

CITY OF AUSTIN - BARTON CREEK OAK PARK SDI

Edwards Aquifer Recharge Zone WPAP Exception Request

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Version 1
September 13, 2023

CITY OF AUSTIN - BARTON CREEK OAK PARK SDI

Edwards Aquifer Recharge Zone WPAP Exception Request

Peer Review

Sulieman Naser

8/9/23

Approval for issue

Tyler Murski

10/5/23

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1 EDWARDS AQUIFER APPLICATION COVER PAGE

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: Barton Creek – Oak Park SDI (5789.107)					2. Regulated Entity No.: TBD				
3. Customer Name: City of Austin					4. Customer No.: 6001 35198				
5. Project Type: (Please circle/check one)	New				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):		16.13	
9. Application Fee:	\$500		10. Permanent BMP(s):			N/A			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):			0			
13. County:	Travis		14. Watershed:			Barton Creek Watershed			

Application Distribution

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

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

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

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

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Trinity-Glen Rose	<input type="checkbox"/> Edwards Aquifer Authority	<input type="checkbox"/> Kinney	<input type="checkbox"/> EAA <input type="checkbox"/> Medina	<input type="checkbox"/> EAA <input type="checkbox"/> Uvalde
City(ies) Jurisdiction	<input type="checkbox"/> Castle Hills <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Helotes <input type="checkbox"/> Hill Country Village <input type="checkbox"/> Hollywood Park <input type="checkbox"/> San Antonio (SAWS) <input type="checkbox"/> Shavano Park	<input type="checkbox"/> Bulverde <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Garden Ridge <input type="checkbox"/> New Braunfels <input type="checkbox"/> Schertz	NA	<input type="checkbox"/> 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.	
Tyler Murski, PE / RPS Infrastructure, Inc.	
Print Name of Customer/Authorized Agent	
<i>Tyler Meswole Murski</i>	9/13/23
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):

2 GENERAL INFORMATION FORM (TCEQ-0587)

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: Tyler Murski, PE

Date: 9/13/23

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Barton Creek - Oak Park SD1 (5789.107)
2. County: Travis
3. Stream Basin: Barton Creek Watershed
4. Groundwater Conservation District (If applicable): Barton Springs/Edwards Aquifer Conservation District
5. Edwards Aquifer Zone:
 Recharge Zone
 Transition Zone
6. Plan Type:
 WPAP
 SCS
 Modification
 AST

UST

Exception Request

7. Customer (Applicant):

Contact Person: John Middleton, PE

Entity: City of Austin, Watershed Protection Department

Mailing Address: 505 Barton Springs Road, Suite 1200

City, State: Austin, Texas

Zip: 78704

Telephone: 512-974-3515

FAX: _____

Email Address: John.Middleton@austintexas.gov

8. Agent/Representative (If any):

Contact Person: Tyler Murski, PE

Entity: RPS

Mailing Address: 4801 Southwest Pkwy, Pkwy 1, STE 185

City, State: Austin, Texas

Zip: 78735

Telephone: 512-328-5771

FAX: _____

Email Address: Tyler.Murski@rpsgroup.com

9. Project Location:

The project site is located inside the city limits of Austin.

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.

Project is located within the Oak Park Subdivision located off US 290 HWY and Oak Claire Drive. The subdivision is between the Mopac-1 and W William Cannon Drive intersection with US 290 HWY traveling westbound.

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: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

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

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

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

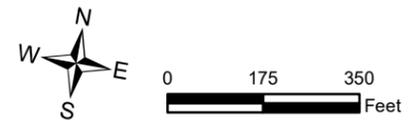
20. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

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

Attachment A: Road Map



- Legend**
- Project Limits
 - Gaines Tributary
 - City of Austin Parcels



Source: 2023 Nearmap Imagery,
2012 City of Austin Contours

Exhibit A.1
Project Location Map
Barton Creek Oak Park

rps 4801 Southwest Parkway,
Parkway 1, Suite 185
Austin, Texas 78735
(512) 328-55771
TBFE #F-293

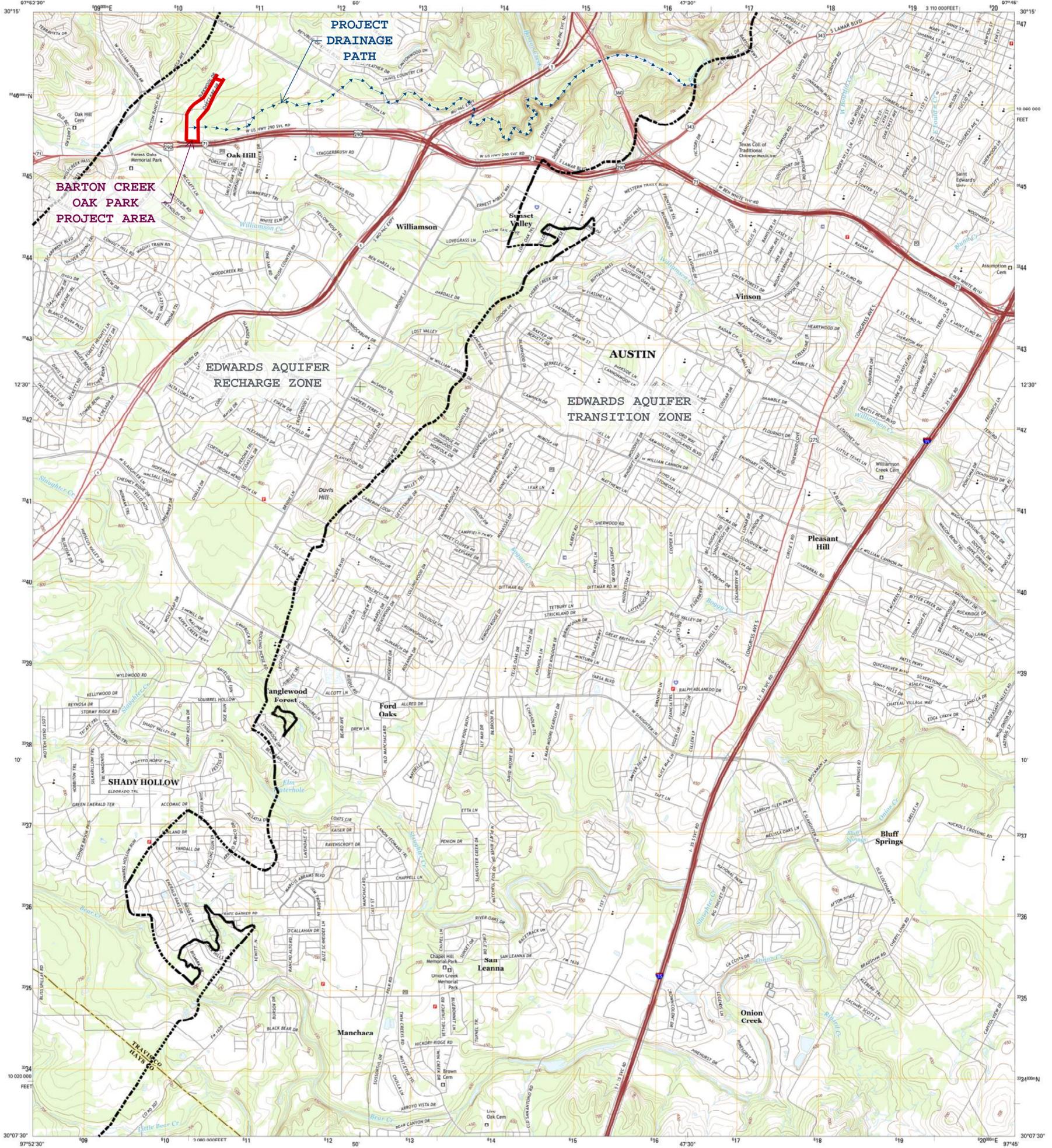
Attachment B: USGS/ Edwards Recharge Zone Map



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



OAK HILL QUADRANGLE
TEXAS
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
1:100,000-foot ticks: Texas Coordinate System of 1983 (central and
south central zones)

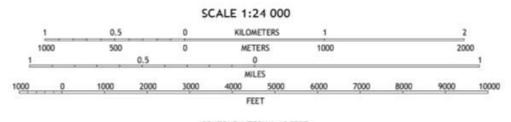
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery:.....NAP, August, 2014
Roads:.....U.S. Census Bureau, 2014 - 2015
Names:.....GNIS, 2015
Hydrography:.....National Hydrography Dataset, 2014
Contours:.....National Elevation Dataset, 2002
Boundaries:.....Multiple sources; see metadata file 1977 - 2015

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

UTM GRID AND 2014 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 Square Meters
PU
Grid Zone Designation
14R



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

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program: US Topo Product Standard, 2015.
A metadata file associated with this product is draft version 0.6.19



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

ROAD CLASSIFICATION
Local Connector
Local Road
4WD
US Route
State Route

ADJOINING QUADRANGLES

1	2	3
4	5	6
7	8	9

1 Bee Cave
2 Austin West
3 Austin East
4 Signal Hill
5 Montopoli
6 Mountain City
7 Buda
8 Creedmoor

OAK HILL, TX
2016



Attachment C: Project Description

The Barton Creek Oak Park Flood Risk Reduction Project is located at Oak Park near the crossroads of U.S. 290 West and Oakclaire Drive. The Oak Park neighborhood has been affected by past storm events causing flooding to nearby residents and businesses. The project consists of improvements to the drainage systems, which include channels, culverts, and storm systems, all designed to alleviate flooding within the Oak Park neighborhood.

The existing drainage conditions were analyzed at three primary outfall points: Channel A that includes culverts at Oakclaire Drive and Parkwood Drive, Outfall B Detention Pond, and Channel C that includes culverts at Oakclaire Drive and Parkwood Drive. The drainage areas being conveyed to outfalls Channel A and C are carried through a system of culverts and channels. In existing conditions, the drainage area being conveyed to outfall B Detention Pond is carried through a storm drainage system outfalling to a detention pond. The existing detention pond outlet structure is a culvert with an overflow rectangular weir of 20 linear feet. The existing detention pond currently outfalls to Channel C for Oakclaire Drive and Parkwood Drive upstream of Culvert at Oakclaire Drive.

The project contains 4 storm sewer systems, 1 along Parkwood Drive, 1 along School Road, and 2 along Oakclaire Drive. Systems A1 and A2 outfall to channel A and convey the 25-yr Atlas 14 storm event. System B, which will be constructed by others, includes proposed improvements along School Road to accommodate the proposed diversion of Channel B and connection to an existing system along Parkwood Drive that outfalls to an existing detention pond, and ultimately to Channel C. System B conveys the 2-yr Atlas 14 storm event. System C outfalls to Channel C and conveys the 25-yr Atlas 14 storm event. All systems have been designed to capture flow from the existing neighborhood and to alleviate flooding affecting nearby residents.

Each system was designed following Austin's DCM Section 3, 4, and 5 and was developed to capture flow before the outfall of each cross culvert or low point (sag). Inlets were positioned at a maximum spread of 500 feet and designed to ensure flow did not overtop the curb. Inlets were designed to capture maximum flow but, in some cases, the longitudinal slope did not allow for maximum efficiency. Upstream inlets were designed with standard 10-foot inlet openings and downstream inlets were designed with 15-foot or 20-foot openings. To account for bypass flow and increased discharge, downstream inlets were positioned closer together and increased in size.

The drainage channels were developed after the design of the cross culverts and drainage systems. The flow at each outfall was used to determine the size of each channel. Channels contain bottom widths between 10 feet to 60 feet. Tie back slopes were designed to provide the least amount of impact to the channel. The maximum allowable slope was set with a horizontal to vertical scale of 3 to 1. A Manning's roughness coefficient of 0.04 was used as defined by Table 6-2 in the CoA DCM. The velocities were determined to be less than 6 feet per second (fps) within the grass lined areas of the channels. Areas greater than 6 fps will include stone rip rap at the beginning and end of a culvert or system for erosion protection. The chutes will include stone rip rap to alleviate erosion due to high velocities. Since chutes contain steep slopes, velocities shown in the computations are above 6 fps. Areas before and after the chute have been designed with slopes less than 1%. These reduced slopes cause the velocities to regain their requirement of 6 fps.

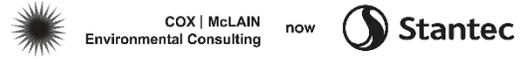
The design of the channels contains all three forms of flow. Uniform, Gradually, and Rapidly Varied flows are shown in the profiles of the channels. All three flows use Manning's equation to determine the discharge and velocities for the drainage channels. Uniform flow is consistent throughout the project. Gradually varied flow is shown at the entrance of each cross culvert and any obstructions such as stone rip rap causes the flow to change. Rapidly varied flow is seen at the location of chutes where steep slopes are required, and hydraulic grade line elevations area reduced. The chutes cause hydraulic jumps

WPAP EXCEPTION

at the downstream end causing a reduction in velocity. As mentioned, stone rip rap is proposed for additional erosion protection to the channels.

The existing detention pond accepts runoff from the existing storm sewer system from Parkwood Drive as well as any surface runoff. The existing impervious cover within the project limits is located within the development of NOAA Atlas 14, southern section of the Colorado river classing the project area to be in Zone 1.

3 GEOLOGIC ASSESSMENT FORM (TCEQ-0585)



Barton Creek-Oak Park Drainage Improvements

TCEQ Geologic Assessment

September 8, 2023

Prepared for:

City of Austin

Prepared by:

Stantec



GEOLOGIST CERTIFICATION

GEOLOGIC ASSESSMENT BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Prepared for: Kimley Horn
Prepared by: Stantec
Date: September 9, 2023

In accordance with the Texas Board of Professional Geologists rules at 22 Texas Administrative Code, Part 39, Chapter 851, Subchapter C, §851.156, this report is signed and sealed on the title page to assure the user that the work has been performed by or directly supervised by the following professional geoscientists who take full responsibility for this work.

The computer generated seals appearing on this document were authorized by Brian Cowan, P.G. 11180.



A handwritten signature in cursive script that reads "Brian Cowan".

Brian D. Cowan, Texas Professional Geoscientist No. 11180
Stantec, Geoscience Firm No. 50120



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1.0 INTRODUCTION AND PURPOSE

The City of Austin (CoA) proposes making drainage improvements to alleviate flood events within the Oak Park neighborhood in southern Travis County, Texas. The entire project area is located within the Edwards Aquifer Recharge Zone (Figure 1, Appendix A.5). Stantec was contracted to conduct a Geologic Assessment (GA) per the Texas Commission on Environmental Quality (TCEQ) Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge Zone (TCEQ-0585) (TCEQ 2004) and in compliance with Title 30, Texas Administrative Code (TAC) Chapter 213.

2.0 GEOLOGIC SETTING

2.1 SITE GEOLOGY

According to published maps from TCEQ, the project area is entirely within the Edwards Aquifer Recharge Zone (EARZ). The underlying geologic units are mapped by Blome et al. (2005) as:

- Lower Cretaceous Kirschberg evaporite member of the Kainer Formation (Kkke)
- Lower Cretaceous dolomitic member of the Kainer Formation (Kkd)

The Kirschberg evaporite member (Kkke) is a highly altered, light-gray crystalline limestone and chalky mudstone. Fossils are uncommon, and boxwork voids identify this unit. Dissolution of evaporite in this member has resulted in extensive secondary porosity, making this member highly susceptible to cave development. The dolomitic member (Kkd) comprises most of the project area, characterized as mudstone to grainstone, massively bedded, and light gray. This unit is resistant to weathering, and cave development mostly occurs along fractures, bedding planes, and faults (Blome et al., 2005, Small et al., 1996). A site vicinity map and project area geologic map are provided in **Appendix A, Attachment E**.

2.2 SOILS

A review of the Natural Resources Conservation Service (NRCS) United States Department of Agriculture (USDA) Web Soil Survey (NRCS 2022) indicated that three soil types occur within the project area and are provided in **Table 1**. A project area soil map is provided in **Appendix A, Attachment E**.

Table 1: Intersecting Project Soils

Map Unit Symbol	Map Unit Name	Acres in Project Area	Percent of Project Area	Description
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	0.36 acres	2.22%	Hydrologic group D. Characterized by stair-stepped ridges, high runoff potential when thoroughly wet. Composed of gravelly clay loam 0-6 in, clay loam 6 in-18 in, and bedrock 18 in-48 in.
CrB	Crawford clay, 1 to 3 percent slopes	1.91 acres	11.66%	Hydrologic group D. This component is on plains and dissected ridges. High runoff potential when thoroughly wet. Composed of clay 0-27 in, and bedrock 27 in-30 in.
TcA	Eckrant and Speck soils, 0 to 2 percent slopes	14.13 acres	86.12%	Hydrologic group D. This component is on ridges and dissected plateaus, high runoff potential. Eckrant composed of very stony clay 0-9 in, bedrock 9 in-12 in. Speck composed of clay loam 0 to 14 in, gravelly clay 14 in-18 in, and bedrock 18 in-20 in.

2.3 FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD ZONES

According to the most recent geospatial National Flood Hazard Layer data provided by the Federal Emergency Management Agency (FEMA), the project area is shown on the flood insurance rate map (FIRM) Panel 48453C0580H effective September 26, 2008. No portions of the project area are located within FEMA floodplains (**Appendix A, Attachment E, Figure 2**). However, Zone AE is mapped southwest of the project area. Zone AE is defined as “areas subject to inundation by the 1-percent-annual-chance flood event.”

2.4 WATER WELL RECORDS

According to the Texas Water Development Board (TWDB), no water wells are within the project area. However, there are 17 water wells mapped within a 1-mile radius of the project area (TWDB, 2022).

2.5 HISTORIC RESOURCES

According to the City of Austin, two sinkholes are reported near the project area. Both sinkholes are located outside the project area. One sinkhole is mapped approximately 300 feet northeast of the project area and was not investigated further as it is located on private property and outside the project area. The other sinkhole is known to connect to cave passage and is located in the south and adjacent to the project area on private property. The owner filled it with rocks and sediment due to safety concerns and to prevent access by unauthorized persons. At the time of the surveys, the feature was obscured by the fill

placed within it. The cave could not be accessed, and the dimensions and footprint of the passages are unknown. The cave passages may extend into the project footprint.

3.0 METHODOLOGY

Before fieldwork, pertinent data was reviewed, including local and regional geology (Blome et al., 2005, Small et al., 1996), soils (National Resource Conservation Service [NRCS] 2022), FIRM Panels (Federal Emergency Management Agency [FEMA]), and well records (Texas Water Development Board [TWDB] 2021). A data request was submitted to the Texas Speleological Survey (TSS), and a response was received on April 14, 2022, indicating there were no recorded karst features for the project area, according to their records. In addition, a public information request was submitted to TCEQ regarding any records of previous GAs within the project area. The TCEQ response was received on March 29, 2022, indicating that no records were available for the project area but did indicate that applications were received for projects in the nearby surrounding area. A review of previous Water Pollution Abatement Plans (WPAP) was provided with the public information request. No features reported in a GA are located within the project area based on the review of the TCEQ reports.

A field survey was conducted on April 4 and April 8, 2022, by Professional Geoscientist Brian Cowan, P.G. (#11180), and Staff Geologist Adam Majzoub of Stantec. Pedestrian surveys were conducted at 25-50 foot spacing within the unpaved portions of the project area while visually surveying for indications of karst features or other features reported in a GA. Brian Cowan P.G. further investigated all potential karst features to evaluate the subsurface extent and infiltration potential. The sensitivity of each feature was ranked using the point system as defined by TCEQ 2004.

4.0 RESULTS

Six karst features were identified during the GA. The features are provided in the GA Table in **Appendix A, Attachment A**, and the location of each feature is provided on the project area geology map in **Appendix A, Attachment E Figure 2**.

- **Feature BC-01 Sinkhole.** 30.24018 °N, -97.85504 °W

Feature BC-01 is a collapsed sinkhole within the Kkd. The dimensions of the feature are eight feet along the longest axis and four feet wide (**Appendix B, Photo 02 – 05**). The sinkhole was filled with coarse cobbles, loose soft sediments, and vegetation (leaves and twigs) to a depth of four feet. Excavation of the feature was conducted with hand tools to expose any apertures at depth and commenced for approximately 35 minutes until termination to a bedrock layer. The feature extended laterally to the northwest for approximately one foot along a solutionally enlarged bedding plane and into hard-packed clay in the subsurface (Appendix B, Photo 02). The sinkhole is downslope topographically, and the catchment area was determined to be greater than 1.6 acres. There is an elevated potential for this feature to be a focal point for recharge, and it is considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

- **Feature BC-02 Non-karst closed depression** 30.24012 °N, -97.85191 °W

Feature BC-02 is a non-karst closed depression mapped within the Kkd and located within a vacant lot that was previously a single-family residence (**Appendix B, Photo 06**). The dimensions of the feature are 14 feet along the long axis, eight feet wide, and 6 inches deep. The feature was infilled with grassy vegetation and soil and was loose to a depth of two feet. A portion of a concrete slab and some tubing were partially

exposed within the feature. The feature lacked downward trending voids into the subsurface is not considered sensitive. The catchment area was determined to be less than 1.6 acres. There is a low potential for this feature to be a focal point for recharge, and it is not considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

- **Feature BC-03 Solution-enlarged fracture zone** 30.23747°N, -97.85445 °W

Feature BC-03 is a zone of solution-enlarged fractures within the man-made drainage ditch and exposed Kkd bedrock (**Appendix B, Photo 07 – 09**). The zone extends approximately 50 feet to the southeast, and around one fracture was observed every five feet. The average trend of the fractures is 30 degrees, and the average aperture is 0.5 to one inch. Fractures were observed to be filled with loose soil and fine hard-packed clay. The catchment area was determined to be greater than 1.6 acres. Due to the lack of downward trending voids, there is a low potential for this feature to be a focal point for recharge, and it is not considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

- **Feature BC-04 Solution-enlarged fracture zone** 30.2374 °N, -97.85384 °W

Feature BC-04 is a zone of solution-enlarged fractures within the man-made drainage ditch and exposed Kkd bedrock (**Appendix B, Photos 10 and 11**). The zone extends approximately 35 feet to the southeast, and about two fractures were observed every 15 feet. The average trend of the fractures is between 130-150 degrees, and the average aperture is one to two inches. Fractures were observed to be filled with coarse cobbles, pebbles, loose soil, and fine hard-packed clay. The catchment area was determined to be greater than 1.6 acres. Due to the lack of downward trending voids, there is a low potential for this feature to be a focal point for recharge, and it is not considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

- **Feature BC-06 Man-made feature in bedrock** 30.23734 °N, -97.85396 °W

Feature BC-06 is a protruding pipe mapped within the Kkd and located within a vacant lot owned by the City of Austin. The pipe extends vertically eight feet into the subsurface (**Appendix B, Photo 15 and 16**). A downhole camera was used to inspect the feature, and potential bedrock was observed at the bottom; however, this could not be confirmed. Exposed bedrock was observed in an adjacent ditch at approximately the same elevation as the potential bedrock observed with the downhole camera. The feature is covered with a cap. It is assumed that the City of Austin owns this potential utility; however, that was not confirmed. Due to the lack of downward trending voids at the surface and the pipe being tightly sealed with a cap, there is a low potential for this feature to be the focal point for recharge. The feature is not considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

The City of Austin identified one historic feature through a review of their confidential database of karst features:

- **Feature BC-07 Cave** 30.237036°N, -97.853396°W

Feature BC-07 is a sinkhole known to connect to cave passage and is located in the south portion of the project area and adjacent to the project area on private property. Travis County Central Appraisal District GIS shows the feature on the property line between the private parcel and the project area. The City of Austin data indicated that it was previously filled with rocks and sediment by the owner due to safety concerns and to prevent access by unauthorized persons. At the time of the initial surveys, the feature was obscured by the fill placed within it. The site was revisited and assessed by Brian Cowan, P.G. The cave could not be accessed, and the dimensions and footprint of the passages are unknown. The cave passages may extend into the project footprint, including areas where subsurface disturbance is proposed. Potentially

clean-washed rocks were observed at this location from the project area, but the feature could not be directly investigated, and an exploratory excavation could not be performed as it is located on private property. The catchment area could not be precisely determined as the feature is on private property, but appears to be more than 1.6 acres. Topography near the feature is subdued but sloping slightly to the south and west from the project area and adjacent private property toward the feature. Due to the presence of potentially clean-washed rocks, a catchment that is likely greater than 1.6 acres, and the City of Austin data indicating that cave passages are present, this feature has a high potential to be a focal point for recharge. It is considered sensitive according to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)).

5.0 DISCUSSION AND RECOMMENDATIONS

The potential for rapid recharge to the Edwards Aquifer is low within most of the project area due to the lack of observed features containing downward trending voids that may act as a conduit for overland flow, except for features BC-01 and BC-07. Recharge potential is high with these features.

- **Feature BC-01**

Feature BC-01 is a sinkhole within a large drainage area. Overland flow within the project area is focused largely towards man-made drainages located southeast of this feature. This feature was located close to the contact between the Kkke and the Kkd, known to have extensive cave development. Excavation of the feature revealed that a void extends laterally into the subsurface along a solution-enlarged bedding plane. According to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)), this feature is considered sensitive.

According to Barrett 2005, a buffer must be placed around sensitive features that “should extend a minimum of 50 feet in all directions. Where the boundary of the drainage area to the feature lies more than 50 feet from the feature, the buffer should extend to the boundary of the drainage area or 200 feet, whichever is less”. Accordingly, a buffer was created extending 50 feet in the downhill direction from the edge of the feature and 100 feet in the uphill direction from the edge of the feature (**Appendix A, Attachment E, Figure 4**).

- **Feature BC-07**

Feature BC-07 is a sinkhole located on private property that the City of Austin reported. It is known to connect to cave passage, and the sinkhole was previously filled with rocks by the owner to prevent unauthorized access. What appears to be clean-washed rocks were observed from the project area, but an exploratory excavation could not be performed as the feature is located on private property. Although the catchment area could not be fully assessed as it is partially located on private property, it likely exceeds 1.6 acres in size. According to the Edwards Aquifer Rules (30 TAC §213.5(b)(3)), this feature is considered sensitive.

According to Barrett 2005, a buffer must be placed around sensitive features that “should extend a minimum of 50 feet in all directions. Where the boundary of the drainage area to the feature lies more than 50 feet from the feature, the buffer should extend to the boundary of the drainage area or 200 feet, whichever is less”. When a cave footprint cannot be mapped, a buffer of 150 feet must be extended from the cave

entrance. Accordingly, a buffer of 150 feet is extended in all directions from this feature (**Appendix A, Attachment E, Figure 4**).

The buffers of BC-01 and BC-07 extend into the proposed project area. Barrett 2005 states, "Where extenuating circumstances exist and development over a significant point recharge feature and its catchment is proposed, the developer can consider demonstrating that no feasible alternatives to construction over the sensitive feature exist. Feasibility of alternatives should be based primarily on technical, engineering, and environmental criteria." 30 TAC §213.9 allows for the TCEQ Executive Director to grant exceptions to the Edwards Aquifer Rules in certain circumstances should this be needed for the project.

The western portion of the project area is located within thick vegetation cover, and there is a possibility that karst features exist that are obscured. Additionally, portions of the project area are on paved City of Austin right-of-way or within areas where ground-disturbing activities have occurred (i.e., grading or construction), and there is a possibility that obscured karst features exist in the subsurface. Care should be taken during subsurface excavation as there is a potential to intersect a karst feature with no previous surface expression. A qualified Professional Geoscientist should inspect excavations for karst features. If a void is encountered during excavation, all work around it should cease immediately, and a qualified Professional Geoscientist should inspect the void and prepare a TCEQ Void Discovery Notification Form, if applicable.

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

6.0 REFERENCES

Blome, C.D., Faith, J.R., Pedraza, D.E., Ozuna, G.B., Cole, J.C., Clark, A.K., Small, T.A., and Morris, R.R., 2005, Geologic map of the Edwards aquifer recharge zone, south-central Texas, U.S. Geological Survey, Scientific Investigations Map SIM-2873, 1:200,000

Barrett, M.E., 2005, Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices. TCEQ RG-348, 415 p., revised July 2005.

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Small, Ted A, et al. 1996 "Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop (Barton Springs Segment), Northeastern Hays and Southwestern Travis Counties, Texas."

Texas Commission on Environmental Quality (TCEQ). 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone. TCEQ RG-0508, 34 p., revised October 1, 2004.

Texas Speleological Society (TSS). 2021. Cave and Karst Feature Database request. Sent March 2022

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United States Department of Agriculture (USDA), Natural Resources Conservation Service, Soil Survey Staff. 2019. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed April 2022.

United States Geological Survey (USGS). 2005. Geologic map of the Edwards aquifer recharge zone, south-central Texas. ESRI shapefile is available at: <https://pubs.usgs.gov/sim/2005/2873>. Accessed April 2022.

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

Appendix A ATTACHMENTS

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

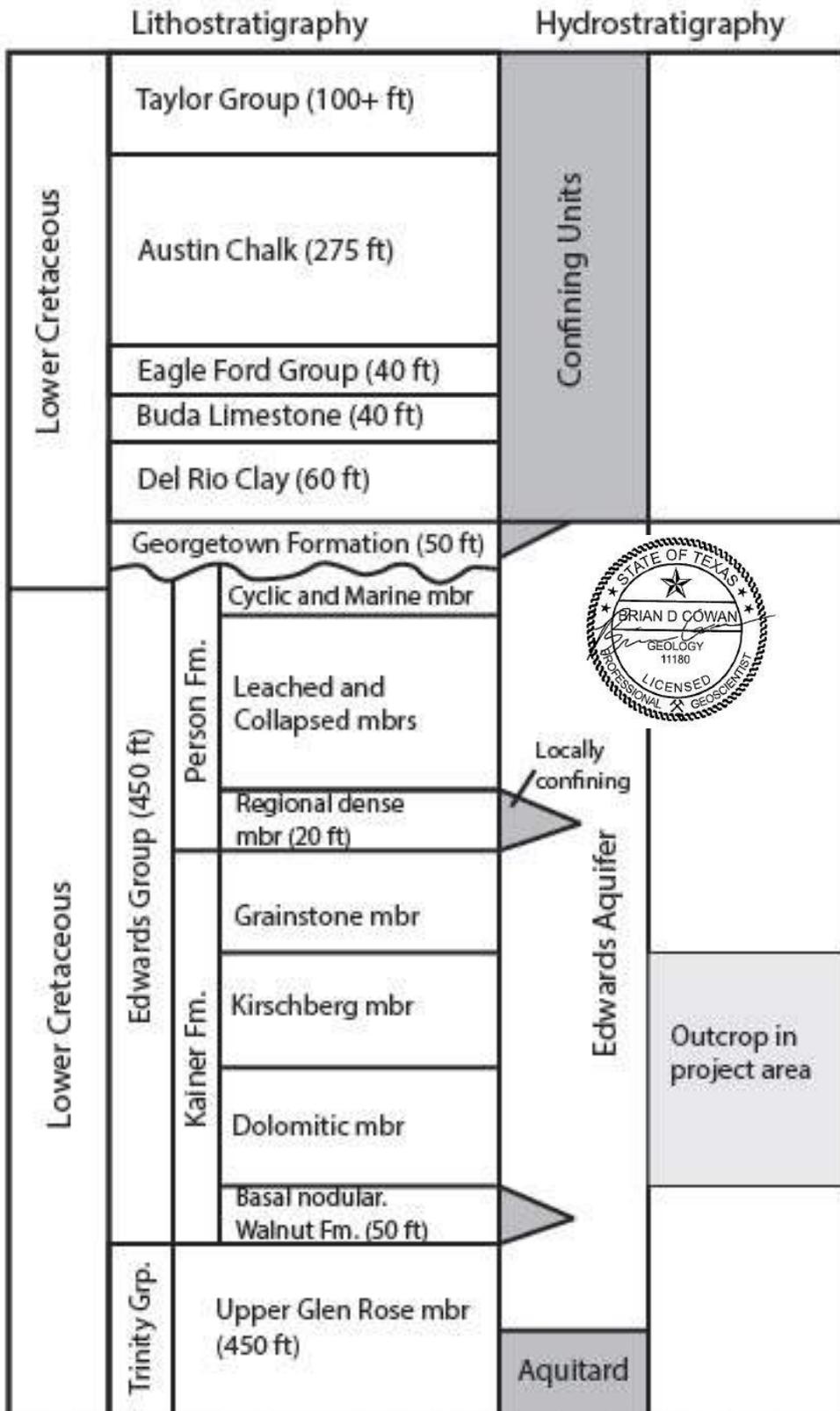
ATTACHMENT A GEOLOGIC ASSESSMENT TABLE

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

ATTACHMENT B STRATIGRAPHIC COLUMN

Attachment B : Stratigraphic Column



This stratigraphic column adapted from Hunt et al. 2019. Units outcropping in project area are highlighted.

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

**ATTACHMENT C SITE GEOLOGY (SEE SECTION 2.1 IN
REPORT)**

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

ATTACHMENT D TCEQ GA FORM

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), 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. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Brain Davis Cowan,
P.G.

Telephone: 512-632-8409

Fax: _____

Date: 09/08/2023

Representing: Stantec (#50604) (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:





Regulated Entity Name: _____

Project Information

1. Date(s) Geologic Assessment was performed: 04/04/2022 & 04/08/2022

2. Type of Project:

- WPAP
 SCS

- AST
 UST

3. Location of Project:

- Recharge Zone
 Transition Zone
 Contributing Zone within the Transition Zone

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)
BID	D	1.5
CrB	D	2.25
TcA	D	1.5

* 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" = 250'
 Site Geologic Map Scale: 1" = 250'
 Site Soils Map Scale (if more than 1 soil type): 1" = 250'
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.

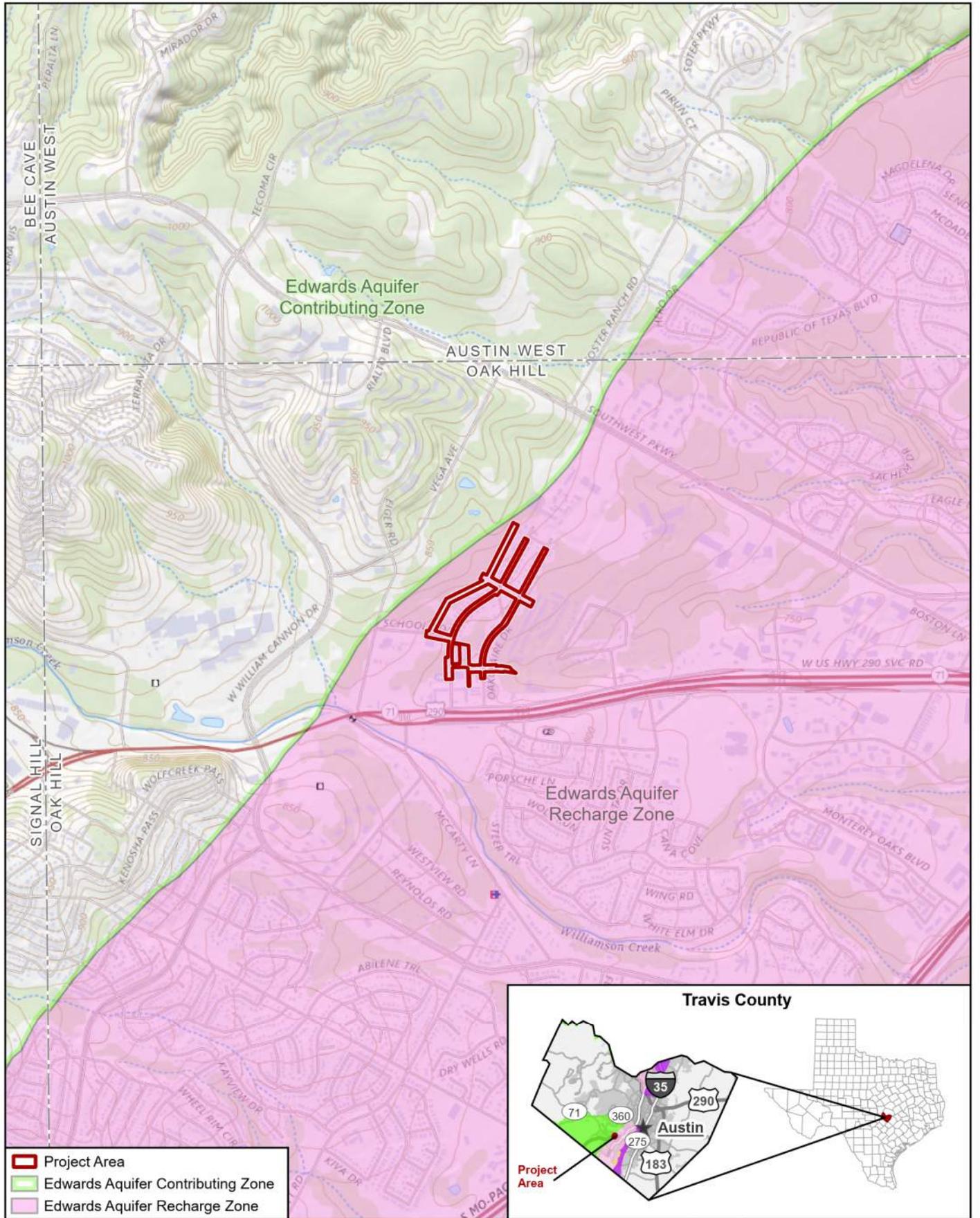
Administrative Information

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.

BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix A

ATTACHMENT E FIGURES

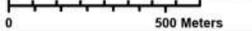


- Project Area
- Edwards Aquifer Contributing Zone
- Edwards Aquifer Recharge Zone

Figure 1. Project Location and Edwards Aquifer Zones

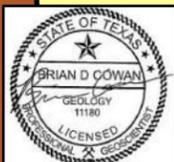
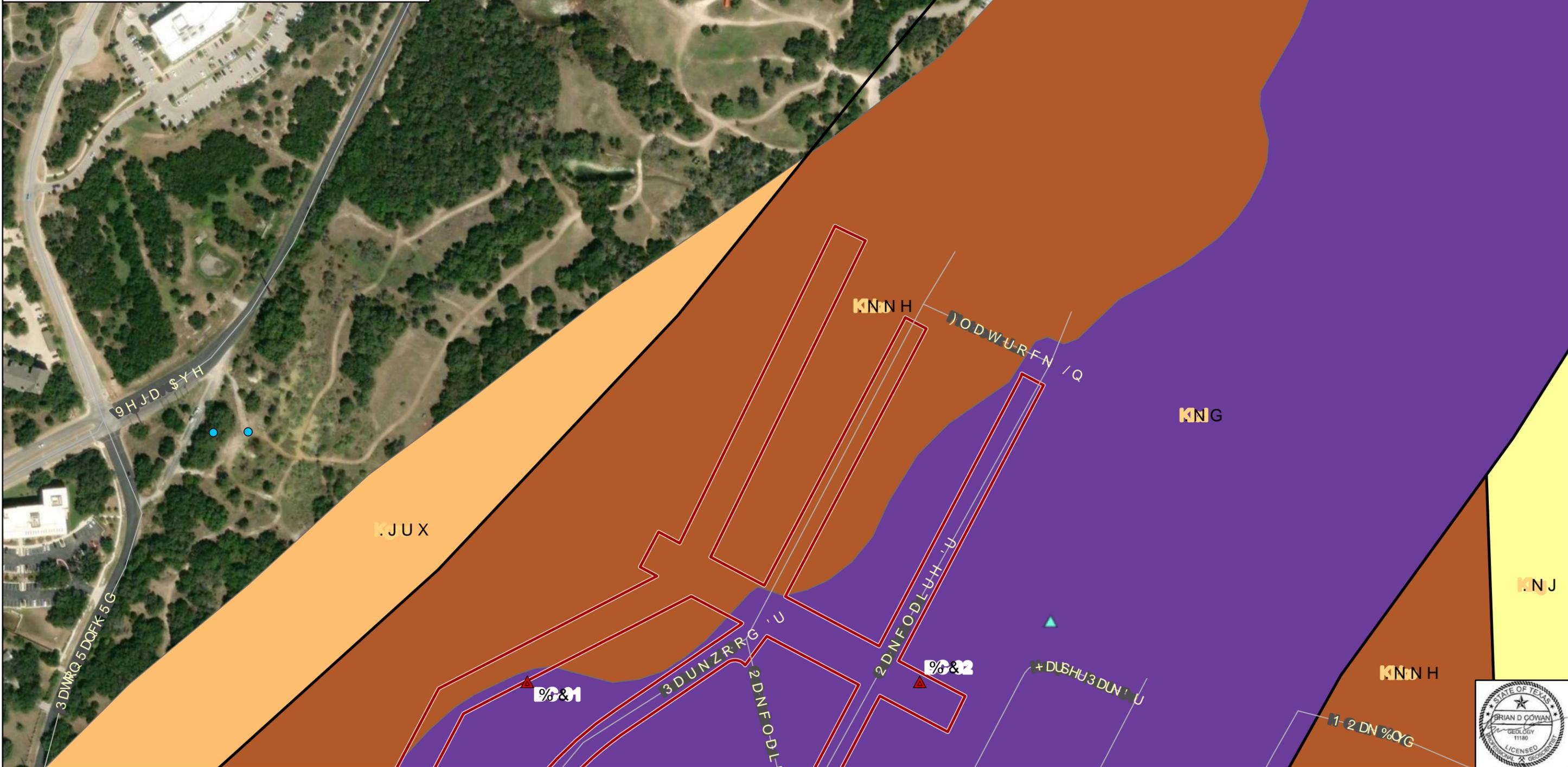
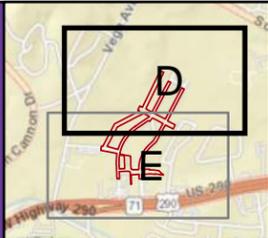
Barton Creek and Oak Park Drainage Improvements

Data Source: TCEQ (2005)
 Topographic Source: USGS (2022) USGS 7.5' Quadrangle:
 Signal Hill, Oak Hill, Bee Cave, and Austin West.

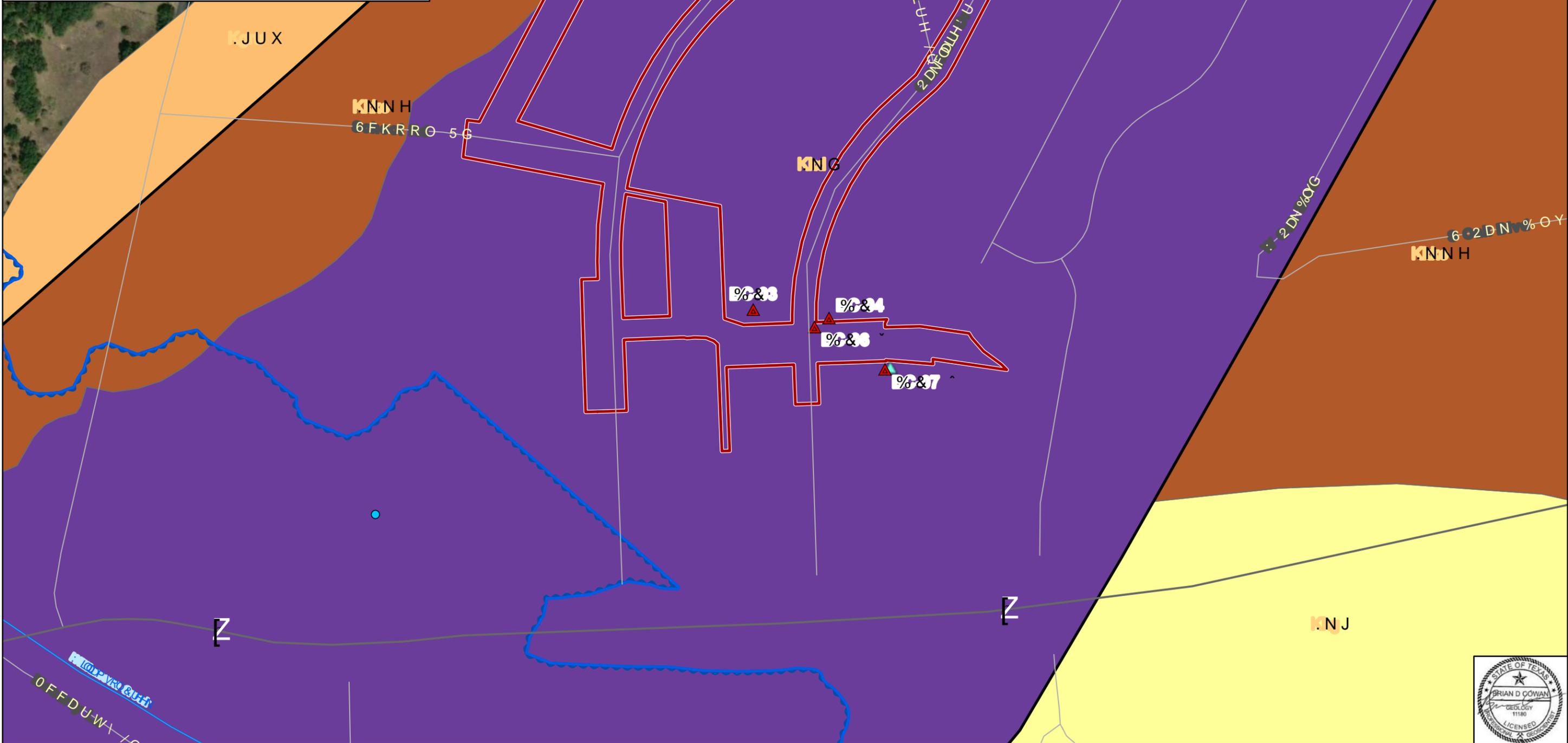
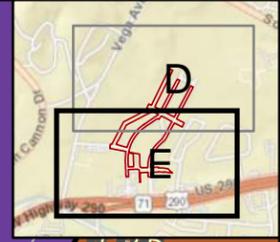
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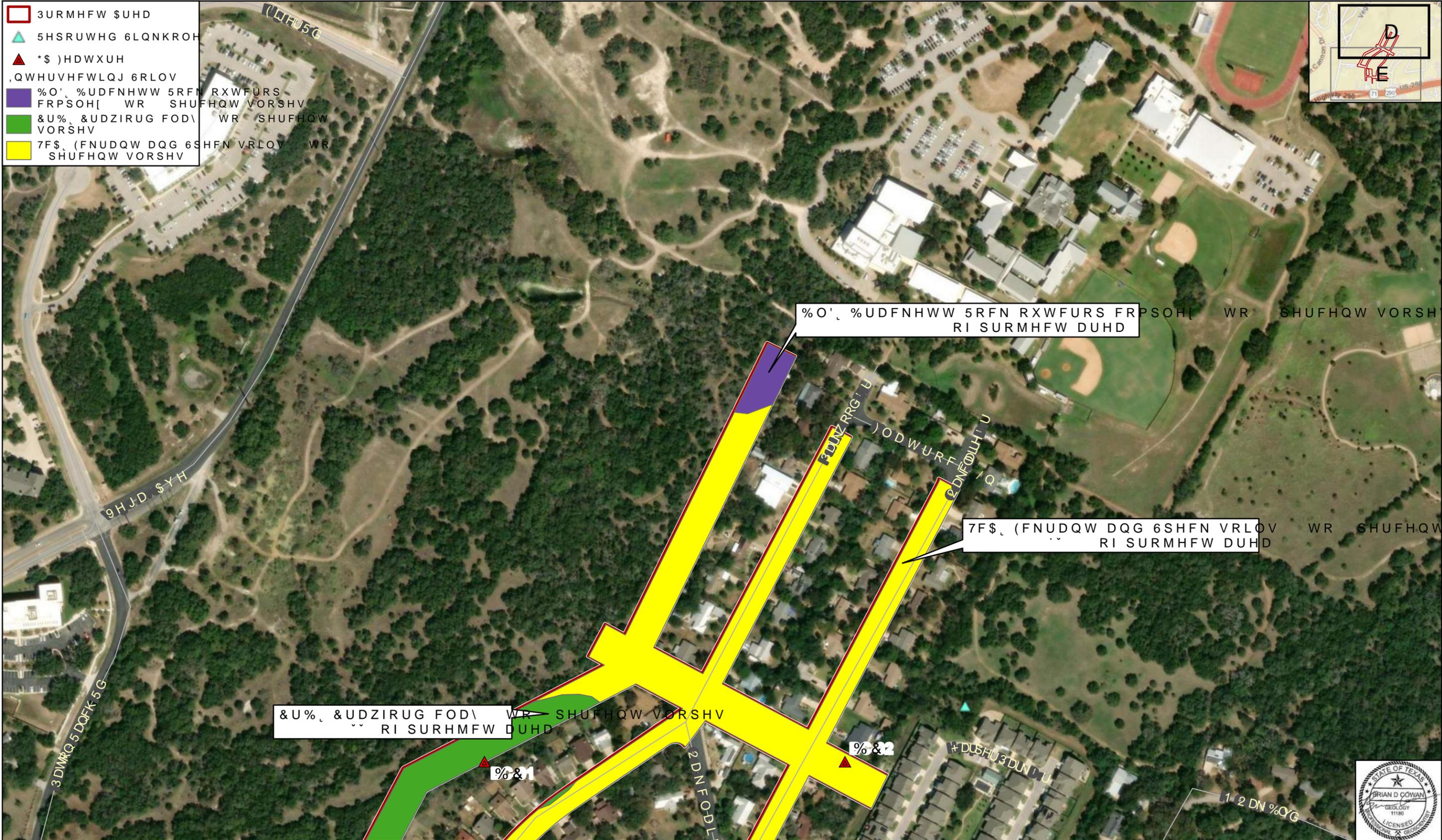
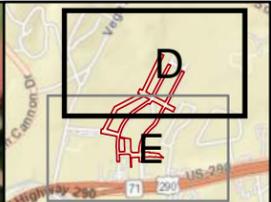
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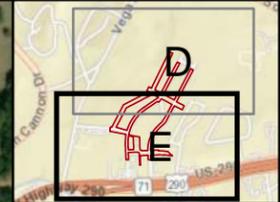


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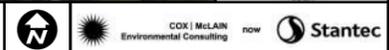
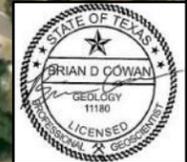
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-  GA Feature
-  GA Feature Buffer
-  Project Area

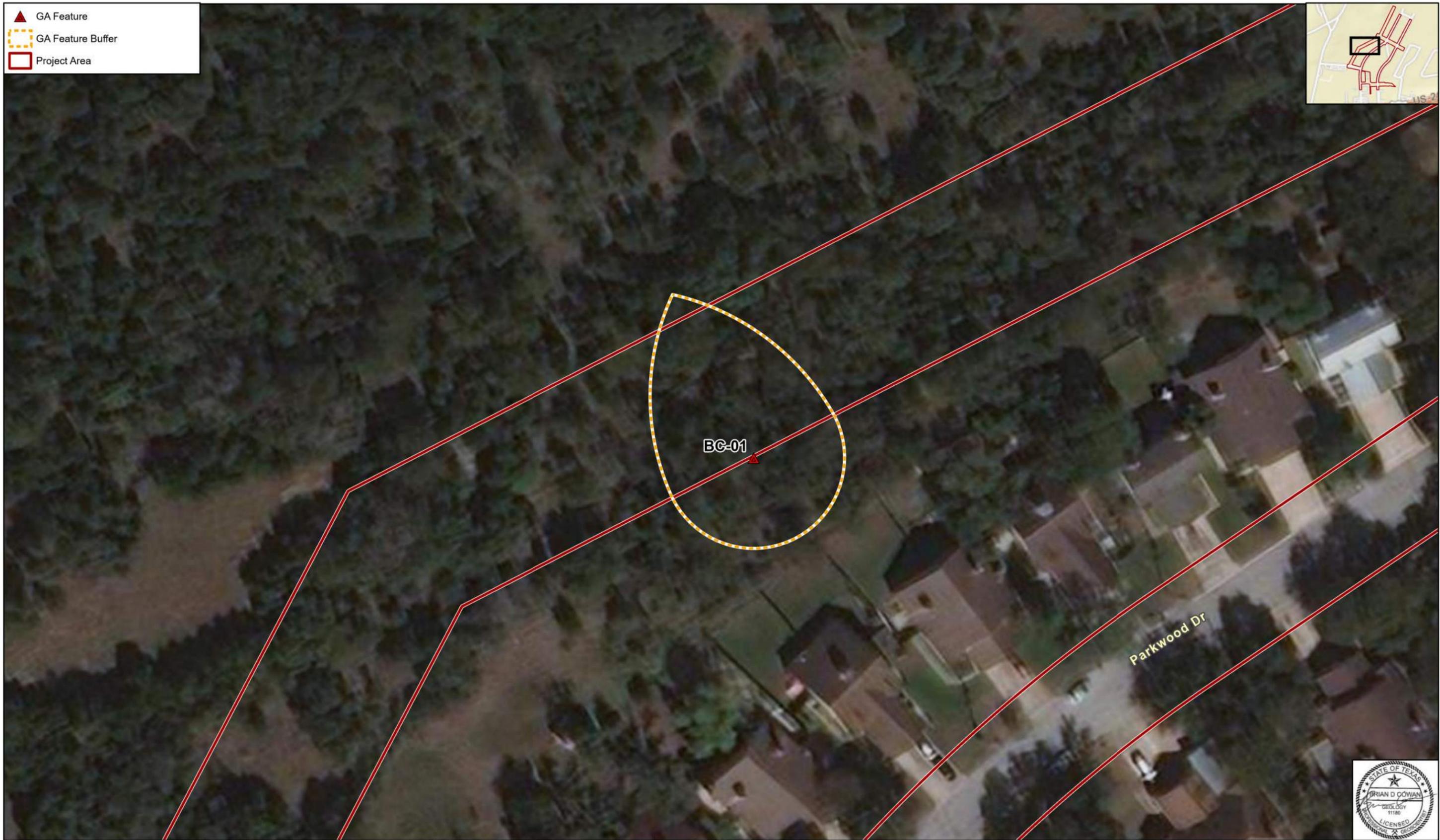
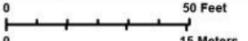


Figure 4.
GA Feature Buffer

Barton Creek-Oak Park Drainage Improvements

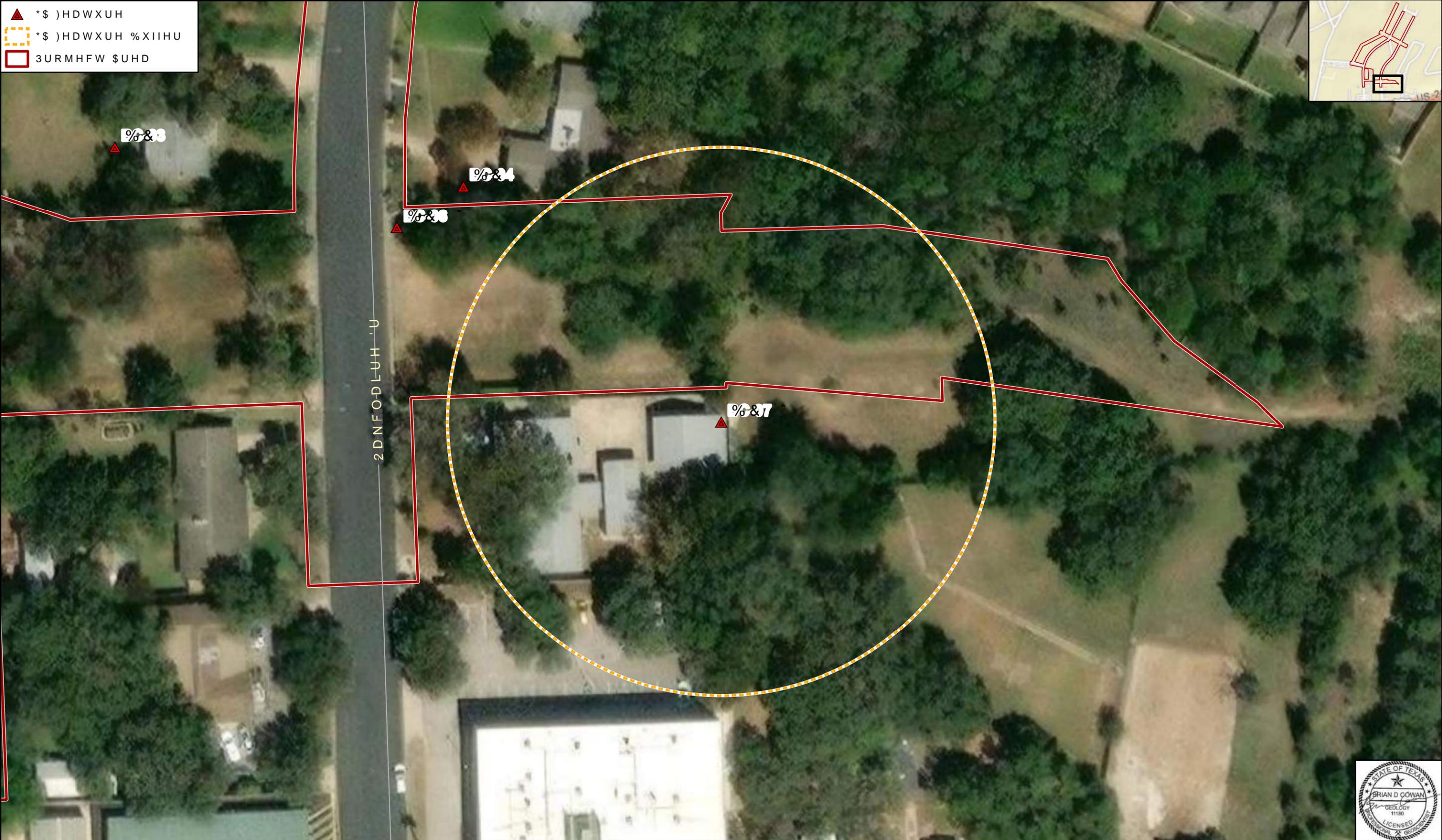
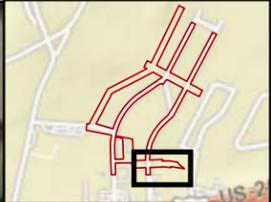
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		1 in = 50 ft Scale: 1:600 Date: 4/19/2022

Data Sources: Stantec (2022)
Aerial Source: Maxar (2020)

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BARTON CREEK-OAK PARK DRAINAGE IMPROVEMENTS

Appendix B

Appendix B FIELD PHOTOGRAPHS



Photo 01. Feature BC-01. Sinkhole. Before excavation. Coordinates -97.85504, 30.24018.



Photo 02. Feature BC-01 post excavation. Bedrock encountered at 4 feet below surface. Extends northwest approximately 1 foot laterally along solution enlarged bedding plane in subsurface. Terminates into hard-packed soil.



Photo 03. Feature BC-01. Post excavation.



Photo 04. Feature BC-01. Post excavation. Bedrock layer encountered.

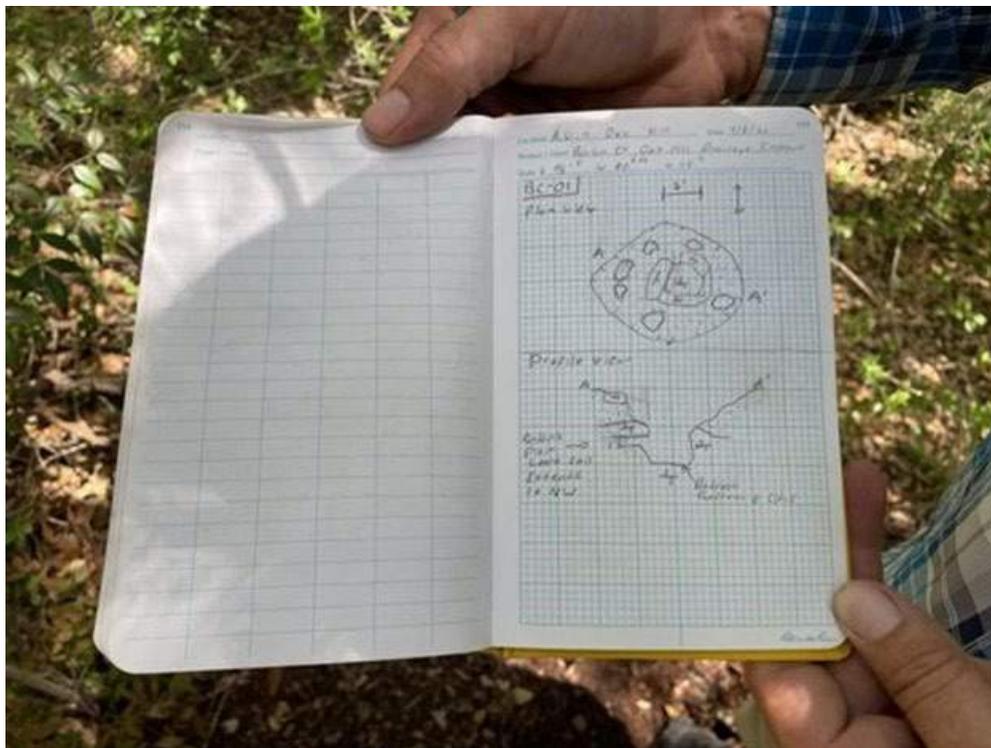


Photo 05. Sketch of BC-01. Sinkhole.



Photo 06. Feature BC-02. Non-karst closed depression. Anthropogenic features identified include part of foundation slab, and piping. No bedrock observed.



Photo 07. Feature BC-03. Solution-enlarged fracture zone. Coordinates: -97.85445, 30.23747.



Photo 08. Feature BC-03. Zone extends approximately 50 feet within a drainage ditch constructed in exposed Edwards limestone. Average aperture 1 inch and average trend is 30 degrees. Infill with soft mud and fine packed sediments.

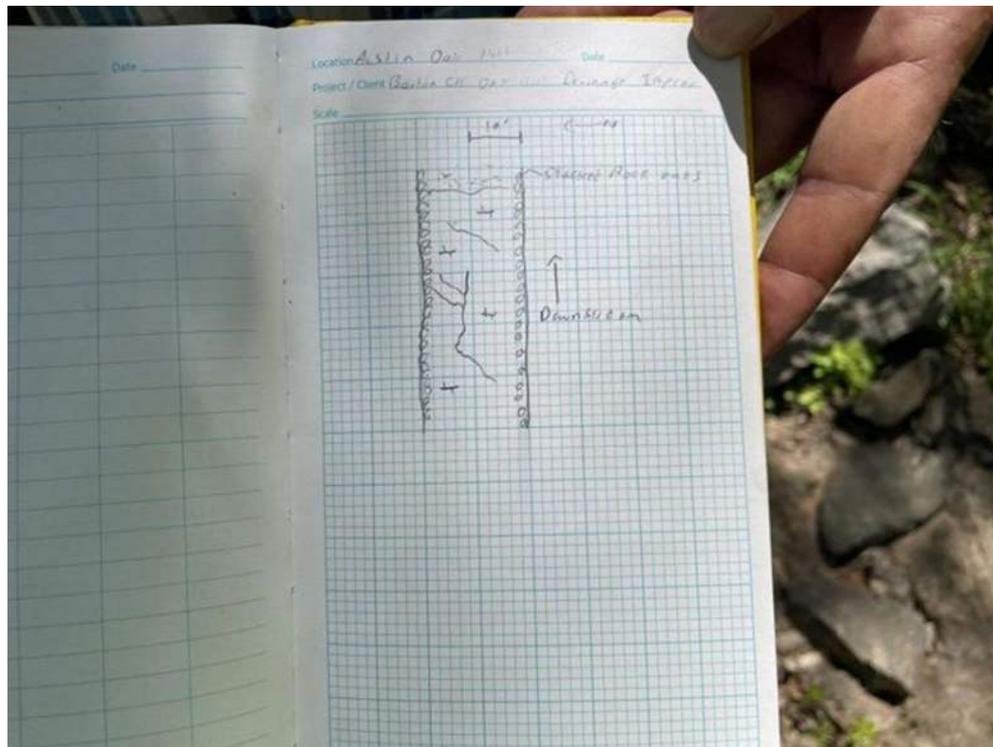


Photo 09. Sketch BC-03.



Photo 10. Feature BC-04. Solution-enlarged fracture zone. Coordinates: -97.85384, 30.2374. Average aperture 1-4 inches and fractures trend between 130-150 degrees. Infill with cobbles, pebbles, and fine packed soil.

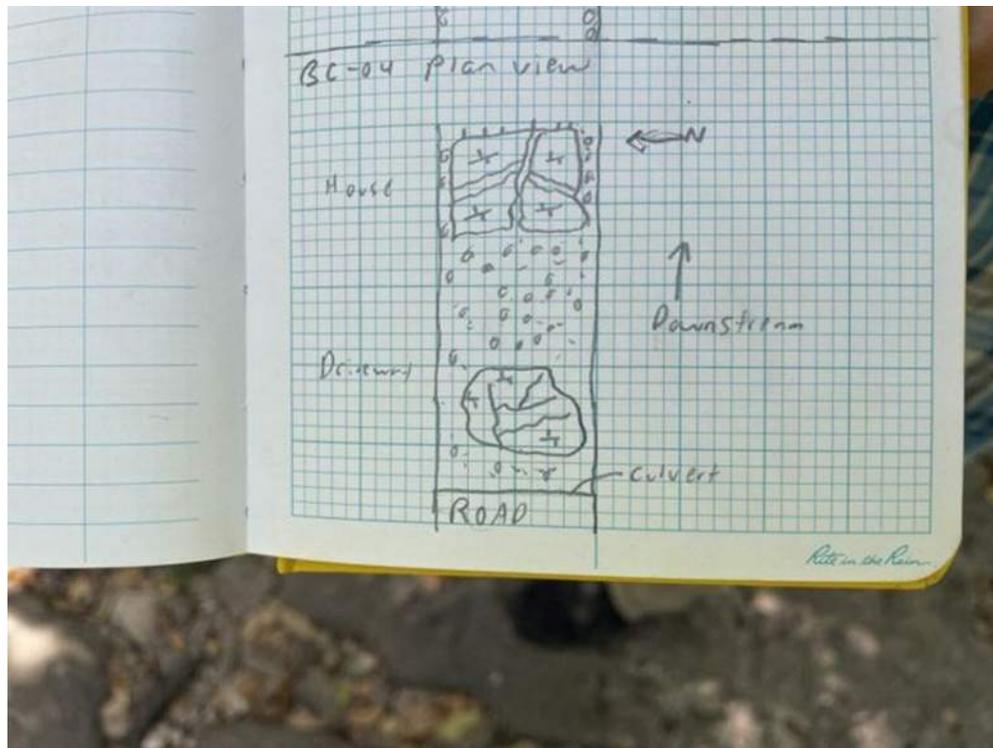


Photo 11. Sketch BC-04.



Photo 12. Feature BC-05. Non-karst closed depression. Before excavation. Coordinates: -97.85418, 30.24111.



Photo 13. Feature BC-05. After excavation. Feature determined to be non-karst closed depression and terminates into bedrock with no aperture or voids into subsurface.

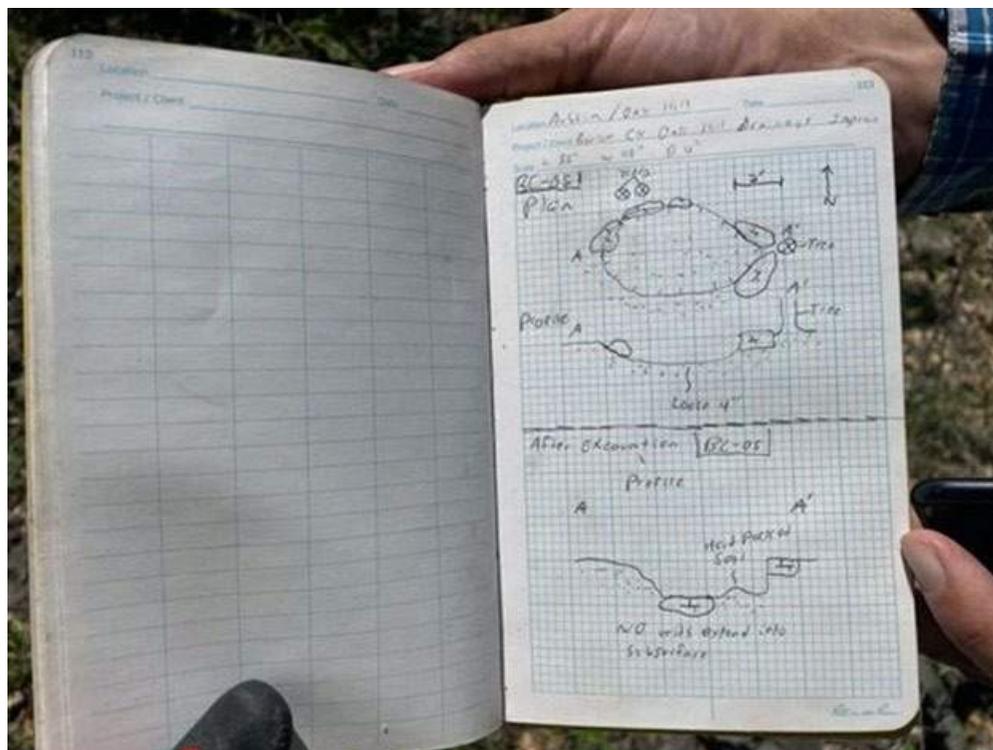


Photo 14. Sketch BC-05.



Photo 15. Feature BC-06. Man-made feature in bedrock. Coordinates: -97.85396, 30.23734. Feature extends 8 feet vertically into subsurface and covered.



Photo 16. Feature BC-06. Interior of feature.

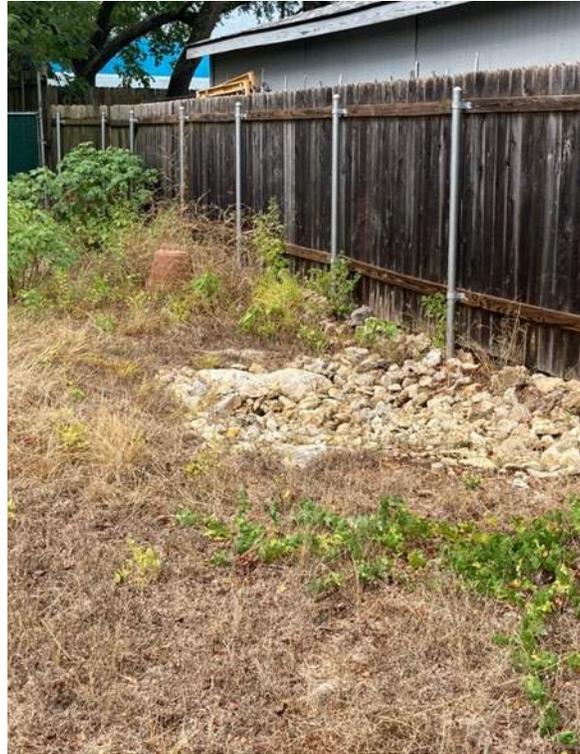


Photo 17: Feature BC-07 City of Austin reported sinkhole filled with boulders, cobbles, and soil. Landowner filled in sinkhole to deter entry by children. Sinkhole is on private property and could not be investigated further.

4 RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM (TCEQ-0628)

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: Tyler Murski

Date: 9/13/23

Signature of Customer/Agent:



Regulated Entity Name: Barton Creek – Oak Park SDI (5789.107)

Exception Request

- 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.
- Attachment B - Documentation of Equivalent Water Quality Protection.** Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

- 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.
- The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
- The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

Attachment A - Nature of Exception

The Oak Park Subdivision was constructed in the 1940s prior to the creation of the Edwards Aquifer Program and its water quality requirements. The 1995 Oak Park/ Oak Acres Water & Wastewater Improvements Project included a Texas Water Commission Application for Approval of Organized Sewage Collection, which was approved in 1993.

The Barton Creek Oak Park SDI Project improves local drainage through the construction of a series of storm sewers, culverts, and channels throughout the neighborhood. Impervious cover is not affected by this project.

Attachment B - Documentation of Equivalent Water Quality Protection

The Barton Creek Oak Park SDI Project improves the local drainage through the construction of a series of storm sewers, culverts, and channels throughout the neighborhood. Impervious cover is not affected by this project.

5 TEMPORARY STORMWATER SECTION (TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Tyler Murski, PE

Date: 9/13/23

Signature of Customer/Agent:



Regulated Entity Name: Barton Creek - Oak Park SD1 (5789.109)

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: Gaines Tributary to Barton Creek

Temporary Best Management Practices (TBMPs)

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

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

- A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
 - There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- N/A
12. **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21. If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22. Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Attachment A - Spill Response Actions

All hazardous waste materials will be disposed of in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. The job site superintendent, who will also be responsible for seeing that these practices are followed, will instruct site personnel in these practices. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file on the job site. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

No spilled hazardous materials or hazardous wastes will be allowed to come in contact with stormwater discharges. If such contact occurs, the stormwater discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated stormwater.

Whenever a spill or discharge involves an imminent threat to human health, notify local emergency authorities *immediately* and cooperate with them in responding to the spill. "Local emergency authorities" usually means the local fire department and law enforcement agency, but could also mean the local fire marshal, health department, or emergency planning committee.

Any spills of hazardous materials which are in quantities in excess of Reportable Quantities as defined by the TCEQ Spill Rule 30 TAC §§327.1–327.5, and included as Table 1 below, shall be reported to TCEQ.

If the amount of material spilled or discharged within any 24-hour period is equal to or greater than the amount indicated in Table 1, the rule calls for the party responsible for the spill to notify the TCEQ within 24 hours. There are three ways to satisfy this reporting requirement by phone:

- Call **1-800-832-8224** (the Environmental Response Hot Line). This line is answered 24 hours a day.
- Call the TCEQ Spill Reporting Hot Line, which is answered 24 hours a day, at 512/463-7727.
- During regular business hours, call the TCEQ regional office that serves the county in which the spill occurred.

Table 1: Reportable Quantities (RQs) According to the Spill Rule

Type of Spill	Site of Spill	
	On Land	In Water
Hazardous substance <ul style="list-style-type: none"> • If CERCLA RQ = 1–100 lb. • If CERCLA RQ > 100 lb. 	CERCLA RQ CERCLA RQ	CERCLA RQ 100 lb.
Crude Oil	210 gal	Enough to form a sheen
Used oil or petroleum product <ul style="list-style-type: none"> • At a PST exempt facility* • All others 	210 gal 25 gal	Enough to form a sheen Enough to form a sheen
Oil other than crude oil, used oil, or petroleum product	210 gal	Enough to form a sheen
Other substances	No RQ	100 lb
Industrial solid waste	No RQ	100 lb

NOTE: This table applies only to the reporting of spills and discharges according to the Spill Rule, 30 TAC §§327.1–327.5. To find values of CERCLA RQs for hazardous substances, please refer to 40 CFR Table 302.4.

*The term "PST exempt facility" refers to facilities that are exempt from the Aboveground Storage Tank Program. Petrochemical plants, petroleum refineries, and electricity generation, transmission, and distribution facilities are some examples of PST exempt facilities.

WPAP EXCEPTION

Contaminated Soils

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with applicable state and federal regulations. The job site superintendent will be responsible for seeing that these procedures are followed.

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

1. An effort will be made to store only enough product required to do the job.
2. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.
3. Products will be kept in their original containers with the original manufacturer's label in legible condition.
4. Substances will not be mixed with one another unless recommended by the manufacturer.
5. Whenever possible, all of a product will be used up before disposing of the container.
6. Manufacturer's recommendations for proper use and disposal will be followed.
7. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials.

1. Products will be kept in original containers with the original labels in legible condition.
2. Original labels and material safety data sheets (MSDS's) will be procured and used for each material.
3. If surplus product must be disposed of, manufactures or local/state/federal recommended methods for proper disposal will be followed.
4. A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic, and metal trash containers, etc.) will be provided at the storage site.
5. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

Spill Prevention and Cleanup

In addition to the material management practices, the following practices will be followed for spill prevention and cleanup:

1. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
2. Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic, and metal trash containers, etc.).
3. All spills will be cleaned up immediately after discovery.
4. The Spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.
5. Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Reportable Quantities of some substances which may be used at the job site are as follows:

WPAP EXCEPTION

- a. oil - appearance of a film or sheen on water
 - b. pesticides - usually 1 lb.
 - c. acids - 5000 lb.
 - d. solvents, flammable - 100 lb.
6. A description of the spill, what caused it, how it could be prevented, and the cleanup measures will be posted in the material storage area. If the spill exceeds a Reportable Quantity, all federal and state regulations regarding reports of the incident will be complied with.
 7. The job site superintendent will be the spill prevention and cleanup coordinator. He will designate the individuals who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

Attachment B - Potential Sources of Contamination

The following materials or substances with known hazardous properties are expected to be present onsite during construction:

- Sanitary Waste
- Concrete
- Petroleum Products
- Fertilizers and Pesticides
- Paints
- Paint Solvents
- Cleaning solvents
- Detergents

The following practices shall be followed to prevent contamination:

Waste Disposal

All waste materials will be collected and stored in a dumpster rented from a local waste management company which must be a solid waste management company licensed to do business in the State of Texas and Williamson County. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as required, and the trash will be hauled to a landfill approved by the State of Texas and Williamson County. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these practices will be posted in the job site construction office trailer, and the job site superintendent will be responsible for seeing that these procedures are followed.

Sanitary Waste

All sanitary waste will be collected from the portable units by a licensed portable facility provider in complete compliance with local and state regulations.

Off-Site Vehicle Tracking

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance will be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin. The job site superintendent will be responsible for seeing that these procedures are followed.

Concrete Waste from Concrete Trucks

Emptying of excess concrete and/or washout from concrete delivery trucks will be allowed on the job site, but only in either specifically designated diked areas which have been prepared to prevent contact between the concrete and/or washout and stormwater which will be discharged from the site or in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete washout diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. The job site superintendent will be responsible for seeing that these procedures are followed.

Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks used onsite will have a dike or berm containment structure constructed around it to contain any spills which may occur. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

Fertilizers and Pesticides

Fertilizers and pesticides will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer and pesticides will be transferred to a sealable plastic bin to avoid spills.

Paints, Paint Solvents, Cleaning Solvents and Detergents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

Certain types of discharges are allowable under the NPDES General Permit for Construction Activity. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The following allowable non-stormwater discharges which may occur from the job site include:

- Discharges from firefighting activities
- Fire hydrant flushings
- Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking
- Portable water sources such as waterline flushings, irrigation drainage from watering vegetation, routine exterior building wash down (without detergents present)
- Pavement wash waters where spills or leaks of hazardous materials have not occurred or detergents have not been used
- Springs and other uncontaminated groundwater, including dewatering ground water infiltration
- Foundation or footing drains where no contamination with process materials such as solvents is present

Attachment C - Sequence of Major Activities

Preconstruction:

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan or subdivision construction plan and in accordance with the Erosion Sedimentation Control Plan (ESC) and Stormwater Pollution Prevention Plan (SWPPP) that is required to be posted on the site. Install tree protection, initiate tree mitigation measures and conduct "Pre - Construction" tree fertilization (if applicable).
2. The Environmental Project Manager or Site Supervisor must contact the Development Services Department, Environmental Inspection, at 512-974-2278, 72 hours prior to the scheduled date of the required on-site preconstruction meeting.
3. The Environmental Project Manager, and/or Site Supervisor, and/or Designated Responsible Party, and the General Contractor will follow the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion plan.
4. Install advance warning signs per approved TCP.
5. Install temporary pavements along Oak Boulevard designated on the TCP Phase 1 plan in the plans.

Construction: The following sequence will be followed for each phase of the project construction.

1. Provide advance warning signs prior to shifting vehicular traffic around work area.
2. Set up traffic control barriers per approved TCP plan.
3. The Environmental Project Manager, and/or Site Supervisor, and/or Designated Responsible Party, and the General Contractor will follow the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion plan.
4. In the Barton Springs Zone, the Environmental Project Manager or Site Supervisor will schedule a mid-construction conference to coordinate changes in the construction schedule and evaluate effectiveness of the erosion control plan after possible construction alterations to the site. Participants shall include the City Inspector, Project Engineer, General Contractor and Environmental Project Manager or Site Supervisor. The anticipated completion date and final construction sequence and inspection schedule will be coordinated with the appropriate City Inspector.
5. Install proposed construction per approved TCP narrative in designated work zone.
6. Advanced warning signs shall remain in place until completion of work (All Phases).

Post construction:

1. Provide advance warning signs prior to shifting vehicular traffic around work area.
2. Remove temporary erosion controls.
3. Install permanent erosion controls.
4. Complete construction and start revegetation of the site and installation of landscaping.
5. Remove temporary traffic controls and advance warning signage.
6. Perform final clean up and open traffic to completed neighborhood.

Attachment D - Temporary Best Management Practices and Measures

Temporary Best Management Practices proposed for use during construction are shown on the Erosion Sedimentation Control and Tree Protection Plans provided in the sleeve following this attachment and include the following:

Table 2: Temporary Best Management Practices

	Surface Water, Ground Water, and Storm Water		Surface Streams, Sensitive Features, and Aquifer	
	Upgradient	On-Site	Prevent Pollutants	Maintain Flow
Tree Protection Fencing		X	X	
Sprinkling for Dust Control		X	X	
Stabilized Construction Entrance/Exit		X	X	
Silt Fence	X	X	X	X
Outlet Stabilization	X	X	X	X
Rock Berm	X	X	X	X
Mulch Sock (Fiber Roll)		X	X	X
Soil Retention Blanket	X	X	X	
Mulching		X	X	X
Sodding		X	X	X

The proposed BMPs in Table 2 will prevent pollution of surface water, groundwater, and stormwater by the following methods:

- Minimize the number of disturbed areas, thereby reducing the amount of sediment loads downstream.
- Reducing erosion by keeping runoff velocities low and by providing stabilized outlets at points of concentrated flow.
- Capturing sediment loads by placing sediment traps such as silt fence, rock berm, and inlet protection.

To prevent pollutants from entering surface streams, sensitive features, and the aquifer, sediment traps such as silt fence and rock berms are proposed upgradient of all surface streams, sensitive features, and the aquifer. Proposed BMPs have been designed to maintain, to the maximum extent practical, flow to the naturally occurring sensitive features. BMPs which are proposed around these features are designed to trap sediment but still allow runoff to these features.

Tree protection fencing is to be installed between construction areas and trees to be saved to ensure the soil around the root system is not disturbed. This fencing is to be installed prior to any construction. Within the tree critical root zone mulch socks (fiber rolls) are proposed for sediment controls.

Dust control shall be provided as necessary to reduce the movement of excess dust exposed soil surfaces. Irrigation shall be used as the temporary method of dust control and shall be repeated as necessary. Care shall be taken to avoid excess runoff and erosion.

Mulching will be used to protect slopes and stabilize soil when the slope is less than 3:1 and construction has halted for 5 or more days. A Soil Retention Blanket will be used when the slopes exceed 3:1 and construction has halted for 5 or more days.

Stabilized construction entrances will be installed before construction to prevent sediment from entering roadways.

Attachment E - Request to Temporarily Seal a Feature

There will be no temporary sealing of naturally occurring sensitive features on this site.

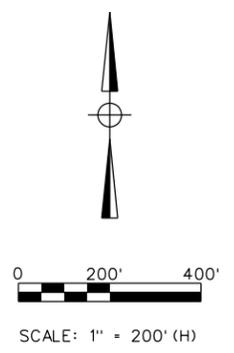
Attachment F - Structural Practices

No structural practices 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. Placement of structural practices in floodplains has been avoided.

Attachment G - Drainage Area Map

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DRAINAGE AREA	TOTAL ACRES	TIME (MIN)	125 (IN/HR)	C25	Q25 (CFS)	1100 (IN/HR)	C100	Q100 (CFS)
A1	36.51	16.74	7.53	0.54	148.39	9.84	0.61	219.09
A2	24.03	13.05	8.42	0.54	109.31	10.99	0.61	161.14
A3	32.16	21.41	6.67	0.49	105.13	8.74	0.56	157.45
A4	3.06	12.15	8.69	0.49	13.02	11.33	0.56	19.42
A5	8.97	15.43	7.82	0.49	34.36	10.21	0.56	51.3
A6	0.45	5.00	11.79	0.42	2.23	15.42	0.49	3.4
A7	1.14	10.04	9.38	0.56	5.99	12.24	0.64	8.93
A8	1.08	8.06	10.18	0.53	5.82	13.28	0.6	8.6
A9	1.06	6.92	10.71	0.57	6.47	13.98	0.65	9.64
A10	0.69	5.00	11.79	0.55	4.48	15.42	0.63	6.7
A11	0.36	5.00	11.79	0.88	3.74	15.42	0.97	5.39
A12	1.04	7.00	10.67	0.49	5.44	13.93	0.56	8.11
A13	0.88	9.33	9.65	0.61	5.18	12.58	0.69	7.64
A14	1.32	9.02	9.77	0.55	7.09	12.75	0.63	10.6
A15	1.23	8.87	9.83	0.56	6.77	12.82	0.64	10.09
A16	0.92	10.05	9.38	0.57	4.92	12.23	0.65	7.31
A17	0.85	10.02	9.39	0.58	4.63	12.25	0.66	6.87
A18	1.12	6.52	10.91	0.63	7.7	14.25	0.71	11.33
A19	0.43	5.00	11.79	0.88	4.46	15.42	0.97	6.43
A20	0.53	5.89	11.26	0.48	2.86	14.71	0.55	4.29



LEGEND

CONTOURS	---	XXX
DRAINAGE BOUNDARY	---	---
TIME OF CONCENTRATION PATH	---	---
COA FULLY DEVELOPED 25 YR FLOODPLAIN	---	---
COA FULLY DEVELOPED 100 YR FLOODPLAIN	---	---
FEMA 25 YR FLOODPLAIN	---	---
FEMA 100 YR FLOODPLAIN	---	---
CRITICAL ENVIRONMENTAL FEATURE	---	---
CRITICAL WATER QUALITY ZONE	---	---
FLOW DIRECTION	---	---
SHEET FLOW	SF	---
SHALLOW CONCENTRATED FLOW	SCF	---
CHANNEL FLOW	CF	---
DRAINAGE AREA I.D. ACRES	(X / X.XX)	---
OUTFALL	★	---

- NOTES**
1. A PORTION OF THE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN PER CITY OF AUSITN AND FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL 48453C0580H, SEPTEMBER 26, 2008
 2. PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE
 3. EXISTING DRAINAGE STRUCTURE WAS NOT ANALYZED FOR THIS PROJECT. THE STRUCTURE WAS UTILIZED FOR THE DEVELOPMENT OF THE DRAINAGE AREA AND FLOW PATH. A TOTAL DISCHARGE VALUE WAS CALCULATED FOR THE PURPOSE OF DOWNSTREAM ANALYSIS.
 4. INTERNAL AREAS CALCULATED FOLLOWING THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL GUIDELINES FOR THE RATIONAL METHOD.



Bart C. Standley
10/5/2023

**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PROPOSED DRAINAGE AREA MAP
INTERNAL DRAINAGE AREA A**

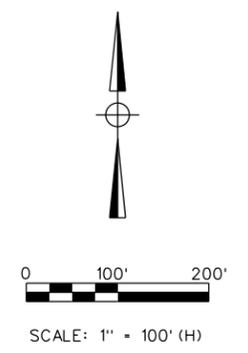
NO.	DATE	BY	REVISIONS	REMARKS

SHEET INFORMATION
DATE 7/18/2023
SHEET 1 OF 1



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DRAINAGE AREA	TOTAL ACRES	TIME (MIN)	125 (IN/HR)	C25	025 (CFS)	1100 (IN/HR)	C100	0100 (CFS)
B1	22.88	12.38	8.62	0.49	96.59	11.24	0.56	144.03
B2	4.56	11.59	8.86	0.49	19.79	11.55	0.56	29.5
B3	3.29	5.00	11.79	0.66	25.61	15.42	0.74	37.55
B4	0.58	9.14	9.72	0.57	3.21	12.68	0.65	4.78
B5	0.92	9.30	9.66	0.53	4.71	12.60	0.6	6.96
B6	0.59	8.49	9.99	0.59	3.48	13.03	0.67	5.15
B7	0.88	8.43	10.01	0.54	4.76	13.06	0.61	7.01
B8	1.12	9.21	9.70	0.56	6.08	12.65	0.64	9.07
B9	0.48	9.48	9.59	0.61	2.81	12.51	0.69	4.14
B10	0.92	10.25	9.31	0.56	4.79	12.14	0.64	7.15
B11	0.14	5.26	11.63	0.68	1.11	15.20	0.76	1.62
B12	0.57	7.74	10.32	0.7	4.12	13.46	0.78	5.98
B13	1.61	12.61	8.55	0.46	6.33	11.16	0.53	9.52



- LEGEND**
- CONTOURS ———XXX———
 - DRAINAGE BOUNDARY ———
 - TIME OF CONCENTRATION PATH ———
 - COA FULLY DEVELOPED 25 YR FLOODPLAIN [Hatched pattern]
 - COA FULLY DEVELOPED 100 YR FLOODPLAIN [Dotted pattern]
 - FEMA 25 YR FLOODPLAIN [Diagonal hatching]
 - FEMA 100 YR FLOODPLAIN [Horizontal hatching]
 - CRITICAL ENVIRONMENTAL FEATURE [Dashed line with dots]
 - CRITICAL WATER QUALITY ZONE [Dotted pattern]
 - FLOW DIRECTION [Arrow]
 - SHEET FLOW SF
 - SHALLOW CONCENTRATED FLOW SCF
 - CHANNEL FLOW CF
 - DRAINAGE AREA I.D. ACRES (X / X.XX)
 - OUTFALL [Star symbol]

- NOTES**
- A PORTION OF THE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN PER CITY OF AUSTIN AND FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL 48453C0580H, SEPTEMBER 26, 2008
 - PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE
 - INTERNAL AREAS CALCULATED FOLLOWING THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL GUIDELINES FOR THE RATIONAL METHOD.



Bart C. Standley
 10/5/2023

**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 PROPOSED DRAINAGE AREA MAP
 INTERNAL DRAINAGE AREA B**

NO.	DATE	BY	REVISIONS

rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfr@rpsgroup.com

SHEET INFORMATION
 DATE 7/17/2023
 SHEET 1 OF 1

DRAINAGE AREA	TOTAL ACRES	TIME (MIN)	T25 (IN/HR)	C25	Q25 (CFS)	I100 (IN/HR)	C100	Q100 (CFS)
C1	11.88	21.13	6.72	0.48	38.3	8.80	0.55	57.5
C2	1.91	5.00	11.79	0.63	14.19	15.42	0.71	20.92
C3	1.20	5.00	11.79	0.84	11.89	15.42	0.93	17.21
C4	3.23	5.00	11.79	0.84	31.99	15.42	0.93	46.33
C5	0.80	15.77	7.74	0.54	3.34	10.11	0.61	4.93
C6	0.41	7.54	10.41	0.63	2.69	13.58	0.71	3.95
C7	3.74	15.48	7.81	0.48	14.01	10.20	0.56	21.36
C8	0.95	13.03	8.43	0.57	4.56	11.00	0.65	6.79
C9	3.68	13.68	8.25	0.52	15.79	10.77	0.59	23.38
C10	1.62	5.00	11.79	0.61	11.65	15.42	0.69	17.24
C11	1.35	11.32	8.94	0.59	7.12	11.67	0.67	10.55
C12	1.21	36.79	4.98	0.73	4.4	6.58	0.81	6.45
C13	1.94	14.27	8.10	0.51	8.01	10.57	0.58	11.9



SCALE: 1" = 100'

LEGEND

- CONTOURS ———XXX———
- DRAINAGE BOUNDARY ———
- TIME OF CONCENTRATION PATH ———>———
- COA FULLY DEVELOPED 25 YR FLOODPLAIN [Solid Grey Box]
- COA FULLY DEVELOPED 100 YR FLOODPLAIN [White Box]
- FEMA 25 YR FLOODPLAIN [Diagonal Hatching Box]
- FEMA 100 YR FLOODPLAIN [Horizontal Hatching Box]
- CRITICAL ENVIRONMENTAL FEATURE [Dotted Line Box]
- CRITICAL WATER QUALITY ZONE [Dashed Line Box]
- FLOW DIRECTION ———>———
- SHEET FLOW SF
- SHALLOW CONCENTRATED FLOW SCF
- CHANNEL FLOW CF
- DRAINAGE AREA I.D. ACRES (X / XX)
- OUTFALL ★

NOTES

1. A PORTION OF THE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN PER CITY OF AUSTIN AND FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL 48453C0580H, SEPTEMBER 26, 2008
2. PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE
3. INTERNAL AREAS CALCULATED FOLLOWING THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL GUIDELINES FOR THE RATIONAL METHOD.



Bart C. Standley
10/5/2023

**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
PROPOSED DRAINAGE AREA MAP
INTERNAL DRAINAGE AREA C**

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
DATE 7/17/2023
SHEET 1 OF 1



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Attachment H - Temporary Sediment Pond Plans and Calculations

No temporary sediment pond has been designed for this site.

Attachment I - Inspection and Maintenance for BMPs

Dust Control:

The purpose of dust control is to prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards and improve traffic safety. This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Construction activities inevitably result in the exposure and disturbance of soil. Fugitive dust is emitted both during the activities (i.e., excavation demolition, vehicle traffic, human activity) and as a result of wind erosion over the exposed earth surfaces. Large quantities of dust are typically generated in 'heavy' construction activities, such as road and street construction and subdivision, commercial or industrial development, which involve disturbance of significant areas of the soil surface. Research on construction sites has established an average dust emission rate of 1.2 tons/acre/month for active construction (VA Dept of Conservation, 1992). Earth moving activities comprise the major source of construction dust emissions, but traffic and general disturbance of the soil also generate significant dust emissions.

Inspection and Maintenance Guidelines:

1. When dust is evident during dry weather, reapply dust control BMPs.

Temporary Construction Entrance/Exit

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

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

Common trouble points

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

Inspection and Maintenance Guidelines:

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

WPAP EXCEPTION

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

Silt Fence

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

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow. Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Common Trouble Points:

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

Inspection and Maintenance Guidelines:

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

Outlet Stabilization

The goal of outlet stabilization is to prevent erosion at the outlet of a channel or conduit by reducing the velocity of flow and dissipating the energy. This practice applies where the discharge velocity of a pipe, box culvert, diversion, open channel, or other water conveyance structure exceeds the permissible velocity of the receiving channel or disposal area.

The outlets of channels, conduits, and other structures are points of high erosion potential, because they frequently carry flows at velocities that exceed the allowable limit for the area downstream. To prevent scour and undermining, an outlet stabilization structure is needed to absorb the impact of the flow and reduce the velocity to nonerosive levels. A riprap-lined apron is the most commonly used practice for this purpose because of its relatively low cost and ease of installation. The riprap apron should be

extended downstream until stable conditions are reached even though this may exceed the length calculated for design velocity control.

Riprap-stilling basins or plunge pools reduce flow velocity rapidly. They should be considered in lieu of aprons where overfalls exit at the ends of pipes or where high flows would require excessive apron

WPAP EXCEPTION

length. Consider other energy dissipaters such as concrete impact basins or paved outlet structures (see Figure 1-10) where site conditions warrant.

Inspection and Maintenance Guidelines:

1. Inspect riprap outlet structures after heavy rains to see if any erosion around or below the riprap has taken place or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

Rock Berms

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

Common Trouble Points:

1. Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)
2. Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

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

Mulch Sock (Fiber Rolls)

A fiber roll consists of straw, coconut fibers, or other similar materials bound into a tight tubular roll. When fiber rolls are placed at the toe and on the face of slopes, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff. By interrupting the length of a slope, fiber rolls can also reduce erosion.

Fiber rolls may be suitable:

1. Along the toe, topo, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow
2. At the end of a downward slope where it transitions to a steeper slope
3. Along the perimeter of a project
4. As check dams in unlined ditches
5. Down-slope of exposed soil areas
6. Around temporary stockpiles

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Limitations:

1. Fiber rolls are not effective unless trenched
2. Fiber rolls at the toe of slopes greater than 5:1 (H:V) should be a minimum of 20 in. diameter or installations achieving the same protection (i.e. stacked smaller diameter fiber rolls, etc.)
3. Difficult to move once saturated
4. If not properly staked and trenched in, fiber rolls could be transported by high flows
5. Fiber rolls have a very limited sediment capture zone
6. Fiber rolls should not be used on slopes subject to creep, slumping, or landslide

Material:

1. Core material: Core material should be biodegradable or recyclable. Material may be compost, mulch, aspen wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or similar materials.
2. Containment Mesh: Containment mesh should be 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or similar material. When the fiber roll will remain in place as part of a vegetative system use biodegradable or photodegradable mesh. For temporary installation recyclable mesh is recommended.

Implementation:

1. Locate fiber rolls on level contours spaced as follows:
 - Slope inclination of 4:1 (H:V) or flatter. Fiber rolls should be placed at a maximum interval of 20 ft.
 - Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
 - Slope inclination 2:1 (H:V) or greater. Fiber Rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).
2. Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.
3. Stake fiber rolls into a 2 to 4 in. deep trench with a width equal to the diameter of the fiber roll.
4. Drive stakes at the end of each fiber roll and spaced 4 ft. maximum on center.
5. Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum length of 24 in.
6. If more than one fiber rolls is placed in a row, the rolls should be overlapped, not abutted.

Inspection and Maintenance Guidance:

1. Inspect prior to forecast rain, daily during extended rain events, after rain events, and weekly.
2. Repair or replace split, torn, unraveling, or slumping fiber rolls.
3. If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the roll must be periodically removed in order to maintain its effectiveness. Sediment should be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed of at an appropriate location.

Sod

Sod is appropriate for disturbed areas which require immediate vegetative covers, or where sodding is preferred to other means of grass establishment. Locations particularly suited to stabilization with sod are waterways carrying intermittent flow, areas around drop inlets or in grassed swales, and residential or commercial lawns where quick use or aesthetics are factors.

The advantages of properly installed sod include:

- Immediate erosion control.
- An instant green surface with no dust or mud.
- Nearly year-round establishment capability.
- Less chance of failure than seed.
- Freedom from weeds.
- Quick use of the sodded surface.
- The option of buying a quality-controlled product with predictable results.

It is initially more costly to install sod than to seed. However, this cost is justified in places where sod can perform better than seed in controlling erosion. In swales and waterways where concentrated flow will occur, properly pegged sod is preferable to seed because there is no lag time between installation and the time when the channel is protected by vegetation. Drop inlets, which will be placed in grassed areas, can be kept free of sediment, and the grade immediately around the inlet can be maintained, by framing the inlet with sod strips.

Sod can be laid during times of the year when seeded grass may fail, so long as there is adequate water available for irrigation in the early weeks. Ground preparation and proper maintenance are as important with sod as with seed. Sod is composed of living plants and those plants must receive adequate care in order to provide vegetative stabilization on a disturbed area.

Inspection and Maintenance Guidelines:

1. Sod should be inspected weekly and after each rain event to locate and repair any damage.
2. Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

Blankets and Matting

Blankets and matting material can be used as an aid to control erosion on critical sites during establishment period of protective vegetation. The most common uses are:

- in channels where designed flow exceeds 3.5 feet per second
- on interceptor swales and diversion dikes when design flow exceeds 6 feet per second
- on short, steep slopes where erosion hazard is high and planting is likely to be slow to establish adequate protective cover
- on stream banks where moving water is likely to wash out new vegetative plantings.

Blankets and matting can also be used to create erosion stops on steep, highly erodible watercourses. Erosion stops should be placed approximately 3 feet down channel from point of entry of a concentrated flow such as from culverts, tributary channels or diversions or at points where a change in gradient or course of channel occurs. Spacing of erosion stops on long slopes will vary, depending on the erodibility of the soil and velocity and volume of flow. Erosion stops are placed beneath blankets and matting.

Biodegradable rolled erosion control products (RECPs) are typically composed of jute fibers, curled wood fibers, straw, coconut fiber, or a combination of these materials. In order for an RECP to be considered 100% biodegradable, the netting, sewing or adhesive system that holds the biodegradable mulch fibers together must also be biodegradable.

WPAP EXCEPTION

Jute is a natural fiber that is made into a yarn that is loosely woven into a biodegradable mesh. It is designed to be used in conjunction with vegetation and has longevity of approximately one year. The material is supplied in rolled strips, which should be secured to the soil with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Excelsior (curled wood fiber) blanket material should consist of machine produced mats of curled wood excelsior with 80 percent of the fiber 6 in. or longer. The excelsior blanket should be of consistent thickness. The wood fiber must be evenly distributed over the entire area of the blanket. The top surface of the blanket should be covered with a photodegradable extruded plastic mesh. The blanket should be smolder resistant without the use of chemical additives and should be non-toxic and non-injurious to plant and animal life.

Straw blanket should be machine produced mats of straw with a lightweight biodegradable netting top layer. The straw should be attached to the netting with biodegradable thread or glue strips. The straw blanket should be of consistent thickness. The straw should be evenly distributed over the entire area of the blanket.

Wood fiber blanket is composed of biodegradable fiber mulch with extruded plastic netting held together with adhesives. The material is designed to enhance re-vegetation. The material is furnished in rolled strips, which must be secured to the ground with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Coconut fiber blanket should be a machine produced mat of 100 percent coconut fiber with biodegradable netting on the top and bottom. The coconut fiber should be attached to the netting with biodegradable thread or glue strips. The coconut fiber blanket should be of consistent thickness. The coconut fiber should be evenly distributed over the entire area of the blanket.

Coconut fiber mesh is a thin permeable membrane made from coconut or corn fiber that is spun into a yarn and woven into a biodegradable mat. It is designed to be used in conjunction with vegetation and typically has longevity of several years. The material is supplied in rolled strips, which must be secured to the soil with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Straw coconut fiber blanket should be machine produced mats of 70 percent straw and 30 percent coconut fiber with a biodegradable netting top layer and a biodegradable bottom net. The straw and coconut fiber should be attached to the netting with biodegradable thread or glue strips. The straw coconut fiber blanket should be of consistent thickness. The straw and coconut fiber should be evenly distributed over the entire area of the blanket. Straw coconut fiber blanket should be furnished in rolled strips a minimum of 6.5 ft wide, a minimum of 80 ft long and a minimum of 0.5 lb/yd². Straw coconut fiber blankets must be secured in place with wire staples. Staples should be made of minimum 11-gauge steel wire and should be U-shaped with 8 in. legs and 2 in. crown.

Non-biodegradable RECPs are typically composed of polypropylene, polyethylene, nylon or other synthetic fibers. In some cases, a combination of biodegradable and synthetic fibers is used to construct the RECP. Netting used to hold these fibers together is typically non-biodegradable as well.

Plastic netting is a lightweight biaxially oriented netting designed for securing loose mulches like straw or paper to soil surfaces to establish vegetation. The netting is photodegradable. The netting is supplied in rolled strips, which must be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Plastic mesh is an open weave geotextile that is composed of an extruded synthetic fiber woven into a mesh with an opening size of less than ¼ in. It is used with re-vegetation or may be used to secure loose fiber such as straw to the ground. The material is supplied in rolled strips, which must be secured to the soil with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Synthetic fiber with netting is a mat that is composed of durable synthetic fibers treated to resist chemicals and ultraviolet light. The mat is a dense, three-dimensional mesh of synthetic (typically polyolefin) fibers stitched between two polypropylene nets. The mats are designed to be re-vegetated and provide a permanent composite system of soil, roots, and geomatrix. The material is furnished in rolled strips, which must be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

WPAP EXCEPTION

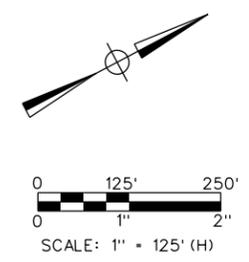
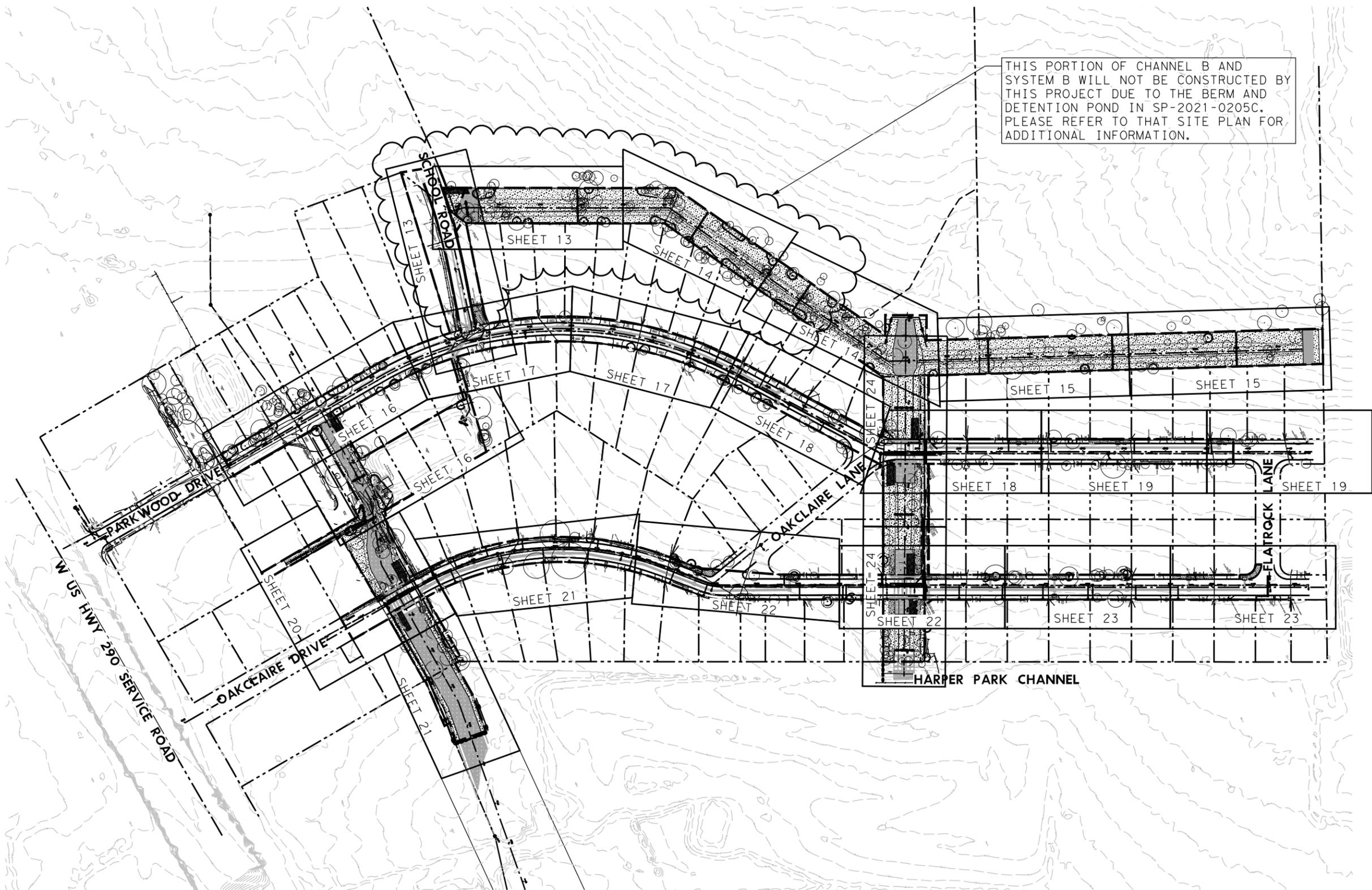
Bonded synthetic fibers consist of a three-dimensional geomatrix nylon (or other synthetic) matting. Typically, it has more than 90 percent open area, which facilitates root growth. It's tough root reinforcing system anchors vegetation and protects against hydraulic lift and shear forces created by high volume discharges. It can be installed over prepared soil, followed by seeding into the mat. Once vegetated, it becomes an invisible composite system of soil, roots, and geomatrix. The material is furnished in rolled strips that must be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Combination synthetic and biodegradable RECPs consist of biodegradable fibers, such as wood fiber or coconut fiber, with a heavy polypropylene net stitched to the top and a high strength continuous filament geomatrix or net stitched to the bottom. The material is designed to enhance re-vegetation. The material is furnished in rolled strips, which must be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Inspection and Maintenance Guidelines:

1. Blankets and matting should be inspected weekly and after each rain event to locate and repair any damage. Apply new material if necessary to restore function.

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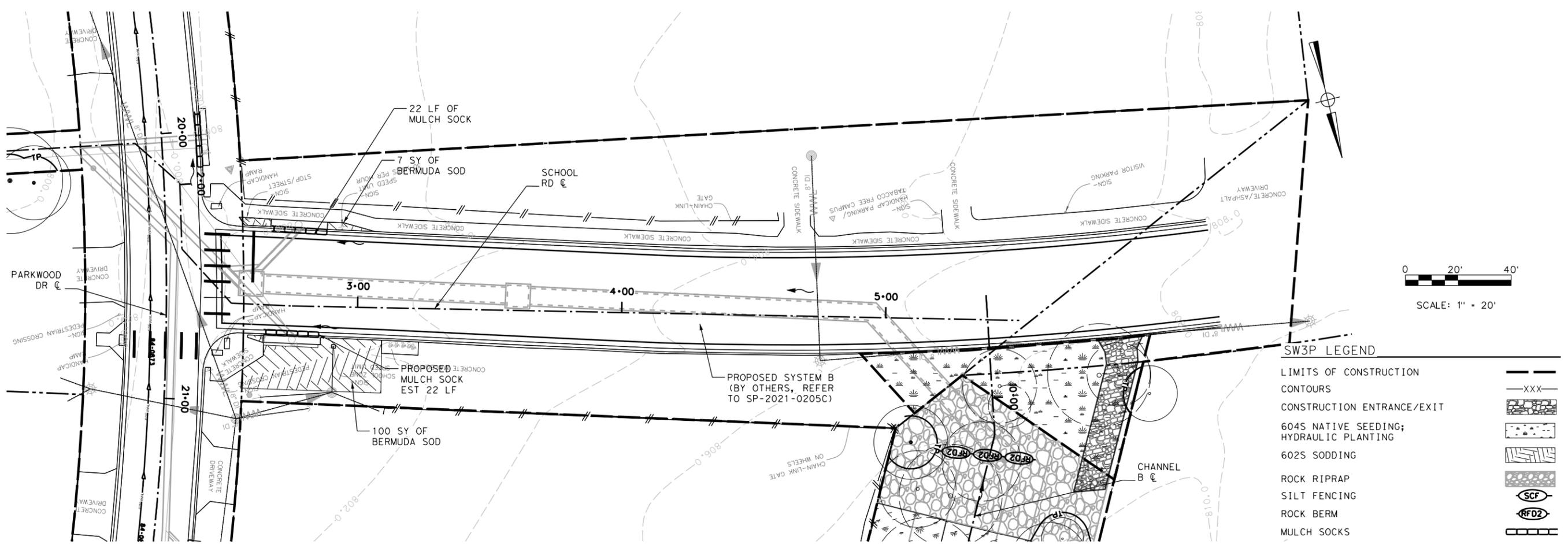
CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 EROSION, SEDIMENT CONTROL, & TREE PROTECTION
 PLAN LAYOUT

NO.	BY	DATE	REVISIONS

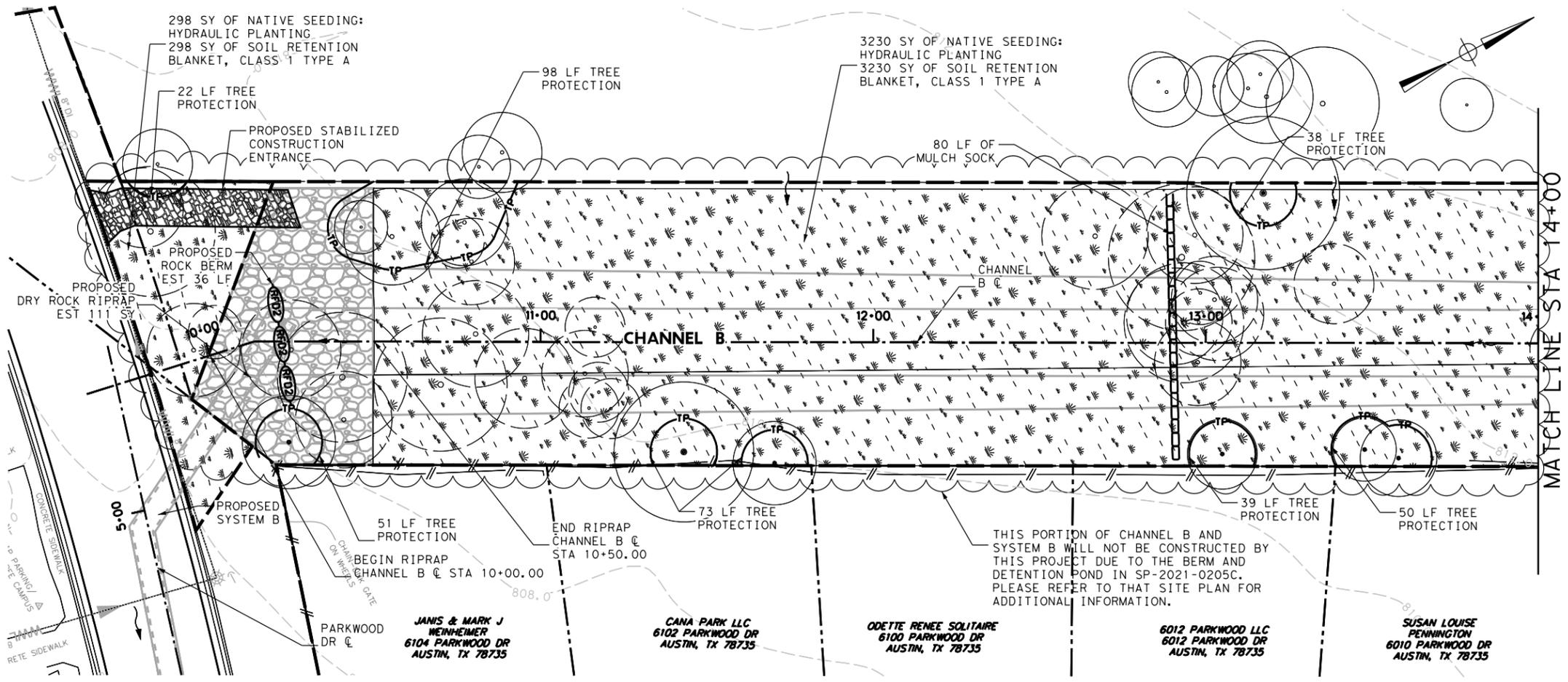
SHEET INFORMATION
 DATE 7/17/2023
 SHEET 1 OF 1



CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
EROSION, SEDIMENT CONTROL, & TREE PROTECTION
CHANNEL B
BEGIN TO STA. 14+00



- SW3P LEGEND**
- LIMITS OF CONSTRUCTION
 - CONTOURS
 - CONSTRUCTION ENTRANCE/EXIT
 - 604S NATIVE SEEDING; HYDRAULIC PLANTING
 - 602S SODDING
 - ROCK RIPRAP
 - SILT FENCING
 - ROCK BERM
 - MULCH SOCKS
 - FLOW DIRECTION
 - TREE TO BE PROTECTED
 - TREE TO BE REMOVED
 - TREE PROTECTION
 - STAGING AREA



- NOTES**
1. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING. (ECM 1.4.4.B.3, SECTION 5.1)
 2. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS (LDC 25-8-185)
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 4. THE CONTRACTOR WILL CLEAN UP SPILLS THAT REACH ROADWAYS A MINIMUM OF ONCE DAILY, (ECM 1.4.4.D.4)
 5. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND SEDIMENT TRANSPORTED FROM THE LOC TO THE OFFSITE DETENTION WATER QUALITY POND(S)
 6. CONTRACTOR TO USE BIODEGRATABLE SOIL RETENTION BLANKETS ON ALL CHANNEL SIDE SLOPES PER COA SPEC 6055.
 7. TEMPORARY EROSION CONTROLS INCLUDE MULCH SOCKS, ROCK BERMS, TREE PROTECTION, AND SILT FENCE. EACH TEMPORARY EROSION CONTROL METHOD MUST BE ADJUSTED, MAINTAINED, AND REPAIRED AS NECESSARY TO REMAIN EFFECTIVE AT ALL PHASES OF CONSTRUCTION. (2S-8-184)

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JANIS & MARK J WEINHEIMER
 6104 PARKWOOD DR
 AUSTIN, TX 78735

CANA PARK LLC
 6102 PARKWOOD DR
 AUSTIN, TX 78735

ODETTE RENEE SOLITAIRE
 6100 PARKWOOD DR
 AUSTIN, TX 78735

6012 PARKWOOD LLC
 6012 PARKWOOD DR
 AUSTIN, TX 78735

SUSAN LOUISE PENNINGTON
 6010 PARKWOOD DR
 AUSTIN, TX 78735

rps Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfrastructure@rpsgroup.com

NO.	DATE	BY	REVISIONS	REMARKS

SHEET INFORMATION
 DATE 7/17/2023
 SHEET 1 OF 1

CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
EROSION, SEDIMENT CONTROL, & TREE PROTECTION
CHANNEL B
STA. 14+00 TO STA. 22+80

THIS PORTION OF CHANNEL B AND SYSTEM B WILL NOT BE CONSTRUCTED BY THIS PROJECT DUE TO THE BERM AND DETENTION POND IN SP-2021-0205C. PLEASE REFER TO THAT SITE PLAN FOR ADDITIONAL INFORMATION.

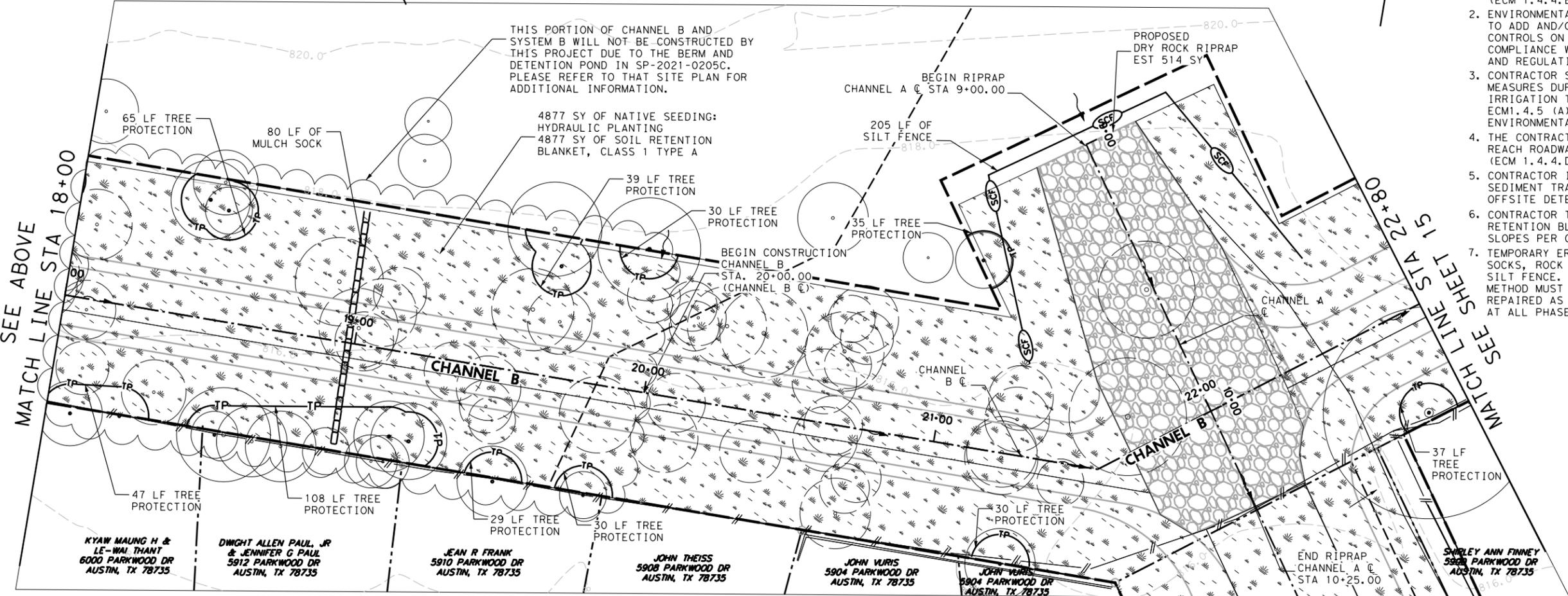
3716 SY OF NATIVE SEEDING:
 HYDRAULIC PLANTING
 3716 SY OF SOIL RETENTION
 BLANKET, CLASS 1 TYPE A

SW3P LEGEND

- LIMITS OF CONSTRUCTION ——— XXX ———
- CONTOURS ——— XXX ———
- CONSTRUCTION ENTRANCE/EXIT [Symbol]
- 604S NATIVE SEEDING; HYDRAULIC PLANTING [Symbol]
- 602S SODDING [Symbol]
- ROCK RIPRAP [Symbol]
- SILT FENCING [Symbol]
- ROCK BERM [Symbol]
- MULCH SOCKS [Symbol]
- FLOW DIRECTION [Symbol]
- TREE TO BE PROTECTED [Symbol]
- TREE TO BE REMOVED [Symbol]
- TREE PROTECTION [Symbol]
- STAGING AREA [Symbol]

NOTES

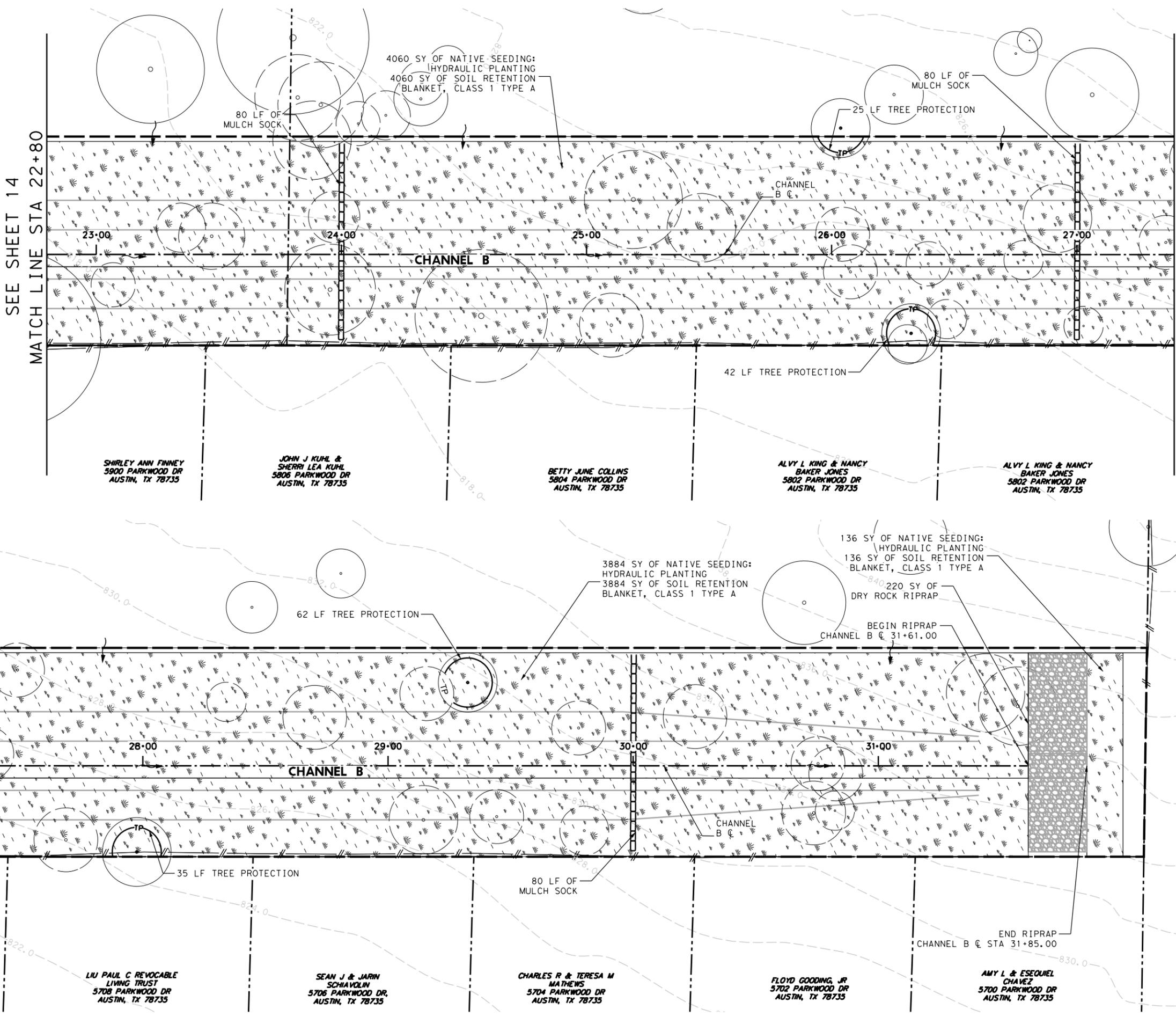
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NO.	DATE	BY	REVISIONS

SHEET INFORMATION	
DATE	7/17/2023
SHEET	1 OF 1



MATCH LINE STA 27+40
 SEE BELOW

SW3P LEGEND

LIMITS OF CONSTRUCTION	---
CONTOURS	---XXX---
CONSTRUCTION ENTRANCE/EXIT	[Pattern]
604S NATIVE SEEDING; HYDRAULIC PLANTING	[Pattern]
602S SODDING	[Pattern]
ROCK RIPRAP	[Pattern]
SILT FENCING	[Symbol]
ROCK BERM	[Symbol]
MULCH SOCKS	[Symbol]
FLOW DIRECTION	[Arrow]
TREE TO BE PROTECTED	[Symbol]
TREE TO BE REMOVED	[Symbol]
TREE PROTECTION	[Symbol]
STAGING AREA	[Symbol]

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NO.	DATE	BY	REVISIONS

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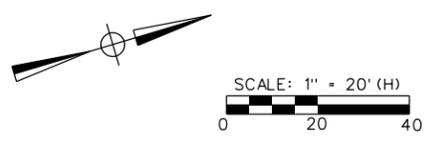
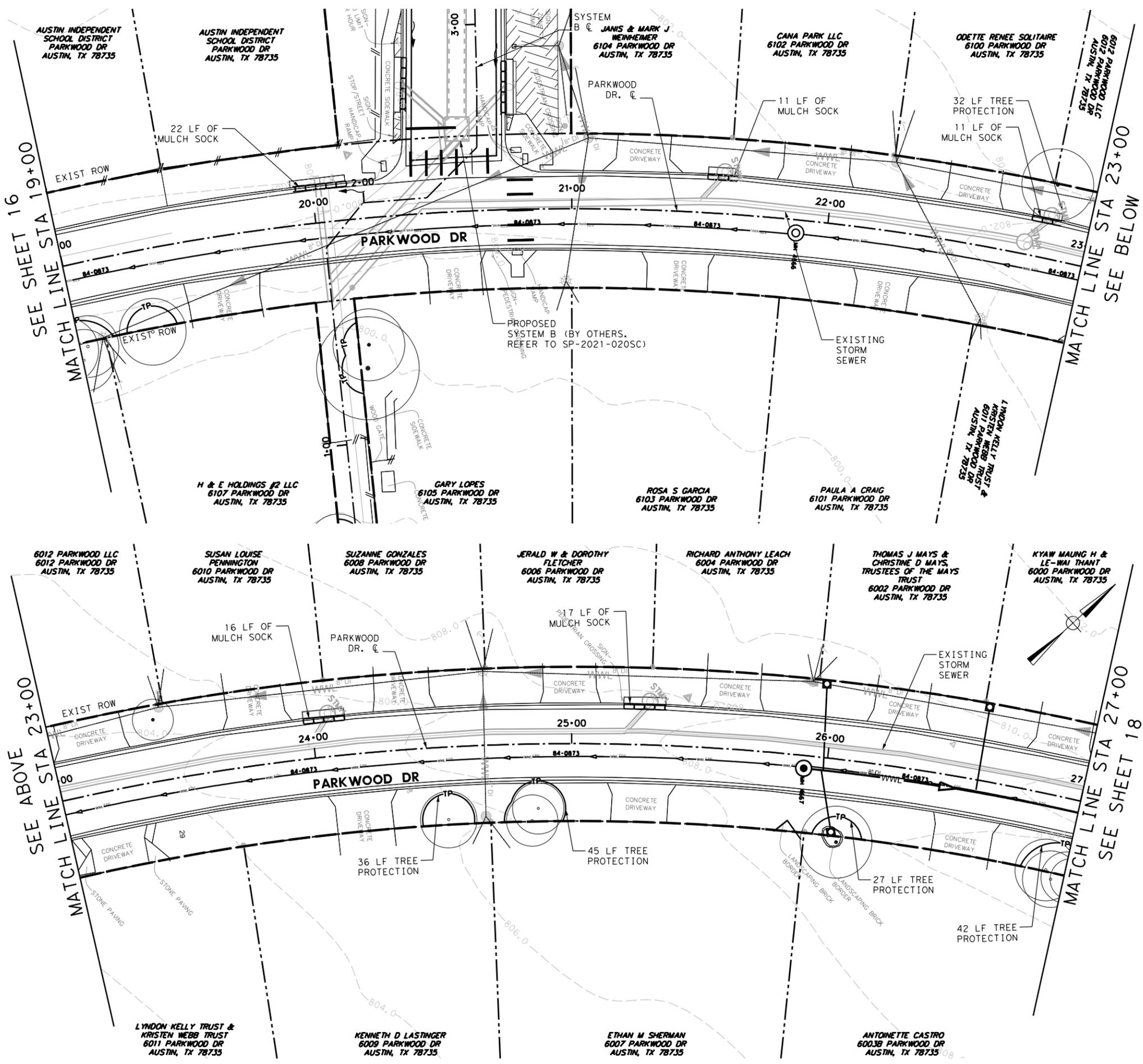
DATE 7/17/2023

SHEET 1 OF 1

Texas PE Firm Reg. #F-293
 4801 Southwest Pkwy, Pkwy 2, Suite 150, Austin, Texas 78735
 T +1 512 328 5771 E usinfr@rpsgroup.com

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SW3P LEGEND

LIMITS OF CONSTRUCTION	---
CONTOURS	---XXX---
CONSTRUCTION ENTRANCE/EXIT	[Symbol]
604S NATIVE SEEDING; HYDRAULIC PLANTING	[Symbol]
602S SODDING	[Symbol]
ROCK RIPRAP	[Symbol]
SILT FENCING	[Symbol]
ROCK BERM	[Symbol]
MULCH SOCKS	[Symbol]
FLOW DIRECTION	[Symbol]
TREE TO BE PROTECTED	[Symbol]
TREE TO BE REMOVED	[Symbol]
TREE PROTECTION	[Symbol]
STAGING AREA	[Symbol]

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**CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 EROSION, SEDIMENT CONTROL, & TREE PROTECTION
 PARKWOOD DRIVE
 STA. 19+00 TO STA. 27+00**

NO.	DATE	BY	REVISIONS

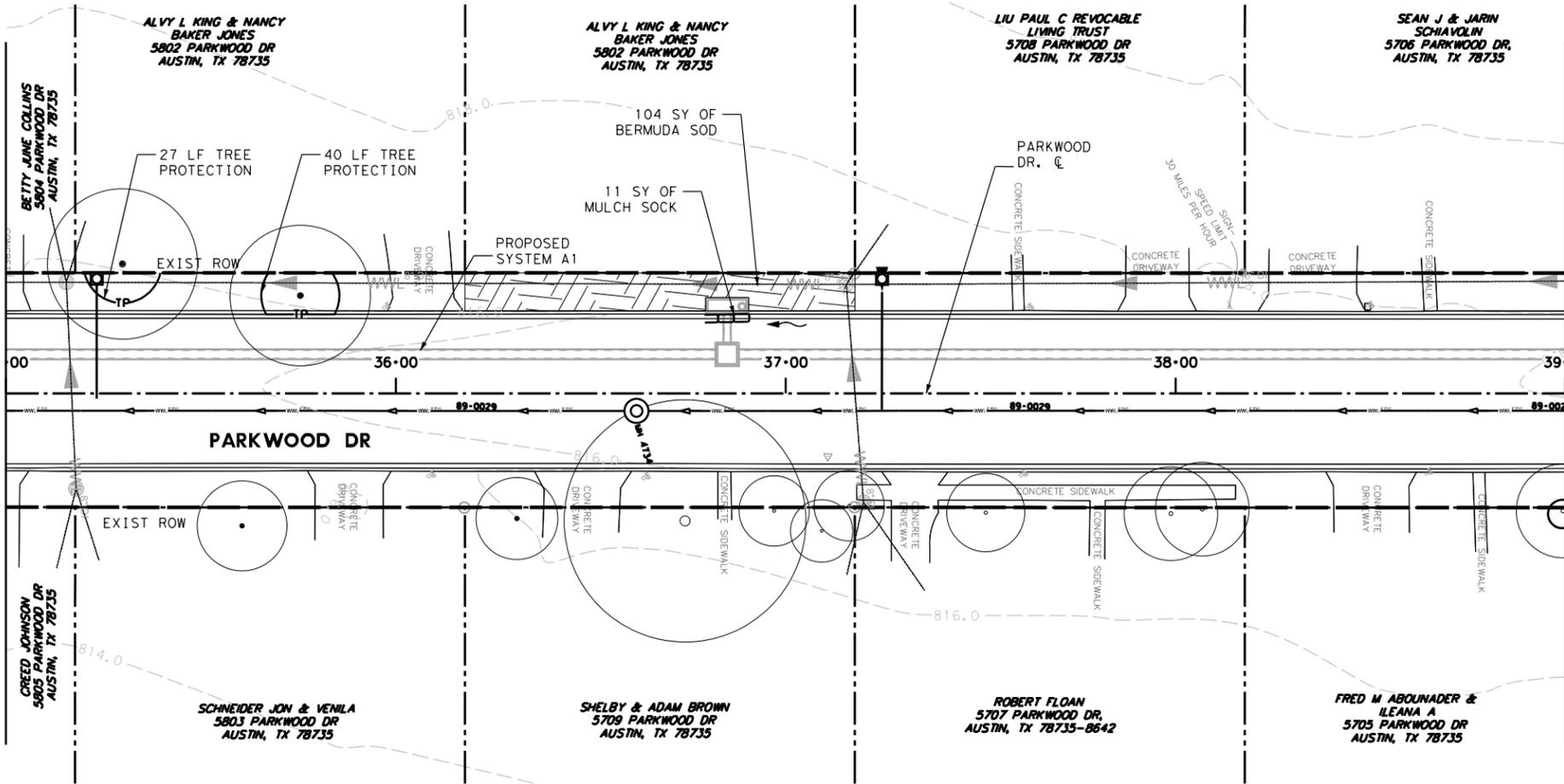
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 DATE 7/17/2023
 SHEET 1 OF 1



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SEE SHEET 18

MATCH LINE STA 35+00

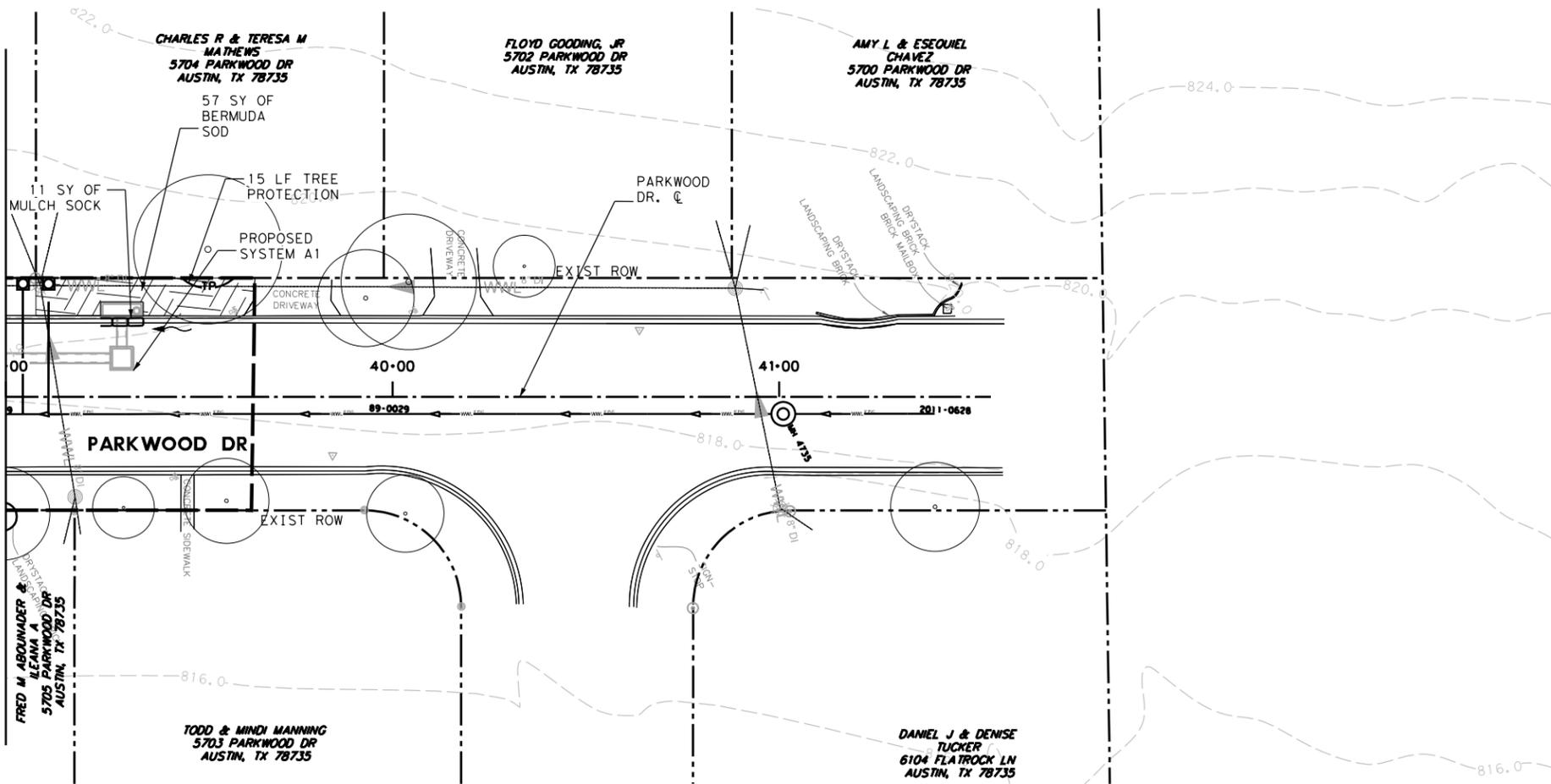


MATCH LINE STA 39+00

SEE BELOW

SEE ABOVE

MATCH LINE STA 39+00



SW3P LEGEND

- LIMITS OF CONSTRUCTION
- CONTOURS
- CONSTRUCTION ENTRANCE/EXIT
- 604S NATIVE SEEDING; HYDRAULIC PLANTING
- 602S SODDING
- ROCK RIPRAP
- SILT FENCING
- ROCK BERM
- MULCH SOCKS
- FLOW DIRECTION
- TREE TO BE PROTECTED
- TREE TO BE REMOVED
- TREE PROTECTION
- STAGING AREA

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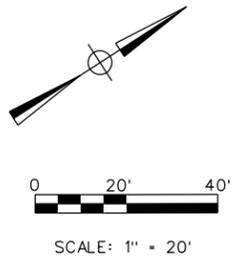
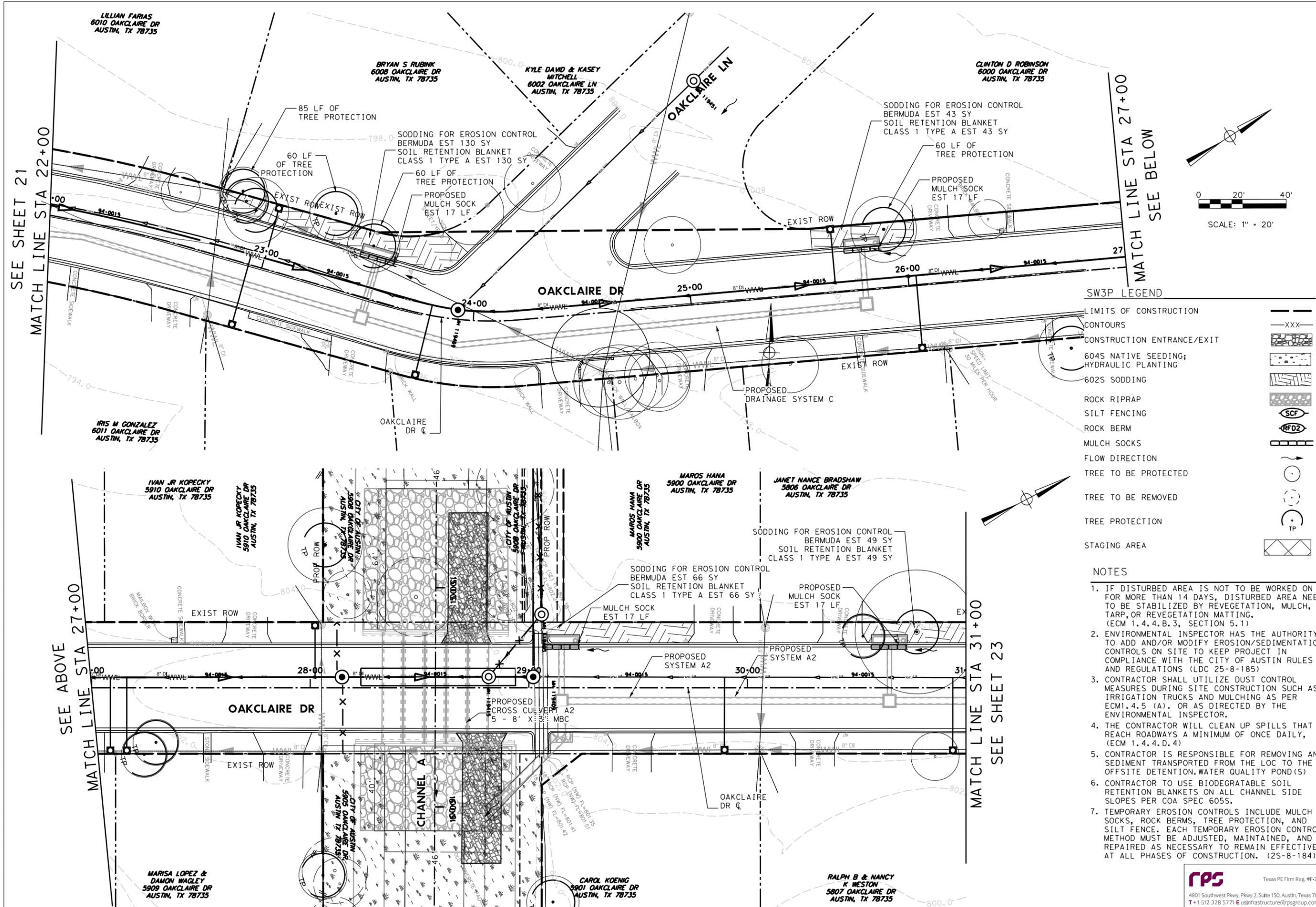
CITY OF AUSTIN
 BARTON CREEK OAK PARK
 FLOOD RISK REDUCTION PROJECT
 EROSION, SEDIMENT CONTROL, & TREE PROTECTION
 PARKWOOD DRIVE
 STA. 35+00 TO PARKWOOD DR END

NO.	DATE	BY	REVISIONS

SHEET INFORMATION
 DATE 7/17/2023
 SHEET 1 OF 1
 19



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SW3P LEGEND

LIMITS OF CONSTRUCTION	---
CONTOURS	---XXX---
CONSTRUCTION ENTRANCE/EXIT	[Symbol]
604S NATIVE SEEDING; HYDRAULIC PLANTING	[Symbol]
602S SODDING	[Symbol]
ROCK RIPRAP	[Symbol]
SILT FENCING	[Symbol]
ROCK BERM	[Symbol]
MULCH SOCKS	[Symbol]
FLOW DIRECTION	[Symbol]
TREE TO BE PROTECTED	[Symbol]
TREE TO BE REMOVED	[Symbol]
TREE PROTECTION	[Symbol]
STAGING AREA	[Symbol]

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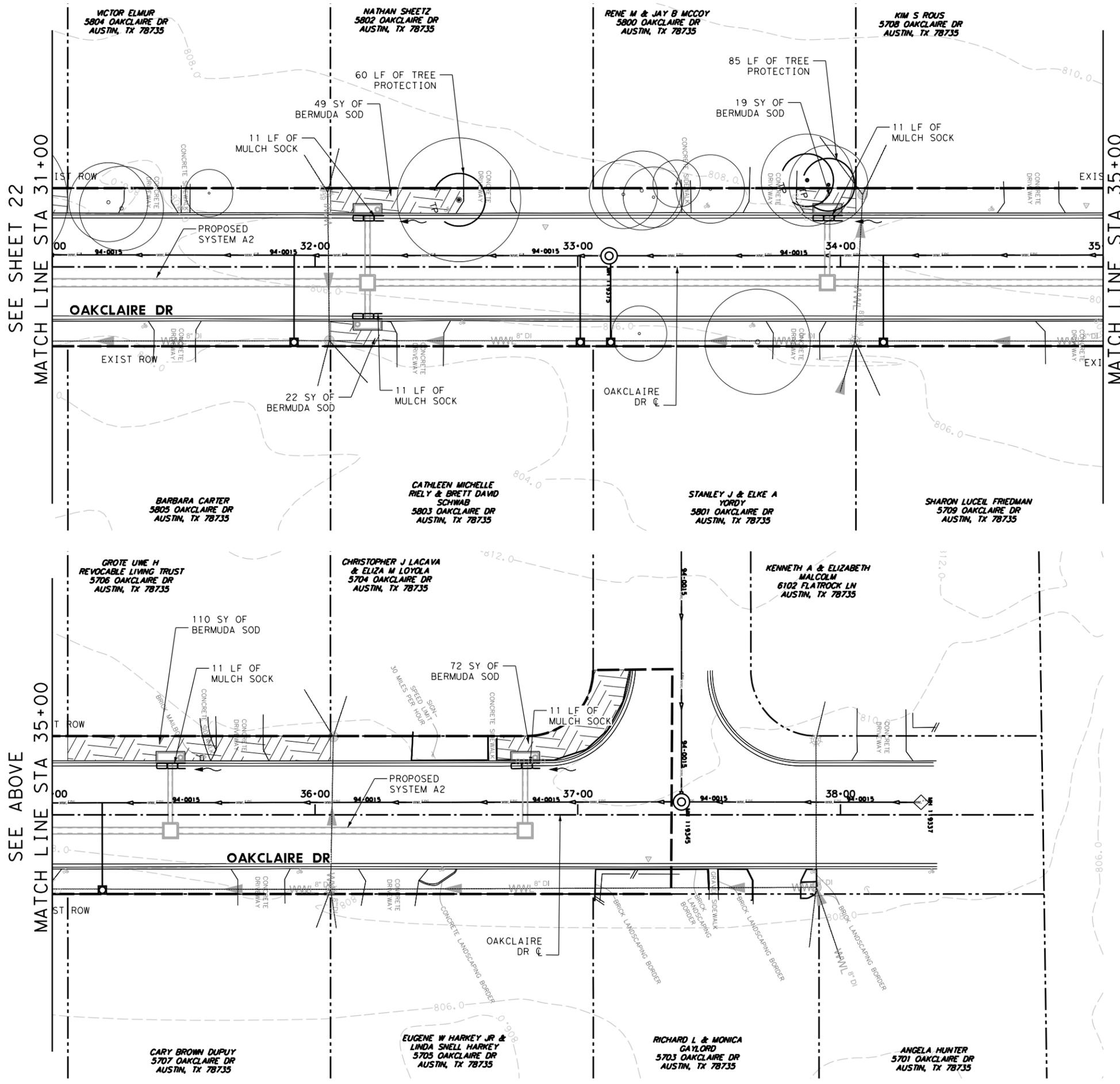


CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
EROSION, SEDIMENT CONTROL, & TREE PROTECTION
OAKCLAIRE DR
STA. 22+00 TO STA. 31+00

NO.	DATE	REVISIONS	REMARKS



**CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
EROSION, SEDIMENT CONTROL, & TREE PROTECTION
OAKCLAIRE DR
STA. 31+00 TO OAKCLAIRE DR END**



SW3P LEGEND

- LIMITS OF CONSTRUCTION ——— XXX ———
- CONTOURS ——— XXX ———
- CONSTRUCTION ENTRANCE/EXIT [Symbol]
- 604S NATIVE SEEDING; HYDRAULIC PLANTING [Symbol]
- 602S SODDING [Symbol]
- ROCK RIPRAP [Symbol]
- SILT FENCING [Symbol]
- ROCK BERM [Symbol]
- MULCH SOCKS [Symbol]
- FLOW DIRECTION [Symbol]
- TREE TO BE PROTECTED [Symbol]
- TREE TO BE REMOVED [Symbol]
- TREE PROTECTION [Symbol]
- STAGING AREA [Symbol]

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5. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND SEDIMENT TRANSPORTED FROM THE LOC TO THE OFFSITE DETENTION WATER QUALITY POND(S)
6. CONTRACTOR TO USE BIODEGRATABLE SOIL RETENTION BLANKETS ON ALL CHANNEL SIDE SLOPES PER COA SPEC 605S.
7. TEMPORARY EROSION CONTROLS INCLUDE MULCH SOCKS, ROCK BERMS, TREE PROTECTION, AND SILT FENCE. EACH TEMPORARY EROSION CONTROL METHOD MUST BE ADJUSTED, MAINTAINED, AND REPAIRED AS NECESSARY TO REMAIN EFFECTIVE AT ALL PHASES OF CONSTRUCTION. (25-8-184)

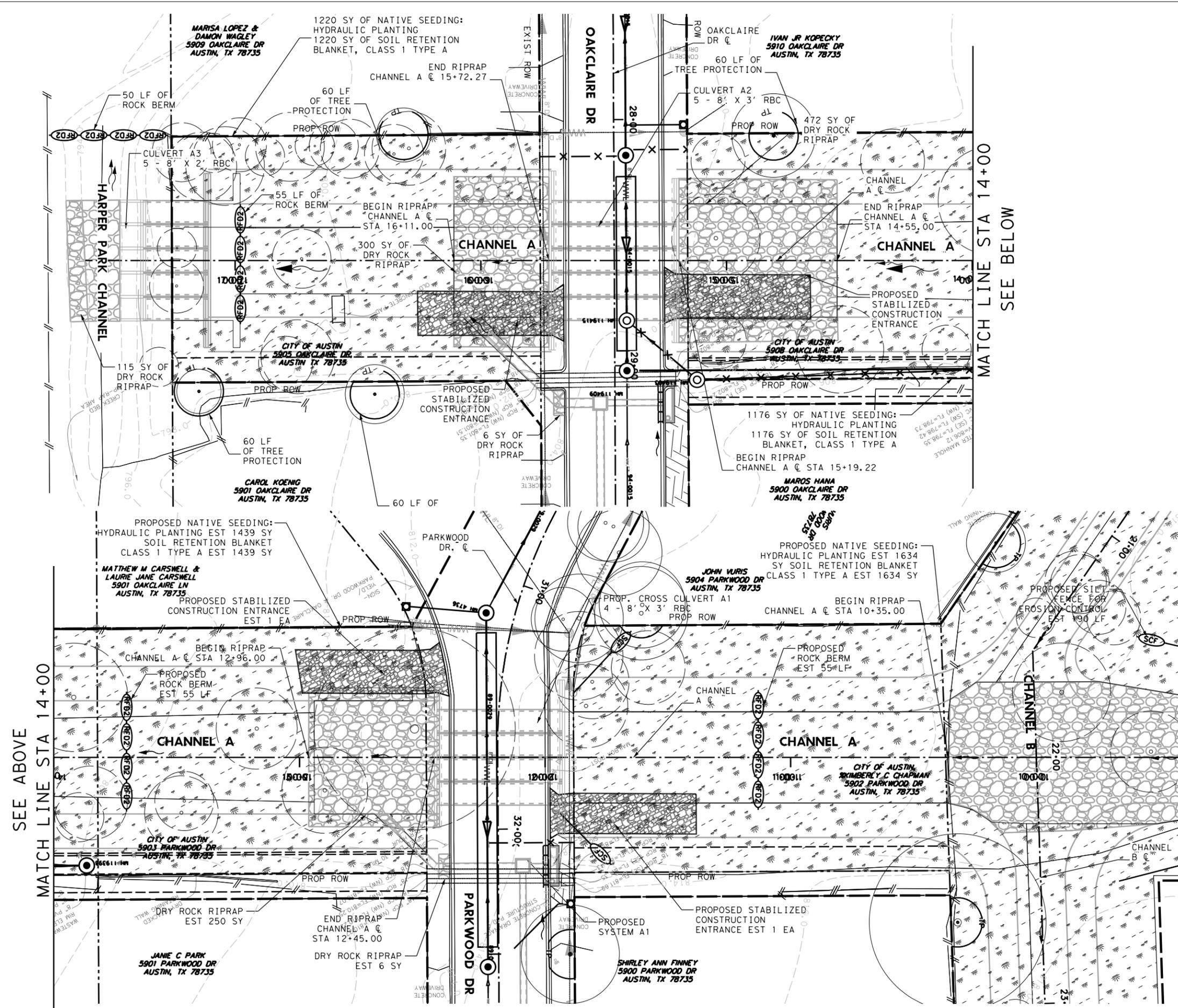


NO.	DATE	BY	REVISIONS

SHEET INFORMATION
DATE 7/17/2023
SHEET 1 OF 1

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SW3P LEGEND

- LIMITS OF CONSTRUCTION
- CONTOURS
- CONSTRUCTION ENTRANCE/EXIT
- 604S NATIVE SEEDING; HYDRAULIC PLANTING
- 602S SODDING
- ROCK RIPRAP
- SILT FENCING
- ROCK BERM
- MULCH SOCKS
- FLOW DIRECTION
- TREE TO BE PROTECTED
- TREE TO BE REMOVED
- TREE PROTECTION
- STAGING AREA

NOTES

1. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING. (ECM 1.4.4.B.3, SECTION 5.1)
2. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS (LDC 25-8-185)
3. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5 (A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
4. THE CONTRACTOR WILL CLEAN UP SPILLS THAT REACH ROADWAYS A MINIMUM OF ONCE DAILY, (ECM 1.4.4.D.4)
5. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND SEDIMENT TRANSPORTED FROM THE LOC TO THE OFFSITE DETENTION WATER QUALITY POND(S)
6. CONTRACTOR TO USE BIODEGRADABLE SOIL RETENTION BLANKETS ON ALL CHANNEL SIDE SLOPES PER COA SPEC 6055.
7. TEMPORARY EROSION CONTROLS INCLUDE MULCH SOCKS, ROCK BERMS, TREE PROTECTION, AND SILT FENCE. EACH TEMPORARY EROSION CONTROL METHOD MUST BE ADJUSTED, MAINTAINED, AND REPAIRED AS NECESSARY TO REMAIN EFFECTIVE AT ALL PHASES OF CONSTRUCTION. (2S-8-184)



CITY OF AUSTIN
BARTON CREEK OAK PARK
FLOOD RISK REDUCTION PROJECT
EROSION, SEDIMENT CONTROL, & TREE PROTECTION
CHANNEL A
STA. 14+00 TO STA. 9+40

NO.	BY	DATE	REVISIONS

SHEET INFORMATION
 DATE 7/17/2023
 SHEET 1 OF 1



Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Stabilization practices for this site include:

- Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed.
- Watering for dust control on stockpile areas, excavated areas, and along roads.
- Mulching will be used when slopes are flatter than 3:1 and construction has been halted 5 or more days.
- Soil Retention Blankets will be installed when the slope is steeper than 3:1 and construction has halted for 5 or more days.
- Seeding will be used after construction is completed.
- Permanent seeding and planting of all unpaved areas using the planting of grass seed, grass sod, or shrubs.
- Existing tree protection and preservation of existing vegetation.

Weekly inspections of seeding and planting for bare spots, washouts, and healthy growth shall be made. A maintenance inspection report will be prepared after each inspection. The following items must be satisfied prior to final stabilization/ termination:

- All soil disturbing activities are complete.
- Temporary erosion and sediment control measures have been removed or will be removed at an appropriate time.
- All areas of the construction site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover.

From City of Austin Environmental Criteria Manual Appendix P-1:

Temporary and Permanent Erosion Control: All disturbed areas shall be restored as noted below:

- A. All disturbed areas to be revegetated are required to place a minimum of six (6) inches of topsoil [see Standard Specification Item No. 601S.3(A)]. Do not add topsoil within the critical root zone of existing trees.
 - Topsoil salvaged from the existing site is encouraged for use, but it should meet the standards set forth in 601S.

An owner/engineer may propose use of onsite salvaged topsoil which does not meet the criteria of Standard Specification 601S by providing a soil analysis and a written statement from a qualified professional in soils, landscape architecture, or agronomy indicating the onsite topsoil will provide an equivalent growth media and specifying what, if any, soil amendments are required.

- Soil amendments shall be worked into the existing onsite topsoil with a disc or tiller to create a well-blended material.

6 AGENT AUTHORIZATION FORM

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

I John Middleton, PE
Print Name

Project Sponsor
Title - Owner/President/Other

of Watershed Protection Department, City of Austin
Corporation/Partnership/Entity Name

have authorized John Friedman, PE
Print Name of Agent/Engineer

of RPS
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:

[Signature]
Applicant's Signature

12/7/2022
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared John Rob Middleton 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 7th day of December, 2022.



[Signature]
NOTARY PUBLIC
Angelique Barrera
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8/27/2026

7 FEE APPLICATION FORM (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Oak Park Subdivision

Regulated Entity Location: Oakclaire Drive and US 290 Austin TX 78735

Name of Customer: City of Austin, Watershed Protection Department

Contact Person: Tyler Murski, PE

Phone: 512-328-5771

Customer Reference Number (if issued): CN 600135198

Regulated Entity Reference Number (if issued): RN _____

Austin Regional Office (3373)

Hays

Travis

Williamson

San Antonio Regional Office (3362)

Bexar

Medina

Uvalde

Comal

Kinney

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

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	0 Acres	\$ 0
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	0 Acres	\$ 0
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0 Acres	\$ 0
Sewage Collection System	0 L.F.	\$ 0
Lift Stations without sewer lines	0 Acres	\$ 0
Underground or Aboveground Storage Tank Facility	0 Tanks	\$ 0
Piping System(s)(only)	0 Each	\$ 0
Exception	1 Each	\$ 500
Extension of Time	0 Each	\$ 0

Signature: Tyler Meserole Murski

Date: 9/13/23

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

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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

8 CORE DATA FORM (TCEQ-10400)



TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
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 600135198		RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
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 Austin			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
		746000085	
11. Type of Customer:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input checked="" type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input type="checkbox"/> Owner		<input type="checkbox"/> Operator	
<input type="checkbox"/> Occupational Licensee		<input type="checkbox"/> Owner & Operator	
<input type="checkbox"/> Responsible Party		<input type="checkbox"/> Voluntary Cleanup Applicant	
<input type="checkbox"/> Other:			
15. Mailing Address:			
	City	State	ZIP
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 below this form should be accompanied by a permit application)
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)
Oak Park Subdivision

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>							
	City		State		ZIP		ZIP + 4
24. County							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	US 290 HWY and Oak Claire Drive. The subdivision is between the Mopac-1 and W William Cannon Drive intersection with US 290 HWY traveling westbound.						
26. Nearest City					State	Nearest ZIP Code	
Austin					TX	78735	
27. Latitude (N) In Decimal:				28. Longitude (W) In Decimal:			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
30	14	20.97	97	51	10.46		
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)			
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>							
low density single family subdivision							
34. Mailing Address:							
	City		State		ZIP		ZIP + 4
35. E-Mail Address:							
36. Telephone Number		37. Extension or Code			38. Fax Number <i>(if applicable)</i>		
() -					() -		

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.

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

SECTION IV: Preparer Information

40. Name:	Tyler Murski, PE	41. Title:	Project Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 328-5771		() -	tyler.murski@rpsgroup.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:	RPS	Job Title:	Project Engineer
Name <i>(In Print)</i> :	Tyler Murski, PE	Phone:	(512) 328 5771
Signature:	<i>Tyler Meserole Murski</i>	Date:	9/12/23