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: Kentucky Sink Biofiltration Pond						**2. Regulated Entity No.:** N/A			
3. Customer Name: City of Austin						**4. Customer No.:** CN 600135198			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension	**Exception**		
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	**Residential**		Non-residential				**8. Site (acres):**		4.5
9. Application Fee:	$500		**10. Permanent BMP(s):**				Biofiltration pond		
11. SCS (Linear Ft.):	0		**12. AST/UST (No. Tanks):**				0		
13. County:	Travis		**14. Watershed:**				Slaughter Creek		

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	_1_	___
Region (1 req.)	___	_1_	___
County(ies)	___	_1_	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	_1_Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	_1_Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Lindsey Sydow
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent Date 3/24/2023

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):	

Kentucky Sink Biofiltration Pond
Recharge Zone Exception Request

City of Austin – Watershed Protection Department

Table of Contents:

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600135198		**RN**

SECTION II: Customer Information

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

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

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

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

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)*

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

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

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

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

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

15. Mailing Address:

PO Box 1088

City	Austin	**State**	TX	**ZIP**	78767	**ZIP + 4**	

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

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

(512) 565-0809		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Kentucky Sink Biofiltration Pond

23. Street Address of the Regulated Entity: ***(No PO Boxes)***								
	Brodie Springs Trail							
	City	Austin	**State**	TX	**ZIP**	78748	**ZIP + 4**	
24. County	Travis							

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

25. Description to Physical Location:	LOT 21 BLK A BRODIE SPRINGS II PHS 1: Property is the undeveloped, fenced tract at the southeast corner of Brodie Lane and Brodie Springs Trail in Austin, Texas.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Austin			TX	78748	

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

27. Latitude (N) In Decimal:	30.17615		**28. Longitude (W) In Decimal:**	-97.85371	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30			-97		

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? *(Do not repeat the SIC or NAICS description.)*

Water Quality Treatment

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

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

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

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

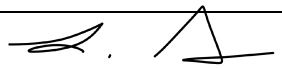
SECTION IV: Preparer Information

40. Name:	Lindsey Sydow, P.G.	**41. Title:**	Environmental Scientist Senior

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 565-0809		**( )** -	lindsey.sydow@austintexas.gov

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:	COA WPD	**Job Title:**	Environmental Scientist Senior
Name *(In Print):*	Lindsey Sydow	**Phone:**	**(** 512 **)** 565- **0809**
Signature:		**Date:**	3/24/2023

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.

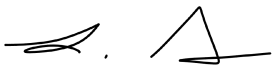
Signature

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: Lindsey Sydow

Date: 3/24/2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Kentucky Sink Biofiltration Pond
2. County: Travis
3. Stream Basin: Slaughter Creek
4. Groundwater Conservation District (If applicable): Barton Springs Edwards Aquifer
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Lindsey Sydow
   Entity: City of Austin
   Mailing Address: PO Box 1088
   City, State: Austin, TX Zip: 78767
   Telephone: 512-655-0809 FAX: _____
   Email Address: lindsey.sydow@austintexas.gov

8. Agent/Representative (If any):

   Contact Person: _____
   Entity: _____
   Mailing Address: _____
   City, State: _____ Zip: _____
   Telephone: _____ FAX: _____
   Email Address: _____

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.

    Kentucky Sink and the proposed biofiltration pond are located within a fenced, protected area at the southeast corner of Brodie Lane and Brodie Springs Trail. Staff can enter the fenced area through either (1) the large gap in the bottom of the fence across from the intersection of Brodie Springs Trail and Antelope Run, or (2) the lift-off section of the fence located across from 10407 Brodie Springs Trail. The project area is located on the Brodie Lane side of the enclosure.

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: April 7, 2023

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.

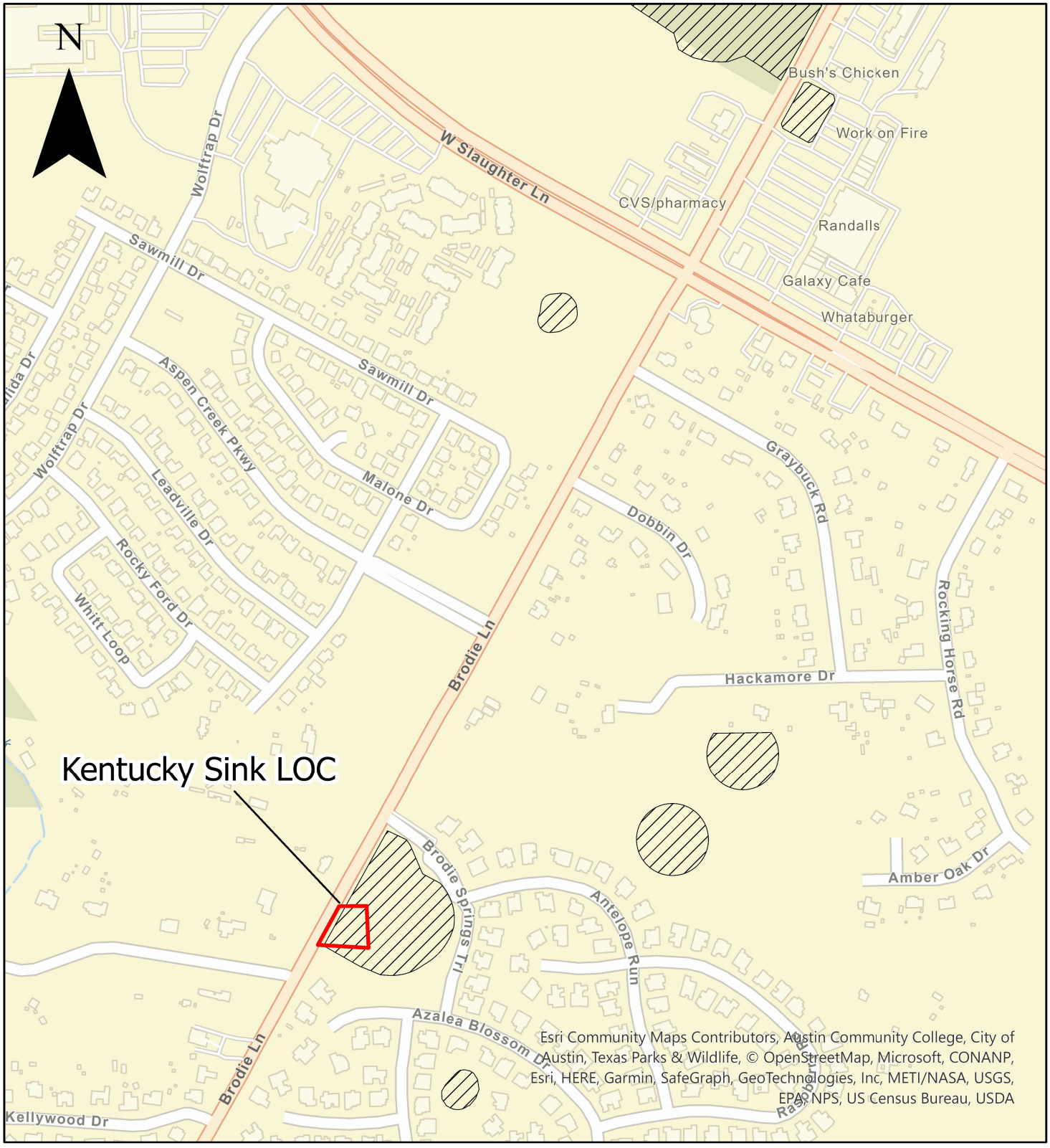
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

☐ 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



1:8,000

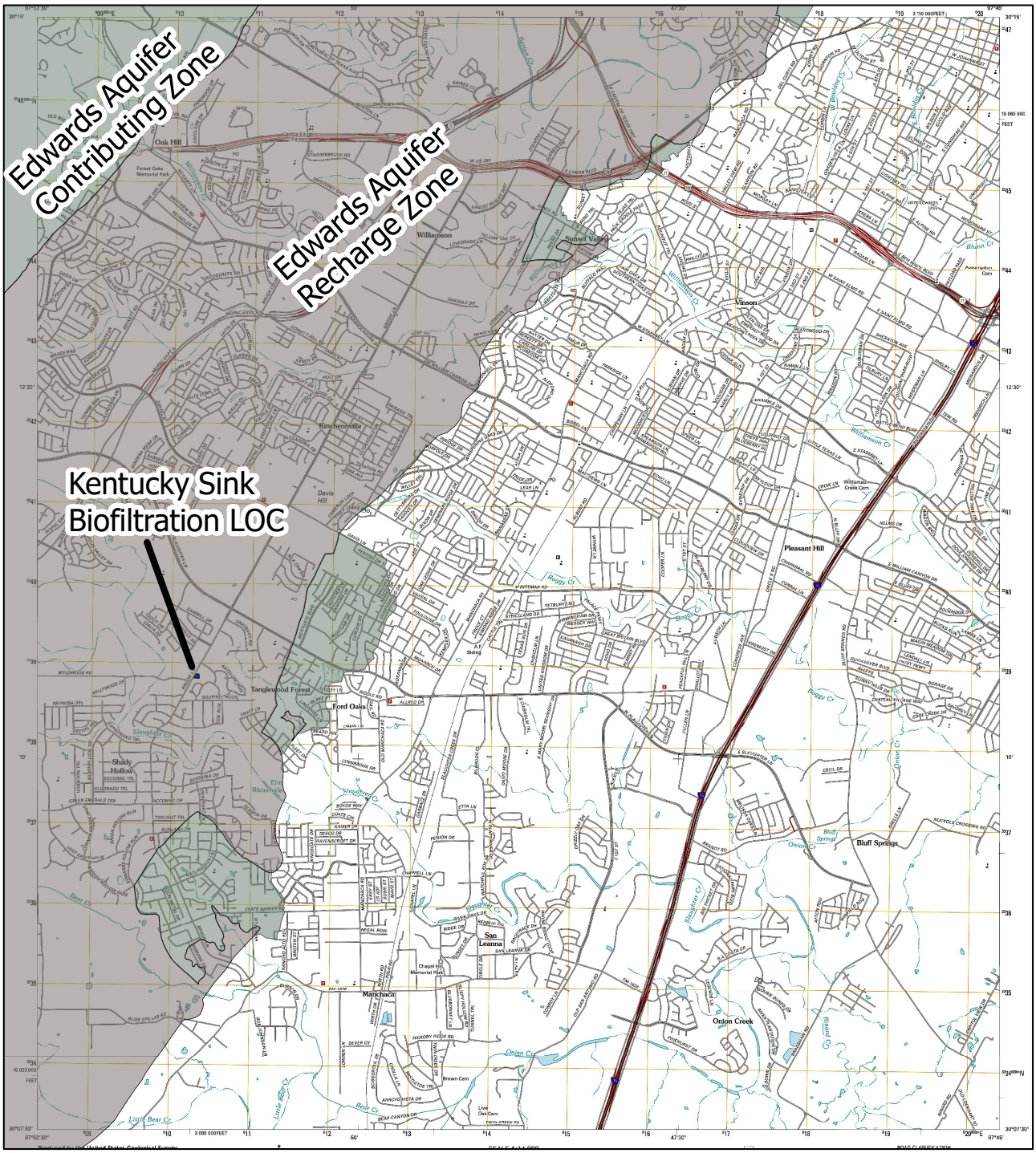
Kentucky Sink LOC

Karst Resource Buffer

Miles

0 0.05 0.1 0.2 0.3 0.4 0.5

Attachment B:
USGS/ Edwards Recharge Zone Map



Legend

0 0.5 1 2 3 4 Miles

- Kentucky Sink Biofiltration LOC
- Edwards Aquifer Recharge Zone
- Edwards Aquifer Contributing Zone

NOTE: Oak Hill, Texas USGS Quadrangle

NOTE: Kentucky Sink Biofiltration site is internally draining.

City of Austin
Founded by Congress, Republic of Texas, 1839
Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

Form 0587 – ATTACHMENT C
Project Description

The City of Austin ("City") Watershed Protection Department identified the Kentucky Sink recharge feature ("Kentucky Sink") for mitigation of existing untreated urban runoff draining to the feature. This situation represents a potential spill threat due to its proximity to a major arterial roadway (Brodie Lane). Kentucky Sink meets the criteria of a sensitive feature, and untreated urban runoff poses a risk to groundwater quality in the Edwards Aquifer. In groundwater tracing studies conducted by our department and collaborators, dye injected into a nearby sinkhole arrived at Barton Springs in 1-2 days under moderately high aquifer conditions (Barton Springs discharge 83 cubic feet per second).

Kentucky Sink is located approximately 150 feet east of Brodie Lane, within the Brodie Springs, Section 2, Phase 1 subdivision. The subdivision is within the Austin City Limits. Kentucky Sink was identified by the City as a critical environmental feature when the neighborhood was developed and was subsequently protected by fencing off the protective setback surrounding the feature in accordance with the City's Land Development Code. The property is owned by the Brodie Springs HOA and is undeveloped, although they do perform occasional clearing around the perimeter to maintain the fence. The entire fenced area is within a drainage easement. Approximately 11.7 acres of single-family residential development currently drains to a 24" culvert under Brodie Lane and flows into Kentucky Sink. The drainage area includes approximately 340 linear feet of Brodie Lane.

A small bioretention pond (1800 SF of sand filter area – see attached plan set) is proposed as a mitigation measure to protect the recharge feature from hazardous spills and provide water quality treatment to runoff from existing, untreated impervious cover. The project will not introduce any new impervious cover, and there is no existing impervious cover on site. No additional flows will be routed to the sinkhole. Both Kentucky Sink and the proposed bioretention pond are located within an existing drainage easement. The pond will be located directly adjacent to the Brodie Lane Right of Way within the fence surrounding the sinkhole's protective buffer.

Temporary construction phase protective measures, designed by a licensed Professional Engineer, will be implemented to protect the recharge feature from pollution during the construction phase of the project. Maintenance access from Brodie Lane on the west side of the fence will be included for regular maintenance by City crews.

The purpose of Texas Administrative Code, Title 30, Chapter 213, Subchapter A is to regulate activities having potential for polluting the Edwards Aquifer and maintain Texas Surface Water Quality Standards. The proposed project is not development; it is intended only to enhance the quality of the runoff to a recharge feature and protect that feature from hazardous spills.

SHEET INDEX:

CITY OF AUSTIN

WATERSHED PROTECTION DEPARTMENT

Project Design And Delivery

KENTUCKY SINKHOLE PROTECTION
10501 BRODIE LN, AUSTIN,
SLAUGHTER CREEK BRANCH

August 15, 2023

PROJECT INFORMATION:

STREET ADDRESS:
10501 BRODIE LANE
AUSTIN, TEXAS 78748

OWNER:
CITY OF AUSTIN

CONTACT:
CHARLES KAOUGH, P.E.
WATERSHED PROTECTION DEPARTMENT
505 BARTON SPRINGS ROAD
AUSTIN, TEXAS 78704
512-974-3397

NOTES:

1. CONTRACTOR SHALL NOTIFY THE GENERAL PERMIT OFFICE 24 HOURS PRIOR TO STARTING CONSTRUCTION OR CLEARING OPERATIONS.

2. CONTRACTOR SHALL CALL "ONE CALL" AT 1-800-344-8377 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET RIGHT-OF-WAY.

3. THIS PROJECT IS LOCATED WITHIN THE __SLAUGHTER CREEK_ WATERSHED (CLASSIFIED AS _SUBURBAN) AND SHALL BE DEVELOPED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH CHAPTER 25 OF THE CODE OF THE CITY OF AUSTIN.

4. __X__ A/NO___PORTION OF THIS SITE IS LOCATED WITHIN PARKLAND OR LAND USED FOR PARK PURPOSES. (IF SUCH LAND IS INCLUDED, DOCUMENTATION OF PARKS AND RECREATION DEPARTMENT APPROVAL IS REQUIRED AT THE TIME OF SUBMITTAL FOR GENERAL PERMIT PROGRAM APPROVAL.)

5. __X__ A/NO___PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN PER CITY OF AUSTIN AND FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS.

6. THIS PROJECT _X_ IS/IS NOT__ WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS DEFINED BY THE CITY OF AUSTIN. THIS PROJECT _X_ IS/IS NOT___WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS REGULATED BY THE TEXAS COMMISSION ON ENVIROMENTAL QUALITY (TCEQ).

7. THERE _X_ ARE/ARE NO___ CRITICAL ENVIRONMENTAL FEATURES WITHIN 150' OF ANY PORTION OF THIS PROJECT. A FIELD INVESTIGATION _X__HAS BEEN PERFORMED AS A PART OF THIS PROJECT. A FIELD INVESTIGATION __HAS NOT BEEN PERFORMED AS A PART OF THIS PROJECT AND IS NOT REQUIRED.

8. PARTY RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:

   COMPANY: _SANTA CLARA CONSTRUCTION INC__PHONE:___512-608-5569_____

   PARTY RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:

   COMPANY: _SANTA CLARA CONSTRUCTION INC__PHONE:___512-608-5569

9. THE STANDARD SHEETS INCLUDED IN THIS PLAN SET WERE PROVIDED BY THE GENERAL PERMIT OFFICE FOR USE ON GENERAL PERMIT PROJECTS ONLY. IF ANY MODIFICATIONS TO THE SHEETS WERE MADE, THEY ARE CLEARLY INDICATED ON THE SHEET ITSELF AND IN THE COVER SHEET INDEX.

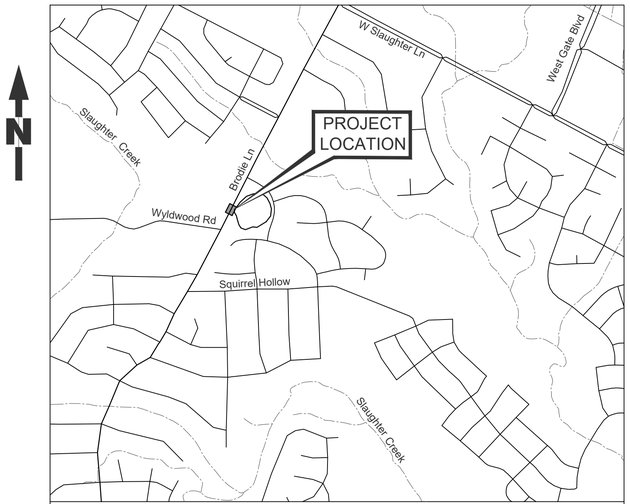
10. PHASING, IF PROPOSED BY THE CONTRACTOR, WILL BE DELINEATED AND THE INFORMATION PROVIDED TO WATERSHED PROTECTION DEPARTMENT PRIOR TO THE FIELD PRE-CONSTRUCTION MEETING. ADDITIONALLY, THE WATERSHED PROTECTION DEPARTMENT WILL BE NOTIFIED VIA E-MAIL A MINIMUM OF 24 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.

11. ADDITIONAL TRENCH E/S CONTROL: TRIANGULAR SEDIMENT FILTER DIKE WILL BE INSTALLED ACROSS FULL WIDTH OF TRAFFIC CLOSURE AND DOWNSTREAM OF CONSTRUCTION AREA, PERPENDICULAR TO CURB. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE-SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING.

12. PROJECT SCHEDULE MUST BE APPROVED BY THE GENERAL PERMIT PROGRAM (GPP) COORDINATOR. INSTALLATION AND REMOVAL OF TEMPORARY AND PERMANENT EROSION/SEDIMENTATION CONTROLS MUST BE REFLECTED IN THE SCHEDULE, BY STATION NUMBER. GPP INSPECTOR MUST BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.

13. APPROPRIATE EASEMENTS/APPROVALS MUST BE SECURED AND DOCUMENTED FOR PROJECT AREAS LOCATED OUTSIDE OF RIGHT OF WAYS. NO WORK SHALL BE PERFORMED WITHIN THESE AREAS UNTIL ASSOCIATED RIGHT OF ENTRY HAS BEEN SECURED. ADDITIONALLY, PROJECT PORTIONS IMPACTED BY LACK OF RECORDED DOCUMENT NUMBERS WILLO NOT BE CONSIDERED FOR FORMAL GPP REVIEW.

14. CONTRACTOR SHALL STAKE ALL PROPOSED SERVICE CONNECTIONS LOCATED WITHIN THE CRITICAL ROOT ZONE OF TREES 8" IN CALIPER AND LARGER AT LEAST 21 CALENDAR DAYS PRIOR TO CONSTRUCTION OF SUCH SERVICES. STAKING SHALL CONSIST OF A LATH WITH NAIL AND PAINT MARKINGS. IN CASES WHERE A STAKE CANNOT BE PLACED WITHOUT DAMAGING PROPERTY, CONTRACTOR MAY USE PAINT ONLY. ONCE STAKING IS COMPLETED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE CITY OF AUSTIN'S CONSTRUCTION INSPECTOR WITHIN TWENTY-FOUR HOURS. THE CITY OF AUSTIN'S CONSTRUCTION INSPECTOR WILL THEN COORDINATE A FIELD REVIEW OF THE SERVICE LOCATIONS WITH THE GENERAL PERMIT PROGRAM COORDINATOR AND PROPERTY OWNERS. SERVICE LINE LOCATIONS MAY BE ADJUSTED BASED ON THE REVIEW AND WILL BE RESTAKED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL SERVICE LINE STAKING SHALL BE MAINTAINED UNTIL THE SERVICE IS INSTALLED.



LOCATION MAP **1" = 1,000'**

NOTES:
GENERAL PERMIT PROGRAM APPROVAL DOES NOT CONSTITUTE UTILITY ALIGNMENT/ASSIGNMENT APPROVAL.

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

RELATED CASE: AULCC UCC-230518-07-01

PROJECT CORRECTIONS RECORD

No.	DESCRIPTION	BY	CORRECT (C) ADD (A) VOID (V) SHEET Nos.	TOTAL No. SHEETS IN CORRECTION PLAN SET	CITY OF AUSTIN APPROVAL/DATE	DATE IMAGED

SUBMITTAL PREPARED BY:

CITY OF AUSTIN
WATERSHED PROTECTION DEPARTMENT

CONTACT:
CHARLES KAOUGH, P.E.
PHONE:
512-974-3397

SUBMITTED FOR APPROVAL BY:

STATE OF TEXAS — CHARLES W. KAOUGH — 90191 — LICENSED PROFESSIONAL ENGINEER

Charles W Kaough 8/15/2023

CHARLES KAOUGH, P.E. DATE

APPROVED BY GENERAL PERMIT HOLDER:

FOR GENERAL PERMIT HOLDER DATE

GP-02-2021.WPD **EXP. 12/31/2023**

ANNUAL GENERAL PERMIT NUMBER

GENERAL PERMIT

GENERAL NOTES:

1. THIS PROJECT CONSISTS OF CHANNEL RECONSTRUCTION AND DISTURBED AREAS WILL BE RESTORED AS REQUIRED.
2. THE CITY OF AUSTIN STANDARD SPECIFICATIONS CURRENT AT THE TIME OF ADVERTISEMENT FOR BIDS SHALL GOVERN MATERIALS AND METHODS USED TO PERFORM THIS WORK. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE STATE STATUTES AND U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS (O.S.H.A.). ALL TRAFFIC CONTROL SHALL BE IN ALL TRAFFIC CONTROL ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE CONTRACTOR MUST BE LICENSED AND MUST OBTAIN A STREET CUT PERMIT (IF NEEDED) FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.
4. THE ESTIMATED QUANTITIES PUBLISHED WITH THESE CONSTRUCTION DOCUMENTS ARE FURNISHED AS AN AID IN THE BIDDING PROCESS AND ARE NOT TO BE SUBSTITUTED FOR THE CONTRACTOR'S QUANTITY TAKEOFFS.
5. THE BIDDER (CONTRACTOR AFTER AWARD) SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY OBSTACLES THAT MAY IMPEDE OR PREVENT THE PROPER CONSTRUCTION OF THE PROJECT.
6. THE CONTRACTOR SHALL ARRANGE THE OPERATION IN SUCH A MANNER AS TO AVOID UNNECESSARY INCONVENIENCE TO THE PUBLIC IN CONSTRUCTION AREAS.
7. ACCESS TO ALL SIDE STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES AT THE SOLE EXPENSE OF THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. PORTIONS OF THE CONSTRUCTION OF THIS PROJECT AUTHORIZED BY PERMIT OR LICENSE AGREEMENT WILL BE SUBJECT TO SUCH INSPECTION AND TESTS AS MAY BE DEEMED NECESSARY BY THE PERMIT GRANTING AUTHORITIES. CONTRACTOR SHALL FURNISH INFORMATION TO AUTHORITIES AS REQUIRED. CONTRACTOR SHALL ALSO FURNISH INCIDENTAL LABOR AND EQUIPMENT TO ALLOW TESTING PERSONNEL TO ACCESS THE WORK AND COOPERATE FULLY WITH THESES AUTHORITIES IN CONDUCTING THE TESTING AND INSPECTION PROGRAM. UNLESS STATED OTHERWISE IN THE PLANS OR PROJECT MANUAL, COSTS OF TESTING WILL BE AS SPECIFIED IN SECTION 00700 OF THE STANDARD SPECIFICATIONS.
9. THE CONSTRUCTION INSPECTION DIVISION OF THE GENERAL PERMIT OFFICE SHALL ARRANGE A PRE-CONSTRUCTION MEETING NOT LESS THAN FOURTEEN (14) DAYS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY INSPECTOR FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING ANY CONSTRUCTION. IN THE R.O.W. OR IN EASEMENTS. CONTRACTOR SHALL NOTIFY INSPECTOR TWENTY-FOUR (24) HOURS IN ADVANCE OF MAKING ANY SUPPLEMENTARY CONNECTION OR CLOSING OFF ANY WATER OR WASTEWATER SERVICES TO PROPERTY OWNERS.
10. CONTRACTOR SHALL NOTIFY PRINCIPLES OF EACH OF THE FOLLOWING ENTITIES OF THE CONSTRUCTION SCHEDULES AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION OPERATIONS. CONTRACTOR SHALL PROVIDE PERTINENT INFORMATION ABOUT LANE CLOSURES AND DETOURS AND ANY OTHER CONSTRUCTION RELATED ACTIVITY WHICH MAY INTERFERE WITH NORMAL SERVICES.

AUSTIN FIRE DEPARTMENT	476-1050
AUSTIN POLICE DEPARTMENT	974-5283
EMERGENCY MEDICAL SERVICES (EMS)	269-2046
AUSTIN INDEPENDENT SCHOOL DISTRICT	414-3191
CAPITAL METRO DISPATCHER	389-7418
U.S. POSTAL SERVICE	342-1236
COA TRANSPORTATION DIVISION	974-7024
UNIVERSITY OF TEXAS (PHYSICAL PLANT DIRECTOR)	471-4110
STATE OF TEXAS	
GENERAL SERVICES COMMISSION	463-7934
CAPITAL POLICE (DPS)	463-3473

11. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE, NEAT, AND WORKMANLIKE MANNER AT ALL TIMES. JOB SITE SAFETY SHALL NOT BE COMPROMISED, ANY ATTRACTIVE NUISANCE SHALL BE REMOVED OR CAMOUFLAGED BY CONTRACTOR WHEN DIRECTED BY THE OWNER OR ENGINEER. CONTRACTOR SHALL REMOVE OR CAMOUFLAGED ANY CHILD ATTRACTIVE NUISANCE. AT THE END OF EACH DAY THE CONTRACTOR MUST REMOVE ALL CONSTRUCTION SPOILS AND EQUIPMENT FROM THE SITE.
12. THE ATTENTION OF ALL PROSPECTIVE BIDDERS IS DIRECTED TO SECTION 00700, PARAGRAPHS 6.1, 6.7, AND 6.11 OF THE GENERAL CONDITIONS OF THE AGREEMENT, CITY OF AUSTIN STANDARD SPECIFICATIONS, THE STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436(C)), AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES WHEN OPERATING IN THE VICINITY OF ELECTRICAL LINES. IF THE CONTRACTOR CHOOSES TO USE EQUIPMENT WITH THE POTENTIAL OF COMING WITHIN THE DISTANCES PRESCRIBED BY STATUTE, THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE WORK WITH THE APPROPRIATE ELECTRIC/UTILITY COMPANY.
13. ALL CONSTRUCTION EQUIPMENT INVOLVED IN ROADWAY WORK SHALL BE EQUIPPED WITH A PERMANENTLY-MOUNTED, 360-DEGREE REVOLVING OR STROBE WARNING LIGHT WITH AMBER LENS IN WORKING ORDER. THIS LIGHT SHALL HAVE A MINIMUM LENS HEIGHT OF 5" AND A DIAMETER OF 5". THIS LIGHT SHALL HAVE MOUNTING HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE ROADWAY SURFACE AND SHALL BE VISIBLE FROM ALL SIDES. THIS EQUIPMENT SHALL ALSO HAVE ATTACHED AT EACH SIDE OF THE REAR END OF THE VEHICLE AN APPROVED ORANGE WARNING FLAG MOUNTED NOT LESS THAN 6 FEET ABOVE THE ROADWAY SURFACE.
14. ALL DAMAGE CAUSED BY DIRECTLY OR INDIRECTLY TO THE STREET SURFACE OR SUBSURFACE OUTSIDE OF THE PAVEMENT BUT AREA SHALL BE REGARDED AS A PART OF THE STREET CUT REPAIR. THIS INCLUDES ANY CRAPES, GOUGES, CUTS, CRACKING, DEPRESSIONS, AND/OR ANY OTHER DAMAGE CAUSED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK. THESE AREAS WILL BE INCLUDED IN THE TOTAL AREA OF REPAIR. THE AREAS OF REPAIR NEAR UTILITY TRENCHES SHALL BE SAW CUT IN STRAIGHT, NEAT LINES PARALLEL TO THE UTILITY TRENCH. ALL REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL MEET ALL CITY TESTING REQUIREMENTS.
15. ALL EXISTING SIDEWALKS, CURB AND GUTTER, DRIVEWAYS, LANDSCAPING, OR DRAINAGE FACILITIES DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE REMOVED AND RESTORED WITH MATERIALS EQUAL TO OR BETTER THAN THE ORIGINAL AND SHALL BE AT THE CONTRACTOR'S EXPENSE.
16. BLASTING WITHIN THE PROJECT AREA WILL NOT BE ALLOWED.
17. CONTRACTOR WILL MINIMIZE USE OF STREET PARKING BY HIS/HER EMPLOYEES IN THE VICINITY OF THE CONSTRUCTION AREA.
18. CONTRACTOR WILL PROVIDE, INSTALL, AND MAINTAIN "LOCAL BUSINESS ACCESS" SIGNS AT EACH BUSINESS WHEN LANE CLOSURES ARE IN PLACE. ACCESS SIGNS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO TRAFFIC CONTROL ITEMS.
19. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS ACROSS ALL INTERSECTIONS WITH EXISTING PEDESTRIAN ACCESS. MAINTAINING PEDESTRIAN ACCESS WILL BE CONSIDERED SUBSIDIARY TO TRAFFIC CONTROL ITEMS.
20. CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFETY FENCING ALONG THE RIGHT-OF-WAY LINE BETWEEN ALL DRIVEWAYS ADJACENT TO THE CONSTRUCTION AREA. SAFETY FENCING IS REQUIRED ALONG ANY EXCAVATION AREAS, ANY CONSTRUCTION AREAS SPECIFICALLY IDENTIFIED ON THE PLANS, AND AREAS IDENTIFIED BY THE ENGINEER BASED ON SITE SPECIFIC CONDITIONS. IF SIDEWALK IS PRESENT IN AN AREA REQUIRING SAFETY FENCING, A TEMPORARY FENCE MOUNTING SYSTEM SHALL BE USED TO PLACE SAFETY FENCING BETWEEN THE CONSTRUCTION AND THE PEDESTRIAN PATHWAY OF THE SIDEWALK.
21. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT ALL LOCATIONS USED FOR STORING CONSTRUCTION EQUIPMENT, MATERIALS, AND STOCKPILES OF ANY TYPE WITHIN THE CONSTRUCTION LIMITS SHALL BE APPROVED, IN ADVANCE, BY THE OWNER'S REPRESENTATIVE. USE OF THE AREA WITHIN THE CONSTRUCTION LIMITS FOR THESE PURPOSES WILL BE RESTRICTED TO THOSE LOCATIONS WHERE DRIVER SIGHT DISTANCE TO BUSINESSES AND SIDE STREET INTERSECTIONS IS NOT OBSTRUCTED AND AT OTHER LOCATIONS WHERE AN UNSIGHTLY APPEARANCE, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, WILL NOT EXIST. THERE SHALL BE NO STORAGE OF EQUIPMENT OR MATERIALS IN THE R.O.W.
22. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS, FLASHERS AND OTHER DEVICES OF THE TYPE AND SIZE AS INDICATED IN THE PLANS AND ADHERE TO THE LATEST EDITION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND AS DIRECTED BY THE ENGINEER.
23. IF CULTURAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION (ARCHEOLOGICAL FINDINGS UNEARTHED) CONTRACTOR SHALL STOP WORK IN THAT AREA AND IMMEDIATELY CONTACT THE TEXAS HISTORICAL COMMISSION AT (512) 463-6100.
24. WORKING HOURS AT PROJECT SITES IN THE DOWNTOWN AUSTIN AREA MAY BE REQUIRED TO BE ADJUSTED DURING SPECIAL EVENTS. SOME PROJECT SITES MAY REQUIRE NIGHT WORK ONLY. IF SPECIFIED IN THE TRAFFIC CONTROL PLANS WORK HOURS SHALL ADHERE TO THAT INDICATED HEREIN.
25. CONTRACTOR WILL COORDINATE ALL TRAFFIC CONTROL ACTIVITIES THROUGH THE CITY OF AUSTIN RIGHT OF WAY MANAGEMENT AT 974-7180 6 DAYS PRIOR TO WORKING IN THE R.O.W.
26. ALL STAGING AND WORK WILL TAKE PLACE WITHIN THE LIMITS OF CONSTRUCTION (LOC). IF THE CONTRACTOR REQUIRES USE OF ANY AREAS OUTSIDE OF THE DESIGNATED LOC AND APPLICATION MUST BE SUBMITTED TO THE GENERAL PERMIT OFFICE AND APPROVAL OBTAINED BEFORE ANY WORK COMMENCING.

UTILITIES

1. UTILITIES SHOWN REFLECT THE BEST INFORMATION AVAILABLE AT THE TIME THAT PROJECT WAS DESIGNED/SURVEYED. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 (DIG TEST) 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION FOR EXISTING UTILITY LOCATIONS.
2. THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT TYPE AND LOCATION OF ALL UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES. THE CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES, AND THE CONTRACTOR SHALL PAY FOR SUCH REPAIRS. THE CONTRACTOR IS REQUIRED TO PERFORM SPOT POT HOLING AT HIS EXPENSE IN ADVANCE OF THE PROJECT TO VERIFY LOCATION OF UTILITIES.
3. UTILITY RELOCATION WORK HAS BEEN OR WILL BE ACCOMPLISHED TO CLEAR THE WORKSPACE. THE RELOCATIONS ARE NOT REFLECTED IN THESE DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN HIMSELF AND OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO GAS, WATER, WASTEWATER, ELECTRICAL, TELEPHONE, COMMUNICATIONS NETWORKS, CABLE TELEVISION, THE UNIVERSITY OF TEXAS SYSTEM FACILITIES, PETROLEUM PIPELINES, AND STREET AND DRAINAGE WORK. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CONSTRUCTION INSPECTOR WITHIN TWENTY-FOUR (24) HOURS.
5. WHEN EXISTING WATERLINE SHUT OFF IS NECESSARY OR POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR, WHO WILL THEN NOTIFY THE WATER UTILITY. THE UTILITY REQUIRES A MINIMUM OF SEVENTY-TWO (72) HOURS ADVANCE NOTICE FOR ALL SHUT OFFS.
6. BEFORE DISCONNECTING ANY WASTEWATER AND/OR WASTEWATER SERVICE LINE, CONTRACTOR MUST PROVIDE AN ALTERNATE MEANS OF WASTEWATER CONVEYANCE FOR THE INTERRUPTED SECTION AT THE CONTRACTOR'S EXPENSE. ANY DAMAGE CAUSED BY BACK FLOW OF WASTEWATER SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. EACH LOT IS SERVED BY AT LEAST ONE (1) GAS SERVICE LINE. THE EXACT LOCATIONS OF THE GAS SERVICE LINES ARE NOT SHOWN ON THE CONSTRUCTION PLANS. SOUTHERN UNION GAS CO. WILL LOCATE THEIR SERVICE LINES DURING THE "ONE CALL" PROCESS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE GAS SERVICE LINES DURING CONSTRUCTION.
8. CONTRACTOR WILL BE RESPONSIBLE FOR THE COST INCURRED AS A RESULT OF UTILITY RELOCATIONS PERFORMED FOR THE CONTRACTOR'S CONVENIENCE.
9. DEBRIS CAPS SHALL BE PLACED AS REQUIRED AFTER CONTRACTOR HAS SET UP BARRICADES. FOR NEW WATER LINE, DEBRIS CAPS SHALL BE PLACED UPON COMPLETION OF WATER LINE. DEBRIS CAPS MUST BE INSTALLED IN EXISTING VALVES PRIOR TO BEGINNING WORK AND IN NEW VALVES IMMEDIATELY FOLLOWING THEIR CONSTRUCTION.

CONSTRUCTION NOTES:

1. WHERE REMOVAL OF BASE AND PAVEMENT IS NECESSARY FOR THIS PROJECT ALL BASE AND PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CITY OF AUSTIN STANDARD SPECIFICATIONS AND STANDARD DETAILS FOR CUT IN PUBLIC RIGHT-OF WAY. ALL PAVEMENT CUTS SHALL BE SAW-CUT PRIOR TO PLACEMENT OF HMAC.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE, PRESERVE AND RESET STREET MARKERS AND TRAFFIC CONTROL SIGNS THAT ARE WITHIN THE CONSTRUCTION LIMITS TO THE LINE AND HEIGHT AS DESCRIBED IN THE 2003 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES BEFORE ANY SIDEWALKS OR STREETS EXCAVATION IS BEGUN, SIGNS SHALL NOT BE LAID ON THE GROUND. NO PAYMENT WILL BE MADE FOR THIS WORK, BUT IT WILL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS. THE TRAFFIC SIGN ACTIVITY SECTION OF THE URBAN TRANSPORTATION DIVISION 974-0170, EXT. 7024) SHALL BE NOTIFIED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE COMPLETION OF THE PROJECT SO THAT THE SIGNS OR POSTS SHALL BE PAID FOR BY THE CONTRACTOR.
3. ALL STRUCTURAL CONCRETE SHALL BE CLASS A (5 SACK, 3000-PSI AT 28 DAYS), AND ALL REINFORCING STEEL SHALL BE GRADE SIXTY, UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL SAW-CUT OR USE ENGINEER APPROVED ALTERNATIVE METHOD TO REMOVE CONCRETE PAVEMENTS, TO RECONSTRUCT CURBS, TO DELINEATE MILLING EDGES, AND TO TIE TO EXISTING PAVEMENT. WHERE CUTTING INTO BASE MATERIALS, SAW-CUT OR APPROVED, ALTERNATIVE METHOD SHALL BE OF SUFFICIENT DEPTH TO ACHIEVE A SMOOTH, VERTICAL FACE DURING EXCAVATION IN THE BASE. THIS ITEM WILL NOT BE PAID FOR DIRECTLY, BUT IT WILL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
5. ALL LOOSE MATERIALS SHALL BE COMPLETELY REMOVED FROM THE ROADWAY BY MECHANICAL SWEEPER AND/OR MANUAL BROOMING PRIOR OPENING TO TRAFFIC AND FOR THE DURATION OF THE PROJECT. ALL LOOSE MATERIAL SHALL BE COMPLETELY REMOVED FROM THE ADJACENT SIDEWALK AREAS FOR THE DURATION OF THE PROJECT AND SIDEWALKS SHALL BE COMPLETELY CLEAR OF ANY CONSTRUCTION DEBRIS PRIOR TO FINAL COMPLETION OF THE PROJECT. LOOSE AND SURPLUS AGGREGATE SHALL BE BROOMED OFF THE SURFACE AS DIRECTED BY THE PROJECT MANAGER. BROOMING WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
6. REMOVAL OF SHRUBS AT WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
7. CONTRACTOR SHALL TRIM ANY SHRUBS AND TREES TO PROVIDE PEDESTRIAN CLEARANCE IN ORDER TO COMPLY WITH T.A.S.
8. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO. 509 AND APPLICATION REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

SIDEWALK NOTES:

1. SIDEWALK AND DRIVEWAY CONCRETE THICKNESS SHALL BE 5 INCHES THICK UNLESS IT IS A COMMERCIAL DRIVEWAY THAT PROVIDES ACCESS TO A BUSINESS OR APARTMENT COMPLEX, THEN THE THICKNESS OF THE DRIVEWAY AND SIDEWALK SHALL BE 6 INCHES IN THAT AREA.
2. CONCRETE FOR SIDEWALKS AND RAMPS SHALL BE PLACED IMMEDIATELY AFTER EXCAVATION AT ANY SITE.
3. EXPANSION JOINTS SHALL BE PROVIDED AT THE TIE-IN OF NEW CURB AND GUTTER TO EXISTING CURB AND GUTTER AND AT OTHER LOCATIONS TO BE DETERMINED BY THE ENGINEER.
4. EXPANSION JOINT MATERIALS SHALL BE AS PER ITEM 408 AND EXTEND THE FULL DEPTH OF THE CONCRETE FOR WET JOINTS AND 1/2" BITUMEN FILLED FIBER AND COLD JOINTS OR AS DIRECTED BY THE ENGINEER.
5. ALL FILL AREAS SHALL BE COMPACTED TO A UNIFORM DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DESTINY AT NOT LESS THAN OPTIMUM MOISTURE AS DETERMINED BY THE TEST METHOD TEX-113-E.
6. ALL FLAT CONCRETE SHALL BE BROOM FINISHED.
7. PIPE SLEEVE EXPANSION JOINTS SHALL BE PLACED IN HANDRAILS TO CORRESPOND TO EXPANSION JOINTS IN THE SIDEWALK OR CONCRETE STRUCTURE. THE PIPE SLEEVE EXPANSION JOINT SHALL BE PLACED AT A POST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. CONTRACTOR SHALL MAINTAIN A MINIMUM 3 FOOT CLEARANCE AT ALL OBSTRUCTIONS IN SIDEWALKS SUCH A TELEPHONE POLES, SIGNS, ETC.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING MAIL BOXES THAT ARE IN THE CONSTRUCTION AREA WHILE INSURING THAT MAIL DELIVERY WILL NOT BE INTERRUPTED AS A RESULT OF THE CONSTRUCTION ACTIVITIES. MAILBOXES SHALL NOT BE LAID ON THE GROUND. THIS ITEM WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
10. EXISTING PVC PIPE DRAINS IN AND BEHIND CURB AS REQUIRED SHALL BE REMOVED AND REPLACED IN NEW CURB AND GUTTER AND/OR SIDEWALK. IN AREAS, OF PROPOSED SIDEWALK WHERE CURB AND GUTTER IS TO REMAIN, EXISTING PVC SHALL BE CUT FAR ENOUGH BEHIND BACK OF CURB TO ALLOW ROOM FOR JOINT FITTINGS TO CONNECT TO NEW PVC PIPE. COST OF REMOVING AND REPLACING PVC PIPE DRAINS WILL BE CONSIDERED SUBSIDIARY TO ITEM 430S, CURB AND GUTTER AND/OR ITEM 432S, SIDEWALK.
11. LIMITS OF SIDEWALK CONSTRUCTION THROUGH ASPHALT OR GRAVEL AREAS SHALL BE 1' BEYOND THE SIDEWALK EDGES. ANY DAMAGE BEYOND THIS POINT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. BACKFILL OF THE SIDEWALK IN THESE AREAS SHALL BE WITH MATERIAL EQUAL TO OR BETTER THAN THAT REMOVED. NO DIRECT PAYMENT WILL BE MADE FOR THIS, IT WILL SUBSIDIARY TO OTHER BID ITEMS.
12. TIE-IN ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE, CONTRACTOR TO MATCH EXISTING SIDEWALK AT ALL TIE POINTS.

TxDOT RIGHT OF WAY:

1. LANE CLOSURES ARE NOT PERMITTED IF PAVEMENT IS WET OR ICY.
2. CONTRACTOR SHALL CONTACT TXDOT AT 929-7221 AT LEAST 48 HOURS PRIOR TO WORKING IN TXDOT RIGHT OF WAY TO ALLOW FOR AN INSPECTOR TO BE PRESENT.
3. THE PRIMARY CONTRACTOR IN RESPONSIBLE FOR KEEPING THE STATE ROADWAY FREE OF MUD, ROCKS, AND OTHER DEBRIS. IF THE HIGHWAY BECOMES UNSAFE FOR TRAFFIC BECAUSE OF DEBRIS FROM THE CONSTRUCTION SITE, THE CONTRACTOR MUST CLEAN THE ROADWAY IMMEDIATELY AND SUSPEND WORK IF NECESSARY.

SEQUENCE OF CONSTRUCTION:

THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE OF CONSTRUCTION WHICH COMPLIES WITH THE FOLLOWING SEQUENCE:

A. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS, AND TRAFFIC CONTROL SIGNS IMMEDIATELY PRIOR TO CONSTRUCTION.
B. HOLD ON-SITE PRE-CONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR AND THE CONSTRUCTION INSPECTOR.
C. COMMENCE CONSTRUCTION AS SHOWN IN THE PLANS.
D. COMMENCE RESTORATION AND REVEGATION AS EARLY AS FEASIBLE AND NECESSARY FOR TIMELY COMPLETION OF THE PROJECT. REVEGATION OF DISTURBED AREAS CONSTITUTES THE PERMANENT EROSION AND SEDIMENTATION CONTROLS FOR THIS PROJECT.
E. REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS UPON COMPLETION OF ALL CONSTRUCTION ITEMS AND PERMANENT EROSION AND SEDIMENTATION CONTROLS.
F. DRESS UP AND RESTORE ANY AREAS DISTURBED BY ITEM E ABOVE.

SENSITIVE ENVIRONMENTAL AREA:
MINIMIZE DISTURBANCE OF GROUND AND VEGETATION

10655 BRODIE LN, AUSTIN,
KENTUCKY SINKHOLE PROTECTION

GENERAL NOTES

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

CHARLES W. KAOUGH
STATE OF TEXAS
90781
LICENSED
PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

NO	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.
2
OF 1
August 15, 2023

KNEPP MIKE & SHELLY
10502 BRODIE LN 78748
TCAD. 0428300204
2014095239TR

KNEPP CAROLYN S
10510 BRODIE LN AUSTIN 78748
TCAD. 0428300205
PC# C-1-PB-15-000521

KNEPP MICHAEL B & SHELLY
3600 WYLDWOOD RD AUSTIN 78739
TCAD. 0428300206

BRODIE SPRINGS HOA
BRODIE SPRINGS TRL 78748
TCAD. 0428301401
2007231213TR

Zoning
SF-2

Zoning
I-RR

R.O.W.

EXIST. SIDEWALK

BRODIE LANE
(74' R.O.W. - 35(MPH))

10' PUE

EXISITNG FENCE

SENSITIVE ENVIRONMENTAL AREA:
MINIMIZE DISTURBANCE OF GROUND
AND VEGETATION

BUILD THIS SECTION OF THE BERM LAST
ADJUST DIVERSION BARRIER

TCEQ BUFFER

KENTUCKY SINKHOLE

SEVERE SERVICE
ROCK BERM

PHASE 2

PHASE 1

TEMPORARY DIVERSION BARRIER
DIVERT FLOW AROUND PHASE 1 AREA
PHASE 2- DIVERT FLOWS AWAY FROM
PHASE 2 AREA

SILT FILENCE

CONSTRUCTION ENTRANCE

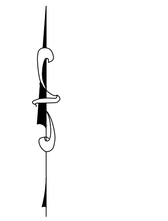
PRESERVE
TREES IN THIS
AREA

STAGING AREA
8" MULCH

TREE PROTECTION

GREENBELT & DRAINAGE EASEMENT

EXISITNG FENCE



LEGEND

- RIGHT OF WAY
- 495' EXISTING CONTOUR
- SINKHOLE DELINEATION
- EXISTING FENCE
- EXIST. TREE
- EXIST. TREE TO BE REMOVED
- LOC — LIMITS OF CONSTRUCTION
- TP — TREE PROTECTION
- CF — CONSTRUCTION FENCING
- STABILIZED CONSTRUCTION RAMP
- ACCESS PATH WITH 12" HARDWOOD MULCH

NOTES:

1. ALIGNMENT OF ACCESS ROAD MAY VARY WITHIN EXISTING EASEMENT. FINAL ALIGNMENT SHALL BE SPECIFIED AND APPROVED IN FIELD AT PRE-CONSTRUCTION MEETING UNDER DIRECTION OF ENGINEER AND COA REPRESENTATIVES TO MINIMIZE ENVIRONMENTAL IMPACTS.
2. MIN. 12" OF HARDWOOD MULCH SHALL BE LAID OVER ACCESS PATH AS DIRECTED BY ENGINEER AND COA ENVIRONMENTAL REPS

TREE NO.	TREE DESCRIPTION
136	8" LIVE OAK
137	8"-5" LIVE OAK MULTI-STEM
138	17" LIVE OAK
139	5" LIVE OAK
140	8" LIVE OAK
141	6" LIVE OAK
142	6" LIVE OAK
143	8" LIVE OAK
144	8"-8" LIVE OAK MULTI-STEM
162	8" LIVE OAK
163	8" LIVE OAK
164	8" LIVE OAK
167	13" ASH
168	10" ASH
169	8" ASH
170 - R	10" CEDAR ELM (R)
171 - R	13" CEDAR ELM

NOTE:
REFER TO SHEET 11 FOR
MITIGATION TABLE

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION EROSION AND SEDIMENTATION PLAN TREE PROTECTION

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

STATE OF TEXAS
CHARLES W. KAOUGH
90781
LICENSED
PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

NO.	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.

3

OF 1
August 15, 2023

CITY OF AUSTIN – STANDARD NOTES
EROSION AND SEDIMENTATION CONTROL
(MODIFIED FOR USE ON GENERAL PERMIT PROJECTS)

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD ON–SITE WITH THE CONTRACTOR, DESIGN ENGINEER, PERMIT APPLICANT, AND GENERAL PERMIT OFFICE INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND THE TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE GENERAL PERMIT OFFICE AT 512/974–6330, AT LEAST 3 DAYS PRIOR TO THE MEETING DATE.
5. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE REVIEWING ENGINEER AND THE GENERAL PERMIT OFFICE INSPECTOR.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. SILT ACCUMULATION AT TYPE II INLET DEVICES SHOULD BE REMOVED WHEN THE DEPTH REACHES TWO (2) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS ONE SQUARE FOOT OR LARGER IN TOTAL AREA, BLOWS AIR FROM WITHIN THE SUBSTRATE, AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME, IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT THE GENERAL PERMIT OFFICE INSPECTOR FOR FURTHER INVESTIGATION.
9. FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE GENERAL PERMIT OFFICE INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES. MAJOR REVISIONS MUST BE APPROVED BY THE GENERAL PERMIT OFFICE OF THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT.
10. PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
    a. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS BY CONSTRUCTION AS FOLLOWS (OR AS INDICATED IN NOTE g. BELOW):
    b. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS (OR AS INDICATED IN NOTE g. BELOW):
        i. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1,000 SQUARE FEET OF UNHULLED BERMUDA AND 1 POUND PER 1,000 SQUARE FEET OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
        ii. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1,000 SQUARE FEET WITH A PURITY OF 95% WITH 85% GERMINATION.
    c. FERTILIZER SHALL HAVE AN ANALYSIS OF 15–15–15 AND SHALL BE APPLIED AT THE RATE OF 65 POUNDS PER ACRE.
    d. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN–DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK.
    e. MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SQUARE FEET.
    f. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1–1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
        g. NATIVE GRASS IS __XX____ OR IS NOT ________ REQUIRED ON THIS PROJECT. NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL.
11. DEVELOPER INFORMATION:

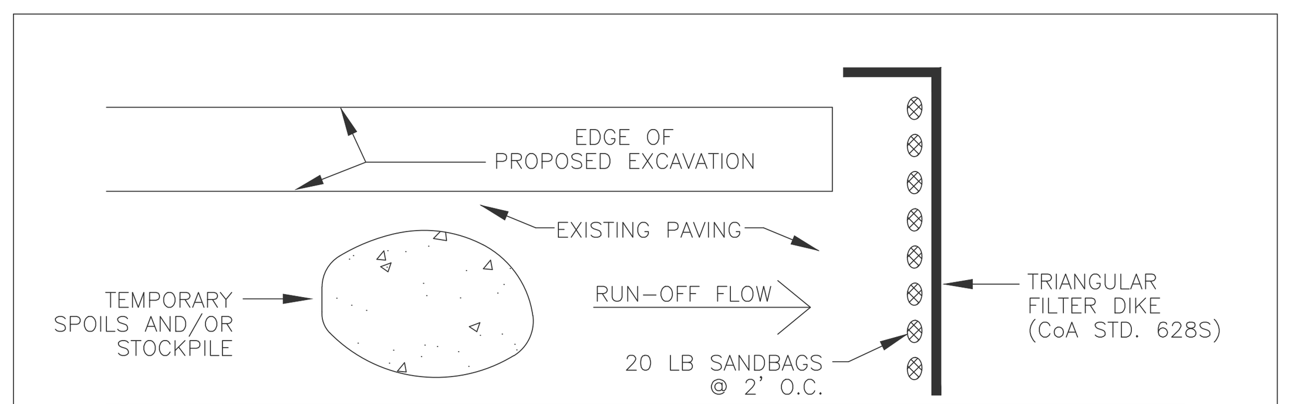
OWNER: CITY OF AUSTIN
CONTACT: CHARLES KAOUGH, P.E.
ADDRESS: P. O. BOX 1088
AUSTIN, TX 78767
PHONE: (512) 974–3397
FAX: (512) 974–3667

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
COMPANY: CITY OF AUSTIN
CONTACT: CHARLES KAOUGH, P.E.
ADDRESS: P. O. BOX 1088
AUSTIN, TX 78767
PHONE: (512) 974–3397
FAX: (512) 974–3667

PARTY RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
COMPANY: ____________

PARTY RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
COMPANY: ____________

12. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE GENERAL PERMIT OFFICE, AT 499–6330, AT LEAST 48 HOURS PRIOR TO THE SPOILS REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
13. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO STREET WORK, AND WILL BE REMOVED AS SOON AS THE GENERAL PERMIT OFFICE INSPECTOR AGREES THAT THERE IS NO POTENTIAL FOR SEDIMENTATION.

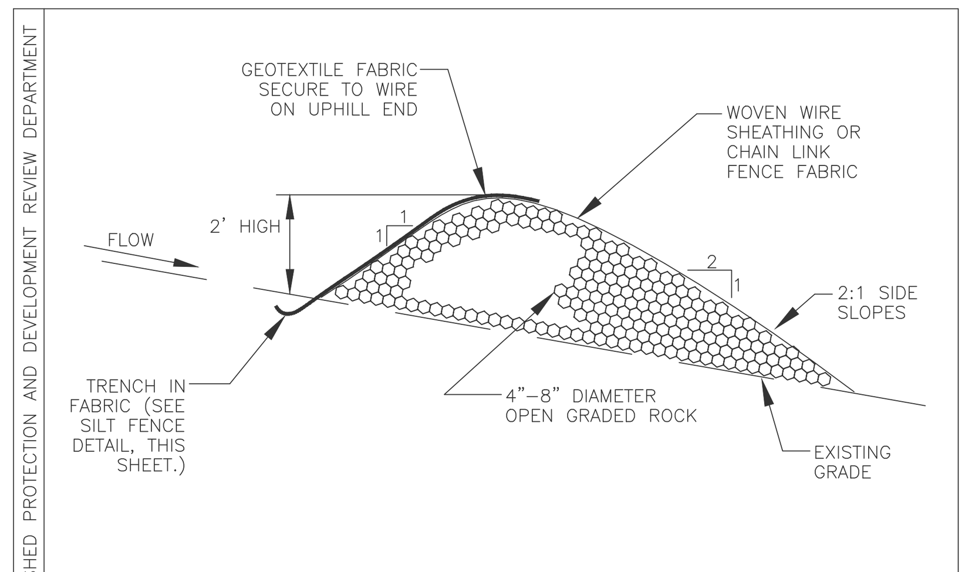


NOTES:

1. THE TEMPORARY SPOILS/STOCKPILE STORAGE AREA AND STAGING AREA MAY BE LOCATED DIRECTLY ADJACENT TO THE EXCAVATION AND ON THE PAVEMENT.
2. ANY SPOIL NOT INTENDED TO BE REUSED WILL BE HAULED TO AN APPROVED OR PERMITTED DISPOSAL SITE DAILY.
3. INSTALL TRIANGULAR SEDIMENT FILTER DIKE (DETAIL 682S) ACROSS FULL WIDTH OF TRAFFIC CLOSURE AND DOWNSTREAM OF CONSTRUCTION AREA, PERPENDICULAR TO CURB AND PLACED TO EFFECTIVELY CATCH AND CONTAIN SEDIMENT LADEN RUNOFF FROM THE EXCAVATED AREA. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE–SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING.

ADDITIONAL EROSION/SEDIMENTATION CONTROL FOR WORK IN PAVED AREAS FOR GENERAL PERMIT PROGRAM PROJECTS

DESCRIPTION: APPROVED BY WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT
REV. DATE:

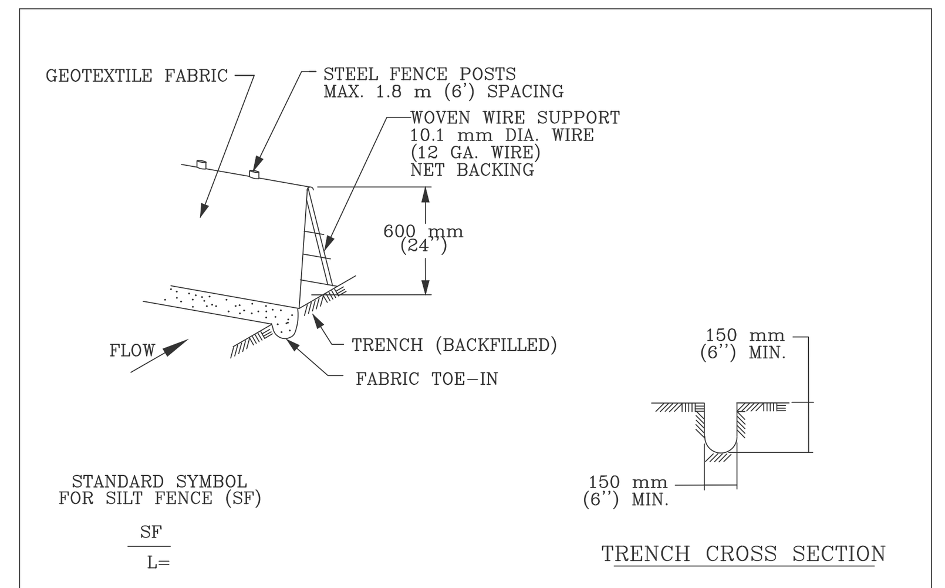


NOTES:

1. USE ONLY OPEN GRADED ROCK, 4–8 INCH DIAMETER, FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK, 3–5 INCH DIAMETER, FOR OTHER CONDITIONS.
2. ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE–WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

FABRIC COVERED (SEVERE SERVICE) ROCK BERM

CITY OF AUSTIN		
GENERAL PERMIT PROGRAM APPROVED	ADOPTED: SCALE: N.T.S. INITIAL:	STANDARD NO. N/A



NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (1').
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S–1

NOTES:

1. MATERIAL ˉ THE FPBRIC MUST CORRESPOND TO THE FOLLWNG REQUIREMENTS:

PROPERTY	ASTM TEST METHOD	REQUIREMENTS
FABRIC WEIGHT	D 3776	≥3.0 OUNCES/SQUARE YPAD
ULTRAVIOLET (UV) RADIATION STABILITY	D 4355	70% STRENGTH RETAINB) MIN., AFTER 500 HOURS IN XENON ARC DEVICE
MUUEN BURST STRENGTH	D 3786	≥120 POUND PER SQUPRE INCH
WATER FLOW RATE	D 4491	≥ 275 GALLONS/MINUTE/SQUARE FEET

2. THIS MATERIAL SHOULD HAVE A MAXIMUM EXPECTED USEFULLIFE OF APPROXIMATELY EIGHTEEN (18) MONTHS. THE INLET PROTECTION DEVICES SHOULD BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN OUT AND DISPOSAL OF TRAPPED SEDIMENT WILE MINIMIZING INTERFERENCE WITH CONSTRUCTION ACT IVITIES. THEY SHOU LD ALSO BE CONSTRUCTED SUCH THAT ANY PONDING OF STORM WATER WILL NOT CAUSE EXCESSIVE R.O.W. FLOODING (I.E. <4 INCHES OF STANDING WATER) OR DPMAGETO THESTRUCTURE OR ADJACENT AREAS.

3ˊ COVERAGE – THE FABRIC/WIRE SHOULD COMPLETELY COVER THE OPENING OF THE INLET AND DEVICES SHOULD BE INSTALLED WITHOUT PROTRUDING PARTS THAT COULD BE A TRAFFIC, WORKER, OR PEDESTRIAN HAZARD. WHERE SECTIONS OF THE FABRIC OVERLAP, THEY SHALL OVERLAP AT LEASTTHREE (3) INCHES.

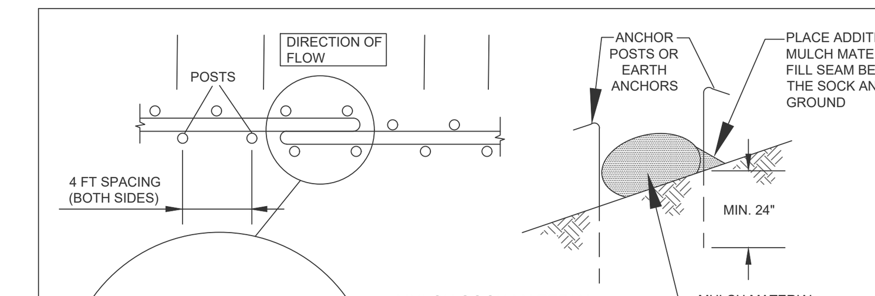
4. THE INLET FILTER SHALL BE ATTACHED IN A WAY THAT THEY CAN EASILY BE REMOVED AND ARE NOT SECURED OR ATTACHED BY THE USE OF SAND BAGS. THE INLET FILTER MUST BE REMOMD UPON COMPLETION OF WORKˊ IF REMOVAL DAMAGES THE CONCREE CURB, THE CURB MUST BE REPAIRED IMMEDIATELYˊ

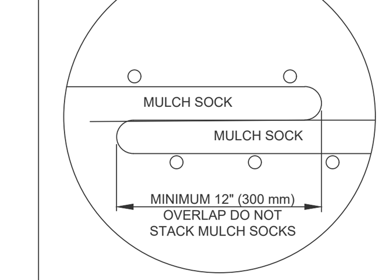
5. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN THE DEPTH REACHES 50 MM (2 INCHES) INCHES OR ONE THIRD THE HEIGHT OF THE INLET THROAT, AND DISPOSED OF IN A MANNER WHICH WILL NOT CWSE ADDITIONAL SILTATION.

6. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL E VENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORMWATER BEGINS TO OVERTOP THE CURB.

7. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT HAS ACHIEVED FINAL STABILIZATION CONDITIONS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	FILTER DIKE CURB INLET PROTECTION	
RECORD COPY SIGNED BY MAPI VIGIL 10/30/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S-2





MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.

2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).

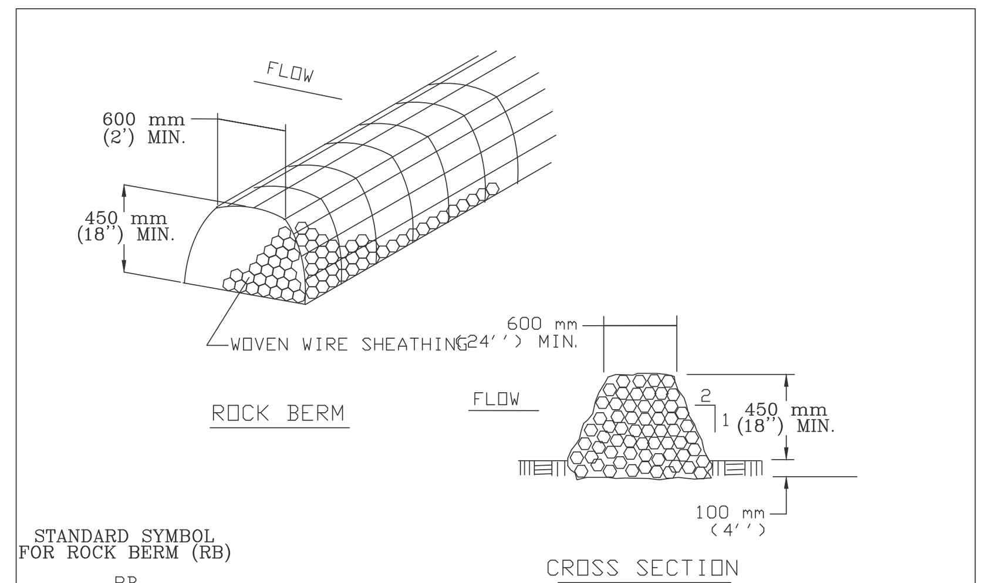
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.

4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.

5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.

6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

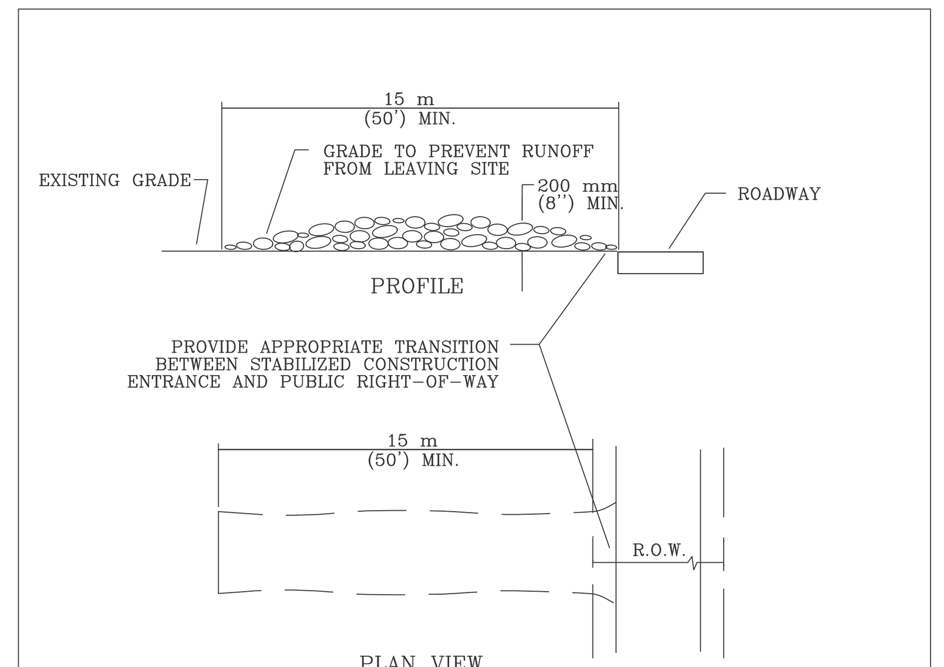
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS 08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S–1



NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE–WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

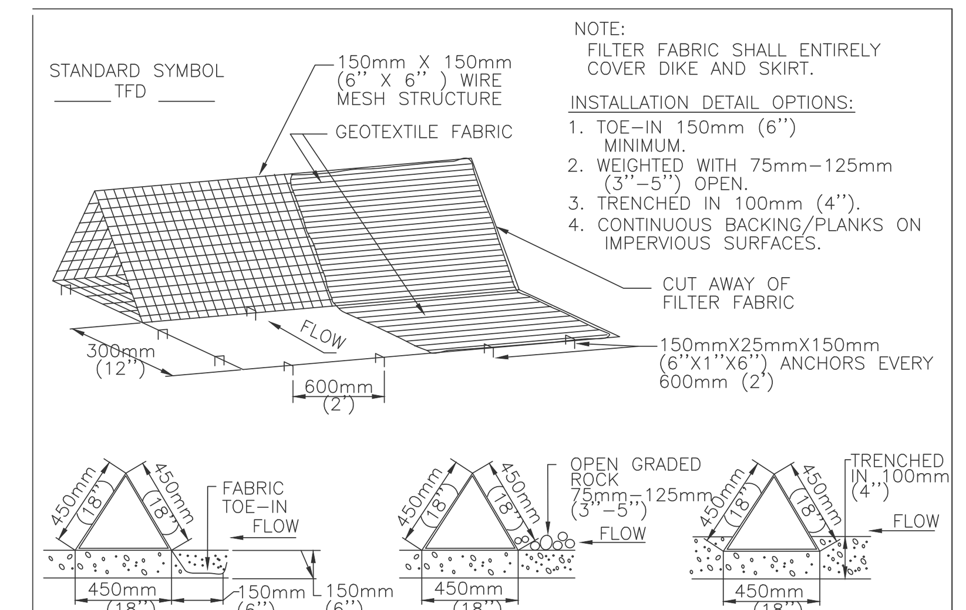
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
RECORD COPY SIGNED BY MORGAN BYARS 8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S–1



NOTES:

1. STONE SIZE: 75–125 mm (3–5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S–1



NOTE:
FILTER FABRIC SHALL ENTIRELY COVER DIKE AND SKIRT.

INSTALLATION DETAIL OPTIONS:
1. TOE–IN 150mm (6") MINIMUM.
2. WEIGHTED WITH 75mm–125mm (3"–5") OPEN.
3. TRENCHED IN 100mm (4").
4. CONTINUOUS BACKING/PLANKS ON IMPERVIOUS SURFACES.

GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75–125mm (3–5") OPEN GRADED ROCK OR TOED–IN 150mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150mm (6") WIRE STAPLES ON 600mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (3/8") DIAMETER RE–BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40–150mmX150mm (6 GA. 6"X6") WIRE MESH, 450mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETLY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TRIANGULAR SEDIMENT FILTER DIKE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION EROSION AND SEDIMENTATION NOTES AND DETAILS

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

[illegible]
STATE OF TEXAS
CHARLES W. KAOUGH
90191
LICENSED
PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

NO.	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.
4
OF 1
August 15, 2023

KNEPP MIKE & SHELLY
10502 BRODIE LN 78748
TCAD. 0428300204
2014095239TR

KNEPP CAROLYN S
10510 BRODIE LN AUSTIN 78748
TCAD. 0428300205
PC# C-1-PB-15-000521

KNEPP MICHAEL B & SHELLY
3600 WYLDWOOD RD AUSTIN 78739
TCAD. 0428300206

BRODIE SPRINGS HOA
BRODIE SPRINGS TRL 78748
TCAD. 0428301401
2007231213TR

Zoning
SF-2

Zoning
I-RR

BRODIE LANE
(74' R.O.W. - 35MPH)

R.O.W.

EXIST. SIDEWALK

EXISITNG FENCE

TCEQ BUFFER

KENTUCKY SINKHOLE

GREENBELT & DRAINAGE EASEMENT

10' PUE

Ex. 6" GAS (CI)

Ex. 12" AC - 74-0362

Ex. 16" DI - 84-0693

Ex. 24" CI - 2002-0823

FL 24" 753.79'

EX. 24" RCP

759'
760'
758'
757'
756'
755'
754'
753'
752'
751'
750'
749'
748'
747'
746'
745'
744'
743'
740'

20 0 20 40

SCALE: 1" = 20'

LEGEND

- RIGHT OF WAY
- 495' EXISTING CONTOUR
- SINKHOLE DELINEATION
- EXISTING FENCE
- EXIST. TREE
- EXIST. TREE TO BE REMOVED

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION

EXISTING CONDITIONS

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

CHARLES W. KAOUGH
92791
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
6/7/2023

REVISIONS

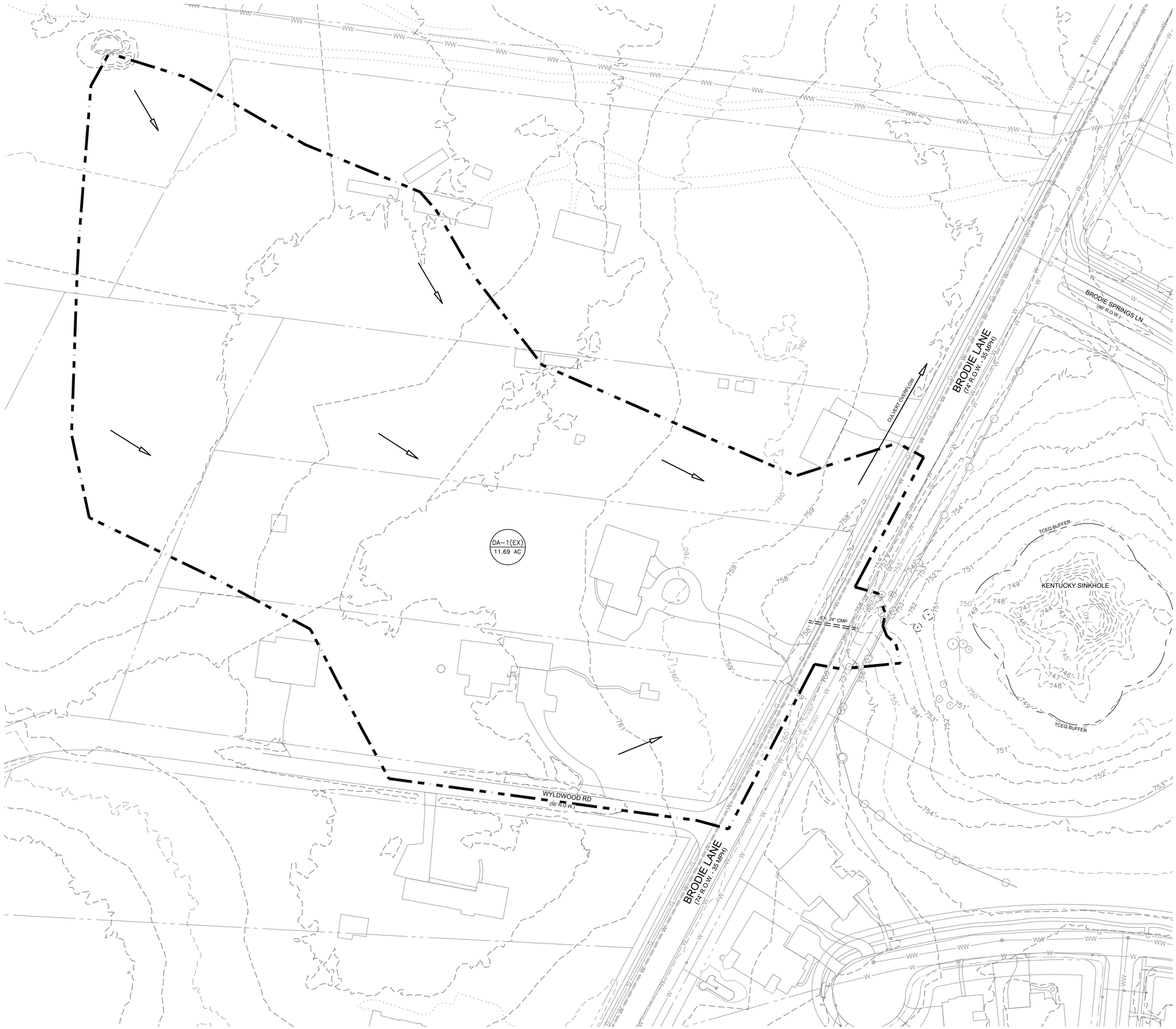
NO.	BY:	DATE:	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.

5

OF 1
August 15, 2023



LEGEND

- RIGHT OF WAY
- 495' EXISTING CONTOUR
- SINKHOLE DELINEATION
- EXISTING FENCE
- DRAINAGE AREA DIVIDE
- DA–1(EX) 865.40 AC — DRAINAGE AREA # / DRAINAGE AREA ACREAGE
- FLOW ARROW

APPENDIX R-6
PARTIAL SEDIMENTATION/FILTRATION POND CALCULATIONS
(CITY OF AUSTIN PROJECT, NOT BASED ON DEVELOPMENT)

DRAINAGE AREA DATA:		
Drainage Area to Control (DA)	11.69	ac.
Drainage Area Impervious Cover	7.60%	%
Capture Depth (CD)	0.083	in
25-year Peak Flow Rate to Control (Q25)	35.00	cfs
100-year Peak Flow Rate to Control (Q100)	36.40	cfs
WATER QUALITY CONTROL CALCULATIONS:	**Provided**	
Water Quality Volume	3509	cf
Maximum Ponding Depth above Sand Bed (H)	1	ft
Filtration Pond Area (WQV/(4 + 1.33*H))	1500	sf
Water Quality Elevation	754.00	ft msl
Elevation of Overflow Weir	754.00	ft msl
Height of Gabion Wall	753.5	ft msl
Length of Water Quality and Overflow Weir	20	ft
Required Head to Pass Q_{100}	0.66	ft (max)
Pond Freeboard Provided to Pass Q_{100}	0.34	ft (min)
Orifice Opening diameter (inches)	2	in.

DRAINAGE AREA DA1

	Q (TOTAL) (cfs)	Q (CULVERT) (cfs)	Q (OVERFLOW) (cfs)
2-Year	33.4	28.1	0.0
10-Year	58.0	33.1	12.1
25-Year	75.0	33.9	28.6
100-Year	104.7	34.8	56.2

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION

DRAINAGE AREA MAP

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

CHARLES W. KAOUGH
STATE OF TEXAS
90197
LICENSED PROFESSIONAL ENGINEER
6/7/2023

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WATERSHED PROTECTION

SHEET NO.
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OF 1
August 15, 2023

GENERAL PERMIT PROGRAM (GPP) STANDARD ENVIRONMENTAL NOTES:

ADDITIONAL AREAS:

1. ANY ADDITIONAL AREAS REQUIRED FOR CONSTRUCTION OF THIS PROJECT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED ADDITIONAL AREAS PRIOR TO USE. APPROVAL OF "CORRECTION REQUEST" MUST BE SECURED FROM THE GENERAL PERMIT PROGRAM OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

2. ALL ASSOCIATED PERMITS AND FEES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

3. IN ORDER TO SECURE APPROVAL FOR USE OF ADDITIONAL AREAS, CONTRACTOR MUST PROVIDE COMPLETE "CORRECTION REQUEST" SUBMITTAL TO GENERAL PERMIT PROGRAM OFFICE AND ALLOW A ONE WEEK COMMENT PERIOD FOR EACH REVIEW. CONTRACTOR SHOULD REQUEST INFORMATION ON THE ELEMENTS REQUIRED TO BE INCLUDED IN THE SUBMITTAL FROM THE OWNER'S REPRESENTATIVE OR THE GENERAL PERMIT PROGRAM OFFICE.

4. CONTRACTOR MUST INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION FOR ALL SUCH AREAS IN ACCORDANCE WITH THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL AND AS INCLUDED IN THE APPROVED SUBMITTAL OR DIRECTED IN THE FIELD BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

5. A SIGNED COPY OF THE PLANS PERMITTED THROUGH THE GENERAL PERMIT PROGRAM MUST BE KEPT ON SITE AND ACCESSIBLE AT ALL TIMES DURING PROJECT CONSTRUCTION.

DEWATERING:

CONTRACTOR IS RESPONSIBLE FOR DEWATERING OF WORK AREA. CONTRACTOR MUST SECURE CITY OF AUSTIN APPROVAL OF PROPOSED DEWATERING PROCEDURES PRIOR TO INSTALLATION OR USE. APPROVAL MUST BE SECURED FROM THE GENERAL PERMIT PROGRAM (GPP) OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. CONTRACTOR MUST PROVIDE COMPLETE SUBMITTAL TO GPP OFFICE AND ALLOW AN ONE WEEK (MIN.) COMMENT PERIOD FOR EACH REVIEW. CONTACT THE GPP OFFICE FOR SUBMITTAL REQUIREMENTS.

FUEL STORAGE:

FUEL STORAGE IS PROHIBITED ON THIS PROJECT. ADDITIONALLY, THE CONTRACTOR IS REQUIRED TO NOTIFY THE GENERAL PERMIT PROGRAM OFFICE IMMEDIATELY FOLLOWING ANY SPILL OF FUEL OR OTHER TOXIC MATERIAL. CONTRACTOR IS REQUIRED TO FOLLOW-UP WITH WRITTEN DOCUMENTATION, INCLUDING A COMPLETE DESCRIPTION OF THE INCIDENT, MATERIAL SPILLED, AND ACTIONS TAKEN TO CONTAIN AND CLEAN-UP MATERIAL.

FUGITIVE DUST CONTROL:

ALL PROJECTS APPROVED THROUGH THE GENERAL PERMIT PROGRAM (GPP) MUST COMPLY WITH THE CODE OF THE CITY OF AUSTIN AND THE ENVIRONMENTAL CRITERIA MANUAL REQUIREMENTS TO CONTROL AIRBORNE DUST. COMPLIANCE IS REQUIRED FOR ENTIRE PROJECT SITE AS WELL AS ASSOCIATED OPERATIONS. CONTACT THE GPP OFFICE FOR RECOMMENDED CONTROL METHODS.

SPOILS STORAGE:

NO SPOILS STORAGE IS ALLOWED WITHIN A CRITICAL WATER QUALITY ZONE, A 100-YEAR FLOODPLAIN, OR ON A SLOPE WITH A GRADIENT OF MORE THAN 15 PERCENT.

E/S CONTROLS FOR BORE / RECEIVING PIT LOCATIONS:

TEMPORARY E/S CONTROLS MUST SURROUND THE ENTIRETY OF BORING OPERATIONS, INCLUDING PIT, EQUIPMENT, ETC. FOR LOCATIONS WITHIN IMPERVIOUS AREAS, TEMPORARY CONTROL WILL BE TRIANGULAR FILTER DIKE (COA STANDARD DETAIL #628S). DIKE FLAP WILL BE CONTINUOUSLY WEIGHTED DOWN THROUGH THE USE OF 1" BY 4" WOOD STRIPS NAILED TO THE PAVEMENT, EXCEPT FOR THE ACCESS POINT. PLACEMENT OF TEMPORARY E/S CONTROLS ACROSS ACCESS POINT WILL BE REQUIRED WHENEVER THE SITE IS NOT ACTIVELY USED. FOR LOCATIONS WITHIN PERVIOUS AREAS, TEMPORARY CONTROL WILL BE SILT FENCE (COA STANDARD DETAIL #642S-1) OR MULCH SOCKS (COA STANDARD DETAIL #648S-1), AS INDICATED ON APPROVED PLANS.

SOIL RETENTION BLANKET:

UNLESS OTHERWISE INDICATED IN THE PROJECT DOCUMENTS, INSTALLATION OF SOIL RETENTION BLANKET WILL BE REQUIRED FOR ALL IMPACTED SLOPES GREATER THAN 3:1 AND ALL IMPACTED AREAS WITHIN DRAINAGE CONVEYANCES. (CITY OF AUSTIN STANDARD SPECIFICATION ITEM 605S) SOIL RETENTION BLANKET SUBMITTAL MUST BE APPROVED BY PROJECT ENGINEER AND GENERAL PERMIT PROGRAM (GPP) REPRESENTATIVE PRIOR TO USE AND MUST INCLUDE PRODUCT AND INSTALLATION DETAILS PROVIDED BY MANUFACTURER. FINISH GRADING MUST BE INSPECTED AND APPROVED BY GPP INSPECTOR PRIOR TO BLANKET INSTALLATION. INSTALLATION MUST BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST BE INSPECTED AND APPROVED BY GPP REPRESENTATIVE PRIOR TO ACCEPTANCE.

SOD INSTALLATION:

REVEGETATION WITHIN MANAGED TURF AREAS MUST BE ACCOMPLISHED THROUGH THE INSTALLATION OF SOLID BLOCK GRASS SOD. SOD TYPE MUST MATCH ADJACENT GRASS TYPE. QUESTIONS REGARDING SOD TYPE WILL BE RESOLVED BY THE GENERAL PROGRAM PERMIT REPRESENTATIVE. REFER TO CITY OF AUSTIN STANDARD SPECIFICATION ITEM NO. 602S: SODDING FOR EROSION CONTROL, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

TxDOT RIGHTS-OF-WAY:

TOPSOIL (TxDOT ITEM NO. 160), SOIL RETENTION BLANKET (TxDOT ITEM NO. 169), AND REVEGETATION (TxDOT ITEM NO. 164) INSTALLED WITHIN TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) RIGHT-OF-WAY SHALL COMPLY WITH "REQUIREMENTS FOR INSTALLATION OF UTILITIES WITHIN THE STATE RIGHT-OF-WAY, AUSTIN DISTRICT".

PROJECT SEQUENCE:
(REFER TO FULL PLAN SET FOR PROJECT-SPECIFIC ADDITIONS, IF APPLICABLE.)

PRIOR TO CONSTRUCTION:

1. SECURE APPLICABLE COA PERMITS, INCLUDING APPROVAL UNDER GENERAL PERMIT PROGRAM AND RIGHT-OF-WAY EXCAVATION PERMIT.

2. NOTIFY GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO PLACEMENT OF E/S CONTROLS AND TREE PROTECTION FENCING. ALL PROPOSED PHASING OF CONTROLS MUST BE SUBMITTED TO AND APPROVED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO THE FIELD PRE-CONSTRUCTION CONFERENCE.

3. NOTIFY COA TEMPORARY TRAFFIC CONTROL REPRESENTATIVE PRIOR TO PLACEMENT OF TEMPORARY TRAFFIC CONTROLS. ALL PROPOSED PHASING OF CONTROLS MUST BE INDICATED ON APPROVED TEMPORARY TRAFFIC CONTROL PLAN AND SEALED BY PROFESSIONAL ENGINEER.

4. PLACE TEMPORARY E/S CONTROLS AND TREE PROTECTION FENCING PRIOR TO BEGINNING ANY EXCAVATION. INSTALL C.I.P. SIGN, IF APPLICABLE.

5. HOLD ENVIRONMENTAL PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND GENERAL PERMIT PROGRAM REPRESENTATIVE AFTER INSTALLATION OF E/S CONTROLS AND TREE PROTECTION FENCING AND PRIOR TO ANY TRENCHING OPERATIONS.

6. PLACE TEMPORARY TRAFFIC CONTROL DEVICES.

PROJECT CONSTRUCTION:

1. BEGIN CONSTRUCTION. NOTIFY GENERAL PERMIT PROGRAM REPRESENTATIVE A MINIMUM OF 48 HOURS IN ADVANCE OF TRANSITION BETWEEN PHASES.

2. CONTACT GENERAL PERMIT OFFICE TO SCHEDULE FIELD INSPECTION PRIOR TO BEGINNING INSTALLATION OF PERMANENT E/S CONTROLS.

3. COMPLETE RESTORATION OF ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES FOR THIS PROJECT. (PERMANENT E/S CONTROLS)

4. REMOVE TEMPORARY TRAFFIC CONTROL DEVICES RELATED TO WORK AREAS OUTSIDE OF THE STREET.

5. HOLD ENVIRONMENTAL POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, OWNER'S REPRESENTATIVE, AND GENERAL PERMIT PROGRAM REPRESENTATIVE. ALL PERMANENT E/S CONTROLS MUST BE ACCEPTED BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE. PERMANENT CONTROLS SHALL CONSIST OF REVEGETATION PER DETAILS 602, 604S, AND 609S AS INDICATED ON APPROVED PLANS.

6. FOLLOWING FINAL ACCEPTANCE OF PERMANENT E/S CONTROLS BY THE GENERAL PERMIT PROGRAM REPRESENTATIVE, REMOVE TEMPORARY E/S CONTROLS. CLEAN EXISTING STORM DRAINAGE SYSTEMS AS NECESSARY DUE TO CONSTRUCTION OPERATIONS.

7. DRESS-UP AND RESTORE ANY AREAS DISTURBED BY REMOVAL OF TEMPORARY E/S CONTROLS DESCRIBED ABOVE.

REQUIRED SUBMITTALS:

SUBMITTALS REQUIRED TO BE APPROVED BY GENERAL PERMIT PROGRAM REPRESENTATIVE INCLUDE: SUBMITTALS TRIGGERED BY CITY OF AUSTIN SERIES 600 SPECIFICATIONS AND RELATED SPECIAL PROVISIONS/SPECIFICATIONS, CONSTRUCTION SCHEDULE, TREE PROTECTION, P-6 AND OTHER ROOT ZONE PROTECTION/MITIGATION MEASURES, DEWATERING PLAN, WATERING SCHEDULE FOR REVEGETATION AREAS, AND ANY VEGETATIVE REPLACEMENT PROPOSALS, IF NOT ALREADY PART OF THE PERMITTED PLAN SET.

CITY OF AUSTIN – STANDARD NOTES
TREE AND NATURAL AREA PROTECTION
(MODIFIED FOR USE ON GENERAL PERMIT PROJECTS)

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY MEASURES.

2. PROTECTIVE MEASURES SHALL BE INSTALLED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.

3. PROTECTIVE MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE PROJECT.

4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP, COMPACTION OR CUTTING OF CRITICAL ROOT ZONE WITHIN TREE DRIP LINES.

5. TREE PROTECTION SHALL COMPLETELY SURROUND THE TREES OR GROUP OF TREES AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE). FOR NATURAL AREAS, PROTECTIVE MEASURES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:

   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;

   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE GENERAL PERMIT PROGRAM OFFICE OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT;

   C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;

   D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.

6. EXCEPTIONS TO INSTALLING PROTECTIVE FENCES AT CRITICAL ROOT ZONES MAY BE PERMITTED IN THE FOLLOWING CASES:

   A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 FEET BEYOND THE AREA DISTURBED;

   B. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA

   C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING

   D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE GENERAL PERMIT PROGRAM OFFICE AT 974-6330 TO DISCUSS ALTERNATIVES.

SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.

WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE 5 FEET OR CLOSER TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING.

7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES, THOSE AREAS SHOULD BE COVERED WITH 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION DURING CONSTRUCTION. FILTER FABRIC UNDERLAYMENT MAY BE REQUIRED AT DIRECTION OF GENERAL PERMIT PROGRAM REPRESENTATIVE BASED ON SITE CONDITIONS AND CONSTRUCTION ACTIVITIES. MAXIMUM FOUR (4) INCHES DEPTH MAY BE LEFT IN PLACE AFTER CONSTRUCTION WITH APPROVAL FROM THE GENERAL PERMIT PROGRAM REPRESENTATIVE.

8. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCES TO 2 FEET BEHIND THE GRADE CHANGE AREA.

9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.

10. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.

11. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.

12. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.

13. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.

14. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS. SEE NOTE THREE (3) OF SUPPLEMENTAL TREE PROTECTION NOTES FOR ADDITIONAL REQUIREMENTS.

15. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE GENERAL PERMIT PROGRAM OFFICE).

16. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NONCOMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

17. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.

SUPPLEMENTAL TREE PROTECTION NOTES

1. ALL TREE PROTECTION MUST COMPLY WITH CITY OF AUSTIN REQUIREMENTS AS OUTLINED IN THE ENVIRONMENTAL CRITERIA MANUAL AND AS INDICATED BY STANDARD COA NOTES AND DETAILS INCLUDED WITHIN THIS DOCUMENT SET. CONTRACTOR SHALL INSTALL PROTECTION PRIOR TO PRE-CONSTRUCTION CONFERENCE, MAKE ADJUSTMENTS TO PROTECTION AS DIRECTED BY THE GPP REPRESENTATIVE, AND MAINTAIN PROTECTION UNTIL PROJECT IS COMPLETE.

2. TYPE AND LOCATION OF ALL TREE PROTECTION MUST BE APPROVED IN THE FIELD BY THE GENERAL PERMIT PROGRAM (GPP) REPRESENTATIVE PRIOR TO CONSTRUCTION.

3. WALK-THROUGH: CONTRACTOR SHALL CONDUCT WALK-THROUGH MEETING WITH GENERAL PERMIT PROGRAM REPRESENTATIVE PRIOR TO PERFORMING ANY PRUNING ACTIVITIES ON TREES IN PROJECT AREA. PURPOSE OF WALK-THROUGH WILL BE TWOFOLD. ONE PURPOSE WILL BE TO DETERMINE THE MINIMUM AMOUNT OF PRUNING NECESSARY TO ALLOW CONSTRUCTION WORK TO BE COMPLETED. SECOND PURPOSE WILL BE TO DETERMINE AREAS OF PROJECT IN WHICH EXHAUST DIVERTERS WILL BE REQUIRED ON CONSTRUCTION EQUIPMENT TO PREVENT SCORCHING OF EXISTING TREES.

4. ALL PRUNING MUST BE PERFORMED IN ACCORDANCE WITH ANSI A300 (PART 1) – 2001 AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS (PRUNING), OR LATEST APPROVED VERSION. THIS DOCUMENT MAY BE OBTAINED ONLINE FOR A FEE AT WWW.ANSI.ORG.

5. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS. TO PREVENT BARK TEARS, THE WEIGHT OF THE BRANCH SHALL BE REMOVED BEFORE MAKING FINAL PRUNING CUT.

6. ALL PRUNING SHALL PRESERVE THE NATURAL CHARACTER OF THE TREE.

7. ONLY COLLAR CUTS ARE ACCEPTABLE. NO FLUSH CUTS OR STUB CUTS WILL BE ALLOWED.

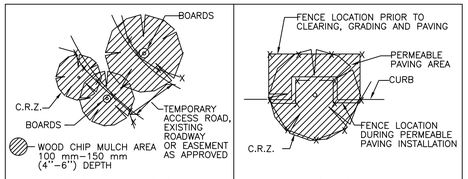
8. ALL BRANCHES THAT ARE BROKEN OR DAMAGED DURING CONSTRUCTION SHALL BE REMOVED.

9. PRUNING CUTS OR DAMAGED AREAS ON AN OAK TREE SHALL BE PAINTED WITHIN FIVE MINUTES WITH A STANDARD TREE WOUND DRESSING. TREE WOUND DRESSING SHALL BE EITHER TREEKOTE AEROSOL OR TANGLEFOOT PRUNING SEALER (OR APPROVED EQUAL). THIS ALSO APPLIES TO WOUNDS CREATED BY CONSTRUCTION VEHICLES OR EQUIPMENT. ALL PRUNING MUST BE IN ACCORDANCE WITH COA OAK WILT PREVENTION POLICY.

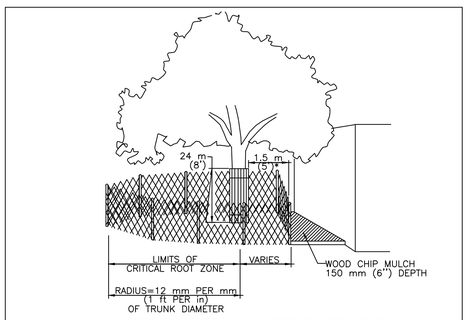
10. ANY TREE ROOTS THAT ARE EXPOSED, CUT, OR TORN DURING CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SURROUNDING SOIL. (REFER ALSO TO NUMBER 9 OF THE TREE AND NATURAL AREA PROTECTION NOTES INCLUDED IN THIS PLAN SET.)

11. ALL TRENCHING WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PRESERVED WILL BE SAW CUT OR EXCAVATED BY HAND, AS APPROVED BY THE GENERAL PERMIT PROGRAM ARBORIST.

12. REFER TO ENVIRONMENTAL CRITERIA MANUAL APPENDIX P-6 FOR FURTHER REMEDIAL TREE CARE REQUIREMENTS. P-6 REMEDIAL TREE CARE WILL BE COORDINATED WITH AND APPROVED BY THE GENERAL PERMIT PROGRAM ARBORIST FOR PROJECTS PERMITTED THROUGH THE GENERAL PERMIT PROGRAM.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY	11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY	11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION STANDARD TREE PROTECTION AND ENVIRONMENTAL NOTES

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

STATE OF KENTUCKY
CHARLES W. KAUGH
90781
LICENSED PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

NO.	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.
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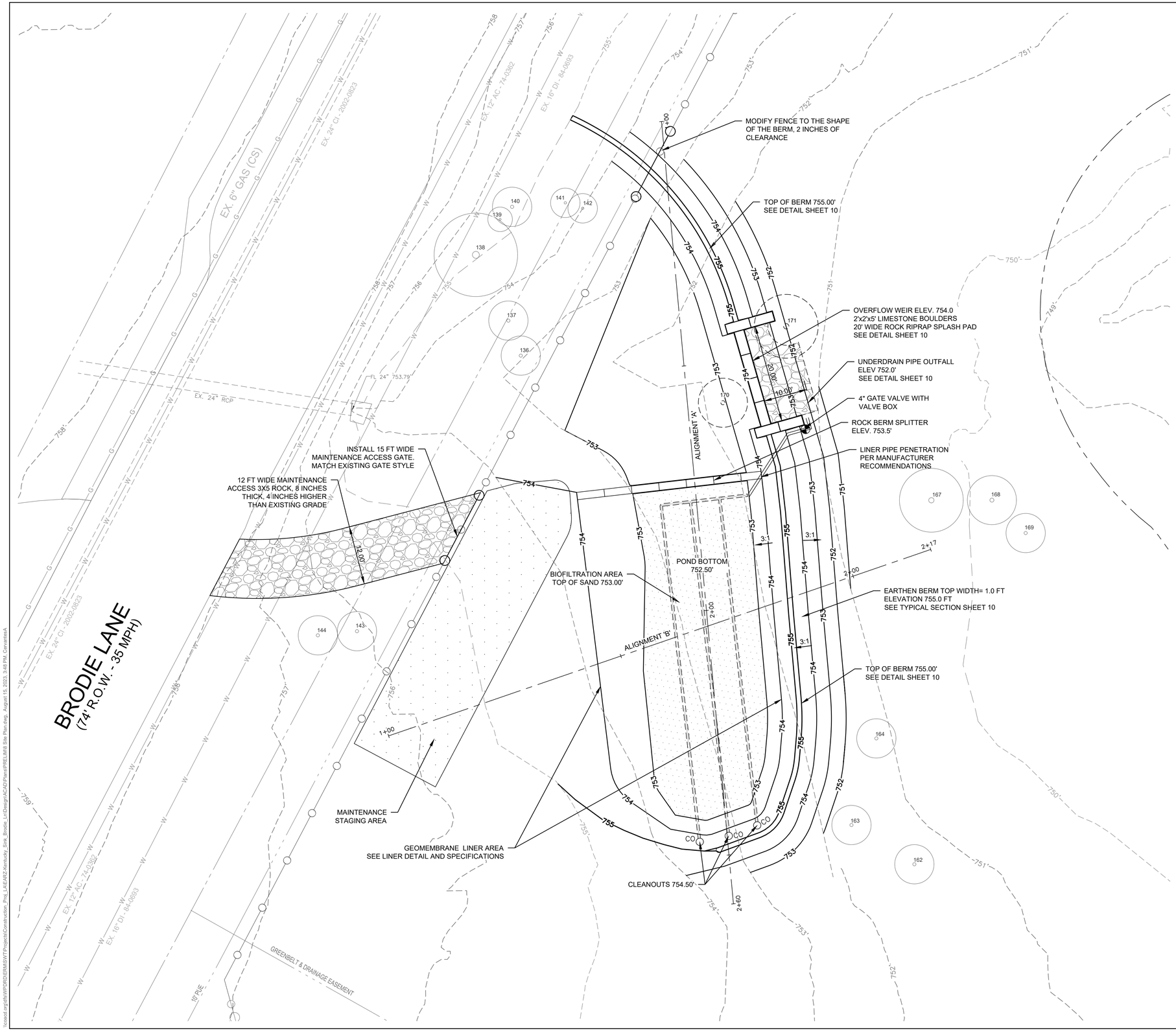
OF 1
August 15, 2023



LEGEND

- RIGHT OF WAY
- 495' PROPOSED CONTOUR
- 495' EXISTING CONTOUR
- SINKHOLE DELINEATION
- EXISTING FENCE
- EXIST. TREE
- EXIST. TREE TO BE REMOVED

NOTES:

1. IF EXCAVATION EXPOSES A SEEP, SPRING, OR OTHER SOURCE OF GROUNDWATER, STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER AND ENVIRONMENTAL INSPECTOR
2. ALL GRADED SLOPES ABOVE BLOCK WALLS SHALL BE VEGETATED SOIL CHOKED RIPRAP PER COA SPEC 591S-J.
3. EXISTING FENCING SHALL BE REMOVED, STORED, AND/OR REPLACED IN-KIND AS NECESSARY TO COMPLETE THE WORK
4. DEMOLISH AND REMOVE EXISTING BROKEN CONCRETE RUBBLE FROM SITE

STAGE/AREA STORAGE TABLE

Sedimentation Area	940 sf
Filtration Area	1500 sf

Stage (ft/msl) (ft-msl)	Area (sf) (sf)	Storage (cf) (sf)
753.0	1500.0	0.0
754.0	5518.0	3509.0
755.0	7942.0	10239.0

POND HYDRAULICS

	Q (cfs)	Depth (ft)	Volume (cf)
2-Year	27.60	1.55	7292.05
10-Year	33.10	1.63	7753.90
25-Year	33.90	1.64	7877.00
100-Year	36.00	1.65	7929.90

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION

SITE PLAN

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

STATE OF TEXAS
CHARLES W. KAOUGH
90197
LICENSED
PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

NO.	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.

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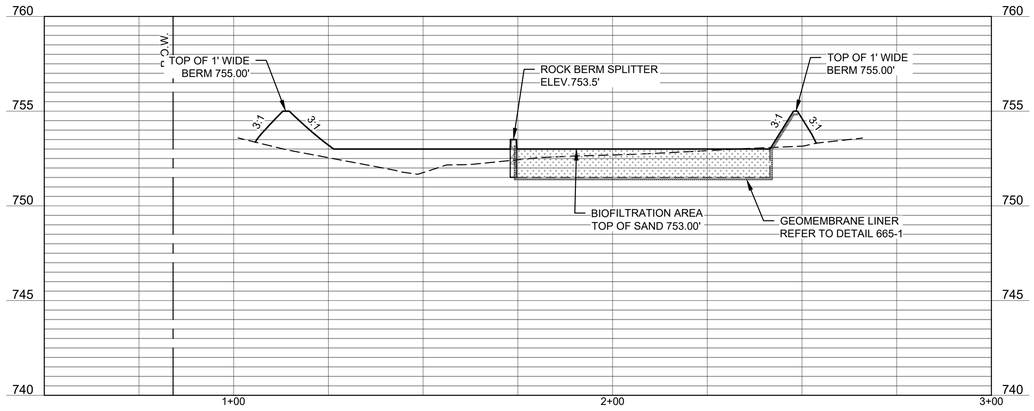
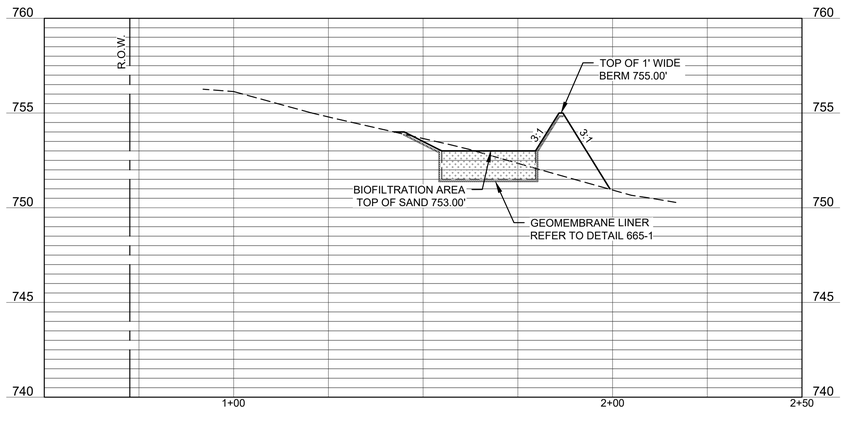
PROFILE LEGEND
EX. GROUND ALONG CL
PROP. GRADE

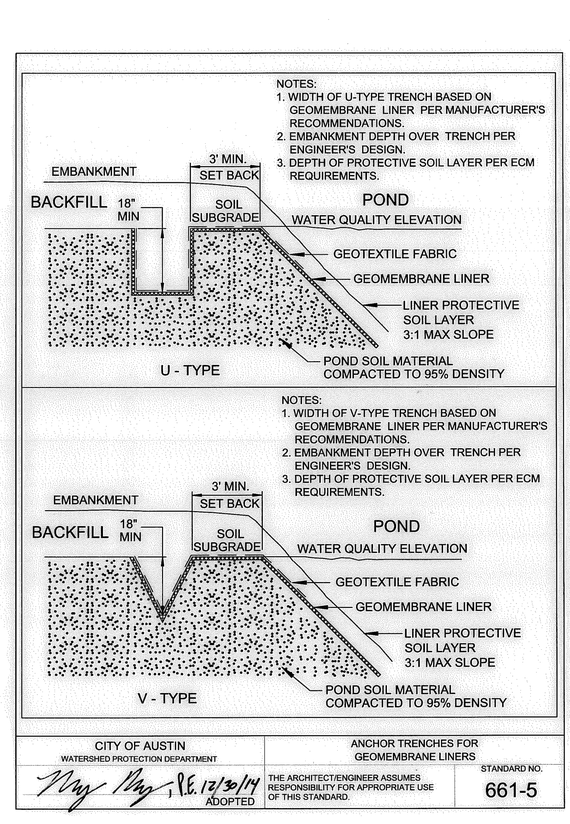
SCALE:
1" = 20' H.
1" = 4' V.

ALIGNMENT A 0+50.00 to 3+00.00



ALIGNMENT B 0+50.00 to 2+50.00





CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ANCHOR TRENCHES FOR GEOMEMBRANE LINERS
ADOPTED 12/30/14	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
	STANDARD NO. 661-5

10655 BRODIE LN, AUSTIN,
KENTUCKY SINKHOLE PROTECTION
PROFILES

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

STATE OF TEXAS
CHARLES W. KADUCH
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6/7/2023

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WATERSHED PROTECTION

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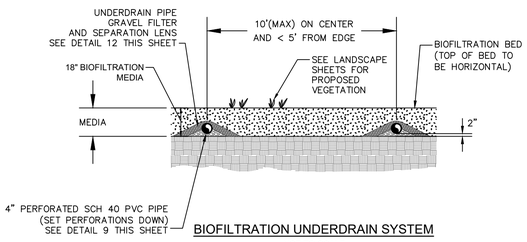
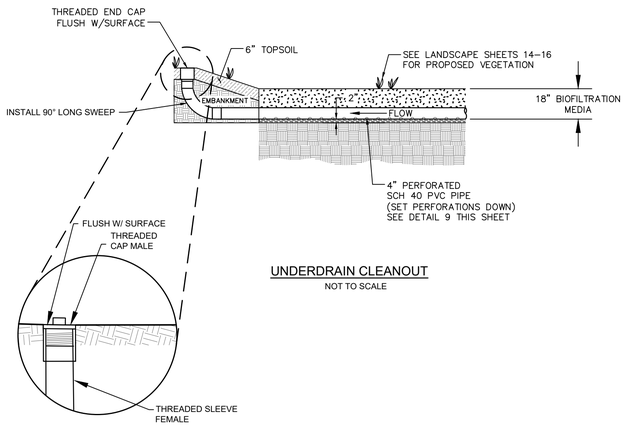


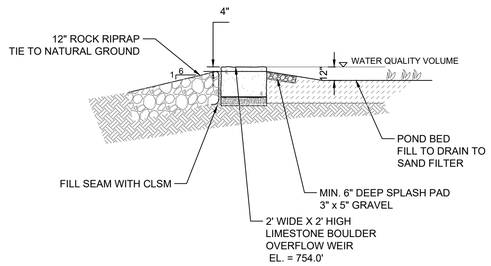
BIOFILTRATION UNDERDRAIN SYSTEM

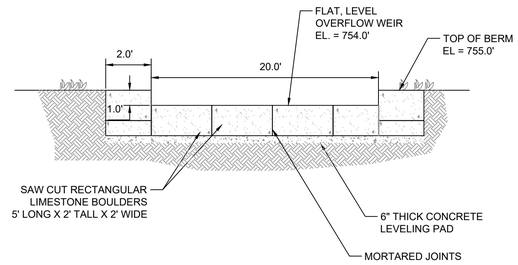
NOT TO SCALE



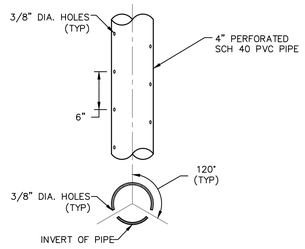
UNDERDRAIN CLEANOUT

NOT TO SCALE



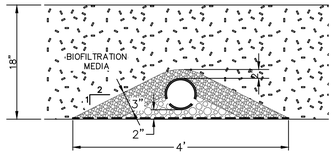


OVERFLOW WEIR DETAIL



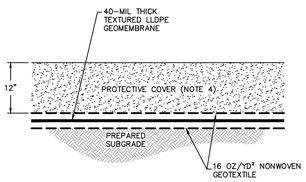
UNDERDRAIN PIPE PERFORATIONS

NOT TO SCALE



UNDERDRAIN PIPE GRAVEL FILTER & SEPARATION LENS

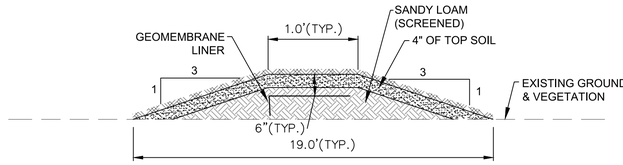
NOT TO SCALE



DETAIL

LINER SYSTEM

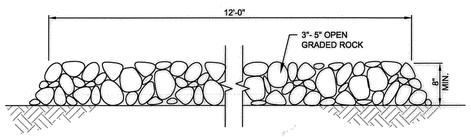
SCALE: N.T.S.



PROPOSED BERM TYPICAL CROSS SECTION

N.T.S.

NOTES:
CONSTRUCTION SEQUENCE-
1. STAKE OUT LOCATION OF BERM CENTER LINE
2. LOOSEN EXISTING GROUND TO A DEPTH OF 4" AND REMOVE ORGANIC MATTER.
3. APPLY 4 INCHES OF SANDY LOAM AND COMPACT WITH MECHANICAL COMPACTOR OR ROLLER



NOTES:
1. STONE SIZE: 75–125 mm (3–5") OPEN GRADED ROCK.
2. THICKNESS: NOT LESS THAN 200 mm (8").
3. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	POND MAINTENANCE ROAD CROSS SECTION	
E. J. Rourk, P.E. 1/4/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 662S-2

HEIGHT	24"
LENGTH	18"
THICKNESS	0.08"
SUBSTRATE	ALUMINUM ALLOY, 6061-T-6, OR TYPE IV 5052-H38 (ASTM B-209)
COLOR	LETTERING AND BORDER BLACK

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	STORM WATER FACILITY SIGN	
E. J. Rourk, P.E. 1/4/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 662S-3

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION

DETAILS

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

CHARLES W. KADUCH
STATE OF TEXAS
90191
LICENSED PROFESSIONAL ENGINEER
6/7/2023

REVISIONS

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WATERSHED PROTECTION

SHEET NO.

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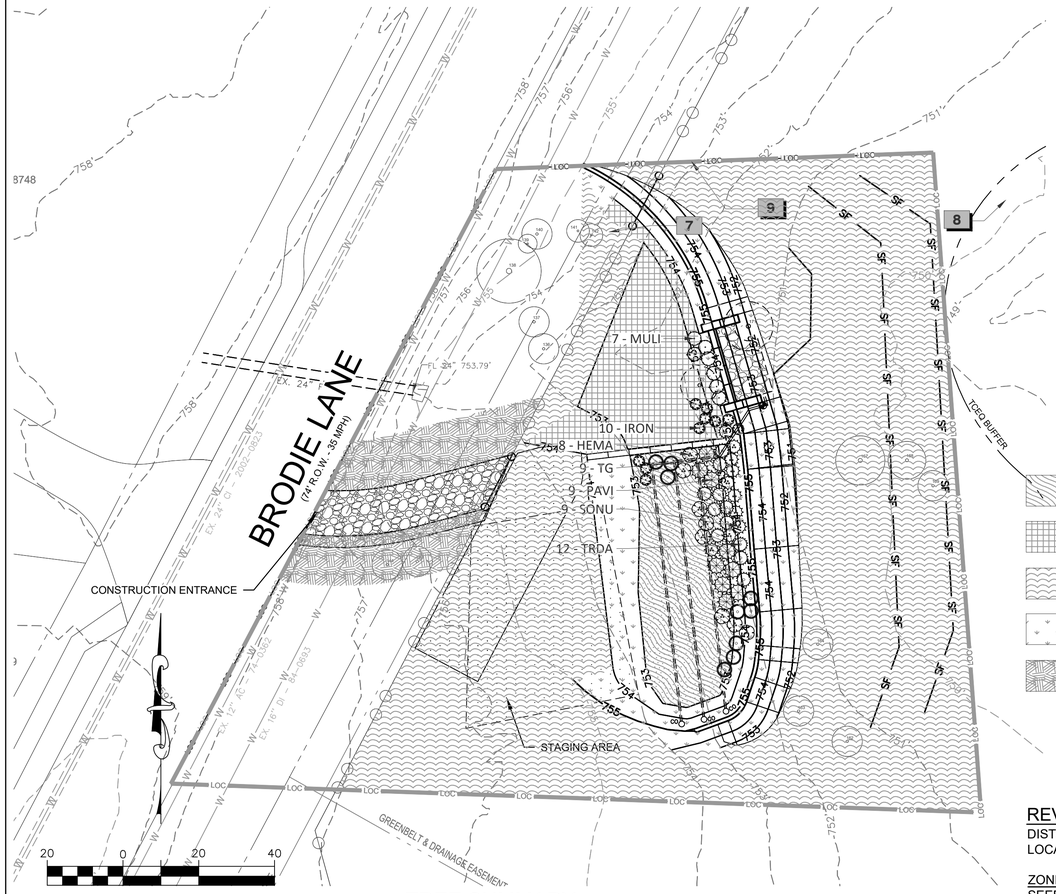
August 15, 2023



SCALE: 1" = 20'

LEGEND

- EXISTING CONTOUR
- SINKHOLE DELINEATION
- EXISTING FENCE
- EXIST. TREE
- EXIST. TREE TO BE REMOVED
- LOC — LIMITS OF CONSTRUCTION
- TP — TREE PROTECTION
- CF — CONSTRUCTION FENCING
- STABILIZED CONSTRUCTION RAMP
- ACCESS PATH WITH 12" HARDWOOD MULCH

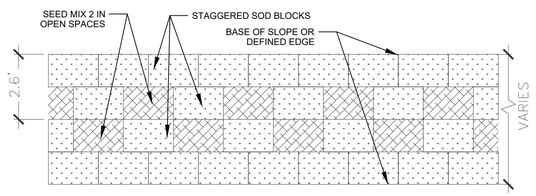
TREE INVENTORY

TREE NO.	TREE DESCRIPTION
136	8" LIVE OAK
137	10.5" LIVE OAK MULTI-STEM-- M 8"-5"
138	17" LIVE OAK
139	5" LIVE OAK
140	8" LIVE OAK
141	6" LIVE OAK
142	6" LIVE OAK
143	8" LIVE OAK
144	12" LIVE OAK - M 8"-8"
162	8" LIVE OAK
163	8" LIVE OAK
164	8" LIVE OAK
167	13" ASH
168	10" ASH
169	8" ASH
170	10" LIVE OAK -R
171	13" LIVE OAK -R

TREE SUMMARY

Surveyed: 158.5"

Total Appendix F tree inches surveyed	146.5"
Heritage tree inches surveyed	0"
Non-Appendix F tree inches surveyed	0"
Invasive tree inches surveyed	0"
Removed:	
Total Appendix F inches removed	23"
MITIGATION REQUIRED	11.5"
MIITGATION ON SITE	0"
PAY TO MITIGATION FUND	$2,300



INSTALLATION NOTES:

1. CONDUCT SOIL PREPARATION PER INSTRUCTIONS FROM LANDSCAPE ARCHITECT.
2. BEFORE INSTALLATION, LIGHTLY RAKE AREA TO BE SODDED AND REMOVE ANY CONSTRUCTION DEBRIS AND LARGE ROCKS. ROLL OR CULTIPACK TO CREATE A SMOOTH, FIRM SURFACE.
3. LAY THE FIRST LINE OF SOD ALONG A STRAIGHT LINE OR EDGE (E.G., SIDEWALK, DRIVEWAY). ON BANK SLOPES, START AT THE BOTTOM AND LAY THE SOD PERPENDICULAR TO THE SLOPE. IN SWALES, LAY SOD PARALLEL TO SLOPE, ON CONTOURS.
4. STAGGER THE SOD PIECES IN THE ADJACENT ROWS IN "BRICKWORK" FASHION PER DIAGRAM ABOVE. PUSH THE PIECES TOGETHER TIGHTLY AS TO PREVENT SHRINKAGE WHEN DRYING, DO NOT OVERLAY THE PIECES.
5. ROLL SOD WITH HEAVY HAND ROLLER AFTER ITS LAID TO ENSURE GOOD CONTACT BETWEEN SOD AND SOIL.
6. WATER THOROUGHLY IMMEDIATELY AFTER ROLLING, KEEP SOD AND PLANT MOIST UNTIL ESTABLISHMENT..
7. PEG SOD IN AREAS SUBJECT TO FLOWS WHERE SOD MAY BE DISPLACED DURING STORM EVENTS BEFORE IT GETS ESTABLISHED. EACH PIECE OF SOD SHOULD BE PEGGED AT THE ENDS AND IN THE CENTER, OR EVERY 3-4 FT IF THE STRIPS ARE LONG, WITH 8" SOD STAPLES (NO. 11 GAUGE) OR 6" GREENSTAKE BIODEGRADABLE SOD PEGS WWW.GREENSTAKE.COM.
8. INSTALL ALL PALLETS OF SOD ON THE SAME DAY THEY ARE DELIVERED. DO NOT LEAVE SOD ON PALLETS OVERNIGHT.

CHECKERBOARD SOD PLANTING DETAIL

N.T.S.

PLANT SCHEDULE

GRASSES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	MULI	Muhlenbergia lindheimeri	Lindheimer`s muhly	1 gal.	7
	PAVI	Panicum virgatum	switchgrass	1 gal.	9
	SONU	Sorghastrum nutans	Indiangrass	1 gal.	9
	TRDA	Tripsacum dactyloides	eastern gamagrass	1 gal.	12
PERENNIALS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**QTY**
	HEMA	Helianthus maximiliani	Maximilian sunflower	1 gal.	8
	TG	Solidago altissima	Giant Goldenrod	1 gal.	9
	IRON	Vernonia baldwinii	Baldwin's Ironweed	1 gal.	10

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
1	Zone 1: Biofiltration Meadow	1,527 sf
2	Zone 2: Sedimentation Meadow	1,506 sf
3	Zone 3: Revegetation	16,768 sf
4	Zone 4: Banks	3,373 sf
5	Celebration Bermudagrass sod	1,285 sf
7	Critcal Enviromental Feature setback line	
8	Critical Environmental Feature	
9	Limit of Construction	

REVEGETATION SCHEDULE - AREAS ON PLAN ARE APPROXIMATE AND AREAS OF DISTURBANCE SHALL BE DETERMINED AND QUANTITIES ADJUSTED PRIOR TO REVEGETATION.PLANT LOCATIONS TO BE APPROVED BY L.A. PRIOR TO INSTALLATION.

ZONE 1- BIOFILTRATION MEADOW
SEED MIX 1 PLUS 4" POT/ PLUG/ OR LIVE ROOTS -48" O.C
20%SWITCHGRASS, 20% CANADA WILDRYE, 20% TALL GOLDENROD, 20% TALL ASTER, 20%LITTLE BLUESTEM

ZONE 2 - SEDIMENTATION MEADOW
SEED MIX 2 PLUS 4" POT/ PLUG/ OR LIVE ROOTS -48" O.C
20%TEXAS WINTERGRASS, 20% CANADA WILDRYE, 20% TEXAS CUPGRASS, 20% SIDEOATS GRAMA, 20%LITTLE BLUESTEM

ZONE 3 - REVEGETAION AREAS
SEED MIX #3 TO ALL DISTURBED AREAS - BY HAND AND PER ECM 604S

ZONE 4 - BANK
SEED MIX #4 PLUS CHECKERBOARD BUFFALOGRASS SOD PER DETAIL

VEGETATION MANAGEMENT

ZONE 1- BIO-FILTRATION MEADOW
-BY WPD -FOD
MOW LOW AREAS YEARLY IN LATE SPRING, AT 6" HEIGHT, TO REMOVE WILDFLOWERS AFTER SETTING SEED, MOW TO 6" YEARLY IN EARLY WINTER TO ENCOURAGE WILDFLOWERS. MOW OR CUT BUNCH-GRASSES AND LARGE FORBS TO 6" EVERY TWO TO THREE YEARS

ZONE 3- SEDIMENTATION MEADOW
-BY WPD -FOD
MOW LOW AREAS YEARLY IN LATE SPRING, TO 6" HEIGHT, TO REMOVE WILDFLOWERS AFTER SETTING SEED, MOW TO 6" YEARLY IN EARLY WINTER TO ENCOURAGE WILDFLOWERS. MOW OR CUT BUNCH-GRASSES AND LARGE FORBS TO 6" EVERY TWO TO THREE YEARS

ZONE 3 - REVEGETATION
- BY WPD -FOD
REMOVE WEEDS, WOODY VEGETATION AND TRASH AS NEEDED

ZONE 4 - BANKS
- BY WPD-FOD
REMOVE WOODY VEGETATION AND DEBRIS AS NEEDED, MOW YEARLY AT END OF GROWING SEASON - OCTOBER THROUGH JANUARY

ZONE 5- SOD
- BY H.O.A.

	Seeding Rate	Area(acres)	Total seed to be installed
Zone 1 - Biofiltration		**0.04**	**26#/acre**
Grasses (8 min.)			17#/acre
Green Sprangletop*	4		0.16
Bushy Bluestem	1.5		0.06
Canada Wildrye	5		0.2
Eastern Gamagrass	1.5		0.06
Switchgrass	1.5		0.06
Inland Sea Oats	1		0.04
White Tridens	0.5		0.02
Big Bluestem	2		0.08
	17		
Total			0.68
Forbs (10 species)			9#/acre
Illinois Bundleflower	1		0.04
Purple Praire Clover*	1		0.04
Partridge Pea*	1.5		0.06
Winecup*	1.5		0.06
Pink Evening Primrose	0.5		0.02
Obedient Plant	1		0.04
Common Sunflower	0.5		0.02
Goldenwave	0.5		0.02
Maximillian Sunflower	0.5		0.02
Standing Cypress	1		0.04
	9		0.36
Total	26		1.04
Zone 2-sedimentation		**0.04**	**35#/acre**
Grasses (8min.)			23.5#/acre
Green Sprangletop*	4		0.16
Sideoats grama*	4		0.16
Canada Wildrye	4		0.16
Little Bluestem	4		0.16
Black Grama*	2		0.08
Sand Dropseed*	1		0.04
Galleta	3		0.12
Curly mesquite	1.5		0.06
	23.5		0.94
Forbs (10 species)			11.5#/ acre
Illinois Bundleflower*	2		0.08
Purple Praire Clover*	1		0
Partridge Pea*	1.5		0.06
Bluebonnet*	2.5		0.1
Indian Blanket	1		0.04
Lemon Mint	1		0.04
Common Sunflower	0.5		0.02
Goldenwave	0.5		0.02
Bush Sunflower	0.5		0.02
Standing Cypress	1		0.04
	11.5		0.42
Total			1.36
Zone 3-Revegetation		**0.38**	**35#/acre**
Grasses (8min.)			23.5#/acre
Green Sprangletop*	4		1.14
Sideoats grama*	3		1.14
Canada Wildrye	3		1.14
Little Bluestem	3		1.14
Black Grama	2		0.76
Sand Dropseed	1		0.38
Galleta	3		1.14
Western Wheatgrass*	1.5		
Hooded Windmillgrasss	0.5		
Plains bristlegrass	1		
Curly mesquite	1.5		0.57
	23.5		7.41
Forbs (10 species)			11.5#/ acre
Illinois Bundleflower*	2		0.76
Purple Praire Clover*	1		0
Partridge Pea*	1.5		0.57
Bluebonnet*	2.5		0.95
Indian Blanket	1		0.38
Lemon Mint	0.5		0.19
Common Sunflower	0.5		0.19
Goldenwave	0.5		0.19
Bush Sunflower	0.5		0.19
Tahoka Daisy	0.5		
Texas Yellowstar	0.5		
Standing Cypress	0.5		0.19
	11.5		3.61
Total			11.02

IRRIGATION NOTES:

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. TEMPORARY IRRIGATION SOURCE SHALL BE FIRE HYDRANT ON THE nec CORNER OF BRODIE LANE & SQUIRREL HOLLOW LANE, APPROX.1,250 FEET FROM PROJECT SITE.
2. ALL IRRIGATION FOR THIS PROJECT IS TEMPORARY AND SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR AT THE END OF THE 1-YEAR ESTABLISHMENT/WARRANTY PERIOD;
3. THE SYSTEM SHALL BE DESIGNED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR'S TCEQ LICENSED IRRIGATOR WHO SHALL OBTAIN ALL PERMITS, HANDLE ALL INSPECTIONS, AND PAY ALL FEES FOR THIS WORK AS REQUIRED BY CITY OF AUSTIN REGULATIONS AND CODE;
4. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN AND WATER BUDGET TO THE CITY OF AUSTIN AT THE TIME THE POST-CONSTRUCTION WALK THROUGH IS PERFORMED. THE WATER BUDGET SHALL INCLUDE: (A) A CHART WITH ZONE NUMBERS, PRECIPITATION RATE, AND GALLONS PER MINUTE (GPM), AND (B) THE LOCATION OF THE EMERGENCY IRRIGATION SYSTEM SHUT-OFF VALVE;
5. THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;
6. INSTALL ALL REMOTE CONTROL VALVES IN SEPARATE PLASTIC VALVE BOXES;
7. A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;
8. IF A PRESSURE REDUCING VALVE IS REQUIRED IT SHALL BE INSTALLED AFTER THE BACKFLOW PREVENTER AND BEFORE THE MASTER VALVE;
9. AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER MORE THAN A ¼ INCH RAINFALL;
10. NEWLY PLANTED TREES SHALL HAVE DRIP IRRIGATION OR BUBBLERS.
11. WATER SHALL BE PAID FOR BY THE CONTRACTOR.

10655 BRODIE LN, AUSTIN,
KENTUCKY SINKHOLE PROTECTION
LANDSCAPE PLAN

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

REVISIONS

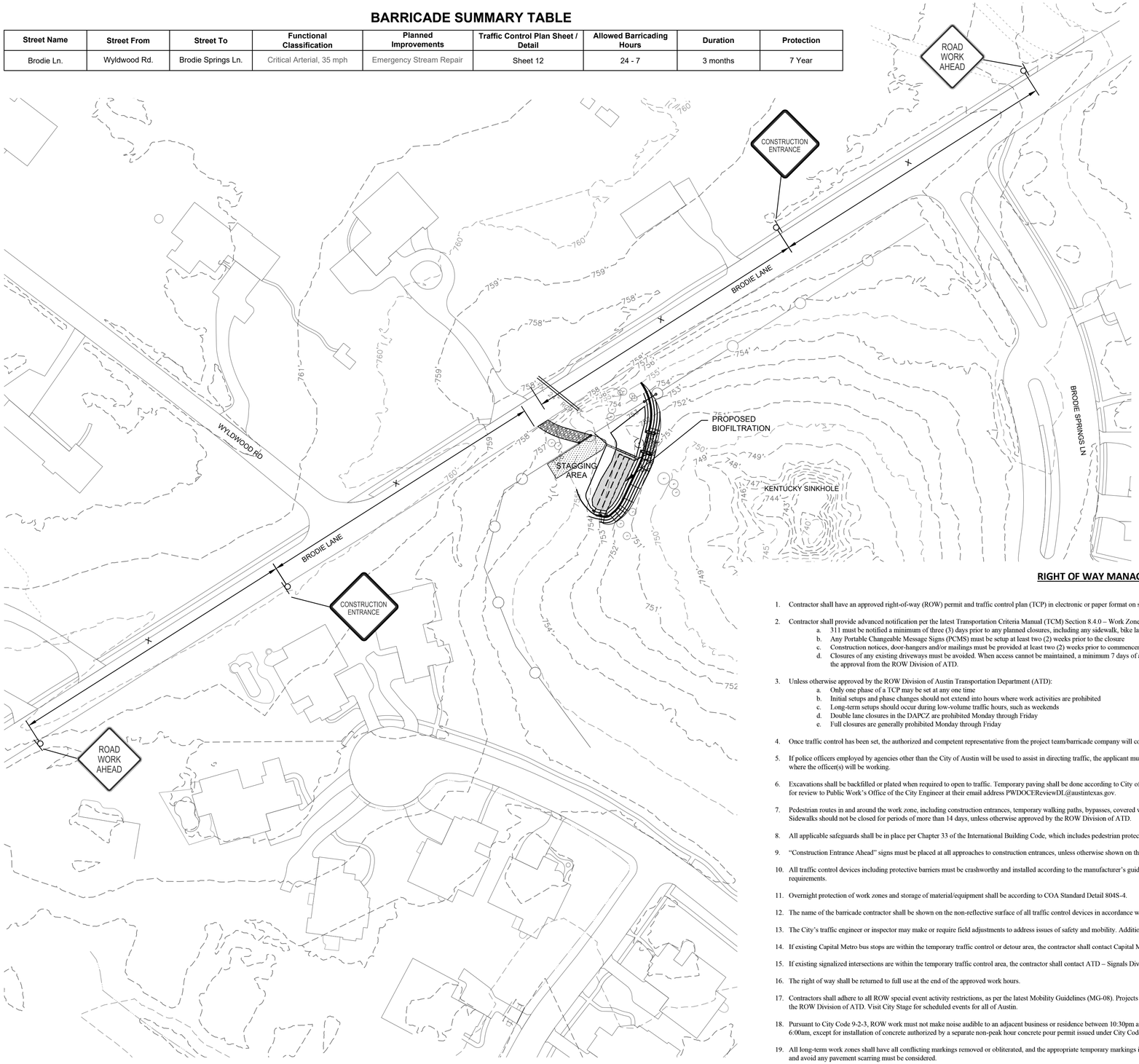
NO.	BY	DATE	REMARKS

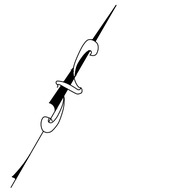
City of Austin
WATERSHED PROTECTION

SHEET NO.
11
OF 1
August 15, 2023

BARRICADE SUMMARY TABLE

Street Name	Street From	Street To	Functional Classification	Planned Improvements	Traffic Control Plan Sheet / Detail	Allowed Barricading Hours	Duration	Protection
Brodie Ln.	Wyldwood Rd.	Brodie Springs Ln.	Critical Arterial, 35 mph	Emergency Stream Repair	Sheet 12	24 - 7	3 months	7 Year





LEGEND

- EXISTING CONTOUR (495')
- SINKHOLE DELINEATION
- EXISTING FENCE
- STABILIZED CONSTRUCTION ENTRANCE (3"X5" ROCK)

NOTES:

1. ALL SIGNING TO BE PLACED ONTO 7ft HIGH STANDS FOR NIGHTTIME USE
2. NO PARKING SIGNS TO BE SET 48hrs IN ADVANCED
3. BRODIE LN. IS CITY COLLECTOR 35mph AND X IS 160ft per 804S-1
4. SIDEWALK TO REMAIN OPEN. FLAGGERS ARE REQUIRED WHEN CONSTRUCTION EQUIPMENT IS ENTERING OR EXITING THE CONSTRUCTION SITE AT THE ROW.

RIGHT OF WAY MANAGEMENT STANDARD NOTES FOR TRAFFIC CONTROL PLANS

1. Contractor shall have an approved right-of-way (ROW) permit and traffic control plan (TCP) in electronic or paper format on site at all times when working in the ROW.
2. Contractor shall provide advanced notification per the latest Transportation Criteria Manual (TCM) Section 8.4.0 – Work Zones:
   a. 311 must be notified a minimum of three (3) days prior to any planned closures, including any sidewalk, bike lanes, and alleys
   b. Any Portable Changeable Message Signs (PCMS) must be setup at least two (2) weeks prior to the closure
   c. Construction notices, door-hangers and/or mailings must be provided at least two (2) weeks prior to commencement of work
   d. Closures of any existing driveways must be avoided. When access cannot be maintained, a minimum 7 days of advanced notification to the property owner is required, and 14 days advanced notification for Emergency Service Facilities (such as fire stations, hospitals, and police stations) along with the approval from the ROW Division of ATD.
3. Unless otherwise approved by the ROW Division of Austin Transportation Department (ATD):
   a. Only one phase of a TCP may be set at any one time
   b. Initial setups and phase changes should not extend into hours where work activities are prohibited
   c. Long-term setups should occur during low-volume traffic hours, such as weekends
   d. Double lane closures in the DAPCZ are prohibited Monday through Friday
   e. Full closures are generally prohibited Monday through Friday
4. Once traffic control has been set, the authorized and competent representative from the project team/barricade company will complete and upload the "Contractor's Self-Inspection Checklist" form. See form and detailed instructions here: https://www.austintexas.gov/page/right-way-traffic-control
5. If police officers employed by agencies other than the City of Austin will be used to assist in directing traffic, the applicant must notify APDSpecialevents@austintexas.gov at least three (3) days prior to work with the name(s) and agency of the police officers to be employed, along with the date, time, and location where the officer(s) will be working.
6. Excavations shall be backfilled or plated when required to open to traffic. Temporary paving shall be done according to City of Austin (COA) Standard Detail 1100S-4 (for HMAC or PCC pavements). For excavations exceeding a transverse width of 5 feet, the contractor shall provide an engineered plating plan for review to Public Work's Office of the City Engineer at their email address PWDOCEReviewDL@austintexas.gov.
7. Pedestrian routes in and around the work zone, including construction entrances, temporary walking paths, bypasses, covered walkways, and detours throughout the project, must remain accessible and shall include accessibility features consistent with the features present in the existing pedestrian facility. Sidewalks should not be closed for periods of more than 14 days, unless otherwise approved by the ROW Division of ATD.
8. All applicable safeguards shall be in place per Chapter 33 of the International Building Code, which includes pedestrian protections per Section 3306.
9. "Construction Entrance Ahead" signs must be placed at all approaches to construction entrances, unless otherwise shown on the reviewed TCP.
10. All traffic control devices including protective barriers must be crashworthy and installed according to the manufacturer's guidelines. Crashworthiness shall be determined per American Association of State Highway and Transportation Official's (AASHTO) Manual for Assessing Safety Hardware (MASH) testing requirements.
11. Overnight protection of work zones and storage of material/equipment shall be according to COA Standard Detail 804S-4.
12. The name of the barricade contractor shall be shown on the non-reflective surface of all traffic control devices in accordance with COA Standard Detail 804S-5.
13. The City's traffic engineer or inspector may make or require field adjustments to address issues of safety and mobility. Additionally, any traffic control deficiencies must also be addressed per the timeline provided by the ROW Division of ATD. Violations will be subject to penalties as provided by law.
14. If existing Capital Metro bus stops are within the temporary traffic control or detour area, the contractor shall contact Capital Metro at ~service.impacts@capmetro.org, two (2) weeks prior to setting up the traffic control devices in order to coordinate potential bus-stop relocation or any other related issues.
15. If existing signalized intersections are within the temporary traffic control area, the contractor shall contact ATD – Signals Division at (512) 974-4075, two (2) weeks prior to setting up any traffic control devices and/or any phase changes.
16. The right of way shall be returned to full use at the end of the approved work hours.
17. Contractors shall adhere to all ROW special event activity restrictions, as per the latest Mobility Guidelines (MG-08). Projects that are routed through the DAPCZ process are required to coordinate with the Office of Special Events (512-974-1000 or TransportationSpecialEvents@austintexas.gov), in conjunction with the ROW Division of ATD. Visit City Stage for scheduled events for all of Austin.
18. Pursuant to City Code 9-2-3, ROW work must not make noise audible to an adjacent business or residence between 10:30pm and 7:00am or operate a machine that separates, gathers, grades, loads, or unloads sand, rock, or gravel within 600 feet of a residence, church, hospital, hotel, or motel between 7:00pm and 6:00am, except for installation of concrete authorized by a separate non-peak hour concrete pour permit issued under City Code section 9-2-21.
19. All long-term work zones shall have all conflicting markings removed or obliterated, and the appropriate temporary markings installed per 804S-3. Black paint or spraying with asphalt over pavement markings is not considered an acceptable method of removal or obliteration. Removal techniques that minimize and avoid any pavement scarring must be considered.

Revised 9/1/2022

10655 BRODIE LN, AUSTIN, KENTUCKY SINKHOLE PROTECTION
TRAFFIC CONTROL PLAN

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000

STATE OF TEXAS
CHARLES W. KAOUGH
90781
LICENSED
PROFESSIONAL ENGINEER
5/2/2023

REVISIONS

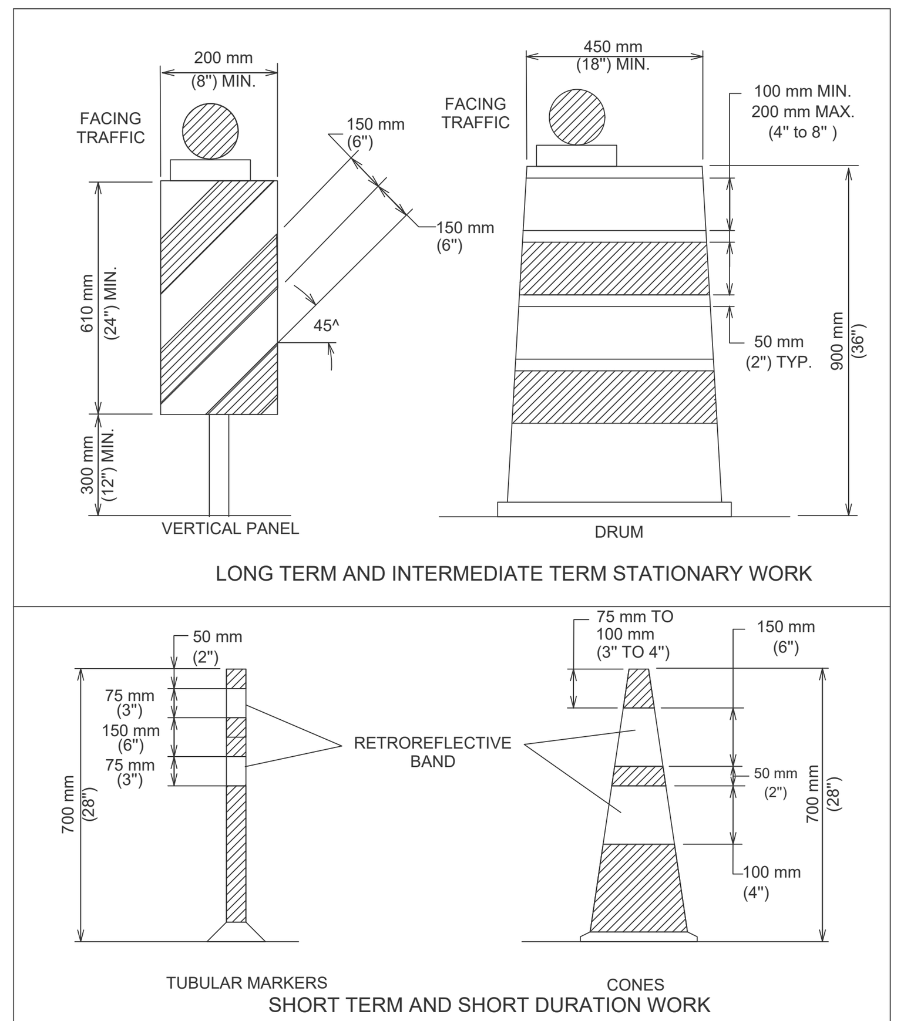
NO.	BY	DATE	REMARKS

City of Austin
WATERSHED PROTECTION

SHEET NO.

12

OF 1
May 2, 2023



SEE STANDARD 804S-5
SHEET 12 OF 13 AND SHEET 13 OF 13
FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		CHANNELIZING DEVICES	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 1 OF 13

CHANNELIZING DEVICES

1. ALL CHANNELIZING DEVICES SHALL HAVE WARNING LIGHTS OR LARGE REFLECTORS WHEN USED AT NIGHT. FLASHING WARNING LIGHTS MAY BE PLACED ON CHANNELIZING DEVICES USED SINGULARLY OR IN GROUPS TO MARK A SPOT CONDITION. WARNING LIGHTS ON CHANNELIZING DEVICES USED IN A SERIES SHALL BE STEADY-BURN. CHANNELIZING DEVICES IN TAPERS AT NIGHT SHALL HAVE TYPE C WARNING LIGHTS.
2. THE RETROREFLECTIVE MATERIAL USED ON CHANNELIZING DEVICES SHALL HAVE A SMOOTH, SEALED OUTER SURFACE.
3. THE NAME AND TELEPHONE NUMBER OF THE AGENCY, CONTRACTOR OR SUPPLIER SHALL BE SHOWN ON THE NON-RETROREFLECTIVE SURFACE OF ALL CHANNELIZING DEVICES. THE LETTERS AND NUMBERS SHALL BE A NON-RETROREFLECTIVE COLOR AND NOT OVER 50 mm (2") IN HEIGHT.
4. PARTICULAR ATTENTION SHOULD BE GIVEN TO ASSURE THAT CHANNELIZING DEVICES ARE MAINTAINED AND KEPT CLEAN, VISIBLE AND PROPERLY POSTITIONED AT ALL TIMES. DEVICES SHALL BE REPLACED THAT ARE DAMAGED AND HAVE LOST A SIGNIFICANT AMOUNT OF THEIR RETROREFLECTIVITY AND EFFECTIVENESS.

CONES

CONES SHALL PREDOMINANTLY BE ORANGE, FLUORESCENT RED-ORANGE, OR FLUORESCENT YELLOW-ORANGE IN COLOR, NOT LESS THAN 70 mm (28") IN HEIGHT, AND SHALL BE MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT. FOR NIGHT TIME USE, CONES SHALL BE RETROREFLECTIVE OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBLITY. RETROREFLECTION OF CONES SHALL BE PROVIDED BY A WHITE BOND 150 mm (6") WIDE, NO MORE THAN 75 TO 100 mm (3 TO 4") FROM THE TOP OF THE CONE, AND AN ADDITIONAL 100 mm (4") WHITE BAND A MINIMUM OF 50 mm (2") BELOW THE 150 mm (6") BAND. TRAFFIC CONES ARE NORMALLY USED FOR SHORT-TERM STATIONARY AND SHORT DURATION WORK. HOWEVER, CONES MAY BE USED FOR INTERMEDIATE-TERM STATIONARY WORK AT NIGHT, IF THE SITE IS CONTINUOUSLY MANNED.

TUBULAR MARKERS

TUBULAR MARKERS SHALL PREDOMINANTLY BE ORANGE IN COLOR, NOT LESS THAN 700 mm (28") IN HEIGHT , A MINIMUM 50 mm (2") WIDE WHEN FACING TRAFFIC AND MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES. FOR NIGHT TIME USE, TUBLULAR MARKERS SHALL BE RETROREFLECTIVE PROVIDED BY TWO (2) 75 mm (3") WIDE WHITE BANDS PLACED A MAXIMUM OF 50 mm (2") FROM THE TOP, WITH A MAXIMUM OF 150 mm (6") BETWEEN BANDS. TUBULAR MARKERS ARE NORMALLY USED FOR SHORT-TERM STATIONARY AND SHORT DURATION WORK. HOWEVER, TUBULAR MARKERS MAY BE USED FOR INTERMEDIATE-TERM STATIONARY WORK AT NIGHT, IF THE SITE IS CONTINUOUSLY MANNED.

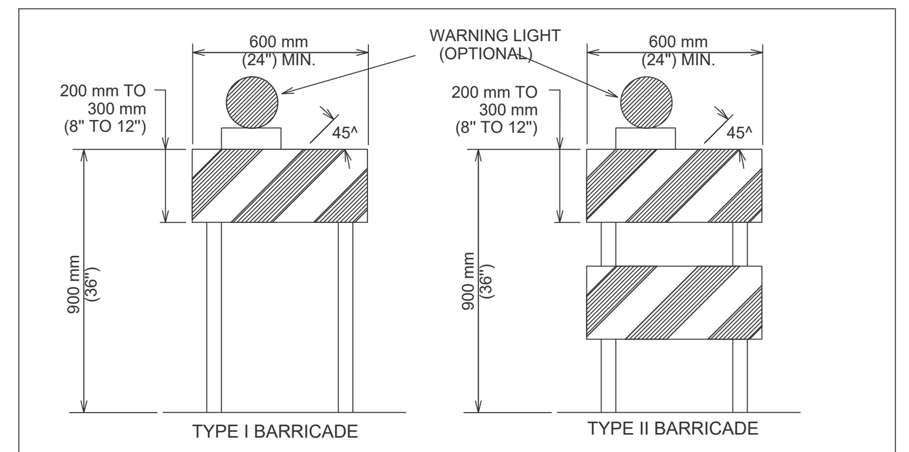
VERTICAL PANELS

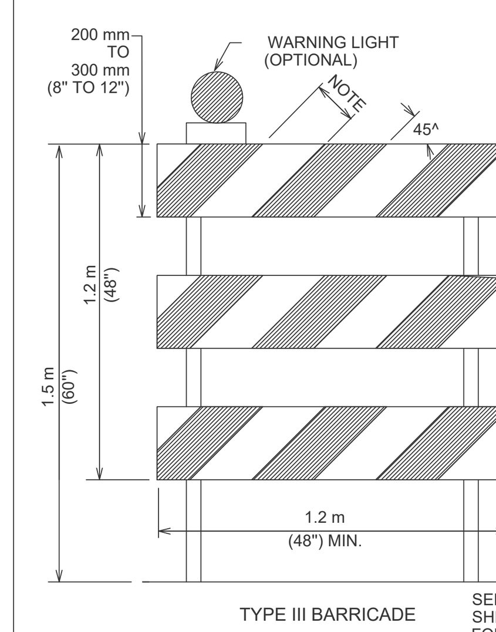
VERTICAL PANELS SHALL BE 200 TO 300 mm (8 TO 12") WIDE AND AT LEAST 600 mm (24") IN HEIGHT. THEY SHALL HAVE ORANGE AND WHITE STRIPES, AND BE RETROREFLECTIVE. PANEL STRIPE WIDTHS SHALL BE 150 mm (6") EXCEPT WHERE PANEL HEIGHTS ARE LESS THAN 900 mm (36"), WHEN 100 mm (4") STRIPES MAY BE USED. IF USED FOR TWO-WAY TRAFFIC, BACK-TO-BACK PANELS SHALL BE USED.

DRUMS

1. DRUMS USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE CONSTRUCTED OF LIGHT-WEIGHT FLEXIBLE AND DEFORMABLE MATERIALS AND BE A MINIMUM OF 900 mm (36") IN HEIGHT, AND HAVE AT LEAST 450 mm (18") MINIMUM WIDTH, REGARDLESS OF OREINTATION. STEEL DRUMS SHALL NOT BE USED. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUNFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 100 TO 200 mm (4 TO 8") WIDE. EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) ORANGE AND TWO (2) WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES, SHALL NOT EXCEED 50 mm (2") WIDE. DRUMS SHALL HAVE CLOSED TOPS THAT WILL NOT ALLOW COLLECTION OF ROADWORK OR OTHER DEBRIS.
2. DRUMS SHOULD NOT BE WEIGHTED WITH SAND, WATER OR ANY MATERIAL TO AN EXTENT THAT WOULD MAKE THE HAZARDOUS TO MOTORISTS, PEDESTRIANS OR WORKERS. WHEN THEY ARE USED IN REGIONS SUSCEPTIBLE TO FREEZING, THEY SHOULD HAVE DRAINAGE HOLES IN THE BOTTOM SO WATER WILL NOT ACCUMULATE AND FREEZE,CAUSING A HAZARD IF STRUCK BY A MOTORIST. BALLAST SHALL NOT BE PLACED ON TOP OF THE DRUM.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		CHANNELIZING DEVICES	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 2 OF 13





NOTES:

1. NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY FOR BARRICADE RAIL WIDTH DIMENSIONS.
2. RAIL STRIPE WIDTHS SHALL BE 150 mm (6") EXCEPT WHERE RAIL LEGNTHS ARE LESS THAN 900 mm (36"), THEN 100 mm (4") WIDE STRIPES MAY BE USED.
3. THE SIDE OF BARRICADES FACING TRAFFIC SHALL HAVE RETRO-REFLECTIVE RAIL FACES.

SEE STANDARD 804S-5
SHEET 12 OF 13 AND SHEET 13 OF 13
FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		BARRICADES	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 3 OF 13

BARRICADES

1. BARRICADES SHALL BE OF THREE TYPES: TYPE I, TYPE II OR TYPE III.
2. STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETRO-REFLECTIVE STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS). THE STRIPES SHALL BE 150 mm (6") WIDE, EXCEPT WHERE RAIL LENGTHS ARE LESS THAN 900 mm (36"), WHEN 100 mm (4") WIDE STRIPES MAY BE USED.
3. WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, THE SURFACE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN. WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE STRIPES MAY SLOPE DOWN-WARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
4. BARRICADE RAILS SHOULD BE SUPPORTED IN A MANNER THAT WILL ALLOW THEM TO BE SEEN BY THE MOTORIST AND PROVIDE A STABLE SUPPORT NOT EASILY BLOWN OVER BY THE WIND OR TRAFFIC. FOR TYPE I BARRICADES, THE SUPPORT MAY INCLUDE OTHER UNSTRIPED HORIZONTAL PANELS NECESSARY TO PROVIDE STABILITY.
5. BARRICADES ARE LOCATED ADJACENT TO TRAFFIC AND ARE THEREFORE SUBJECT TO IMPACT WITH ERRANT VEHICLES. BECAUSE OF THEIR VULNERABLE POSITION AND THE HAZARD THEY COULD CREATE, THEY SHOULD BE CONSTRUCTED OF LIGHTWEIGHT MATERIALS AND HAVE NO RIGID STAY BRACING FOR A-FRAME DESIGNS. ALL BARRICADE SYSTEMS SHOULD BE CRASHWORTHY.
6. ON HIGH-SPEED EXPRESSWAYS OR IN OTHER SITUATION WHERE BARRICADES MAY BE SUSCEPTIBLE TO OVERTURING IN THE WIND, SANDBAGS SHOULD BE USED FOR BALLASTING. SANDBAGS MAY BE PLACED ON PARTS OF THE FRAME OR STAYS TO PROVIDE THE REQUIRED BALLAST BUT SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY HEAVY OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		BARRICADES	
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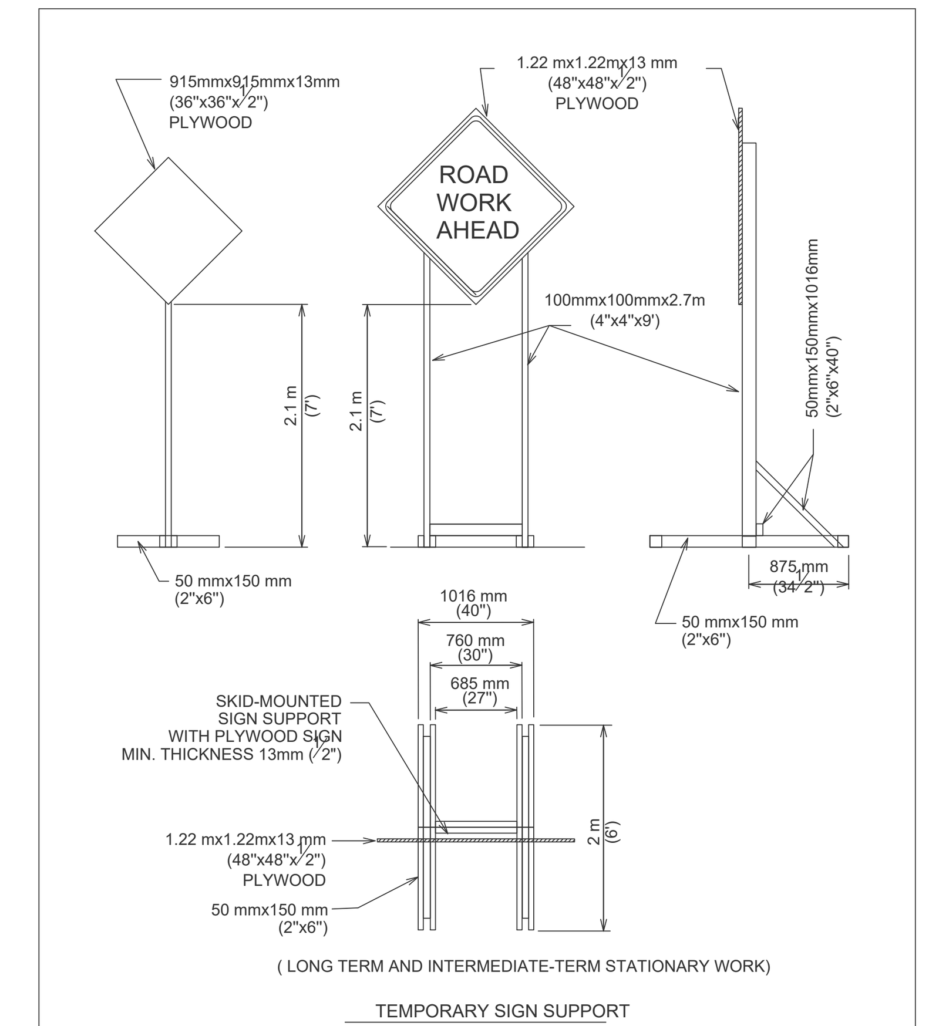
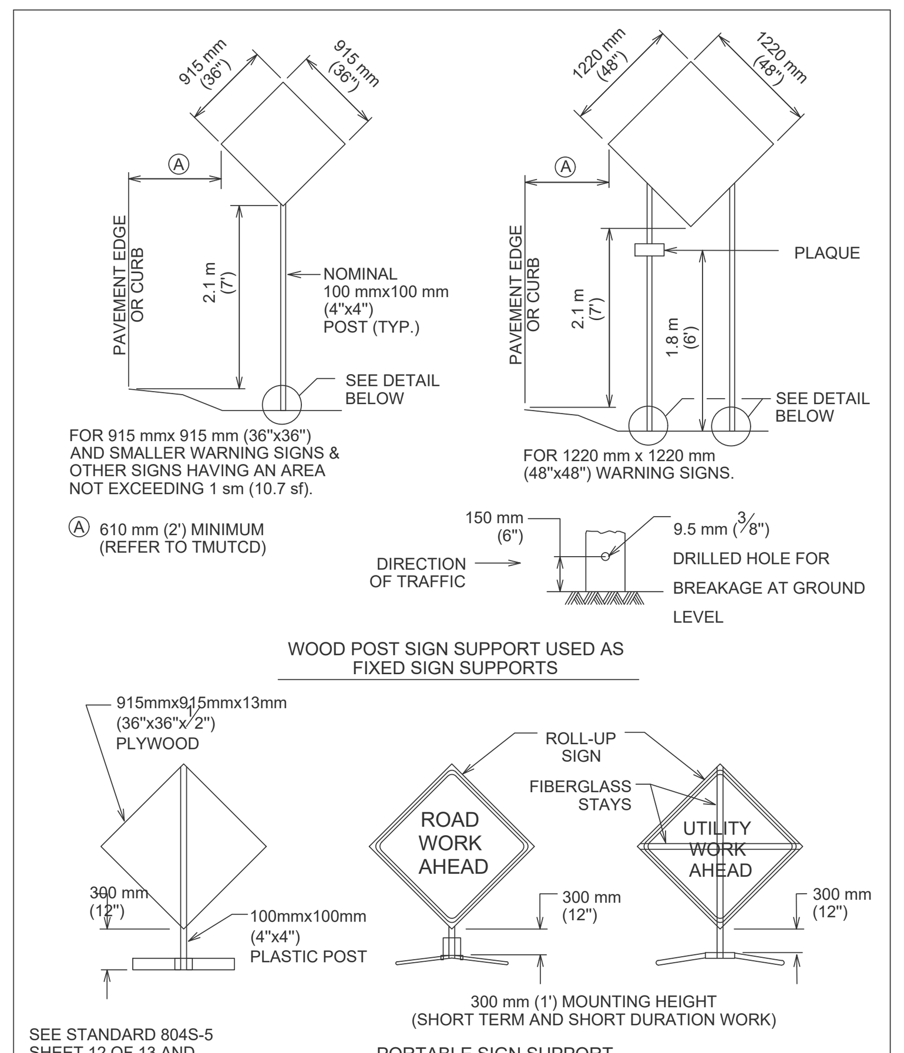


SEE STANDARD 804S-5
SHEET 12 OF 13 AND SHEET 13 OF 13
FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TRAFFIC CONTROL SIGNS	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 5 OF 13



SEE STANDARD 804S-5
SHEET 12 OF 13 AND
SHEET 13 OF 13 FOR
GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TRAFFIC CONTROL SIGNS	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 6 OF 13

1. WARNING SIGNS SHALL BE ORANGE, FLUORESCENT RED-ORANGE OR FLUORESCENT YELLOW-ORANGE IN COLOR. THE FLUORESCENT VERSIONS OF ORANGE PROVIDE HIGHER CONSPICUITY THAN STANDARD ORANGE, ESPECIALLY DURING TWILGHT. ALL SIGNS USED AT NIGHT SHALL BE EITHER RETRORE-FLECTIVE, WITH A MATERIAL THAT HAS A SMOOTH, SEALED OUTER SURFACE, OR ILLUMINATED TO SHOW SIMILAR SHAPE AND COLOR BOTH DAY AND NIGHT. SIGN ILLUMINATION MAY BE EITHER IN-TERNAL OR EXTERNAL. ROADWAY LIGHTING DOES NOT MEET THE REQUIREMENTS FOR SIGN ILLUMINATION.
2. TYPE A FLASHING WARNING LIGHTS MAY BE USED IN CONJUNCTION WITH SIGNS AT NIGHT. STANDARD ORANGE FLAGS MAY BE USED FOR DAY TIME OPERATIONS. HOWEVER, NEITHER LIGHTS NOR FLAGS MAY BLOCK THE SIGN LEGEND.
3. SIGNS SHOULD BE LOCATED ON THE RIGHT-HAND SIDE OF THE ROADWAY. WHEN SPECIAL EMPHASIS IS NEEDED, SIGNS MAY BE PLACE ON BOTH THE LEFT AND RIGHT SIDES OF ROADWAY. SIGNS SHALL BE PLACED ON BOTH THE LEFT AND RIGHT SIDES OF ONE-WAY OR DIVIDED ROADWAYS. SIGNS USED FOR LONG-TERM STATIONARY AND INTERMEDIATE-TERM STATIONARY WORK SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 2.1 m (7'), MEASURED FROM THE BOTTOM OF THE SIGN. THE HEIGHT TO THE BOTTOM OF A SECONDARY SIGN MOUNTED BELOW ANOTHER SIGN MAY BE O.3 m (1') LESS THAN THE APPROPRIATE HEIGHT ABOVE.
4. SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, MOBILE CON-DITIONS AND EMERGENCIES. SIGNS MOUNTED ON PORTABLE SUPPORTS SHALL BE AT A HEIGHT OF AT LEAST 0.3 m (1'), MEASURED FROM THE BOTTOM OF THE SIGN.
5. ALL SIGN SYSTEMS SHOULD BE CRASHWORTHY. NO SIGN MOUNTS SHALL BLOCK OR IMPEDE SIDEALKS UNLESS NO OTHER OPTION IS AVAILABLE. ONLY SANDBAGS SHOULD BE USED FOR BALLASTING SIGN MOUNTS.

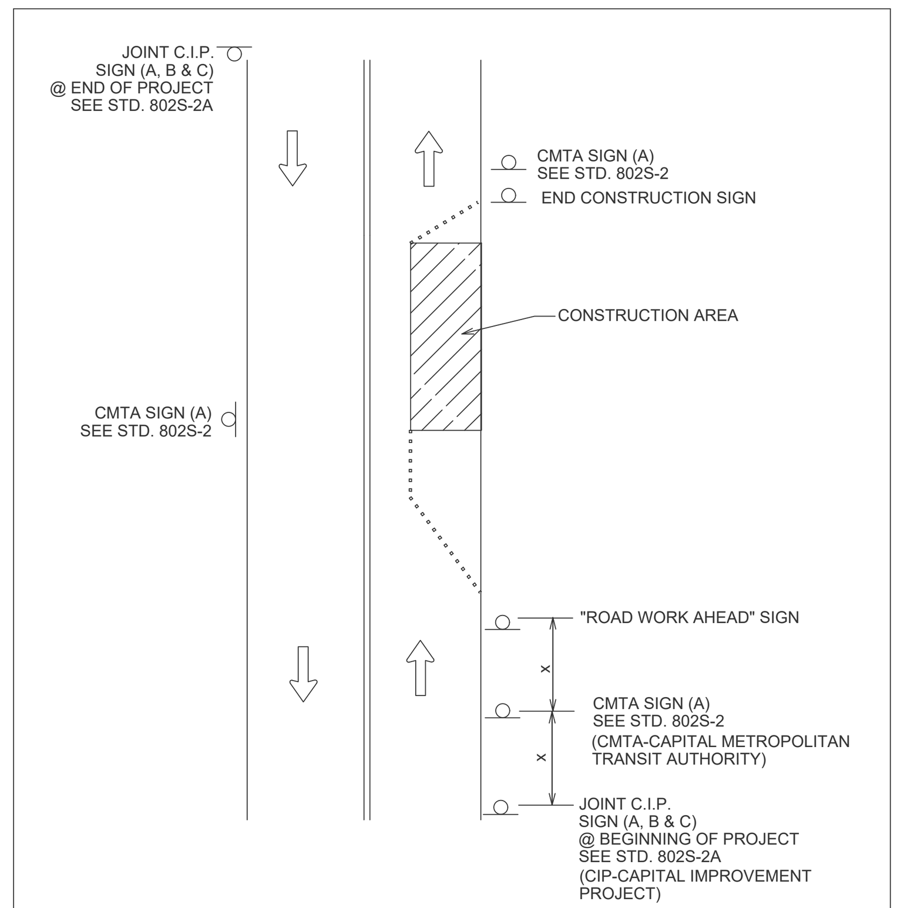
TABLE VI-3 TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

Roadway Classification	Posted Speed	Sign Spacing ★	Long-term Stationary Or Intermediate-term Stationary Approaching Warning Signs CW20 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approach Warning Signs CW22 Series		Other Warning Signs
			Standard	Minimum[4]	Standard	Minimum[4]	Standard
Conven.	KPH (MPH)	meter (feet)	mm (inches)	mm (inches)	mm (inches)	mm (inches)	mm (inches)
	50 (30)	40 (120)	1220x1220 (48x48)	915x915 (36x36)			
	55 (35)	50 (160)			915x915 (36x36)		915x915 (36x36)
	65 (40)	75 (240)					
	70 (45)	100 (320)		Use Standard Size		Use Standard Size	
	80 (50)	120 (400)					
	90 (55)	150 (500) 2					
	100 (60)	180 (600) 2			1220x1220 (48x48)		1220x1220 (48x48)
	105 (65)	210 (700) 2					
	115 (70)	240 (800) 2					
Exp. or Fwy	★★	★★ 3			★★★	★★★	★★★

★ MINIMUM DISTANCE FROM WORK TO 1st ADVANCE WARNING SIGN AND/OR DISTANCE BETWEEN EACH ADDITIONAL SIGN.
★★ FOR TYPICAL SIGN SPACINGS ON EXPRESSWAYS AND FREEWAYS, REFER TO THE CURRENT ADDITION OF TMUTCD.
★★★ SMALLER SIGN SIZES MAY BE USED WHERE SIGN DESIGNS HAVE NOT BEEN INCLUDED IN THE "STANDARD HIGHWAY SIGNS DESIGN MANUAL".

1. SPECIAL OR LARGER SIZE SIGNS MAY BE USED AS NECESSARY.
2. DISTANCE BETWEEN SIGNS SHOULD BE INCREASED AS REQUIRED TO HAVE 450 m (1500') OR MORE ADVANCE WARNING.
3. DISTANCE BETWEEN SIGNS SHOULD BE INCREASED AS REQUIRED TO HAVE A 0.8 km (½ MILE) OR MORE ADVANCE WARNING.
4. FOR USE ONLY ON SECONDARY ROADS OR CITY STREETS WHERE SPEEDS ARE LOW.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TRAFFIC CONTROL SIGNS	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 7 OF 13



NOTES:

1. OTHER REQUIRED SIGNS NOT SHOWN FOR CLARITY.
2. "X" DISTANCES SAME AS STANDARD TABLE SHOWN ON SHEET 13 OF 13.

SEE STANDARD 804S-5
SHEET 12 OF 13 AND SHEET 13 OF 13
FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPICAL CMTA/C.I.P. SIGN LOCATIONS	
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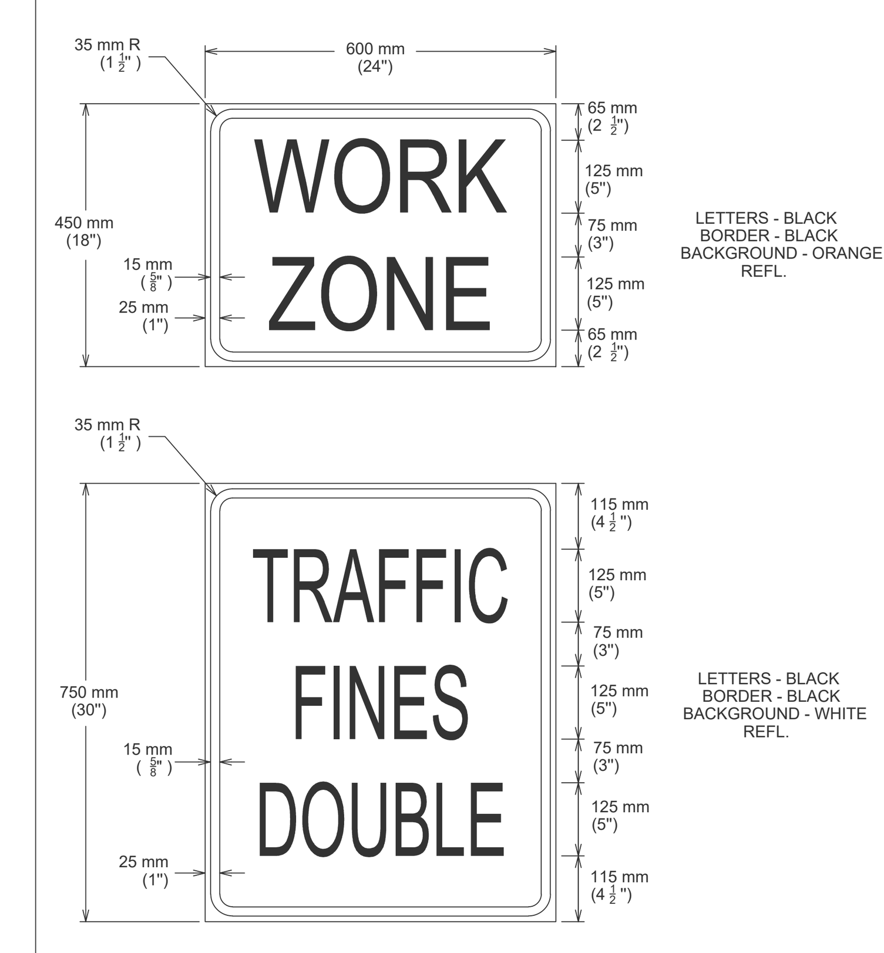
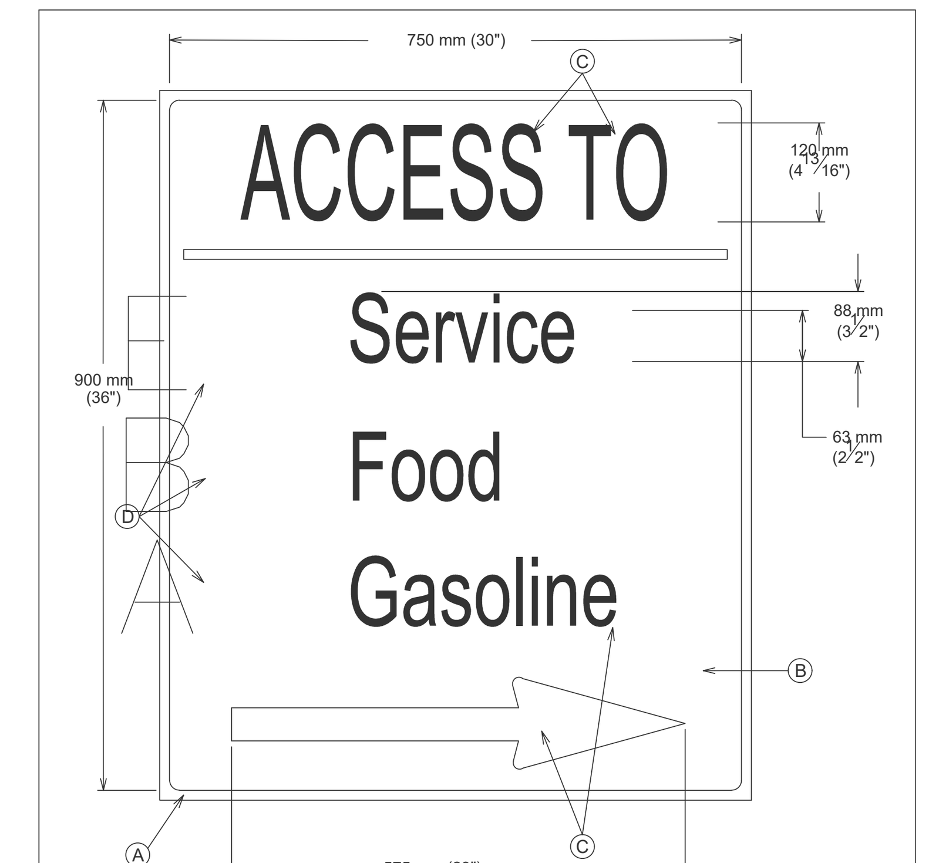


SEE STANDARD DETAIL 804S-5
SHEET 5 OF 13 FOR SKID-
MOUNTED SIGN SUPPORT.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SPECIAL WORK ZONE SIGNS	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 9 OF 13



A 50 mm (½") WHITE RETROREFLECTIVE BORDER
B BLUE RETROFEFLECTIVE BACKGROUND
C WHITE RETROREFLECTIVE ARROW AND LETTERS
D WHITE RETROREFELCTIVE BUSINESS LOGO

NOTES:

1. CONTRACTORS CAN MAKE BUSINESS NAMES REMOVABLE/CHANGEABLE AS AN OPTION.
2. BUSINESS LOGO ARE OPTIONAL. IF USED LETTERING MUST BE MINIMIZED.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SPECIAL WORK ZONE SIGNS	
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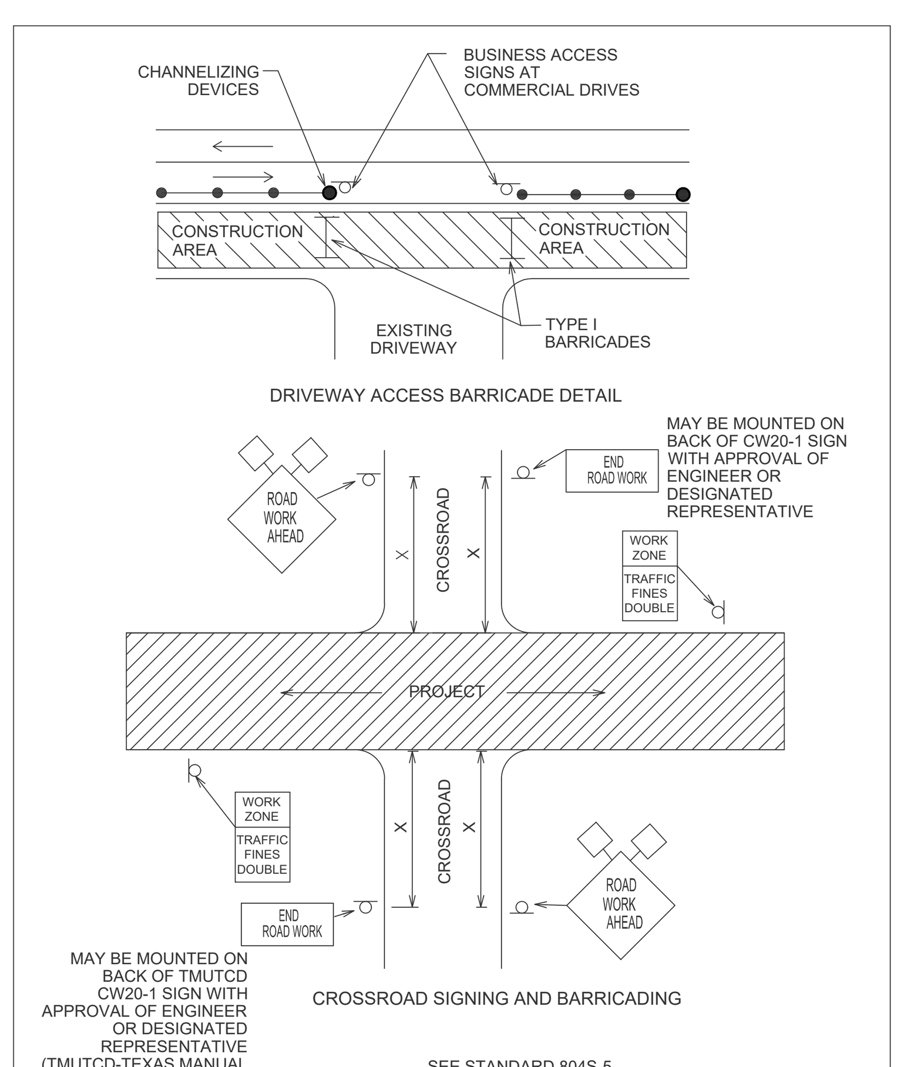


SEE STANDARD 804S-5
SHEET 12 OF 13 AND SHEET 13 OF 13
FOR GENERAL NOTES AND DEVICE SPACING.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SIGNING AND BARRICADING CROSSROAD & DRIVEWAY	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 11 OF 13

1. ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES AND WARNING SIGNS SHALL BE FURNISHED, PLACED, CONSTRUCTED AND MAINTAINED IN THE APPROPRIATE TYPES AND SIZES AND FLAGGER OPERATIONS EXECUTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL ON UNIFORM CONTROL DEVICES (TMUTCD), THE CITY OF AUSTIN STANDARD SPECIFICATIONS SERIES 800 AND THE CITY OF AUSTIN TRANS-PORTATION CRITERIA MANUAL, OR AS DIRECTED BY THE ENGINEER OR DESIGNATED RE-PRESENTATIVE. IF A CONFLICT ARISES THEN THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL SHALL CONTROL UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
2. THE CONTRACTOR SHALL NOTIFY THE TRANSPORTATION DIVISION OF THE DEPARTMENT OF PUBLIC WORKS AT 974-7024 NO LATER THAN THE MONDAY OF THE WEEK DURING WHICH THE CONTRACTOR INTENDS TO SET UP BARRICADES TO START CONSTRUCTION.
3. PROPOSED CONSTRUCTION TRAFFIC MOVEMENTS MAY REQUIRE EXISTING SIGNAL HEADS TO BE RELOCATED. THE CITY OF AUSTIN WILL REVIEW SIGNAL HEAD LOCATIONS DURING CONSTRUCTION AND PERFORM THE REQUIRED ADJUSTMENTS. THE CONTRACTOR SHALL CONTACT THE TRANSPORTATION DIVISION OF THE DEPARTMENT OF PUBLIC WORKS AT 974-7024, THREE (3) DAYS PRIOR TO PLACMENT ANY TRAFFIC CONTROLS WHICH MAY REQUIRE SIGNAL HEAD ADJUSTMENTS/RELOCATION.
4. THE CONTRACTOR SHALL PROVIDE ONE (1) FULL-TIME OFF-DUTY, UNIFORMED AUSTIN POLICE DEPARTMENT CERTIFIED PEACE OFFICER AND ONE (1) VEHICLE OF THE TYPE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE FOR TEMPORARY LANE CLOSURES WHEN UNDERSEALING, MILLING, PAVING AND WHEN WORKING IN INTERSECTIONS AS PART OF THE TRAFFIC CONTROL OPERATIONS. THE PEACE OFFICER SHALL BE ABLE TO SHOW PROOF OF CERTIFICATION BY THE TEXAS COMMISSION ON LAW ENFORCEMENT OFFICER STANDARDS.
5. THE CONTRACTOR SHALL NOTIFY ALL OTHER GOVERNMENTAL AGENCIES WHOSE RIGHTS-OF-WAY ARE AFFECTED BY HIS WORK ACTIVITIES. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL TRAFFIC CONTROL DEVICES THAT THEY MAY NEED.
6. THE CONTRACTOR SHALL MAINTAIN ONE (1) DUST-FREE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR APPROVED THE ENGINEER OR DESIGNATED REPRESENTATIVE.
7. THERE SHALL BE A MINIMUM OF THREE (3) METERS (10 FEET) CLEAR WIDTH FOR EACH LANE OF TRAFFIC IN CHANNELIZED AREAS, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
8. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES. IF ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER OR DESIGNATED REPRESENTATIVE SHALL PROVIDE AT LEAST 24 HOUR WRITTEN NOTICE OF LIMITED ACCESS TO AFFECTED PROPERTY OWNERS. THE CONTRACTOR SHALL PROVIDE BUSINESS ACCESS SIGNS AS NEEDED TO NFORM DRIVERS OF THE LOCATIONS OF ALL DRIVEWAYS.
9. TEMPORARY LANE CLOSURES IN THE CENTRAL BUSINESS DISTRICT (CBD) OR ON ARTERIAL STREETS SHALL NOT BE PERMITTED DURING THE HOURS OF 7 AM TO 9 AM AND 4 PM TO 6PM MONDAY THROUGH FRIDAY UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE TRANSPORTATION DIVISION.
10. TRAFFIC CONTROL SHOWN ON STANDARD DETAILS IS TYPICAL. ADDITIONAL SIGNING AND/ OR BARRICADING, AS WELL AS TEMPORARY PAVEMENT MARKINGS AND OBLITERATION/ RESTORATION OF EXISTING PAVEMENT MARKINGS, MAY BE REQUIRED DEPENDING ON FIELD CONDITIONS. FIELD ADJUSTMENTS TO TRAFFIC CONTROLS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO ITEM NO. 803S "BARRICADES, SIGNS AND TRAFFIC HANDLING".
11. THE CONTRACTOR SHALL DESIGNATE A COMPETENT PERSON FOR TRAFFIC CONTROL. THE COMPETENT PERSON SHALL MAKE INSPECTIONS OF THE TRAFFIC CONTROL DEVICES AT LEAST TWO (2) TIMES A DAY (ONCE AT THE BEGINNING OF THE DAY AND ONCE AT THE END OF THE DAY), INCLUDING NON-WORKING DAYS, ENSURING THAT ALL DEVICES ARE IN THEIR PROPER PLACE AND ARE IN WORKING ORDER.
12. ALL DEVICES SHALL BE MADE USING MATERIALS LISTED ON THE TxDOT APPROVED PRODUCTS LIST.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		GENERAL TRAFFIC CONTROL NOTES	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 12 OF 13

13. ALL PERSONS WORKING WITHIN THE RIGHT-OF-WAY SHALL WEAR A BRIGHTLY COLORED SAFETY VEST. FOR NIGHTTIME WORK THE VEST SHALL BE RETROREFLECTIVE,
14. WHEN AN INTERSECTION IS CLOSED FOR CONSTRUCTION, THE CONTRACTOR SHALL PROCEED WITH CONSTRUCTION IN SUCH A MANNER THAT THE CLOSURE TIME IS MINIMIZED.
15. THE CONTRACTOR SHALL NOTIFY THE CAPITAL METRO DISPATCHER AT 385-4295 ONE (1) WEEK PRIOR TO LANE CLOSURES ADJACENT TO BUS STOPS.

DURATION OF WORK

WORK DURATION IS A MAJOR FACTOR IN DETERMINING THE NUMBER AND TYPES OF DEVICES USED IN TEMPORARY TRAFFIC ZONES. THE FIVE (5) CATEGORIES OF WORK DURATION AND THEIR TIME AT A LOCATION ARE AS FOLLOWS:

- LONG-TERM STATIONARY-WORK THAT OCCUPIES A LOCATION FOR MORE THAN 3 DAYS.
- INTERMEDIATE-TERM STATIONARY-WORK THAT OCCUPIES A LOCATION FROM OVERNIGHT TO 3 DAYS.
- SHORT-TERM STATIONARY-DAYTIME WORK THAT OCCUPIES A LOCATION FROM 1 TO 12 HOURS.
- SHORT-DURATION WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
- MOBILE-WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

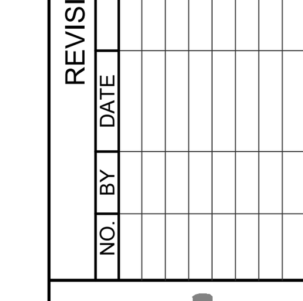
Typical Transition Lengths and Suggested Maximum Spacing of Devices

Posted Speed KPH (MPH)	Formula	Minimum Desirable Taper Lengths (L) Meters (Feet): 3.0(10) Offset Meters (feet)	3.3(11) Offset Meters (feet)	3.6(12) Offset Meters (feet)	Suggested Max. Device Spacing: On a taper Meters (feet)	On a tangent Meters (feet)	Suggested Sign Spacing Meters (Feet): "X" Dimension
50 (30)	$L=\frac{WS^2}{60}$	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (60-75)	40 (120)
55 (35)		65 (205)	70 (225)	75 (245)	10 (35)	25-25 (70-90)	50 (160)
65 (40)		80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)
70 (45)	L=WS	135 (450)	(495)	165 (540)	13 (45)	25-30 (90-110)	100 (320)
80 (50)		150 (500)	165 (550)	180 (600)	15 (50)	30-35 (100-125)	120 (400)
90 (55)		165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-140)	150 (500)
100 (60)		180 (600)	200 (660)	220 (720)	18 (60)	40-45 (120-150)	180 (600)
105 (65)		195 (650)	215 (715)	235 (780)	19 (65)	40-50 (130-165)	210 (700)
115 (70)		215 (700)	235 (770)	255 (840)	21 (70)	45-55 (140-175)	240 (800)

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		GENERAL TRAFFIC CONTROL NOTES	
RECORD COPY SIGNED BY SAM ANGOORI	*01/04/10* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 804S-5 13 OF 13

10655 BRODIE LN, AUSTIN,
KENTUCKY SINKHOLE PROTECTION
TRAFFIC CONTROL DETAILS
8504S-5

PROJECT DESIGN AND DELIVERY
505 BARTON SPRINGS RD.
AUSTIN, TEXAS 78704
PHONE: (512) 974-2000



REVISIONS

NO.	BY	DATE	REMARKS

City of Austin WATERSHED PROTECTION

SHEET NO.

13

OF 1
May 2, 2023

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

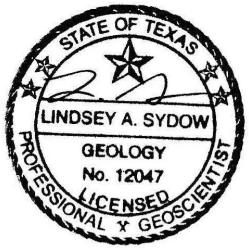
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Lindsey Sydow Telephone: 512-565-0809

Date: 1/12/2023 Fax: _____

Representing: City of Austin Watershed Protection Department (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Kentucky Sink Biofiltration Pond

Project Information

1. Date(s) Geologic Assessment was performed: 12/20/2022 and many other previous (feature has long been known and mapped by City of Austin)
2. Type of Project:

   ☒ WPAP ☐ AST
   ☐ SCS ☐ 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)

Soil Name	Group*	Thickness(feet)
SsC Speck clay loam, moist, 1 to 5 percent slopes, stony	D	0 to 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" = 10'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = N/A'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☒ Other method(s). Please describe method of data collection: Historically surveyed boundaries (using GPS technology)

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☐ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

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

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

Administrative Information

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

Attachment A

Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Urban Sinkhole Mitigation: Kentucky Sink Biofilter

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	30.176147	-97.853709	SH	20	Ked	170	170	10	N/A	--	--	--	O,F,V	35	55		X		X	Hillside
F-1	30.176085	-97.854901	F	20	Ked	--	820	--	30°NE	10	--	--	O,F,V	5	35	X				Hillside

* DATUM:_____

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

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

12 TOPOGRAPHY

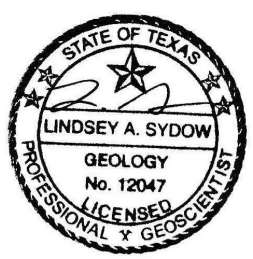
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

_____

Date 1/12/2023

Sheet 1 of 1



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

Attachment B

Stratigraphic Column

Hydrologic Unit	Formation	Member	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
Edwards Aquifer	Person (Kep)	Leached and Collapsed (Klc)	25	725	25
		Regional Dense Member (Krdm)	15	710	40
	Kainer (Kek)	Grainstone (Kgr)	50	660	90

Unit Elevation and Depth are given with respect to a ground surface elevation of 750 ft msl near the rim of Kentucky Sink. Given elevations are for the bottom of the listed Member.

Attachment C

Site Geology

City of Austin
Founded by Congress, Republic of Texas, 1839
Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

A geologic assessment of the Project Area (site) was conducted for submittal with an exception request pursuant to 30 TAC 213 in compliance with regulating activities over the Edwards Aquifer Recharge Zone (EARZ). The site is approximately 4.5 acres of undeveloped, fenced land at the southeast corner of the intersection of Brodie Lane and Brodie Springs Dr. in Austin, Texas.

The entire site is within the EARZ with the Leached and Collapsed member (Klc) of the Person Formation exposed at the surface. The Leached and Collapsed member consists of wackestone and grainstone with mudstone and is characterized as highly permeable with extensive cave development (Hauwert, 2009). It is approximately 25 feet thick on site, as interpreted from local topographic and geologic maps. A normal fault (F-1) is present just west of the site. The fault trends 35° NE which is consistent with the dominant regional trend.

A large sinkhole known as Kentucky Sink (S-1) is present on site and is protected as a Critical Environmental Feature under the City of Austin's development rules (LDC § 25-8-281). The sinkhole scored as a sensitive feature; it is surrounded by a fenced-off protective setback where development is prohibited. No cave opening is observed at the surface within Kentucky Sink, but direct evidence of infiltration is present in the form of pooled leaf matter and several flow paths to the lowest points in the sinkhole (See photos 1 – 3).

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Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

Photo 1: Looking east downslope into Kentucky Sink; flow paths visible on opposite slope.

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Founded by Congress, Republic of Texas, 1839
Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

Photo 2: Facing approximately south at the lowest point in Kentucky Sink. Note the accumulated leaf matter on left side of photograph at low point.

City of Austin
Founded by Congress, Republic of Texas, 1839
Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

Photo 3: Looking southwest downslope into Kentucky Sink. Lowest point is on left side of photograph.

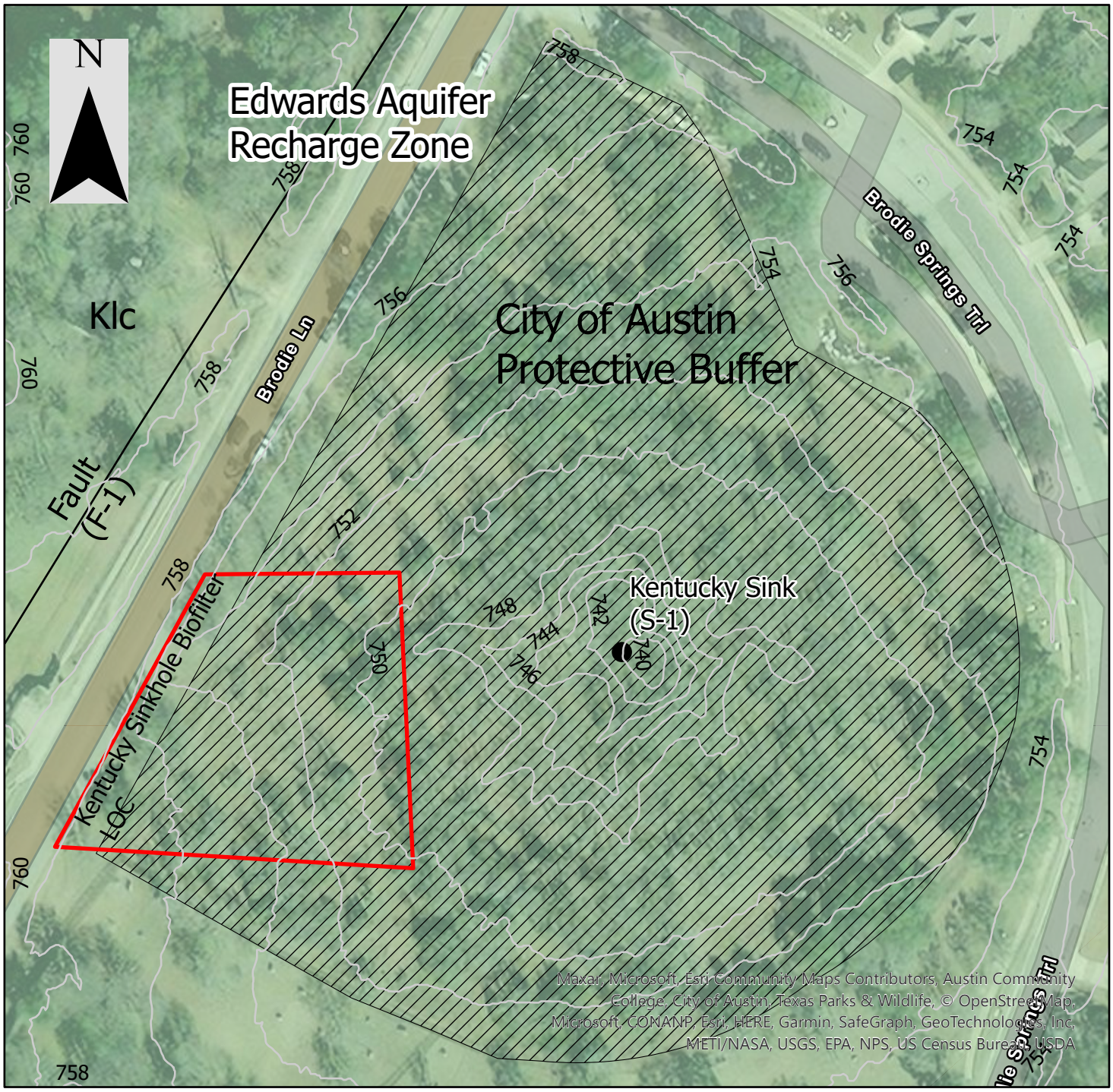
References:

Hauwert, Nico, 2009, Groundwater Flow and Recharge Within the Barton Springs Segment of the Edwards Aquifer, Southern Travis and Northern Hays Counties, Texas [PhD dissertation], University of Texas, Austin.

Attachment D

Site Geologic Map

Kentucky Sink Biofilter
Site Geology



- Elevation contour (2 ft)
- Kentucky Sink LOC
- Karst Resource Buffer
- Klc - Leached and Collapsed

50 25 0 50 100 150 200 Feet

1:1,200

Note: Entire map extent has the Leached and Collapsed member of the Edwards Limestone exposed at the surface.

Recharge and Transition Zone Exception Request Form

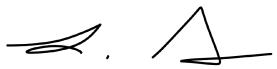
Texas Commission on Environmental Quality
30 TAC §213.9 Effective June 1, 1999

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: Lindsey Sydow
Date: 3/15/2023
Signature of Customer/Agent:



Regulated Entity Name: Kentucky Sink Biofiltration Pond

Exception Request

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

Administrative Information

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

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Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

ATTACHMENT A

March 9, 2023

RE: TCEQ Edwards Aquifer Protection Plan
City of Austin Sinkhole Protection Project- Kentucky Sink
Recharge and Transition Zone Exception Request
Nature of Exception

The City of Austin Watershed Protection Department identified the Kentucky Sink recharge feature ("Kentucky Sink") for mitigation of existing untreated urban runoff draining to the feature. This situation represents potential spill threats due to its proximity to a major arterial roadway (Brodie Lane). Kentucky Sink meets the criteria of a sensitive feature and untreated urban runoff poses a risk to groundwater quality in the Edwards Aquifer. In groundwater tracing studies conducted by our department and collaborators, dye injected into a nearby sinkhole arrived at Barton Springs in 1-2 days under moderately high aquifer conditions (Barton Springs discharge 83 cubic feet per second).

The purpose of Texas Administrative Code, Title 30, Chapter 213, Subchapter A is to regulate activities having potential for polluting the Edwards Aquifer and maintain Texas Surface Water Quality Standards. The proposed project is not development and is intended only to enhance the quality of the runoff to a recharge feature and protect that feature from hazardous spills.

Kentucky Sink is located approximately 150 feet east of Brodie Lane, within the Brodie Springs, Section 2, Phase 1 subdivision. The subdivision is within the Austin City Limits. Approximately 11.7 acres of single-family residential development drains to a 24" culvert under Brodie Lane. The drainage area includes approximately 340 linear feet of Brodie Lane. A small bioretention pond (1800 SF of sand filter area) is proposed as a mitigation measure to protect the recharge feature from hazardous spills and provide water quality treatment to runoff from existing, untreated impervious cover. The project will not introduce any new impervious cover. No additional flows will be routed to the sinkhole. Both Kentucky Sink and the proposed bioretention pond are located within an existing drainage easement. The pond will be located directly adjacent to the Brodie Lane Right of Way within the fence surrounding the sinkhole's protective buffer.

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Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

Temporary construction phase protective measures, designed by a licensed Professional Engineer, will be implemented to protect the recharge feature from pollution during the construction phase of the project. Maintenance access will be included for regular maintenance by City of Austin crews.

Charles Kaough, P.E.
Project Delivery Division,
Watershed Protection Dept.
City of Austin, Texas
charles.kaough@austintexas.gov
(512) 974-3397
Fax 974-3390

City of Austin

Founded by Congress, Republic of Texas, 1839
Watershed Protection Department
P.O. Box 1088, Austin, Texas 78767

ATTACHMENT B

March 9, 2023

RE: TCEQ Edwards Aquifer Protection Plan
City of Austin Sinkhole Protection Project- Kentucky Sink
Recharge and Transition Zone Exception Request
Documentation of Equivalent Water Quality Protection

The concept of demonstrating equivalent water quality protection is not applicable in this case. This project is not a development project and will not introduce any new impervious cover. The proposed pond will help protect the recharge feature from hazardous spills and will enhance recharge quality by treating existing impervious cover that is currently untreated upgradient of Kentucky Sink. No additional flows are being routed to the sinkhole. Temporary construction phase protective measures, designed by a licensed Professional Engineer, will be implemented to protect the recharge feature from pollution during the construction phase of the project.

Charles Kaough, P.E.
Project Delivery Division,
Watershed Protection Dept.
City of Austin, Texas
charles.kaough@austintexas.gov
(512) 974-3397
Fax 974-3390

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Kentucky Sink Biofiltration Pond

Regulated Entity Location: LOT 21 BLK A BRODIE SPRINGS II PHS 1

Name of Customer: City of Austin Watershed Protection Department

Contact Person: Lindsey Sydow Phone: 512-565-0809

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

☑ Mailed to: TCEQ - Cashier

Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office

☐ Overnight Delivery to: TCEQ - Cashier

12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☑ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

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

Signature: _____ Date: 3/20/2023

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150