MAVERICK CREEK GREENWAY

WATER POLLUTION ABATEMENT PLAN

PARKS & RECREATION
SAN ANTONIO

PREPARED FOR:

City of San Antonio – Parks & Recreation
5800 Enrique Barrera Pkwy
San Antonio, Texas 78227

PREPARED BY:

100 NE LOOP 410, SUITE 701
SAN ANTONIO, TEXAS 78216
HALFF ASSOCIATES, INC.
TBPELS ENGINEERING FIRM No. 312

November 2025

Water Pollution Abatement Plan Checklist

Edwards Aquifer Application Cover Page (TCEQ-20705)

General Information Form (TCEQ-0587)

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

Geologic Assessment Form (TCEQ-0585)

Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
Comments to the Geologic Assessment Table
Attachment B - Soil Profile and Narrative of Soil Units
Attachment C - Stratigraphic Column
Attachment D - Narrative of Site-Specific Geology
Site Geologic Map(s)
Table or list for the position of features' latitude/longitude (if mapped using GPS)

Recharge and Transition Zone Exception Request Form (TCEQ-0628)

Attachment A - Nature of Exception
Attachment B - Documentation of Equivalent Water Quality Protection

Temporary Stormwater Section (TCEQ-0602)

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

Permanent Stormwater Section (TCEQ-0600)

Attachment A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site
Attachment B - BMPs for Upgradient Stormwater

Attachment C - BMPs for On-site Stormwater
Attachment D - BMPs for Surface Streams
Attachment E - Request to Seal Features (if sealing a feature)
Attachment F - Construction Plans
Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
Attachment H - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs
Attachment I -Measures for Minimizing Surface Stream Contamination

Agent Authorization Form (TCEQ-0599), if application submitted by agent

Application Fee Form (TCEQ-0574)

Check Payable to the "Texas Commission on Environmental Quality"
Core Data Form (TCEQ-10400)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: COSA Greenway Trail System Maverick Creek Greenway						**2. Regulated Entity No.:** RN110873320			
3. Customer Name: City of San Antonio – Public Works Department						**4. Customer No.:** CN600130652			
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):**		4.63 ac (201,682.80 sq.ft.)	
9. Application Fee:	$500		**10. Permanent BMP(s):**			Vegetated Filter Strips			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Bexar		**14. Watershed:**			Maverick Creek			

Application Distribution

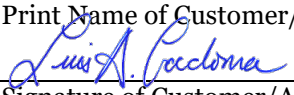
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	_X_ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park _X_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. Luis Cardona, P.E.
Print Name of Customer/Authorized Agent  11/3/25
Signature of Customer/Authorized Agent Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Luis Cardona, P.E.

Date: 11/3/25

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: COSA Greenway Trail System Maverick Creek
2. County: Bexar
3. Stream Basin: Maverick Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Juanita Fierro
   Entity: City of Santonio
   Mailing Address: 5800 Historic Old Highway 90
   City, State: San Antonio, TX Zip: 78227
   Telephone: (210) 207-2170 FAX: N/A
   Email Address: Juanita.Fierro@sanantonio.gov

8. Agent/Representative (If any):

   Contact Person: Luis Cardona, P.E.
   Entity: Halff
   Mailing Address: 100 NE LOOP 410, SUITE 701
   City, State: San Antonio, TX Zip: 78216
   Telephone: (210) 704-1379 FAX: N/A
   Email Address: lcardona@halff.com

9. 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.

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

    Maverick Creek between Old Babcock Rd and UTSA Blvd

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

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

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

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

    ☐ Survey staking will be completed by this date: XXXX 2024

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

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

FORM TCEQ-0587 ATTACHMENTS

ATTACHMENT A – ROAD MAP

Attached following this page.

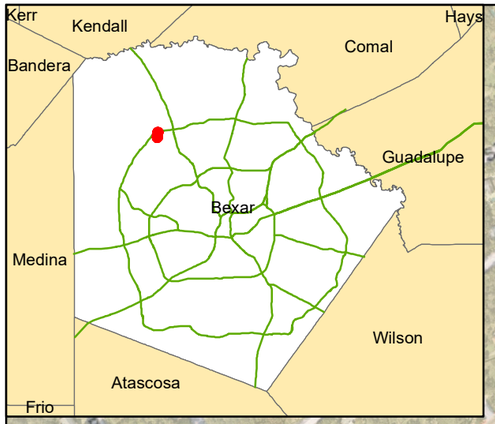
ATTACHMENT B – USGS/EDWARDS AQUIFER RECHARGE ZONE MAP

Attached following this page.

ATTACHMENT C – PROJECT DESCRIPTION

The City of San Antonio (COSA) – Parks and Recreation is proposing improvements to Maverick Creek Greenway Trail, located between Babcock Rd and UTSA BLVD, in Bexar County.

This project would construct 5,430 linear feet of 10’ shared use path that includes sidewalk nodes that vary in width along the length of Maverick Creek Greenway Trail. This would add approximately 56,628 square feet (1.31 acres) of impervious surfaces over the Recharge Zone. The approximate project acreage is 4.63 acres (201,682.80 square feet) and the project will only disturb within this area for trail construction. Due to the minimal addition of impervious surface, the construction of shared use path vegetative filter strips will be constructed, and an Exception Request will be completed.



Legend

Project Location

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halff
100 NE Intestate 410 Loop Suite 200
San Antonio, TX 78216

N
W E
S

ATTACHMENT A: ROAD MAP

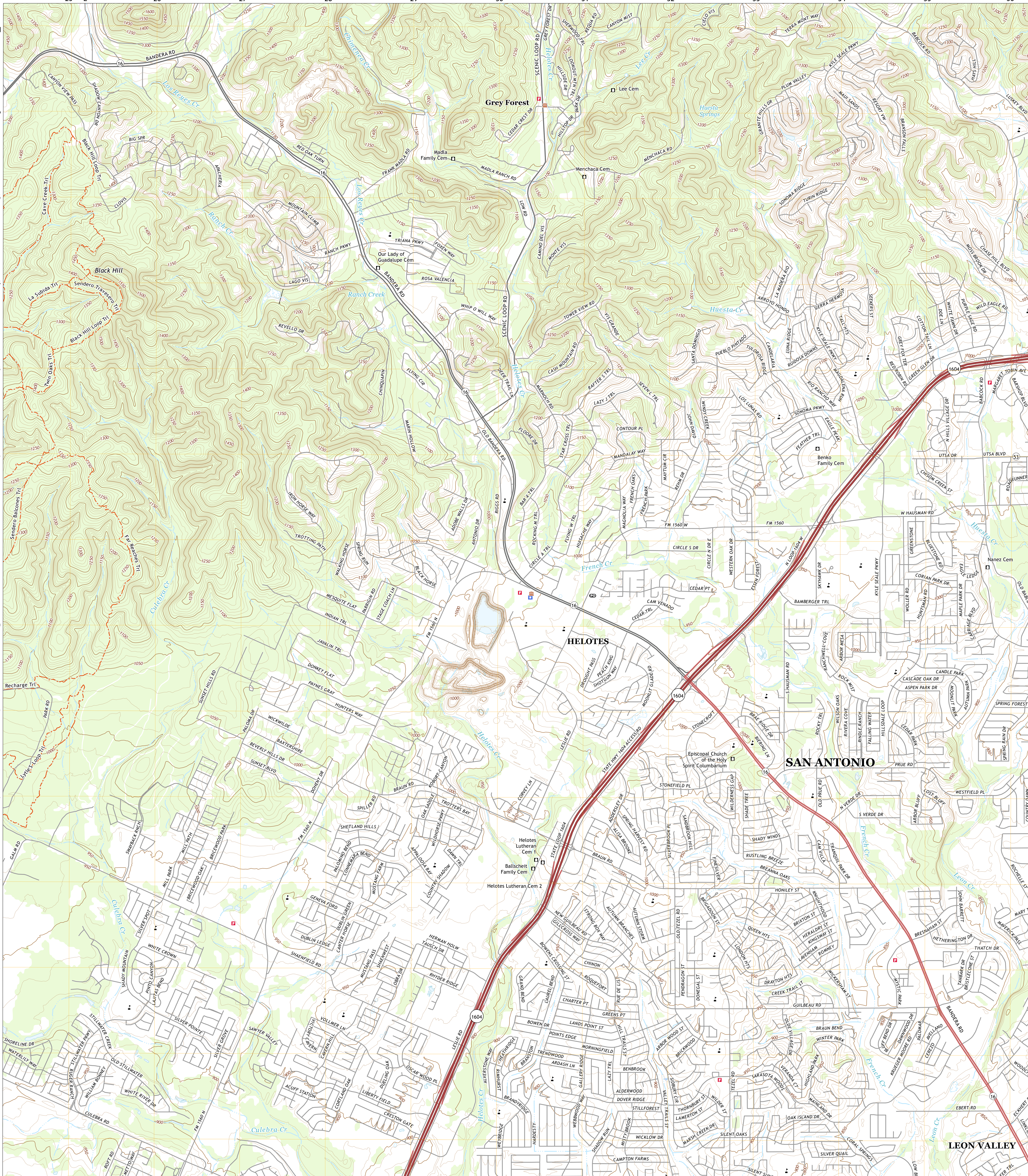
0 300 600
SCALE IN FEET

Page 1 of 1
Maverick Creek Greenway
From UTSA Blvd to Loop 1604

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

The National Map
US Topo

HELOTES QUADRANGLE
TEXAS - BEXAR COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 14R
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery....NAIP, September 2016 - November 2016
Roads.... U.S. Census Bureau, 2015 - 2019
Names....GNIS, 1979 - 2021
Hydrography....National Hydrography Dataset, 2003 - 2018
Contours....National Elevation Dataset, 2019
Boundaries....Multiple sources; see metadata file 2019 - 2021
Wetlands....FWS National Wetlands Inventory Not Available

MN
GN
0°9´ 3 MILS
4°14´ 75 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
NT
Grid Zone Designation
14R

SCALE 1:24 000
KILOMETERS 1 0.5 0 1 2
METERS 1000 500 0 1000 2000
MILES 1 0.5 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

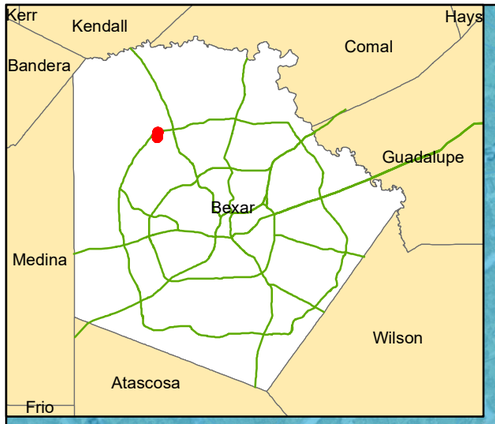
TEXAS
QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Jack Mountain
2 Van Raub
3 Camp Bullis
4 San Geronimo
5 Castle Hills
6 La Coste NE
7 Culebra Hill
8 San Antonio West

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

HELOTES, TX
2022

NSN. 7643016396510
NGA REF NO. USGSX24K20051



Edwards Aquifer Recharge Zone (Blue)

Edwards Aquifer Contributing Zone within the Transition Zone (Pink)

Legend

- Project Location
- Edwards Aquifer Contributing Zone
- Edwards Aquifer Recharge Zone
- Edwards Aquifer Contributing Zone
- Edwards Aquifer Contributing Zone within the Transition Zone
- Edwards Aquifer Transition Zone
- USGS 10 ft Contour

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halff

100 NE Intestate 410 Loop Suite 200
San Antonio, TX 78216

N W E S

ATTACHMENT B: USGS/EDWARD'S AQUIFER RECHARGE ZONE MAP

0 300 600
SCALE IN FEET

Maverick Creek Greenway
From UTSA Blvd to Loop 1604

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.S(b)(3), Effective June l, 1999

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

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

Signature

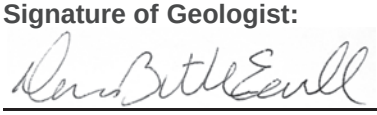
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Dawne Butler Earll, P.G. **Telephone**: (210) 694-4545

Date: July 12, 2024 **Fax:** (210) 694-4577

Representing: Medina Consulting Co., Inc. TBPG No.50118

Signature of Geologist:



Regulated Entity Name: COSA Greenway Trail System Maverick Creek

Project Information

1. Date(s) Geologic Assessment was performed: August 14, 15, & 17, 2023
2. Type of Project:

   ☒ WPAP ☐ AST

   ☐ SCS ☐ UST
3. Location of Project:

   ☒ Recharge Zone

   ☐ Transition Zone

   ☐ Contributing Zone within the Transition Zone

7/12/24

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford, stony & Bexar soils, 0-5% slopes	D	2.25-2.83
Lewisville silty clay, 1-3% slopes	B	5.75+
Patrick soils, 1-3% slopes, rarely flooded	B	5+

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

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

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

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 150'
   Site Geologic Map Scale: 1" = 150'
   Site Soils Map Scale (if more than 1 soil type): 1" = 150'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

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

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

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

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

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

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

    ☐ There are_____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

Attachment A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: COSA Greenway Trail System Maverick Creek

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B"	1C"	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		0, 10						<40	≥40	<1.6	≥1.6	
B1	29.58475°	-98.63046°	O	5	Kplc	1	5	unkn.	15	0	NA	None	N	5	10	X			X	Floodplain
M1	29.57709°	-98.63122°	MB	30	Kg	1	105	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M2	29.57709°	-98.63122°	MB	30	Kg	1	105	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
H1**	29.57780°	-98.63125°	MB	30	Kg	.33	.33	15	NA	NA	NA	NA	N/A**	5	35	X			X	Floodplain
H2**	29.57867°	-98.63080°	MB	30	Kdr	.33	.33	10	NA	NA	NA	NA	N/A**	5	35	X			X	Floodplain
H3**	29.58272°	-98.63119°	MB	30	Kplc	.33	.33	20	NA	NA	NA	NA	N/A**	5	35	X			X	Floodplain
H4**	29.58534°	-98.63009°	MB	30	Kplc	.33	.33	20	NA	NA	NA	NA	N/A**	5	35	X			X	Floodplain
H5**	29.58529°	-98.62970°	MB	30	Kplc	.33	.33	10	NA	NA	NA	NA	N/A**	5	35	X			X	Floodplain
M3	29.57806°	-98.63127°	MB	30	Kg	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M4	29.57970°	-98.63134°	MB	30	Kg	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M5	29.58085°	-98.63202°	MB	30	Kg	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M6	29.58221°	-98.63143°	MB	30	Kg	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M7	29.58353°	-98.63074°	MB	30	Kplc	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain
M8	29.58495°	-98.56302°	MB	30	Kplc	2	2	unkn.	NA	NA	NA	NA	COFV	5	35	X			X	Floodplain

• DATUM: WGS 84

2A TYPE	TYPE	28 POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

**Note: These were boreholes created and filled with bentonite on the same day.

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's *Instructions to Geologists*. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined.

Dawne Butler Earll, P.G.

Date July 12, 2024

7/12/24

Sheet 1 of 1

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

Attachment B
Stratigraphic Column

COSA Greenway Trail System Maverick Creek

Time Period (Epoch)	Hydrologic Subdivision	Group	Formation/ Member		Hydrologic Function	Thickness (ft)	Lithology	Cavern Development	Porosity/ Permeability type
Erosional Surface									
Late Cretaceous	Upper Confining Units		Del Rio Clay		CU	40-50	Blue-green to yellow-brown clay	None	None (primary upper confining unit)
			Georgetown		CU	20-30	Reddish-brown and gray to light-tan, marly limestone w/ biomicritic texture; commonly contains fossils	Little to none	very low porosity and permeability
Early Cretaceous	Edwards Aquifer	Edwards	Person Fm	Cyclic & marine members undivided	AQ	80-90	Mudstone to packstone, miliolid grainstone, chert	Many subsurface	Laterally extensive, water yielding
				Leached and collapsed members	AQ	70-90	Limestone: Crystalline, mudstone to grainstone, chert, collapsed breccia	Extensive lateral development, large rooms	Permeable, most not fabric porosity
				Regional dense member	CU	20-24	Limestone: dense argillaceous mudstone	Very few, only vertical fracture development	Not fabric, low permeability, vertical barrier
			Kainer Fm	Grainstone member	AQ	40-50	Limestone: miliolid grainstone, mudstone to wackestone, chert	Few	Not fabric, recrystallization reduces permeability
				Kirschberg evaporite member	AQ	40-50	Limestone: highly altered, crystalline, chalky mudstone, chert	Probably extensive cave development	Most fabric, one of the most permeable
				Dolomitic member	AQ	90-120	Limestone: mudstone to grainstone, crystalline, chert	Caves related to structure or bedding planes	Mostly not fabric, some bedding plane fabric
				Basal nodular member	CU, or Karst AQ	40-50	Limestone: shaly, nodular, mudstone to miliolid grainstone	Large lateral caves at surface	Fabric, stratigraphically controlled
	Lower Confining Unit	Trinity	Glen Rose limestone/upper member		CU; AQ (if evaporite beds)	208-560	Limestone: yellowish tan, thinly bedded, marl	Some surface cave development	Some water production at evaporite beds/Relatively impermeable

Notes: AQ = Aquifer, CU = Confining Unit

Source: *Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers Within Northern Bexar and Comal Counties, Texas, Clark, et al., 2016*

Mapped surficial geology

Attachment C
Site Geology

Geology Narrative

The site lies in the recharge zone of the Edwards Aquifer. The attached figures show the location of the site, floodplain, topography, and geologic units.

Site Soils

Soil Units: The project site lies on Crawford, stony & Bexar soils, 0-5% slopes (Cb), Lewisville silty clay, 1-3% slopes (LvB), and Patrick soils, 1-3% slopes, rarely flooded (PaB). The following paragraphs describe the soil units and are partially quoted from the *Soil Survey of Bexar County, Texas* (USDA, issued June 1966) and the Web Soil Service map unit descriptions.

Cb: This soil is primarily made up of Crawford, stony (51%) and Bexar (36%). “These soils occur as large areas, generally several hundred acres in size, and form a nearly continuous belt extending westward from the northeastern part of the county to a little south of Helotes. Crawford and similar soils make up approximately 64 percent of the acreage. Approximately 90 percent of this consists of soils that are stony clay in texture and are shallow to moderately deep over hard limestone. The surface layer is very dark gray to dark reddish-brown, noncalcareous clay and is 8 or 9 inches thick. From 10 to 40 percent of this layer consists of chert and limestone fragments. These fragments, which are on the surface and in the surface layer, range from a quarter of an inch to 24 inches in diameter. The subsurface layer generally contains a few chert fragments or small flags of cherty limestone. The surface layer of these soils ranges from cherty clay loam to gravelly loam in texture and from 14 to 22 inches in thickness. The subsoil is cherty clay and ranges from 6 to 14 inches in thickness. Cb soils are well-drained, and runoff class is Very High (Crawford component) to High (Bexar component). The depth to the water table is more than 80 inches. The capacity of the most limiting layer to transmit water (K_{sat}) is very low to moderately low (0.00 to 0.06 in/hr; Crawford) to moderately low to moderately high (0.06 to 0.20 in/hr; Bexar).

LvB: “The Lewisville series consists of moderately deep, dark-colored, nearly level alluvial soils. These soils occur mainly on terraces bordering the San Antonio and Medina Rivers and their main tributaries. The surface layer is very dark grayish-brown to brown silty clay and is about 24 inches thick. It has fine subangular blocky or blocky structure, is firm and crumbly when moist, and is easily worked. This layer contains a few fine concretions of lime carbonate. The subsurface layer is brown silty clay and is about 20 inches thick. It has fine, subangular blocky or blocky structure and is very firm but crumbly when moist. This layer is limy. The underlying material is reddish-yellow silty clay. It has weak, blocky structure, is very firm when moist, and contains large amounts of lime. Beneath this layer, there may be deep beds of water-rounded limestone gravel.” The LvB soil is well-drained with a High runoff class. The depth to the water table is more than 80 inches. The K_{sat} is moderately low to moderately high (0.06 to 0.20 in/hr).

PaB: “The Patrick series consists of shallow, dark-colored, nearly level and gently sloping soils. These soils occur as terraces along streams that drain the limestone prairies of the county.” “The surface layer is clay loam, gravelly clay loam, silty clay, or light clay and about 12 inches thick. This layer has granular structure. It is moderately permeable, firm to friable when moist, and calcareous.” “The subsurface layer is brown, clay loam, loam, or light clay. It is about 5 inches thick. This layer also is friable when moist and calcareous. The substratum consists of waterworn, lime-coated limestone gravel.” The PaB soil is well-drained with a Low runoff class. The depth to the water table is more than 80 inches. The K_{sat} is moderately high to high (0.57 to 1.98 in/hr).

Site Geology

Literature Review: In Figure 7 (Clark, et al., 2016) and attachment D, the site is mapped in the Del Rio Clay (Kdr), Georgetown Formation (Kg), and Person Formation, leached and collapsed member (Kplc). One fault is mapped as passing through the site. An older map, Figure 6, shows geology of the area from the Blome, et al. (2005) geologic map. On this map, the site is mapped in the Kainer Formation, dolomitic member (Kkd) and the Person Formation, cyclic & marine member (Kpcm). Two faults (one is inferred) are mapped as passing through the site. We are using the 2016 map for our site-specific map because it matches observations. The following descriptions were taken from the Clark, et al. (2016) descriptions in the map’s accompanying pamphlet.

Kdr: “The Del Rio Clay of the Washita Group is typically 40–50 ft thick in the study area. It is a fossiliferous, blue-green to yellow-brown clay with thin beds of packstone. The Del Rio Clay of the Washita Group contains iron nodules and the index fossil *Ilymatogyra arietina*. The contact between the Del Rio Clay and the overlying Buda Limestone is unconformable (Martin, 1967) and easily recognized, with the Buda Limestone blocks often slumping down hillsides over the Del Rio Clay outcrops (Clark and others, 2013).”

Kg: “The Georgetown Formation of the Washita Group is typically 20–30 ft thick in the study area and is a reddish- brown, gray to light tan, shaly mudstone and wackestone. It commonly contains black dendrites, iron nodules, and iron staining and often resembles the Buda Limestone. According to Maclay and Small (1976), the Georgetown Formation overlies the Person Formation of the Edwards Group unconformably. The Georgetown Formation contains dispersed pyrite and organic material in beds of dense, shaly limestone that suggest a condition of undisturbed deposition in a reducing environment (Maclay and Small, 1976). The Georgetown Formation is often fossiliferous with *Plesioturrilites brazoensis* and *Waconella wacoensis* common. *Waconella wacoensis* is the index fossil for the Georgetown Formation. The Del Rio Clay overlies the Georgetown Formation unconformably.”

Kplc: “The leached and collapsed members (undivided) are typically 70–90 ft thick in the study area and consist of a hard, dense, recrystallized limestone (Maclay and Small, 1976; Stein and Ozuna, 1995). The member is generally a mudstone, wackestone, packstone, and grainstone containing chert and occasional collapse breccias. These units are heavily bioturbated with iron-stained beds (Stein and Ozuna, 1995) separated by more massive limestone beds. The leached and collapsed members are often stromatolitic and contain chert both as beds and as large nodules. Fossils and fragments of *Toucasia* sp. are often found just above the contact with the underlying regional dense member. Although rare, the coral *Montastrea roemeriana* and oysters can be found.”

Observations: The site lies on land that is forested with small clearings/areas with less tree cover. Numerous boulders (on the surface and emerging), cobbles, and leaf litter cover most of the forested ground surface with some grasses, weeds, and small cacti present where more sunlight can penetrate (Photographs 1 to 4). The boulders appear to be part of the soil profile. The site is very uneven (i.e., “lumpy and bumpy”), especially between the current and former streambeds.

The pre-scoping layout (pdf) by T-Core Engineers shows SAWS sewer lines passing under the site in a few places. Manholes were observed near the site, but not on it. The manholes were on elevated cement collars that were in good condition with vegetated soil overlapping (i.e., the piping under the collars was not exposed).

One fault was shown on the site in the geologic map (Figure 7 and attachment D), but it was not observed at the site (i.e., no cracks, disruptions, or layer discontinuities visible on the ground surface). No significant pavement cracking outside the site, on both sides, was observed. Some minor cracking along UTSA’s West Campus Rd/Service Rd. Since it occurs along most of that road, mostly along the edges, it can be attributed to heavy vehicles and inadequate road construction.

No sensitive geologic or manmade features were identified on the site. The bedrock feature and two related manmade features are listed in the Geologic Assessment Table is described below.

B1 (Photograph 1) - Possible exposed bedrock (not obviously a surfacing boulder): The surface has a number of exposed bioturbation holes, none of which are deep, and superficial surface cracking. It is possible that this is another surfacing boulder in an area with many surface and surfacing boulders, which are common in the Cb soil type. No rapid infiltration infilling was observed (the whole area is covered with leaf litter).

M1 and M2 (Photograph 2) - These are the UTSA Blvd road supports that the trail will pass between. It is possible that they extend downward into the bedrock. No rapid infiltration infilling was observed.

H1 through H5 - These were boreholes drilled for geotechnical sample collection. No voids were encountered during the drilling process at all boreholes, and all were filled with bentonite after sample collection. *Only boreholes H2, H3, and H5 are located inside the project area*.

M3 through M8 - These are all manhole access points. All manholes have concrete collars extending into the soil. No rapid infiltration infilling was observed at any of the collars. *None of the manholes are inside the project area*.

If features are discovered during construction, work should stop, and the Texas Commission on Environmental Quality (TCEQ) notified so that the feature can be evaluated.

Figures

Source: ESRI Standard

Medina Consulting Company, Inc.

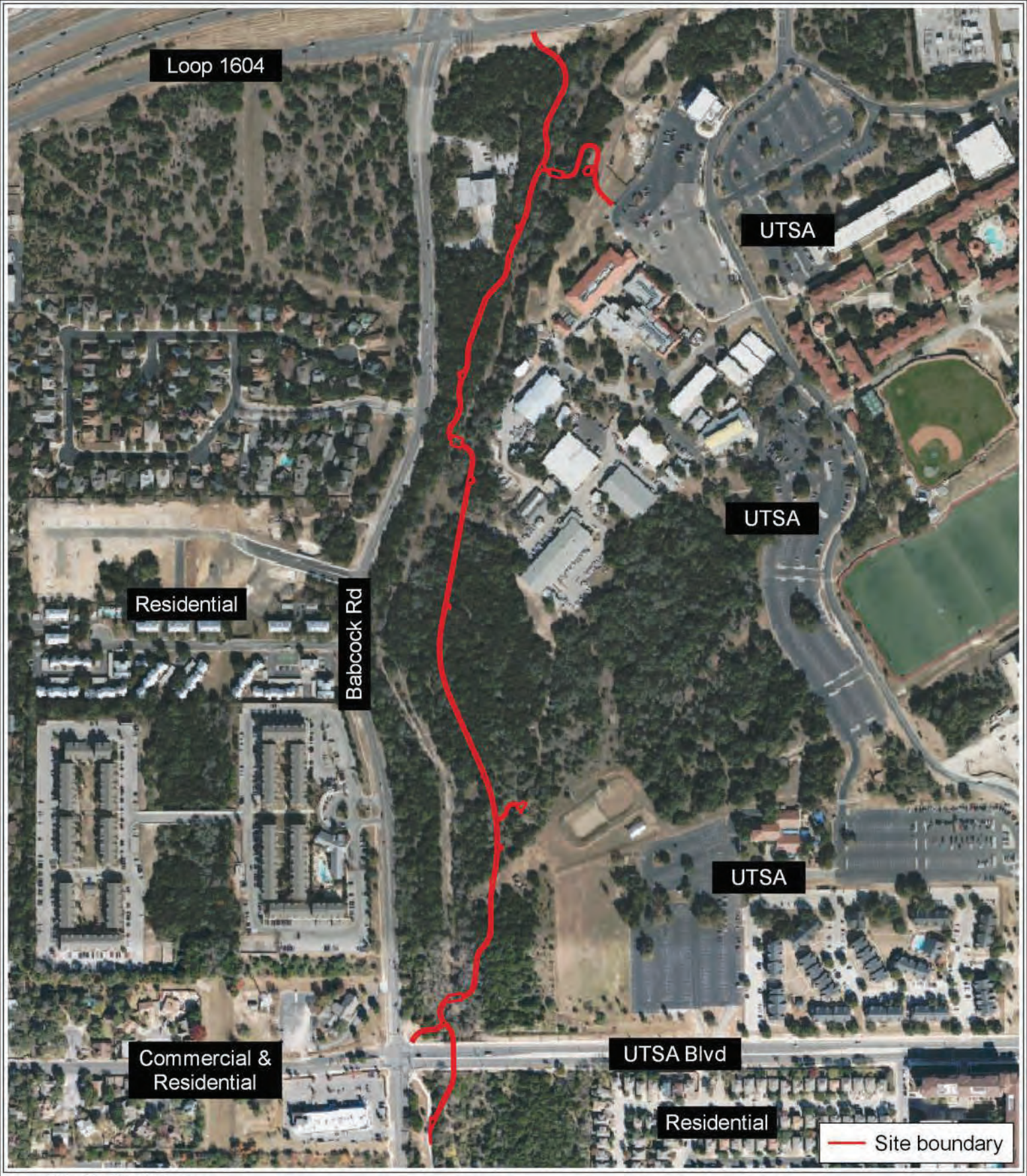
Figure 1: Project Area Location
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/22/23

525 0 525 ft

1:8000



Source: Bing Maps Satellite Imagery

Medina Consulting Company, Inc.

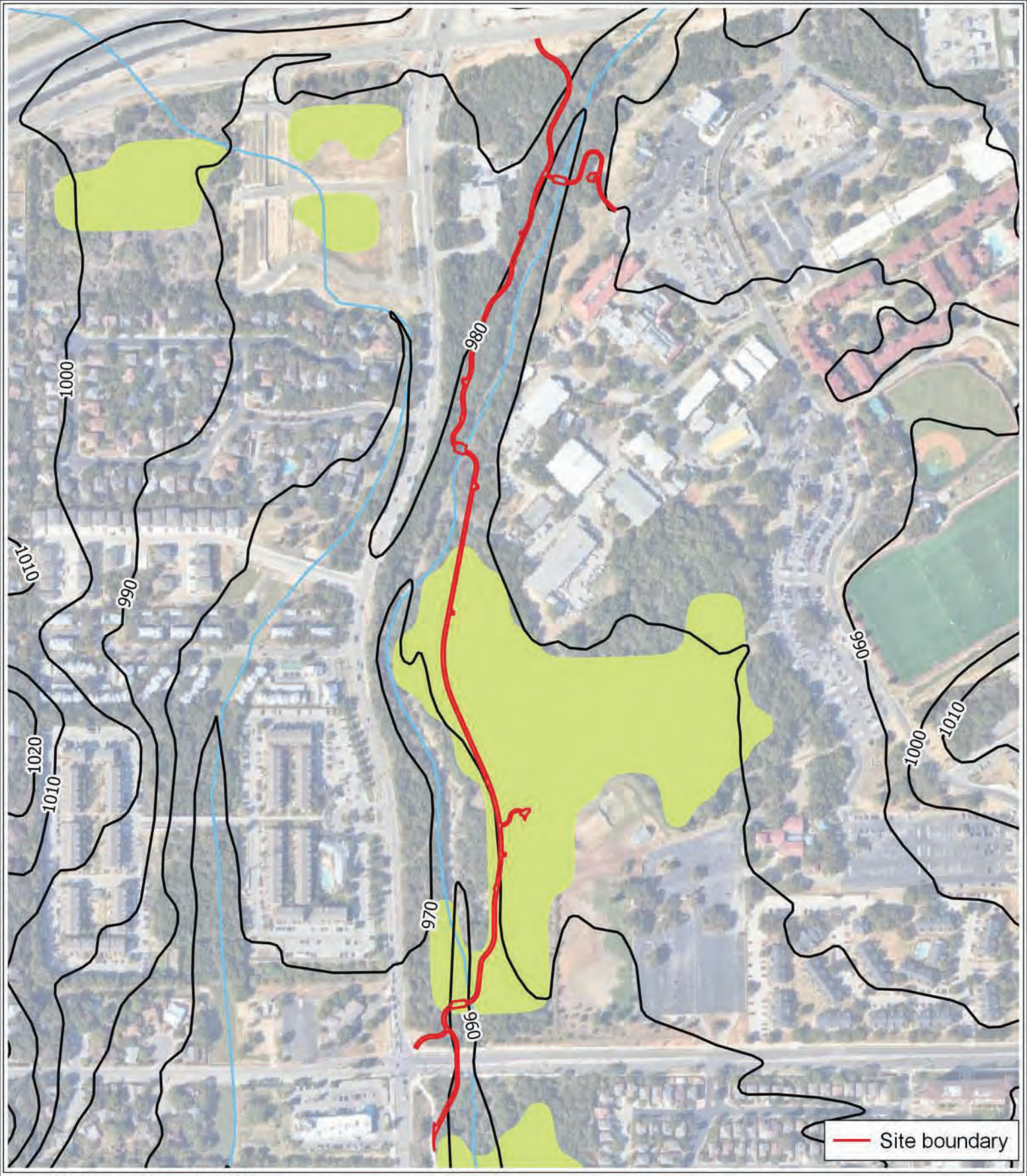
Figure 2: Site and Vicinity
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/22/23

325 0 325 ft

1:5100



Source: USGS Helotes, TX vector files (2022)

Medina Consulting Company, Inc.

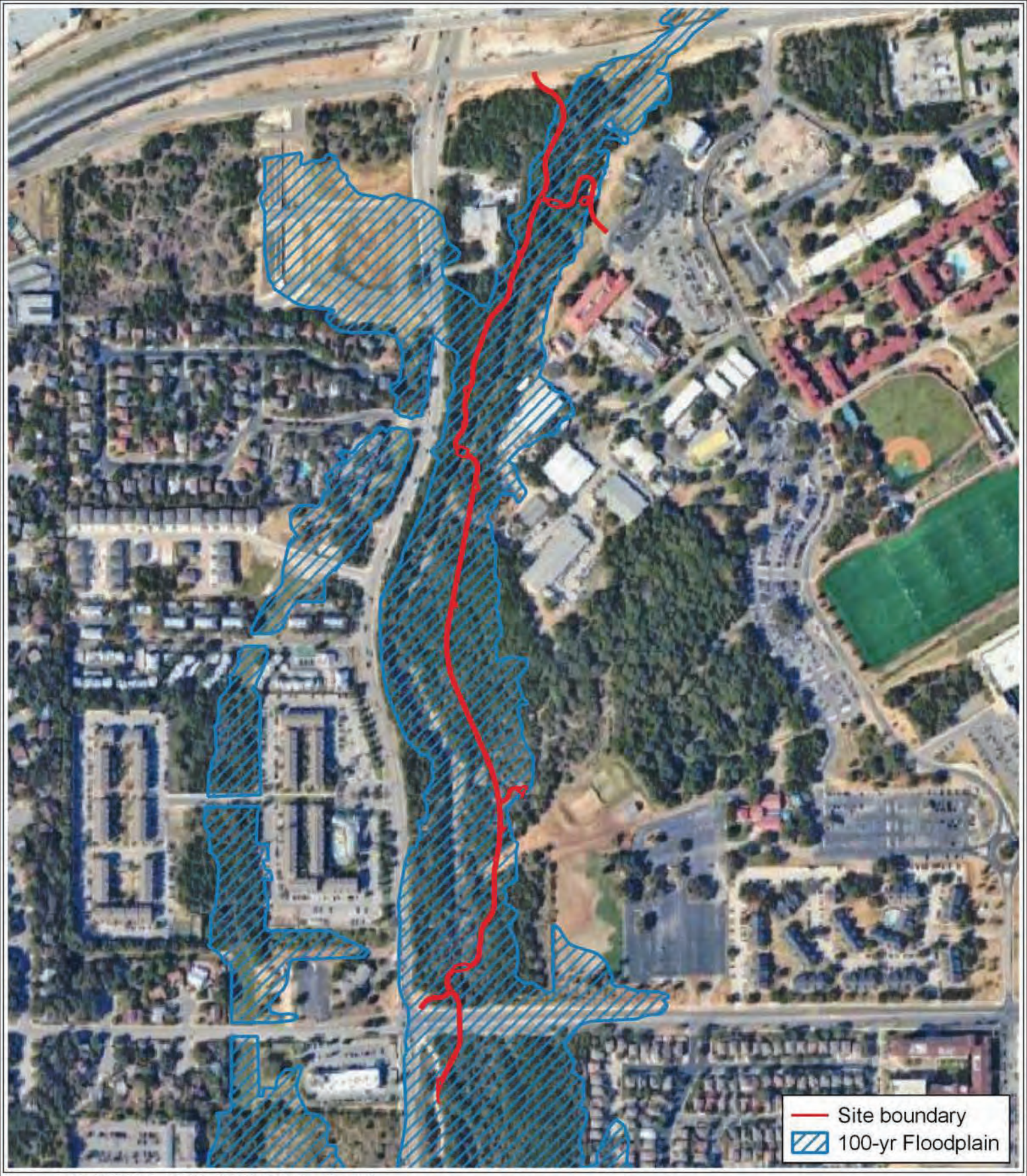
Figure 3: Site Topography
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/22/23

350 0 350 ft

1:5100



Sources: FEMA NFHL Data 48029C, eff. 9/29/2010; Google Satellite

Medina Consulting Company, Inc.

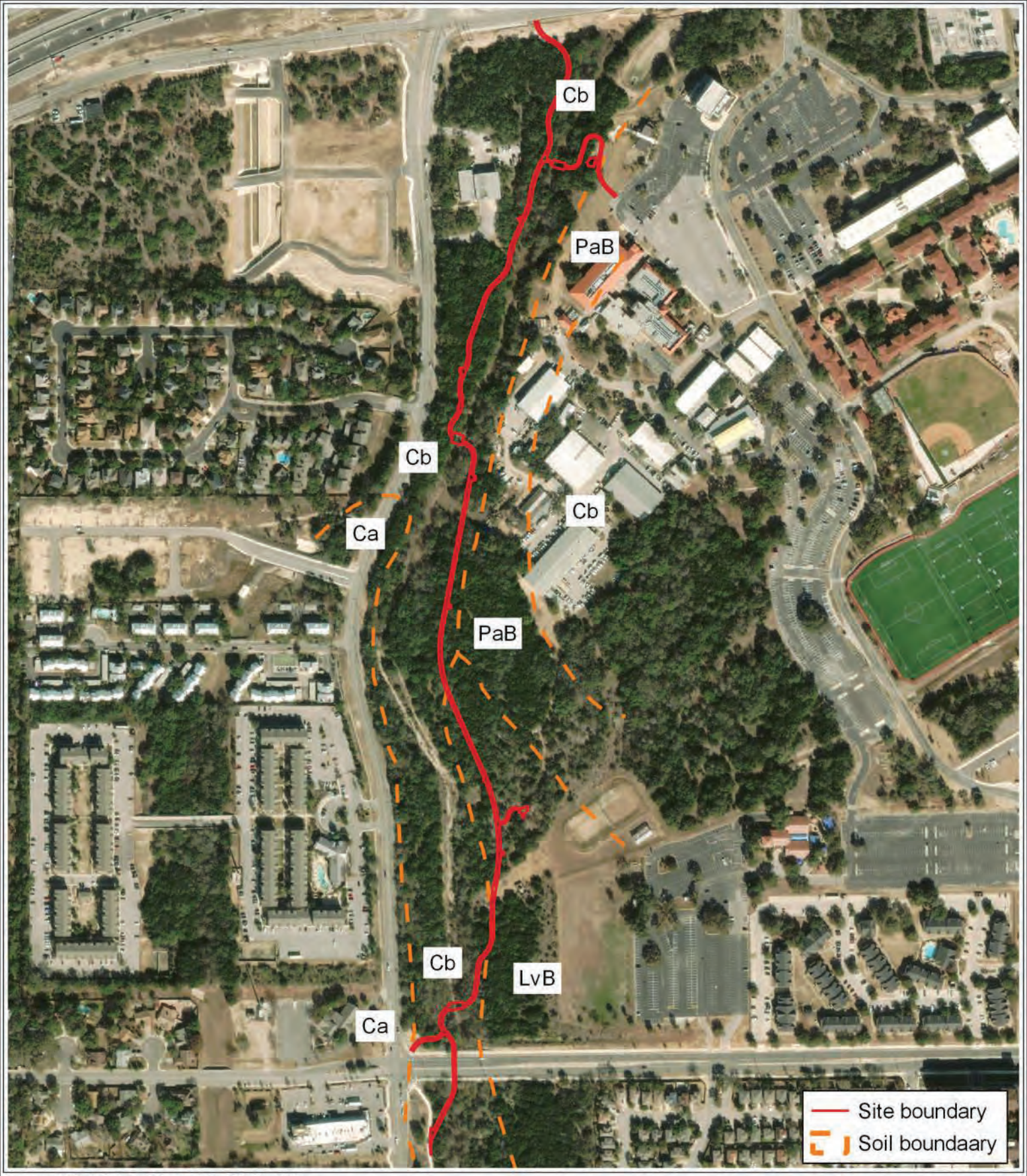
Figure 4: FEMA Flood Zone Map
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/2/23

400 0 400 ft

1:5500



Sources: USDA Web Soil Survey data, ESRI Satellite

Medina Consulting Company, Inc.

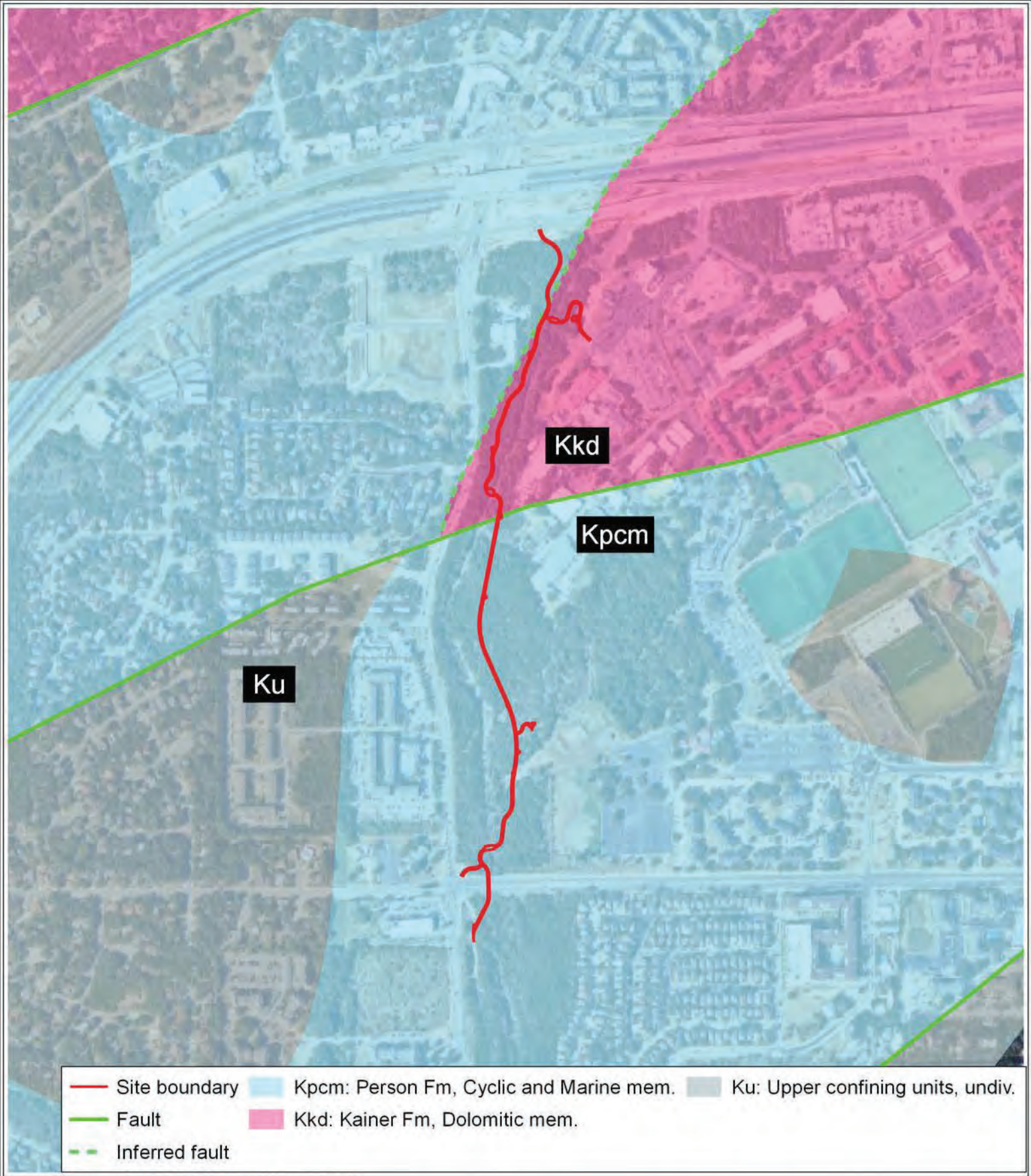
Figure 5: Soil types
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/22/23

325 0 325 ft

1:5000



Sources: Blome, et al., USGS SIM 2873 (2005); Google Satellite

Medina Consulting Company, Inc.

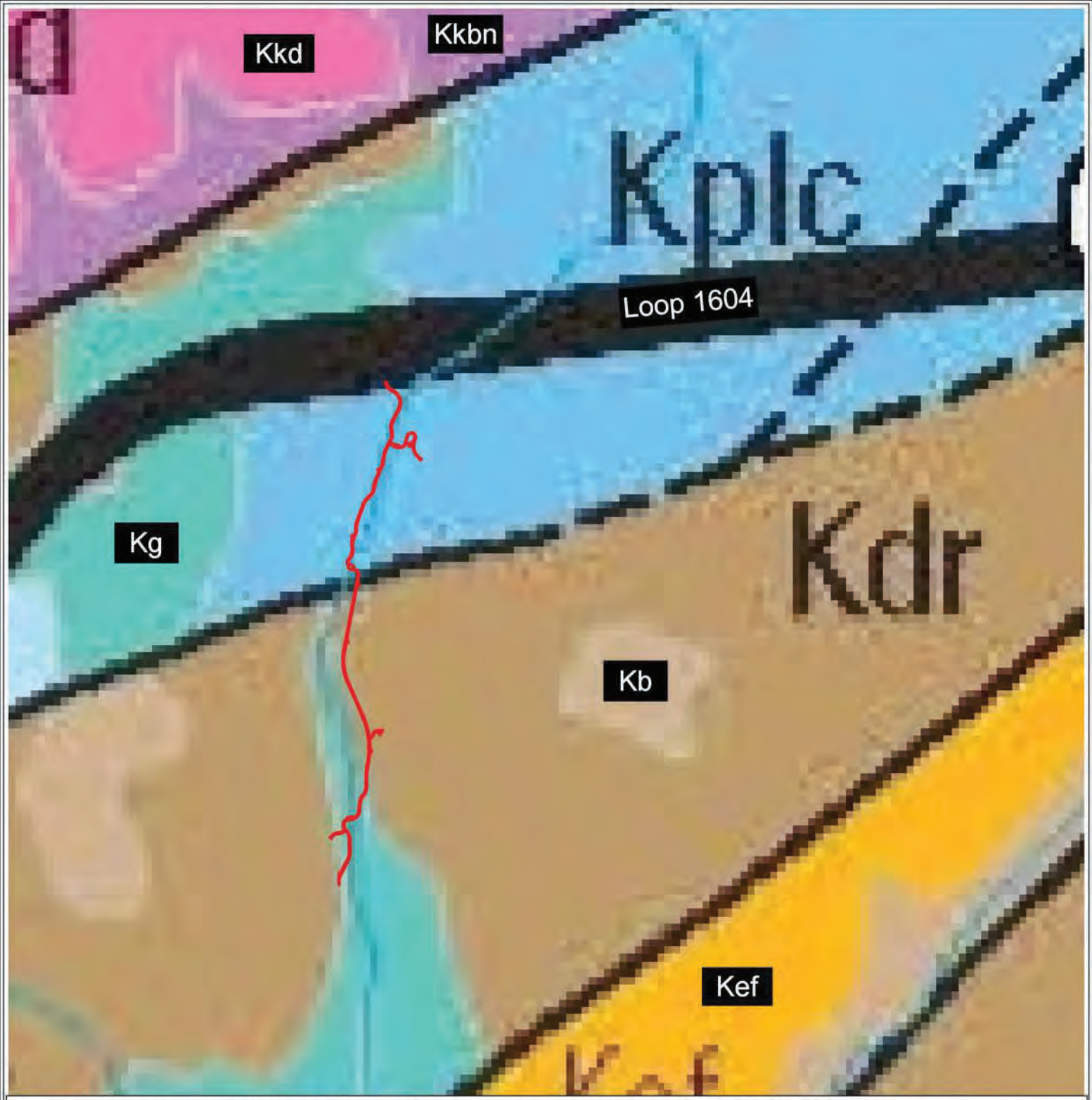
Figure 6: 2005 Site Geology
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/24/23

550 0 550 ft

1:8000



Source: Clark, et al., USGS SIM 3366 (2016)

Medina Consulting Company, Inc.

Figure 7: 2016 Site Geology
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Texas

N

Author: Dawne M. Butler 8/24/23

825 0 825 ft

1:12000

Photographs

Photograph 1 - View of possible exposed bedrock just outside the edge of the site (may be a surfacing boulder, which is common in the Cb soil type)

Photograph 2 - View of the northern side of the UTSA Blvd road supports that the trail will pass between

Photograph 3 - View of typical forest floor showing surface and surfacing boulders typical of the Cb soil type

Photograph 4 - View northeastward of soil type PaB; the parking lot will be the eastern terminus of the northern trail offshoot southwest of the UTSA Mesquite Lab

REFERENCES

Blome, C., Faith, J., Pedraza, D., Ozuna, G., Cole, J., Clark A., Small, T., Morris, R., Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas, USGS Scientific Investigations Map 2873, scale 1:200,000, 2005.

Clark, A., Golab, J., and Morris, R., Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers Within Northern Bexar and Comal Counties, Texas, USGS Scientific Investigations Map 3366, scale 1:24,000, 2016.

Google (Earth Pro and Maps), Images of site, accessed August-September 2023.

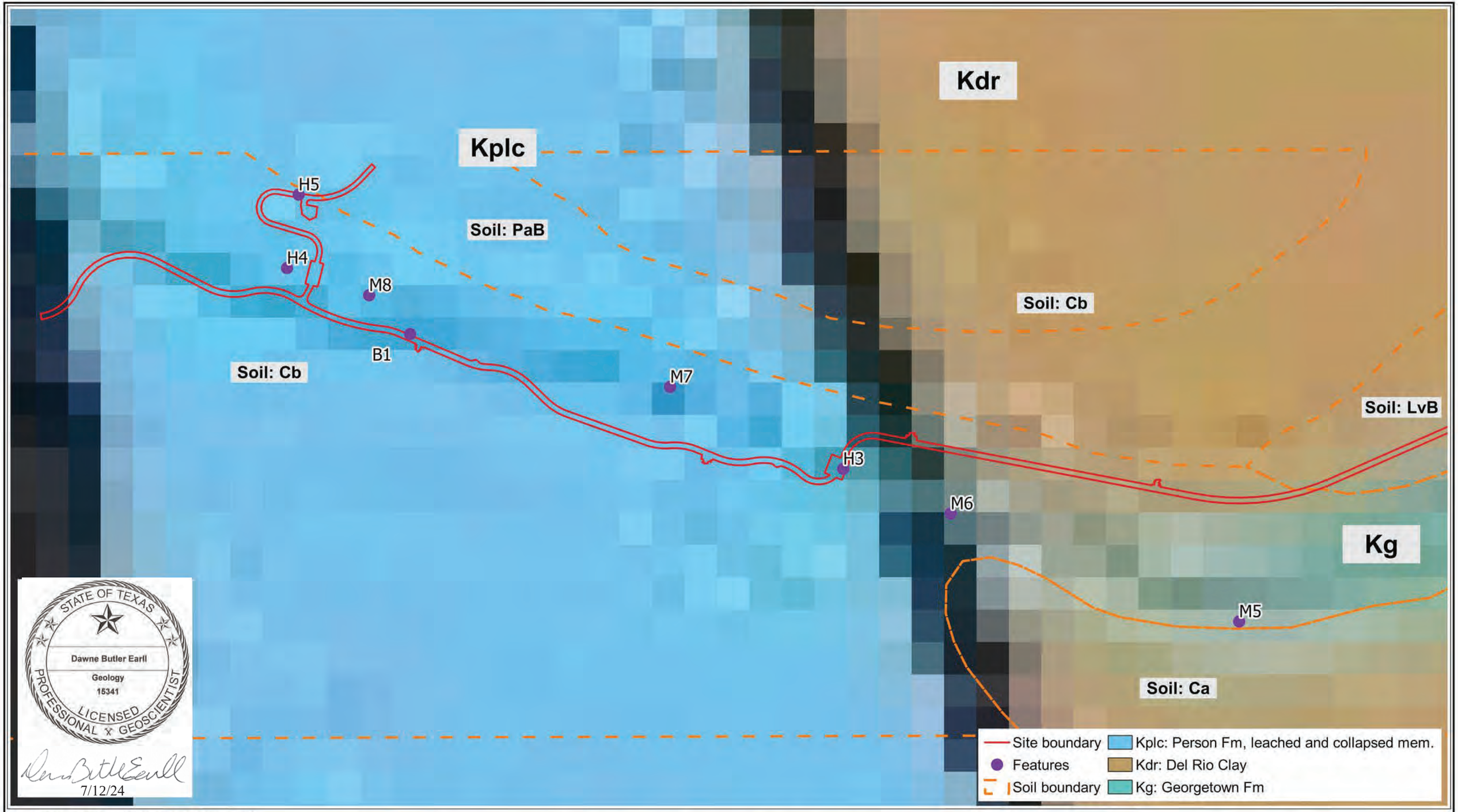
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Web Soil Survey, Available online at https://websoilsurvey.nrcs.usda.gov/, Accessed August 2023.

Stein, W. G., and Ozuna, G. B., Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: US Geological Survey, Water Resource Investigations Report (95-4030).

Texas Commission on Environmental Quality (TCEQ), *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge Zone*, TCEQ-0585-Instructions, 2004, https://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/F-0585_geologic_assessment_instructions.pdf, accessed June 2013.

Taylor, F., Hailey, R., and Richmond, D., United States Department of Agriculture, Soil Conservation Service (USDA SCS), *Soil Survey of Bexar County, Texas*, reissued 1991.

Attachment D
Site Geologic Maps
(North and South)



STATE OF TEXAS
Dawne Butler Earll
Geology
15341
LICENSED PROFESSIONAL GEOSCIENTIST

7/12/24

Sources: Clark, et al., 2016; USDA Web Soil Survey, 2023;

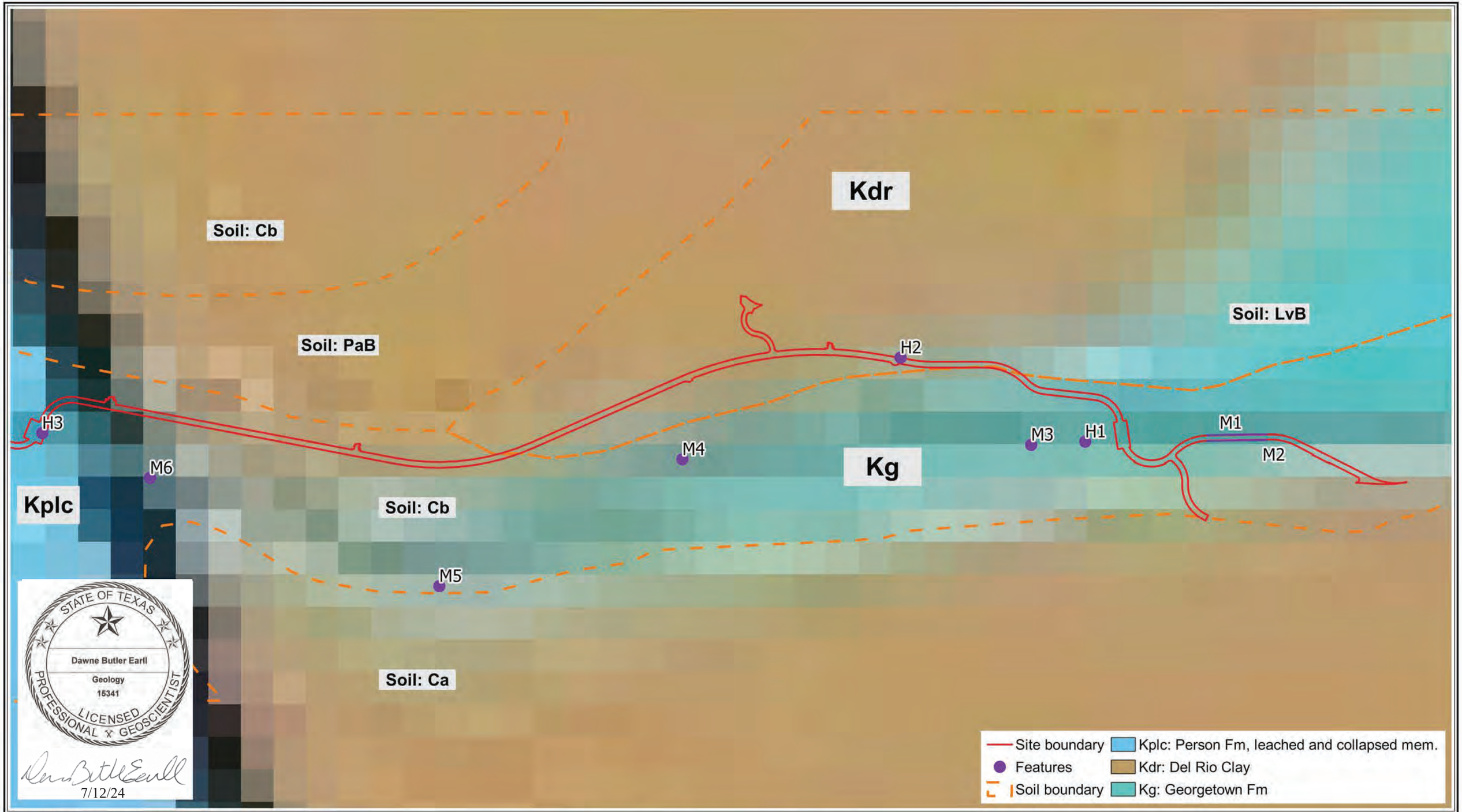
Medina Consulting Company, Inc.

Attachment D North- Project Area Features, Soil, & Geology
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Bexar County, Texas

Author: Dawne Butler Earll 7/12/24

150 0 150 ft

1:1800



Sources: Clark, et al., 2016; USDA Web Soil Survey, 2023;

Medina Consulting Company, Inc.

Attachment D South- Project Area Features, Soil, & Geology
COSA Greenway Trail System Maverick Creek
Geologic Assessment
San Antonio, Bexar County, Texas

N

Author: Dawne Butler Earll 7/12/24

150 0 150 ft

1:1800

Recharge and Transition Zone Exception Request Form

Texas Commission on Environmental Quality
30 TAC §213.9 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 **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Luis Cardona, P.E.
Date: 11/3/25
Signature of Customer/Agent:

Regulated Entity Name: COSA Greenway Trail System Maverick Creek

Exception Request

1. ☒ **Attachment A - Nature of Exception**. A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
2. ☒ **Attachment B - Documentation of Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

3. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
4. ☒ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. ☒ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

FORM TCEQ-0628 ATTACHMENTS

ATTACHMENT A — NATURE OF EXCEPTION

The City of San Antonio (COSA) – Parks and Recreation is proposing improvements to Maverick Creek Greenway Trail, located between Babcock Rd and UTSA BLVD, in Bexar County.

This project would construct 5,430 linear feet of 10’ shared use path that includes sidewalk nodes that vary in width along the length of Maverick Creek Greenway Trail. This would add approximately 56,628 square feet (1.31 acres) of impervious surfaces over the Recharge Zone. The approximate project acreage is 4.63 acres (201,682.80 square feet) and the project will only disturb within this area for trail construction. Due to the minimal addition of impervious surface, the construction of shared use path vegetative filter strips will be constructed, and an Exception Request will be completed.

ATTACHMENT B — DOCUMENTATION OF EQUIVALENT WATER QUALITY PROTECTION

Equivalent water quality protection will include adding 5.2’ of engineered vegetative filter strips for the 10’ trail sections along down gradient side of proposed trail. For trail sections that exceed 10’, 15’ of engineered vegetated filter will be used instead. These areas will be overtreated to compensate for areas that are not being treated. The existing established outside of the area of disturbance will be protected and utilized as an established vegetation. See attached Environmental Layout.

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: Luis Cardona, P.E.

Date: 11/3/25

Signature of Customer/Agent:

Regulated Entity Name: COSA Greenway Trail System Maverick Creek

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: Maverick 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.

FORM TCEQ-0602 ATTACHMENTS

ATTACHMENT A — SPILL RESPONSE ACTIONS

Should an accidental release occur, it will be immediately contained by earthen dikes, berms or other appropriate measures. Free liquids will be stabilized promptly using bulking agents, absorbent pads, booms, soil or other appropriate material. Once no free liquids are present in the containment area, the released material will be picked up mechanically or by personnel wearing proper protective equipment and stored in 55-gallon steel drums or on plastic sheeting. Released material will be covered to prevent contact with stormwater. Stormwater runoff will be diverted around the stored material if necessary. Traffic will be routed around and away from any spill to avoid spreading the spilled material to other areas.

The Contractor is required to remediate any spills, and to immediately report spills (including sanitary sewer discharge) of reportable quantities to the following:

- National Response Center at (800) 424-8802
- Edwards Aquifer Authority at (210) 222-2204
- To the San Antonio Water Systems at (210) 704-7297 and one of the following:
    - State Emergency Response Center (800) 832-8224 (if after hours)
    - TCEQ Regional Office **(210) 490-3096** (if during business hours)

Spills shall be reported within 24 hours unless other regulations require more expedient notification.

ATTACHMENT B — POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination include the hydrocarbons and fuels required to service and operate the construction equipment, the materials and liquids used to conduct paving operations, various paints and solvents, and soil disturbed and mobilized during excavation.

ATTACHMENT C — SEQUENCE OF MAJOR ACTIVITIES

The sequence of construction with a total area to be disturbed of 4.63 acres, are as follows:

1. Install SW3P measures.
2. Install tree protection.
3. Install low water crossing and drainage infrastructure.
4. Rough grade Trail Route.
5. Install trail and flatwork.
6. Install signage.

7. Install Landscaping.
8. Vegetate to establishment.
9. Remove SW3P measures.

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

General timing or sequence for implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls. BMPs shown on the plan sheets are considered “proposed” unless/until install date is shown.

At the beginning of the construction phase, Silt Fences, and Gravel Filtration Bags will be installed downstream of trail cross slope, and along proposed trail alignment. Rock Berms will be installed at downstream of drainage structures. Rock bedding will also be installed at construction exits. All temporary BMPs will remain until the end of construction.

Runoff generated from construction limits and through these temporary BMPs, preventing pollution of surface water, groundwater, or stormwater.

The locations of temporary BMPs are shown on the SWPPP Layout sheet. Standard details show information relevant to BMP installation and maintenance.

ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

Not applicable.

ATTACHMENT F – STRUCTURAL PRACTICES

At the beginning of the construction phase, Silt Fences, and Gravel Filtration Bags will be installed downstream of trail cross slope, and along proposed trail alignment. Rock Berms will be installed at downstream of drainage structures. Rock bedding will also be installed at construction exits. All temporary BMPs will remain until the end of construction.

Runoff generated from construction limits and through these temporary BMPs, preventing pollution of surface water, groundwater, or stormwater.

ATTACHMENT G – DRAINAGE AREA MAP

Attached – Drainage Area Map & Site Plan sheet.

ATTACHMENT H – TEMPORARY SEDIMENT POND(S) PLAN AND CALCULATIONS

Sediment ponds are not planned for this project.

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

The key to maintaining the performance of and efficiency of the temporary BMPs is inspection and repair when needed. The project will use an established schedule of inspection to identify the weak or failing sections of the sediment controls and institute repairs immediately to ensure the continued performance of the installed BMPs. BMPs will be inspected at least weekly. If storms damage the BMPs, efforts will be made to immediately restore them to original performance levels.

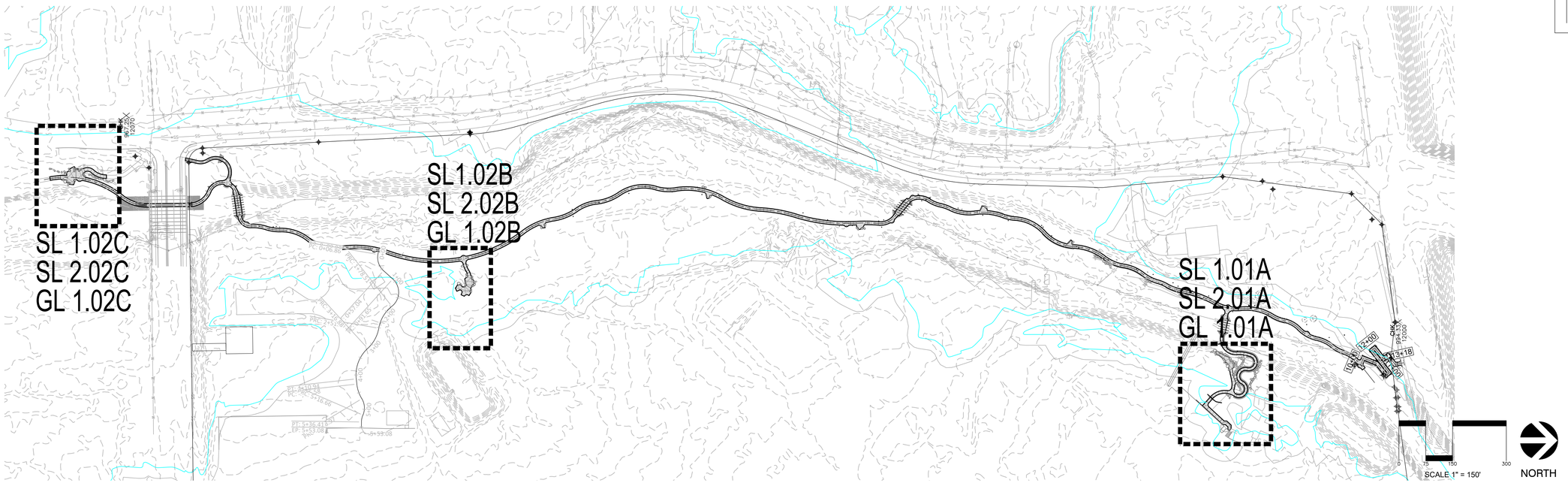
ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

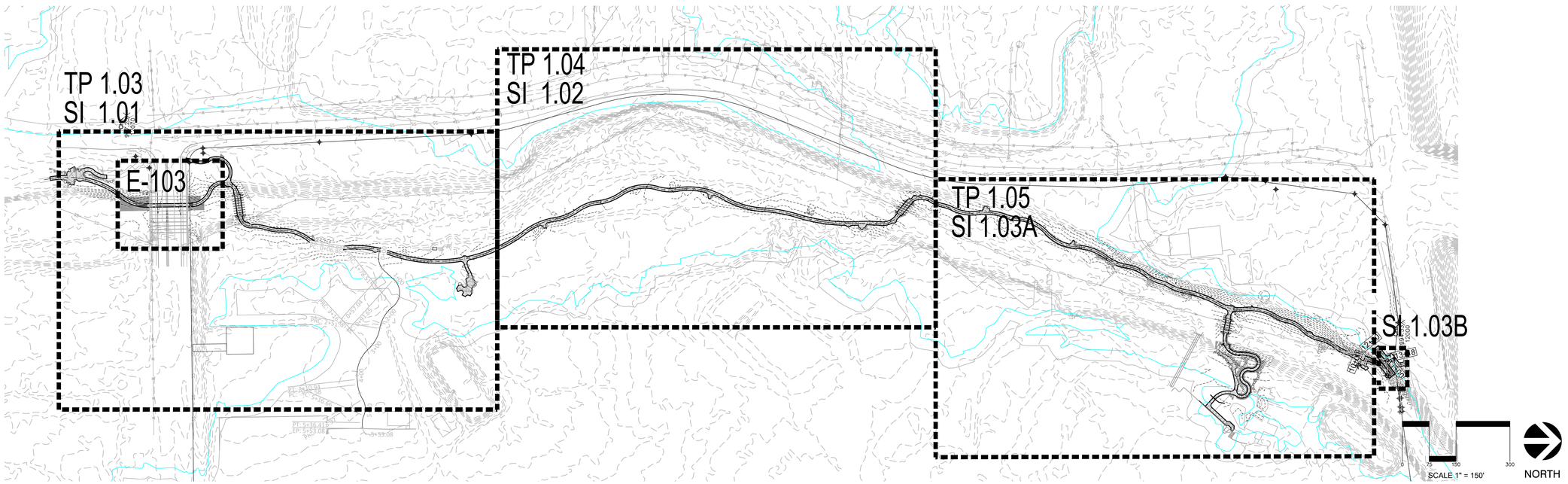
Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within fourteen (14) calendar days unless they are scheduled to and do resume within 21 calendar days. The schedule for major soil disturbing activities includes the following:

1. Install controls down-slope of work area and initiate inspection and maintenance activities.

2. Begin construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Engineer.

3. Major soil disturbing activities may include but are not limited to: preparation of trail alignment – including excavating 8” down for preparation of proposed trail section.





REVISIONS

STATE OF TEXAS
MARC R. ZAK
2339
REGISTERED LANDSCAPE ARCHITECT

September 15, 2025

OVERALL SITE LAYOUTS

halff
100 NE LOOP 410, SUITE 200
SAN ANTONIO, TEXAS 78216
TEL (210) 789-1895
FAX (210) 789-1896

T-Core Engineers
64 NE Loop 410, Ste. 160 • San Antonio, Texas 78216 • 210.900.2448
TBPE Registration No. F-18275 • www.tcfhe.com

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

JOB NUMBER:	23-04027
DESIGNED BY:	MZ
DRAWN BY:	RE
CHECKED BY:	MZ
DATE:	9/15/2025
SHEET:	**OL 1.02**

9/15/2025 5:54 PM

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SITE DESCRIPTION

1. PROJECT NAME AND LOCATION: MAVERICK CREEK GREENWAY (UTSA BOULEVARD TO LOOP 1604)
PROJECT: THE SITE IS LOCATED 2.0 MILES WEST OF THE INTERSECTION OF IH-10 WEST AND LOOP 1604, AND APPROXIMATELY 1.4 MILES SOUTH OF LOOP 1604 ALONG BABCOCK ROAD.

2. CONTACT AND PHONE NO.: SAMUEL SANCHEZ, AIA, LEED-AP: CITY OF SAN ANTONIO 210-207-4091

3. PROJECT DESCRIPTION: THE PROJECT CONSISTS OF CONSTRUCTING 0.73 MILES OF GREENWAY TRAIL FROM UTSA BOULEVARD TO JUST SOUTH OF LOOP 1604.

4. X LINEAR ROW OR ____ NON-LINEAR ROW

5. POTENTIAL POLLUTANT SOURCES AT THE CONSTRUCTION PROJECT MAY INCLUDE (CHECK ALL THAT APPLY):

X DUST	__ LITTER/TRASH	__ CONTAMINATED SOILS
X VEHICLE FLUIDS	X AGGREGATE, BASE, SAND	__ FERTILIZERS/HERBICIDES
X OIL AND GREASE	__ SAND SPOILS (DESCRIBE)	__ CONCRETE WASHOUT
__ VEHICLE WASH WATER	__ OTHER CHEMICALS (DESCRIBE)	

6. MAJOR SOIL DISTURBING ACTIVITIES:
   1. CLEARING & GRUBBING;
   2. CUT AND/OR FILL FOR GREENWAY TRAIL;
   4. FINAL GRADING AND PLACEMENT OF TOPSOIL;
   5. LANDSCAPING.

TOTAL PROJECT AREA (ACRES): 4.59 MATERIAL STORAGE AREAS (ACRES): ______ SUPPORTING ASPHALT PLANT: ______
TOTAL AREA TO BE DISTURBED: 2.1 ACRES SUPPORTING CONCRETE BATCH PLANT: ______ SUPPORTING BARROW PIT: ______
LAYDOWN YARDS: ______ OTHER: ______

7. WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION):

8. EXISTING CONDITION OF SOIL, SOIL TYPE, VEGETATIVE COVER AND % OF VEGETATIVE COVER:
EXISTING SITE IS APPROXIMATELY 100% VEGETATIVE COVER.

9. DESCRIPTION OF WATER DISCHARGED NOT ASSOCIATED WITH CONSTRUCTION:
THE SITE LIES WITHIN THE LEON CREEK WATERSHED AND IS LOCATED WITHIN THE RECHARGE ZONE OF THE EDWARDS AQUIFER. THE SITE GENERALLY SLOPES FROM NORTH TO SOUTH AT 2%.

10. NAMES AND SEGMENT NUMBERS OF RECEIVING WATERS THAT WILL RECEIVE DISCHARGES FROM DISTURBED AREAS OF THE PROJECT:
MAVERICK CREEK (UPPER LEON CREEK WATERSHED)
UPPER LEON CREEK (1907)

11. IDENTIFY STORMWATER DISCHARGE POINTS:
STORMWATER WILL BE DISCHARGED POST-CONSTRUCTION VIA SHEET FLOW THROUGH VEGETATIVE FILTER STRIPS INTO MAVERICK CREEK AND ULTIMATELY INTO LEON CREEK.

12. DESCRIPTION AND TIME FRAME FOR INSTALLATION OF STABILIZATION PRACTICES IN CONJUNCTION WITH CONSTRUCTION:
ALL SW3P MEASURES FOR EACH RESPECTIVE PHASE SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

EROSION AND SEDIMENTATION CONTROLS

1. SOIL STABILIZATION PRACTICES:

X HYDROMULCHING	X PRESERVATION OF NATURAL RESOURCES
__ TEMPORARY SEEDING	__ FLEXIBLE CHANNEL LINER
X PERMANENT PLANTING, SODDING OR SEEDING	__ RIGID CHANNEL LINER
__ MULCHING	__ COMPOST MANUFACTURED TOPSOIL
X SOIL RETENTION BLANKET	__ OTHER (BIO LOGS)
__ BUFFER ZONES	

OTHER:
DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DONE WITHIN 21 DAYS.

2. STRUCTURAL PRACTICES:
- X SILT FENCES
- __ HAY BALES
- X GRAVEL FILTRATION BAGS
- X ROCK BERMS
- __ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- __ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- __ DIVERSION, DIKE AND SWALE COMBINATIONS
- __ PAVED FLUMES
- X ROCK BEDDING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
- __ TIMBER MATTING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
- __ CHANNEL LINERS
- __ SEDIMENT TRAPS
- __ SEDIMENT BASINS
- __ STORM INLET SEDIMENT TRAP
- __ STONE OUTLET SEDIMENT STRUCTURES
- __ CURBS AND GUTTERS
- __ STORM SEWERS
- __ VELOCITY CONTROL STRUCTURES
- __ GEOTEXTILES

OTHER:

3. NARRATIVE - SEQUENCE OF CONSTRUCTION (STORMWATER MANAGEMENT) ACTIVITIES:
INSTALL SW3P MEASURES, INSTALL TREE PROTECTION, INSTALL LOW WATER CROSSING AND DRAINAGE INFRASTRUCTURE, ROUGH GRADE TRAIL ROUTE, INSTALL TRAIL AND FLATWORK, INSTALL SIGNAGE, INSTALL LANDSCAPING, VEGETATE TO ESTABLISHMENT, REMOVE SW3P MEASURES

4. A DESCRIPTION OF MAINTENANCE PROCEDURES FOR CONTROL MEASURES USED:
SEE MAINTENANCE NOTE

5. STORMWATER MANAGEMENT (POST CONSTRUCTION):
AS PER SW3P PLANS (DURING CONSTRUCTION ACTIVITIES)

6. A DESCRIPTION OF PERMANENT STORM WATER MANAGEMENT CONTROLS:
VEGETATIVE FILTER STRIPS (5.2 FEET WIDE) INSTALLED ALONG THE DOWN GRADIENT SIDE OF PROPOSED 10' WIDE TRAIL. WHERE TRAIL EXCEEDS 10' WIDE, A 15' WIDE VEGETATIVE FILTER STRIP WILL BE USED AS TREATMENT.

7. THE FOLLOWING ITEMS SHOULD BE UPDATED AS NECESSARY AND BE INCLUDED AS PART OF THE WEEKLY INSPECTION REPORTS.

SCHEDULE OF CONSTRUCTION ACTIVITIES IS MAINTAINED BY ____________ AND CAN BE ACCESSED BY CONTACTING ____________ (NAME) AT ____________ (PHONE).

INSTALLATION OF STORMWATER CONTROL MEASURES (INSTALL DATE, OPERATIONAL DATE, DEVIATION FROM MANUFACTURE SPEC):

COMMENCEMENT AND DURATION OF EARTH WORK, FINAL GRADING, CREATION OF SOIL AND VEGETATION STOCKPILES REQUIRING STABILIZATION:

CESSATION OF CONSTRUCTION ACTIVITIES WITHIN A PORTION OF THE SITE (TEMPORARY AND PERMANENT):

FINAL AND TEMPORARY STABILIZATION AREAS OF EXPOSED SOILS:

REMOVAL OF TEMPORARY STORMWATER CHANNELS, CONTROL MEASURES, CONSTRUCTION EQUIPMENT AND VEHICLES, AND CESSATION OF ANY POLLUTANT-GENERATING ACTIVITIES:

INVENTORY OF EXPOSED MATERIALS:

LOG OF SPILLS AND LEAKS:

NOTE:
SW3P NARRATIVE TO ACCOMPANY SITE MAP AND PROJECT DESIGN SHEETS THAT INCLUDE IDENTIFYING EARTH DISTURBING ACTIVITIES, EXISTING AND PROPOSED SLOPES OF GRADING ACTIVITIES, CONSTRUCTION AND SOIL STOCKPILE LOCATIONS,SURFACE WATER CROSSINGS, DESIGNATED EXIT POINTS, STRUCTURES AND IMPERVIOUS SURFACES TO BE CONSTRUCTED, CONSTRUCTION SUPPORT ACTIVITY AREAS, LOCATION OF ALL SURFACE WATERS IN VICINITY, BOUNDARIES OF NATURAL BUFFERS, AREAS OF FEDERALLY LISTED CRITICAL HABITAT, TOPOGRAPHY, VEGETATIVE COVER AND DRAINAGE PATTERNS OF FLOWS ONTO, OVER AND FROM THE PROJECT SITE, STORMWATER AND ALLOWABLE NON STORMWATER DISCHARGE LOCATIONS, ALL STORM INLETS ON AND IN VICINITY OF THE SITE, LOCATION OF ALL POTENTIAL POLLUTANT GENERATING ACTIVITIES, AND LOCATION OF STORMWATER CONTROL MEASURES.

OCTOBER 2014
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT
STORM WATER POLLUTION PREVENTION PLAN (SW3P) NARRATIVE
SHEET 1 OF 2

100 % SUBMITTAL	PROJECT NO.: 23-04027		DATE: 7/10/2024
DRWN. BY: CT	DSGN. BY: JT	CHKD. BY: JT	SHEET NO.: ___ OF xx

BEST MANAGEMENT PRACTICES

1. NATURAL BUFFER SECTION:
__________ 50-FOOT (OR MORE) BUFFER ZONE
__________ LESS THAN 50-FOOT BUFFER ZONE
X LINEAR CONSTRUCTION PROJECT; DOES NOT REQUIRE 50-FOOT BUFFER ZONE

2. GENERAL REQUIREMENTS:
   1. INSTALL PERIMETER CONTROLS TO RETAIN SEDIMENT ON-SITE TO THE EXTENT PRACTICABLE WITH CONSIDERATION FOR LOCAL TOPOGRAPHY, SOIL TYPE, AND RAINFALL.
   2. MINIMIZE SEDIMENT TRACK OUT ONTO OFF-SITE STREETS, OR OTHER PAVED AREAS AND SIDEWALKS. RESTRICT VEHICLE USE TO PROPERTY THROUGH DESIGNATED ACCESS POINTS. USE APPROPRIATE STABILIZATION MEASURES. REMOVE SEDIMENT FROM TIRES, WHEN PRACTICABLE.
   3. CONTROL DISCHARGES FROM STOCKPILED SEDIMENT BY:
      1) LOCATING PILES OUTSIDE OF NATURAL BUFFERS AND PHYSICALLY SEPARATING PILES FROM OTHER STORMWATER CONTROLS
      2) USE A TEMPORARY PERIMETER SEDIMENT BARRIER
      3) PROVIDE COVER OR TEMPORARY STABILIZATION, WHERE PRACTICABLE
      4) USE DRY CLEAN UP METHODS TO REMOVE ACCUMULATED SEDIMENT FROM PAVED AREAS
      5) PROTECT FROM WIND WHERE FEASIBLE
   4. MINIMIZE DUST THROUGH THE APPROPRIATE APPLICATION OF WATER.
   5. MINIMIZE SLOPE STEEPNESS OF EXPOSED SOILS THROUGH PHASED DISTURBANCE AND IMPLEMENTATION OF BMP'S.
   6. MINIMIZE SOIL COMPACTION IN AREAS WHERE RE-VEGETATION IS PLANNED BY RESTRICTING VEHICLE USE AND CONDITION SOIL PRIOR TO RE-VEGETATION.
   7. PROTECT STORM DRAIN INLETS PRIOR TO LAND DISTURBANCE.

3. SEDIMENTATION BASINS:
SEDIMENTATION BASINS (CHECK ALL THAT APPLY)
____ DRAINAGE AREA > 10 ACRES (SEDIMENTATION BASIN DESIGN ON SHEET _______)
____ DRAINAGE AREA > 10 ACRES (SEDIMENTATION BASIN INFEASIBLE-ALTERNATE EQUIVALENT CONTROL DESIGN ON SHEET _______)
____ DRAINAGE AREA < 10 ACRES (SEDIMENT TRAPS AND BASINS)
X DRAINAGE AREA < 10 ACRES (PERIMETER CONTROLS)

4. DEWATERING PRACTICES:
   1. DO NOT DISCHARGE VISIBLE FLOATING SOLIDS OR FOAM; USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE THAT IS DESIGNED TO REMOVE OIL, GREASE, OR OTHER PRODUCTS IF DEWATERING WATER IS FOUND TO CONTAIN THESE MATERIALS.
   2. UTILIZE VEGETATED UPLAND AREAS OF THE SITE TO INFILTRATE DEWATERING WATER BEFORE DISCHARGE, WHERE FEASIBLE.
   3. DISCHARGE DEWATERING WATER ONTO A VELOCITY DISSIPATION DEVICE.
   4. MANAGE BLACKWASH WATER AS A WASTE OR RETURN IT TO THE BEGINNING OF THE TREATMENT PROCESS.
   5. REPLACE AND CLEAN FILTER MEDIA USED IN DEWATERING DEVICE ACCORDING TO MANUFACTURE'S SPECIFICATIONS.
   6. DO NOT USE TREATMENT CHEMICALS WITHOUT PRIOR WRITTEN CONSENT FROM COSA. A WRITTEN MANAGEMENT PLAN IS REQUIRED FOR USE OF TREATMENT CHEMICALS.

5. NON STORM WATER DISCHARGES:
THE FOLLOWING NON-STORMWATER DISCHARGES ARE AUTHORIZED FOR DISCHARGE BY THE GENERAL PERMIT. PROJECT SITE MAPS MUST REFLECT THE LOCATIONS OF ANY NON-STORMWATER DISCHARGES. NON-STORMWATER DISCHARGES MUST BE MANAGED BY STORMWATER BMP'S TO PROTECT RECEIVING WATER QUALITY.
   1. DISCHARGES FROM FIRE FIGHTING ACTIVITIES AND/OR FIRE HYDRANT FLUSHING.
   2. VEHICLE, EXTERNAL BUILDING, AND PAVEMENT WASH WATER WHERE DETERGENTS AND SOAPS ARE NOT USED AND WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED).
   3. PLAIN WATER USED TO CONTROL DUST.
   4. PLAIN WATER ORIGINATING FROM POTABLE WATER SOURCES.
   5. UNCONTAMINATED GROUNDWATER, SPRING WATER, OR ACCUMULATED STORMWATER.
   6. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS.
   7. UNCONTAMINATED AIR CONDITIONING CONDENSATE.
   8. LAWN WATERING AND SIMILAR DRAINAGE.
   9. OTHER

6. PROHIBITED STORM WATER DISCHARGES:
   1. WASTEWATER FROM WASH OUT OF CONCRETE TRUCKS.
   2. WASTEWATER FROM WASH OUT AND CLEAN OUT OF STUCCO, PAINT, FORM RELEASE OILS, CUTTING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS.
   3. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATIONS AND MAINTENANCE.
   4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

NOTE - DO NOT USE TREATMENT CHEMICALS WITHOUT PRIOR WRITTEN CONSENT FROM COSA. A WRITTEN MANAGEMENT PLAN IS REQUIRED FOR USE OF TREATMENT CHEMICALS.

7. CONCRETE TRUCK WASH WATER DISCHARGES ON THE SITE SHOULD BE PROHIBITED OR MINIMIZED. IF ALLOWED BY THE ENGINEER, THEY MUST BE MANAGED IN A MANNER SO AS NOT TO CONTAMINATE SURFACE WATER. THEY MUST NOT BE LOCATED IN AREAS OF CONCENTRATED FLOW. CONCRETE TRUCK WASH-OUT LOCATIONS MUST BE SHOWN ON THE SW3P LAYOUT AND INCLUDED IN THE INSPECTIONS. HAZARDOUS MATERIAL SPILL/LEAK SHALL BE PREVENTED OR MINIMIZED. AT A MINIMUM, THIS INCLUDES ASPHALT PRODUCTS, FUELS, OILS, LUBRICANTS, SOLVENTS, PAINTS, ACIDS, CONCRETE CURING COMPOUNDS, AND CHEMICAL ADDITIVES FOR SOIL STABILIZATION. BMP'S SHALL BE IMPLEMENTED TO THE STORAGE OF THESE PRODUCTS. ALL SPILLS MUST BE CLEANED AND DISPOSED PROPERLY AND REPORTED TO THE ENGINEER. REPORT ANY RELEASE AT OR ABOVE THE REPORTABLE QUANTITY DURING A 24 HOUR PERIOD TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.

8. MATERIAL MANAGEMENT PRACTICES:
CONTRACTOR MUST MAINTAIN AN INVENTORY OF CONSTRUCTION AND WASTE MATERIALS EXPECTED TO BE STORED ON-SITE AND A DESCRIPTION OF CONTROLS IMPLEMENTED TO MINIMIZE POLLUTANTS FROM THESE SOURCES.

9. COMPLIANCE WITH APPROVED STATE AND LOCAL PLANS:
THIS SW3P SHALL CONFORM TO APPLICABLE LOCAL RULES AND REGULATIONS FOR WATER QUALITY, INCLUDING BUT NOT LIMITED TO THOSE ESTABLISHED BY COSA, SAWS, BEXAR COUNTY, EAA, OR OTHERS, AS APPLICABLE.

OTHER REQUIREMENTS AND PRACTICES

1. MAINTENANCE:
ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT SHALL BE PERFORMED BY CLOSE OF THE NEXT DAY FOLLOWING DISCOVERY. RECOMMENDATIONS FOR NEW BMP'S OR SIGNIFICANT REPAIRS TO EXISTING BMP'S MADE BY INSPECTORS OF THIS SWPPP OR BY THE EPA WILL BE INSTALLED WITHIN SEVEN (7) CALENDAR DAYS FROM THE DATE OF INSPECTION OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER. CORRECTIVE ACTIONS, SUCH AS TEMPORARY BMP'S, SHALL BE IMMEDIATELY TAKEN IN THE EVENT THAT A DISCHARGE OF POLLUTANTS IS DISCOVERED TO MINIMIZED OR PREVENT FURTHER DISCHARGE UNTIL A PERMANENT SOLUTION IS INSTALLED. WHEN CORRECTIVE ACTIONS RESULT IN CHANGES TO STORMWATER CONTROLS OR PROCEDURES, AMEND THE SWPPP.

2. INSPECTIONS:
FOR AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS,STRUCTURAL CONTROL MEASURES, AND LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE.

3. WASTE MATERIALS:
ALL NON-HAZARDOUS MUNICIPAL WASTE MATERIALS SUCH AS LITTER, RUBBISH, AND GARBAGE LOCATED ON OR ORIGINATING FROM THE PROJECT SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER PROVIDED BY THE CONTRACTOR. THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION AND THE TRASH SHALL BE HAULED TO A PERMITTED DISPOSAL FACILITY. THE BURYING OF NON-HAZARDOUS MUNICIPAL WASTE ON THE PROJECT SHALL NOT BE PERMITTED. CONSTRUCTION MATERIAL WASTE SITES, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED TO MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. CONSTRUCTION MATERIALS WASTE SITES SHALL NOT BE LOCATED IN ANY WETLAND, WATER BODY, OR STREAM BED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

4. OFFSITE VEHICLE TRACKING:
OFFSITE VEHICLE TRACKING OF SEDIMENT AND THE GENERATION OF DUST MUST BE MINIMIZED. EXCESS SEDIMENTS ON ROAD SHALL BE REMOVED ON A REGULAR BASIS AS DIRECTED/APPROVED BY THE ENGINEER.

5. SUPPORTING CONCRETE BATCH PLANTS:
THE CONTRACTOR SHOULD DEVELOP A SEPARATE SW3P FOR OPERATIONS ASSOCIATED WITH A SUPPORTING CONCRETE BATCH PLANT IN CONFORMANCE WITH THE TCEQ TPDES CONSTRUCTION GENERAL PERMIT, PART IV RELATING TO STORM WATER RUNOFF FROM CONCRETE BATCH PLANTS. THIS SW3P DOES NOT PROVIDE ADEQUATE CONTROLS FOR THIS ACTIVITY.

6. SANITARY WASTE:
PORT-A-POT (PLACED OUTSIDE OF FLOODPLAIN)

7. OFFSITE EXCAVATION SOURCE LOCATION:
CONTRACTOR TO REMOVE AND PLACE SPOILS DAILY.

8. OFFSITE FILL SOURCE LOCATION:
CONTRACTOR TO REMOVE AND PLACE SPOILS DAILY.

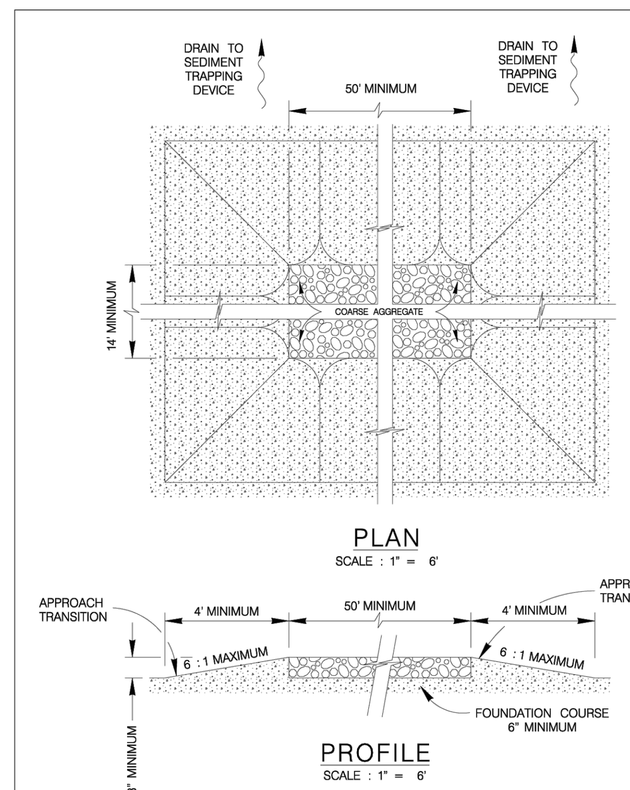
9. GENERAL NOTES
   1. THE CONTROL MEASURES CONTAINED HEREON (AND IS FURTHER DESCRIBED BY THE STANDARD SPECIFICATIONS) SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION CONTRACT TO ASSURE EFFECTIVE AND CONTINUOUS WATER POLLUTION CONTROL DURING CONSTRUCTION AND POST CONSTRUCTION (SEE SPEC ITEM 540).
   2. THE CONTRACTOR SHALL CLEAN PAVED SURFACES (ADJACENT TO THE CONSTRUCTION AREAS) AS NECESSARY TO REMOVE SEDIMENT WHICH HAS ACCUMULATED ON THE ROADWAY DUE TO STORMWATER FLOWS AND VEHICULAR TRAFFIC THROUGH AND ACROSS THE CONSTRUCTION SITE (SEE SPEC ITEM 540).
   3. IN CASE OF FAILURE ON THE PART OF THE CONTRACTOR TO PREVENT AND CONTROL SOIL EROSION, SEDIMENTATION AND WATER POLLUTION WHICH MAY DEGRADE RECEIVING WATERS, THE ENGINEER RESERVES THE RIGHT TO EMPLOY OUTSIDE ASSISTANCE OR USE CITY FORCES TO PROVIDE THE NECESSARY CORRECTIVE MEASURES. ALL COSTS (INCLUDING ENGINEERING) WILL BE DEDUCTED FROM ANY MONEYS DUE TO OR BECOME DUE TO THE CONTRACT (SEE SPEC ITEM 540).
   4. UPON COMPLETION OF CONSTRUCTION AND INSTALLATION OF PERMANENT EROSION CONTROL METHODS, A FINAL EROSION CONTROL INSPECTION WILL BE PERFORMED AS A PART OF ACCEPTANCE OF THE PROJECT BY THE CITY. IN THE EVENT THAT THE PERMANENT EROSION CONTROL IS INADEQUATE DUE TO IMPROPER DESIGN OR INSTALLATION, THE PERMANENT EROSION CONTROL MEASURES MUST BE CORRECTED OR REDESIGNED TO FUNCTION PROPERLY PRIOR TO SUBMITTAL OF A NOTICE OF TERMINATION (SEE SPEC ITEM 540).
   5. THE CONTRACTOR SHALL PROVIDE SAWS AND COSA TCI COPIES OF REVISED DRAWINGS INDICATING THE LOCATIONS OF POTENTIAL POLLUTANT SOURCES (E.G. CONCRETE WASHOUT AREAS, CONSTRUCTION MATERIALS STAGING AREAS, SUPPORTING CONSTRUCTION ACTIVITIES, ETC.) TWO WEEKS PRIOR TO THE CONTRACTOR INITIATING THE CHANGE.
   6. CONSTRUCTION ACTIVITIES OCCURING OVER THE EDWARDS AQUIFER RECHARGE ZONE, CONTRIBUTING ZONE, AND/OR TRANSITION ZONE MUST COMPLY WITH ADDITIONAL REQUIREMENTS OF THE PROTECTION OF WATER QUALITY ESTABLISHED BY THE TCEQ (30 TAC CHAPTER 213) AND THE EDWARDS AQUIFER AUTHORITY (EAA).

SPILL PREVENTION AND RESPONSE PROCEDURES (CONTRACTOR TO COMPLETE)
1. IDENTIFY PROCEDURES FOR STOPPING, CONTAINING, AND CLEANING UP SPILLS, LEAKS AND OTHER RELEASE:
2. IDENTIFY THE NAME OR POSITION OF THE PERSON RESPONSIBLE FOR DETECTION AND RESPONSE OF SPILLS AND LEAKS:
3. IDENTIFY PROCEDURES FOR NOTIFICATION OF APPROPRIATE FACILITY PERSONNEL, REGULATORY AGENCIES, ETC:

REMARKS:
DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT ENTERS RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, BODY OF WATER, STREAMBED, OR FLOODPLAIN. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS POSSIBLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING DEBRIS, OR OTHER OBSTRUCTION PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT PART OF THE FINISHED WORK.

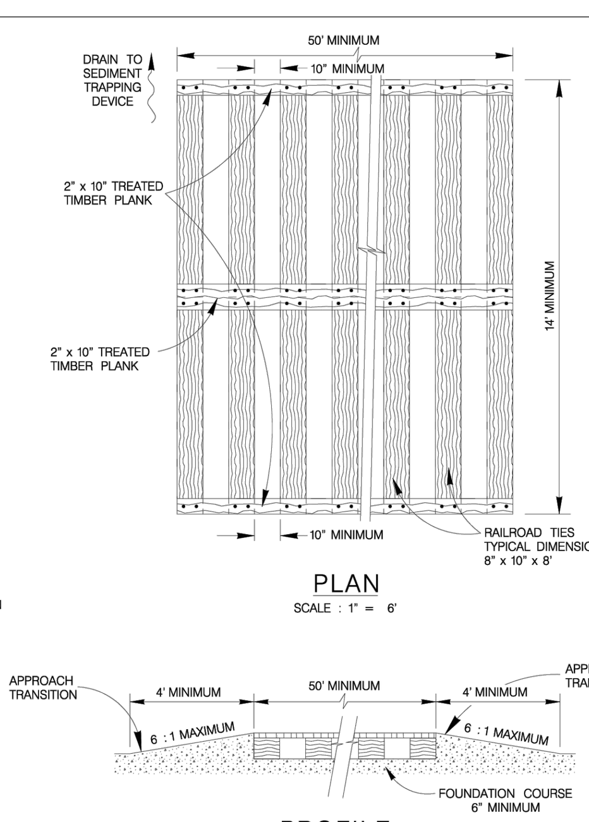
OCTOBER 2014
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT
STORM WATER POLLUTION PREVENTION PLAN (SW3P) NARRATIVE
SHEET 2 OF 2

100 % SUBMITTAL	PROJECT NO.: 23-04027		DATE: 7/10/2024
DRWN. BY: CT	DSGN. BY: JT	CHKD. BY: JT	SHEET NO.: ___ OF xx



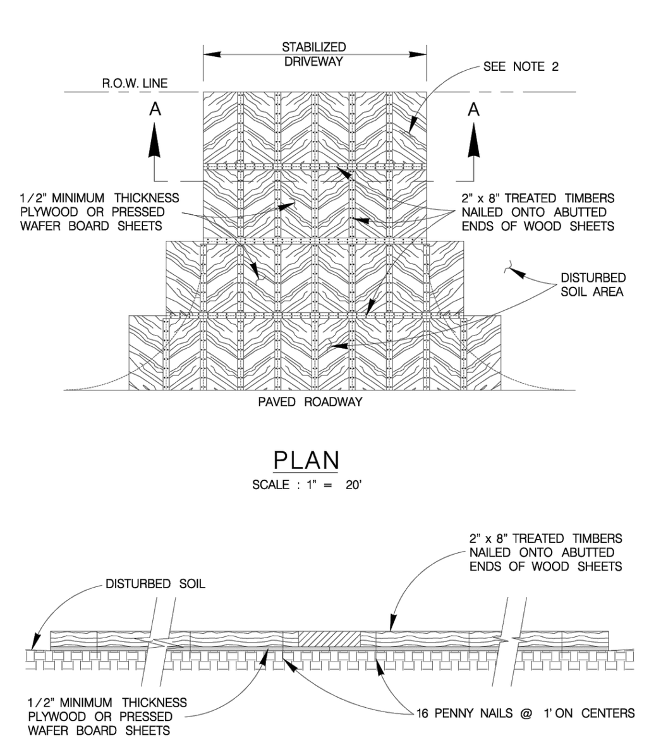
GENERAL NOTES
1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE 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



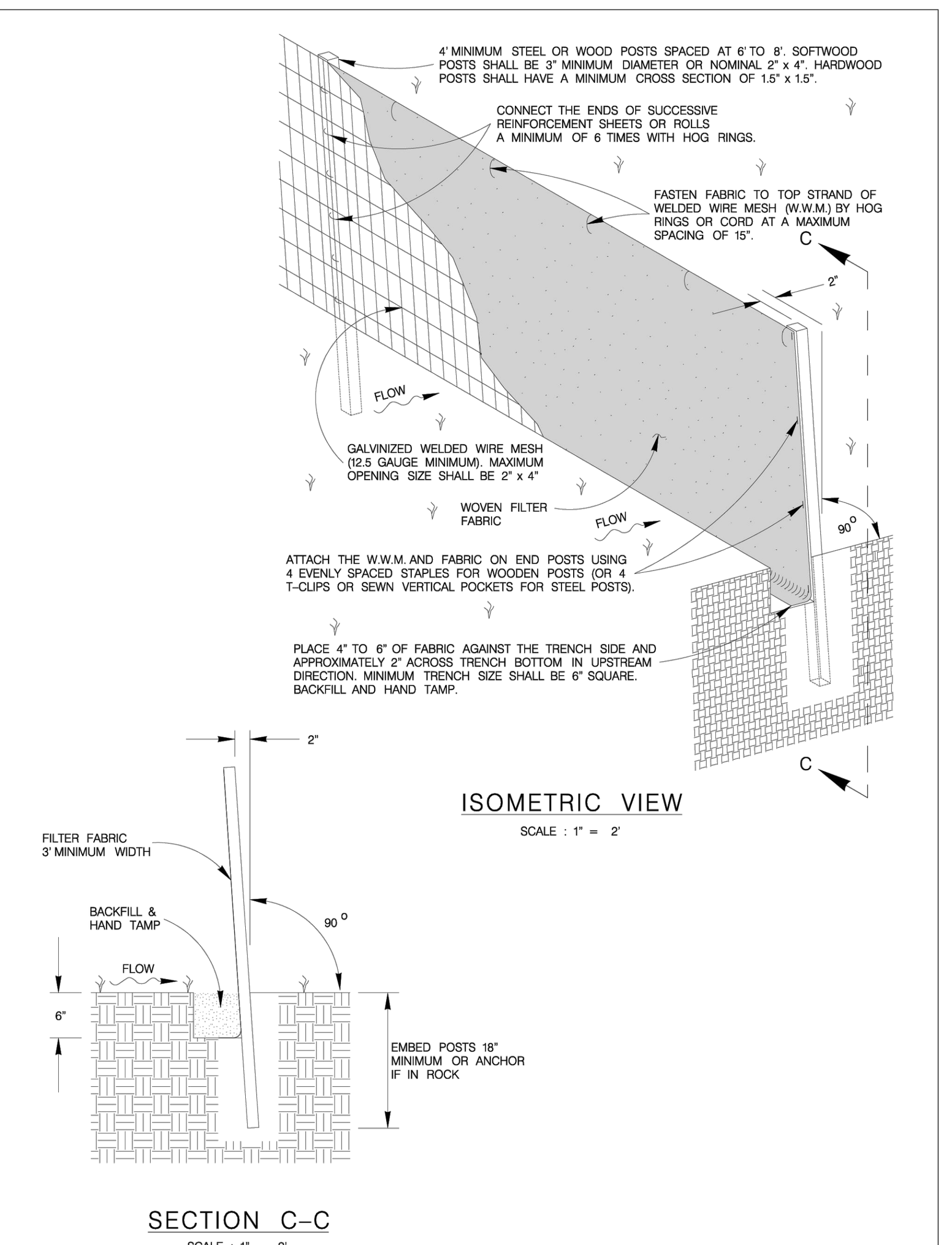
GENERAL NOTES
1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 2



GENERAL NOTES
1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 3



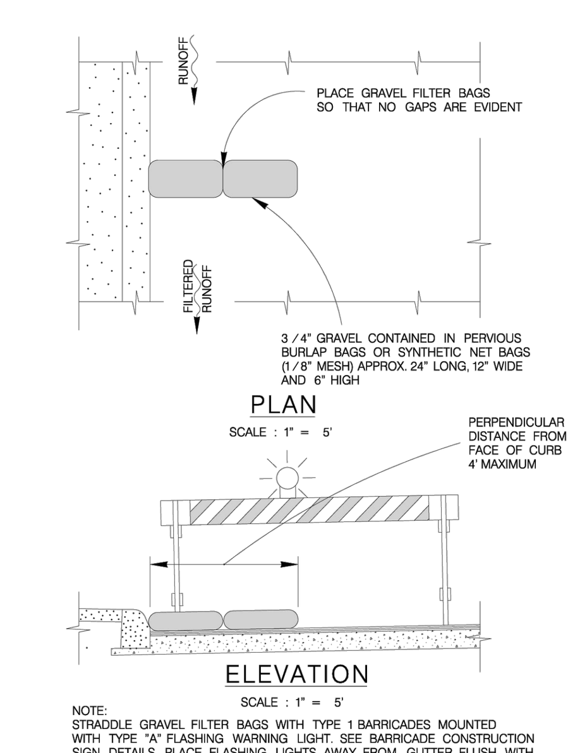
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM /FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

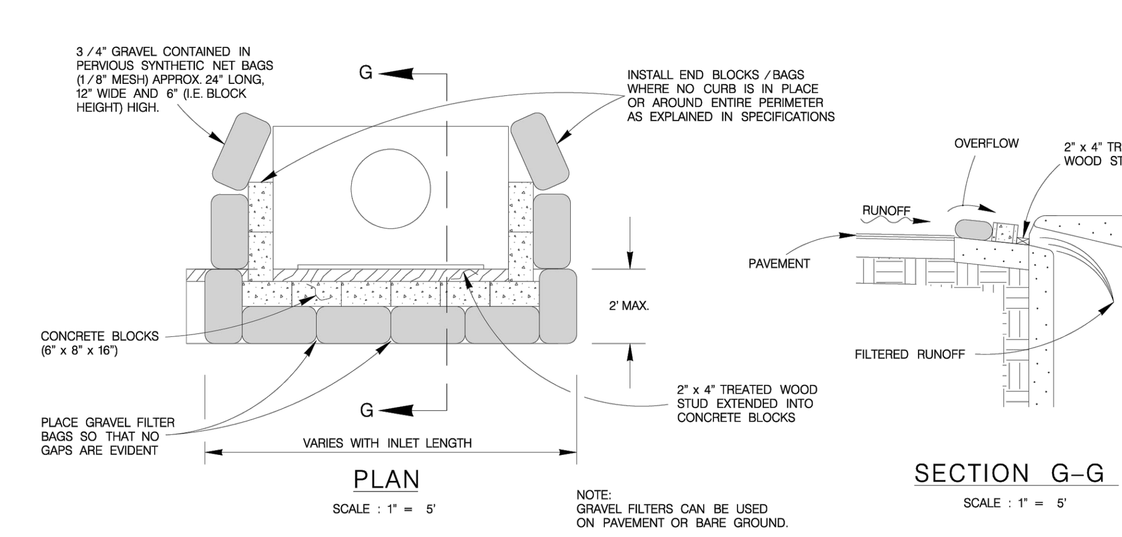
GENERAL NOTES
1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE



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

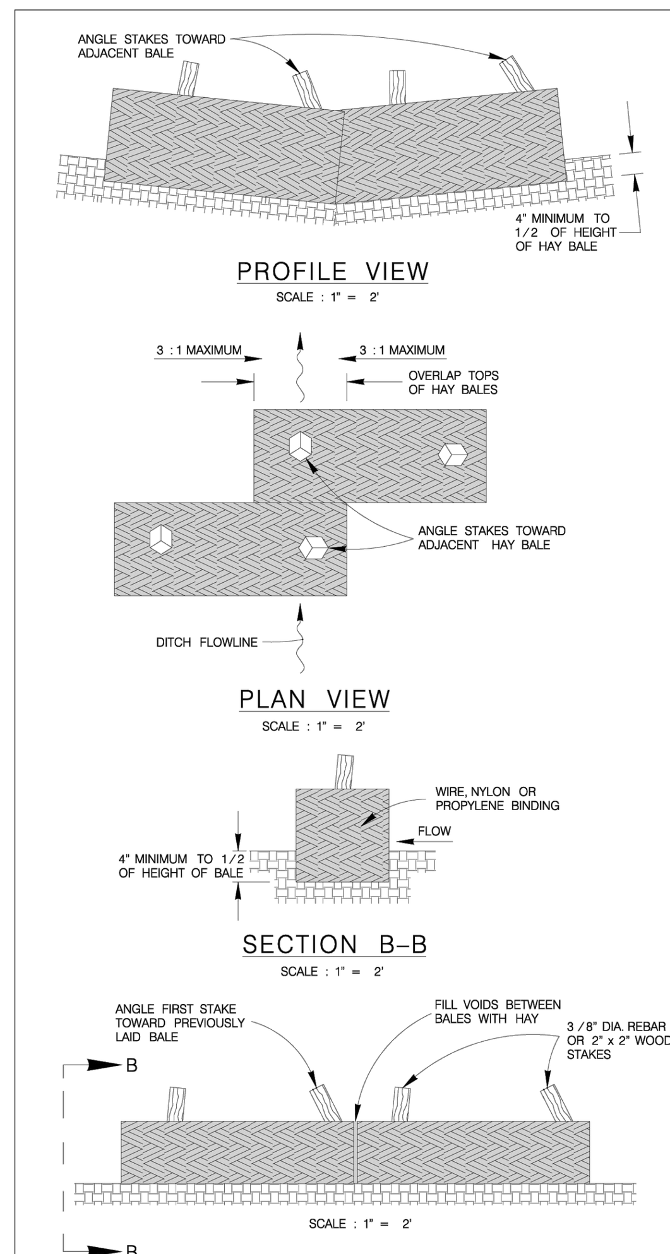


NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

CURB INLET GRAVEL FILTER

JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

____ % SUBMITTAL	PROJECT NO.: ________		DATE: ________
DRWN. BY: V. VASQUEZ	DSGN. BY: ________	CHKD. BY: ________	SHEET NO.: ____ OF ____



BALED HAY USAGE GUIDELINES

A BAILED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM /FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BAILED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

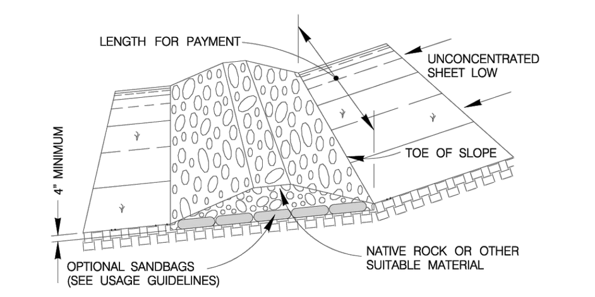
FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONDITIONAL CONSIDERATIONS APPLY:

1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

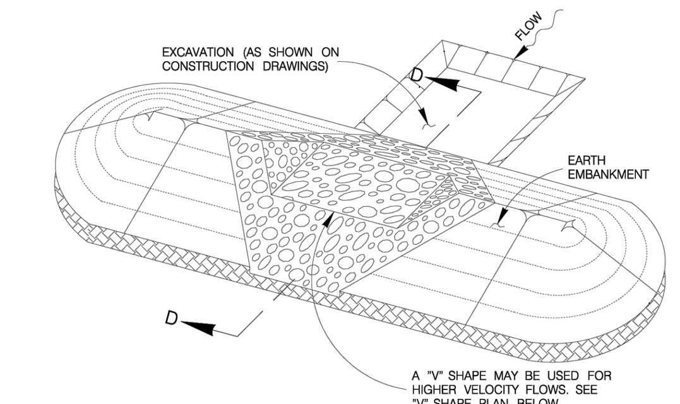
BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

GENERAL NOTES
1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MININMUM OF 4" AND, WHERE POSSIBLE, ONE-HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3/8" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

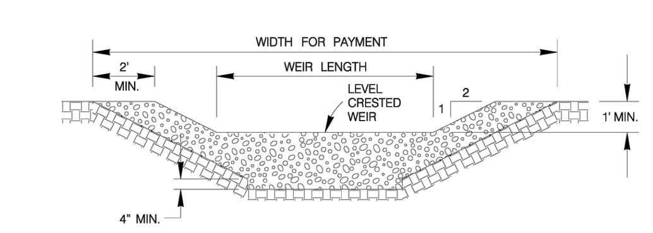
BALED HAY FOR EROSION CONTROL



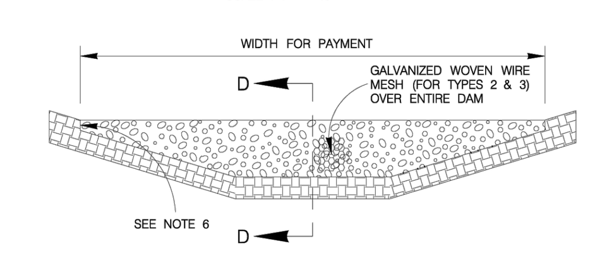
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 10'



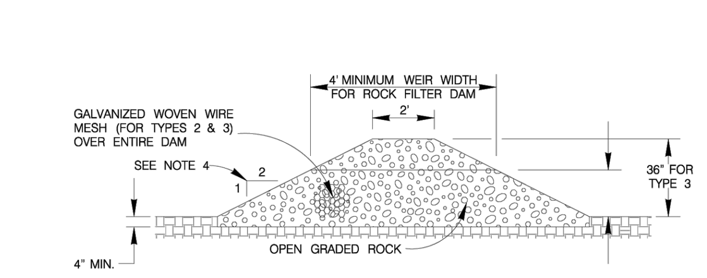
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 10'



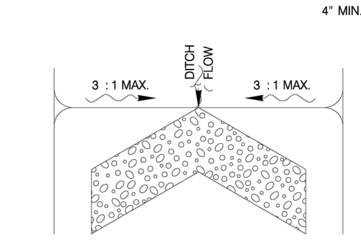
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 6'



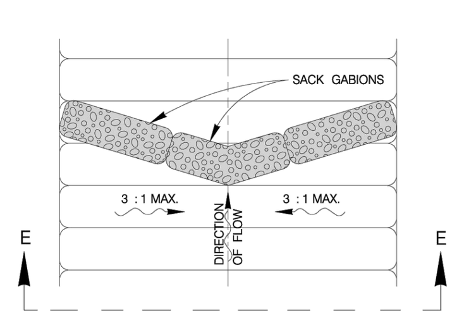
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 6'



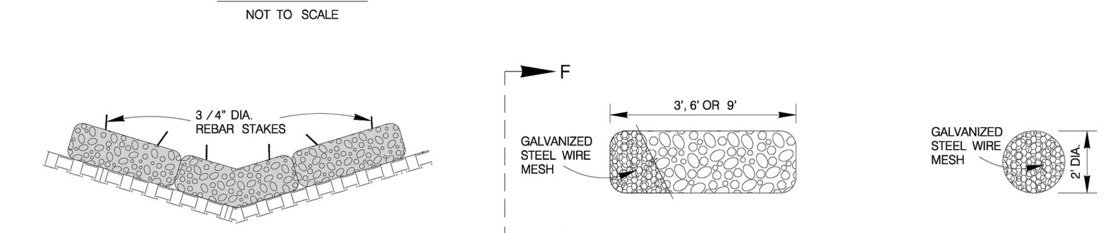
SECTION D–D
SCALE : 1" = 6'



"V" SHAPE PLAN VIEW
NOT TO SCALE



PLAN VIEW
SCALE : 1" = 10'



SECTION E–E
SCALE : 1" = 10'

TYPE 4 SACK GABION DETAIL
SCALE : 1" = 6'

SECTION F–F
SCALE : 1" = 6'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAMS

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 THRU RATE OF 60 GPM /FT SQUARED 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 (APPROXIMATELY 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 AS 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) :

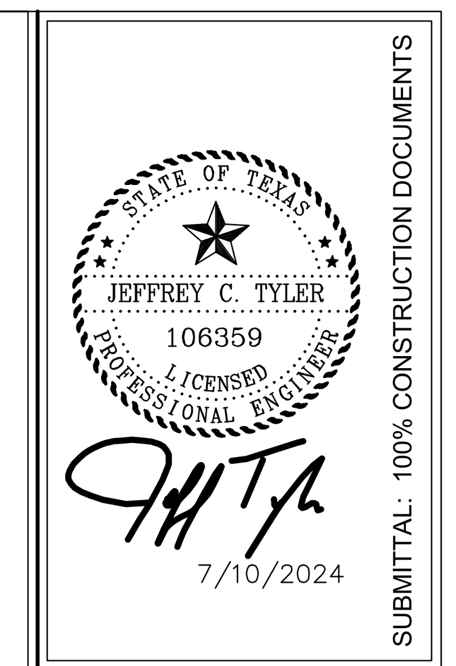
TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

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 STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES 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 THE 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.

JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

____ % SUBMITTAL	PROJECT NO.: ________		DATE: ________
DRWN. BY: V. VASQUEZ	DSGN. BY: ________	CHKD. BY: ________	SHEET NO.: ____ OF ____



SUBMITTAL: 100% CONSTRUCTION DOCUMENTS

SWPPP NOTES AND DETAILS

T-Core Engineers
84 NE Loop 410, Ste 103 ◆ San Antonio, Texas 78216 ◆ 210.900.2448
TBPE Registration No. F-18275 ◆ www.tc0re.com

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

JOB NUMBER: 23-04027
DESIGNED BY: JT
DRAWN BY: CT
CHECKED BY: JT
DATE: 7/10/2024
SHEET: **SP 1.01**

7/10/2024 9:19 AM
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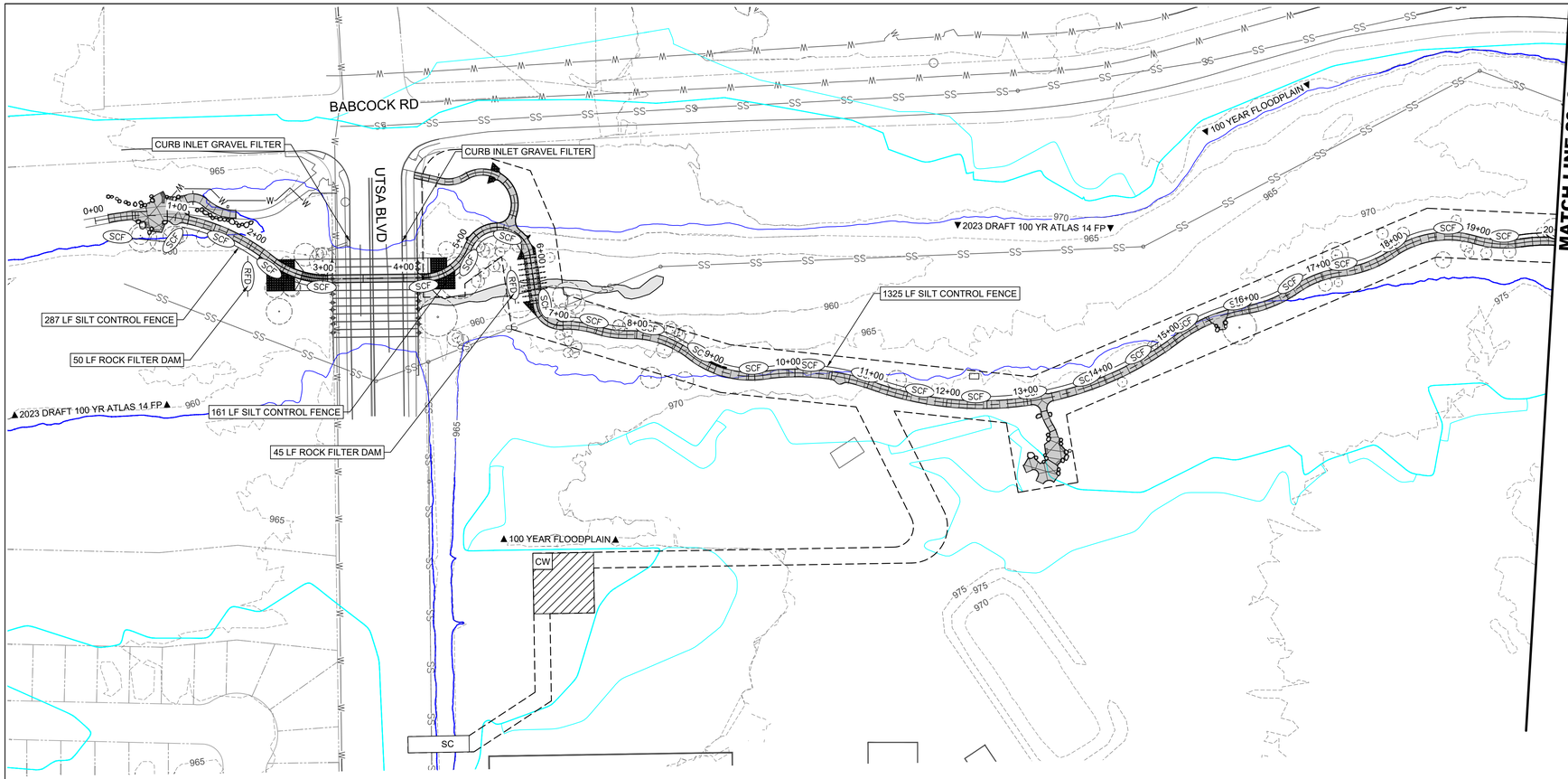

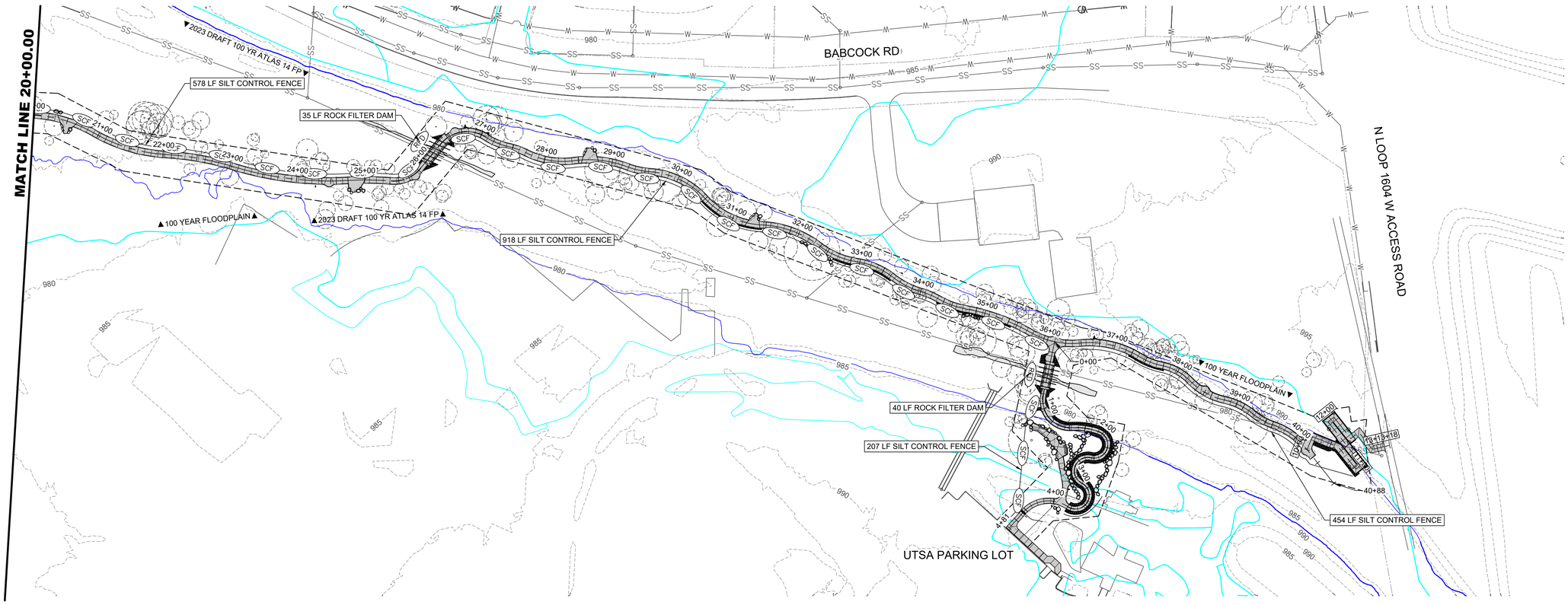

0 40 80 120 160
SCALE: 1"=80'

LEGEND

- =PROPOSED TRAIL
- 950 =EXISTING MAJOR CONTOUR
- 995 =EXISTING MINOR CONTOUR
- =TEMPORARY CONSTRUCTION LIMITS
- SS =EXISTING SANITARY SEWER
- W W =EXISTING WATER
- W W =PROPOSED WATER
- SCF =PROPOSED SILT CONTROL FENCE
- RFD =PROPOSED ROCK FILTER DAM
- =100 YEAR FLOODPLAIN
- =2023 DRAFT 100 YR ATLAS 14 FP
- SC =CONSTRUCTION ENTRANCE/EXIT
- =STAGING AREA
- CW =CONCRETE WASHOUT

NOTES:
1. CONSTRUCTION ENTRANCE/EXIT SHALL BE TYPE 1 (SEE SP 1.01).
2. SILT FENCE SHALL UTILIZE STEEL POSTS (SEE SP 1.01).
3. ROCK FILTER DAMS SHALL BE TYPE 3 (SEE SP 1.01).

REVISIONS

STATE OF TEXAS
JEFFREY C. TYLER
106359
LICENSED PROFESSIONAL ENGINEER
9/17/2025

SUBMITTAL: 100% CONSTRUCTION DOCUMENTS

SWPPP LAYOUT

T-Core Engineers
84 NE Loop 410, Ste 103 • San Antonio, Texas 78216 • 210.900.2448
TBPE Registration No. F-16275 • www.tcfirc.com

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

JOB NUMBER:	23-04027
DESIGNED BY:	JT
DRAWN BY:	CT
CHECKED BY:	JT
DATE:	9/17/2025
SHEET:	SP 1.02

9/17/2025 12:24 PM

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Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Luis Cardona, P.E.

Date: 11/3/25

Signature of Customer/Agent

Regulated Entity Name: COSA Greenway Trail System Maverick Creek

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☐ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☐ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☐ N/A

FORM TCEQ-0600 ATTACHMENTS

ATTACHMENT A — 20% OR LESS IMPERVIOUS COVER WAIVER

Although this site has more than 20% impervious cover at 28%, it is offset by the installation of vegetative filter strips along the site in accordance with TCEQ technical requirements.

ATTACHMENT B — BMPS FOR UPGRADIENT STORMWATER

Not Applicable.

ATTACHMENT C — BMPS FOR ON-SITE STORMWATER

Implementation of vegetated filter strips for improvements of Maverick Creek Greenway Trail will treat low velocity sheet flow for areas that do not exceed 20% slope. As described in RG-348.

Per the Proposed Revision to the Technical Guidance Manual related to the Technical Guidance Manual related to the Shared Use Paths memorandum. All vegetated filter strips are designed to be 5.2’ wide for 10’ wide shared paths and 15’ wide for sections that exceed 10’.

ATTACHMENT D –BMPS FOR SURFACE STREAMS

Implementation of vegetated filter strips for improvements of Maverick Creek Greenway Trail will treat low velocity sheet flow for areas that do not exceed 20% slope. As described in RG-348.

Per the Proposed Revision to the Technical Guidance Manual related to the Technical Guidance Manual related to the Shared Use Paths memorandum. All vegetated filter strips are designed to be 5.2’ wide for 10’ wide shared paths and 15’ wide for sections that exceed 10’.

ATTACHMENT E – REQUEST TO SEAL FEATURES

Not Applicable.

ATTACHMENT F – CONSTRUCTION PLANS

See Exhibits EL 1.01, 1.02, 1.03

ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR & RETROFIT PLAN

Attached following this section.

ATTACHMENT H – PILOT-SCALE TESTING PLAN

Not Applicable.

ATTACHMENT I – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Implementation of vegetated filter strips for improvements of Maverick Creek Greenway Trail will treat low velocity sheet flow for areas that do not exceed 20% slope. As described in RG-348.

Per the Proposed Revision to the Technical Guidance Manual related to the Technical Guidance Manual related to the Shared Use Paths memorandum. All vegetated filter strips are designed to be 5.2’ wide for 10’ wide shared paths and 15’ wide for sections that exceed 10’.

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated 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 must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

5. 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 approved plans and 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.

6. 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.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent 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.

11. The following records shall be maintained and made available to the TCEQ upon request:
- the dates when major grading activities occur;
- the dates when construction activities temporarily or permanently cease on a portion of the site; and
- the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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.

STATE OF TEXAS
LUIS A. CARDONA
139673
LICENSED
PROFESSIONAL ENGINEER
9/15/2025

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY LUIS A. CARDONA, PE# 139673 ON 9-15-2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF 100 NE. INTERSTATE 410 LOOP, SUITE 701, SAN ANTONIO, TEXAS 78216. TBPELS FIRM #F-312.

REVISIONS

WPAP GENERAL CONSTRUCTION NOTES

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MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
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DESIGNED BY:	JR
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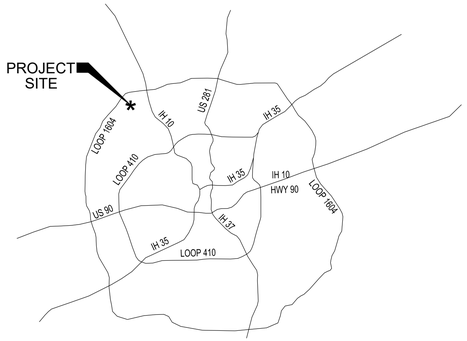

LOCATION MAP
SCALE/NOT TO SCALE

Maverick Creek Trail Site info.		
Impervious Area	Existing	Proposed
	(AC)	(AC)
Paved Trail	0	1.31
Total		1.31
Impervious Cover	0	1.31

Maverick Creek Trail BMP Info.								
Impervious Area	Drainage Area	Impervious Area	Req TSS removal	Treatment	Type of treatment	Efficiencey	IMP treated	Max. TSS removal
	(AC)	(AC)	(lbs)				(AC)	(lbs)
Paved Node (5.2')	-	0.53	-	Yes	Vegetated Filter Strips (5.2')	80%	0.53	493
Paved Node (7.3')	-	0.16	-	Yes	Vegetated Filter Strips (7.3')	80%	0.16	191
Paved Node (15')	-	0.51	-	Yes	Vegetated Filter Strips (15')	85%	0.51	507
Untreated Area	-	0.11	-	No	N/A	N/A	0	0
Total	4.63	1.31	1069				1.2	1191

BMP - VEGETATED FILTER STRIPS

Vegetated filter strips will be implemented along the entire downstream of paved trail with no more than 20% slope. The filter strips must be a engineered vegetative filter strip and a minimum of 7.3 feet wide to achieve 80% TSS removal rate.

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

RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x (AI x 34.6 + A

where: AC = Total On-Site drainage area in the BMP catchment
AI = Impervious area proposed in the BMP catchment
AP = Pervious area remaining in the BMP catchment
LR = TSS Load removed from this catchment area

AC = 4.63 acres
AI = 0.16 acres
AP = 4.47 acres
LR = 191 lbs

BMP - VEGETATED FILTER STRIPS

Vegetated filter strips will be implemented along the entire downstream of paved trail with no more than 20% slope. The filter strips must be a engineered vegetative filter strip and a minimum of 15 feet wide to achieve 85% TSS removal rate.

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

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LR = TSS Load removed from this catchment area

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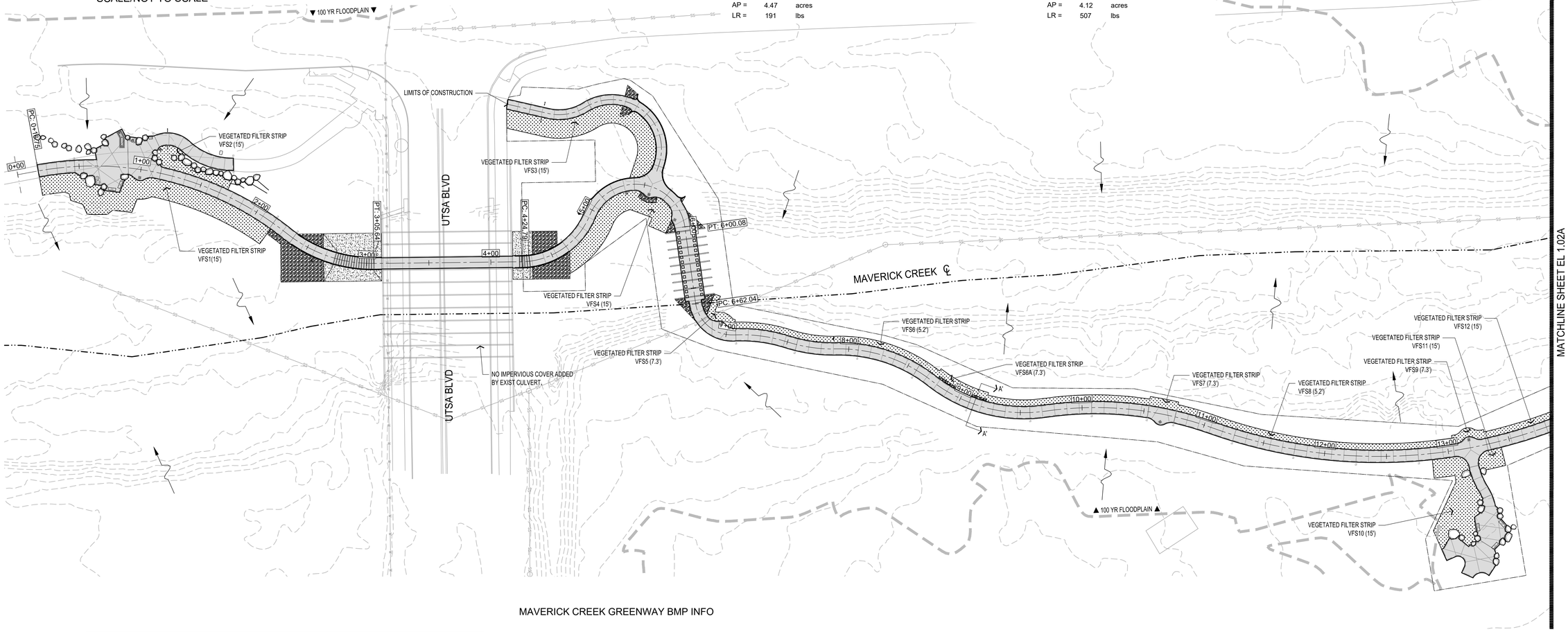
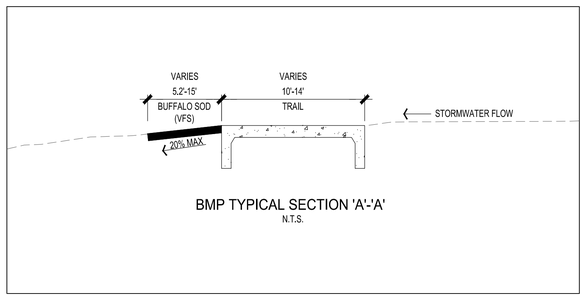
AI = 0.51 acres
AP = 4.12 acres
LR = 507 lbs

SCALE 1" = 40'
NORTH

LEGEND:
100 YR FLOOD PLAIN
VEGETATED FILTER STRIP
FLOW DIRECTION

REVISIONS





BMP TYPICAL SECTION 'A'-'A'
N.T.S.

MAVERICK CREEK GREENWAY BMP INFO

1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: LM = 27.2(AN x P)

where: LM TOTAL PROJECT = Required TSS removal resulting from the prop
AN = Net increase in impervious area for the projec
P = Average annual precipitation, inches

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

County =	Bexar	
Total project area included in plan * =	4.63	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.31	acres
Total post-development impervious cover fraction * =	0.28	
P =	30	inches
LM TOTAL PROJECT =	1069	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 1

BMP - VEGETATED FILTER STRIPS

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AC = 4.63 acres
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AP = 4.10 acres
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ENVIRONMENTAL LAYOUT

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

halff
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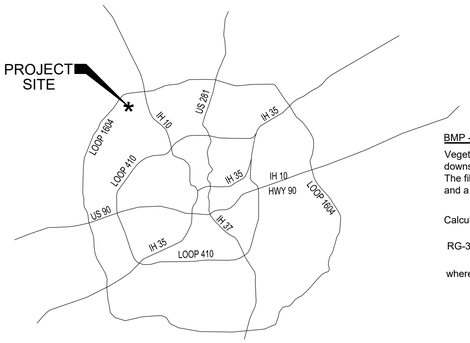

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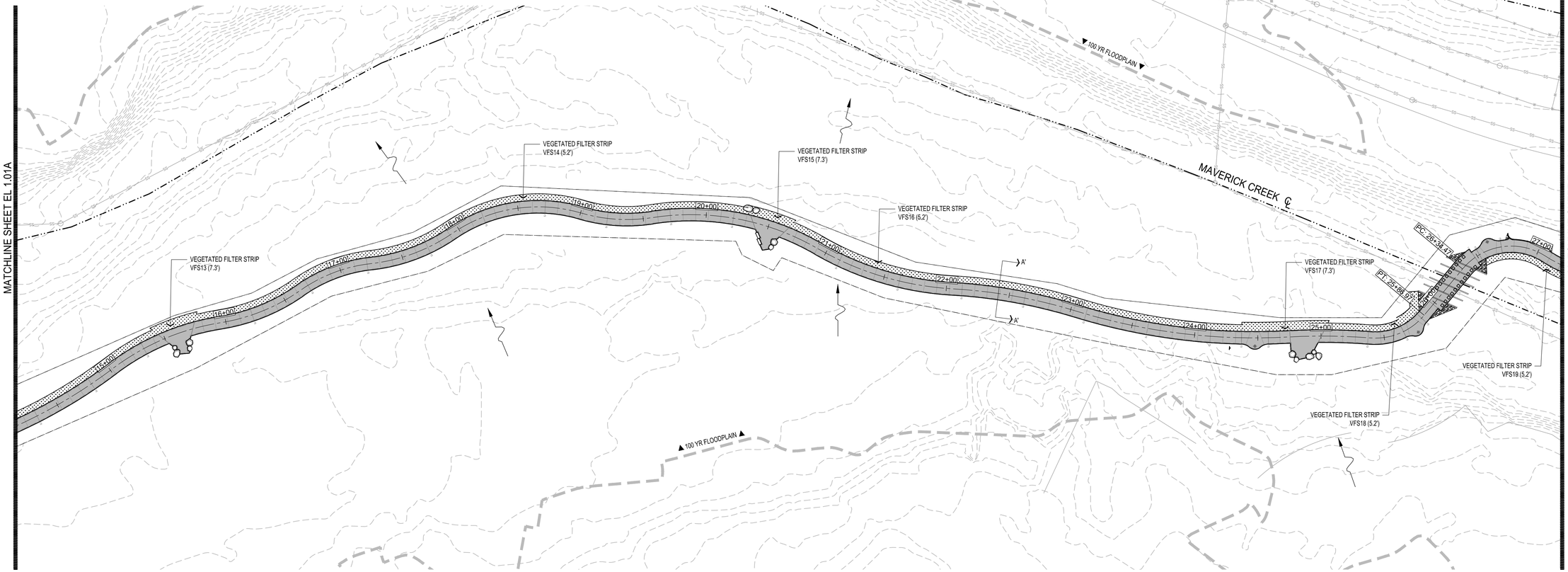
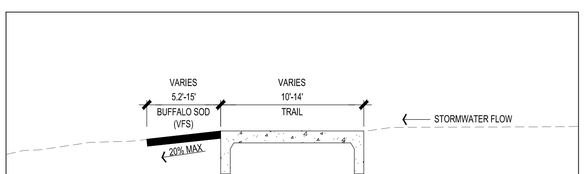
- VEGETATED FILTER STRIP
- FLOW DIRECTION

REVISIONS





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N.T.S.

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9/15/2025

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ENVIRONMENTAL LAYOUT

halff
100 NE LOOP 410, SUITE 701
SAN ANTONIO, TEXAS 78216
TEL (210) 789-1895
FAX (210) 789-1896

T-Core Engineers
84 NE Loop 410, Ste 103 • San Antonio, Texas 78216 • 210.900.2448
TBPE Registration No. F-18275 • www.tcfre.com

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

JOB NUMBER:	23-04027
DESIGNED BY:	JR
DRAWN BY:	JR
CHECKED BY:	LAC
DATE:	9/15/2025
SHEET:	EL 1.02

9/15/2025 7:25 PM
A:\53000s\53845\001\PW\CADD\Sheets\Env Layout MCG.dwg

BMP - VEGETATED FILTER STRIPS

Vegetated filter strips will be implemented along the entire
downstream of paved trail with no more than 20% slope.
The filter strips must be a engineered vegetative filter strip
and a minimum of 7.3 feet wide to achieve 80% TSS removal rate.

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

RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x (AI x 34.6 + A

where:
AC = Total On-Site drainage area in the BMP catchment
AI = Impervious area proposed in the BMP catchment
AP = Pervious area remaining in the BMP catchment
LR = TSS Load removed from this catchment area

AC = 4.63 acres
AI = 0.16 acres
AP = 4.47 acres
LR = 191 lbs

Maverick Creek Trail Site info.		
Impervious Area	Existing	Proposed
	(AC)	(AC)
Paved Trail	0	1.31
Total		1.31
Impervious Cover	0	1.31

Maverick Creek Trail BMP Info.								
Impervious Area	Drainage Area	Impervious Area	Req TSS removal	Treatment	Type of treatment	Efficiencey	IMP treated	Max. TSS removal
	(AC)	(AC)	(lbs)				(AC)	(lbs)
Paved Node (5.2')	-	0.53	-	Yes	Vegetated Filter Strips (5.2')	80%	0.53	493
Paved Node (7.3')	-	0.16	-	Yes	Vegetated Filter Strips (7.3')	80%	0.16	191
Paved Node (15')	-	0.51	-	Yes	Vegetated Filter Strips (15')	85%	0.51	507
Untreated Area	-	0.11	-	No	N/A	N/A	0	0
Total	4.63	1.31	1069				1.2	1191

BMP - VEGETATED FILTER STRIPS

Vegetated filter strips will be implemented along the entire
downstream of paved trail with no more than 20% slope.
The filter strips must be a engineered vegetative filter strip
and a minimum of 15 feet wide to achieve 85% TSS removal rate.

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

RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x (AI x 34.6 + A

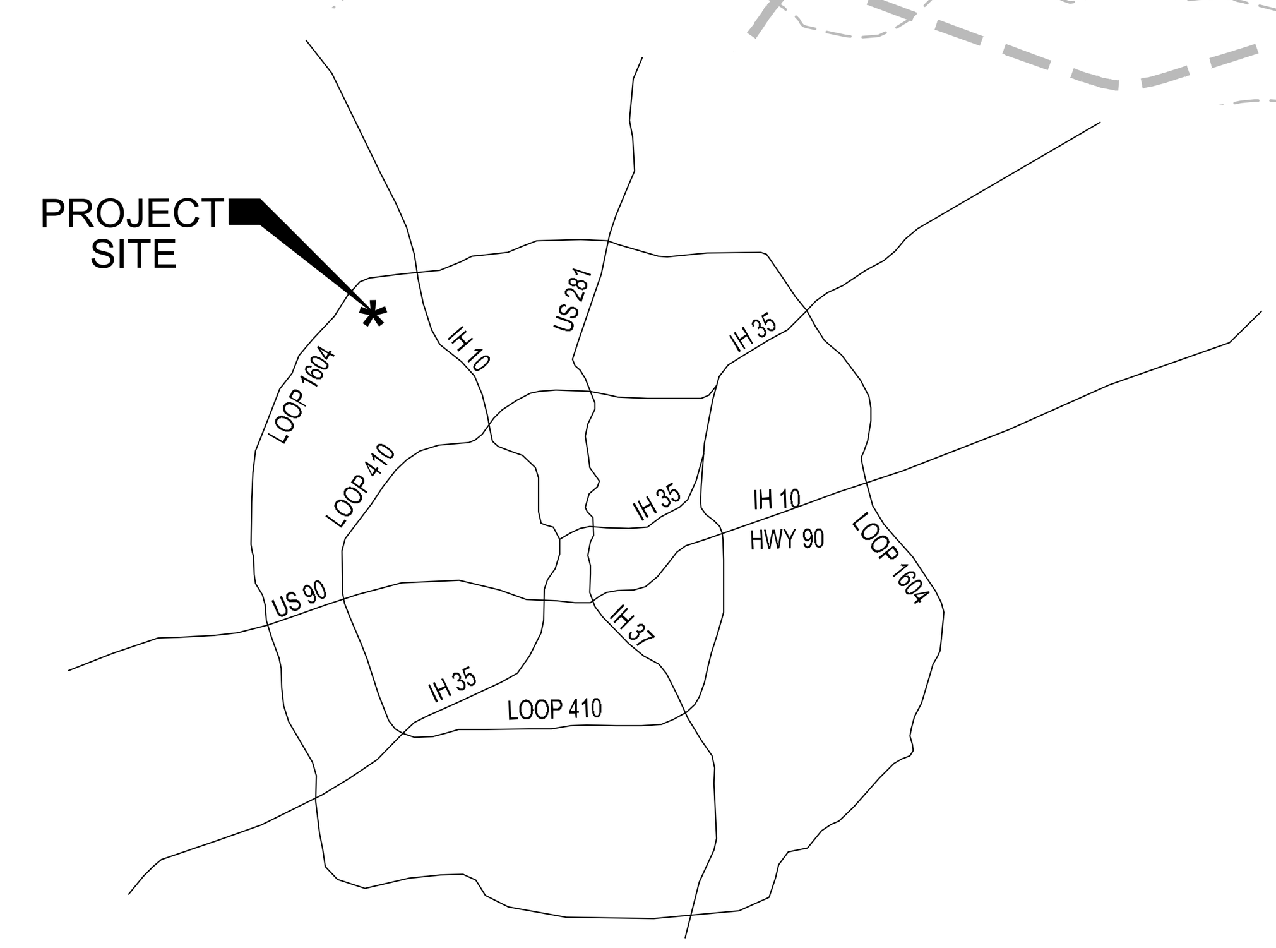
where:
AC = Total On-Site drainage area in the BMP catchment
AI = Impervious area proposed in the BMP catchment
AP = Pervious area remaining in the BMP catchment
LR = TSS Load removed from this catchment area

AC = 4.63 acres
AI = 0.51 acres
AP = 4.12 acres
LR = 507 lbs

SCALE 1" = 40'

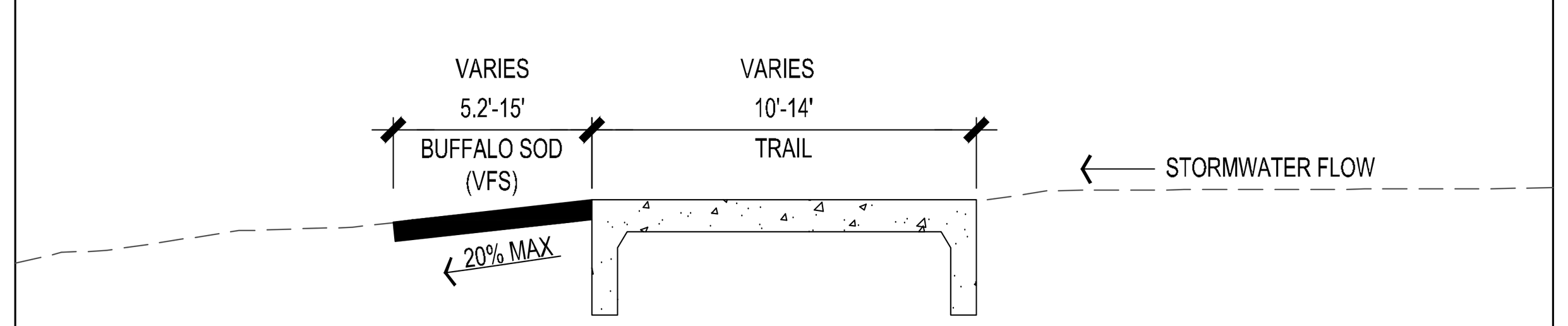
NORTH

LEGEND:
- 100 YR FLOOD PLAIN
- VEGETATED FILTER STRIP
- FLOW DIRECTION



LOCATION MAP

SCALE/NOT TO SCALE



BMP TYPICAL SECTION 'A'-'A'

N.T.S.

MAVERICK CREEK GREENWAY BMP INFO

1. The Required Load Reduction for the total project:

Calculations from RG-348

Page 3-29 Equation 3.3: LM = 27.2(AN x P)

where:
LM TOTAL PROJECT = Required TSS removal resulting from the prop
AN = Net increase in impervious area for the projec
P = Average annual precipitation, inches

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

County =	Bexar	
Total project area included in plan * =	4.63	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.31	acres
Total post-development impervious cover fraction * =	0.28	
P =	30	inches

LM TOTAL PROJECT = 1069 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 1

BMP - VEGETATED FILTER STRIPS

Vegetated filter strips will be implemented along the entire
downstream of paved trail with no more than 20% slope.
The filter strips must be a engineered vegetative filter strip
and a minimum of 5.2 feet wide to achieve 80% TSS removal rate.

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

RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x (AI x 34.6 + A

where:
AC = Total On-Site drainage area in the BMP catchment
AI = Impervious area proposed in the BMP catchment
AP = Pervious area remaining in the BMP catchment
LR = TSS Load removed from this catchment area

AC = 4.63 acres
AI = 0.53 acres
AP = 4.10 acres
LR = 493 lbs

STATE OF TEXAS
LUIS A. CARDONA
139673
LICENSED PROFESSIONAL ENGINEER
9/15/2025

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REVISIONS

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ENVIRONMENTAL LAYOUT

MAVERICK CREEK GREENWAY
UTSA BOULEVARD TO LOOP 1604
SAN ANTONIO, TEXAS, 78249

JOB NUMBER: 23-04027
DESIGNED BY: JR
DRAWN BY: JR
CHECKED BY: LAC
DATE: 9/15/2025
SHEET: **EL 1.03**

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

I Juanita Fierro,
Print Name

Project Manager,
Title - Owner/President/Other

of City of San Antonio – Parks & Recreation,
Corporation/Partnership/Entity Name

have authorized Luis Cardona, P.E.
Print Name of Agent/Engineer

of Halff
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

11/03/25
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Juanita Fierro 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 3rd day of November, 2025.

TAMMY MOORE
Notary Public, State of Texas
Comm. Expires 09-17-2028
Notary ID 411174

NOTARY PUBLIC

Tammy Moore
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9/17/2028

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: COSA Greenway Trail System Maverick Creek
Regulated Entity Location: San Antonio, TX
Name of Customer: City of San Antonio
Contact Person: Juanita Fierro Phone: (210) 207-3170
Customer Reference Number (if issued):CN 600130652
Regulated Entity Reference Number (if issued):RN 110873320

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	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	1 Each	$ 500
Extension of Time	Each	$

Signature: Luis A. Cardona Date: 11/3/25

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600130652		**RN 110873320**

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:*

City of San Antonio

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

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 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 ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:

City		**State**		**ZIP**		**ZIP + 4**	

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

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

SECTION III: Regulated Entity Information

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

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

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

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

COSA Greenway Trail System Maverick Creek

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	Babcock Rd							
	City	San Antonio	**State**	TX	**ZIP**	78249	**ZIP + 4**	
24. County	Bexar							

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

25. Description to Physical Location:	Maverick Creek between old Babcock Rd and UTSA Blvd

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:	29.580822		28. Longitude (W) In Decimal:	-98.631853	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	34	50.96	98	37	54.67

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)
1542	1623	236220	237110

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

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

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

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

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

SECTION IV: Preparer Information

40. Name:	Jeremy Ross	**41. Title:**	Graduate Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(830 **)** 455-6217		**( ) -**	jross@halff.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:	Halff	**Job Title:**	Public Works Team Leader
Name *(In Print):*	Luis Cardona	**Phone:**	**(** 210 **)** 704- **1379**
Signature:	Luis A. Cardona	**Date:**	11/3/25