Quality (TCEQ)

For a batch detention water quality pond, routine maintenance includes, but is not limited to the following:

Inspections.
Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that the manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in subsequent sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing.
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.

Litter and Debris Removal.
Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for clogging or obstructions and any debris removed.

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

Nuisance Control.
Standing water or soggy conditions may occur in the 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.).

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

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

Logic Controller.
The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the 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.

Transfer of Ownership/Responsibility:
The applicant (i.e. owner/operator) is the sole responsible party for maintaining the records for such inspections, maintenance, and repair once construction of the water quality pond is completed. Should the maintenance obligation supplant through either a change of ownership or control of the property (ie.an owner's association, new property owner, lessee, or a district/municipality) then maintenance of the water quality pond shall be transferred to the new responsible party. A copy of the transfer of responsibility must be filed with the executive director of the regional office of which the pond resides (San Antonio Regional Office) within 30 days of the transfer.

Responsible Party Acknowledgement:

Responsible Party: Pedcor Investments, A Limited Liability Company
By its Senior Vice President, Craig H. Lintner
770 3rd Avenue, S.W.
Carmel, Indiana 46032-2036

Signature of Responsible Party: See signature block below. 6/19/2024
Craig H. Lintner Date

By: Pedcor Investments-2022-CXCI, L.P.

By: GP Creek Bend, LLC

Its General Partner

By: Pedcor Investments, A Limited Liability Company
Its Manager

By: _____
Craig H. Lintner
Senior Vice President

ATTACHMENT O | Pilot-Scale Field Testing Plan

This section does not apply for this project.

ATTACHMENT P | Measures for Minimizing Surface Stream Contamination

The batch detention Permanent BMP and outfall structured are designed to minimize surface stream contamination of Cibolo Creek:

- The water quality component of the BMP removes pollutants from stormwater prior to release to the natural low draining to Cibolo Creek.

- The bottom of the batch detention basin (elevation=1078.33) is more than 14' above the 100-year water surface elevation (1064) in Cibolo Creek. Flood water will not back into the pond or disrupt water quality treatment.

- The stormwater detention component of the BMP reduces peak stormwater runoff rates from the project area. Velocity and peak discharge within Cibolo Creek are not increased by the project.

TEMPORARY STORMWATER SECTION

(TCEQ-0602)

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.

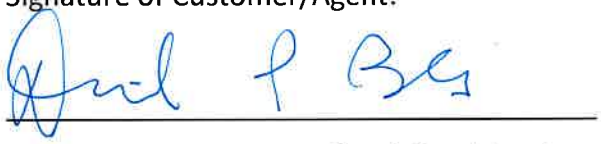
Signature

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: David P. Beales

Date: 06/14/2024

Signature of Customer/Agent:



Regulated Entity Name: Creek Bend Apartments

Project Information

Potential Sources of Contamination

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

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

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

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

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

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Cibolo Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A | Spill Response Actions

Responsible Party

During construction, the responsible party for cleaning up spill can be any combination of the following individuals:

1. The owner or operator, including contractor (while during construction) of a **facility** from which a spill occurs.
2. The owner, operator, including contractor, operating a **vehicle** from which the spill occurs.
3. Other individual who **caused or allowed the** spill or discharge to occur.

Spill Classification

There are two main categories of spills that can be identified: Major Spills and Minor Spills. Spill response actions and notifications to municipal entities may differ depending on the type and degree of spill. Major Spills can be classified as any spills where:

1. Material is considered a health or physical hazard based on its chemical or physical make up, or if the quantity of the spill exceeds the Reportable Quantity (RQ) as defined under Title 30 of the Texas Administrative Code (TAC) Chapter 327.4.
2. The spilled material has entered the storm water drainage system, catchment basin, or adjoining creek or if it appears that discharge into the storm system will occur in the immediate future.
3. The spilled material can travel offsite.
4. The spilled material adversely affects the environment.
5. The spilled material cannot be controlled or contained by the responsible party.
6. The chemical or physical properties of the spilled material cannot be identified or is unknown.

Minor Spills are those that do not meet the criteria above.

Notification and Reporting Agencies

The following entities shall be contact during discovery of a spill:

1. State of Texas 24-Hour Spill-Reporting Hotline and the State Emergency Response Commission at **1-800-832-8224**
2. Texas Commission on Environmental Quality (San Antonio Regional Office), Monday-Friday, 8:00 a.m.–5:00 p.m. at **14250 Judson Rd, San Antonio TX 78233-4480, Main Line: 210-490-3096.**
3. The City of San Antonio Transportation and Capital Improvements – Storm Water Division – **210-207-8052.**

Reporting Items for Major Spills

A spill log must be maintained on site by the contractor who will log all spills, major or minor, in the log. When reporting a spill, the following information may be required to help identify, log, and track the spill:

1. The date/time of the spill.
2. The identity/name of material released or spilled, and if the substance is considered hazardous.
3. The source of the release or spill.
4. The quantity of material released or spilled.
5. The time or duration of which the spill occurred.
6. The location/address of the spill.
7. The name of creek or waters involved or threatened and the extent of potential water pollution.
8. The contact information of the responsible party.
9. The steps being taken or proposed to contain and clean up the released or spilled material and any additional precautions.
10. Any injuries resulting from the spill, any known or anticipated health risks associated with the spill, or if additional medical precautions are required.
11. The identities of any municipal or private-sector representatives responding at the scene of the spill.

12. Possible hazards to the environment (air, soil, water, wildlife, etc.). This assessment may include references to accepted chemical databases, material safety data sheets, and health advisories. The TCEQ may request estimated or measured concentrations of the contaminant for the state's hazard assessment.

Reporting Items for Minor Spills

For minor spills that occur, the notification sequence described above is not required and can be treated directly onsite by the responsible parties involved by:

1. The first observer of the spill shall notify his/her supervisor and the onsite safety officer.
2. The supervisor must notify the owner, tenant, or their primary contact.
3. The immediate spill response plan/clean up actions shall be conveyed, documented and the owner/tenant shall be notified once cleanup is completed.

Equipment Needed for Minor Spills

Equipment and materials used to contain and/or restrict spreading of a spill can consist of spill pans and various forms of absorbent materials, which include granular material, socks, rock and gravel berms, pillows or pads, and sheets. Spill pans or pads can be placed under a continuing drip-type leak. Surrounding a minor spill with berms or socks can contain a small spill area until proper removal procedures can occur.

ATTACHMENT B | Potential Sources of Contamination

Potential sources of contamination for this project include:

- Drippings from vehicles, both construction and non-construction related.
- Grading and excavation activities: Stormwater runoff has the potential to be contaminated during the construction process with related excavation and site grading.
- Building materials: Materials include, but not limited to, concrete, wood, mortar, and paint among other materials.
- Trash and debris: These may include household trash items such as paper bags, cups, plastic ware, and food items.

No hazardous substances will be stored on site.

ATTACHMENT C | Sequence of Major Activities

The following is the general sequence of major soil disturbing activities for the project:

Soil Disturbing Activity	Area of Disturbance
1. Install initial temporary erosion control measures	39.70 acres
2. Install basin wall; excavate and shape batch pond	1.5 acre
3. Clear and rough grade perimeter drives and direct site drainage to batch pond via storm inlets and pipes.	4.4 acres
4. Clear and rough grade remainder of construction limits	22.0 acres
5. Install on-site utilities: sanitary sewer, storm sewer, water, irrigation, and dry utilities	3.0 acres
6. Prepare subgrade for drives and sidewalks. Install curbs.	9.5 acres
7. Pave drives and sidewalks	9.5 acres
8. Construct access road extension on US 281	0.6 acres
9. Remove temporary pollution prevention measures	39.70 acres

ATTACHMENT D | Temporary Best Management Practices and Measures

The temporary best management practices associated with this project will involve the implementation and maintenance of the storm water pollution prevention (SWPPP) measures.

1. Upgradient Offsite Flows

   No temporary BMPs are required at the upstream junction with the upgradient offsite flows because no offsite upgradient improvements are proposed.

2. On-Site Flows or Flows Off-Site

   On-site drainage flow from the project will be collected and routed to the proposed storm water quality/detention pond at the northeast corner of the project site. Rock Filter Dams are proposed for temporary BMPs at the outlets of all storm drains into the ponds and at the pond outlets. Gravel filter bags will be provided around all inlets to minimize build up of sediment in the storm drain system. The pond is designed to capture 25.54-acres of the on-site drainage flows.

   Silt fence will be installed on the downstream limits of all utility easements. Trench excavation will be placed on the high side of the trench.

   Silt fence will be installed along the eastern boundary of the site in the construction area and along the northern boundary in the construction area. Rock filter dams will be located at the two natural low outfalls along the northern property line – drain points B1 and C.

   Silt fence will be installed on the west property line from Borgfeld Drive to the point where the property angles to the north. A rock filter dam will be installed at the natural low on site just north of Borgfeld Drive.

   Silt fences will be installed at areas of significant slopes including immediately north of the bark park, south buildings 6 and 7 and north of Buildings 12 and 13.

   Silt fence will be installed at the eastern limits of the construction area of the new access road on US 281 and along the northern limits of construction on the entrance drive to the site off this access road. Rock filter dams are proposed for temporary BMPs at the outlets of the new storm drains in this area with gravel filter bags around all inlets.

   Excess excavation may be stockpiled on site and will be protected by a perimeter silt fence.

3. Preventing Pollutants entering surface streams, sensitive features, or the aquifer.

All runoff from the site will be treated by a temporary BMPs described in item 2 above prior to leaving the site as it drains to Cibolo Creek. In the event a sensitive feature is encountered during construction the contractor will protect the feature until the appropriate professional personnel can evaluate it.

4. Maintaining flow to natural sensitive features.

   If a sensitive feature is encountered the contractor in addition to providing the appropriate temporary BMP protection will maintain nature flow to the feature until the evaluation and a recommendation has been completed and provided.

ATTACHMENT E | Request to Temporarily Seal a Feature

No features have been identified at this time.

ATTACHMENT F | Structural Practices

Temporary structural practices include:

- Silt Fencing: To be placed along the down gradient boundary of the limits of construction activities.

- Gravel Filter Bags: Shall be used at the entrance to curb openings, around inlets, etc. to minimize siltation of the storm drain system and/or water quality basin.

- Rock Filter Dam: To be placed in areas of concentrated flows, where indicated on construction plans, such as proposed channels and drainage swales and proposed pond outlets.

- Construction Entrance/Exit: Will be placed to limit migration of sediment from the jobsite as construction traffic enters and exits the construction site.

- Concrete Washout-Pits: To contain and control affected runoff from cement delivery trucks.

The following sheets show the initial plan for implementation of the temporary structural practices. The contractor is responsible for installing additional BMPs and/or modifying planned BMPs as needed to prevent pollutant discharges in compliance with this Contributing Zone Plan and the General Permit to Discharge Under the Texas Pollutant Discharges Elimination System.

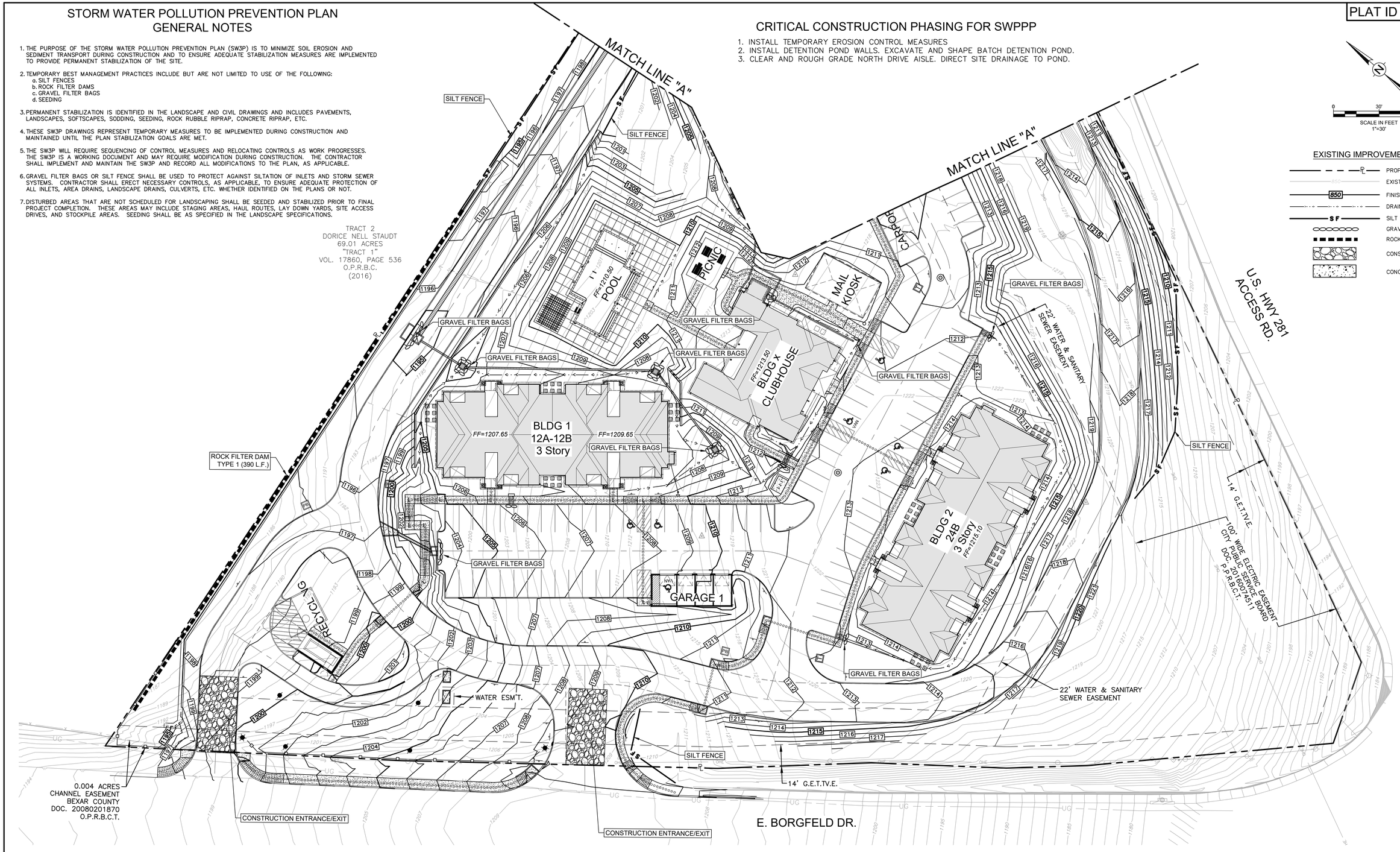
PLAT ID 23-11800532

STORM WATER POLLUTION PREVENTION PLAN
GENERAL NOTES

1. THE PURPOSE OF THE STORM WATER POLLUTION PREVENTION PLAN (SW3P) IS TO MINIMIZE SOIL EROSION AND SEDIMENT TRANSPORT DURING CONSTRUCTION AND TO ENSURE ADEQUATE STABILIZATION MEASURES ARE IMPLEMENTED TO PROVIDE PERMANENT STABILIZATION OF THE SITE.
2. TEMPORARY BEST MANAGEMENT PRACTICES INCLUDE BUT ARE NOT LIMITED TO USE OF THE FOLLOWING:
   a. SILT FENCES
   b. ROCK FILTER DAMS
   c. GRAVEL FILTER BAGS
   d. SEEDING
3. PERMANENT STABILIZATION IS IDENTIFIED IN THE LANDSCAPE AND CIVIL DRAWINGS AND INCLUDES PAVEMENTS, LANDSCAPES, SOFTSCAPES, SODDING, SEEDING, ROCK RUBBLE RIPRAP, CONCRETE RIPRAP, ETC.
4. THESE SW3P DRAWINGS REPRESENT TEMPORARY MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION AND MAINTAINED UNTIL THE PLAN STABILIZATION GOALS ARE MET.
5. THE SW3P WILL REQUIRE SEQUENCING OF CONTROL MEASURES AND RELOCATING CONTROLS AS WORK PROGRESSES. THE SW3P IS A WORKING DOCUMENT AND MAY REQUIRE MODIFICATION DURING CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SW3P AND RECORD ALL MODIFICATIONS TO THE PLAN, AS APPLICABLE.
6. GRAVEL FILTER BAGS OR SILT FENCE SHALL BE USED TO PROTECT AGAINST SILTATION OF INLETS AND STORM SEWER SYSTEMS. CONTRACTOR SHALL ERECT NECESSARY CONTROLS, AS APPLICABLE, TO ENSURE ADEQUATE PROTECTION OF ALL INLETS, AREA DRAINS, LANDSCAPE DRAINS, CULVERTS, ETC. WHETHER IDENTIFIED ON THE PLANS OR NOT.
7. DISTURBED AREAS THAT ARE NOT SCHEDULED FOR LANDSCAPING SHALL BE SEEDED AND STABILIZED PRIOR TO FINAL PROJECT COMPLETION. THESE AREAS MAY INCLUDE STAGING AREAS, HAUL ROUTES, LAY DOWN YARDS, SITE ACCESS DRIVES, AND STOCKPILE AREAS. SEEDING SHALL BE AS SPECIFIED IN THE LANDSCAPE SPECIFICATIONS.

CRITICAL CONSTRUCTION PHASING FOR SWPPP

1. INSTALL TEMPORARY EROSION CONTROL MEASURES
2. INSTALL DETENTION POND WALLS. EXCAVATE AND SHAPE BATCH DETENTION POND.
3. CLEAR AND ROUGH GRADE NORTH DRIVE AISLE. DIRECT SITE DRAINAGE TO POND.



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1"=30'

EXISTING IMPROVEMENTS

- PROPERTY BOUNDARY
- EXISTING GROUND CONTOUR
- 850 FINISHED GROUND CONTOUR
- DRAINAGE SWALE
- SF SILT FENCE
- GRAVEL FILTER BAGS
- ROCK FILTER DAM (TYPE 2)
- CONSTRUCTION EXIT/ENTRANCE
- CONCRETE WASHOUT PIT

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL
ENGINEER
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
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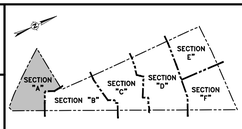
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

STORMWATER POLLUTION PREVENTION PLAN
SECTION "A"

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



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PLAT ID 23-11800532

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TRACT 2
DORICE NELL STAUDT
69.01 ACRES
"TRACT 1"
VOL. 17860, PAGE 536
O.P.R.B.C.
(2016)

MATCH LINE "A"

MATCH LINE "B"

MATCH LINE "A"

BLDG 3
12A-12B
3 Story
FF=1210.00
FF=1208.00

BLDG 4
12A-12B
3 Story
FF=1184.60
FF=1182.60

BLDG 5
12A-12B
3 Story
FF=1170.70
FF=1171.70

GARAGE 2

BARK PARK

SILT FENCE

GRAVEL FILTER BAGS

FIRE HYDRANT ESM'T.

22' WATER & SANITARY SEWER EASEMENT

100' WIDE ELECTRIC EASEMENT
CITY PUBLIC SERVICE BOARD
DOC. 20160074511
P.P.R.B.C.T.

100' WIDE ELECTRIC EASEMENT
CITY PUBLIC SERVICE BOARD
DOC. 20160072935 P.P.R.B.C.T.

14' G.E.T.TV.E.

U.S. HWY 281
ACCESS RD.

NO	DATE	REVISION	BY

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REVIEWED BY DPB
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STORMWATER POLLUTION PREVENTION PLAN
SECTION "B"

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SECTION "A" SECTION "B" SECTION "C" SECTION "D" SECTION "E" SECTION "F"

SHEET NO. C0.14

FILE NO. 123230.00

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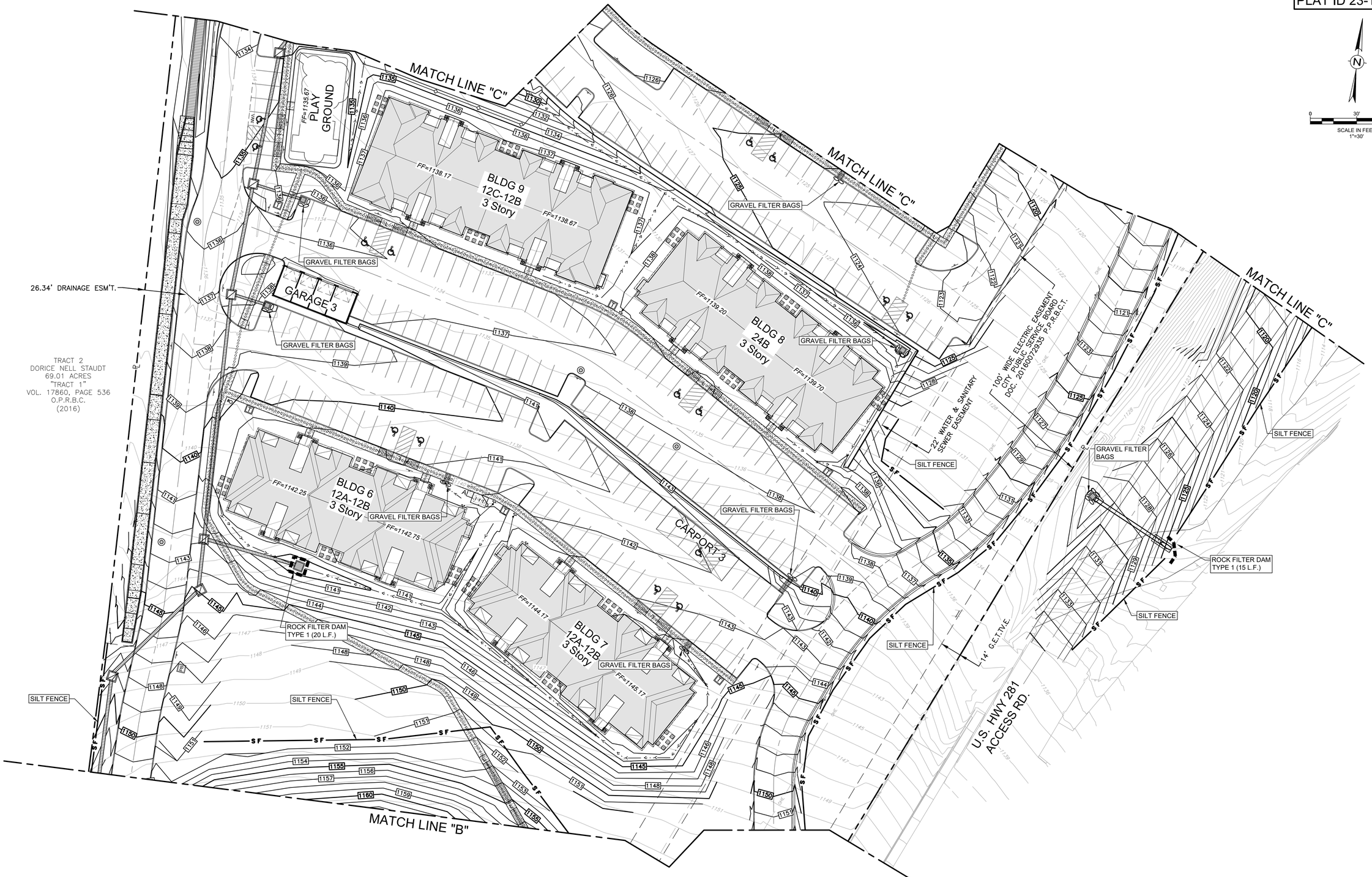

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STORMWATER POLLUTION PREVENTION PLAN
SECTION "C"

CREEK BEND APARTMENTS
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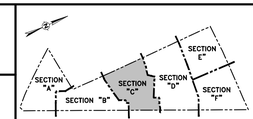

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PLAT ID 23-11800532

MATCH LINE "D"

22' DRAIN ESM'T.

16' DRAIN ESM'T.

16' SANITARY SEWER ESM'T.

INGRESS/EGRESS (25' MIN.) ACCESS ESM'T.

ROCK FILTER DAM TYPE 2 (40 L.F.)

SILT FENCE

FF=122.30
BLDG 13
12A12B
3 Story

GRAVEL FILTER BAGS

FF=1120.30
BLDG 12
24B
3 Story
FF=1119.80

CARPORT 2

CARPORT 5

FF=1129.00
BLDG 10
12C-12B
3 Story
FF=1128.00

FF=1127.00
BLDG 11
12C-12B
3 Story
FF=1126.00

CARPORT 4

BARB PARK

PICNIC

FIRE HYDRANT ESM'T.

INGRESS/EGRESS (25' MIN.) ACCESS ESM'T.

14' G.E.T.TV.E.

ROCK FILTER DAM TYPE 1 (15 L.F.)

GRAVEL FILTER BAGS

22' WATER & SANITARY SEWER EASEMENT

100' WIDE ELECTRIC EASEMENT CITY PUBLIC SERVICE BOARD DOC. 20160729315 P.P.R.B.C.T.

SILT FENCE

U.S. HWY 281 ACCESS RD.

MATCH LINE "C"

MATCH LINE "D"

TRACT 2
DORICE NELL STAUDT
69.01 ACRES
"TRACT 1"
VOL. 17860, PAGE 536
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STORMWATER POLLUTION PREVENTION PLAN
SECTION "D"

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SECTION "A" SECTION "B" SECTION "C" SECTION "D" SECTION "E" SECTION "F"

SHEET NO. C0.16

FILE NO. 123230.00

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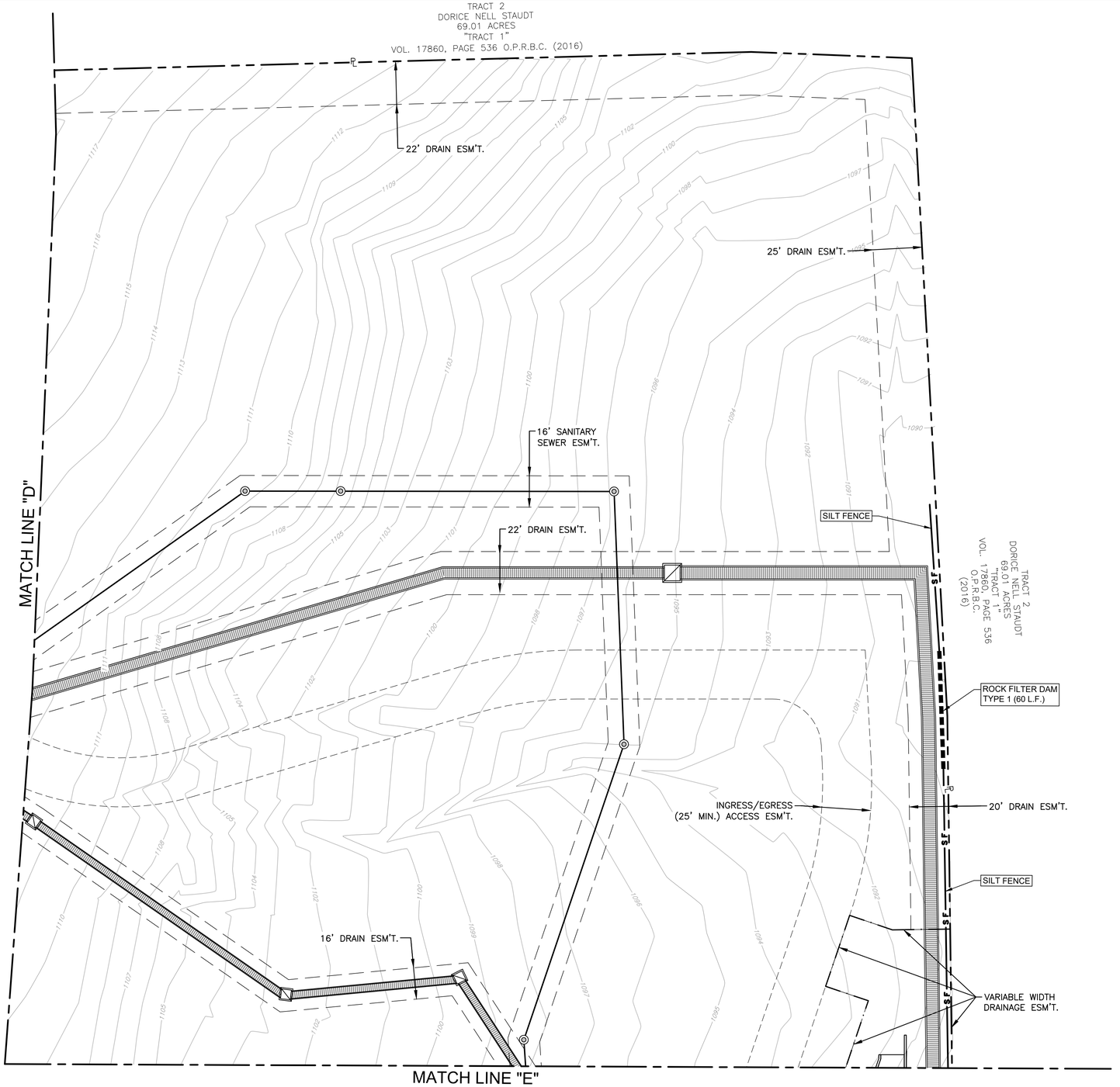

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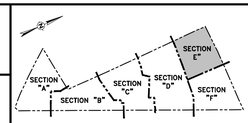
STORMWATER POLLUTION PREVENTION PLAN
SECTION "E"

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



SHEET NO. C0.17

FILE NO. 123230.00

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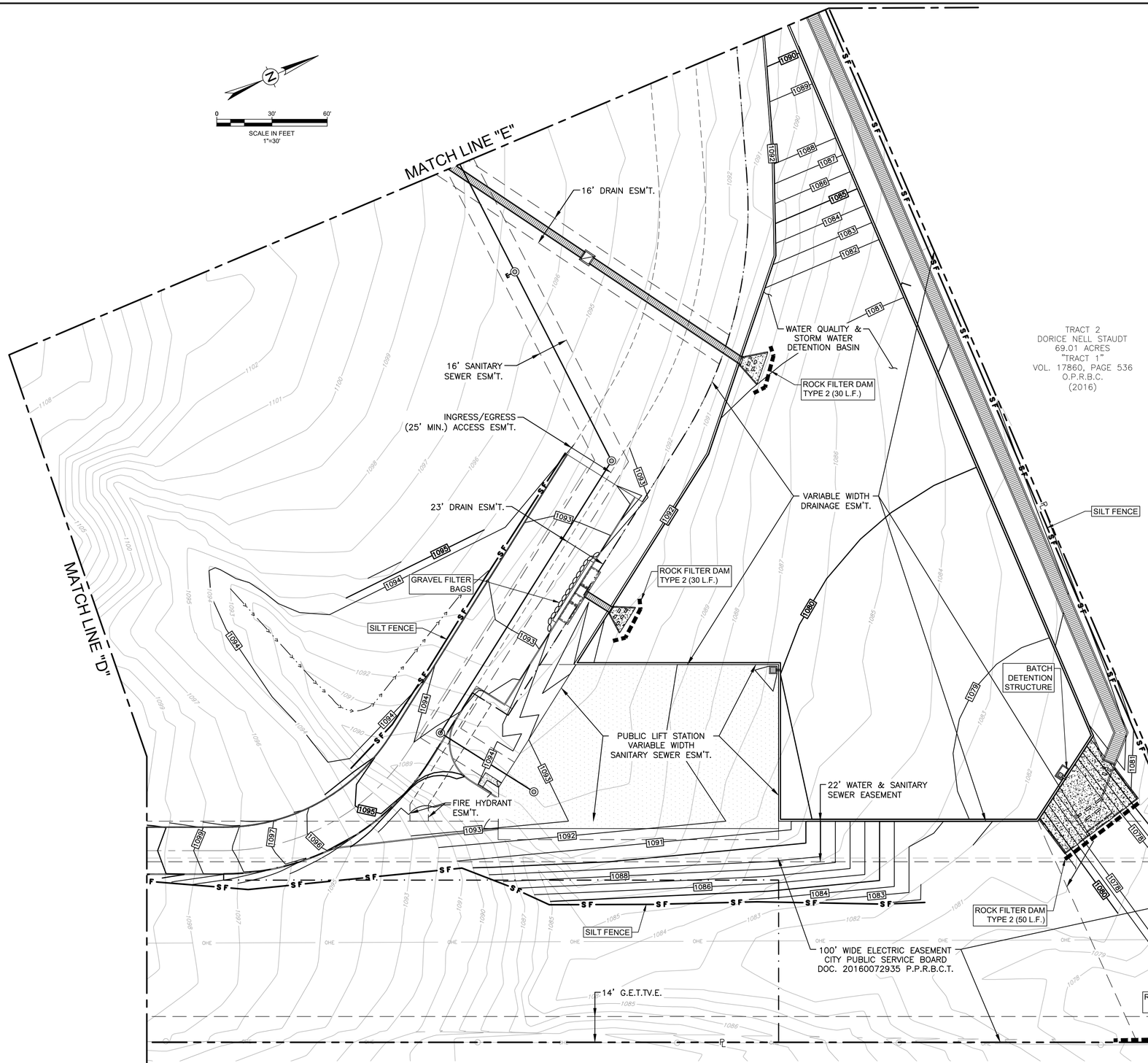
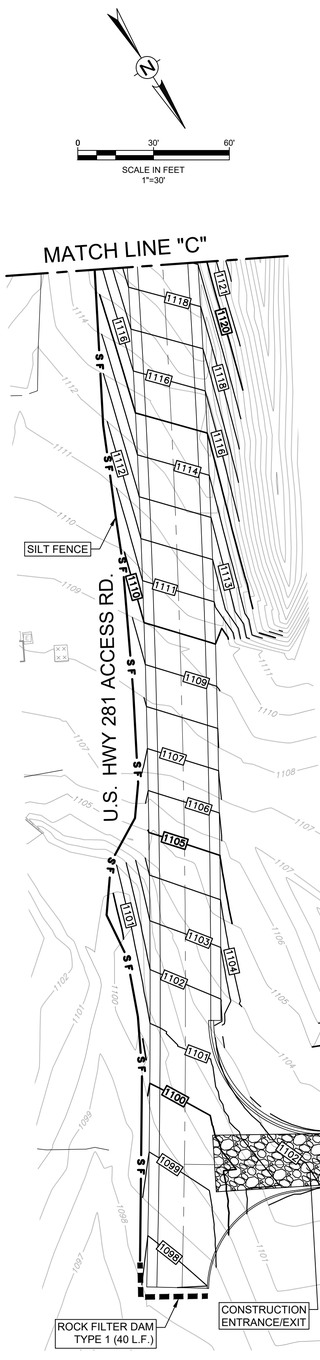
PLAT ID 23-11800532





NO	DATE	REVISION	BY

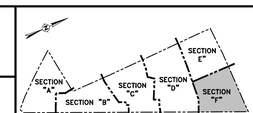
DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALES
58552
REGISTERED
PROFESSIONAL ENGINEER
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

STORWATER POLLUTION PREVENTION PLAN
SECTION "F"

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



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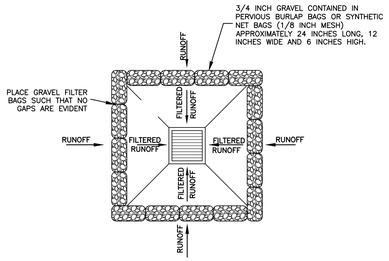
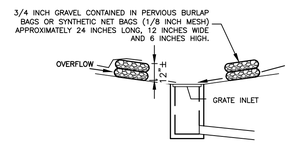


PLAN

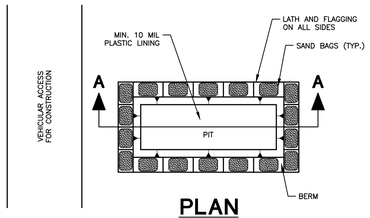


ELEVATION

NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER. FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

INLET GRAVEL FILTER BAGS

N.T.S.



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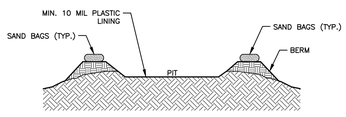


SECTION A-A

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

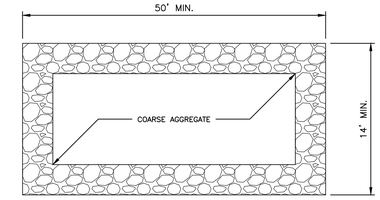
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT

N.T.S.



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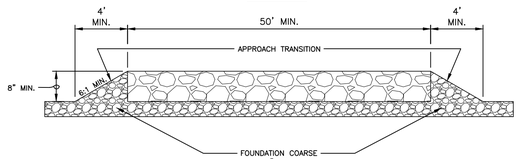


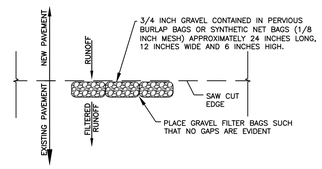
PROFILE

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS. BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

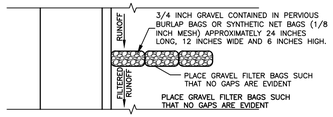
CONSTRUCTION EXIT (TYPE 1)

N.T.S.



GRAVEL FILTER BAGS

N.T.S.



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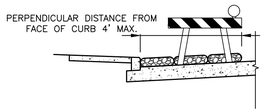
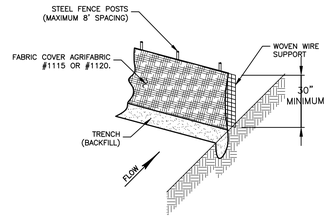


ELEVATION

NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER. FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS

N.T.S.

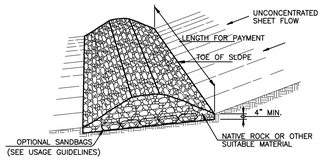


GENERAL NOTES

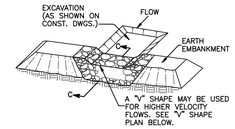
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 4-8 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 6 ABOVE.

SILT FENCE

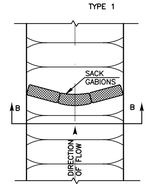
N.T.S.



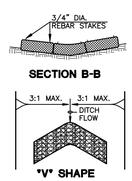
FILTER DAM AT TOE OF SLOPE



FILTER DAM AT SEDIMENT TRAP



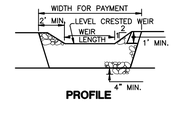
PLAN VIEW



SECTION B-B

*"V" SHAPE

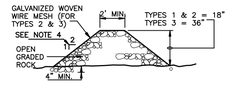
PLAN VIEW



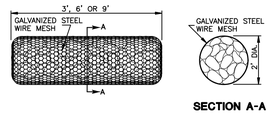
PROFILE

PLANS SHEET LEGEND

TYPE 1 ROCK FILTER DAM (RFD1)
TYPE 2 ROCK FILTER DAM (RFD2)
TYPE 3 ROCK FILTER DAM (RFD3)



SECTION C-C

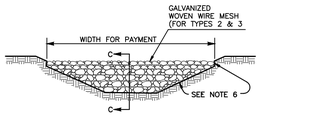


SECTION A-A

TYPE 4 (SACK GABIONS)

ROCK FILTER DAM

N.T.S.



FILTER DAM AT CHANNEL SECTIONS

(RFD1) OR (RFD2) OR (RFD3)

TYPE 1 OR TYPE 2

GENERAL NOTES

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SW3P PLANS.
4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4' INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE. THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK,ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

MATERIAL NOTES

1. ALL AGGREGATE USED FOR THE CONSTRUCTION OF THE ROCK FILTER DAMS SHALL BE HARD, DURABLE, CLEAN, OPEN-GRADED, AND SHALL NATURALLY RESIST CRUMBLING, FLAKING AND ERODING. AGGREGATE GRADATION SHALL BE 3 TO 6 INCHES FOR ROCK FILTER DAMS TYPES 1, 2 AND 4 AND SHALL BE 4 TO 8 INCHES FOR TYPE 3.
2. THE GALVANIZED STEEL WIRE MESH AND TIE WIRES FOR TYPES 2 AND 3 SHALL BE A MINIMUM 20 GAUGE UNLESS SPECIFIED ON THE PLANS.
3. FOR TYPE 4: STEEL WIRE MESH SHALL UTILIZE A DOUBLE TWISTED HEXAGONAL WEAVE; MESH OPENING SHALL BE A NOMINAL 2.50 X 3.25 INCH, STEEL WIRE FOR NETTING SHALL BE 0.0866 INCH MINIMUM; STEEL WIRE FOR SELVEDGES AND CORNERS SHALL BE 0.1063 INCH (U.S. GAUGE NO. 11) MINIMUM; AND BINDING OR TIE WIRE SHALL BE 0.0866 INCH (U.S. GAUGE NO. 13) MINIMUM.
4. UNLESS OTHERWISE SPECIFIED, THE SANDBAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC. MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT. THE SANDBAG SIZE SHALL BE 24 TO 30 INCHES IN LENGTH, 16 TO 18 INCHES IN WIDTH, 6 TO 8 INCHES THICK AND WEIGH 90 TO 125 POUNDS. THE SAND SHALL BE COARSE GRADE.

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES, AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
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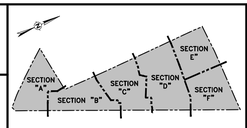
STORWATER POLLUTION PREVENTION DETAILS

CREEK BEND APARTMENTS
ISSUED FOR PERMIT



SHEET NO. C0.19

FILE NO. 123230.00

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ATTACHMENT G | Drainage Area Maps

PLAT ID 23-11800532

DRAINAGE AREA	STUDY POINT	TOTAL ACRES	CA	INPUT T.C.	I-1 (INCH/HR)	Q-1 (CFS)	I-5 (INCH/HR)	Q-5 (CFS)	I-25 ('INCH/HR)	Q-25 (CFS)	I-100 ('INCH/HR)	Q-100 (CFS)	(CFS/AC)
OFFSITE DRAINAGE - PRE-PROJECT CONDITION													
1		21.67	12.13	24.4	2.84	34.45	2.84	34.45	5.82	70.61	7.34	**89.05**	4.11
2		4.03	2.14	16.0	3.47	7.41	5.14	10.98	7.18	15.34	9.10	**19.44**	4.82
3		17.20	9.12	15.6	3.47	31.63	5.14	46.86	7.18	65.45	9.10	**82.96**	4.82
1-3	A	42.90	23.38	30.3	2.54	59.39	3.74	87.46	5.20	121.60	6.55	**153.16**	3.57
4		21.57	11.43	24.9	2.78	31.78	4.10	46.87	5.70	65.16	7.19	**82.20**	3.81
1-4		64.47	34.82	39.6	2.18	75.90	3.21	111.76	4.47	155.63	5.63	**196.01**	3.04
5		2.92	1.55	11.1	4.09	6.33	6.13	9.49	8.66	13.40	11.00	**17.02**	5.83
1-5	B	67.39	36.36	39.6	2.18	79.27	3.21	116.73	4.47	162.54	5.63	**204.73**	3.04
7		20.72	10.98	17.5	3.27	35.91	4.84	53.15	6.75	74.13	8.53	**93.67**	4.52
8		8.23	4.36	12.7	3.83	16.71	5.71	24.91	8.03	35.03	10.19	**44.45**	5.40
7-8	C	28.95	15.34	19.4	3.18	48.79	4.71	72.27	6.56	100.65	8.29	**127.20**	4.39
1-5, 7-8		96.34	51.71	39.6	2.18	112.72	3.21	165.98	4.47	231.13	5.63	**291.11**	3.02
9		1.47	0.99	5.0	5.34	5.26	7.96	7.85	11.22	11.06	14.26	**14.05**	9.56
10		0.38	0.37	5.0	5.34	1.97	7.96	2.93	11.22	4.14	14.26	**5.26**	13.83
11		0.89	0.47	5.0	5.34	2.52	7.96	3.75	11.22	5.29	14.26	**6.73**	7.56
10-11		1.27	0.84	8.0	4.58	3.85	6.87	5.77	9.74	8.18	12.37	**10.39**	8.18
9-11		2.74	1.83	8.0	4.58	8.36	6.87	12.54	9.74	17.78	12.37	**22.59**	8.24
15	D	2.13	1.22	8.0	4.58	5.57	6.87	8.36	9.74	11.85	12.37	**15.05**	7.07

N

0 200' 400'

SCALE IN FEET
1"=200'

LEGEND

- PROPERTY BOUNDARY
- 852 EXISTING CONTOURS
- DRAINAGE AREA
- FLOW PATH (TC)
- A1 / 2.05 AREA / ACREAGE
- A STUDY POINT
- DRAINAGE FLOW DIRECTION

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
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REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
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DRAINAGE MASTER - EXISTING CONDITIONS

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. 1

FILE NO. 123230.00

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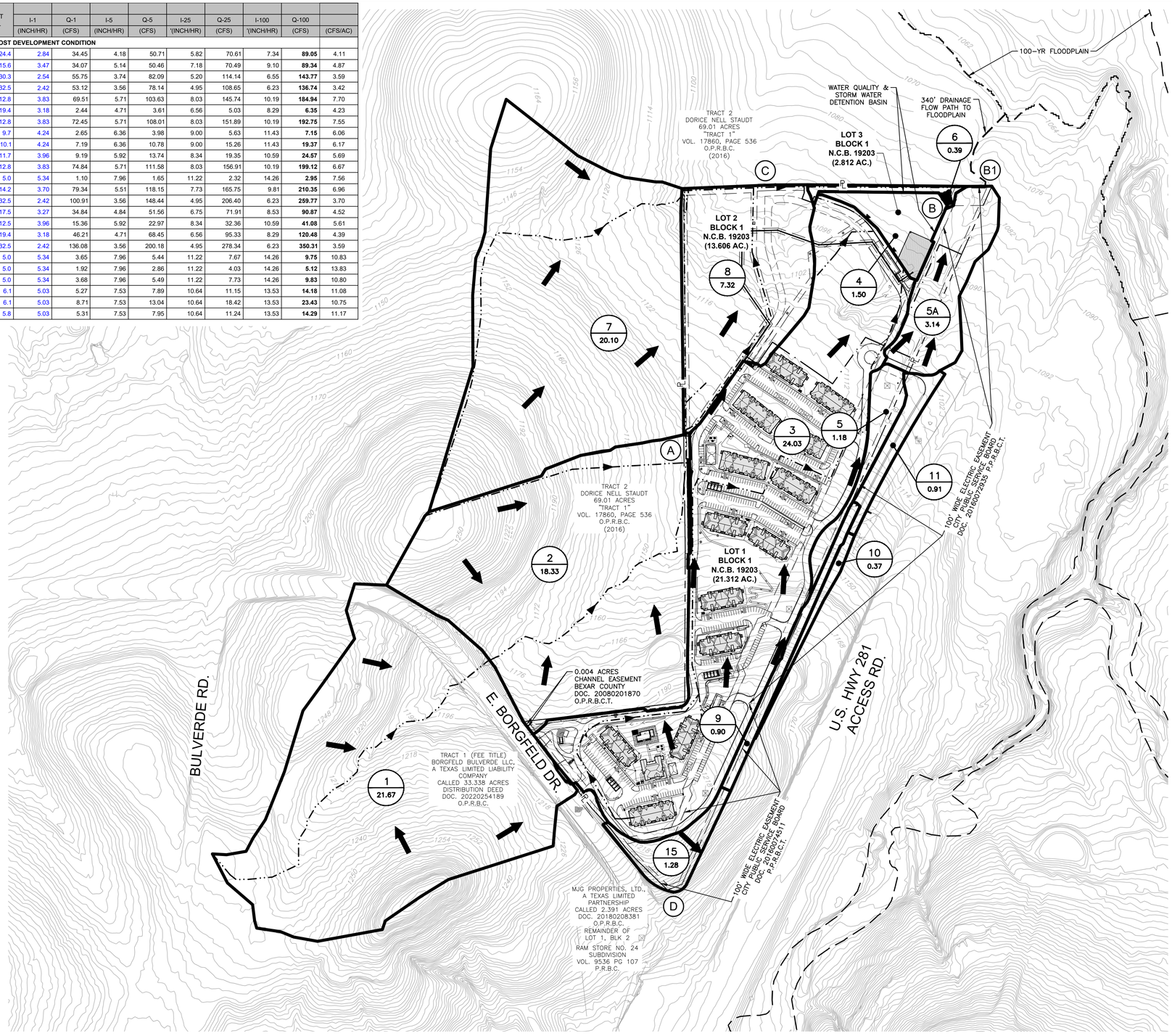
PLAT ID 23-11800532

DRAINAGE AREA	STUDY POINT	TOTAL ACRES	CA	INPUT T.C.	I-1	Q-1	I-5	Q-5	I-25	Q-25	I-100	Q-100	
					(INCH/HR)	(CFS)	(INCH/HR)	(CFS)	'(INCH/HR)	(CFS)	'(INCH/HR)	(CFS)	(CFS/AC)
POST DEVELOPMENT CONDITION													
1		21.67	12.13	24.4	2.84	34.45	4.18	50.71	5.82	70.61	7.34	**89.05**	4.11
2		18.33	9.82	15.6	3.47	34.07	5.14	50.46	7.18	70.49	9.10	**89.34**	4.87
1-2 INLET	A	40.00	21.95	30.3	2.54	55.75	3.74	82.09	5.20	114.14	6.55	**143.77**	3.59
1-2 OUTLET		40.00	21.95	32.5	2.42	53.12	3.56	78.14	4.95	108.65	6.23	**136.74**	3.42
3		24.03	18.15	12.8	3.83	69.51	5.71	103.63	8.03	145.74	10.19	**184.94**	7.70
4		1.50	0.77	19.4	3.18	2.44	4.71	3.61	6.56	5.03	8.29	**6.35**	4.23
3-4	B	25.53	18.92	12.8	3.83	72.45	5.71	108.01	8.03	151.89	10.19	**192.75**	7.55
5		1.18	0.63	9.7	4.24	2.65	6.36	3.98	9.00	5.63	11.43	**7.15**	6.06
5A		3.14	1.70	10.1	4.24	7.19	6.36	10.78	9.00	15.26	11.43	**19.37**	6.17
5-5A		4.32	2.32	11.7	3.96	9.19	5.92	13.74	8.34	19.35	10.59	**24.57**	5.69
3-5A		29.85	19.54	12.8	3.83	74.84	5.71	111.58	8.03	156.91	10.19	**199.12**	6.67
6		0.39	0.21	5.0	5.34	1.10	7.96	1.65	11.22	2.32	14.26	**2.95**	7.56
3-6		30.24	21.44	14.2	3.70	79.34	5.51	118.15	7.73	165.75	9.81	**210.35**	6.96
1-6	B1	70.24	41.70	32.5	2.42	100.91	3.56	148.44	4.95	206.40	6.23	**259.77**	3.70
7		20.10	10.65	17.5	3.27	34.84	4.84	51.56	6.75	71.91	8.53	**90.87**	4.52
8		7.32	3.88	12.5	3.96	15.36	5.92	22.97	8.34	32.36	10.59	**41.08**	5.61
7-8	C	27.42	14.53	19.4	3.18	46.21	4.71	68.45	6.56	95.33	8.29	**120.48**	4.39
1-8		97.66	56.23	32.5	2.42	136.08	3.56	200.18	4.95	278.34	6.23	**350.31**	3.59
9		0.90	0.68	5.0	5.34	3.65	7.96	5.44	11.22	7.67	14.26	**9.75**	10.83
10		0.37	0.36	5.0	5.34	1.92	7.96	2.86	11.22	4.03	14.26	**5.12**	13.83
11		0.91	0.69	5.0	5.34	3.68	7.96	5.49	11.22	7.73	14.26	**9.83**	10.80
10-11		1.28	1.05	6.1	5.03	5.27	7.53	7.89	10.64	11.15	13.53	**14.18**	11.08
9-11		2.18	1.73	6.1	5.03	8.71	7.53	13.04	10.64	18.42	13.53	**23.43**	10.75
15	D	1.28	1.06	5.8	5.03	5.31	7.53	7.95	10.64	11.24	13.53	**14.29**	11.17



0 200' 400'
SCALE IN FEET
1"=200'

LEGEND

- PROPERTY BOUNDARY
- 852 EXISTING CONTOURS
- DRAINAGE AREA
- FLOW PATH (TC)
- A1 / 2.05 AREA / ACREAGE
- (A) STUDY POINT
- DRAINAGE FLOW DIRECTION

NO	DATE	REVISION	BY

DESIGNED BY DPB
DRAWN BY OT
CHECKED BY
REVIEWED BY DPB
DATE 05/10/2024

CDS Muery F-1733
STATE OF TEXAS
DAVID P. BEALE
58552
REGISTERED
PROFESSIONAL ENGINEER
06/24/2024

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

DRAINAGE MASTER - PROPOSED CONDITIONS PHASE 1

CREEK BEND APARTMENTS
ISSUED FOR PERMIT

SHEET NO. 1

FILE NO. 123230.00

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

The permanent batch detention basin BMP will be constructed during the initial construction sequence of the project and therefore a further temporary sediment pond is not required.

Refer to Attachment M – Construction Plans in the Contributing Zone Plan Application for the batch detention construction plans.

ATTACHMENT I – Inspection and Maintenance for BMPs

All erosion and sediment controls shall be maintained in good working order. The contractor will inspect the condition of the temporary BMPs on a weekly basis and following every 0.25" or greater rain event. If a repair is necessary, it shall be performed by the close of the next business day following discovery. If any sediment escapes the site during construction activities, off-site accumulations must be removed to minimize offsite impacts to water quality.

Silt Fence

1. Remove sediment when buildup reaches 6 inches.
2. Replace any torn fabric or install a second line of fencing parallel to the torn section.
3. Replace or repair any sections crushed or collapsed during construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at a common vehicle access point.
4. 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.

Gravel Filter Bags

1. Remove sediment when buildup reaches 4 inches.
2. Replace any torn bags or install a second line of bags parallel to the torn section.
3. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation.

Rock Filter Dam

1. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
2. Repair any loose wire sheathing.
3. The berm should be reshaped as needed during inspection.
4. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
5. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance/Exit

1. The entrance should be maintained in a condition, which will prevent transfer of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
2. When necessary, wheels should be cleaned and remove sediment prior to entrance onto public right-of-way.
3. 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.

Batch Detention Basin

1. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
2. Clean and restore pond to design condition at the completion of the construction project.
3. The Logic Controller should be inspected as part of the twice-yearly investigations and if the pond holds water for more than 48 hours. Verify that the external indicators on the

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

All sediment should be prevented from entering any storm, drain, ditch or water course by using approved methods.

ATTACHMENT J | Schedule of Interim and Permanent Soil Stabilization Practices

Interim on-site stabilization measures will be on-going and consist with minimizing soil disturbances for the shortest duration of time “practical.” As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance TCEQ’s Technical Guidance Manual (TGM) RG-348. Project stabilization practices will include, but not limited to, the use of sod, erosion control blankets and seeding.

Stabilization measures are to be completed as soon as practicable at locations where construction activities have temporarily or permanently ceased. Bare soils are to be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

COPY OF NOTICE OF INTENT (NOI)

TCEQ Office Use Only
Permit No:
CN:
RN:

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

IMPORTANT INFORMATION

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

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

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

ePERMITS

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

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

APPLICATION FEE AND PAYMENT

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

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

Provide your payment information for verification of payment:

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

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

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

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

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

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN 605738301

(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.)

Click here to enter text Pedcor Investments, A Limited Liability Company

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

Prefix (Mr. Ms. Miss): **Mr.**

First and Last Name: **Craig Lintner** Suffix: Click here to enter text

Title: **Senior Vice President, Development** Credentials: Click here to enter text

Phone Number: **317-208-3769** Fax Number: **317-587-0340**

E-mail: clintner@pedcor.net

Mailing Address: **770 3rd Avenue, S.W.**

City, State, and Zip Code: **Carmel, Indiana, 46032**

Mailing Information if outside USA:

Territory: Click here to enter text

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

d) Indicate the type of customer:

☐ Individual

X Limited Partnership

General Partnership

Trust

Sole Proprietorship (D.B.A.)

Corporation

☐ Estate

☐ Federal Government

☐ County Government

☐ State Government

☐ City Government

☐ Other Government

☐ Other: Click here to enter text

e) Is the applicant an independent operator? **X** 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
X 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:**32050690620**

Federal Tax ID: **351772133**

Texas Secretary of State Charter (filing) Number: **801766457**

DUNS Number (if known): **824885685**

SECTION 2. APPLICATION CONTACT

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

X Yes, go to Section 3

☐ No, complete this section

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

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

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

Organization Name: Click here to enter text.

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

E-mail: Click here to enter text.

Mailing Address: Click here to enter text.

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

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

Mailing information if outside USA:

Territory: Click here to enter text.

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

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

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

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

b) Name of project or site (the name known by the community where it's located): **CREEK BEND APARTMENTS**

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): **Construction of a residential apartment project.**

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

e) Latitude: **29.711205** Longitude: **98.448970**

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: **2335 E. Borgfeld Dr,**

City, State, and Zip Code: **San Antonio,Texas78260**

Section B:

Location Description: **NW Intersection of US 281 and E. Borgfeld Dr.**

City (or city nearest to) where the site is located: **San Antonio**

Zip Code where the site is located: **78260**

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.

X 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.

X 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? **1623**

e) What is the total number of acres to be disturbed? **32.4** f)

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

☐ Yes

X 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? **October 2024**

h) What is the estimated end date of the project? **November 2026**

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

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? **Upper Cibolo Creek**

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? **1908**

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

X Yes ☐ No

If Yes, provide the name of the MS4 operator: **City of San Antonio**

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?

X 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). X 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. X Yes

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

Operator Signatory Title:

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): See signature block below. Date: 6/19/2024

By: Pedcor Investments-2022-CXCI, L.P.

By: GP Creek Bend, LLC

Its General Partner

By: Pedcor Investments, A Limited Liability Company

Its Manager

By: _____

Craig H. Lintner

Senior Vice President

AGENT AUTHORIZATION FORM

(TCEQ-0599)

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

I CRAIG LINTNER,
Print Name

SENIOR VICE PRESIDENT, DEVELOPMENT,
Title - Owner/President/Other

of PEDCOR INVESTMENTS, A LIMITED LIABILITY COMPANY,
Corporation/Partnership/Entity Name

have authorized DAVID P. BEALES
Print Name of Agent/Engineer

of CDS MUERY
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:

See signature block below. 6/19/2024

Applicant's Signature Date

THE STATE OF Indiana §

County of Hamilton §

BEFORE ME, the undersigned authority, on this day personally appeared Craig H. Lintner 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 19 day of June, 2024.

Alexis Watkins
NOTARY PUBLIC

Alexis Watkins
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 4/15/2032

By: Pedcor Investments-2022-CXCI, L.P.

By: GP Creek Bend, LLC

Its General Partner

By: Pedcor Investments, A Limited Liability Company

Its Manager

By: _____

Craig H. Lintner

Senior Vice President

APPLICATION FEE FORM

(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: CREEK BEND APARTMENTS

Regulated Entity Location: NORTHWEST INTERSECTION OF US 281 AND BORGFELD DR.

Name of Customer: PEDCOR INVESTMENTS, A LIMITED LIABILITY COMPANY

Contact Person: CRAIG H. LINTNER Phone: 317-208-3769

Customer Reference Number (if issued):CN 605738301

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

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

☐ Austin Regional Office

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

☒ San Antonio Regional Office

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	39.70 Acres	$ 6,500.00
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____

Date: 06/14/2024

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

CORE DATA FORM

(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 605738301		**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:*

Pedcor Investments, A Limited Liability Company

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
801766457	32050690620	351772133	824885685

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

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

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

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

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

15. Mailing Address:							
770 3rd Avenue, S.W.							
City	Carmel	**State**	IN	**ZIP**	46302	**ZIP + 4**	2036

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

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(317) 208-3769		( ) -

SECTION III: Regulated Entity Information

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

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

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

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

Creek Bend Apartments

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	2335 E. Borgfeld Dr, 28155 N US Hwy 281, 28169 N US Hwy 281							
	City	San Antonio	**State**	TX	**ZIP**	78260	**ZIP + 4**	
24. County								

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

25. Description to Physical Location:	NW Intersection of US 281 and Borgfeld Dr.				
26. Nearest City			**State**		**Nearest ZIP Code**

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

27. Latitude (N) In Decimal:	29.711205		**28. Longitude (W) In Decimal:**	98.448970	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	42	40.34	98	26	56.29

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)
1522	1623	236116	237110

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

Apartment Development

34. Mailing Address:	**770 3rd Avenue, S.W.**							
	City	**Carmel**	**State**	**IN**	**ZIP**	**46032**	**ZIP + 4**	**2036**
35. E-Mail Address:	**clintner@pedcor.net**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(317) 208-3769		**(317) 587-0340**

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

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

SECTION IV: Preparer Information

40. Name:	David P. Beales	41. Title:	Senior Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 581-1111		( ) -	david.beales@cdsmuery.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:	Pedcor Investments, A Limited Liability Company	Job Title:	Senior Vice President
Name *(In Print)*:	CRAIG H. LINTNER	Phone:	(317) 208- 3769
Signature:	See signature block below.	Date:	6/19/2024

By: Pedcor Investments-2022-CXCI, L.P.

By: GP Creek Bend, LLC

Its General Partner

By: Pedcor Investments, A Limited Liability Company

Its Manager

By: _____

Craig H. Lintner

Senior Vice President