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: Brushy Creek Municipal Utility District						**2. Regulated Entity No.:**			
3. Customer Name: Brushy Creek MUD						**4. Customer No.:600646574**			
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):**		0.2	
9. Application Fee:	$3,000		**10. Permanent BMP(s):**			Proposed			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			0			
13. County:	Williamson		**14. Watershed:**			Brazos River Basin			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_x_
Region (1 req.)	___	___	_x_
County(ies)	___	___	_x_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville _x_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. Maninder Randhawa, P.E.
Print Name of Customer/Authorized Agent M. Randhawa 11/20/2023
Signature of Customer/Authorized Agent Date

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

GENERAL INFORMATION FORM (TCEQ 0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

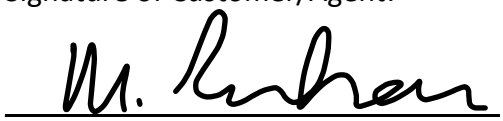
Signature

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

Print Name of Customer/Agent: Maninder Randhawa, P.E.

Date: 11/20/2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Brushy Creek Municipal Utility District
2. County: Williamson
3. Stream Basin: Brazos River Basin
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Amy Giannini, P.E., CFM
   Entity: Brushy Creek Municipal Utility District
   Mailing Address: 16318 S Great Oaks Dr
   City, State: Round Rock, TX Zip: 78735
   Telephone: 512-255-7871 FAX: _____
   Email Address: a.giannini@bcmud.org

8. Agent/Representative (If any):

   Contact Person: Maninder Randhawa, P.E.
   Entity: Weston Solutions, Inc
   Mailing Address: 5301 Southwest Parkway, #405
   City, State: Austin, TX Zip: 78735
   Telephone: 512-920-4847 FAX: _____
   Email Address: maninder.randhawa@westonsolutions.com

9. Project Location:

   ☐ The project site is located inside the city limits of _____.
   ☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Brushy Creek Municipal Utilities District.
   ☐ 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.

    The Cat Hollow Lift Station is an approximately 10,600 -square foot area located at 16920 Smyers Lane in Round Rock, Texas (The Site). The driveway entrance is located on the northest corner of an HEB Supermarket parking lot at these coordinates: 30.502153, -97.721688.

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

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

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

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate

the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

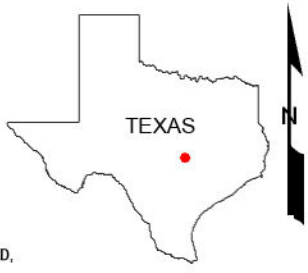
21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

ATTACHMENT A

ROAD MAP

Legend

Cat Hollow Project Site



SOURCE: U.S. GEOLOGIC SURVEY 7.5 MIN TOPOGRAPHIC QUADRANGLE, AUSTIN WEST, TEXAS 2013.
FEMA FLOOD INSURANCE RATE MAP (FIRM) DATA.
DISCLAIMER: THIS FIGURE IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR, SURVEY OR ENGINEERING PURPOSES.

WESTON SOLUTIONS

ATTACHMENT A

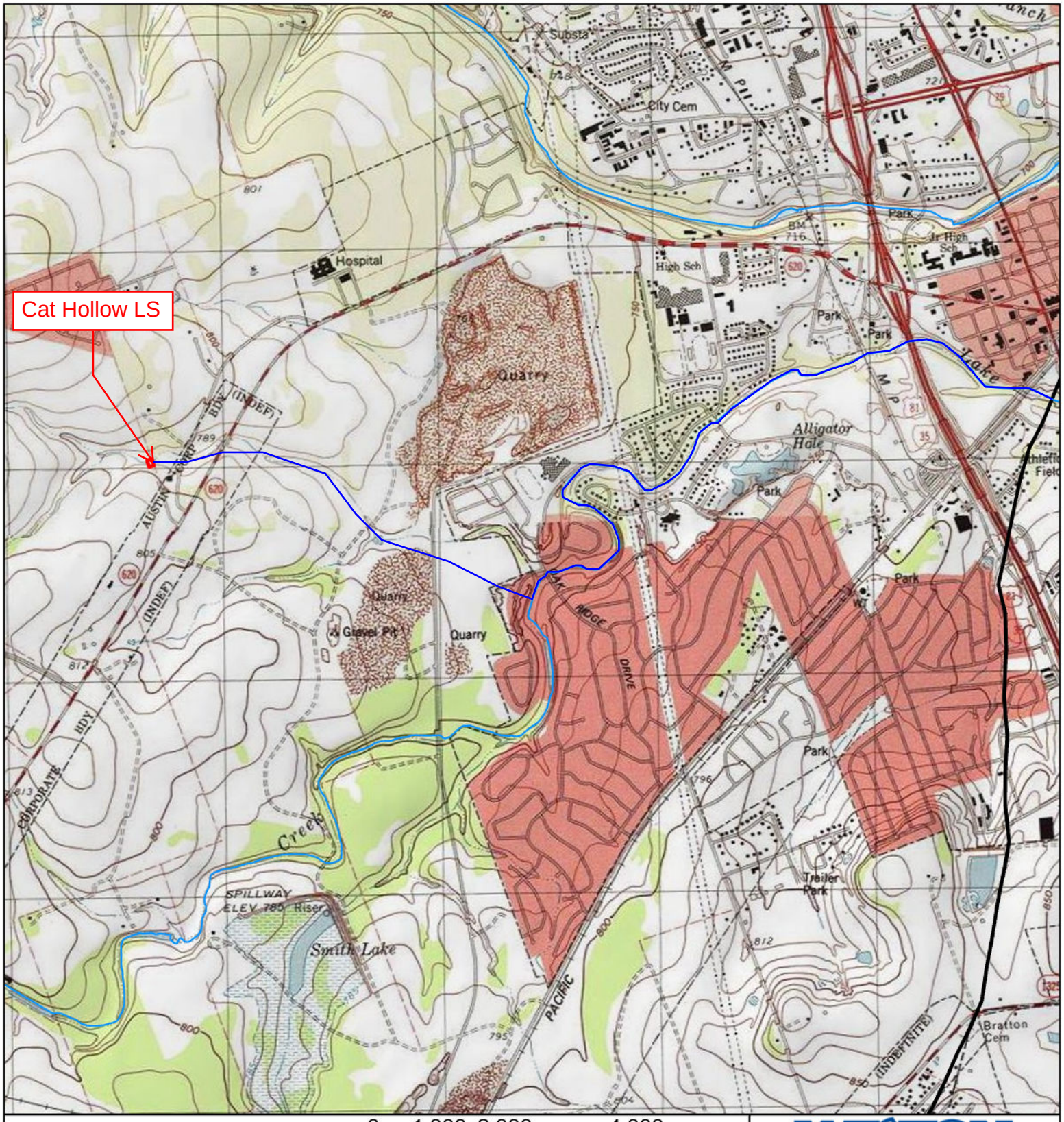
CAT HOLLOW LS
ROAD MAP
BRUSHY CREEK MUD
BRUSHY CREEK, WILLIAMSON COUNTY, TEXAS

DATE	PROJECT NO	SCALE
SEPTEMBER 2023	06141.036.005.2000	AS SHOWN

FILE: C:\Users\randhawm\OneDrive - Weston Solutions, Inc\ArcGIS\Weston\Weston.aprx 2:23 PM 9/25/2023 randhawm

ATTACHMENT B

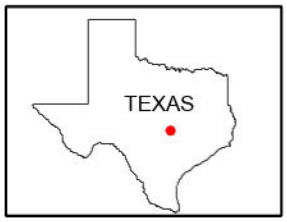
USGS/EDWARDS AQUIFER RECHARGE ZONE MAP



0 1,000 2,000 4,000 US Feet

Legend

- Edwards Aquifer Recharge Zone
- Cat Hollow Project Site
- Drainage Path to EARZ Boundary



N

SOURCE: U.S. GEOLOGIC SURVEY 7.5 MIN TOPOGRAPHIC QUADRANGLE, AUSTIN WEST, TEXAS 2023.
FEMA FLOOD INSURANCE RATE MAP (FIRM) DATA.
DISCLAIMER: THIS FIGURE IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR, SURVEY OR ENGINEERING PURPOSES.

WESTON SOLUTIONS

ATTACHMENT B

HILLSIDE DRIVE
USGS/EDWARDS RECHARGE ZONE MAP
BRUSHY CREEK MUD
BRUSHY CREEK, WILLIAMSON COUNTY, TEXAS

DATE	PROJECT NO	SCALE
SEPTEMBER 2023	06141.036.005.1000	AS SHOWN

FILE: C:\Users\randhawm\OneDrive - Weston Solutions, Inc\ArcGIS\Weston\Weston.aprx 9:48 AM 9/25/2023 randhawm

ATTACHMENT C

PROJECT DESCRIPTION

PROJECT DESCRIPTION

AREA OF THE SITE

The project will improve the existing Cat Hollow Lift Station (owned and operated by Brushy Creek MUD) area. The Cat Hollow Lift Station is an approximately 8,000-square foot area located at 1690 Smyers Lane in Round Rock, Texas (The Site). The Site slopes gently to the north, towards an overgrown drainage channel located approximately 50 feet north. There is another drainage channel just east of the site that conveys runoff to the northern drainage channel. The site is currently used as a public utility site conveying wastewater to the Brushy Creek Regional Wastewater Treatment Plan. The project scope at this site is proposing engineering improvements to the existing wastewater lift station by converting the conventional dry well/wet well lift station to a completely submersible one.

OFFSITE AREAS

There is an overgrown drainage channel located approximately 50 ft north of the Site. This drainage channel dips and flows eastward. A Geologic Assessment performed as part of this SCS application (included in Geologic Assessment section) showed that there are no environmentally sensitive features within a 50 ft buffer of the proposed construction limits.

IMPERVIOUS COVER

The project scope involves the demolition of 766 sqft of existing impervious cover and installation of approximately 1,617 sqft of impervious cover.

TEMPORARY AND PERMANENT BMPs

The Owner will test the new gravity system for structural damage and defects that would allow for exfiltration to occur as required by the WPAP and TCEQ Regulations per 30 TAC §217. Temporary BMPs are designed with respect to local and state regulations to ensure construction does not contaminate the nearby residential and public properties. All existing wastewater structures will be abandoned per TCEQ regulations and Owner will test the collection system every five years after being put in service. Any defects will be repaired within one year of discovery.

PROPOSED SITE USE

Once construction has been completed, the site will be utilized as a fully operating lift station. It will be the responsibility of the Owner to operate and maintain the system beyond the one-year warranty time frame.

SITE HISTORY

The Site had previously been used as a lift station site.

PREVIOUS DEVELOPMENT

The site was previously developed Cat to contain a Lift Station over an approximately 8,000 sqft area.

AREA(S) TO BE DEMOLISHED

The project will selectively demolish the existing HMAC pavement and sidewalks and completely demolish the existing valve vaults, dry well, wet well, and supporting electrical and mechanical

components. Additionally, 28.3 LF of existing 18" gravity wastewater main, 7 LF of existing 24" gravity wastewater main and 57.3 LF of existing 18" force main are proposed for demolition as part of the scope of this project.

GEOLOGICAL ASSESSMENT (TCEQ 0585)

GEOLOGIC ASSESSMENT
CAT HOLLOW LIFT STATION IMPROVMENTS
16920 SMYERS LANE
ROUND ROCK, TEXAS

Prepared for:
Brushy Creek Municipal Utility District
16318 Great Oaks
Round Rock, Texas 78681

Prepared by:
WESTON SOLUTIONS, INC.
5301 Southwest Parkway; Suite 450
Austin, Texas 78735
512-651-7100

July 2023

W.O. No. 15690.001.001.2000

STATE OF TEXAS
7/21/23
GARRETT L. HAAS
GEOLOGY
15246
LICENSED
PROFESSIONAL GEOSCIENTIST

P.G. No. 15246; TBPG Firm No. 50258

Weston Solutions, Inc.
5301 Southwest Parkway; Suite 450
Austin, TX 78735
512-651-7100
WestonSolutions.com

21 July 2023

Ms. Amy Giannini, P.E., CFM
District Engineer
Brushy Creek Municipal Utility District
16318 Great Oaks,
Round Rock, TX 78681

Re: Geologic Assessment
Cat Hollow Lift Station Improvements
16920 Smyers Lane
Round Rock, Texas

Dear Ms. Giannini:

Weston Solutions, Inc. (WESTON®) completed the enclosed Geologic Assessment (GA) prepared for the above referenced project pursuant to 30 Texas Administrative Code (TAC) §213.5(b)(3). The GA was performed in accordance with the Texas Commission on Environmental Quality (TCEQ) "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04).

Thank you for the opportunity to assist Brushy Creek MUD on this project. Please contact me at 210-308-4371 with questions or comments you might have regarding this report.

Sincerely,

WESTON SOLUTIONS, INC.

Garrett Haas, P.G.
Project Geoscientist

TABLE OF CONTENTS

Section **Page**

LIST OF FIGURES

Attachments:
Attachment 1 - Geological Assessment Form and Table (TCEQ Form 0585)
Attachment 2 – Photographic Log

1. PURPOSE AND SCOPE OF SERVICES

Weston Solutions, Inc. (WESTON®) has conducted a Geologic Assessment (GA) of the Cat Hollow Lift Station as part of permitting requirements for planned engineering improvements to the lift station. This assessment was conducted in accordance with Edwards Aquifer Protection Plans described in the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Rules promulgated in 30 TAC 213.5(b)(3), Geologic Assessments.

1.1 PROJECT DESCRIPTION

Planned engineering improvements of the lift station included the demolition of exiting above grade structures, and installation of a below grade catch sump and pump. Once the below grade catch sump and pump are installed, new surface equipment will be installed.

1.2 LOCATION

The Cat Hollow Lift Station is an approximately 8,000-square foot area located at 1690 Smyers Lane in Round Rock, Texas (The Site). In addition to the lift station area, a 50-foot border of the lift station area was included as part of this assessment. The general Site area and topography are depicted in the included Site Location Map (**Figure 1**), and a view of the Site and 50-foot border are shown on the attached Site Map (**Figure 2**).

2. GEOLOGIC ASSESSMENT

2.1 COMPONENTS OF REPORT

In accordance with the Instructions to Geologists, the attached GA form includes the following attachments or documentation:

- Soils description
- Site geologic map
- Stratigraphic column
- Geologic assessment table
- Narrative description of site geology

The Geologic Assessment Form TCEQ-0585, (Rev. 2-11-15), Stratigraphic Column, and the Geologic Assessment Table have been completed for the Site and are attached.

2.2 REVIEW OF EXISTING INFORMATION

A desktop review was performed of available information, including:

- U.S.D.A. Soil Survey of Williamson County, Texas (web-based viewer).
- U.S. Geological Survey (U.S.G.S.) 7.5 Minute Quadrangle Maps, Austin West (2013),
- TCEQ Edwards Aquifer Map Viewer (web-based viewer),
- Geologic Atlas of Texas, Austin Sheet,
- Flood Insurance Rate Maps (FIRM) from the Federal Emergency Management Agency (FEMA),

3. DESCRIPTION OF STUDY AREA

3.1 SOILS

According to the National Resource Conservation Service Web Soil Survey (USDA, 2023), the soil at the Site consist of the Eckrant-Rock Outcrop, 1 to 10 percent slope. The Eckrant-Rock Outcrop soils consist of thin cobbly sandy clay at surface covered with cobbles, stones, or boulders, underlain by shallow bedrock; and is very well drained. A copy of the Web Soil Survey Map with a superimposed Site boundary is attached (**Figure 3**).

3.2 TOPOGRAPHY

According to the U.S.G.S. 7.5-Minute Quadrangle Map, Austin West, Texas Quadrangle Map (2013), the project Site elevation is approximately 790 feet above mean sea level. The Site slopes gently to the north, towards a overgrown drainage channel located approximately 50 feet north. The drainage channel dips and flows eastward. The 7.5-minute topographic quadrangle and Site location are depicted on **Figure 1**.

3.3 GEOLOGY

According to the Geologic Atlas of Texas Austin Sheet, the Site is situated over the Edwards Limestone Formation (ked). The Edwards limestone is described as 20 to 350 feet of highly fractured and thickly bedded to massive limestone or dolomite, with minor shale, clay, and siliceous limestone. (TWDB 2003). A copy of the Geologic Map with site location is depicted on F**igure 4**.

Stratigraphic units of the Comanche Series are the geologic groups/formation of interest in the Round Rock area and are presented in the required Stratigraphic Section on **Figure 5**. The Comanche Series is broken into four major groups, listed from youngest to oldest, including Eagle Ford Group, Washita Group, Fredericksburg Group, and Trinity Group. The Georgetown Formation of the Washita Group, and Edwards and Comanche Peak Limestone of the Fredericksburg Group make up the Edwards and associated limestone in the area (sometimes Walnut Formation included as well). In Central Texas, the Balcones Fault Zone, a belt of northeast-trending, downthrown, normal faults, has created hydrologic connectivity between exposed limestone formations at the surface, and the Edwards Aquifer in the subsurface. Blocks of Edwards and associated limestone exposed at the surface on the west side of the fault zone are connected to downthrown blocks of Edwards and associated limestone in the subsurface on the east side of the faults, resulting in the communication of groundwater from the exposed blocks to the Edwards Aquifer in the subsurface. These limestone formations form the important underground karst aquifer (Edwards Aquifer), which supplies water to local municipalities and utilities, and is characterized by large-diameter secondary porosity, fracture porosity, and high velocity, fracture- and conduit-dominated flow characteristics (TWDB 2003).

3.4 RECHARGE/TRANSISTION ZONE

According to the Edwards Aquifer Map Viewer, the Site is located on the western boundary of the Edwards Aquifer Recharge Zone (EARZ), just east of the boundary between the EARZ and Edwards Aquifer Contributing Zone. A copy of the EARZ with the Site identified is included as **Figure 6**.

The project area is in the Edwards Aquifer Recharge Zone, specifically the northern segment. The north segment of the EARZ is located north of the Colorado River and south of the Lampasas river, and stretches across parts of Travis, Williamson, and Bell Counties in Central Texas. The northern segment of the Edwards Aquifer consists of the Comanche Peak Limestone, Edward Limestone, and Georgetown Formation, and are collectively referred to as the Edwards and associated limestones

(TWDB 2003). The Edwards and associated limestones overlie the older Walnut Formation and Glen Rose Formations, which outcrop to the west and typically mark the confining base of the Edward Aquifer in the subsurface; and underlie the younger Del Rio Clay, Buda Limestone, and Austin Chalk, which outcrop to the east and cap the Edwards Aquifer in the subsurface. The Aquifer is unconfined in the western portion of the Recharge Zone where the Edwards and associated limestones outcrop and becomes confined in the eastern portion of the northern recharge zone where the del Rio clay and younger formations overlie the aquifer.

3.5 FLOOD PRONE AREAS

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for Williamson County Unincorporated Areas, Texas (Community Panel Number 48491C0488F, dated 20 December 2019, the Site is located in "Zone X", which represents mapped areas of minimal flood hazard. A copy of the FEAM FIRM map with the Site identified is included as **Figure 7**.

4. SURVEY METHODOLOGY

4.1 FIELD PROCEDURES

After reviewing the available information, a field investigation was performed to identify any geologic or manmade potential recharge features, including faults. The project area was transected on foot and around the perimeter of the fenced-in substation, as recommended in the "Instructions to Geologists" TCEQ-0585-Instructions (Rev. 10-1-04). The GA was performed on 1 June 2023, by Mr. Garrett Haas, P.G., with Weston Solutions, Inc. Mr. Haas is a licensed Professional Geoscientist in the State of Texas (License No. 15246). The location of geologic features noted are shown on **Figure 2.**

4.2 SUMMARY OF FINDINGS

The lift station area is currently covered with paved areas, above ground structures and improvement, or is grass covered. A bedrock outcrop feature (G1) was identified in the grass area to the south of the lift station. A concrete stormwater drainage culvert boarded the lift station to the west and obscured ground coverage and potential to identify geologic features. The drainage culvert directed

stormwater to a dry and overgrown drainage channel on the north side of the lift station. The drainage channel was primarily sediment, soil, and gravel covered, and thickly overgrown with vegetation. A non-karst, closed depression feature (G2) was identified in the north side of the drainage channel. The drainage channel was dry at the time of the assessment. No potential recharge features, faults, springs, or sinkholes were identified on the Site.

The TCEQ Geological Assessment form and Table (TCEQ Form 0585) and Photographic Log showing geological features documented are included as **Attachments 1** and **2** of this report.

5. RECOMMENDATIONS

If voids (i.e. solution cavities, caves, sinkholes) that could be potential recharge features are discovered during excavation activities, construction should be halted so that an evaluation can be made of the newly discovered feature(s). Propper stormwater management and spill containment and control measures should be implemented during all phases of construction.

6. REFERENCES

Bureau of Economic Geology. Geologic Atlas of Texas, Austin Sheet. Published 1981.

Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 48491C0488F dated December 20, 2019.

Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Map Viewer. Accessed 16 June 2023. https://tceq.maps.arcgis.com/apps/webappviewer/index.html.

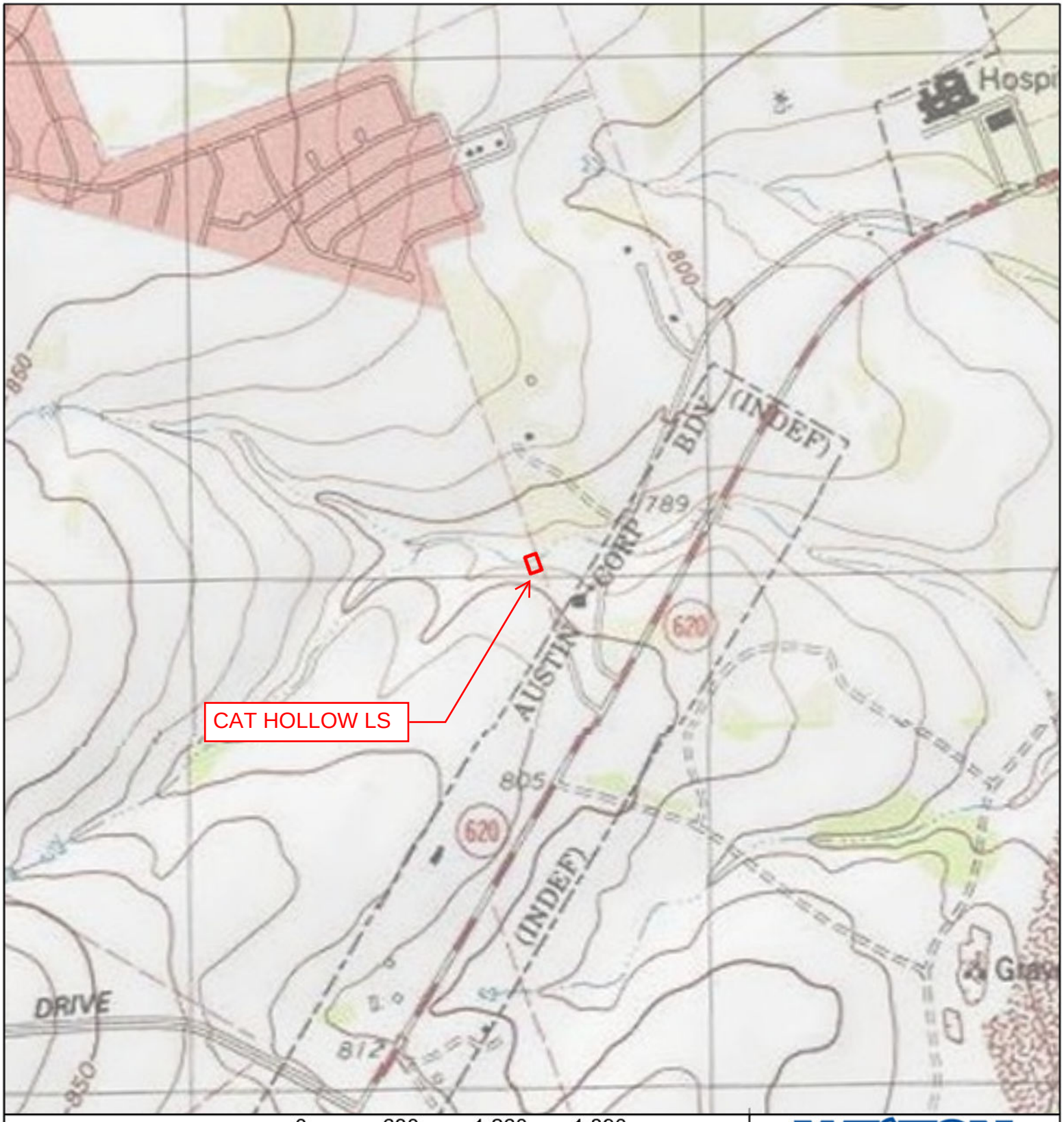
TCEQ-0585-Instructions (Rev. 10-1-04), "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone".

Texas Water Development Board (TWDB) - Report 358. December 2003. *Groundwater Availability Modeling: Northern Segment of the Edwards Aquifer, Texas*. Jones, Ian C. Ph.D., P.G.

USDA (U.S. Department of Agriculture, National Resource Conservation Service) 2023. Web Soil Survey. Accessed 16 June 2023. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

USGS (U.S. Geological Survey). 2013. 7.5-minute quadrangle map for West Austin, Texas.

FIGURES



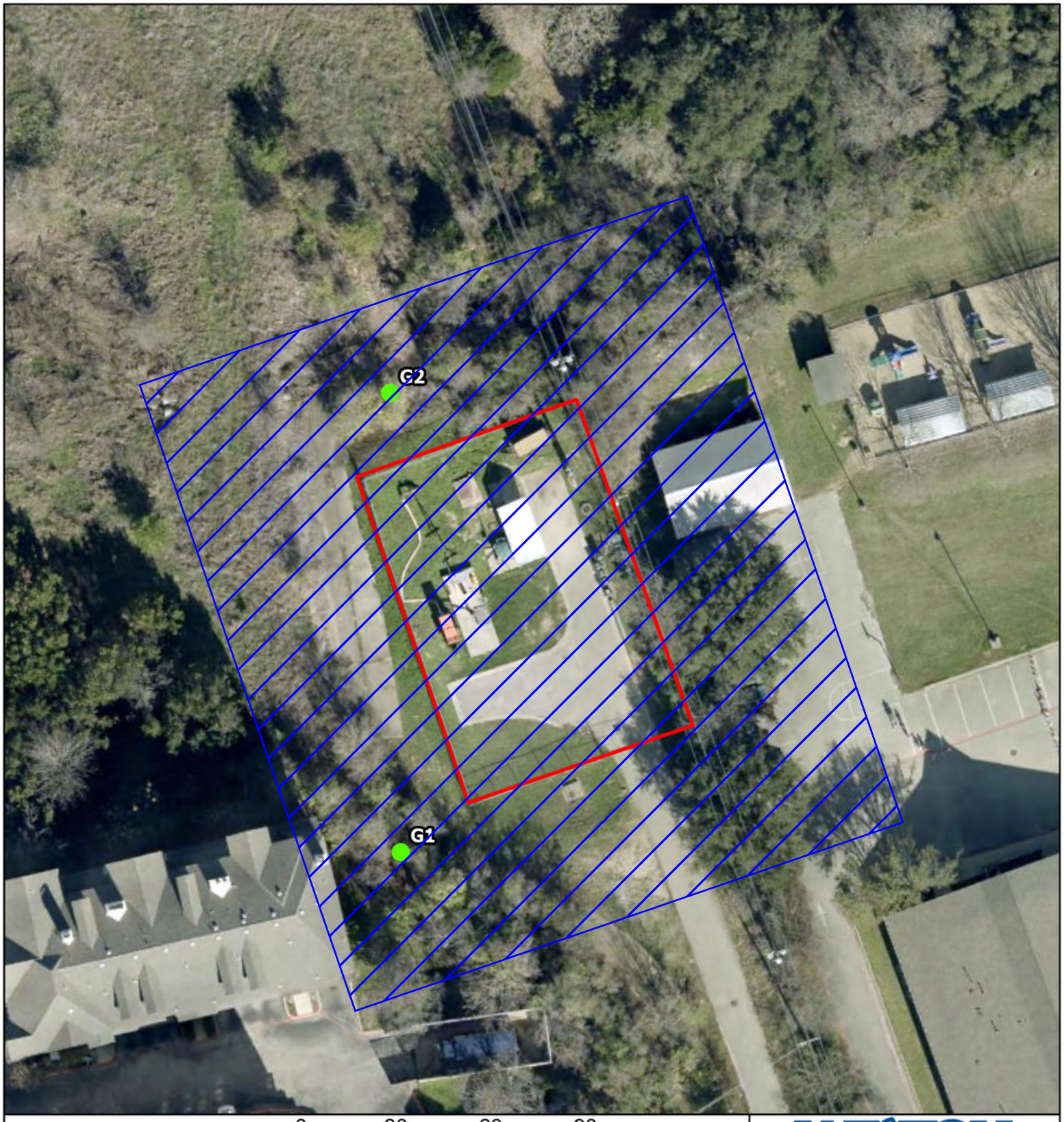
SOURCE: U.S. GEOLOGIC SURVEY 7.5 MIN TOPOGRAPHIC QUADRANGLE, AUSTIN WEST, TEXAS 2013.
FEMA FLOOD INSURANCE RATE MAP (FIRM) DATA.
DISCLAIMER: THIS FIGURE IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR, SURVEY OR ENGINEERING PURPOSES.

WESTON SOLUTIONS

FIGURE 1
CAT HOLLOW LS
SITE LOCATION MAP
BRUSHY CREEK MUD
BRUSHY CREEK, WILLIAMSON COUNTY, TEXAS

DATE	PROJECT NO	SCALE
JULY 2023	06141.036.005.2000	AS SHOWN

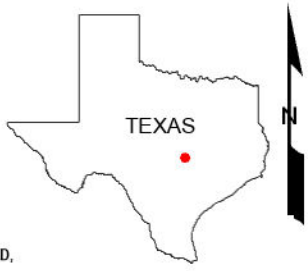
FILE: C:\Users\randhawm\OneDrive - Weston Solutions, Inc\Documents\ArcGIS\Projects\Weston\Weston.aprx 2:17 PM 7/18/2023 randhawm



0 30 60 90 US Feet

Legend

- Project Site
- Geologic Feature
- Geologic Assessment survey limits



SOURCE: U.S. GEOLOGIC SURVEY 7.5 MIN TOPOGRAPHIC QUADRANGLE, AUSTIN WEST, TEXAS 2013.
FEMA FLOOD INSURANCE RATE MAP (FIRM) DATA.
DISCLAIMER: THIS FIGURE IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR, SURVEY OR ENGINEERING PURPOSES.

WESTON SOLUTIONS

FIGURE 2
CAT HOLLOW LS
SITE MAP
BRUSHY CREEK MUD
BRUSHY CREEK, WILLIAMSON COUNTY, TEXAS

DATE	PROJECT NO	SCALE
JULY 2023	06141.036.005.2000	AS SHOWN

FILE: C:\Users\randhawm\OneDrive - Weston Solutions, Inc\Documents\ArcGIS\Projects\Weston\Weston.aprx 2:22 PM 7/18/2023 randhawm

97° 43' 20" W
97° 43' 18" W
30° 30' 12" N
30° 30' 9" N

Map Scale: 1:347 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 15 30 60 90

Map projection: Web Mercator Corner coordinates: WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 23, Aug 24, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ErE	Eckrant-Rock outcrop association, 1 to 10 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**

LEGEND

0 2,000 4,000

Feet

Legend

- Project Sites
- Kc - Comanche Peak Limestone
- Ked - Edwards Limestone
- Qal - Alluvium
- Qt - Fluviatille Terrace Deposits

N

SOURCE: U.S. GEOLOGIC SURVEY 7.5 MIN TOPOGRAPHIC QUADRANGLE, AUSTIN WEST, TEXAS 2013

DISCLAIMER: THIS FIGURE IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR, SURVEY OR ENGINEERING PURPOSES.

WESTON SOLUTIONS

FIGURE 4

REGIONAL GEOLOGIC MAP
BRUSHY CREEK
MUNICIPAL UTILITIES DISTRICT
WILLIAMSON COUNTY, TEXAS

DATE	PROJECT NO	SCALE
JULY 2023	06141.036.005.1000	AS SHOWN

FILE: C:\Users\randhawm\OneDrive - Weston Solutions, Inc\Documents\ArcGIS\Projects\Weston\Weston.aprx 2:26 PM 7/18/2023 randhawm

Series	Group	Stratigraphic Unit		Hydrologic Unit	Maximum Thickness (Feet)
Gulf	Navarro			navarro and	850
	Taylor			Taylor Group	850
	Austin			Austin Chalk	450
Comanche	Eagle Ford				50
	Washita	Buda Limestone			50
		Del Rio Clay			60
		Georgetown Formation		Edwards Aquifer	100
	Fredericksburg	Edwards Limestone			200
		Comanche Peak Limestone			50
		Walnut Formation			150
	Trinity	Paluxy Formation		Upper Trinity	10
		Glen Rose	Upper Membrane		450
			Lower Membr		450
		Travis Peak	Hensell Sand Member		100
			Cow Cr. Limestone Member	Middle Trinity	100
			Hammett Shale Member		50
			Sligo member		150
			Hosston Member	Lower Trinity	850

Extracted from *Groundwater Availability Modeling: Northern Segment of the Edwards Aquifer*, Texas Water Development Board Report 358. December 2003.

WESTON SOLUTIONS

FIGURE 5

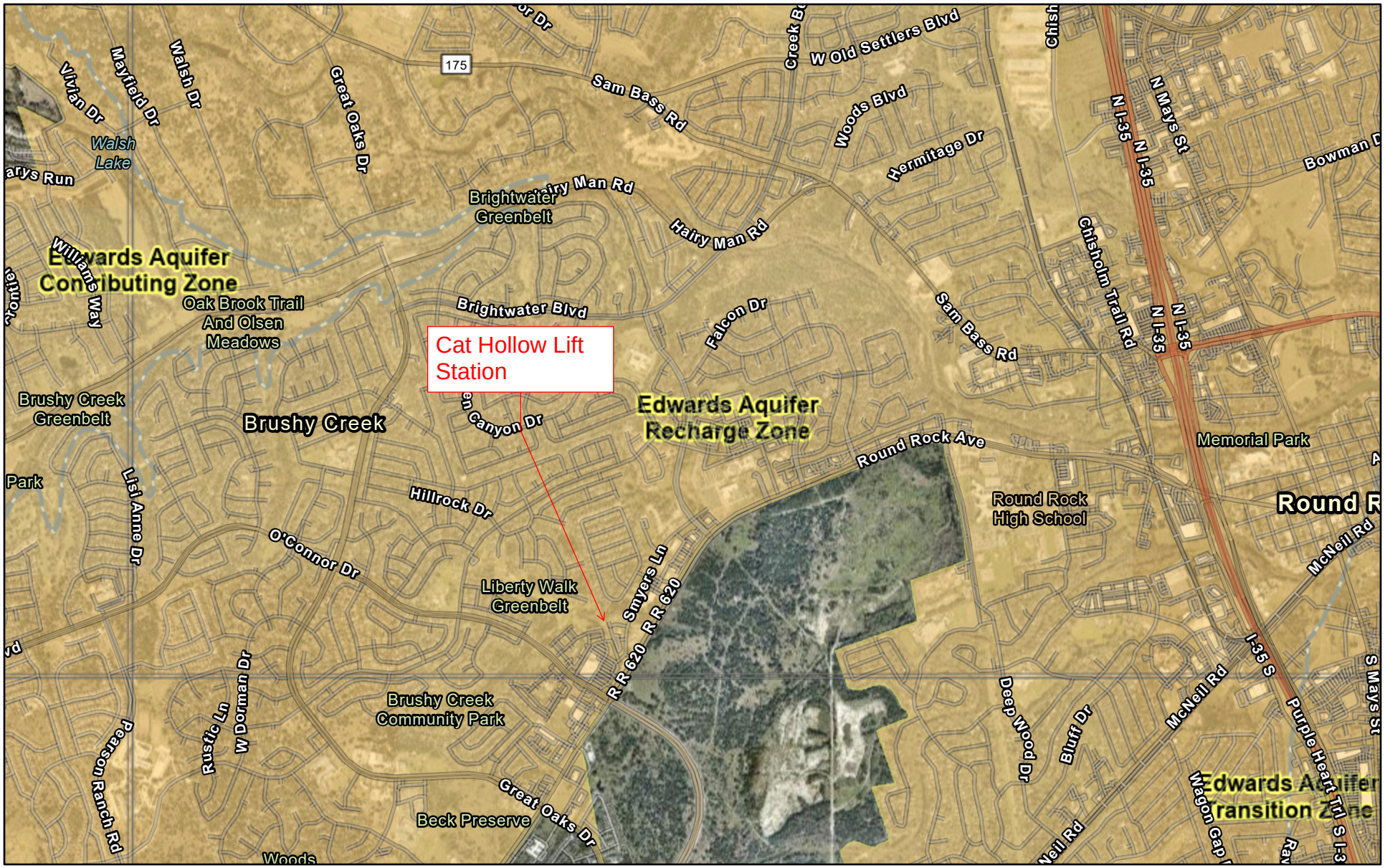
STRATIGRAPHIC SEQUENCE

CAT HOLLOW LS

BRUSHY CREEK, WILLIAMSON COUNTY, TX

DATE	PROJECT NO	SCALE
JULY 2023	15960.0001.001	AS SHOWN

Cat Hollow Edwards Aquifer Map Viewer



6/16/2023, 8:49:02 AM

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

Edwards Aquifer Label

Edwards Aquifer Boundary

Edwards Aquifer Boundary central line

City/Place

TX Counties

7.5 Minute Quad Grid

TCEQ_EDWARDS_OFFICIAL_MAPS

Austin Community College, City of Austin, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies,

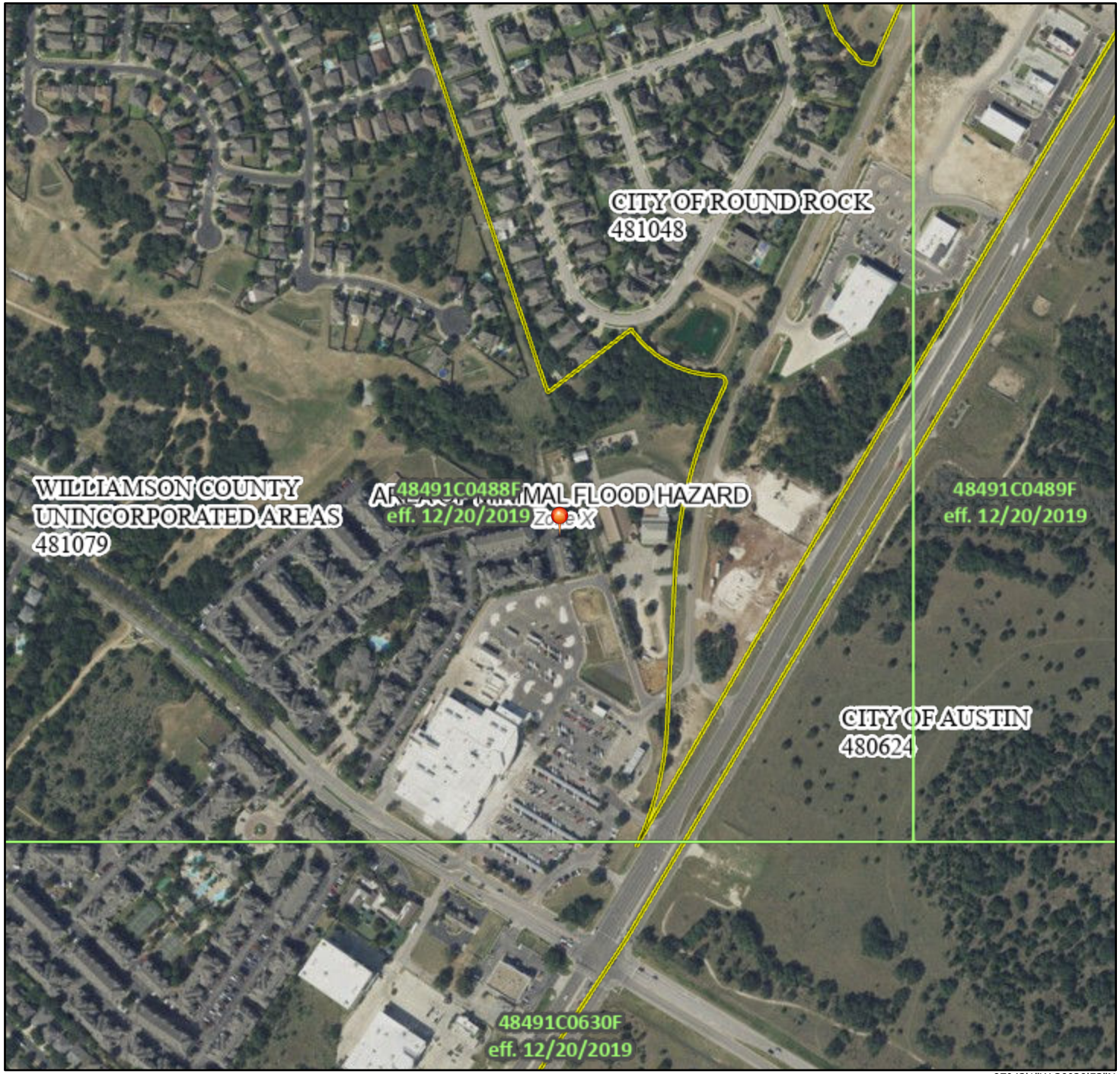
Web AppBuilder for ArcGIS

TCEQ | Williamson County TX, Maxar | Esri Community Maps Contributors, Austin Community College, City of Austin, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS,

National Flood Hazard Layer FIRMette

FEMA

97°43'38"W 30°30'24"N



97°43'1"W 30°29'53"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/16/2023 at 11:37 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENTS

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: Garrett Haas Telephone: 469-666-5527

Date: July 21, 2023 Fax: _____

Representing: Weston Solutions, Inc. (TBPG #50258) (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: n/a

Project Information

1. Date(s) Geologic Assessment was performed: June 1, 2023
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)
Eckrant-Rock Outcrop (ErE)	D	0.5-2

** 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" = 30'
   Site Geologic Map Scale: 1" = 2,000'
   Site Soils Map Scale (if more than 1 soil type): 1" = _____'

9. Method of collecting positional data:

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

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

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

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

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

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

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

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

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

Administrative Information

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Cat Hollow LS Improvements

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 (DEGREEES)	D O M	DENSITY (No./Ft)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
G1	30.5028	-97.7222	O	5	Ked	1.5	3	0.1				0	N	5	10	X		X		Hillside
G2	30.5032	-97.7222	CD	5	Ked	3	4	1.5				0	N	5	10	X		X		Drainage
G3																				
G4																				
G5																				
G6																				
G7																				
G8																				
G9																				
G10																				
G11																				
G12																				
G13																				
G14																				
G15																				

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

PHOTOGRAPH NO. 1

Date:	6/1/2023
Description:	
View of Geologic Feature 1 (G1). View facing west-southwest.	

PHOTOGRAPH NO. 2

Date:	6/1/2023
Description:	
View of Geologic Feature 2 (G2) in drainage channel north of site. View facing north-northwest.	

WATER POLLUTION ABATEMENT PLAN (TCEQ 0584)

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(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.

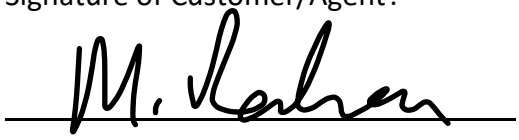
Signature

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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Maninder Randhawa, P.E.

Date: 11/20/2023

Signature of Customer/Agent:



Regulated Entity Name: Brushy Creek Municipal Utility District

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☒ Residential: Number of Living Unit Equivalents:4,825
   ☐ Commercial
   ☐ Industrial
   ☐ Other:_____

2. Total site acreage (size of property):0.2

3. Estimated projected population:16,887.5

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	590	÷ 43,560 =	0.01354
Parking	-	÷ 43,560 =	-
Other paved surfaces	3,701.93	÷ 43,560 =	0.08498
Total Impervious Cover	4,291.93	÷ 43,560 =	0.09853

Total Impervious Cover 0.09853 **÷ Total Acreage** 0.2 **X 100 =** 49.265**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

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

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

   Width of R.O.W.: _____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

11. ☐ A rest stop will be included in this project.

    ☐ A rest stop will not be included in this project.

12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

14. The character and volume of wastewater is shown below:

_____% Domestic	_____Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day N/A

15. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

- ☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☐ Sewage Collection System (Sewer Lines):

- ☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

- ☐ The SCS was previously submitted on_____.
- ☐ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☒ The sewage collection system will convey the wastewater to the Brushy Creek Regional WWTP (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

16. ☐ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

17. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 8'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____

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

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

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☐ 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 §76.

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

21. Geologic or manmade features which are on the site:

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

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

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

26. ☐ Surface waters (including wetlands).

    ☒ N/A

27. ☒ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☐ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ 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.

30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

ATTACHMENT A

FACTORS AFFECTING SURFACE WATER QUALITY

FACTORS AFFECTING SURFACE WATER QUALITY

Potential sources of sediment to stormwater runoff:

Surface runoff of dirt, tracking of mud, construction debris, and wind-blown dust will be controlled through the use of temporary erosion control practices.

Potential pollutants and sources, other than sediment, to stormwater runoff:

Temporary potential sources of contamination include:

1. Equipment and Fuel Oil
2. Concrete
3. Asphalt pavement products
4. Sewer spills

Pollution Control procedures and devices:

Pollution Control procedures include the following:

- Erosion and sedimentation controls will be installed and maintained during the project according to the Erosion and Sedimentation Control Plan. Temporary erosion controls will be provided by silt fence and mulch sock inlet protection filters. Silt fence will be deployed at all locations of potential discharge around the perimeter of the site. Silt fence prevents the escape of sediment from the site by discharging water through a filter fabric, trapping sediment.
- Runoff from concrete truck cleanouts will be prevented by requiring cleanouts in specific staging locations. Each staging area will contain independent erosion and sedimentation controls and will be maintained on a regular basis.
- After construction has concluded, there will be not factors that will affect the surface water or groundwater quality based on the land use.

ATTACHMENT B

VOLUME AND CHARACTER OF STORMWATER

VOLUME AND CHARACTERISTICS OF STORMWATER

Volume of Stormwater

All stormwater flowing from the impervious surfaces in the proposed development will discharge into storm channels. The channels hold a volume that exceeds the volume required by the code, thus the treatment of the stormwater flowing from this site is of a better quality than is required.

Characteristics of Stormwater

Drainage calculations were performed for the site using the methodology outlined in the *City of Austin Drainage Criteria Manual*. The construction plans contain copies of the existing and proposed condition drainage area maps for the developed portion of the site as well as storm water runoff calculations for both existing and proposed conditions. Times of concentration were calculated by estimating flow lengths for three runoff conditions including overland flow, shallow concentrated flow and channelized flow. Composite curve number values were determined using a weighted average of impervious cover and lawn area.

ATTACHMENT C

SUITABILITY LETTER FROM AUTHORIZED AGENT (NOT APPLICABLE)

ATTACHMENT D

EXCEPTION TO THE REQUIRED GEOLOGIC ASSESSMENT (NOT APPLICABLE)

TEMPORARY STORMWATER (TCEQ 0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

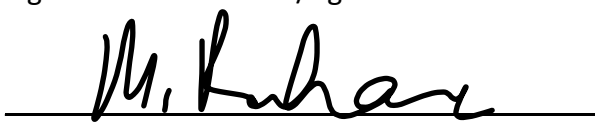
Signature

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

Print Name of Customer/Agent: Maninder Randhawa, P.E.

Date: 11/20/2025

Signature of Customer/Agent:



Regulated Entity Name: Brushy Creek Municipal Utility District

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A

SPILL RESPONSE ACTIONS

SPILL RESPONSE ACTIONS

Upon determination that a spill of petroleum products has occurred exceeding the Final Reportable Quantity of 25 gallons, immediate action is required. These actions include abating and containing the spill by stopping the spill, minimizing impact to the public health and environment, neutralizing the effects of the incident, removing the spilled substance, and managing the wastes. The contractor shall notify the TCEQ as soon as possible but not more than 24 hours after discovery of the spill. The notification report will include the following:

1. The name address and telephone number of the person making the report;
2. The date, time and location of the spill;
3. A specific description of the substance that was spilled;
4. An estimate of the quantity of the spill;
5. The duration of the incident;
6. The source of the spill;
7. A description of the extent of actual or potential harmful impacts to the environment or anticipated health risks;
8. A description of any actions that have been taken, are being taken, or will be taken to contain and respond to the spill;
9. The identity of any third parties responding to the spill.

The report shall be submitted to the State Emergency Response Center at 1-800-832-8224 or to the regional office of the TCEQ if the notification report is submitted during normal business hours.

If the spill constitutes an immediate health threat, the contractor shall immediately notify and cooperate with local emergency authorities to support and implement appropriate notification and response actions. Within two weeks of the spill, the contractor will reasonably attempt to notify the owner or occupant of the property upon which the spill occurred as well as the occupants of any property that the contractor reasonably believes will be adversely affected.

Within 30 days of the spill, the contractor shall submit in writing to the TCEQ regional manager details of the spill and verification that the spill response was adequate. The submission will include one of the following:

1. A statement that the spill response actions have been completed and a description of how the response action was conducted. The statement must include the information contained in the notification report.
2. A request for an extension of time to complete the response action along with the reasons for the request. A projected work schedule outlining the time required to complete the response action is also should also be included. The executive director may grant an extension of up to six months from the sate of the spill was reported.
3. A statement that the spill response has not been completed and will not be completed within the maximum allowable six month extension. The statement should include why the completion of the response actions is not feasible and a projected work schedule outlining the remaining tasks necessary to complete the response actions.

ATTACHMENT B

POTENTIAL SOURCES OF CONTAMINATION

POTENTIAL SOURCES OF CONTAMINATION

Potential sources of sediment to stormwater runoff:

Surface runoff of dirt, tracking of mud, construction debris, and windblown dust will be controlled through the use of temporary erosion control practices.

Potential pollutants and sources, other than sediment, to stormwater runoff:

Temporary potential sources of contamination include:

1. Equipment fuel and oil
2. Concrete
3. Asphalt pavement products
4. Sewer spills

ATTACHMENT C

SEQUENCE OF MAJOR ACTIVITIES

SCHEDULE OF MAJOR ACTIVITIES

ACTIVITY	AREA DISTURBED (ac)	TEMPORARY CONTROLS
Excavate for Wet Well	0.00433	Silt fence, mulch socks for inlets
Install Wet Well and Foundations	0.00433	Silt fence, mulch socks for inlets
Excavate for Gravity Lines	0.00872	Silt fence, mulch socks for inlets
Install Gravity Pipe	0.00872	Silt fence, mulch socks for inlets
Demolition	0.042	Silt fence, mulch socks for inlets
Install Manholes	0.00164	Silt fence, mulch socks for inlets
Excavate and Construct Pavement Pads	0.0305	Silt fence, mulch socks for inlets
Final Grading and Restoration	0.042	Silt fence, mulch socks for inlets

ATTACHMENT D

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The general construction sequence will be as follows:

1. Schedule and conduct the preconstruction conference.
2. Install temporary erosion controls, pedestrian protection measures, and traffic control measures.
3. Clear and excavate the for the wet well.
4. Install wet well and foundations.
5. Clear and excavate for gravity lines.
6. Install gravity pipes.
7. Complete bypass operation.
8. Shut down the wet well.
9. Conduct demolition.
10. Install manholes.
11. Excavate and construct foundation pads.
12. Install valves and FM piping.
13. Install flow meter and vault.
14. Install odor control scrubber and piping.
15. Install jib crane.
16. Install electrical conduits and wires.
17. Relocate electrical controls and panels.
18. Install generator.
19. Install electrical canopy.
20. Final grading and restoration of project site.
21. Final dress site and remove temporary erosion controls.

As stated in 2. the temporary erosion controls will be installed before any other construction activity commences.

The temporary erosion controls are listed below. The mulch sock inlet protection and silt fence will prevent the pollution of surface water, groundwater and stormwater by not allowing the sediment from construction activities to leave the site. All sediment contained in flows that cross the site, including flow that originates upstream of the site, will be filtered by the temporary erosion controls listed. The mulch sock inlet protection filters will filter out sediment in the stormwater as it leaves the site. The measures will then be cleaned, as described on the schedule below, to ensure that they remain functioning.

BMP Description: Mulch Sock Inlet Protection	
Installation Schedule:	Prior to commencement of construction activity
Maintenance and Inspection:	Weekly and after each significant rainfall
Responsible Staff:	TBD

BMP Description: Silt Fence	
Installation Schedule:	Prior to commencement of construction activity
Maintenance and Inspection:	Weekly and after each significant rainfall

Responsible Staff:	TBD

ATTACHMENT E

REQUEST TO TEMPORARILY SEAL A FEATURE (NOT APPLICABLE)

ATTACHMENT F

STRUCTURAL PRACTICES

ATTACHMENT G

DRAINAGE AREA MAP

DRAINAGE AREA MAP

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

1. Material Storage
2. Stockpipe Management
3. Solid Waste Management
4. Inlet Protection
5. Silt Fence

ATTACHMENT H

TEMPORARY SEDIMENT POND PLANS AND CALCULATIONS (NOT APPLICABLE)

ATTACHMENT I

INSPECTION AND MAINTENANCE FOR BEST MANAGEMENT PRACTICES

Project Name:

BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT FORM

MULCH SOCK INLET PROTECTION BARRIERS

Name of Inspector: _____ Inspection Date: _____
Days Since Last Rainfall: _____ Amount ofLast Rainfall:_____inches

Location	In Place?	Depth of Sediment	Condition of Inlet

MAINTENANCE REQUIRED FOR INLET PROTECTION BARRIERS: _____

TO BE PERFORMED BY:_____ ON OR BEFORE: _____

Project Name:

BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT FORM

SILT FENCE PROTECTION BARRIERS

Name of Inspector: _____ Inspection Date: _____
Days Since Last Rainfall: _____ Amount ofLast Rainfall:_____inches

Location	In Place?	Depth of Sediment	Condition of Inlet

MAINTENANCE REQUIRED FOR INLET PROTECTION BARRIERS: _____

TO BE PERFORMED BY:_____ ON OR BEFORE: _____

ATTACHMENT J

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Permanent soil stabilization practices will include:

1. Limitations on the steepness of finished slopes.
2. Permanent revegetation of finished areas.

No permanent soils slopes steeper than three horizontal to one vertical will be created as a result of this project.

BMP Description: Limitations on the steepness of finished slopes.

Installation Schedule:	Per sequence of construction
Maintenance and Inspection:	N/A
Responsible Staff:	TBD

BMP Description: Permanent revegetation of finished areas.

Installation Schedule:	Upon completion of grading
Maintenance and Inspection:	Weekly
Responsible Staff:	TBD

PERMANENT STORMWATER (TCEQ 0600)

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Maninder Randhawa, P.E.

Date: 11/20/2023

Signature of Customer/Agent

M. Randhawa

Regulated Entity Name: Brushy Creek Municipal Utility District

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☒ N/A

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

    ☒ N/A

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

    ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☒ N/A

ATTACHMENT A

20% OR LESS IMPERVIOUS COVER WAIVER (NOT APPLICABLE)

ATTACHMENT B

BEST MANAGEMENT PRACTICES FOR UPGRADIENT STORMWATER

BMPs FOR UPGRADIENT STORMWATER

Since there is no surface water, groundwater, or stormwater that originates upgradient from the site or that flows across the site, BMPs for Upgradient Stormwater are not needed.

ATTACHMENT C

BEST MANAGEMENT PRACTICES FOR ON-SITE STORMWATER

BMP'S FOR ON-SITE STORMWATER

On-site stormwater flowing from the impervious surfaces in the proposed development will discharge into storm channels. The channels hold a volume that exceeds the minimum volume required by code, thus the treatment of stormwater flowing from this site is adequate.

ATTACHMENT D

BMPS FOR SURFACE STREAMS (NOT APPLICABLE)

ATTACHMENT E

REQUEST TO SEAL FEATURES (NOT APPLICABLE)

ATTACHMENT F

CONSTRUCTION PLANS

ATTACHMENT G

INSPECTION, MAINTENANCE, REPAIR, AND RETROFIT PLAN (NOT APPLICABLE)

ATTACHMENT H

PILOT-SCALE FIELD TESTING PLAN (NOT APPLICABLE)

ATTACHMENT I

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION (NOT APPLICABLE)

AGENT AUTHORIZATION FORM (TCEQ 0599)

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

I Shean Dalton,
Print Name

General Manager,
Title - Owner/President/Other

of **Brushy Creek MUD**,
Corporation/Partnership/Entity Name

have authorized **Maninder Randhawa, P.E.**
Print Name of Agent/Engineer

of **Weston Solutions, Inc**
Print Name of Firm

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

I also understand that:

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

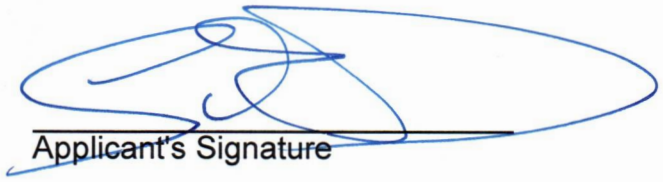
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

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

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

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

SIGNATURE PAGE:



Applicant's Signature

10/11/23
Date

THE STATE OF TX §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Shean Dalton known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 11 day of October, 2023

NOTARY PUBLIC

Chelsea Lockhart
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 05/01/2024

APPLICATION FEE FORM (TCEQ 0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Brushy Creek Municipal Utility District
Regulated Entity Location: Round Rock, TX
Name of Customer: Brushy Creek Municipal Utilities District
Contact Person: Amy Giannini, P.E. Phone: 512-255-7871
Customer Reference Number (if issued):CN 600646574
Regulated Entity Reference Number (if issued):RN 105482053

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	0.21 Acres	$ 650
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	$
Extension of Time	Each	$

Signature: M. [signature] Date: 11/20/2023

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

CORE DATA FORM (TCEQ 10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number (*if issued*)	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** (*if issued*)
CN 600646574		**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:*

Brushy Creek Municipal Utility District

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** (*if applicable*)
	0174-200680	74-2006801	03-984-2885

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: Municipal Utility District

15. Mailing Address:	16318 Great Oaks Drive						
	City	Round Rock	**State**	TX	**ZIP**	78681	**ZIP + 4**	2506

16. Country Mailing Information (*if outside USA*)	**17. E-Mail Address** (*if applicable*)
	b.carr@bcmud.org

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 255-7871	401	( ) -

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.)*

Cat Hollow Lift Station

23. Street Address of the Regulated Entity: *(No PO Boxes)*	16920 Smyers Ln							
	City	Round Rock	**State**	TX	**ZIP**	78681	**ZIP + 4**	2506
24. County	Williamson							

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

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
Round Rock			TX	78681	

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:	30.503020		**28. Longitude (W) In Decimal:**	-97.722075	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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)
9631		00221	

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

Municipal Utility District providing water, wastewater and stormwater services.

34. Mailing Address:	**16318 Great Oaks Drive**							
	City	**Round Rock**	**State**	**TX**	**ZIP**	**78681**	**ZIP + 4**	**2506**
35. E-Mail Address:	b.carr@bcmud.org							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(512) 255-7871	401	( ) -

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☒ PWS
				PWS 2400661
☐ Sludge	☒ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
	TXR0400049			
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0010264001			

SECTION IV: Preparer Information

40. Name:	Maninder Randhawa, P.E.	41. Title:	Professional Engineer
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 920-4847		( ) -	maninder.randhawa@westonsolutions.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Brushy Creek MUD	**Job Title:**	Utilities System Manager
Name *(In Print):*	William Carr	**Phone:**	(512) 255-7871 X401
Signature:	William Carr	**Date:**	10-10-23

RELEVANT PLAN SHEETS

PROJECT INFORMATION:

CAT HOLLOW LIFT STATION
O'CONNOR DRIVE
ROUND ROCK, TX 78664

HILLSIDE LIFT STATION
1208 SUTTER CREEK TRAIL
AUSTIN, TX 78717
AND
4014, 4100, 4102 HILLSIDE DRIVE
ROUND ROCK, TX 78681

OWNER:

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT
16318 GREAT OAKS
ROUND ROCK, TX 78681

DISTRICT ENGINEER:

AMY GIANNINI, P.E.
16318 S GREAT OAKS DR
ROUND ROCK, TX 78735
512-255-7871 EXT. 237
A.GIANNINI@BCMUD.ORG

BOARD MEMBERS:

REBECCA B. TULLOS, PLACE 1	– TREASURER
MICHAEL TUCKER, PLACE 2	– PRESIDENT, ASSISTANT TREASURER
KIM FILIATRAULT, PLACE 3	– VICE PRESIDENT
(VACANT), PLACE 4	
KEN REIFSHCLAGER, PLACE 5	– SECRETARY

BUSINESS PERSONNEL:

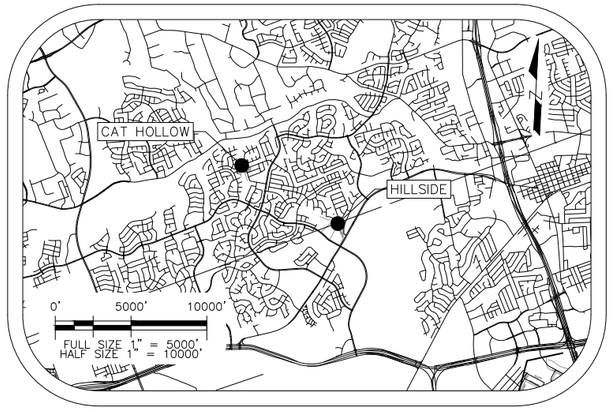
SHEAN R. DALTON	– GENERAL MANAGER
BILL CARR	– UTILITY SYSTEMS MANAGER
AMY GIANNINI	– DISTRICT ENGINEER

CONTACT:
SAM IRRINKI, P.E.
PHONE: 512-651-7106
FAX: 512-651-7101
sam.irrinki@westonsolutions.com

Brushy Creek Municipal Utility District

CAT HOLLOW LIFT STATION IMPROVEMENTS AND HILLSIDE LIFT STATION DECOMMISSIONING

8 NOVEMBER 2023



Sheet List Table

Sheet Number	DWG Number	Sheet Title
1	G-01	COVER SHEET AND INDEX
2	G-02	ABBREVIATIONS AND LEGEND
3	G-03	GENERAL NOTES
4	G-04	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY NOTES (1 of 2)
5	G-05	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY NOTES (2 of 2)
6	G-06	TREE PROTECTION AND E&S NOTES
7	G-07	TREE PROTECTION AND E&S DETAILS
8	G-08	CAT HOLLOW SURVEY CONTROL
9	G-09	HILLSIDE DRIVE SURVEY CONTROL
10	G-10	CAT HOLLOW EROSION AND SEDIMENT CONTROL
11	G-11	HILLSIDE DRIVE EROSION AND SEDIMENT CONTROL
12	G-12	HILLSIDE DRIVE PAVEMENT RESTORATION
13	C-01	CAT HOLLOW OVERALL SITE DEMOLITION PLAN
14	C-02	CAT HOLLOW PROPOSED SITE PLAN
15	C-03	CAT HOLLOW PROPOSED SITE GRADING PLAN
16	C-04	CAT HOLLOW WASTEWATERLINE A & B PLAN & PROFILE STA. 1+00 TO 2+66
17	C-05	HILLSIDE DR SITE DEMOLITION PLAN
18	C-06	HILLSIDE DRIVE OVERALL SITE PLAN
19	C-07	HILLSIDE DR WASTEWATERLINE C PLAN & PROFILE STA. 1+00 TO 4+32.83
20	C-08	HILLSIDE DR WASTEWATERLINE C PLAN & PROFILE STA. 1+00 TO 2+66
21	C-09	HILLSIDE DR WASTEWATER LINE D PLAN & PROFILE STA. 1+00 TO 3+09
22	D-01	PROJECT DETAILS
23	D-02	STANDARD DETAILS (1 OF 2)
24	D-03	STANDARD DETAILS (2 OF 2)
25	M-01	CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD PLAN
26	M-02	CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD SECTION A-A
27	M-03	CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD SECTION B-B
28	M-04	CAT HOLLOW VALVE PAD AND FLOW METER VAULT SECTION C-C AND DETAIL
29	M-05	LIFT STATION DETAILS
30	S-01	CAT HOLLOW STRUCTURAL GENERAL NOTES
31	S-02	CAT HOLLOW TOP SLAB AND MAT FOUNDATION PLAN AND SECTIONS
32	S-03	CAT HOLLOW VALVE AND GENERATOR PAD PLANS AND AND SECTIONS
33	S-04	CAT HOLLOW ELECTRICAL AND ODOR CONTROL PAD PLAN AND SECTIONS
34	S-05	JIB CRANE FOUNDATION, PLAN AND SECTION
35	TC-01	TRAFFIC CONTROL GENERAL NOTES AND TABLE
36	TC-02	TRAFFIC CONTROL PLAN - HILLSIDE DRIVE
37	TC-03	TRAFFIC CONTROL PLAN - SUTTER CREEK TRAIL
38	TC-04	TRAFFIC CONTROL - INTERSECTIONS
39	TCD-01	TRAFFIC CONTROL STANDARD DETAILS (1 OF 2)
40	TCD-02	TRAFFIC CONTROL STANDARD DETAILS (2 OF 2)
41	TCD-03	TRAFFIC CONTROL - SPECIAL DETAILS
42	E-01	ELECTRICAL LEGEND
43	E-02	ELECTRICAL SITE PLAN
44	E-03	ONE LINE DIAGRAM
45	E-04	ELECTRICAL EQUIPMENT RACK ELEVATION
46	E-05	WET WELL DETAILS
47	E-06	ELECTRICAL DETAILS

WESTON SOLUTIONS
TEXAS REGISTERED ENGINEERING FIRM F-3123

SUBMITTAL PREPARED BY: WESTON SOLUTIONS, INC.
70 N.E. LOOP 410, SUITE 200 SAN ANTONIO, TX 78216

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER
M. Randhawa 11-8-2023

100% SUBMITTAL

ABBREVIATIONS:

@	AT
ABAND	ABANDONED
ADF	AVERAGE DAILY FLOW
APPROX	APPROXIMATELY
AC	ASBESTOS CEMENT
BLDG	BUILDING
C/C	CENTER TO CENTER
CCT	CHLORINE CONTACT TANK
CCTV	CLOSED CIRCUIT TELEVISION VIDEO
CFM	CUBIC FEET PER MINUTE
CIPP	CURED-IN-PLACE PIPE
CI	CAST IRON
℄	CENTER LINE
CLR	CLEAR, CLEARANCE
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUATION
C.R.Z.	CRITICAL ROOT ZONE
CS	CARBON STEEL
DI	DUCTILE IRON
DIA	DIAMETER
DTL	DETAIL
DWG	DRAWING
E&S	EROSION AND SEDIMENTATION
EFF	EFFLUENT
ELEC	ELECTRIC
ELEV/EL	ELEVATION
ESMT	EASEMENT
EX.	EXISTING
EXT	EXTERIOR
FG	FINISHED GRADE
FL	FLOWLINE
FLG	FLANGE
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FINISHED SURFACE
FT	FEET
FTG	FOOTING
GALV	GALVANIZED
GB	GRADE BREAK
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HMWPE	HIGH MOLECULAR WEIGHT POLYETHYLENE
HOR	HORIZONTAL
HZ	HERTZ
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
LDPE	LOW DENSITY POLY ETHYLENE
LF	LINEAR FEET
LS	LIFT STATION
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NA	NOT APPLICABLE
NO.	NUMBER
NTS	NOT TO SCALE
NWP	NATION WIDE PERMIT
O.C.	ON CENTER
PDF	PEAK DAILY FLOW
PF	PEAK FLOW
PHF	PEAK HOURLY FLOW
PROP	PROPOSED
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
R	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RED	REDUCER
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT-OF-WAY
SCH	SCHEDULE
SEC	SECTION
SEQ	SEQUENCE
SF	SQUARE FEET
SHT	SHEET
SS	STAINLESS STEEL
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TB	THRUST BLOCK
TC	TOP OF CURB
TDH	TOTAL DYNAMIC HEAD
T.O.C.	TOP OF CONCRETE
TP	TOP OF PIPE
TYP	TYPICAL
UG	UNDERGROUND
VERT	VERTICAL
VOL	VOLUME
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER
WWTP	WASTEWATER TREATMENT PLANT

LEGEND SYMBOLS:

IRF ●	1/2" REBAR FOUND (OR AS NOTED)
	BENCHMARK/ CONTROL POINT
	BORE HOLE STAKE LOCATION (FOUND)
X	SPOT ELEVATION
953	EX. CONTOUR LINE
LOC	LIMITS OF CONSTRUCTION
TP	TREE PROTECTION
	PROPERTY LINE
	EX. ELECTRIC OVERHEAD
G	EX. GAS LINE
	EX. UG COMMUNICATION LINE
SD	EX. STORM DRAIN
	EX. WASTEWATER LINE
W	EX. WATER LINE
	EDGE OF ASPHALT PAVEMENT
X	EX. CHAIN LINK FENCE
	EX. WROUGHT IRON FENCE
	EX. WOOD FENCE
	PROP. WASTEWATER LINE
	PROP. WATER LINE
	PROP. DRAIN LINE
	PROP. FORCE MAIN LINE
	PROP. ELECTRIC LINE
	PROP. CHAIN LINK FENCE
	PROP. WASTEWATER MANHOLE
CO	PROP. CLEANOUT

	SIGN
	TREE
Ⓥ	VALVE
Ⓘ	PIPE INFLOW
Ⓞ	PIPE OUTFLOW
	PIPE (AS NOTED)
Ⓜ	MOTOR (TOP CENTER)
Ⓟ	TOP OF PIPE
Ⓕ	FACE OF PIPE
Ⓦ	WATER METER
	FIRE HYDRANT
	UTILITY POLE
	GUY WIRE
OU	OVERHEAD UTILITIES
Ⓔ	ELECTRIC UTILITY
	WASTEWATER MANHOLE
SSMH	STORMSEWER MANHOLE
CO	CLEANOUT
	BOLLARD
T.O.N.	TOP OF NUT MEASUREMENT
T.O.P.	TOP OF PIPE MEASUREMENT
( )	RECORD INFORMATION
	POWER POLE
	DOWN GUY
	PROP. GATE VALVE
	PROP. BALL VALVE

LEGEND PROFILE SYMBOLS:

EX. GROUND

EX. WASTEWATER LINE

PROP. WASTEWATER LINE

EX. WASTEWATER MANHOLE

PROP. WASTEWATER MANHOLE

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	
A	11/8/23	100% SUBMITTAL MR
		REVISION BY

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

ABBREVIATIONS AND LEGEND

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.

ONE INCH

DESIGNED MR
DRAWN ---
CHECKED MR
REVIEWED ---

Seq. 2 of 46

Dwg. No. G-02

WON: 15960.001.001.2000

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL NOTIFY BRUSHY CREEK MUD 48 HOURS PRIOR TO STARTING CONSTRUCTION OR CLEARING OPERATIONS.

2. CONTRACTOR SHALL "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-WAYS.

3. THIS PROJECT SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN, PER FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM): FIRM 48491C0488F, EFFECTIVE 12/20/2019.

4. THIS PROJECT IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS DEFINED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). THIS PROJECT IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS REGULATED BY TCEQ.

5. THERE ARE CRITICAL ENVIRONMENTAL FEATURES WITHIN 150' OF ANY PORTION OF THIS PROJECT. A FIELD INVESTIGATION HAS BEEN PERFORMED AS A PART OF THIS PROJECT.

6. APPROPRIATE EASEMENTS/APPROVALS MUST BE SECURED AND DOCUMENTED FOR ANY WORK OUTSIDE OF RIGHT-OF-WAYS. NO WORK SHALL BE PERFORMED WITHIN THESE AREAS UNTIL ASSOCIATED RIGHT-OF-WAY ENTRY HAD BEEN SECURED.

7. THE PROJECT MANUAL CONTAINS IMPORTANT INFORMATION THAT IS NOT REPEATED IN THE PLAN SET. THE CONTRACTOR SHALL KEEP THE PROJECT MANUAL ON SITE AND IMMEDIATELY AVAILABLE TO THOSE PERSONS PERFORMING THE WORK. UPON REQUEST, THE CONTRACTOR SHALL PRESENT THIS COPY OF THE PROJECT MANUAL TO THE CONSTRUCTION INSPECTOR, ENGINEER OR PROJECT MANAGER.

8. THE CONTRACTOR WILL NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING ANY CONSTRUCTION IN THE RIGHT OF WAY OR EASEMENTS.

9. CONTRACTOR AND SUB-CONTRACTORS MUST BE LICENSED BY WILLIAMSON COUNTY FOR CONDUCTING WORK WITHIN THE STREET RIGHT-OF-WAY, ALLEYS, OR EASEMENTS AND ARE REQUIRED TO ABIDE BY ALL WILLIAMSON COUNTY REGULATIONS.

10. CONTRACTOR MUST OBTAIN A UTILITY DEVELOPMENT PERMITS FOR THE HILLSIDE DR PROJECT LOCATION FROM WILLIAMSON COUNTY PRIOR TO COMMENCEMENT OF WORK.

11. THE CONTRACTOR SHALL NOTIFY EACH OF THE FOLLOWING ENTITIES OF THE CONSTRUCTION SCHEDULE AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION OPERATIONS AND PROVIDE PERTINENT INFORMATION ABOUT LANE CLOSURES AND DETOURS.

    BRUSHY CREEK MUD.....512-974-0130
    WILLIAMSON COUNTY.....512-974-5000
    FERN BLUFF MUD 512-238-0606

12. THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING TYPE AND LOCATION OF SURFACE, SUBSURFACE, 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 THE CONSTRUCTION IN ORDER TO AVOID DAMAGING THOSE UTILITIES.

13. THE CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, GAS, WATER, WASTEWATER, ELECTRIC, TELEPHONE, CABLE TELEVISION, PETROLEUM PIPELINES, FIBER OPTIC, STREET, DRAINAGE, AND ANY OTHER WORK OCCURRING IN OR NEAR THE PROJECT SITE. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY, BUT NO LATER THAN TWENTY-FOUR (24) HOURS AFTER DISCOVERY.

14. SHOULD THE CONTRACTOR DAMAGE A UTILITY DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF THE DAMAGED UTILITY. THE EXPENSE FOR THESE REPAIRS WILL BE AT THE CONTRACTOR'S SOLE EXPENSE.

15. ALL EXISTING STRUCTURES, FACILITIES, AND UTILITIES DAMAGED BY CONSTRUCTION SHALL BE REMOVED AND RESTORED WITH MATERIALS EQUAL TO OR BETTER THAN THE ORIGINAL AND TO CONDITIONS EQUAL TO OR BETTER THAN THE ORIGINAL. UNLESS OTHERWISE NOTED IN THE PLANS, THIS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE.

16. SLOPES OF ROADWAY CUTS AND EMBANKMENTS DAMAGED BY ANY OPERATION OF THE CONTRACTOR DURING THE EXECUTION OF THIS PROJECT SHALL BE REPAIRED AND RESTORED TO THE ORIGINAL PRE-CONSTRUCTION CONDITION. BACKFILL AND FILL PLACED DURING REMEDIAL GRADING SHALL BE COMPACTED TO AT LEAST 95% COMPACTION AND TO THE SATISFACTION OF THE ENGINEER AND GOVERNING AUTHORITIES.

17. GEOTECHNICAL INFORMATION IS PROVIDED IN THE PROJECT MANUAL SECTION SR-01.

18. SEE PROJECT MANUAL SECTION 01 70 00 - CLOSEOUT REQUIREMENTS FOR RECORD DRAWINGS INFORMATION.

19. THE ENGINEER SHALL PROVIDE ADDITIONAL INFORMATION TO CONTRACTOR VIA RFIs (REQUEST FOR INFORMATION) DURING CONSTRUCTION PHASE.

20. THE STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.

21. THE CONTRACTOR SHALL CONTACT THE ROUND ROCK AREA "ONE CALL" SYSTEM AT FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE OWNER'S WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.

22. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.

23. THE SPECIFICATION ITEM TRENCH EXCAVATION SAFETY PROTECTION SYSTEM WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.

24. ALL MATERIALS TESTS ORDERED BY THE OWNER FOR QUALITY ASSURANCE PURPOSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER.

25. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE WHO WILL COORDINATE WITH THE BRUSHY CREEK MUD AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE.

26. WATER AND WASTE WATER SERVICES WILL NEED TO BE REPLACED UP TO THE MAIN. REPAIR COUPLINGS ARE NOT ALLOWED ON NEW INSTALLATIONS.

27. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES, BELOW GROUND AND OVERHEAD, PRIOR TO STARTING ONSITE UTILITY WORK.

28. ALL WATER AND WASTEWATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED IN CHAPTER 290 - DRINKING WATER STANDARDS, CHAPTER 217 - DESIGN CRITERIA FOR SEWERAGE SYSTEMS AMD CHAPTER 210 - DESIGN CRITERIA FOR RECLAIMED SYSTEMS OF TCEQ RULES.

29. SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATE OF TEXAS, SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL FOR LARGE DIAMETER PRE-CAST MANHOLES, JUNCTION BOXES, WET WELLS, AND SIMILAR STRUCTURES. THE SHOP DRAWINGS SHALL INCLUDE FLOWLINE ELEVATIONS OF ALL INCOMING AND OUTGOING PIPES, ELEVATION OF TRANSITION FROM LARGE DIAMETER SECTIONS TO 48" ID SECTION, TOP OF MANHOLE ELEVATION, SURROUNDING GROUND ELEVATION, AS WELL AS SPECIAL CONSTRUCTION CONSIDERATIONS THAT ARE SPECIFIED IN THE CONTRACT DRAWINGS.

30. VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF IRON ROD OF THE REQUIRED LENGTH WITH A SOCKET ON ONE END AND NUT ON THE OTHER.

31. ALL GRAVITY LINES SHALL BE INSTALLED DOWNSTREAM TO UPSTREAM.

32. METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.

SEQUENCE OF CONSTRUCTION

1. SEE TREE PROTECTION NOTES ON SHEET G-04.

2. SECURE ALL APPLICABLE PERMITS.

3. HOLD PRE-CONSTRUCTION CONFERENCE.

4. TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AS INDICATED ON THE PLANS. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.

5. NOTIFY WILLIAMSON COUNTY 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.

6. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO TCEQ OF INTENT TO COMMENCE CONSTRUCTION.

7. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.

8. THE CONTRACTOR SHALL FOLLOW REQUIREMENTS PROVIDED IN THE EDWARDS AQUIFER SCS AND WPAP AND IN THE TCEQ'S SCS AND WPAP APPROVALS. THESE INCLUDE MAINTENANCE AND INSPECTION OF ENVIRONMENTAL CONTROLS, PREVENTING SEDIMENT MIGRATION, MAINTENANCE OF RECORDS OF CONSTRUCTION ACTIVITIES AND EROSION CONTROLS, AND REQUIREMENTS FOR STABILIZATION.

9. PLACE TEMPORARY TRAFFIC CONTROL DEVICES.

10. BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.

11. COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.

12. AFTER A FINAL INSPECTION HAS BEEN CONDUCTED , REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

13. COMPLETE PERMANENT EROSION CONTROL AND SITE RESTORATION. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION. RESTORE ANY AREAS DISTURBED DURING REMOVAL OF EROSION/SEDIMENTATION CONTROLS.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	
A	11/8/23	100% SUBMITTAL MR
		REVISION BY

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

GENERAL NOTES

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED MR
DRAWN ---
CHECKED MR
REVIEWED ---
Seq. 3 of 46
Dwg. No. G-03
WON: 15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\G-03.dwg Nov 08,2023 - 9:54am PASATIED

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY - WATER POLLUTION ABATEMENT PLAN - GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:

   THE NAME OF THE APPROVED PROJECT;

   THE ACTIVITY START DATE; AND

   THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14th DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21st DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14th DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:

    THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;

    THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND

    THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

    A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

    B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

    C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY - ORGANIZED SEWAGE COLLECTION SYSTEM - GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:

   -THE NAME OF THE APPROVED PROJECT;

   -THE ACTIVITY START DATE; AND

   -THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

   THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON DETAIL SHEET D-02 .

   IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER:

    A. INSTALLING NEW MANHOLES AT POINTS WHERE CHANGES IN ALIGNMENT AND/OR GRADES ARE PROPOSED.

    IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED:

    A. PIPE JOINT IS DEFLECTED LESS THAN 5 DEGREES.

    B. 80% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM JOINT OFFSET; OR

    C. 80% OF THE APPROPRIATE ASTM, AWWA, ANSI, OR OTHER NATIONALLY ESTABLISHED STANDARD FOR JOINT OFFSET.

    SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

12. ~~NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.~~

    ~~IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET OF______. (FOR POTENTIAL FUTURE LATERALS).~~

    ~~THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET OF AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET OF______.~~

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

    (a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

    (1) LOW PRESSURE AIR TEST.

    (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C- 924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.

    (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

    (i) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

    (ii) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

    EQUATION C.3

    WHERE:

    $$T = \frac{0.085 \times D \times K}{Q}$$

    T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS

    K = 0.000419 X D X L, BUT NOT LESS THAN 1.0 D = AVERAGE INSIDE PIPE DIAMETER IN INCHES

    L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET

    Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

    (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1,020	133	7.693
21	1,190	114	10.471
24	1,360	100	13.676
27	1,530	88	17.309
30	1,700	80	21.369
33	1,870	72	25.856

    (D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.

    (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

    (F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

    (G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

    (2) INFILTRATION/EXFILTRATION TEST.

    (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

    (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

    (C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

    (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

    (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE

    THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

    (b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

    (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

    (A) MANDREL SIZING.

    (i) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

    (ii) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

    (iii) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

    (B) MANDREL DESIGN.

    (i) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

    (ii) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

    (iii) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

    (iv) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

    (C) METHOD OPTIONS.

    (i) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

    (ii) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

    (iii) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

    (2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

    (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

    (4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

    (5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

    (6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

    (a) ALL MANHOLES MUST PASS A LEAKAGE TEST.

    (b) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

    (1) HYDROSTATIC TESTING.

    (A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

    (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

    (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

    (2) VACUUM TESTING.

    (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

    (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

    (C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.

    (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.

    (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

    (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.

    (G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

    (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY - LIFT STATIONS AND FORCE MAINS GENERAL CONSTRUCTION NOTES:

1. THIS LIFT STATION AND/OR FORCE MAIN MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5C., THE DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS 30 TAC CHAPTER 217, AND THE CITY OF ROUND ROCK STANDARD SPECIFICATIONS.

2. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED LIFT STATION/FORCE MAIN SYSTEM APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF A LIFT STATION/FORCE MAIN SYSTEM APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

3. PRIOR TO COMMENCING ANY REGULATED ACTIVITY, THE APPLICANT OR HIS AGENT MUST NOTIFY THE AUSTIN REGIONAL OFFICE, IN WRITING, OF THE DATE ON WHICH THE REGULATED ACTIVITY WILL BEGIN.

4. UPON COMPLETION OF THE WET WELL EXCAVATION, A GEOLOGIST MUST CERTIFY THAT THE EXCAVATION HAS BEEN INSPECTED FOR THE PRESENCE OF SENSITIVE FEATURES AND THE CERTIFICATION MUST BE SUBMITTED TO THE APPROPRIATE REGIONAL OFFICE. FURTHER ACTIVITIES MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY FROM THE LIFT STATION. CONSTRUCTION MAY CONTINUE IF THE GEOLOGIST CERTIFIES THAT NO SENSITIVE FEATURE OR FEATURES ARE PRESENT.

5. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY OF THE FEATURE DISCOVERY. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING WITHIN TWO WORKING DAYS. THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

6. LIFT STATIONS SHALL BE DESIGNED TO WITHSTAND AND OPERATE DURING A 100-YEAR FLOOD EVENT AND SHALL BE ACCESSIBLE DURING A 25-YEAR FLOOD. ALL LIFT STATIONS SHALL BE INTRUDER-RESISTANT WITH A CONTROLLED ACCESS.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-651-7100
FAX: 512-651-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

Brushy Creek Municipal Utility District

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY NOTES (1 OF 2)

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED MR
DRAWN ---
CHECKED MR
REVIEWED ---
Seq. 4 of 46
Dwg. No. G-04
WON: 15960.001.001.2000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY - LIFT STATIONS AND FORCE MAINS GENERAL CONSTRUCTION NOTES (CONTINUED):

8. PUMP CONTROLS.
   - A. A LIFT STATION PUMP MUST OPERATE AUTOMATICALLY, BASED ON THE WATER LEVEL IN A WET WELL.
   - B. THE LOCATION OF A WET WELL LEVEL MECHANISM MUST ENSURE THAT THE MECHANISM IS UNAFFECTED BY CURRENTS, RAGS, GREASE, OR OTHER FLOATING MATERIALS.
   - C. A LEVEL MECHANISM MUST BE ACCESSIBLE WITHOUT ENTERING THE WET WELL.
   - D. WET WELL CONTROLS WITH A BUBBLER SYSTEM REQUIRE DUAL AIR SUPPLY AND DUAL CONTROLS.
   - E. MOTOR CONTROL CENTERS MUST BE MOUNTED AT LEAST 4.0 INCHES ABOVE GRADE TO PREVENT WATER INTRUSION AND CORROSION FROM STANDING WATER IN THE ENCLOSURE.
   - F. ELECTRICAL EQUIPMENT AND ELECTRICAL CONNECTIONS IN A WET WELL MUST MEET NATIONAL FIRE PREVENTION ASSOCIATION 70 NATIONAL ELECTRIC CODE EXPLOSION PREVENTION REQUIREMENTS, UNLESS CONTINUOUS VENTILATION IS PROVIDED.
9. WET WELLS.
   - A. A WET WELL MUST BE ENCLOSED BY WATERTIGHT AND GAS TIGHT WALLS.
   - B. A PENETRATION THROUGH A WALL OF A WET WELL MUST BE GAS TIGHT.
   - C. A WET WELL MUST NOT CONTAIN EQUIPMENT REQUIRING REGULAR OR ROUTINE INSPECTION OR MAINTENANCE, UNLESS INSPECTION AND MAINTENANCE CAN BE DONE WITHOUT STAFF ENTERING THE WET WELL.
   - D. A GRAVITY PIPE DISCHARGING TO A WET WELL MUST BE LOCATED SO THAT THE INVERT ELEVATION IS ABOVE THE LIQUID LEVEL OF A PUMP'S "ON" SETTING.
   - E. GATE VALVES AND CHECK VALVES ARE PROHIBITED IN A WET WELL.
   - F. GATE VALVES AND CHECK VALVES MAY BE LOCATED IN A VALVE VAULT NEXT TO A WET WELL.
   - G. PUMP CYCLE TIME, BASED ON PEAK FLOW, MUST EQUAL OR EXCEED THOSE IN THE FOLLOWING TABLE:

     PUMP HORSEPOWER MINIMUM CYCLE TIMES (MINUTES)

PUMP HORSEPOWER	MINIMUM CYCLE TIMES (MINUTES)
< 50	6
50-100	10
> 100	15

   - H. AN EVALUATION OF MINIMUM WET WELL VOLUME REQUIRES THE FOLLOWING FORMULA:

     $V = \frac{T \times Q}{4 \times 7.48}$

     WHERE:

     V = ACTIVE VOLUME (CUBIC FEET)
     Q = PUMP CAPACITY (GALLONS PER MINUTE)
     T = CYCLE TIME (MINUTES)
     7.48 = CONVERSION FACTOR (GALLONS/CUBIC FOOT)
10. WET WELL SLOPES.
    - A. A WET WELL FLOOR MUST HAVE A SMOOTH FINISH AND MINIMUM SLOPE OF 10% TO A PUMP INTAKE.
    - B. A WET WELL DESIGN MUST PREVENT DEPOSITION OF SOLIDS UNDER NORMAL OPERATING CONDITIONS.
    - C. A LIFT STATION WITH GREATER THAN 5.0 MILLION GALLONS PER DAY FIRM PUMPING CAPACITY MUST HAVE ANTI-VORTEX BAFFLING.
12. VENTILATION SHALL BE PROVIDED FOR LIFT STATIONS, INCLUDING BOTH WET.
13. HOISTING EQUIPMENT. A LIFT STATION MUST HAVE PERMANENT HOISTING EQUIPMENT OR BE ACCESSIBLE TO PORTABLE HOISTING EQUIPMENT FOR REMOVAL OF PUMPS, MOTORS, VALVES, PIPES, AND OTHER SIMILAR EQUIPMENT.
14. A FLOOR DRAIN FROM A VALVE VAULT TO A WET WELL MUST PREVENT GAS FROM ENTERING A VALVE VAULT BY INCLUDING FLAP VALVES, "P" TRAPS, SUBMERGED OUTLETS, OR A COMBINATION OF THESE DEVICES.
15. PUMPS.
    - K. GENERAL REQUIREMENTS. A RAW WASTEWATER PUMP, WITH THE EXCEPTION OF A GRINDER PUMP, MUST:
      - (1) BE DESIGNED TO PREVENT CLOGGING;
      - (2) BE CAPABLE OF PASSING A SPHERE OF 2.5 INCHES IN DIAMETER OR GREATER; AND
      - (3) HAVE GREATER THAN 3.0 INCH DIAMETER SUCTION AND DISCHARGE OPENINGS.
    - L. SUBMERSIBLE AND NON-SUBMERSIBLE PUMPS.
      - (1) A NON-SUBMERSIBLE PUMP MUST HAVE INSPECTION AND CLEANOUT PLATES ON BOTH THE SUCTION AND DISCHARGE SIDES OF EACH PUMPING UNIT THAT FACILITATE LOCATING AND REMOVING BLOCKAGE-CAUSING MATERIALS, UNLESS THE PUMP DESIGN ACCOMMODATES EASY REMOVAL OF THE ROTATION ELEMENTS.
      - (2) A PUMP SUPPORT MUST PREVENT MOVEMENT AND VIBRATION DURING OPERATION.
      - (3) A SUBMERSIBLE PUMP MUST USE A RAIL-TYPE PUMP SUPPORT SYSTEM WITH MANUFACTURER-APPROVED MECHANISMS DESIGNED TO ALLOW PERSONNEL TO REMOVE AND REPLACE ANY SINGLE PUMP WITHOUT ENTERING OR DEWATERING THE WET WELL.
      - (4) SUBMERSIBLE PUMP RAILS AND LIFTING CHAINS MUST BE CONSTRUCTED OF A MATERIAL THAT PERFORMS TO AT LEAST THE STANDARD OF SERIES 300 STAINLESS STEEL.
    - M. LIFT STATION PUMPING CAPACITY. THE FIRM PUMPING CAPACITY OF A LIFT STATION MUST HANDLE THE EXPECTED PEAK FLOW.
    - N. PUMP HEAD CALCULATIONS.
      - (1) AN OWNER SHALL SELECT A PUMP BASED UPON ANALYSIS OF THE SYSTEM HEAD AND PUMP CAPACITY CURVES THAT DETERMINE THE PUMPING CAPACITIES ALONE AND WITH OTHER PUMPS AS THE TOTAL DYNAMIC-HEAD INCREASES DUE TO ADDITIONAL FLOWS PUMPED THROUGH A FORCE MAIN.
      - (2) THE PIPE HEAD LOSS CALCULATIONS, USING THE HYDRAULIC INSTITUTE STANDARDS, PERTAINING TO HEAD LOSSES THROUGH PIPES, VALVES, AND FITTINGS, MUST BE INCLUDED IN THE REPORT.
      - (3) THE SELECTED FRICTION COEFFICIENT (HAZEN-WILLIAMS "C" VALUE) USED IN FRICTION HEAD LOSS CALCULATIONS MUST BE BASED ON THE PIPE MATERIAL SELECTED.
      - (4) FOR A LIFT STATION WITH MORE THAN TWO PUMPS, A FORCE MAIN IN EXCESS OF ONE-HALF MILE, OR FIRM PUMPING CAPACITY OF 100 GALLONS PER MINUTE OR GREATER, SYSTEM CURVES MUST BE PROVIDED FOR BOTH THE NORMAL AND PEAK OPERATING CONDITIONS AT C VALUES FOR PROPOSED AND EXISTING PIPE.
    - O. FLOW CONTROL.
      - (1) A LIFT STATION OR A TRANSFER PUMPING STATION LOCATED AT OR DISCHARGING DIRECTLY TO A WASTEWATER TREATMENT SYSTEM MUST HAVE A PEAK PUMP CAPACITY EQUAL TO OR LESS THAN THE PEAK DESIGN FLOW, UNLESS EQUALIZATION IS PROVIDED.
      - (2) A WASTEWATER TREATMENT SYSTEM WITH A PEAK FLOW THAT IS GREATER THAN 300,000 GALLON PER DAY MUST USE THREE OR MORE PUMPS, UNLESS DUPLEX, AUTOMATICALLY CONTROLLED, VARIABLE CAPACITY PUMPS ARE PROVIDED.
    - P. SELF-PRIMING PUMPS.
      - (1) A SELF-PRIMING PUMP MUST BE CAPABLE OF PRIMING WITHOUT RELIANCE UPON A SEPARATE PRIMING SYSTEM, AN INTERNAL FLAP VALVE, OR ANY EXTERNAL MEANS FOR PRIMING.
      - (2) A SELF-PRIMING PUMP MUST USE A SUCTION PIPE VELOCITY AT LEAST 3.0 FEET PER SECOND BUT NOT MORE THAN 7.0 FEET PER SECOND, AND MUST INCORPORATE ITS OWN SUCTION PIPE.
      - (3) A SELF-PRIMING PUMP MUST VENT AIR BACK INTO THE WET WELL DURING PRIMING.
    - Q. VACUUM-PRIMING PUMPS.
      - (1) A VACUUM-PRIMED PUMP MUST BE CAPABLE OF PRIMING BY USING A SEPARATE POSITIVE PRIMING SYSTEM WITH A DEDICATED VACUUM PUMP FOR EACH MAIN WASTEWATER PUMP.
      - (2) A VACUUM-PRIMING PUMP MUST USE A SUCTION PIPE VELOCITY AT LEAST 3.0 FEET PER SECOND BUT LESS THAN 7.0 FEET PER SECOND AND MUST HAVE ITS OWN SUCTION PIPE.
    - R. VERTICAL POSITIONING OF PUMPS. A RAW WASTEWATER PUMP MUST HAVE POSITIVE STATIC SUCTION HEAD DURING NORMAL ON-OFF CYCLING, EXCEPT A SUBMERSIBLE PUMP WITH "NO SUCTION" PIPES, A VACUUM-PRIMED PUMP, OR A SELF-PRIMING UNIT CAPABLE OF SATISFACTORY OPERATION UNDER ANY NEGATIVE SUCTION HEAD ANTICIPATED FOR THE LIFT STATION.
    - S. INDIVIDUAL GRINDER PUMPS. A GRINDER PUMP SERVING ONLY ONE RESIDENTIAL OR COMMERCIAL STRUCTURE THAT IS PRIVATELY OWNED, MAINTAINED, AND OPERATED IS NOT SUBJECT TO THE RULES OF THIS CHAPTER.
    - T. PUMP FOR LOW-FLOW LIFT STATION. A PUMP USED FOR A LIFT STATION WITH A PEAK FLOW OF LESS THAN 120 GALLONS PER MINUTE MUST BE SUBMERSIBLE AND INCLUDE A GRINDER.
16. PIPING.
    - A. HORIZONTAL PUMP SUCTIONS.
      - (1) EACH PUMP MUST HAVE A SEPARATE SUCTION PIPE THAT USES AN ECCENTRIC REDUCER.
      - (2) PIPES IN A WET WELL MUST HAVE A TURNDOWN TYPE FLARED INTAKE.
    - B. VALVES.
      - (1) THE DISCHARGE SIDE OF EACH PUMP FOLLOWED BY A FULL-CLOSING ISOLATION VALVE MUST ALSO HAVE A CHECK VALVE.
    - A. A CHECK VALVE MUST BE A SWING TYPE VALVE WITH AN EXTERNAL LEVER.
    - B. A VALVE MUST INCLUDE A POSITION INDICATOR TO SHOW ITS OPEN AND CLOSED POSITIONS, UNLESS A FULL-CLOSING VALVE IS A RISING-STEM GATE VALVE.
      - (1) A GRINDER PUMP INSTALLATION MAY USE A RUBBER-BALL CHECK VALVE OR A SWING-TYPE CHECK VALVE.
      - (2) A BUTTERFLY VALVE, TILTING-DISC CHECK VALVE, OR ANY OTHER VALVE USING A TILTING-DISC IN A FLOW PIPE IS PROHIBITED.
    - C. PIPES.
      - (1) A LIFT STATION PIPE MUST HAVE FLANGED OR FLEXIBLE CONNECTIONS TO ALLOW FOR REMOVAL OF PUMPS AND VALVES WITHOUT INTERRUPTION OF THE LIFT STATION OPERATIONS.
      - (2) WALL PENETRATIONS MUST ALLOW FOR PIPE FLEXURE WHILE EXCLUDING EXFILTRATION OR INFILTRATION.
      - (3) PIPE SUCTION VELOCITIES MUST BE AT LEAST 3.0 FEET PER SECOND BUT NOT MORE THAN 7.0 FEET PER SECOND.
17. EMERGENCY PROVISIONS FOR LIFT STATIONS.
    - A. A COLLECTION SYSTEM LIFT STATION MUST BE EQUIPPED WITH A TESTED QUICK-CONNECT MECHANISM OR A TRANSFER SWITCH PROPERLY SIZED TO CONNECT TO A PORTABLE GENERATOR, IF NOT EQUIPPED WITH AN ONSITE GENERATOR.
    - B. LIFT STATIONS MUST INCLUDE AN AUDIOVISUAL ALARM SYSTEM AND THE SYSTEM MUST TRANSMIT ALL ALARM CONDITIONS THROUGH USE OF AN AUTO-DIALER SYSTEM, SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM, OR TELEMETERING SYSTEM CONNECTED TO A CONTINUOUSLY MONITORED LOCATION.
    - C. AN ALARM SYSTEM MUST SELF-ACTIVATE FOR A POWER OUTAGE, PUMP FAILURE, OR A HIGH WET WELL WATER LEVEL.
    - D. A LIFT STATION CONSTRUCTED TO PUMP RAW WASTEWATER MUST HAVE SERVICE RELIABILITY BASED ON:
      - (1) RETENTION CAPACITY.
        - (I) THE RETENTION CAPACITY IN A LIFT STATION'S WET WELL AND INCOMING GRAVITY PIPES MUST PREVENT DISCHARGES OF UNTREATED WASTEWATER AT THE LIFT STATION OR ANY POINT UPSTREAM FOR A PERIOD OF TIME EQUAL TO THE LONGEST ELECTRICAL OUTAGE RECORDED DURING THE PAST 24 MONTHS, BUT NOT LESS THAN 20 MINUTES.
        - (II). FOR CALCULATION PURPOSES, THE OUTAGE PERIOD BEGINS WHEN A LIFT STATION PUMP FINISHED ITS LAST NORMAL CYCLE, EXCLUDING A STANDBY PUMP.
      - (2) ON-SITE GENERATORS. A LIFT STATION MAY BE PROVIDED EMERGENCY POWER BY ON-SITE, AUTOMATIC ELECTRICAL GENERATORS SIZED TO OPERATE THE LIFT STATION AT ITS FIRM PUMPING CAPACITY OR AT THE AVERAGE DAILY FLOW, IF THE PEAK FLOW CAN BE STORED IN THE COLLECTION SYSTEM.
      - (3) PORTABLE GENERATORS AND PUMPS.
    - E. A LIFT STATION MAY USE PORTABLE GENERATORS AND PUMPS TO GUARANTEE SERVICE IF THE REPORT INCLUDES:
      - (1) THE STORAGE LOCATION OF EACH GENERATOR AND PUMP;
      - (2) THE AMOUNT OF TIME THAT WILL BE NEEDED TO TRANSPORT EACH GENERATOR OR PUMP TO A LIFT STATION;
      - (3) THE NUMBER OF LIFT STATIONS FOR WHICH EACH GENERATOR OR PUMP IS DEDICATED AS A BACKUP; AND
      - (4) THE TYPE OF ROUTINE MAINTENANCE AND UPKEEP PLANNED FOR EACH PORTABLE GENERATOR AND PUMP TO ENSURE THAT THEY WILL BE OPERATIONAL WHEN NEEDED.
    - F. AN OPERATOR THAT IS KNOWLEDGEABLE IN OPERATION OF THE PORTABLE GENERATORS AND PUMPS SHALL BE ON CALL 24 HOURS PER DAY EVERY DAY.
    - G. THE SIZE OF A PORTABLE GENERATOR MUST HANDLE THE FIRM PUMPING CAPACITY OF THE LIFT STATION.
    - E. SPILL CONTAINMENT STRUCTURES.
      - (1) THE USE OF A SPILL CONTAINMENT STRUCTURE AS A SOLE MEANS OF PROVIDING SERVICE RELIABILITY IS PROHIBITED.
      - (2) A LIFT STATION MAY USE A SPILL CONTAINMENT STRUCTURE IN ADDITION TO ONE OF THE SERVICE RELIABILITY OPTIONS DETAILED IN THIS IN SUBSECTION A. OF THIS SECTION.
      - (3) THE REPORT MUST INCLUDE A DETAILED MANAGEMENT PLAN FOR CLEANING AND MAINTAINING EACH SPILL CONTAINMENT STRUCTURE.
      - (4) A SPILL CONTAINMENT STRUCTURE MUST HAVE A LOCKED GATE AND BE SURROUNDED AN INTRUDER RESISTANT FENCE THAT IS 6.0 FEET HIGH CHAIN LINK, MASONRY, OR BOARD FENCE WITH AT LEAST THREE STRANDS OF BARBED WIRE OR 8.0 FEET HIGH CHAIN LINK, MASONRY, OR BOARD FENCE WITH AT LEAST ONE STRAND OF BARBED WIRE.
    - F. A LIFT STATION MUST BE FULLY ACCESSIBLE DURING A 25-YEAR 24-HOUR RAINFALL EVENT.
    - G. LIFT STATION SYSTEM CONTROLS MUST PREVENT OVER-PUMPING UPON RESUMPTION OF NORMAL POWER AFTER A POWER FAILURE. BACKUP OR STANDBY UNITS MUST BE ELECTRICALLY INTERLOCKED TO PREVENT OPERATION AT THE SAME TIME THAT OTHER LIFT STATIONS PUMPS ARE OPERATING ONLY ON THE RESUMPTION OF NORMAL POWER AFTER A POWER FAILURE. THESE LIFT STATION AND FORCE MAINS CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY NOTES (2 OF 2)

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED MR
DRAWN JWG
CHECKED MR
REVIEWED ---

Seq. 5 of 46

Dwg. No. G-05

WON: 15960.001.001.2000

ENVIRONMENTAL NOTES

DEWATERING:

CONTRACTOR IS RESPONSIBLE FOR DEWATERING OF WORK AREA. CONTRACTOR MUST SECURE ENGINEER'S APPROVAL OF PROPOSED DEWATERING PROCEDURES PRIOR TO INSTALLATION OR USE. CONTRACTOR MUST PROVIDE COMPLETE SUBMITTAL TO ENGINEER AND OWNER, AND ALLOW AN ONE WEEK (MIN.) COMMENT PERIOD FOR EACH REVIEW.

FUEL STORAGE:

FUEL STORAGE IS PROHIBITED ON THIS PROJECT. ADDITIONALLY, THE CONTRACTOR IS REQUIRED TO NOTIFY OWNER 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:

CONTRACTOR SHALL CONTROL AIRBORNE DUST AT THE PROJECT SITES AND COMPLIANCE IS REQUIRED FOR ENTIRE PROJECT SITE AS WELL AS ASSOCIATED OPERATIONS. CONTACT THE ENGINEER 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. 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 OR MULCH SOCKS , 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. SOIL RETENTION BLANKET SUBMITTAL MUST BE APPROVED BY PROJECT ENGINEER AND WILLIAMSON COUNTY REPRESENTATIVE PRIOR TO USE AND MUST INCLUDE PRODUCT AND INSTALLATION DETAILS PROVIDED BY MANUFACTURER. FINISH GRADING MUST BE INSPECTED AND APPROVED BY ENGINEER PRIOR TO BLANKET INSTALLATION. INSTALLATION MUST BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST BE INSPECTED AND APPROVED BY ENGINEER 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.

TREE AND NATURAL AREA PROTECTION NOTES

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 CONTRACT DOCUMENTS.
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 WILLIAMSON COUNTY
   - 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 BRUSHY CREEK MUD TO DEVELOP ALTERNATIVES.

EROSION AND SEDIMENTATION CONTROL NOTES

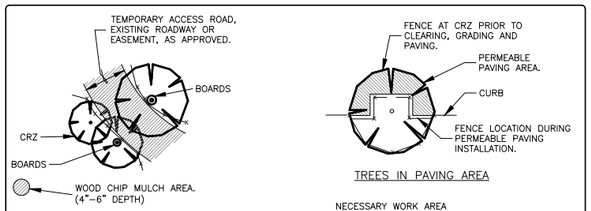
1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE ENGINEER.
4. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO STREET WORK, AND WILL BE REMOVED AS SOON AS THE GENERAL PERMIT PROGRAM REPRESENTATIVE AGREES THAT THERE IS NO POTENTIAL FOR SEDIMENTATION.
5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT DAILY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE 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 6 INCHES. SILT ACCUMULATION AT INLET DEVICES SHOULD BE REMOVED WHEN THE DEPTH REACHES 2 INCHES.
6. PRIOR TO FINAL ACCEPTANCE BY THE OWNER, 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.
7. 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 CONTRACTOR TO IMMEDIATELY CONTACT THE OWNER FOR FURTHER INVESTIGATION.
8. FIELD REVISIONS TO THE EROSION/SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE OWNER/ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES. ANY REVISIONS TO THE PERMITTED PLAN MUST BE APPROVED BY THE ENGINEER.
9. PERMANENT EROSION/SEDIMENTATION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE THE CONTRACT DOCUMENTS DIFFER THE MOST ENVIRONMENTALLY BENEFICIAL MATERIALS/METHOD SHALL BE REQUIRED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
10. 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 THE CURB. FILTER DIKE TO FOLLOW ACTIVE CONSTRUCTION. REMOVING AND RE-SETTING FILTER DIKE IS CONSIDERED SUBSIDIARY TO BARRICADES AND TRAFFIC HANDLING
11. DEVELOPER INFORMATION:

OWNER: BRUSHY CREEK MUD
CONTACT: AMY GIANNINI, P.E.
ADDRESS: 16318 S GREAT OAKS DR
ROUND ROCK, TX 78676
PHONE: 512-255-7871 X237
E-MAIL: A.GIANNINI@BCMUD.ORG

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
COMPANY: WESTON SOLUTIONS, INC.
CONTACT: MANINDER RANDHAWA, P.E.
ADDRESS: 5301 SOUTHWEST PARKWAY, #450
AUSTIN, TX 78735
PHONE: 512-920-4847
E-MAIL: MANINDER.RANDHAWA@WESTONSOLUTIONS.COM

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

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

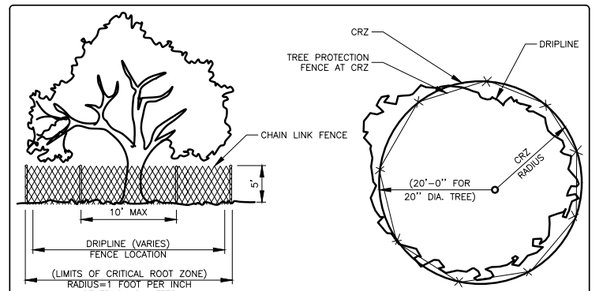


FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS
APPROVED
03-25-11
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

TREE PROTECTION FENCE LOCATIONS

DRAWING NO: EC-03



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

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS
APPROVED
03-25-11
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

TREE PROTECTION FENCE CHAIN LINK

DRAWING NO: EC-04

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

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

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS
APPROVED
03-25-11
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

TREE PROTECTION NOTES

DRAWING NO: EC-01

WESTON SOLUTIONS, INC.
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

TREE PROTECTION AND E&S NOTES

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

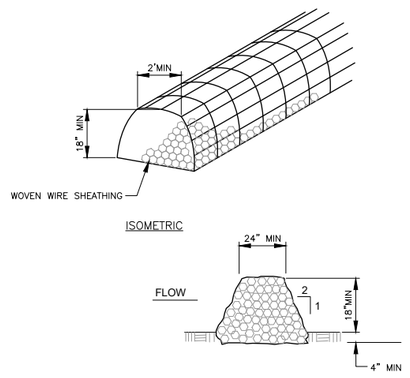
DESIGNED MR
DRAWN ---
CHECKED MR
REVIEWED ---

Seq. 6 of 46

Dwg. No. G-06

WON: 15960.001.001.2000

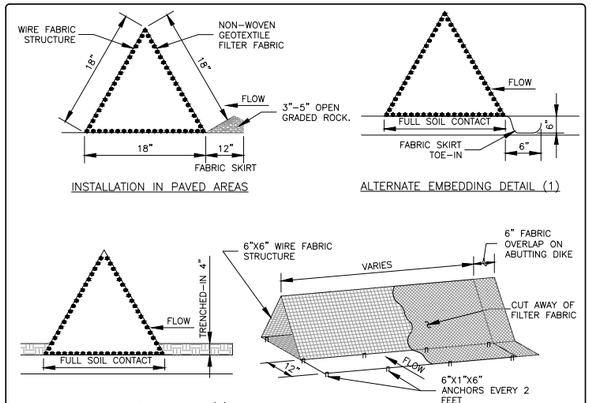
C:\Users\pasatied\OneDrive - Weston Solutions, Inc\DaveH\BRUSHY-CREEK\G-06.dwg Nov 08,2023 - 9:54am PASATIED



NOTES:

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

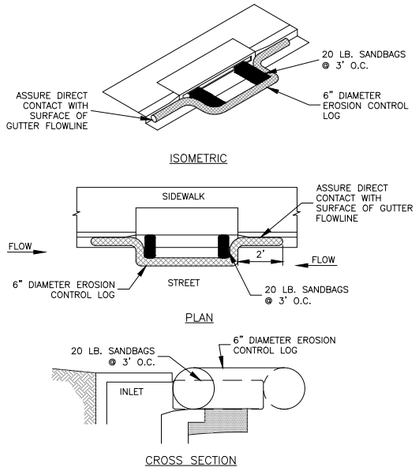
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	ROCK BERM DETAIL	DRAWING NO: EC–12
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		



NOTES:

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
2. FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE UPSTREAM FACE FABRIC.
3. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE WITH WIRE STAPLES AT 2' INTERVALS ON BOTH EDGES AND SKIRT OR WITH 3/8" DIAMETER REBAR WITH TEE ENDS.
4. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE–TO–DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS REQUIRED.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 4" AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
7. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE #6 ABOVE.

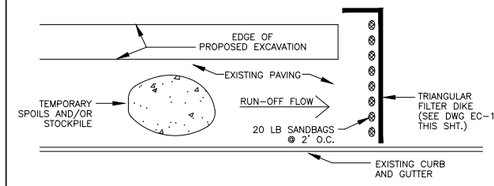
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	TRIANGULAR SEDIMENT FILTER DIKE DETAIL	DRAWING NO: EC–11
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		



NOTES:

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

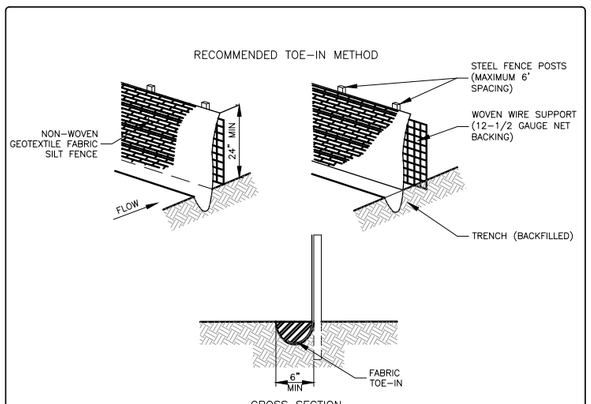
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CURB INLET PROTECTION WITH EROSION CONTROL LOG DETAIL	DRAWING NO: EC–13
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		



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 (SEE DWG EC–11 THIS SHT.) 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.

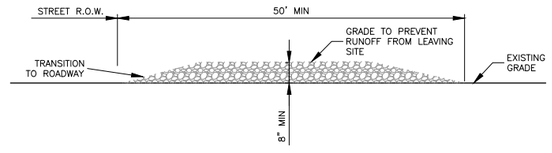
ADDITIONAL EROSION/SEDIMENTATION CONTROL FOR WORK IN PAVED AREAS



NOTES:

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

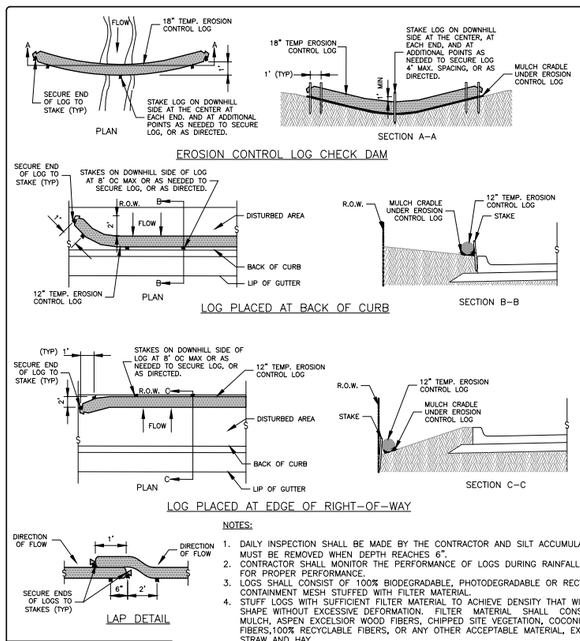
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	SILT FENCE DETAIL	DRAWING NO: EC–10
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		



NOTES:

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

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	STABILIZED CONSTRUCTION ENTRANCE DETAIL	DRAWING NO: EC–9
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		



NOTES:

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

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	EROSION CONTROL LOG DETAIL	DRAWING NO: EC–17
APPROVED 03–25–11 DATE		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL (NOT TO SCALE)		

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

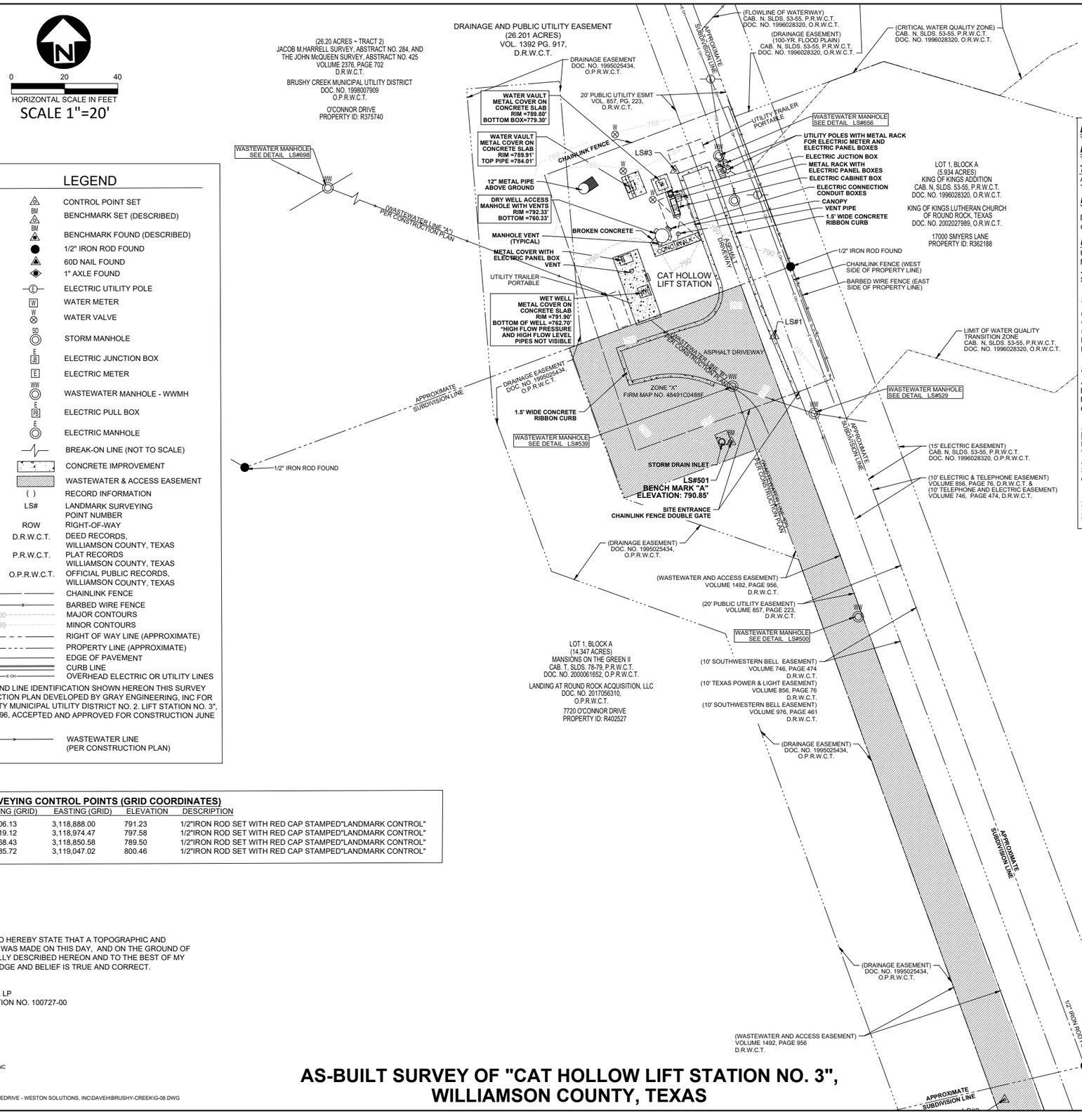
TREE PROTECTION AND E&S DETAILS

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11–08–2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	---
CHECKED	MR
REVIEWED	---
Seq.	7 of 46
Dwg. No.	G–07
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive – Weston Solutions, Inc\Davet\BRUSHY–CREEK\G–07.dwg Nov 08,2023 – 9:54am PASATIED



LEGEND

- CONTROL POINT SET
- BENCHMARK SET (DESCRIBED)
- BENCHMARK FOUND (DESCRIBED)
- 1/2" IRON ROD FOUND
- 60D NAIL FOUND
- 1" AXLE FOUND
- ELECTRIC UTILITY POLE
- WATER METER
- WATER VALVE
- STORM MANHOLE
- ELECTRIC JUNCTION BOX
- ELECTRIC METER
- WASTEWATER MANHOLE - WWMH
- ELECTRIC PULL BOX
- ELECTRIC MANHOLE
- BREAK-ON LINE (NOT TO SCALE)
- CONCRETE IMPROVEMENT
- WASTEWATER & ACCESS EASEMENT
- ( ) RECORD INFORMATION
- LS# LANDMARK SURVEYING POINT NUMBER
- ROW RIGHT-OF-WAY
- D.R.W.C.T. DEED RECORDS, WILLIAMSON COUNTY, TEXAS
- P.R.W.C.T. PLAT RECORDS WILLIAMSON COUNTY, TEXAS
- O.P.R.W.C.T. OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
- CHAINLINK FENCE
- BARBED WIRE FENCE
- 600 MAJOR CONTOURS
- 599 MINOR CONTOURS
- RIGHT OF WAY LINE (APPROXIMATE)
- PROPERTY LINE (APPROXIMATE)
- EDGE OF PAVEMENT
- CURB LINE
- E OH E OH OVERHEAD ELECTRIC OR UTILITY LINES

UTILITY LOCATION AND LINE IDENTIFICATION SHOWN HEREON THIS SURVEY ARE PER CONSTRUCTION PLAN DEVELOPED BY GRAY ENGINEERING, INC FOR "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3", PROJECT NO. 927-2496, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990.

- WASTEWATER LINE (PER CONSTRUCTION PLAN)

LANDMARK SURVEYING CONTROL POINTS (GRID COORDINATES)

LS#	NORTHING (GRID)	EASTING (GRID)	ELEVATION	DESCRIPTION
LS#1	10,156,306.13	3,118,888.00	791.23	1/2"IRON ROD SET WITH RED CAP STAMPED"LANDMARK CONTROL"
LS#2	10,156,019.12	3,118,974.47	797.58	1/2"IRON ROD SET WITH RED CAP STAMPED"LANDMARK CONTROL"
LS#3	10,156,368.43	3,118,850.58	789.50	1/2"IRON ROD SET WITH RED CAP STAMPED"LANDMARK CONTROL"
LS#4	10,155,785.72	3,119,047.02	800.46	1/2"IRON ROD SET WITH RED CAP STAMPED"LANDMARK CONTROL"

I, THE UNDERSIGNED, DO HEREBY STATE THAT A TOPOGRAPHIC AND IMPROVEMENT SURVEY WAS MADE ON THIS DAY, AND ON THE GROUND OF THE PROPERTIES LEGALLY DESCRIBED HEREON AND TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF IS TRUE AND CORRECT.

AS SURVEYED BY
LANDMARK SURVEYING, LP
TEXAS FIRM REGISTRATION NO. 100727-00

Client: WESTON SOLUTIONS, INC
Date: JANUARY 06, 2023
Office: M.BOUADI
Crew: S.DUNN, J.MALDONADO
F.B.: 1944/24-25
Path: C:\USERS\PASATIED\ONEDRIVE - WESTON SOLUTIONS, INC\DAVEH\BRUSHY-CREEK\G-08.DWG
Job No.: 193-12-01/02/03/04/05

AS-BUILT SURVEY OF "CAT HOLLOW LIFT STATION NO. 3", WILLIAMSON COUNTY, TEXAS

BOUNDARY NOTE
THIS DOES NOT REPRESENT A BOUNDARY SURVEY.

NOTE
THIS DRAWING IS BASED ON MEASURED DISTANCES IN THE FIELD NOT ON GRID DISTANCES.

TITLE COMMITMENT NOTE
A TITLE COMMITMENT ON PRIVATE PROPERTY WAS NOT AVAILABLE AT THE TIME OF THIS SURVEY; THEREFORE, EASEMENTS MAY EXIST WHICH ARE NOT SHOWN HEREON.

FLOODPLAIN NOTE
THIS PROJECT SITE OCCUPIES AN AREA WITHIN ZONE "X" WITH FIRM MAP NUMBER 48491C0488F, DATED DECEMBER 20, 2019, AS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, THE PURPOSE OF WHICH IS FOR FLOOD INSURANCE ONLY.

UTILITY AND IMPROVEMENT NOTE
UTILITY LINES SHOWN ON THIS SURVEY ARE BASED ON CONSTRUCTION PLAN OF "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990". ONLY SURFACE EVIDENCE OF UTILITIES, UTILITY FEATURES AND IMPROVEMENTS ARE SHOWN ON THIS SURVEY; THEREFORE, UTILITIES MAY EXIST WHICH ARE NOT SHOWN HEREON.

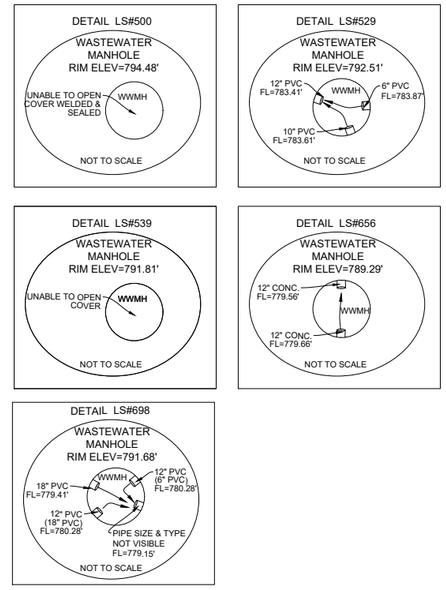
BASIS OF HORIZONTAL DATUM
TEXAS COORDINATE SYSTEM OF 1983, (CENTRAL ZONE-4203) NAD 83,
(CORS) U.S. SURVEY FEET, GEOID MODEL 12B (CONUS)
COMBINED SCALE FACTOR 0.99998856038; AND SURFACE ADJUSTMENT FACTOR 1.00001144093; PROJECT CONTROL POINTS WERE ESTABLISHED USING REDUNDANT RTK METHODOLOGY, UTILIZING THE TRIMBLE RTKNET NORTH AMERICAN NETWORK BASED ON REFERENCE STATION SMNM_1012. GRID COORDINATES FOR LS#1 USED AS PROJECT CONTROLLING POINT FOR AVERAGED COMBINED SCALE FACTOR.

BASIS OF VERTICAL DATUM
VERTICAL DATUM WAS ESTABLISHED USING REDUNDANT RTK METHODOLOGY UTILIZING TRIMBLE NORTH AMERICAN NETWORK BASED ON REFERENCE STATION SMNM_1012, GEOID MODEL 12B (CONUS). DIFFERENTIAL LEVELING FROM PROJECT CONTROL (LS#1) WAS USED TO ESTABLISH ELEVATION FOR PROJECT ONSITE BENCH MARK "A" (LS#501: SEE NOTE BELOW), AND LANDMARK SURVEYING PRIMARY CONTROL POINTS LS#2 THROUGH LS#4.

ON-SITE BENCH MARK
BENCH MARK "A" SET (LS#501) - SQUARE CUT SET ON TOP SOUTHEAST CORNER OF CONCRETE STORM INLET LOCATED APPROXIMATELY 70-FEET SOUTHWEST OF THE NORTHEAST CORNER OF LOT 1, BLOCK A, "MANSIONS ON THE GREEN II" SUBDIVISION RECORDED IN DOCUMENT NO. 2000061652, O.P.R.W.C.T., APPROXIMATELY 33-FEET WEST OF WASTEWATER MANHOLE WITH LS NO. 529, AND APPROXIMATELY 21-FEET SOUTH OF WASTEWATER MANHOLE WITH LS NO. 539, APPROXIMATELY 9-FEET SOUTH OF A CHAINLINK FENCE. GRID COORDINATE: NORTH=10,156,266.33', EAST=3,118,871.78', **ELEVATION=790.85'**

SURVEY NOTE
1.) NO EVIDENCE OF UTILITY PAINT MARKS WERE FOUND AT TIME OF LANDMARK'S FIELD SURVEY.
2.) NO EVIDENCE OF BORE HOLES WERE FOUND AT TIME OF LANDMARK'S FIELD SURVEY.

WASTEWATER MANHOLES DETAILS



WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

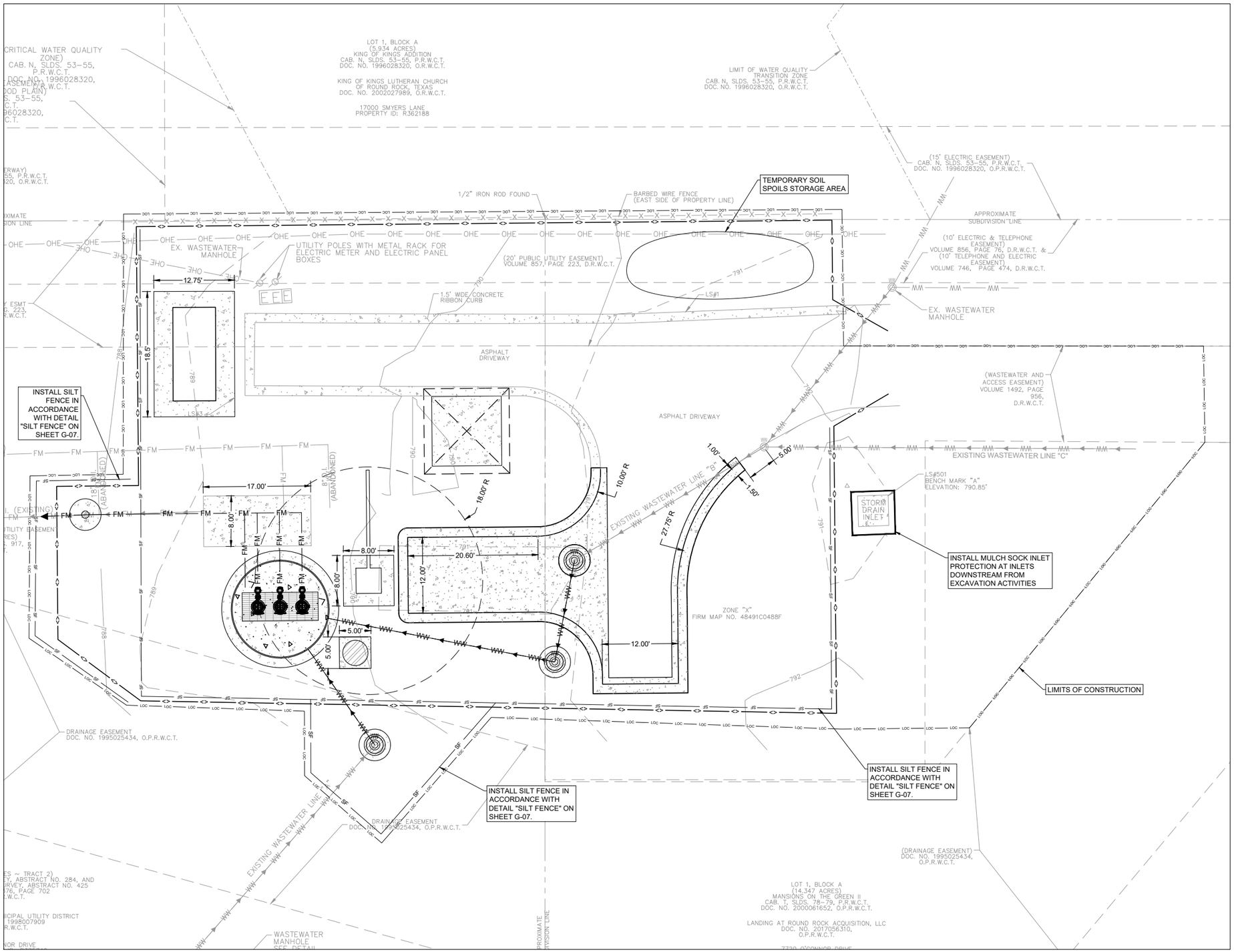
BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW SURVEY CONTROL

MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
The seal appearing on this document was authorized by Maninder Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

DESIGNED	MR
DRAWN	MR
CHECKED	MR
REVIEWED	---
Seq.	8 of 46
Dwg. No.	G-08
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\DaveH\BRUSHY-CREEK\G-08.dwg Nov 08,2023 - 9:54am PASATIED



CAT HOLLOW EROSION AND SEDIMENTATION CONTROL

SCALE: 1" = 8'

0 4' 8' 16' 24'

LEGEND

	CONTROL POINT SET
BM	BENCHMARK SET (DESCRIBED)
BM	BENCHMARK FOUND (DESCRIBED)
	1/2" IRON ROD FOUND
	60D NAIL FOUND
	1" AXLE FOUND
E	ELECTRIC UTILITY POLE
W	WATER METER
	WATER VALVE
S	STORM MANHOLE
E	ELECTRIC JUNCTION BOX
E	ELECTRIC METER
WW	WASTEWATER MANHOLE - WWMH
E	ELECTRIC PULL BOX
E	ELECTRIC MANHOLE
	BREAK-ON LINE (NOT TO SCALE)
( )	RECORD INFORMATION
LS#	LANDMARK SURVEYING POINT NUMBER
ROW	RIGHT-OF-WAY
D.R.W.C.T.	DEED RECORDS, WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
	CHAINLINK FENCE
	BARBED WIRE FENCE
600	MAJOR CONTOURS
599	MINOR CONTOURS
ROW	RIGHT OF WAY LINE (APPROXIMATE)
	PROPERTY LINE (APPROXIMATE)
	EDGE OF PAVEMENT
	CURB LINE
OHE	OVERHEAD ELECTRIC LINES
WW	WASTEWATER LINE
	CONCRETE IMPROVEMENT
	TO BE DEMOLISHED

SURVEYOR NOTE

UTILITY LOCATION AND LINE IDENTIFICATION SHOWN HEREON THIS SURVEY ARE PER CONSTRUCTION PLAN DEVELOPED BY GRAY ENGINEERING, INC FOR "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3", PROJECT NO. 927-2496, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990.

NOTES:

1. ANY UNPAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED TO MATCH EXISTING CONDITIONS OR BETTER.
2. AT THE END OF EACH DAY, CONTRACTOR SHALL CLEAN UP SEDIMENT FROM THE SITE, FROM CONTRACTOR VEHICLES, AND FROM THE ROADWAY SO THAT SEDIMENT WILL NOT MIGRATE OFF SITE.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

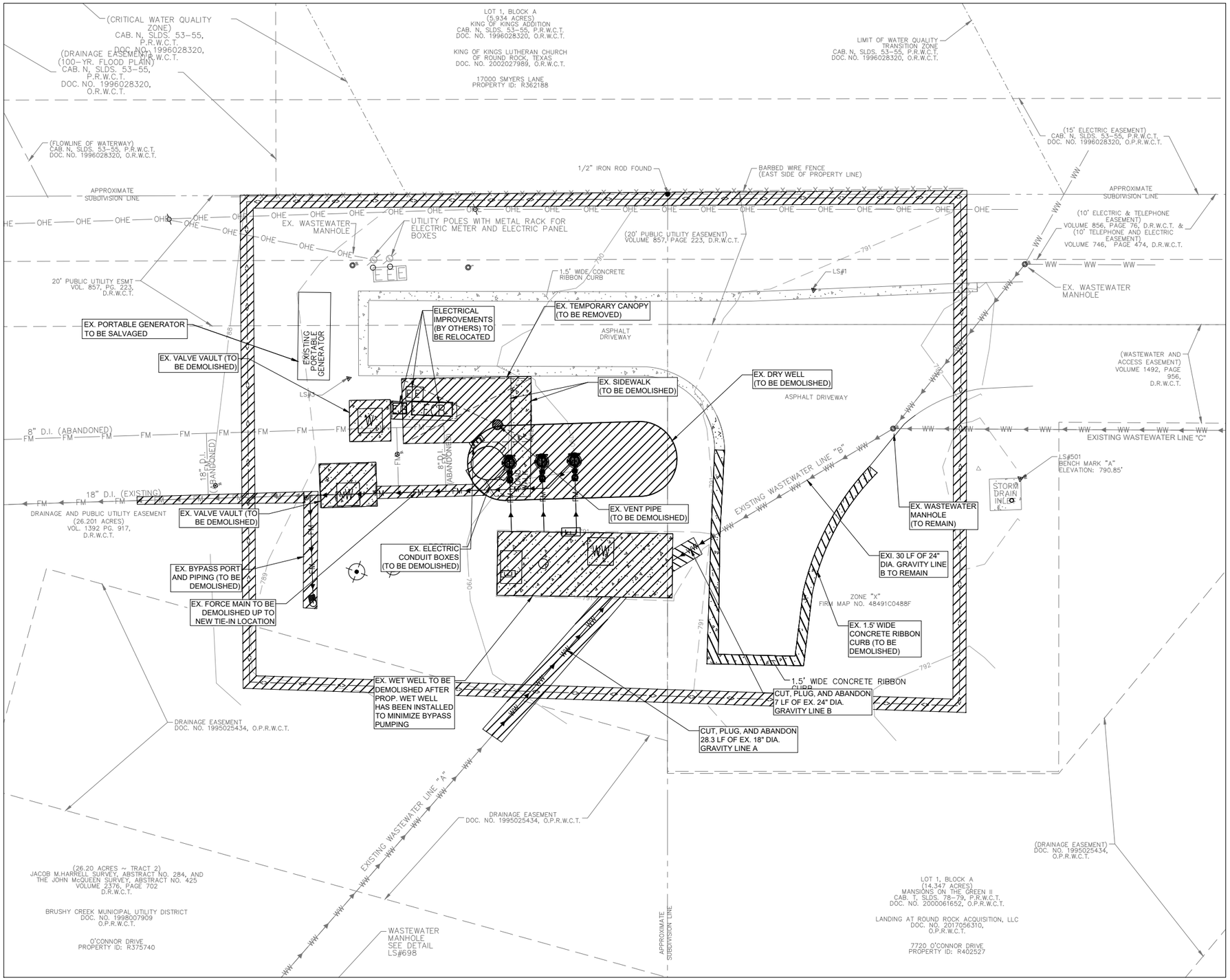
CAT HOLLOW EROSION AND SEDIMENT CONTROL

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	---
CHECKED	MR
REVIEWED	---
Seq.	10 of 46
Dwg. No.	G-10
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave#\BRUSHY-CREEK\G-10.dwg Nov 08,2023 - 9:54am PASATIED



SITE DEMOLITION PLAN - CAT HOLLOW

SCALE: 1" = 8'

0 4' 8' 16' 24'

LEGEND

	CONTROL POINT SET
BM	BENCHMARK SET (DESCRIBED)
BM	BENCHMARK FOUND (DESCRIBED)
	1/2" IRON ROD FOUND
	60D NAIL FOUND
	1" AXLE FOUND
E	ELECTRIC UTILITY POLE
W	WATER METER
WV	WATER VALVE
S	STORM MANHOLE
EJB	ELECTRIC JUNCTION BOX
E	ELECTRIC METER
WW	WASTEWATER MANHOLE - WWMH
EPB	ELECTRIC PULL BOX
E	ELECTRIC MANHOLE
	BREAK-ON LINE (NOT TO SCALE)
( )	RECORD INFORMATION
LS#	LANDMARK SURVEYING POINT NUMBER
ROW	RIGHT-OF-WAY
D.R.W.C.T.	DEED RECORDS, WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
—<>—<>—	CHAINLINK FENCE
—X—X—X—X—	BARBED WIRE FENCE
600	MAJOR CONTOURS
599	MINOR CONTOURS
ROW	RIGHT OF WAY LINE (APPROXIMATE)
	PROPERTY LINE (APPROXIMATE)
	EDGE OF PAVEMENT
	CURB LINE
OHE	OVERHEAD ELECTRIC LINES
WW	WASTEWATER LINE
	CONCRETE IMPROVEMENT
	TO BE DEMOLISHED

SURVEYOR NOTE

UTILITY LOCATION AND LINE IDENTIFICATION SHOWN HEREON THIS SURVEY ARE PER CONSTRUCTION PLAN DEVELOPED BY GRAY ENGINEERING, INC FOR "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3", PROJECT NO. 927-2496, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990.

NOTE:

1. CONTRACTOR SHALL COORDINATE WITH BRUSHY CREEK MUD (BCMUD) ON ANY ITEMS THAT NEED TO BE SALVAGED PRIOR TO DEMOLITION. ALL SALVAGED EQUIPMENT SHALL BE DELIVERED TO THE LOCATION IDENTIFIED BY BCMUD.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

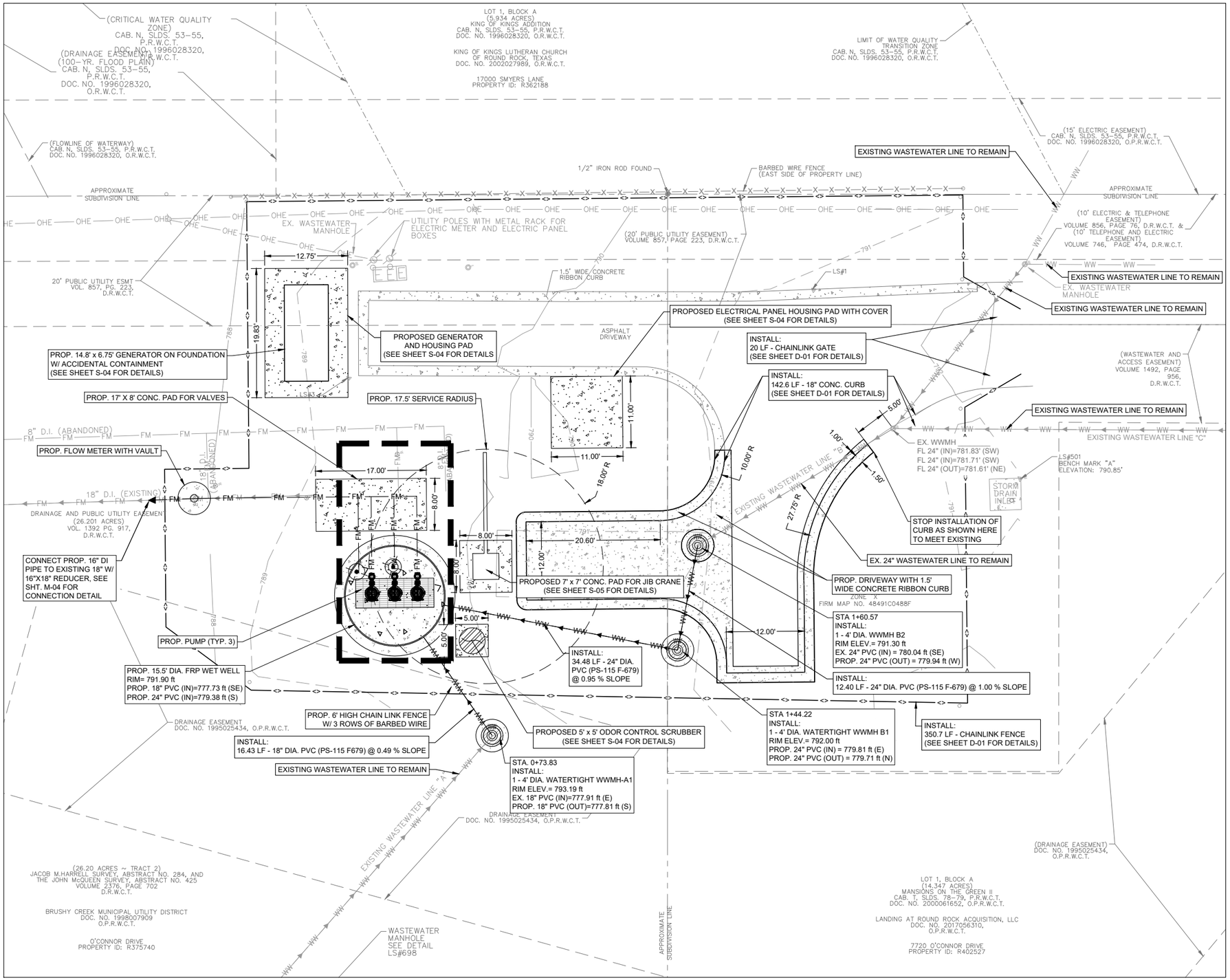
CAT HOLLOW OVERALL SITE DEMOLITION PLAN

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED ---
DRAWN JWG
CHECKED ---
REVIEWED ---
Seq. 13 of 46
Dwg. No. C-01
WON: 15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Daveh\BRUSHY-CREEK\C-01.dwg Nov 08,2023 - 9:55am PASATIED



CAT HOLLOW PROPOSED SITE PLAN

SCALE: 1" = 8'

0 4' 8' 16' 24'

LEGEND

	CONTROL POINT SET
BM	BENCHMARK SET (DESCRIBED)
BM	BENCHMARK FOUND (DESCRIBED)
	1/2" IRON ROD FOUND
	60D NAIL FOUND
	1" AXLE FOUND
E	ELECTRIC UTILITY POLE
W	WATER METER
W	WATER VALVE
S	STORM MANHOLE
E	ELECTRIC JUNCTION BOX
E	ELECTRIC METER
WW	WASTEWATER MANHOLE - WWMH
E	ELECTRIC PULL BOX
E	ELECTRIC MANHOLE
	BREAK-ON LINE (NOT TO SCALE)
( )	RECORD INFORMATION
LS#	LANDMARK SURVEYING BENCHMARK
ROW	RIGHT-OF-WAY
D.R.W.C.T.	DEED RECORDS, WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
	CHAINLINK FENCE
	BARBED WIRE FENCE
600	MAJOR CONTOURS
599	MINOR CONTOURS
ROW	RIGHT OF WAY LINE (APPROXIMATE)
	PROPERTY LINE (APPROXIMATE)
	EDGE OF PAVEMENT
	CURB LINE
OHE	OVERHEAD ELECTRIC LINES
WW	WASTEWATER LINE
	CONCRETE IMPROVEMENT
	TO BE DEMOLISHED

SURVEYOR NOTE

UTILITY LOCATION AND LINE IDENTIFICATION SHOWN HEREON THIS SURVEY ARE PER CONSTRUCTION PLAN DEVELOPED BY GRAY ENGINEERING, INC FOR "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3", PROJECT NO. 927-2496, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990.

NOTES:

1. THE FOLLOWING ITEMS SHALL BE SALVAGED AND DELIVERED TO BCMUD MAINTENANCE YARD AT 3800 GREAT OAKS DRIVE, ROUND ROCK, TX 78681:
   - 3 PUMPS, DAVIT ARM/HOIST
2. THE FOLLOWING ITEMS SHALL BE PROTECTED DURING CONSTRUCTION:
   - 6" XYLEM PUMP AND HOSES
   - EXISTING CONTROL PANELS
   - RTU
   - BREAKER PANEL
   - LIGHTING
3. THE CONTRACTOR SHALL DESIGN BYPASS PUMPING PLANS AND OPERATION IN ACCORDANCE WITH SPECIFICATION SECTION 33 30 00.20 AND LIFT STATION NOTES ON SHEET M-01.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

CAT HOLLOW PROPOSED SITE PLAN

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

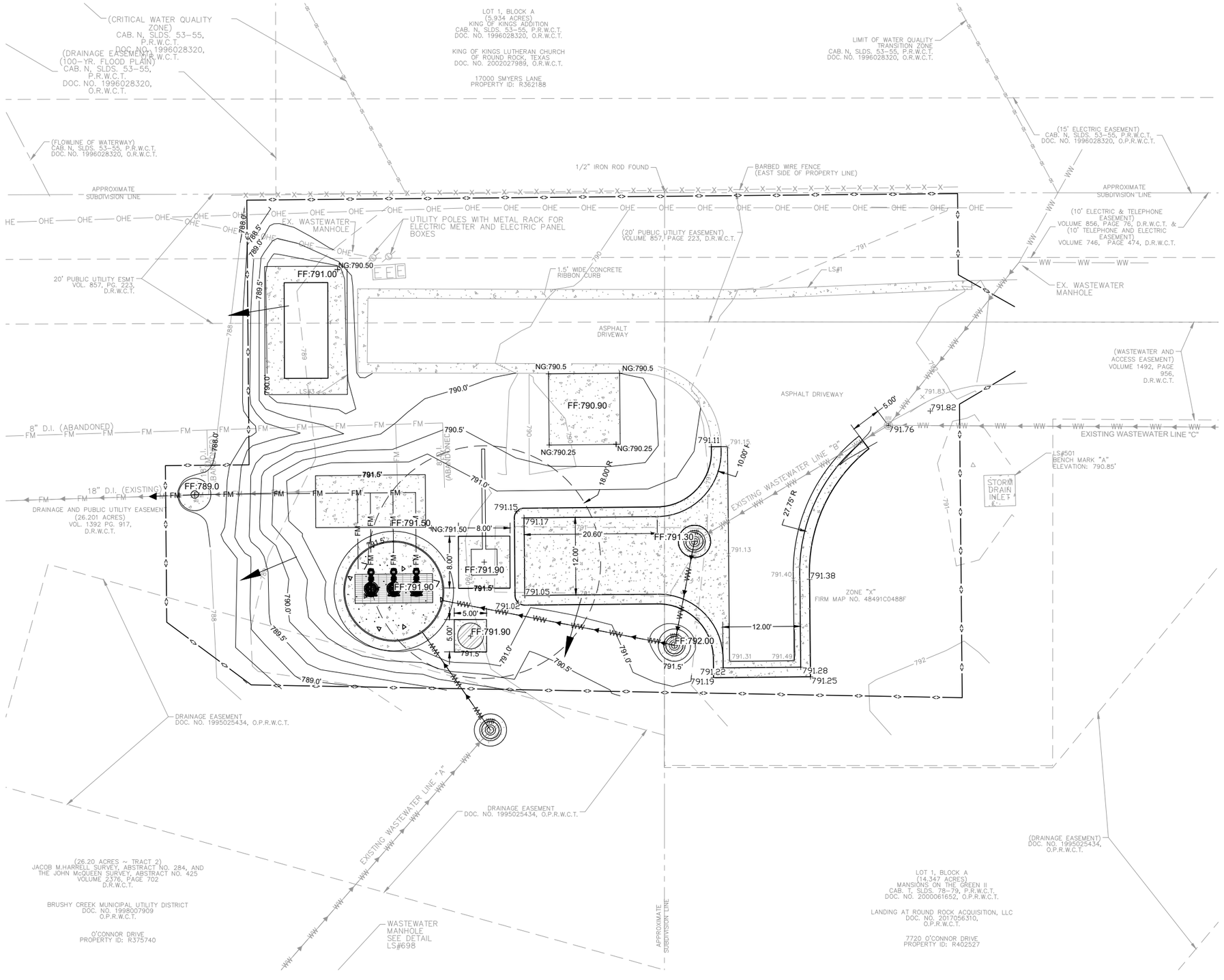
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.

ONE INCH

DESIGNED	MR
DRAWN	JWG
CHECKED	MR
REVIEWED	---
Seq.	14 of 46
Dwg. No.	C-02
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\DaveH\BRUSHY-CREEK\C-02.dwg Nov 08,2023 - 9:55am PASATIED



CAT HOLLOW PROPOSED SITE GRADING PLAN

SCALE: 1" = 8'

0 4' 8' 16' 24'

LEGEND

- 600 — EX. MAJOR CONTOURS
- 599 — EX. MINOR CONTOURS
- 790 — PROP. CONTOURS
- 790.5 — PROP. INTERMEDIATE CONTOURS

NOTES:

1. WITHIN LOC, WHERE PROPOSED GRADES ARE NOT SPECIFIED, FINAL GRADING SHALL BE RESTORED TO CONDITIONS EXISTING PRIOR TO CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONFORM PRECONSTRUCTION GRADES AS SHOWN PRIOR TO ANY EARTH DISTURBANCE. IN AREAS WHERE EXISTING GRADES ARE NOT DEPICTED, CONTRACTOR SHALL COLLECT PRECONSTRUCTION GRADES PRIOR TO EACH DISTURBANCE.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE LOCATION, AND PRESERVATION OF EXISTING DRY UTILITIES (ELECTRIC, TELEPHONE, CABLE, ETC.).
3. CONTRACTOR SHALL PROTECT THE STABILITY AND INTEGRITY OF THE EXISTING DRAINAGE CHANNELS ADJACENT TO NORTHERN AND EASTERN SITE BOUNDARIES. ANY DAMAGES TO ADJACENT DRAINAGE STRUCTURES OUTSIDE OF THE LOC SHALL BE CORRECTED AT CONTRACTOR'S OWN EXPENSE AND NO ADDITIONAL PAYMENT WILL BE MADE.
4. WHERE GRADING ACTIVITIES ARE TO TAKE PLACE NEAR AN EXISTING TREE THAT IS TO REMAIN IN PLACE, THE FOLLOWING REQUIREMENT SHALL BE FOLLOWED:
   A. A MINIMUM OF 50% OF THE CRITICAL ROOT ZONE (CRZ) MUST BE PRESERVED AT NATURAL GRADE WITH NATURAL GROUND COVER.
   B. NO CUT OR FILL GRATER THAN 4 INCHES WILL BE LOCATED CLOSER TO THE TREE TRUNK THAN 1/2 THE CRZ RADIUS DISTANCE.
   C. NO CUT OR FILL WITHIN THE DISTANCE FROM THE TREE WHICH IS THREE (3) TIMES THE TRUNK DIAMETER (ALSO CAN BE DETERMINED BY CALCULATING THE 1/4 CRZ.). FOR EXAMPLE, NO CUT IS ALLOWED WITHIN 60 INCHES OF A TREE THAT HAS A 20-INCH DIAMETER TRUNK.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW PROPOSED SITE GRADING PLAN

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER

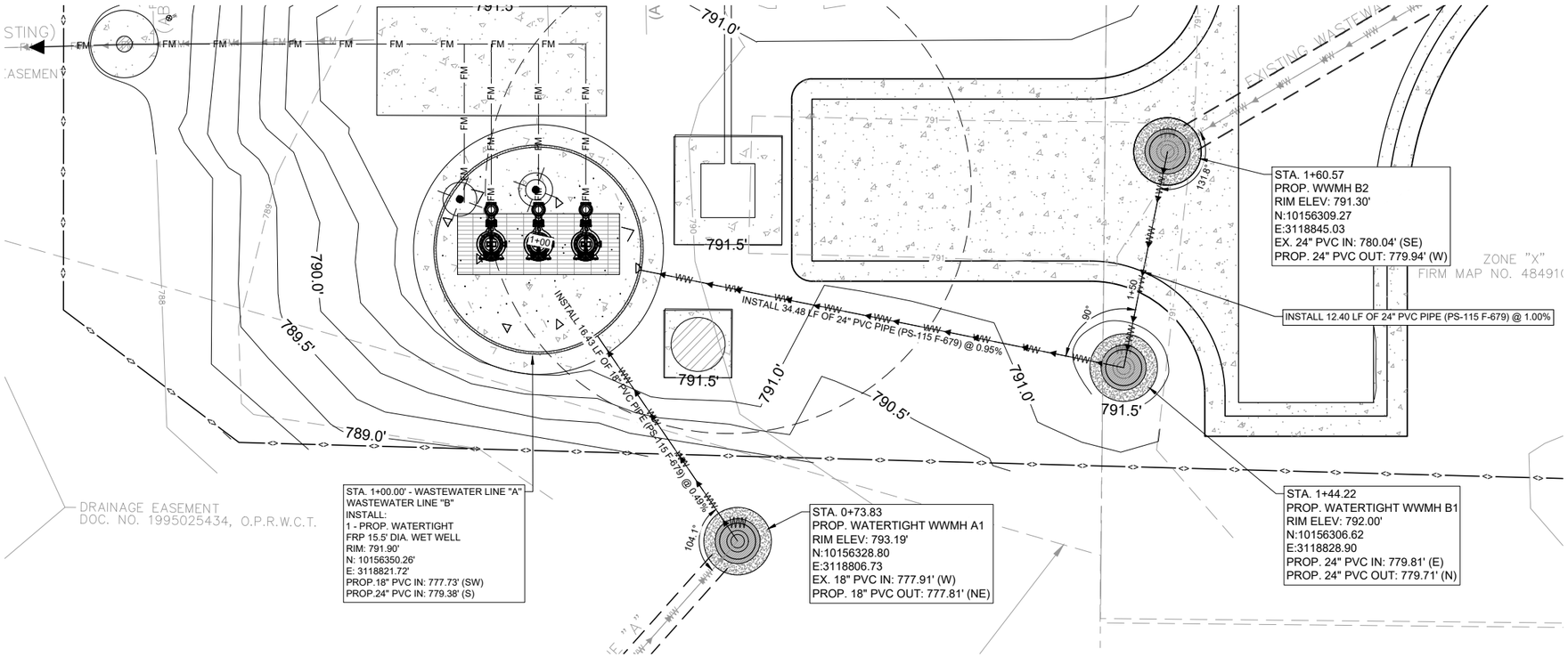
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

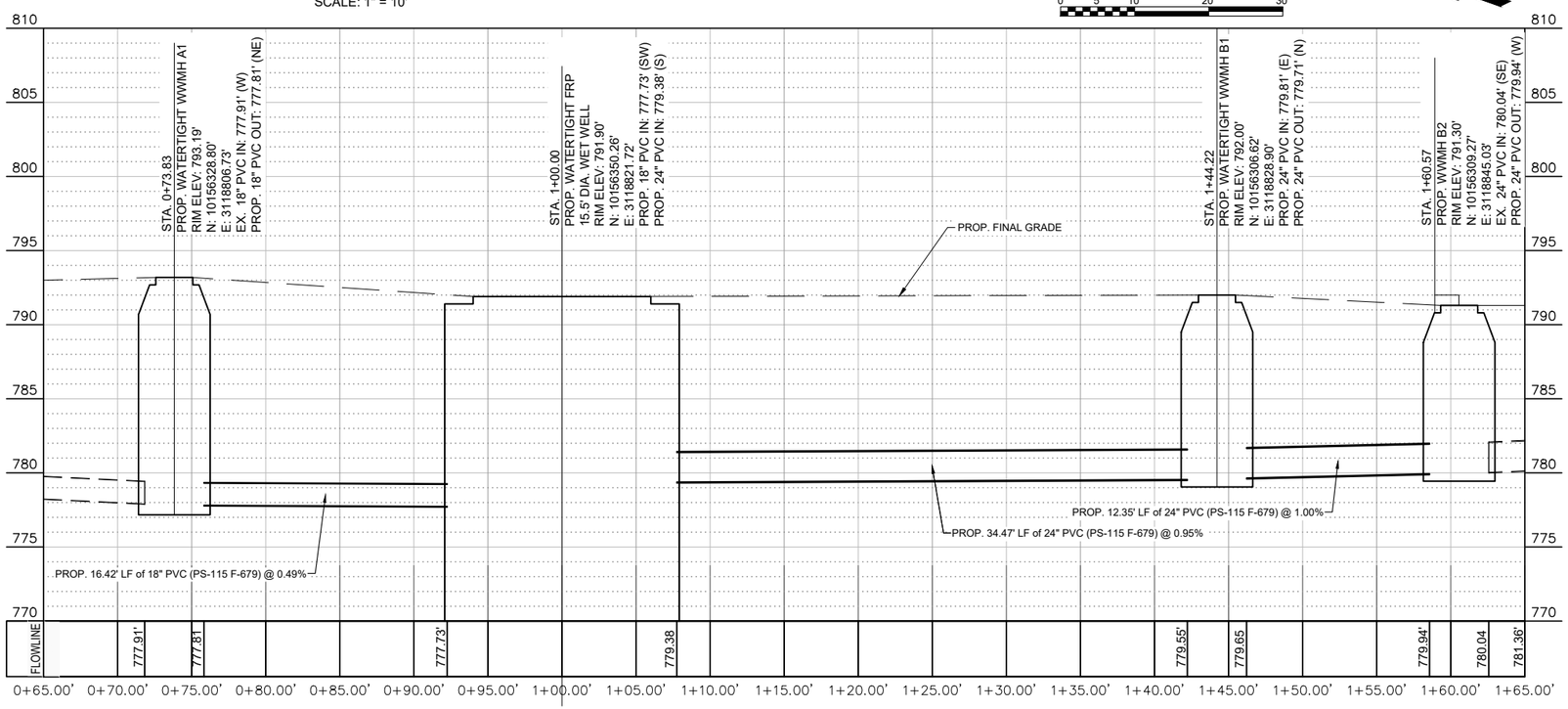
DESIGNED	MR
DRAWN	JWG
CHECKED	MR
REVIEWED	---
Seq.	15 of 46
Dwg. No.	C-03
WON: 15960.001.001.2000	

C:\Users\pasated\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\C-03.dwg Nov 08,2023 - 9:55am PASATIED



CAT HOLLOW WASTEWATERLINE A & B PLAN & PROFILE STA. 1+00 TO 2+66

SCALE: 1" = 10'



0' 5' 10'
FULL SIZE 1" = 5'
HALF SIZE 1" = 10'
VERTICAL SCALE

0' 10' 20'
FULL SIZE 1" = 10'
HALF SIZE 1" = 20'
HORIZONTAL SCALE

LEGEND

- CONTROL POINT SET
- BENCHMARK SET (DESCRIBED)
- BENCHMARK FOUND (DESCRIBED)
- 1/2" IRON ROD FOUND
- 60D NAIL FOUND
- 1" AXLE FOUND
- ELECTRIC UTILITY POLE
- WATER METER
- WATER VALVE
- STORM MANHOLE
- ELECTRIC JUNCTION BOX
- ELECTRIC METER
- WASTEWATER MANHOLE - WWMH
- ELECTRIC PULL BOX
- ELECTRIC MANHOLE
- BREAK-ON LINE (NOT TO SCALE)
- ( ) RECORD INFORMATION
- LS# LANDMARK SURVEYING POINT NUMBER
- ROW RIGHT-OF-WAY
- D.R.W.C.T. DEED RECORDS, WILLIAMSON COUNTY, TEXAS
- P.R.W.C.T. PLAT RECORDS WILLIAMSON COUNTY, TEXAS
- O.P.R.W.C.T. OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
- CHAINLINK FENCE
- BARBED WIRE FENCE
- 600 MAJOR CONTOURS
- 599 MINOR CONTOURS
- ROW RIGHT OF WAY LINE (APPROXIMATE)
- PROPERTY LINE (APPROXIMATE)
- EDGE OF PAVEMENT
- CURB LINE
- OHE OVERHEAD ELECTRIC LINES
- WW WASTEWATER LINE
- CONCRETE IMPROVEMENT
- TO BE DEMOLISHED

SURVEYOR NOTE

UTILITY LOCATION AND LINE IDENTIFICATION SHOWN HEREON THIS SURVEY ARE PER CONSTRUCTION PLAN DEVELOPED BY GRAY ENGINEERING, INC FOR "WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 2. LIFT STATION NO. 3", PROJECT NO. 927-2496, ACCEPTED AND APPROVED FOR CONSTRUCTION JUNE 22, 1990.

NOTES:

1. CONTRACTOR SHALL CONFIRM THE FLOW LINE ELEVATION OF THE EXISTING FM AT THE BLIND FLANGE PRIOR TO TYING IN THE NEW FORCE MAIN SECTION.
2. CONTRACTOR SHALL VERIFY THAT THE EXISTING BLIND FLANGE IS IN GOOD CONDITION PRIOR TO TYING IN AND COORDINATE WITH THE ENGINEER PRIOR TO TYING IN THE NEW FM SECTION.

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW WASTEWATERLINE A & B
PLAN & PROFILE STA. 1+00 TO 2+66

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

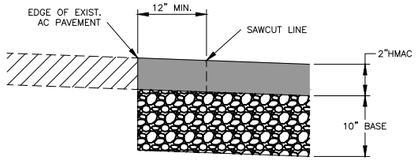
DESIGNED	---
DRAWN	JWG
CHECKED	---
REVIEWED	---

Seq. 16 of 46

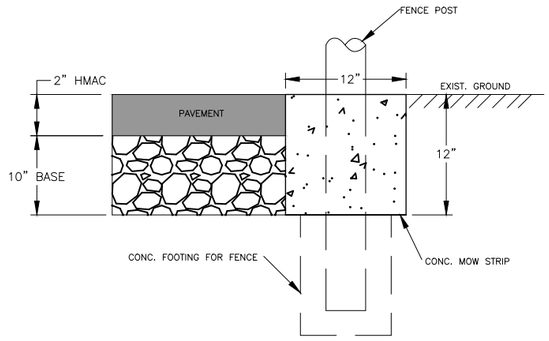
Dwg. No. C-04

WON: 15960.001.001.2000

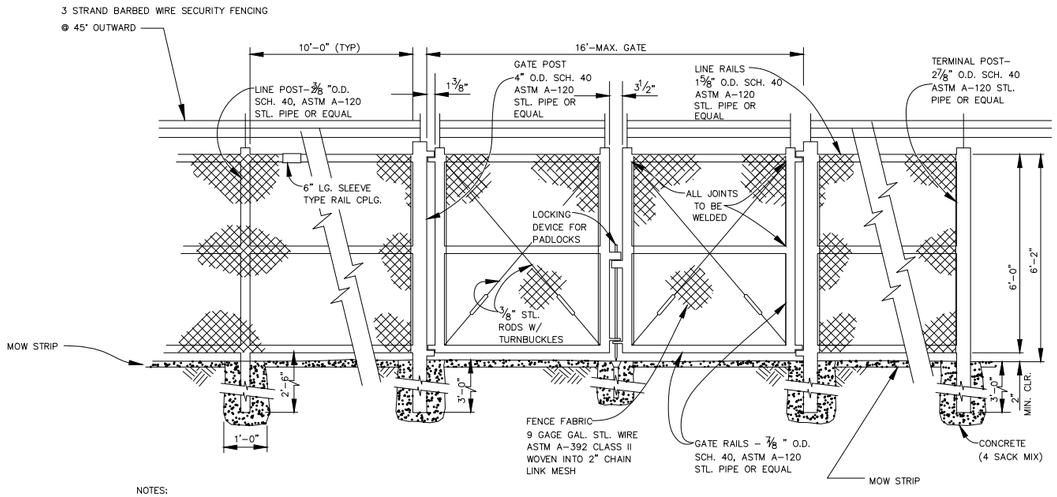
C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Davet\BRUSHY-CREEK\C-04.dwg Nov 08,2023 - 9:55am PASATIED



1 — SAWCUT PAVEMENT CONFORM DETAIL (CAT HOLLOW)
SCALE: NTS



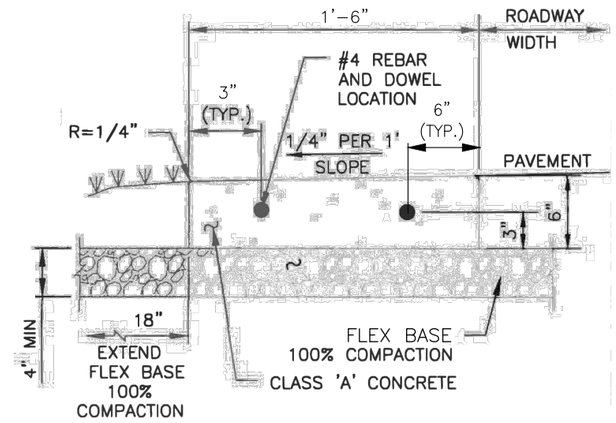
2 — 12" CONCRETE MOW STRIP DETAIL
SCALE: NTS



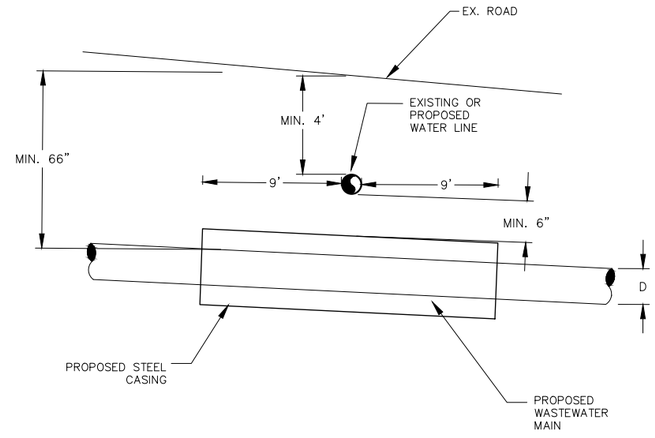
NOTES:

1. ALL STEEL MATERIALS-FABRICS, PIPE, AND FITTINGS TO BE HOT DIP GALVANIZED.
2. NEW FENCE AND GATE SHALL BE GROUNDED.

3 — CHAIN LINK FENCE AND GATE DETAIL
SCALE: NTS



4 — RIBBON CURB DETAIL
SCALE: NTS



NOTES:

1. PROPOSED WASTEWATER LINE SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 6 IN UNDER THE EXISTING OR PROPOSED WATER MAIN ENCASED WITH A STEEL CASING.
2. THE 18-FOOT JOINT OF PROPOSED WASTEWATER MAIN SHALL BE CENTERED ON EXISTING OR PROPOSED WATER MAIN AND TERMINATE AT JOINTS THAT ARE DESIGNED TO SEAL AT ATMOSPHERIC PRESSURE.
3. PIPE ENCASEMENT USING CEMENT STABILIZED SAND SHALL NOT BE PERMITTED.

5 — WASTEWATER MAIN CROSSING UNDER WATER MAIN DETAIL
SCALE: NTS

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

PROJECT DETAILS

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER

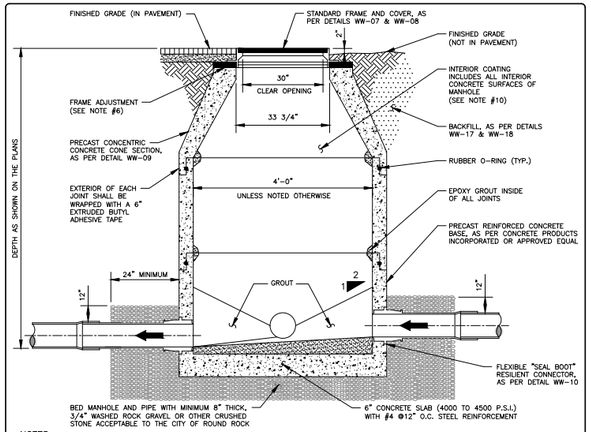
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED ---
DRAWN ---
CHECKED ---
REVIEWED ---
Seq. 22 of 46
Dwg. No. D-01
WON: 15960.001.001.2000

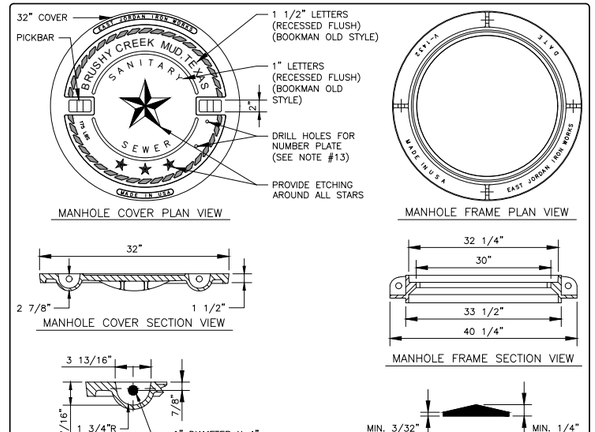
C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Daveh\BRUSHY-CREEK\D-01.dwg Nov 08,2023 - 9:56am PASATIED



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

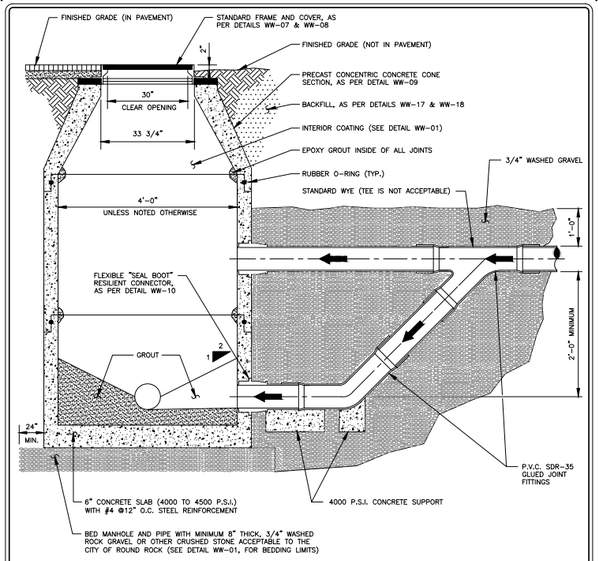
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-01
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-1432-3 (PRODUCT NUMBER: 41432059), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432089), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-08
APPROVED 03-01-18 DATE	NON-BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL (MODIFIED FOR BRUSHY CREEK MUD)	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

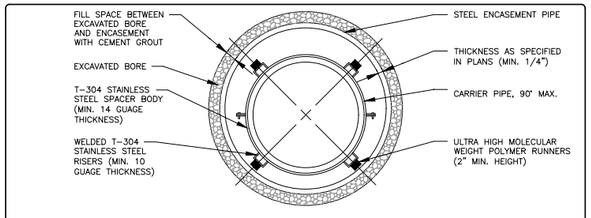
1. SEE NOTES #2 THROUGH #10 ON DETAIL WW-01.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED MORE THAN TWO FEET (2'-0") ABOVE THE MAIN INVERT CHANNEL.
3. WHEN P.V.C. PIPE IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY. FITTINGS SHALL BE P.V.C. SDR-35 WITH TWO PART WATER RESISTANT GLUE AT ALL JOINTS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-02
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP CONNECTION DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

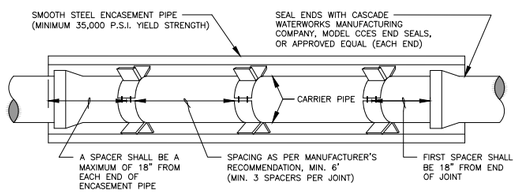
NOTES:

1. REVISE PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP CONNECTION DETAIL, NOTE 3 AS FOLLOWS:

   "WHEN P.V.C. PIPE IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY. FITTINGS TO BE P.V.C. SDR-26 WITH TWO PART WATER RESISTANT GLUE AT ALL JOINTS."



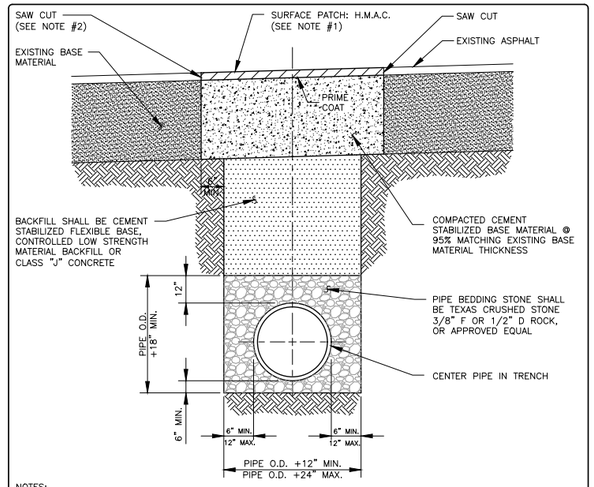
PIPE SIZE-CARRIER (DIAMETER)	PIPE SIZE-CASING (DIAMETER) (MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"	1/4	0.2500
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" ~ 14"	24"	3/8	0.3750
16" ~ 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000



NOTES:

1. CASING SPACER CONFIGURATION AND SPACING SHALL BE AS SHOWN ON MANUFACTURER'S DRAWINGS FOR SPECIFIC WORK; THESE MUST BE ACCEPTABLE TO THE CITY OF ROUND ROCK.
2. CASING SPACER SHALL BE AS MANUFACTURED BY CASCADE WATERWORKS MANUFACTURING COMPANY, MODEL CCS, OR APPROVED EQUAL.

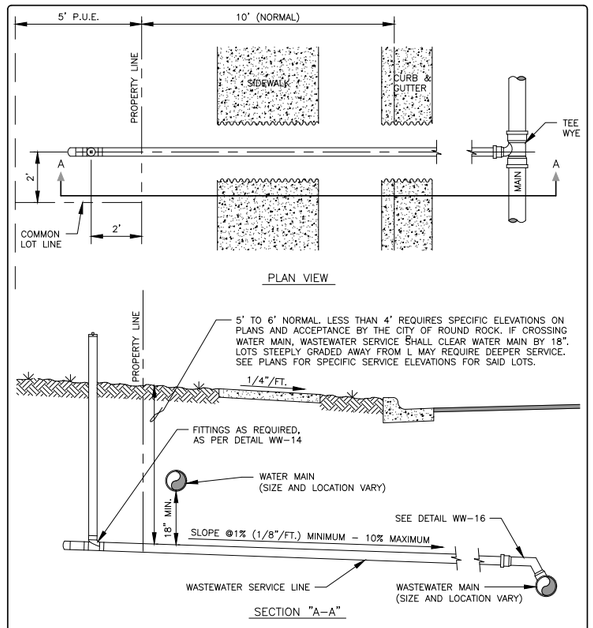
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-16
APPROVED 03-01-18 DATE	PIPE ENCASEMENT DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. H.M.A.C. THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS AND NO LESS THAN 2".
2. THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE WASTEWATER LINE TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER. FINISHED PATCH SHALL BE NEAT AND UNIFORM.
3. INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT AND SURFACE PATCH SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
4. THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
5. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-17
APPROVED 03-01-18 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (EXISTING PAVED SURFACE)	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-12
APPROVED 03-01-18 DATE	WASTEWATER SERVICE DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

Brushy Creek Municipal Utility District

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

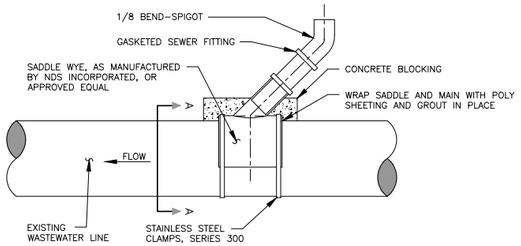
STANDARD DETAILS (1 OF 2)

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
M. Randhawa
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

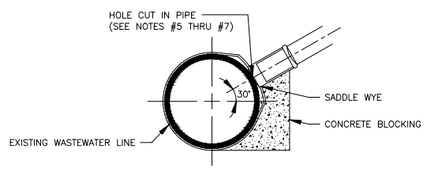
BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	JWG
CHECKED	MR
REVIEWED	---
Seq.	23 of 46
Dwg. No.	D-02
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\D-02.dwg Nov 08,2023 - 9:56am PASATIED



PLAN VIEW

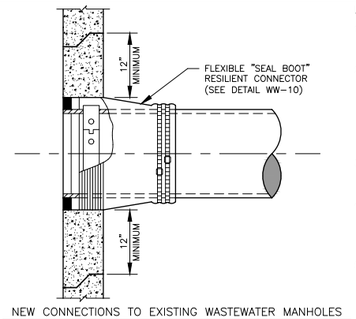


SECTION "A–A"

NOTES:

1. FLEXIBLE SADDLE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. EXCAVATE AROUND EXISTING WASTEWATER PIPE, EXPOSING SUFFICIENT ROOM FOR STAINLESS STEEL CLAMPS.
3. THOROUGHLY CLEAN AND DRY THE MATING SURFACE.
4. MARK THE SIZE OF THE HOLE TO BE CUT USING THE SADDLE ITSELF AS A TEMPLATE.
5. SAW OUT THE SECTION OF THE PIPE WHERE THE SADDLE WILL BE LOCATED, WITH A SABER OR KEY HOLE SAW. PIPE COUPONS SHALL BE REMOVED FROM EXISTING MAIN AND DISCARDED. PIPE CUTTINGS IN EXCESS OF 1" IN DIAMETER SHALL NOT BE LEFT IN EXISTING MAIN.
6. ENSURE SADDLE FITS HOLE PROPERLY.
7. PLACE GASKET SKIRT AND SADDLE OVER OPENING AND TIGHTEN BAND CLAMPS EVENLY UNTIL SADDLE IS FIRMLY ATTACHED TO THE PIPE. APPLY PRESSURE ON THE SADDLE AGAINST THE PIPE WHILE TIGHTENING THE CLAMPS AS INDICATED ABOVE. DO NOT OVER TIGHTEN AND DO NOT STRIP THREAD.
8. SERVICE PIPE SHALL BE INSERTED FULLY TO CONTACT SEAT FORMED IN FITTING.
9. REPLACE THE BEDDING AND BACKFILL IN ACCORDANCE WITH THE TRENCH EMBEDMENT DETAIL.

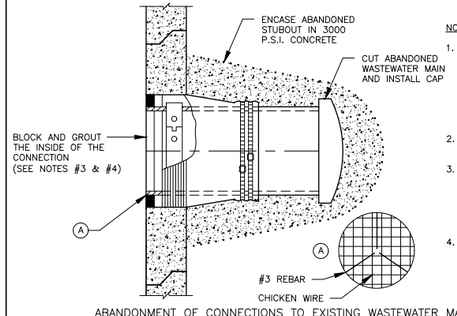
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK WASTEWATER LATERAL CONNECTION TO EXISTING WASTEWATER MAIN DETAIL	DRAWING NO: WW–16 ROUND ROCK TEXAS



NOTES:

1. EXISTING MANHOLES TO BE VACUUM TESTED PRIOR TO ANY CONNECTIONS.
2. NEW CONNECTIONS TO HAVE MINIMUM VERTICAL AND HORIZONTAL SEPARATION OF 12" ON THE OUTSIDE FACE OF THE MANHOLE FROM ANY EXISTING PENETRATIONS AND/OR MANHOLE JOINTS.
3. CONNECTIONS MADE INTO EXISTING MANHOLES ARE TO BE CORED AND NOT DRILLED/CHISELED.
4. CUT, SHAPE AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW FROM THE NEW WASTEWATER CONNECTION.
5. EXISTING MANHOLES TO BE RECOATED AFTER ANY NEW WASTEWATER CONNECTION IS ADDED.

NEW CONNECTIONS TO EXISTING WASTEWATER MANHOLES



NOTES:

1. THIS DETAIL IS INTENDED FOR WASTEWATER MANHOLES THAT WILL REMAIN IN SERVICE. FOR WASTEWATER MANHOLES THAT ARE TO BE ABANDONED, REFERENCE DETAIL WW–15.
2. WASTEWATER MANHOLE TO BE RECOATED AFTER GROUT IS INSTALLED.
3. BLOCK THE INLET OF THE MANHOLE WITH CHICKEN WIRE AND 3–#3 REBAR. GROUT THE INSIDE OF THE MANHOLE FLUSH WITH THE MANHOLE WALL.
4. CONNECTIONS 24" AND LARGER REQUIRE BRICK BLOCKING TO BE INSTALLED PRIOR TO GROUTING.

ABANDONMENT OF CONNECTIONS TO EXISTING WASTEWATER MANHOLES

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT APPROVED 03-01-18 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK EXISTING WASTEWATER MANHOLE CONNECTION DETAIL	DRAWING NO: WW–21 ROUND ROCK TEXAS

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

STANDARD DETAILS (2 OF 2)

The seal appearing on this document was authorized by Maninder S Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.

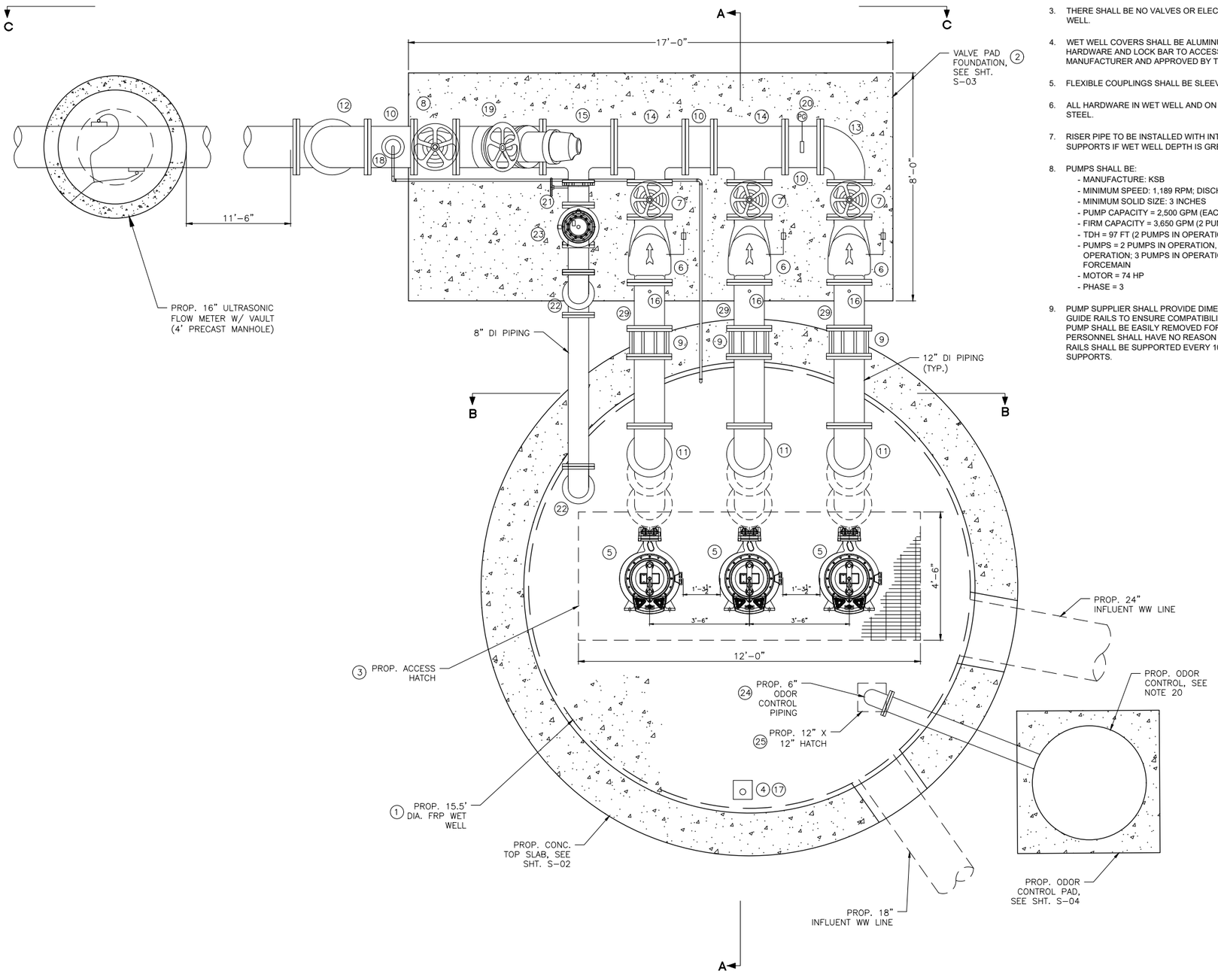
ONE INCH

DESIGNED	MR
DRAWN	JWG
CHECKED	MR
REVIEWED	---

Seq. 24 of 46

Dwg. No. D–03

WON: 15960.001.001.2000



LIFT STATION AND VALVE PAD PLAN VIEW

SCALE: 1/2" = 1'-0"

0 1' 2' 4' 6'

LIFT STATION AND VALVE PAD NOTES:

1. ALL EXPOSED STEEL SHALL BE PAINTED WITH 1 PRIMER COAT AND 2 COATS OF EPOXY RESIN PAINT.
2. ALL LOCATIONS WHERE PIPES ENTER OR EXIT THE WET WELL SHALL BE MADE WATERTIGHT WITH NON-SHRINK GROUT.
3. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
4. WET WELL COVERS SHALL BE ALUMINUM WITH 306 STAINLESS STEEL HARDWARE AND LOCK BAR TO ACCESS PADLOCK AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY THE ENGINEER.
5. FLEXIBLE COUPLINGS SHALL BE SLEEVE TYPE.
6. ALL HARDWARE IN WET WELL AND ON VALVE PAD SHALL BE 316 STAINLESS STEEL.
7. RISER PIPE TO BE INSTALLED WITH INTERMEDIATE 316 STEEL PIPE SUPPORTS IF WET WELL DEPTH IS GREATER THAN 15 FEET.
8. PUMPS SHALL BE:
   - MANUFACTURE: KSB
   - MINIMUM SPEED: 1,189 RPM; DISCHARGE SIZE: 6 INCHES; VOLTAGE: 460 ;
   - MINIMUM SOLID SIZE: 3 INCHES
   - PUMP CAPACITY = 2,500 GPM (EACH PUMP)
   - FIRM CAPACITY = 3,650 GPM (2 PUMPS OPERATING, 1 REDUNDANT)
   - TDH = 97 FT (2 PUMPS IN OPERATION)
   - PUMPS = 2 PUMPS IN OPERATION, 1 PUMP IN STANDBY FOR NORMAL OPERATION; 3 PUMPS IN OPERATION TWICE DAILY TO FLUSH THE FORCEMAIN
   - MOTOR = 74 HP
   - PHASE = 3
9. PUMP SUPPLIER SHALL PROVIDE DIMENSIONS OF THE STAINLESS STEEL GUIDE RAILS TO ENSURE COMPATIBILITY WITH SUPPLIED EQUIPMENT. THE PUMP SHALL BE EASILY REMOVED FOR INSPECTION OR SERVICE. PERSONNEL SHALL HAVE NO REASON TO ENTER THE WET WELL. GUIDE RAILS SHALL BE SUPPORTED EVERY 10 FEET WITH STAINLESS STEEL SUPPORTS.
10. GUIDE BRACKETS FOR EACH PUMP MUST BE SUPPLIED BY THE PUMP MANUFACTURER TO ENSURE COMPATIBILITY WITH SUPPLIED EQUIPMENT.
11. EACH PIPING UNIT SHALL BE PROVIDED WITH A STAINLESS STEEL LIFTING CABLE AND CHAIN. LIFTING CHAIN SHALL EXTEND AT LEAST 3-4 FEET ABOVE WET WELL.
12. PIPING WITHIN WET WELL AND FORCE MAIN SHALL BE DUCTILE IRON WITH EPOXY LINING.
13. PUMP DISCHARGE LINES SHALL HAVE 1/2 INCH TAPS WITH STAINLESS STEEL OR BONZE BALL. THE TAPS SHALL BE ACCESSIBLE AND LOCATED UPSTREAM OF THE VALVES (ON THE PUMP SIDE).
14. ON THE VALVE PAD, ALL DISCHARGE LINES SHALL HAVE ADEQUATE THRUST SUPPORT MEMBERS AT EACH FITTING, WHERE POSSIBLE. LONG RADIUS (LR) 90 DEGREES SHALL BE USED.
15. THE DISCHARGE LINE FROM EACH PUMP SHALL BE FITTED WITH A CHECK VALVE AND ECCENTRIC PLUG VALVE. AIR RELEASE VALVE SHALL BE INSTALLED DOWNSTREAM OF THE PLUG VALVES.
16. THE VALVE PAD SHALL BE SIZED LARGE ENOUGH TO PROVIDE AT LEAST 1 FOOT OF CLEARANCE AROUND VALVES AND 12 INCHES OF CLEARANCE TO ALL FLANGES.
17. ALL VALVES, TEES, AND FITTINGS ON THE VALVE PAD TO BE SUPPORTED WITH JACK STANDS OR PIPE SUPPORTS. ALL EXPOSED MEMBERS, NUTS, AND BOLTS TO BE STAINLESS STEEL.
18. CONTRACTOR TO REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS AND INFORMATION NOT SHOWN ON PLANS.
19. CONTRACTOR SHALL INSTALL FALL SAFETY NET AND SAFETY HARNESS FOR WET WELL. CONTRACTOR SHALL SUBMIT SELECTED NET AND SAFETY HARNESS FOR ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
20. CONTRACTOR TO INSTALL ODOR CONTROL UNIT AND PIPING PER MANUFACTURERS RECOMMENDATIONS.

PIPING AND EQUIPMENT SCHEDULE

NO.	ITEM DESCRIPTION	QUANTITY
1	FRP WET WELL (15.5' DIA.)	1
2	CONCRETE VALVE PAD (17' x 10')	1
3	WET WELL HATCH (12' x 4.5')	1
4	WET WELL LEVEL TRANSMITTER ACCESS HATCH (8" x 8")	1
5	SUBMERSIBLE NON-CLOG PUMP (KSB OR APPROVED EQUAL)	3
6	12" SWING CHECK VALVE W/ OUTSIDE WEIGHT AND LEVER	3
7	12" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	3
8	16" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	1
9	12" FLEX COUPLING	3
10	16" DI SPOOL PIECE	3
11	12" DI 90° BEND	3
12	16" DI 90° BEND	2
13	16" X 12" DEGREE DI REDUCING BEND	1
14	16" X 12" DI TEE	2
15	16" X 8" DI TEE	1
16	1/4" BRONZE BALL VALVE	3
17	ULTRASONIC LEVEL TRANSDUCER	1
18	2" A.R.I. COMBINATION TYPE AIR RELEASE VALVE AND VACUUM RELIEF VALVE (SHORT VERSION) W/ ISOLATION VALVE	1
19	16" FEMALE CAMLOCK QUICK CONNECTION	1
20	PRESSURE GAUGE (1/4" TAP, SS ISOLATION VALVE, SS GLYCERINE FILLED 0-200 PSI)	1
21	8" SURGE RELIEF VALVE	1
22	8" DI 90° BEND	3
23	8" PLUG VALVE	1
24	6" SS ODOR CONTROL VENTILATION PIPE	1
25	12" X 12" ODOR CONTROL VENTILATION PIPE HATCH	1
26	ADJUSTABLE PIPE SUPPORT	4
27	12" X 6" ECCENTRIC DI REDUCER	1
28	12" DI 45° BEND	6
29	12" DI SPOOL PIECE	3
30	STAINLESS STEEL RAIL ASSEMBLY	3
31	STAINLESS STEEL PUMP INTERMEDIATE GUIDE BRACKET	3
32	STAINLESS STEEL CHAIN SLING	3

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD PLAN

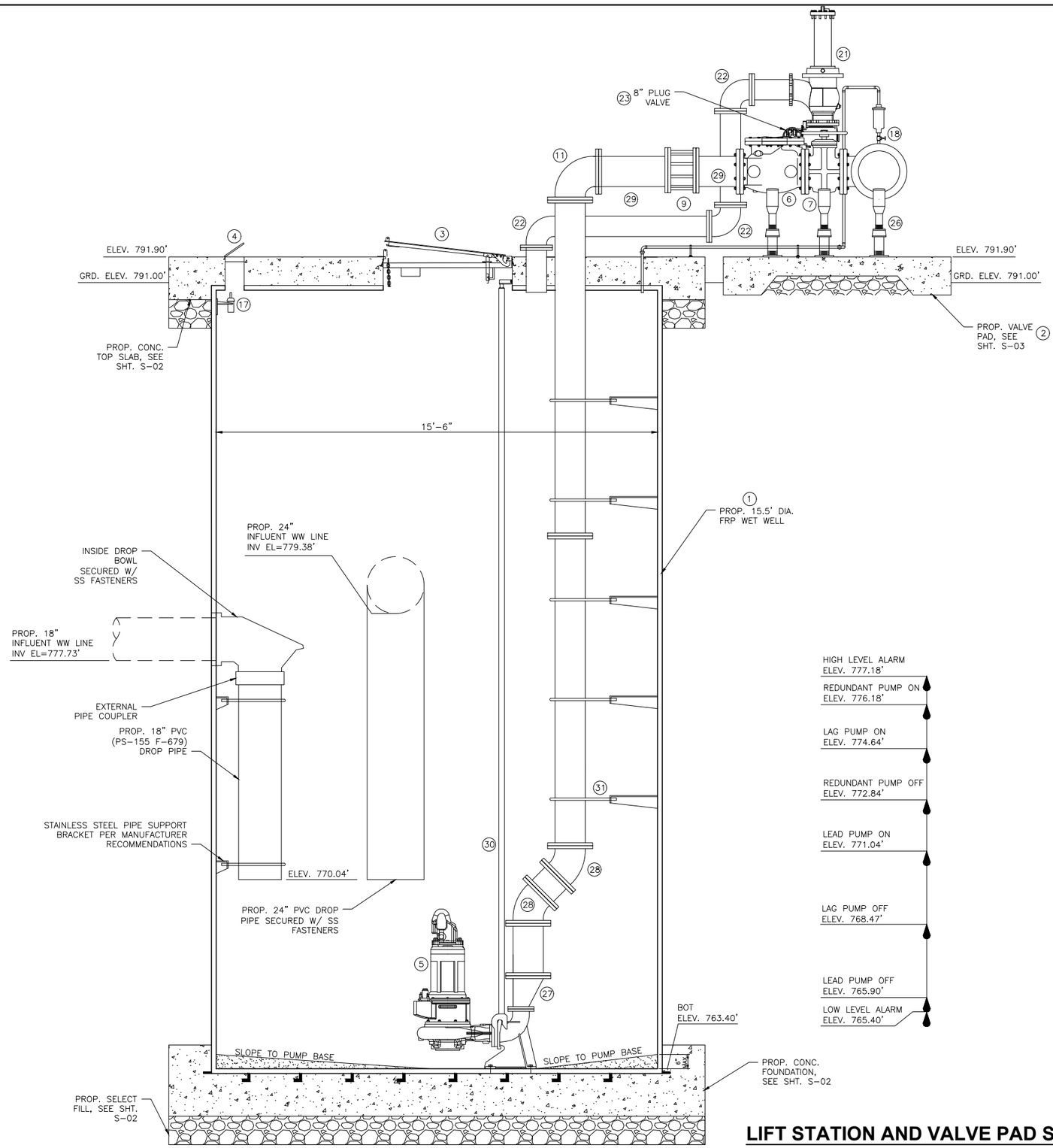
STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Maninder Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	---
Seq.	25 of 46
Dwg. No.	M-01
WON:	15960.001.001.2000



LIFT STATION AND VALVE PAD SECTION A-A VIEW

SCALE: 1/2" = 1'-0"

0 1' 2' 4' 6'

PIPING AND EQUIPMENT SCHEDULE		
NO.	ITEM DESCRIPTION	QUANTITY
1	FRP WET WELL (15.5' DIA.)	1
2	CONCRETE VALVE PAD (17' x 10')	1
3	WET WELL HATCH (12' x 4.5')	1
4	WET WELL LEVEL TRANSMITTER ACCESS HATCH (8" x 8")	1
5	SUBMERSIBLE NON-CLOG PUMP (KSB OR APPROVED EQUAL)	3
6	12" SWING CHECK VALVE W/ OUTSIDE WEIGHT AND LEVER	3
7	12" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	3
8	16" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	1
9	12" FLEX COUPLING	3
10	16" DI SPOOL PIECE	2
11	12" DI 90° BEND	3
12	16" DI 90° BEND	3
13	16" X 12" DEGREE DI REDUCING BEND	1
14	16" X 12" DI TEE	2
15	16" X 8" DI TEE	1
16	1/4" BRONZE BALL VALVE	3
17	ULTRASONIC LEVEL TRANSDUCER	1
18	2" A.R.I. COMBINATION TYPE AIR RELEASE VALVE AND VACUUM RELIEF VALVE (SHORT VERSION) W/ ISOLATION VALVE	1
19	16" FEMALE CAMLOCK QUICK CONNECTION	1
20	PRESSURE GAUGE (1/4" TAP, SS ISOLATION VALVE, SS GLYCERINE FILLED 0-200 PSI)	1
21	8" SURGE RELIEF VALVE	1
22	8" DI 90° BEND	3
23	8" PLUG VALVE	1
24	6" SS ODOR CONTROL VENTILATION PIPE	1
25	12" X 12" ODOR CONTROL VENTILATION PIPE HATCH	1
26	ADJUSTABLE PIPE SUPPORT	4
27	12" X 6" ECCENTRIC DI REDUCER	1
28	12" DI 45° BEND	6
29	12" DI SPOOL PIECE	3
30	STAINLESS STEEL RAIL ASSEMBLY	3
31	STAINLESS STEEL PUMP INTERMEDIATE GUIDE BRACKET	3
32	STAINLESS STEEL CHAIN SLING	3

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	
A	11/8/23	100% SUBMITTAL
		REVISION

MR
BY

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD
SECTION A-A

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER

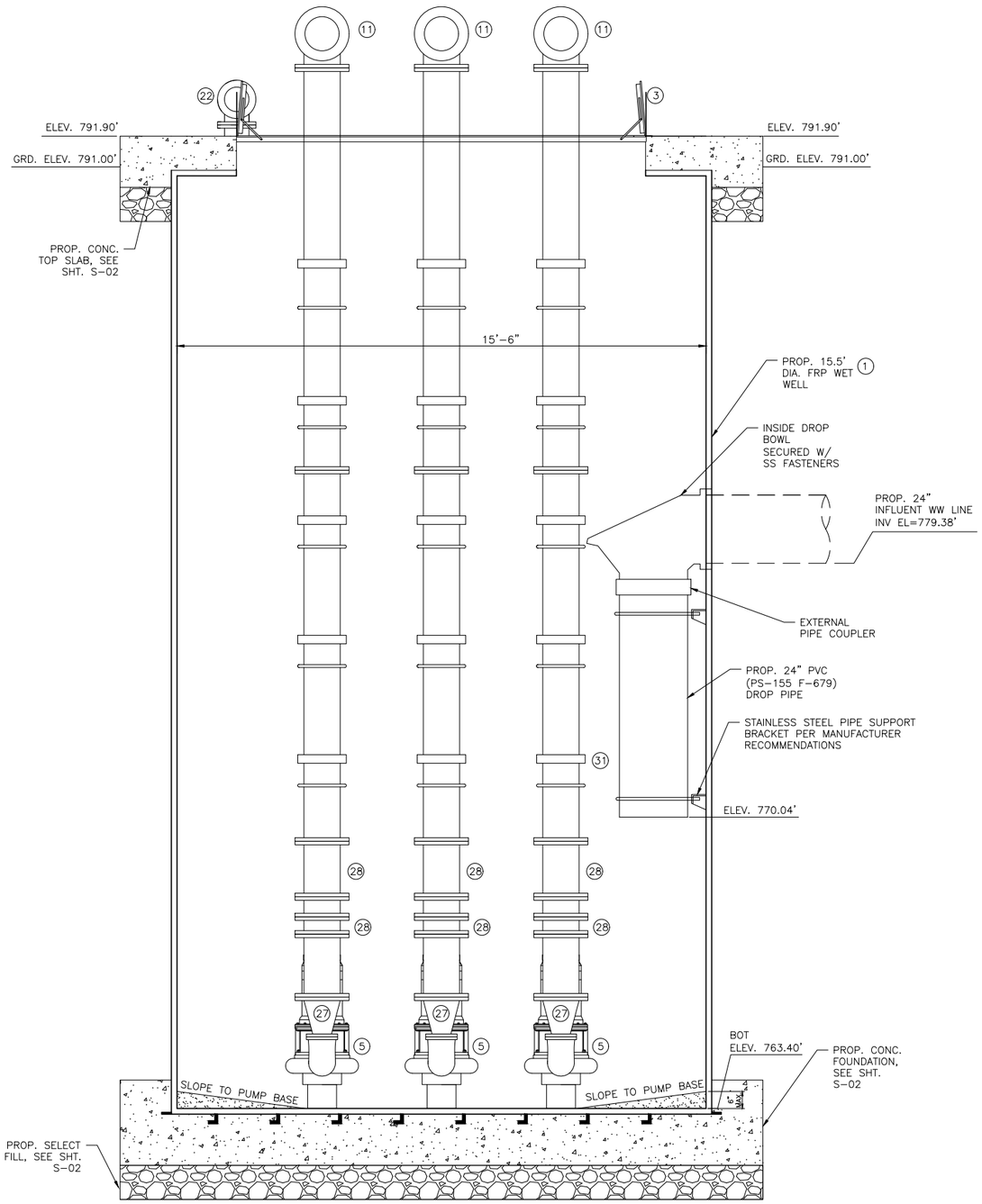
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	---
Seq.	26 of 46
Dwg. No.	M-02
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\DaveH\BRUSHY-CREEK\M-01-M-04.dwg Nov 08,2023 - 9:56am PASATIED



LIFT STATION SECTION B-B VIEW

SCALE: 1/2" = 1'-0"

0 1' 2' 4' 6'

PIPING AND EQUIPMENT SCHEDULE		
NO.	ITEM DESCRIPTION	QUANTITY
1	FRP WET WELL (15.5' DIA.)	1
2	CONCRETE VALVE PAD (17' x 10')	1
3	WET WELL HATCH (12' x 4.5')	1
4	WET WELL LEVEL TRANSMITTER ACCESS HATCH (8" x 8")	1
5	SUBMERSIBLE NON-CLOG PUMP (KSB OR APPROVED EQUAL)	3
6	12" SWING CHECK VALVE W/ OUTSIDE WEIGHT AND LEVER	3
7	12" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	3
8	16" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	1
9	12" FLEX COUPLING	3
10	16" DI SPOOL PIECE	3
11	12" DI 90° BEND	3
12	16" DI 90° BEND	2
13	16" X 12" DEGREE DI REDUCING BEND	1
14	16" X 12" DI TEE	2
15	16" X 8" DI TEE	1
16	1/4" BRONZE BALL VALVE	3
17	ULTRASONIC LEVEL TRANSDUCER	1
18	2" A.R.I. COMBINATION TYPE AIR RELEASE VALVE AND VACUUM RELIEF VALVE (SHORT VERSION) W/ ISOLATION VALVE	1
19	16" FEMALE CAMLOCK QUICK CONNECTION	1
20	PRESSURE GAUGE (1/4" TAP, SS ISOLATION VALVE, SS GLYCERINE FILLED 0-200 PSI)	1
21	8" SURGE RELIEF VALVE	1
22	8" DI 90° BEND	3
23	8" PLUG VALVE	1
24	6" SS ODOR CONTROL VENTILATION PIPE	1
25	12" X 12" ODOR CONTROL VENTILATION PIPE HATCH	1
26	ADJUSTABLE PIPE SUPPORT	4
27	12" X 6" ECCENTRIC DI REDUCER	1
28	12" DI 45° BEND	6
29	12" DI SPOOL PIECE	3
30	STAINLESS STEEL RAIL ASSEMBLY	3
31	STAINLESS STEEL PUMP INTERMEDIATE GUIDE BRACKET	3
32	STAINLESS STEEL CHAIN SLING	3

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE		BY
A	11/8/23	100% SUBMITTAL	MR
		REVISION	

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW PROPOSED LIFT STATION AND VALVE PAD
SECTION B-B

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED
PROFESSIONAL ENGINEER

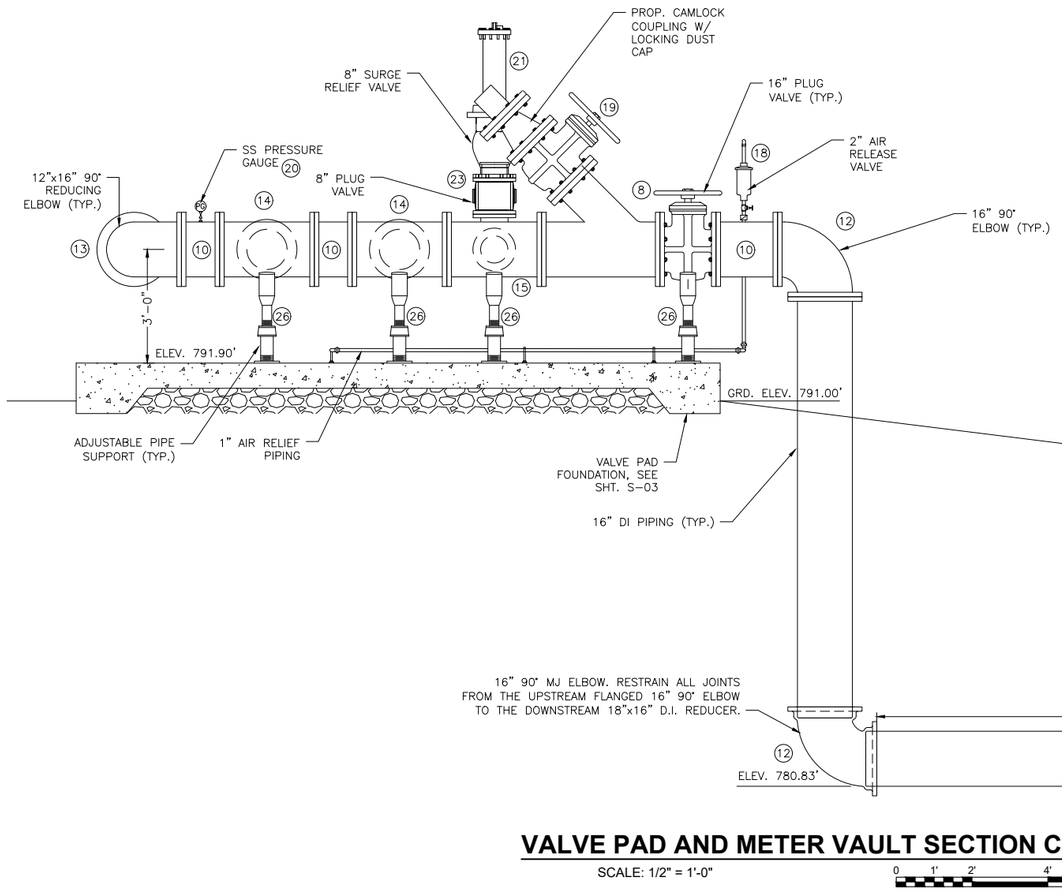
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

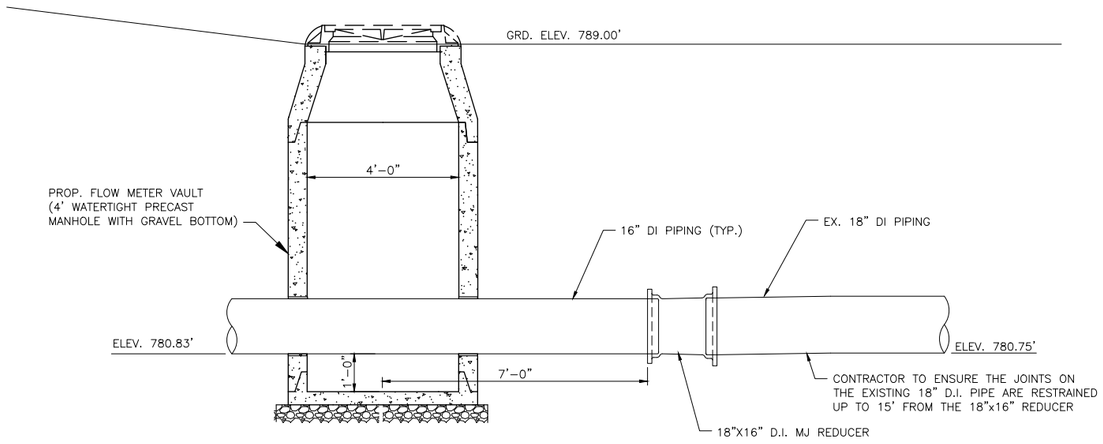
DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	---
Seq.	27 of 46
Dwg. No.	M-03
WON:	15960.001.001.2000

C:\Users\psaatied\OneDrive - Weston Solutions, Inc\Daveh\BRUSHY-CREEK\M-01-M-04.dwg Nov 08,2023 - 9:56am PASATIED



VALVE PAD AND METER VAULT SECTION C-C VIEW

SCALE: 1/2" = 1'-0"



18-INCH FORCE MAIN TIE-IN DETAIL

SCALE: 1/2" = 1'-0"

PIPING AND EQUIPMENT SCHEDULE		
NO.	ITEM DESCRIPTION	QUANTITY
(1)	FRP WET WELL (15.5' DIA.)	1
(2)	CONCRETE VALVE PAD (17' x 10')	1
(3)	WET WELL HATCH (12' x 4.5')	1
(4)	WET WELL LEVEL TRANSMITTER ACCESS HATCH (8" x 8")	1
(5)	SUBMERSIBLE NON-CLOG PUMP (KSB OR APPROVED EQUAL)	3
(6)	12" SWING CHECK VALVE W/ OUTSIDE WEIGHT AND LEVER	3
(7)	12" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	3
(8)	16" ECCENTRIC PLUG VALVE W/ NON-RISING STEM HAND WHEEL	1
(9)	12" FLEX COUPLING	3
(10)	16" DI SPOOL PIECE	3
(11)	12" DI 90° BEND	3
(12)	16" DI 90° BEND	2
(13)	16" X 12" DEGREE DI REDUCING BEND	1
(14)	16" X 12" DI TEE	2
(15)	16" X 8" DI TEE	1
(16)	1/4" BRONZE BALL VALVE	3
(17)	ULTRASONIC LEVEL TRANSDUCER	1
(18)	2" A.R.I. COMBINATION TYPE AIR RELEASE VALVE AND VACUUM RELIEF VALVE (SHORT VERSION) W/ ISOLATION VALVE	1
(19)	16" FEMALE CAMLOCK QUICK CONNECTION	1
(20)	PRESSURE GAUGE (1/4" TAP, SS ISOLATION VALVE, SS GLYCERINE FILLED 0-200 PSI)	1
(21)	8" SURGE RELIEF VALVE	1
(22)	8" DI 90° BEND	3
(23)	8" PLUG VALVE	1
(24)	6" SS ODOR CONTROL VENTILATION PIPE	1
(25)	12" X 12" ODOR CONTROL VENTILATION PIPE HATCH	1
(26)	ADJUSTABLE PIPE SUPPORT	4
(27)	12" X 6" ECCENTRIC DI REDUCER	1
(28)	12" DI 45° BEND	6
(29)	12" DI SPOOL PIECE	3
(30)	STAINLESS STEEL RAIL ASSEMBLY	3
(31)	STAINLESS STEEL PUMP INTERMEDIATE GUIDE BRACKET	3
(32)	STAINLESS STEEL CHAIN SLING	3

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

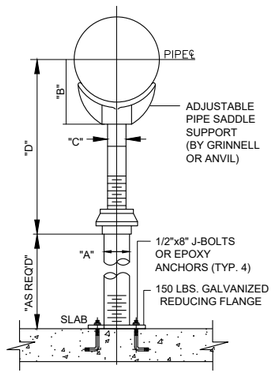
CAT HOLLOW VALVE PAD AND FLOW METER VAULT
SECTION C-C AND DETAIL

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

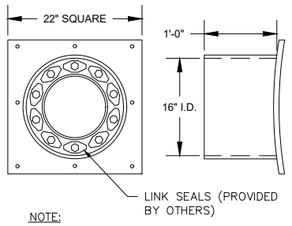
DESIGNED MR
DRAWN SS
CHECKED MR
REVIEWED ---
Seq. 28 of 46
Dwg. No. M-04
WON: 15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\M-01-M-04.dwg Nov 08,2023 - 9:56am PASATIED



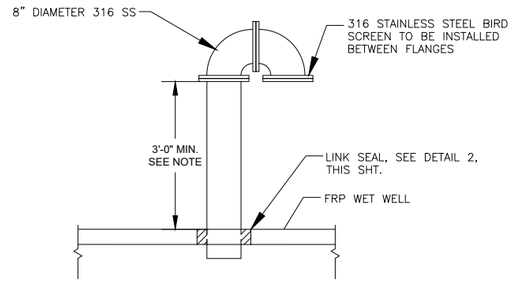
	WGT APPROX. LBS EACH					D	
PIPE SIZE	COMPLETE	SADDLE ONLY	A	B	C	MINIMUM	MAXIMUM
2 1/2	9.0	4.8	2 1/2	3 1/2	1 1/2	8	13
3	9.2	5.0	2 1/2	3 3/4	1 1/2	8 1/4	13 1/4
3 1/2	9.4	5.2	2 1/2	4	1 1/2	8 1/2	13 1/2
4	15.0	7.6	3	4 1/4	2 1/2	9 1/4	14
5	16.7	8.3	3	4 7/8	2 1/2	10	14 3/4
6	17.7	10.3	3	5 1/2	2 1/2	10 1/2	15 1/4
8	20.2	12.8	3	6 7/8	2 1/2	11 3/4	16 1/2
10	25.2	17.8	3	5 1/2	2 1/2	13 1/2	18 1/4
12	29.0	21.6	3	9 15/16	2 1/2	15	19 3/4
14	49.2	38.0	4	10 15/16	3	16 1/4	20 3/4
16	53.2	42.0	4	12 3/8	3	17 3/4	22 1/4
18	70.8	51.0	6	13 7/8	3 1/2	19 1/2	24
20	104.8	85.0	6	15 3/8	3 1/2	21	25 1/2
24	137.0	110.0	6	17 15/16	4	23 3/4	28 1/2
30	170.0	150.0	6	21 5/16	4	27	31 1/2
32	181.0	161.1	6	22 1/2	4	28 1/8	32 3/4
36	249.0	229.0	6	24 1/4	4	30 1/4	34 3/4

1 — ADJUSTABLE PIPE SADDLE SUPPORT
SCALE: NTS



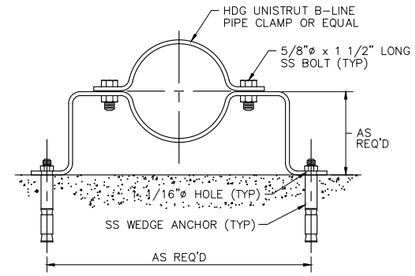
NOTE:
1. INFLUENT FRP SLEEVE 1/2" THICK MATERIAL WITH 5/8" DRILLED HOLES TO BE MOUNTED TO WET WELL WALL AT INFLUENT ELEVATION (SHIPPED LOOSE) PLATE ROLLED TO TANK RADIUS.

2 — FRP WET WELL LINK SEAL DETAIL
SCALE: NTS

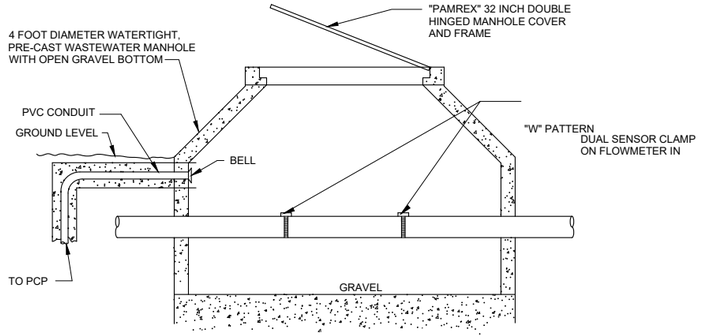


NOTE:
VENT LOCATION AND ELEVATION VARIES PER LIFT STATION SITE, SEE DRAWINGS FOR GENERAL PLACEMENT. CONTRACTOR SHALL INSTALL THE VENT IN A LOCATION THAT DOES NOT CONFLICT WITH ANY OTHER IMPROVEMENTS.

3 — VENT PIPE DETAIL
SCALE: NTS



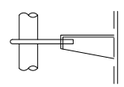
4 — OFFSET PIPE CLAMP DETAIL
SCALE: NTS



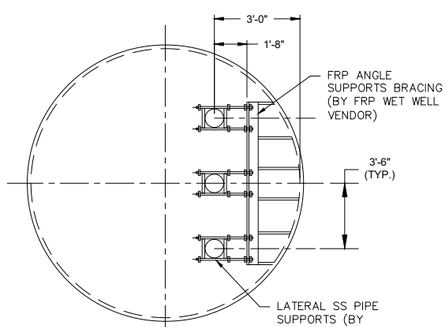
5 — SECTION VIEW FLOW METER VAUT
SCALE: NTS

PLAN VIEW SECTION

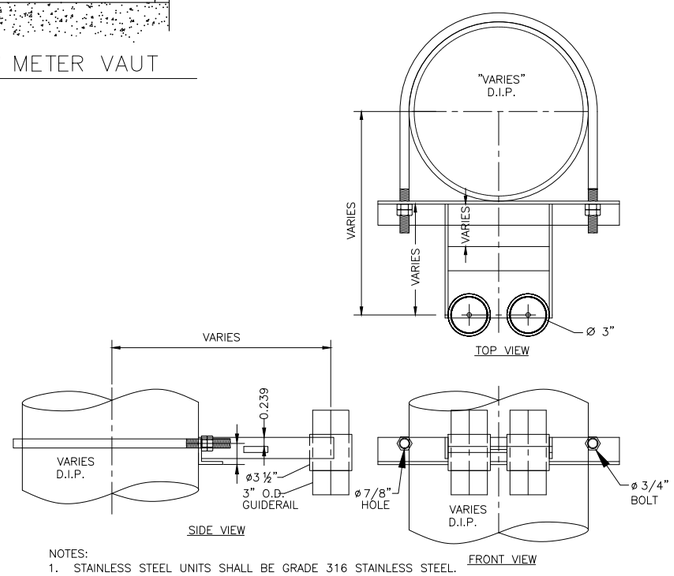
6 — AIR RELEASE VALVE
SCALE: NTS



ELEVATION VIEW

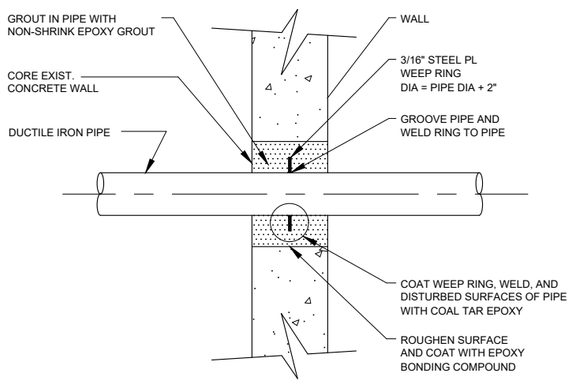


7 — FRP WET WELL PIPE SUPPORT DETAIL
SCALE: NTS



NOTES:
1. STAINLESS STEEL UNITS SHALL BE GRADE 316 STAINLESS STEEL.
2. SIZE AS RECOMMENDED BY PUMP MANUFACTURER

8 — INTERMEDIATE GUIDERAIL BRACKET
SCALE: NTS



9 — TYPICAL PIPE PENETRATION
SCALE: NTS

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT

LIFT STATION DETAILS

STATE OF TEXAS
MANINDER S RANDHAWA
145867
LICENSED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by Maninder S. Randhawa, P.E. 145867 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	---
Seq.	29 of 46
Dwg. No.	M-05
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\DaveH\BRUSHY-CREEK\M-05.dwg Nov 08,2023 - 9:56am PASATIED

GENERAL STRUCTURAL NOTES:

A. GENERAL NOTES:

1. ALL STRUCTURAL WORK AND MATERIALS SHALL CONFORM TO REQUIREMENTS OF PROJECT SPECIFICATIONS, DRAWINGS, AND STANDARDS.
2. PLAN AND LAYOUT ALL NEW WORK PRIOR TO START OF CONSTRUCTION. VERIFY DIMENSIONS AND ELEVATIONS OF ALL EXISTING FEATURES AND NOTIFY ENGINEER OF ANY VARIATIONS.
3. PROTECT ALL EXISTING STRUCTURES AND EQUIPMENT FOR PROJECT DURATION. REPAIR ANY CONTRACTOR–CAUSED DAMAGE AT NO ADDITIONAL COST TO OWNER.
4. CONTRACTOR SHALL FULLY BRACE, SHORE, AND OTHERWISE PROTECT WORK IN PROGRESS IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES UNTIL WORK IS COMPLETED.
5. UNLESS NOTED OTHERWISE, ALL DETAIL AND SECTION CUTS SHOWN ON DRAWINGS AT EACH PARTICULAR LOCATION SHALL APPLY TO ALL SIMILAR LOCATIONS.
6. FINAL GRADE ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. FOR CONSTRUCTION, SEE CIVIL DRAWINGS FOR FINAL GRADE.
7. PERFORM CRITICAL LOCATION PROBING TO VERIFY NO UNDERGROUND CONFLICTS WITH PROPOSED STRUCTURES OR PIPING USING METHOD APPROVED BY ENGINEER PRIOR TO COMMENCING WORK.
8. CONTRACTOR AND SUB–CONTRACTORS ARE RESPONSIBLE FOR REVIEWING ALL DRAWING AND SPECIFICATIONS AND VERIFYING ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND FABRICATION.
9. SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER FOR REVIEW. CONTRACTOR SHALL REVIEW SHOP DRAWINGS PRIOR TO SUBMITTING TO ENGINEER.
10. CONTRACTOR IS RESPONSIBLE, UNRELIEVED BY THE REVIEW OF SHOP DRAWING OR FIELD OBSERVATIONS BY OTHERS, FOR THE COMPLIANCE OF THE CONTRACT DOCUMENTS, DIMENSIONS BETWEEN INDIVIDUALS OR SETS OF DRAWINGS, JOBSITE SAFETY AND CONSTRUCTION PROCEDURES, MEANS, METHODS, TECHNIQUES AND SEQUENCES.
11. DRAWINGS ARE NOT TO BE SCALED IN FIELD OR FROM ELECTRONIC FILES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER DRAWN DIMENSIONS. VERIFY ALL DISCREPANCIES AND CONFLICTING INFORMATION ON DRAWINGS WITH ENGINEER.

B. METAL STRUCTURES NOTES:

1. THE METAL STRUCTURES SHALL BE IN ACCORDANCE WITH METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) "DESIGN PRACTICE MANUAL".
2. COLUMNS SHALL BE FABRICATED FROM STRUCTURAL STEEL SQUARE TUBING SHAPE CONFORMING TO ASTM A500 WITH FY 46 KSI; ASTM A36 STRUCTURAL STEEL PLATE WITH MINIMUM YIELD STRENGTH OF 36 KSI WITH PRE–PUNCHED OR PRE–DRILLED BOLT HOLES SHALL BE USED FOR COLUMN TOP AND BASE PLATES. PLATES SHALL BE SIZED FOR REQUIRED LOADS, WITH A MINIMUM THICKNESS OF 1/2–INCH FOR TOP PLATES AND 3/4–INCH FOR BASE PLATES.
3. WIDE FLANGE BEAMS CONFORMING TO ASTM A992 WITH MINIMUM YIELD STRENGTH OF 50 THOUSAND POUNDS PER SQUARE INCH (KSI) SHALL BE USED AS THE PRIMARY ROOF– FRAMING MEMBERS. OTHER ROOF–FRAMING MEMBERS (CHANNEL, ANGLE, OR TEES), IF USED, SHALL CONFORM TO ASTM A36 WITH MINIMUM YIELD STRENGTH OF 36 KSI.
4. BRACING SHALL BE DESIGNED AS REQUIRED BY DESIGN. STRUCTURAL STEEL PLATE SHALL CONFORM TO ASTM A36 WITH MINIMUM YIELD STRENGTH OF 36 KSI. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325 SPECIFICATION FOR HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS.
5. ALL STRUCTURAL STEEL FRAMING MEMBERS SHALL BE SHOP FABRICATED FOR FIELD BOLTED ASSEMBLY, UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
6. ANCHOR RODS/BOLTS SHALL CONFORM TO ASTM A36, A307 OR F1554 GRADE 36 WITH MINIMUM YIELD STRENGTH OF 36 KSI. ANCHOR BOLT/ ROD SIZE SHALL BE IN ACCORDANCE WITH METAL BUILDING MANUFACTURER'S RECOMMENDATION AS SHOWN ON THE DRAWINGS. ANCHOR RODS/BOLTS SHALL BE PLACED WITH A MINIMUM PROJECTION OF 6–INCHES ABOVE TOP OF FOOTER OR AS RECOMMENDED BY METAL BUILDING MANUFACTURER. DOUBLE NUTS AND WASHERS SHALL BE PROVIDED WITH EACH ANCHOR ROD, WITH ONE SET TO BE USED FOR LEVELING COLUMN. GALVANIZED SHEET METAL TEMPLATES FOR SETTING ANCHOR RODS SHALL BE PROVIDED. TEMPLATES SHALL BE REMOVED PRIOR TO SETTING COLUMNS ON ANCHOR RODS/ BOLTS. ALL ANCHOR BOLTS SHALL BE CAST–IN–PLACE. POST INSTALLED ANCHORS WILL NOT BE ALLOWED.
7. ALL MATERIALS SHALL BE NEW, OF GOOD QUALITY AND WITHOUT DEFECTS. ALL MATERIALS SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD PRACTICES OF THE LATEST EDITIONS OF THE AISC MANUAL OF STEEL CONSTRUCTION, AISI SPECIFICATIONS FOR THE DESIGN OF COLD FORMED MEMBERS, AND ASTM A6 STANDARD SPECIFICATIONS FOR GENERAL REQUIREMENTS FOR ROLLED STEEL PLATES, SHAPES, SHEETS AND BARS FOR STRUCTURAL USE.
8. ALL STRUCTURAL STEEL FRAMING MEMBERS SHALL BE CLEANED TO REMOVE LOOSE MILL SCALE AND OTHER FOREIGN MATTER. AFTER CLEANING, ALL MEMBERS SHALL BE GIVEN ONE SHOP COAT OF RED–OXIDE RUST–INHIBITIVE PRIMER. THE PRIMER COAT THICKNESS SHALL BE A MINIMUM OF 1 MIL UNLESS SPECIFIED AS HOT–DIPPED GALVANIZED.

C. DESIGN CRITERIA:

1. BUILDING CODES AND STANDARDS:
   1.) INTERNATIONAL BUILDING CODE (IBC) 2018
   2.) AMERICAN CONCRETE INSTITUTE (ACI 318–19) STRUCTURAL CONCRETE
   3.) AMERICAN CONCRETE INSTITUTE (ACI 360–10) DESIGN OF SLABS ON GRADE
2. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7–16) MINIMUM DESIGN STANDARDS FOR BUILDINGS.
3. RISK CATEGORY: III
4. DESIGN LOADS:
   LIVE LOADS:

FLOOR (GROUND LEVEL):	100 PSF
STAIRS:	100 PSF
ELEVATED CATWALKS:	100 PSF
EQUIPMENT OPERATIONAL WEIGHT:	1000 PSF
ROOF	20 PSF

   RAILING: 50 PLF AND 250 LBS POINT LOAD

DEAD LOAD:	FLOOR=20 PSF
GROUND SNOW:	PG=5 PSF
WIND LOADS:	V=115 MPH
WIND EXPOSURE:	C

   SEISMIC DESIGN PARAMETERS:

IMPORTANCE FACTOR:	I=1.0
SEISMIC DESIGN CATEGORY:	A
SITE CLASS:	D
SEISMIC VALUES:	S_S= 0.051g
	S_1= 0.03g
	S_{DS}= 0.044g
	S_{D1}= 0.00g
DESIGN BASE SHEAR:	V=0.02W
RESPONSE MODIFICATION FACTOR:	R=3.0
RESPONSE COEFFICIENT:	CS=0.02
MATERIALS:	
CONCRETE SLAB:	f'c=4000 PSI

GENERAL STRUCTURAL NOTES:

D. FOUNDATION NOTES:

1. SELECT FILL AND COMPACTION REQUIREMENT SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT NO. 2019–923 PREPARED BY HOLT GEOTECHNICAL INC.
2. WITHIN THE FOOTPRINT OF THE CONCRETE PADS AND AT LEAST 2 FEET BEYOND THE PERIMETER WHERE POSSIBLE, REMOVE ALL ORGANICS, DELETERIOUS MATERIALS, AND ANY RELIC EXISTING UTILITIES.
3. SUBGRADE SHALL BE SCARIFIED A MINIMUM OF 6 INCHES AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED USING TXDOT TEST TEX–113–E. HOLD WATER CONTENTS WITHIN +/– 2% OF THE OPTIMUM WATER CONTENT AND MAINTAIN COMPACTED LIFT THICKNESS TO 6 INCHES OR LESS.
4. BRING THE SITE PAD TO DESIRED GRADE WITH A MINIMUM OF 8 INCHES OF SELECT CRUSHED STONE CONFORMING TO THE FOLLOWING CRITERIA:

   LIMESTONE DERIVATIVE SELECT FILL

SIEVE SIZE (INCHES)	PERCENT RETAINED
2–1/2"	0%
7/8"	5% – 50%
3/8"	25% – 65%
NO. 4	35% – 75%
NO. 40	60% – 90%

   MATERIAL IS PASSING THE NO. 40 SIEVE SHALL MEET THE FOLLOWING PLASTICITY REQUIREMENTS:

PASSING NO. 40 SIEVE	MAXIMUM PLASTICITY	MINIMUM PLASTICITY
25% – 40%	15	3
10% – 25%	20	4

5. COMPACT THE SELECT FILL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED USING TXDOT TEST METHOD TEX–113–E. HOLD WATER CONTENTS WITHIN ±2% OF OPTIMUM AND MAINTAIN COMPACTED LIFT THICKNESSES TO 6 INCHES OR LESS.
6. BEAM TRENCHES SHALL BE CUT DIRECTLY INTO COMPACTED SELECT FILL TO PLAN DIMENSIONS AND SACKING OF TRENCHES WILL BE PERMITTED FOR INSIDE OF PERIMETER OF BEAMS. IN THE CASE SACKING IS USED, DENSITY TESTING WILL NOT BE PERMITTED WITHIN 4 FEET OF PERIMETER BEAM FACE.
7. ALL FOUNDATION EXCAVATIONS SHALL BE EXTENDED TO FINAL GRADE AND FOOTINGS OR GRADE BEAMS CONSTRUCTED AND POURED AS SOON AS POSSIBLE TO MINIMIZE POTENTIAL DAMAGE DUE TO WETTING OF DRYING TO BEARING SOILS. FOUNDATION CONCRETE SHOULD NOT BE PLACED ON SOILS THAT HAVE BEEN DISTURBED BY RAINFALL OR SEEPAGE WITHOUT PRIOR INSPECTION OR REMEDIATION ACTIONS ARE TAKEN.
8. SUBGRADE FOR THE WET WELL STRUCTURE SHALL BE PREPARED PER ITEM #3 IN THIS SECTION.
9. PLACE A 12 IN THICK LAYER OF 1 IN WASHED GRAVEL OR CRUSHED ROCK TO SERVE AS LEVELING PAD FOR THE WET WELL MAT SLAB.
10. EXTERIOR OF THE WET WELL SHALL BE BACKFILLED WITH A CLEAN ONSITE LOW P.I. MATERIAL OR WELL GRADED SELECT FILL AND COMPACTED IN 8 INCH LIFTS TO MAINTAIN A MINIMUM OF 95% OF THE OPTIMUM DRY WEIGHT IN ACCORDANCE WITH TXDOT TEST TEX–113–E. AS AN ALTERNATIVE TO ONSITE SOILS OR SELECT FILL. THE EXCAVATION MAY BE BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM).

E. STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM AS FOLLOWS UNLESS NOTED OTHERWISE:
   a. ROLLED SHAPES: ASTM A992 GRADE 50 (50KSI)
   b. PLATES, ANGLES & CHANNELS: ASTM A36 (36KSI)
   c. RECTANGULAR AND SQUARED HSS: ASTM A500 GRADE B (46KSI)
   d. ANCHOR RODS: ASTM F554 GRADE 55 (55KSI)
2. WELDS SHALL BE E70XX ELECTRODES AND CONFORM TO AWS D1.1.
3. BOLTS SHALL BE MINIMUM OF 3/4" DIAMETER AND CONFORM TO ASTM A325.
4. GALVANIZING SHALL CONFORM TO ASTM A123.
5. ALL STEEL AND DETAILS SHALL BE DETAIL AND ERECTED IN ACCORDANCE WITH THE CURRENT APPLICABLE CODES AND AISC STANDARDS.
6. STEEL CONTRACTOR TO PROVIDE SHOP DRAWINGS TO ENTAIL ERECTION PLANS, MEMBER SIZE, MARKS, FABRICATION AND ASSEMBLY DETAILS. CONTRACTOR SHALL REVIEW SHOP DRAWINGS BEFORE SUBMITTING FOR ENGINEER'S REVIEW.
7. ALL WELDS SHALL BE CONTINUOUS FILLET WELDS OF MINIMUM 3/16" SIZE UNLESS NOTED OTHERWISE.
8. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH CHROMATE AND LEAD–FREE RUST INHIBITIVE METAL PRIMER AND PAINTED. SUBMIT PRODUCT SPECIFICATIONS TO ENGINEER FOR REVIEW.
9. SPLICING OF STEEL MEMBERS IS NOT PERMITTED UNLESS SPECIFIED AND APPROVED BY ENGINEER.
10. CUTTING AND BURNING HOLES IN THE STEEL MEMBERS IN FIELD IS NOT PERMITTED UNLESS APPROVED BY ENGINEER.
11. HIGH STRENGTH NON–SHRINK LEVELING GROUT SHALL BE PROVIDED AT ALL STEEL BEARING LOCATIONS ON CONCRETE TO ENSURE PROPER UNIFORM BEARING.

GENERAL STRUCTURAL NOTES:

F. CONCRETE NOTES:

1. DESIGN SHALL CONFORM TO CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES (ACI–350–01) AND THE AMERICAN CONCRETE INSTITUTE (ACI 318). ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 301 SPECIFICATIONS AND ACI 315 MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE. PROVIDE METAL CHAIRS AT ALL BEAMS AND SLABS NOT EXCEEDING MORE THAN 4'–0" IN ANY DIRECTION.
2. ALL REINFORCING BARS SHALL CONFORM TO ASTM A–615, GRADE 60. ARRANGEMENT AND DETAILS OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH LATEST ACI DETAILING MANUAL, UNLESS OTHERWISE NOTED.
3. ALL SLAB AND BEAM REINFORCEMENT SHALL HAVE A MINIMUM EXTENSION INTO SUPPORT IN ACCORDANCE WITH ACI CODE (ACI–318–14). WHERE EXTENSION IS NOT POSSIBLE, BARS SHALL TERMINATE IN STANDARD HOOKS.
4. HORIZONTAL WALL REINFORCEMENT AND TEMPERATURE REINFORCEMENT SHALL LAP A MINIMUM OF 1.3Ld AT SPLICES. WALL DOWELS AND WALL BAR EXTENSIONS AND ALL STRESS SPLICES SHALL LAP A MINIMUM OF 1.3Ld, UNLESS OTHERWISE NOTED.
5. UNLESS NOTED OTHERWISE, CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL NOT BE LESS THAN THE FOLLOWING:

FOUNDATIONS SLAB AND GRADE BEAMS–	4,000 PSI CLASS S–5
MAXIMUM WATER/CEMENT RATIO–	0.40
CONCRETE SLUMP RANGE–	2"–4"
AIR ENTRAINED CONTENT–	4% ±1.5%

6. FURNISH MIX DESIGNS FOR ALL CLASSES OF CONCRETE, RETAIN A QUALIFIED TESTING LABORATORY TO TAKE CONCRETE CYLINDER SAMPLES AND PERFORM COMPRESSIVE TESTS. A MINIMUM OF THREE CYLINDERS SHALL BE TAKEN PER 50 CUBIC YARDS OF CONCRETE WITHIN ONE TEST AT 7 DAYS AND TWO TESTS AT 28 DAYS.
7. AT GRADE BEAM CORNERS AND "T" INTERSECTIONS, EXTEND 4 CORNER BARS EQUAL TO THE SCHEDULED STEEL IN THE ADJACENT BEAMS 2'–0" EACH WAY, 2 BARS TOP AND BOTTOM.
8. UNLESS NOTED OTHERWISE, COVER FOR REINFORCING STEEL IN CAST–IN–PLACE CONCRETE SHALL BE AS FOLLOWS.

   FOUNDATIONS:

TOP AND FORMED SIDE SURFACES	2"
BOTTOM SURFACES CAST AGAINST A SEAL SLAB	2"
BOTTOM AND SIDE SURFACES CAST AGAINST EARTH	3"

   SLABS:

TOP OF WALK AND DRIVEWAY SLABS	2"
BOTTOM SURFACES CAST AGAINST A SEAL SLAB	2"
FORMED SIDE SURFACES	2"
BOTTOM AND SIDE SURFACES CAST AGAINST EARTH	3"

   BEAMS:

STIRRUPS, SPIRALS, AND TIES	2"
PRIMARY REINFORCEMENT	2–1/2"

   LAP SPLICE SCHEDULE:

BAR SIZE	LAP LENGTH
#3	18"
#4	24"
#5	30"
#6	36"

9. HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS ARE RECOMMENDED WHERE INDICATED IN PLAN. ANY DEVIATION FROM THOSE SHOWN SHALL HAVE APPROVAL OF ENGINEER.
10. PROVIDE SAW–CUT CONTROL JOINTS IN ALL SLABS AT A SPACING NOT TO EXCEED 8'–0" EACH WAY. JOINT DEPTH SHALL BE A MINIMUM OF 1/4 THE SLAB THICKNESS. CUTTING SHALL TAKE PLACE IMMEDIATELY AFTER CONCRETE FINISHING AND NOT DIRECTLY LOCATED ABOVE OR IN–LINE WITH A GRADE BEAM.
11. PROVIDE SELF–LEVELING, ONE PART POLYURETHANE JOINT SEALANT CONFORMING TO ASTM C–920 FOR ALL HORIZONTAL SAW–CUT JOINTS.
12. CONCRETE PLACED BY PUMPING SHALL MEET THE REQUIREMENTS OF ACI 301 AND FREE FALL DURING PLACEMENT LIMITED TO LESS THAN 5 FEET.
13. ANY STOP IN FRAMED CONCRETE WORK MUST BE MADE IN CENTER OF SPAN AND INCORPORATE AN APPROVED KEYWAY. REINFORCEMENT SHALL EXTEND THROUGH THESE JOINTS IF REQUIRED FOR CONTINUITY.
14. ALL CONCRETE SLABS OVER 8" IN THICKNESS, REINFORCED WITH BARS, AND POURED AGAINST SOIL SHALL BE POURED IN A STRIP PATTERN OF 40 FEET OR LESS IN EACH DIRECTION.
15. ALL EXPOSED EDGES OF BEAMS, COLUMNS, SLABS, AND WALLS SHALL BE CHAMFERED 3/4" UNLESS MASONRY OR OTHER MEMBERS ARE ERECTED FLUSH WITH THEM.
16. REFER TO PROCESS, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL SLEEVES, PIPES, CONDUITS, AND MISCELLANEOUS ANCHORING DEVICES TO BE INCORPORATED IN CONSTRUCTION.
17. SHOP DRAWINGS SHALL BE PREPARED FOR ALL CLASSES OF REINFORCING STEEL AND SUBMITTED FOR REVIEW BY THE ENGINEER. ENGINEER'S REVIEW WILL COVER BAR SIZES AND GENERAL ARRANGEMENTS BUT NOT DIMENSIONS OR QUANTITIES. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
18. FACTORY HOT–DIP GALVANIZE ALL EMBEDDED STEEL ITEMS.
19. PROVIDE KEYWAYS WITH WATERSTOPS AT ALL POINTS WHERE FUTURE CONSTRUCTION IS TO TIE IN AS INDICATED BY OVERALL PLOT PLAN. ALL REBAR THAT IS TO CROSS JOINTS IS TO BE CONTINUED THROUGH USE OF APPROPRIATE SIZE THREADED COUPLERS INSTALLED FLUSH WITH FACE OF KEYED JOINT AND PROTECTED BY APPLYING GREASE TO A THREADED PLASTIC PLUG PRIOR TO POURING CONCRETE. CARE SHOULD BE TAKEN TO PREVENT GREASE FROM COMING INTO CONTACT WITH EXTERIOR SURFACES OF COUPLING, WHICH WOULD PREVENT BONDING. USE ONLY COUPLINGS WHICH DEVELOP FULL STRENGTH OF BAR BEING COUPLED. PROVIDE TEST RESULTS FROM MANUFACTURER PRIOR TO INSTALLATION. USE 'LENTON' OR 'RICHMOND' COUPLERS.

WESTON SOLUTIONS, INC.
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

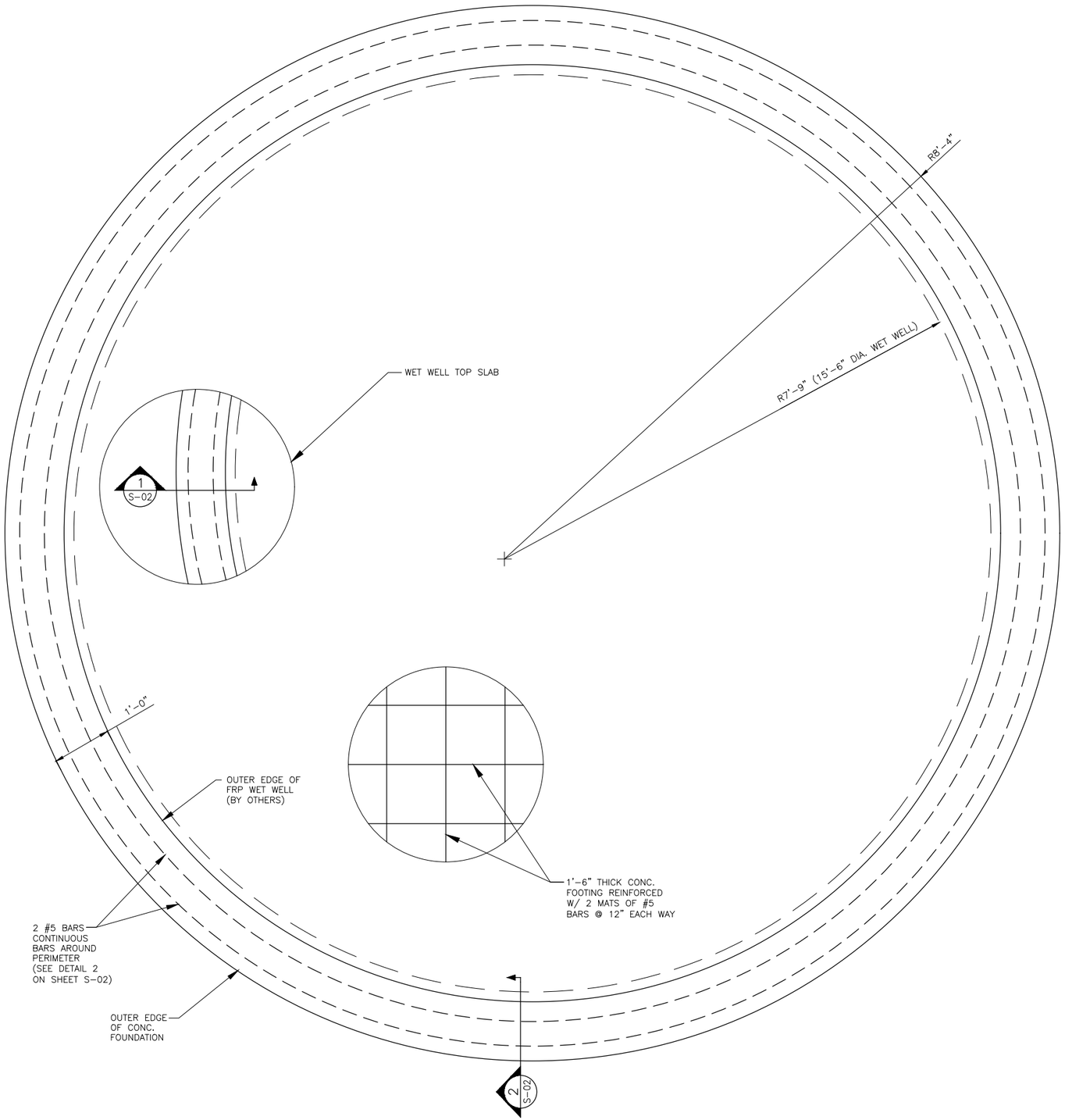
CAT HOLLOW STRUCTURAL GENERAL NOTES

WESTON SOLUTIONS, INC.
STATE OF TEXAS
JAVIER E. MARTIN
98341
LICENSED PROFESSIONAL ENGINEER
F–003125
The seal appearing on this document was authorized by Javier E. Martin, P.E. 98341 on 11–08–2023

08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	JM
Seq.	30 of 46
Dwg. No.	S–01
WON:	15960.001.001.2000

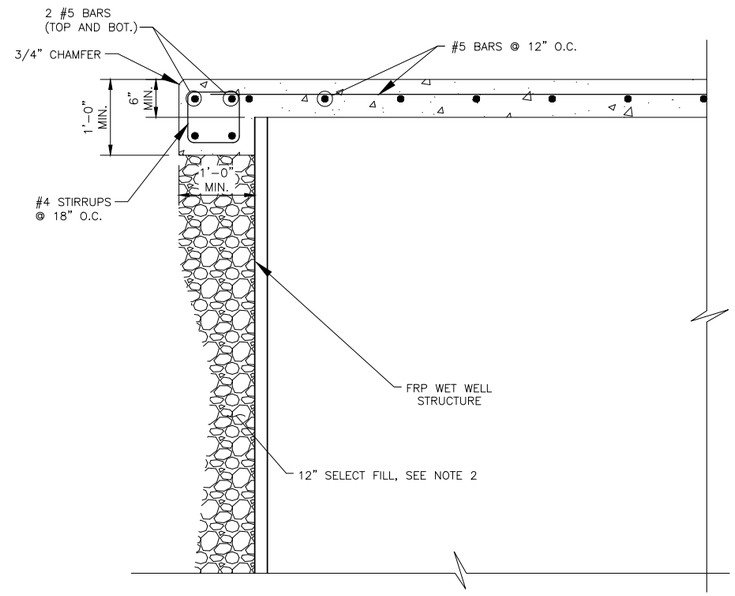


WET WELL TOP, SLAB, AND MAT FOOTING PLAN VIEW

SCALE: 1" = 1'-0"

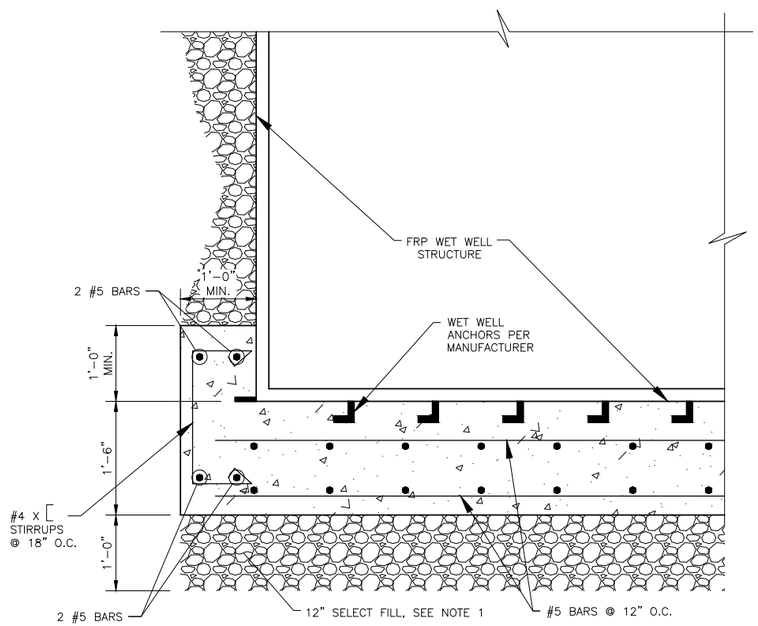
0 6" 1' 2' 3'

NOTE:
1. REFER TO SHEET S-01 FOR GENERAL STRUCTURAL NOTES.



1/S-02 TOP WET WELL SECTION DETAIL

SCALE: 1" = 1'-0"



NOTES:

1. PREPARE SUBGRADE PER ITEMS 3 AND 4 ON FOUNDATION GENERAL NOTES ON SHEET S-01, AND PROVIDE A MINIMUM OF 12" OF COMPACTED SELECT FILL.
2. PROVIDE BACKFILL PER ITEMS 9, 10, AND 11 ON FOUNDATION GENERAL NOTES ON SHEET S-01.

2/S-02 EDGE SECTION THRU BOTTOM WET WELL DETAIL

SCALE: 1" = 1'-0"

WESTON SOLUTIONS, INC.
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW TOP SLAB AND MAT FOUNDATION PLAN AND SECTIONS

WESTON SOLUTIONS, INC. STATE OF TEXAS JAVIER E. MARTIN 98341 LICENSED PROFESSIONAL ENGINEER F-003125

The seal appearing on this document was authorized by Javier E. Martin, P.E. 98341 on 11-08-2023

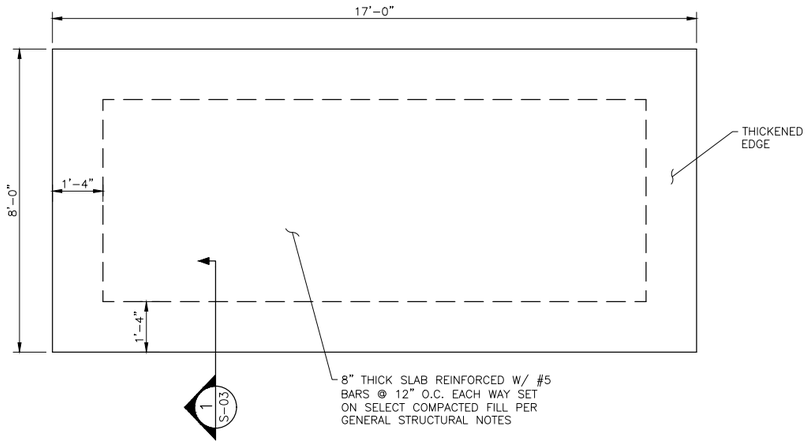
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.

ONE INCH

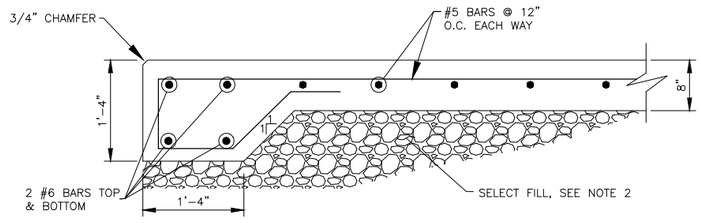
DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	JM
Seq.	31 of 46
Dwg. No.	S-02
WON:	15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\S-01-S-05.dwg Nov 08,2023 - 10:08am PASATIED



VALVE PAD FOUNDATION PLAN VIEW

SCALE: 1/2" = 1'-0"

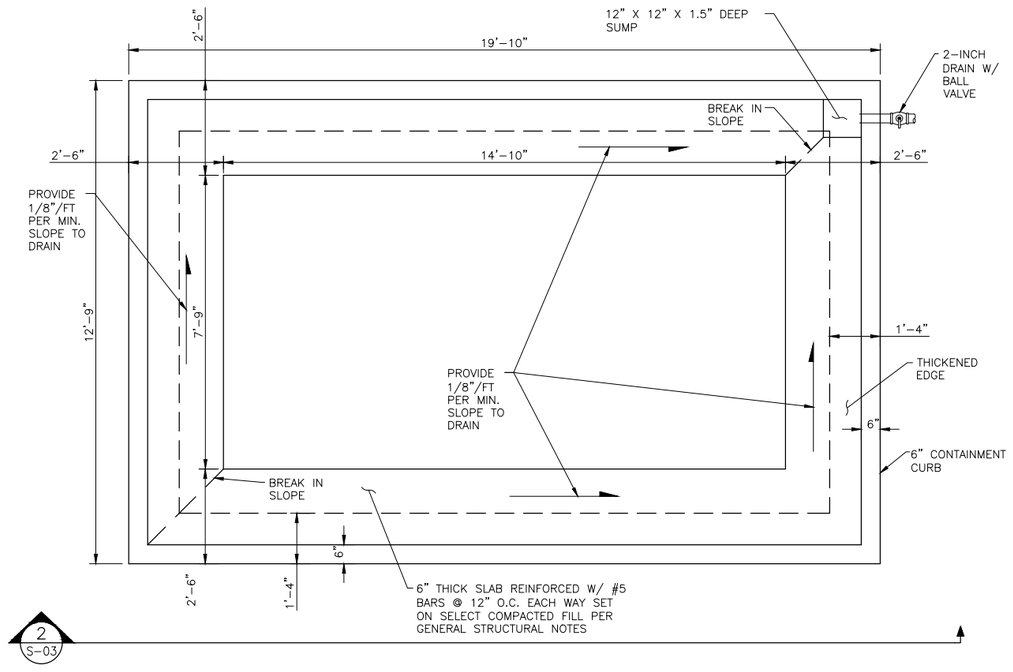


1 S-03 THICKENED EDGE DETAIL

SCALE: 1" = 1'-0"

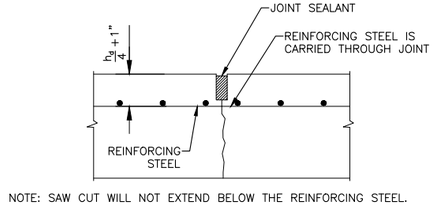
NOTES:

1. REFER TO SHEET S-01 FOR GENERAL STRUCTURAL NOTES.
2. PREPARE SUBGRADE PER ITEMS 3 AND 4 ON FOUNDATION GENERAL NOTES ON SHEET S-01.
3. CONTRACTOR SHALL SET MANUFACTURER REQUIRED STRUCTURAL BLOCK FOR PREFABRICATED METAL CANOPY PRIOR TO POURING CONCRETE PAD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S APPROVAL.



GENERATOR PAD FOUNDATION PLAN VIEW

SCALE: 1/2" = 1'-0"

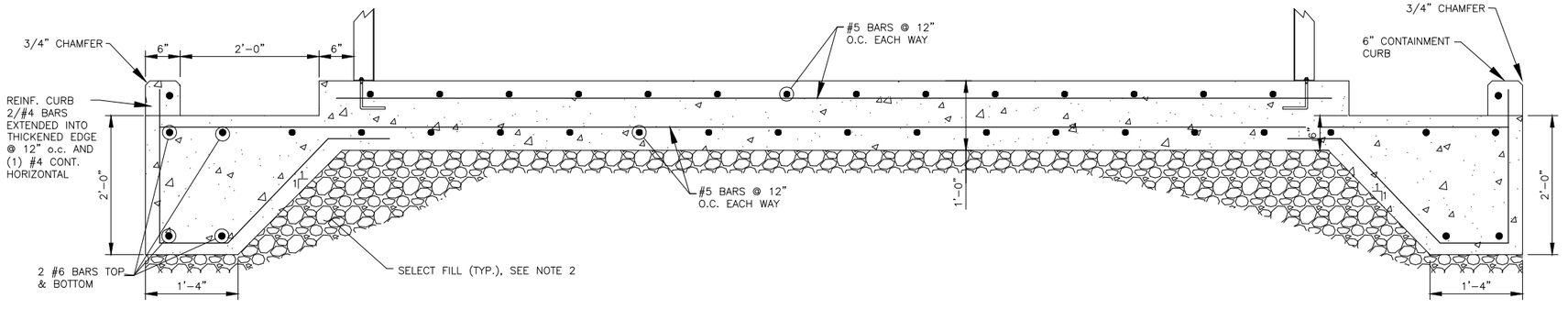


NOTE: SAW CUT WILL NOT EXTEND BELOW THE REINFORCING STEEL.

LONGITUDINAL

3 S-03 CONTRACTION JOINT DETAIL

SCALE: NTS



2 S-03 GENERATOR PAD CROSS SECTION

SCALE: 1" = 1'-0"

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW VALVE AND GENERATOR PAD
PLANS AND SECTIONS

WESTON SOLUTIONS, INC.
STATE OF TEXAS
JAVIER E. MARTIN
98341
LICENSED PROFESSIONAL ENGINEER
F-003125
The seal appearing on this document was authorized by Javier E. Martin, P.E. 98341 on 11-08-2023

08 NOVEMBER 2023

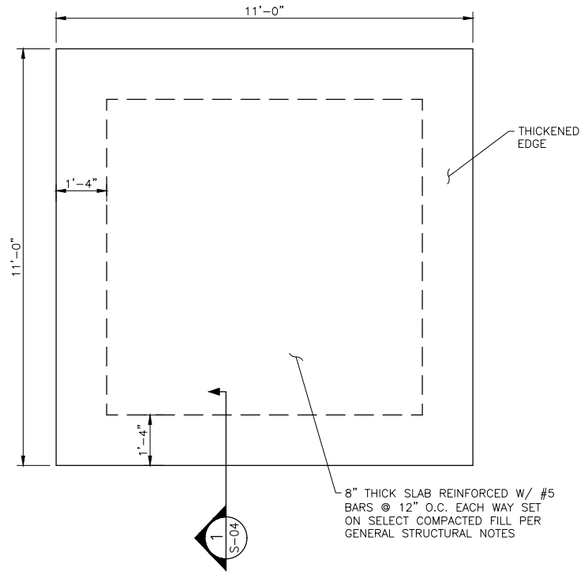
BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED MR
DRAWN SS
CHECKED MR
REVIEWED JM
Seq. 32 of 46
Dwg. No. S-03
WON: 15960.001.001.2000

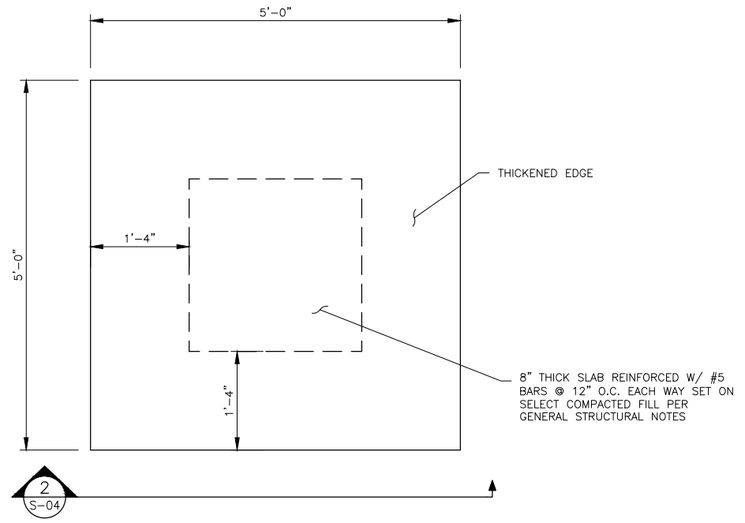
C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Daveh\BRUSHY-CREEK\S-01-S-05.dwg Nov 08,2023 - 10:08am PASATIED

NOTES:

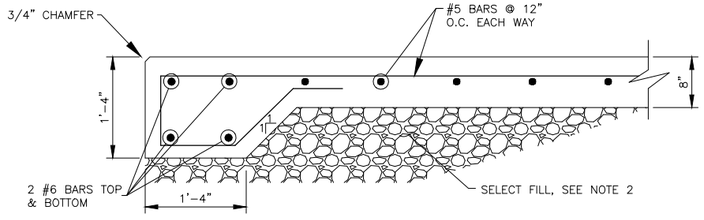
1. REFER TO SHEET S-01 FOR GENERAL STRUCTURAL NOTES.
2. PREPARE SUBGRADE PER ITEMS 3 AND 4 ON FOUNDATION GENERAL NOTES ON SHEET S-01.
3. PROVIDE PREMANUFACTURED METAL CANOPY TO COVER ELECTRICAL EQUIPMENT ON THE FOUNDATION PAD. CANOPY TO BE DESIGNED PER DESIGN CRITERIA PROVIDED ON SHEET S-01. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR WESTON'S REVIEW PRIOR TO FABRICATION.
4. CONTRACTOR SHALL SET MANUFACTURER REQUIRED STRUCTURAL BLOCK FOR PREFABRICATED METAL CANOPY PRIOR TO POURING CONCRETE PAD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S APPROVAL.



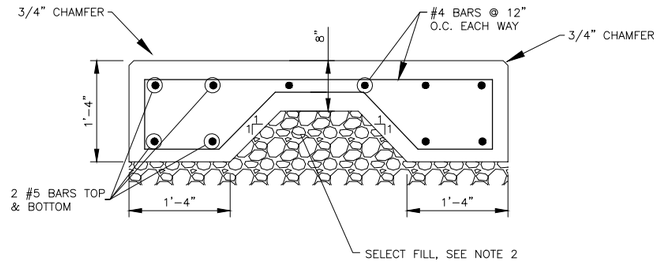
ELECTRICAL EQUIPMENT PAD FOUNDATION PLAN VIEW
SCALE: 1/2" = 1'-0"



ODOR CONTROL PAD FOUNDATION PLAN VIEW
SCALE: 1" = 1'-0"



1 S-04 THICKENED EDGE DETAIL
SCALE: 1" = 1'-0"



2 S-04 THICKENED EDGE DETAIL
SCALE: 1" = 1'-0"

WESTON SOLUTIONS
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

CAT HOLLOW ELECTRICAL AND ODOR CONTROL PAD
PLAN AND SECTIONS

WESTON SOLUTIONS INC
STATE OF TEXAS
JAVIER E. MARTIN
98341
LICENSED PROFESSIONAL ENGINEER
F-003123
The seal appearing on this document was authorized by Javier E. Martin, P.E. 98341 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

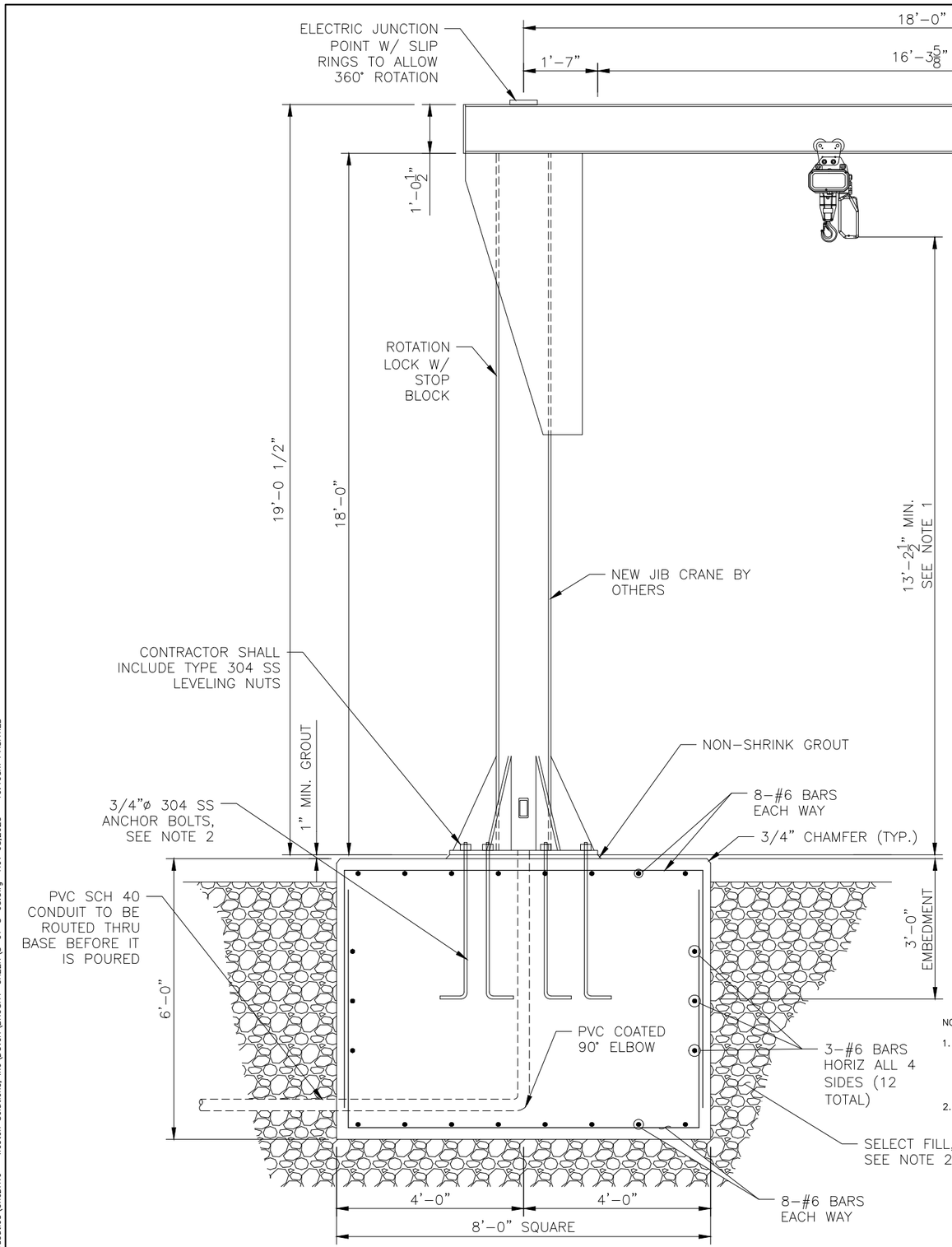
DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	JM

Seq. 33 of 46

Dwg. No. S-04

WON: 15960.001.001.2000

C:\Users\pasatied\OneDrive - Weston Solutions, Inc\Dave\BRUSHY-CREEK\S-01-S-05.dwg Nov 08,2023 - 10:09am PASATIED



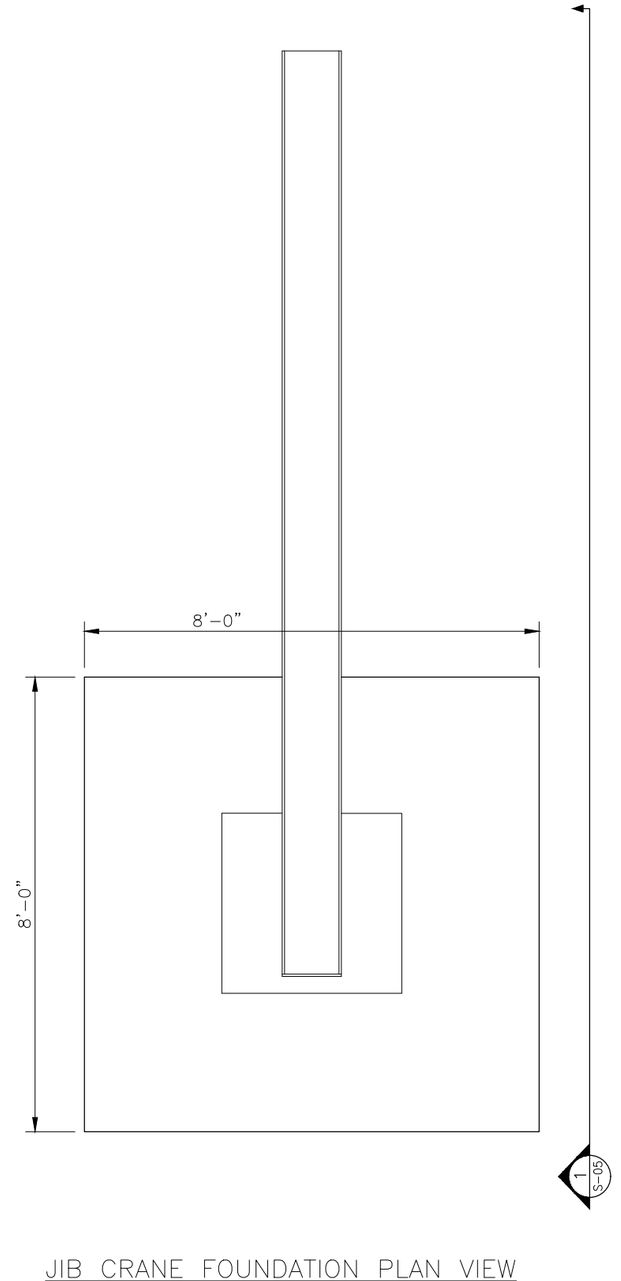
1 S–05 JIB CRANE PAD FOUNDATION SECTION VIEW

SCALE: 3/4" = 1'-0"

0 6" 1' 2' 3' 4'

NOTES:

1. HEIGHT OF JIB CRANE SHALL PROVIDE A MINIMUM REACH TO ALLOW THE LOADING OF PUMP ONTO THE BACK OF A PICKUP. ASSUME A MINIMUM OF 6'–0".
2. CONTRACTOR SHALL COORDINATE WITH THE JIB CRANE MANUFACTURER FOR REQUIRED NUMBER AND DIAMETER OF ANCHOR BOLTS.



JIB CRANE FOUNDATION PLAN VIEW

SCALE: 3/4" = 1'-0"

0 6" 1' 2' 3' 4'

NOTES:

1. REFER TO SHEET S–01 FOR GENERAL STRUCTURAL NOTES.
2. PREPARE SUBGRADE PER ITEMS 3 AND 4 ON FOUNDATION GENERAL NOTES ON SHEET S–01.

WESTON SOLUTIONS, INC.
FIRM REGISTRATION No. 3123
5301 SOUTHWEST PARKWAY, SUITE 450
AUSTIN, TEXAS 78735
PHONE: 512-451-7100
FAX: 512-451-7101

NO.	DATE	REVISION	BY
A	11/8/23	100% SUBMITTAL	MR

BRUSHY CREEK
M.U.D.

BRUSHY CREEK
MUNICIPAL UTILITY DISTRICT

JIB CRANE FOUNDATION, PLAN AND SECTION

WESTON SOLUTIONS INC. STATE OF TEXAS JAVIER E. MARTIN 98341 LICENSED PROFESSIONAL ENGINEER F-003125
The seal appearing on this document was authorized by Javier E. Martin, P.E. 98341 on 11-08-2023
08 NOVEMBER 2023

BAR IS ONE INCH ON ORIGINAL DRAWING.
ONE INCH

DESIGNED	MR
DRAWN	SS
CHECKED	MR
REVIEWED	JM
Seq.	34 of 46
Dwg. No.	S–05
WON:	15960.001.001.2000