WATER POLLUTION ABATEMENT PLAN

SE INNER LOOP INDUSTRIAL
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

Prepared For:

BUILDING PLASTICS INC.

3263 Sharpe Ave
Memphis, TN 38111

Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

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(512) 646-2237

Firm No. 928
KHA Project No. 064316046

11/07/2023

Table of Contents

SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: SE Inner Loop Industrial						2. Regulated Entity No.:			
3. Customer Name: Building Plastics, Inc.						4. Customer No.:			
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):			9.441
9. Application Fee:	$5,000		10. Permanent BMP(s):			Batch Detention			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):			N/A			
13. County:	Williamson		14. Watershed:			Granger Lake-San Gabriel River			

Application Distribution

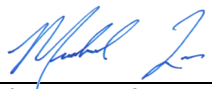
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which 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 X_Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	__	__	__	__	__
Region (1 req.)	__	__	__	__	__
County(ies)	__	__	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	__Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Michael Lee, PE
Print Name of Customer/Authorized Agent
 11/07/2023
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):	

SECTION 2:
GENERAL INFORMATION

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: Michael Lee, PE

Date: 11/07/2023

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: SE Inner Loop Industrial
2. County: Williamson
3. Stream Basin: San Gabriel
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: Wally McAlexander
   Entity: Building Plastics, Inc.
   Mailing Address: 3263 Sharpe Avenue
   City, State: Memphis, TN Zip: 38111
   Telephone: (901) 745-6351 FAX: (901) 745-6344
   Email Address: wmcalexander@bpiteam.com

8. Agent/Representative (If any):

   Contact Person: Michael Lee, PE
   Entity: Kimley-Horn & Associates
   Mailing Address: 5301 Southwest Pkwy, Bldg 2, Ste 100
   City, State: Austin Zip: 78735
   Telephone: (512) 646-2237 FAX: _____
   Email Address: michael.lee@kimley-horn.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown, TX.
   ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
   ☐ The project site is not located within any city's limits or ETJ.

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

    The 9.441-acre site is located off SE Inner Loop, within the City of Georgetown.
    Williamson County tax parcel R518943

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: 12/25/2023

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

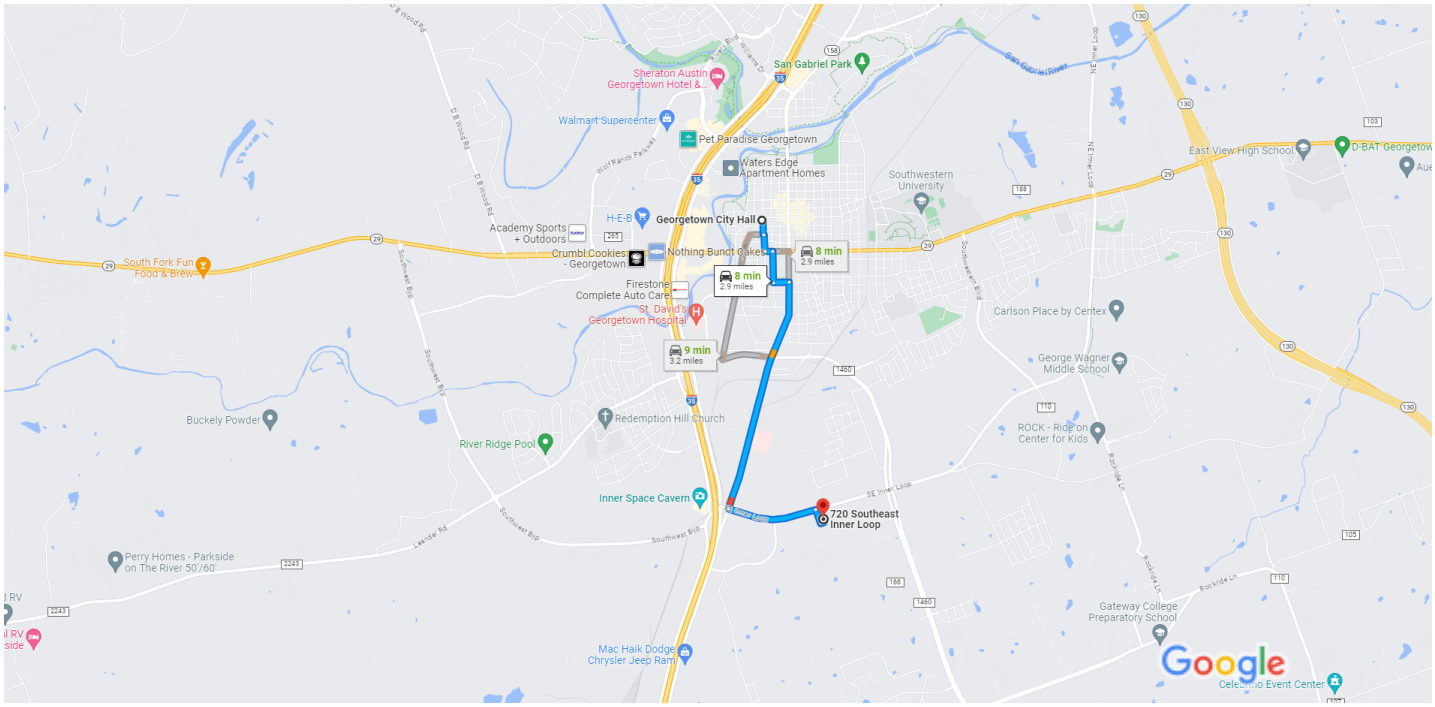
21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

ATTACHMENT A: Road Map

Google Maps

Georgetown City Hall, 808 Martin Luther King Jr St, Georgetown, TX 78626 to 720 SE Inner Loop, Georgetown, TX 78626

Drive 2.9 miles, 8 min



Map data ©2023 Google 2000 ft

via S Austin Ave Fastest route now due to traffic conditions	8 min 2.9 miles
via S Austin Ave and SE Inner Loop	8 min 2.9 miles
via Railroad Ave and S Austin Ave	9 min 3.2 miles

Explore nearby 720 SE Inner Loop

Restaurants Hotels Gas stations Parking Lots More

Kimley»Horn

ATTACHMENT B: USGS Edwards Recharge Zone Map

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

The National Map US Topo

ROUND ROCK QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE SERIES

SITE LOCATION

GEORGETOWN
ROUND ROCK
BRUSHY CREEK
CEDAR PARK

South Fork San Gabriel River
West Fork Brushy Branch
Rabbit Hill
Soil Conservation Service Site 10a Reservoir
Soil Conservation Service Site 10b Reservoir
Soil Conservation Service Site 11 Reservoir
Soil Conservation Service Site 13a Reservoir
Soil Conservation Service Site 17 Reservoir
Chandler Branch
Onion Branch
Brushy Creek
Lake Creek
Dry Branch
Walsh Lake
Mankins Creek

Georgetown Behavioral Health Institute
Christ Lutheran Church Memorial Garden
Saint Johns Cem
Union Hill Cem
Texas State University at Round Rock
Austin Community College - Round Rock Campus
Harrell Cem
Round Rock Cem
Slave Cem
Hopewell Cem
Garden Of The Saints Columbarium
Saint Richards Episcopal Memorial Garden
Palm Valley Cem
Ganzert Family Cem
Tri-modal Air Park

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R

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

Imagery.....NAIP, September 2016 - November 2016
Roads..... U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2023
Hydrography.....National Hydrography Dataset, 2002 - 2020
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2021 - 2022

Wetlands.....FWS National Wetlands Inventory Not Available

MN
GN
3°17′ 58 MILS
0°40′ 12 MILS
UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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

SCALE 1:24 000

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

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

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

TEXAS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Leander NE
2 Georgetown
3 Weir
4 Leander
5 Hutto
6 Jollyville
7 Pflugerville West
8 Pflugerville East
ADJOINING QUADRANGLES

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

ROUND ROCK, TX
2023

NSN 7643016398009
NGA REF NO.USGSX24K71453

Kimley»Horn

ATTACHMENT C: Project Description

Summary of Development
The project proposes to construct an industrial warehouse along with new utility connections, two driveway connections and a stacked water quality and detention pond.

Subdivision
The site is composed of one Williamson County tax parcel (R518943). The property qualifies for a Plat Certification Letter under the exemption listen in UDC 3.80.020.B, “A division of land into parts greater than five acres, where each part has at least 25 feet of frontage on a public street and no public improvement, including right-of-way, easement, or physical improvement, including right-of-way, easement, or physical improvement of any kind intended for public use, is proposed.”

Zoning
The site is in Williamson County and the City of Georgetown. The zoning is classified as Business Park. The site has an impervious cover ratio of 62% with a maximum allowable impervious cover of 63%.

Existing Drainage
The site consists of two on-site drainage areas (EX-1 and EX-2) and three off-site drainage areas (OFF-1, OFF-2, and OFF-3) with two points of analysis (POA-1 and POA-2).

Existing drainage area OFF-2 contains the proposed area draining to the detention pond proposed in the Blue Springs Business Park development (SP-2021-58-SDP). This pond outfalls in the existing channel in the south side of our site then flows to Point of Analysis 1.

Drainage Areas EX-2, OFF-1, and OFF-3 all flow to the SE Inner Loop Right of Way north of our site. These areas contribute 52.51-cfs of flow in the 100-yr condition to the culvert along SE Inner Loop analyzed as Point of Analysis 2.

Proposed Drainage & Detention
The site proposes more impervious cover and higher flow rates than in existing conditions; therefore detention will be required. Additionally, this site is located in the Edwards Aquifer Recharge Zone, therefore stormwater treatment will be required by the Texas Commission on Environmental Quality (TCEQ).

Proposed drainage areas DA-1 and OFF-1 will flow to the proposed on-site stacked water quality and detention pond, where the proposed impervious cover will be treated and flows will be detained to match existing conditions. This pond outfalls at Point of Analysis 1, and uses flow spreaders to spread the flow back to existing conditions.

Drainage Areas DA-2 and OFF-2 have no increased flow rate, or additional impervious cover than in existing conditions therefore detention and water quality will not be required. These areas bypass the proposed pond and outfall at Point of Analysis 1.

Drainage Areas DA-3 and OFF-3 flow to the culvert in the SE Inner Loop Right of Way north of our site labeled Point of Analysis 2. The flow rates to this culvert in proposed conditions do not exceed existing conditions.

Water Quality

Detention and Water Quality are required per City of Georgetown and Texas Commission of Environmental Quality (TCEQ). The site proposes one stacked water quality batch system and detention pond that detains and treats 5.58-acres of impervious cover from Drainage Area DA-1. The water quality pond will be designed to treat 85% TSS as required by the City of Georgetown. The total capture volume required by the City of Georgetown for this development is 21,439 cubic feet. A 30" diameter smartpond trash screen with perforated riser will treat this volume of stormwater. In a 48-hour period this flow will then outfall through a 6" smartpond outfall valve at Point of Analysis 1.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include a silt fence, tree protection, inlet protection, rock berm, and a stabilized construction entrance designed to City of Georgetown criteria. An erosion control plan has been included with the site construction plans.

SECTION 3:
GEOLOGIC ASSESSMENT

Geologic Assessment for the SE Inner Loop Industrial Project

City of Georgetown, Williamson County, Texas

JANUARY 2023
AMENDED NOVEMBER 2023

PREPARED FOR

Building Plastics, Inc.

PREPARED BY

SWCA Environmental Consultants

Texas Board of Professional Geoscientists, Firm Registration No. 50159

GEOLOGIC ASSESSMENT FOR THE SE INNER LOOP INDUSTRIAL PROJECT

GEORGETOWN, WILLIAMSON COUNTY, TEXAS

Prepared for

Building Plastics, Inc.
3263 Sharp Avenue
Memphis, TN, 38111

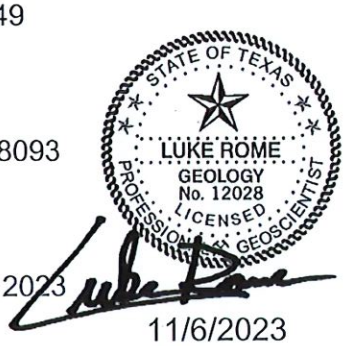
Prepared by

Luke Rome, P.G.
Ben Dilly, P.G.
Phil Pearce, P.G.

SWCA Environmental Consultants
Texas Board of Professional Geoscientists, Firm Registration No. 50159
4407 Monterey Oaks Boulevard
Building 1, Suite 110
Austin Texas 78749
www.swca.com

SWCA Project No. 78093

January 2023
Amended November 2023



11/6/2023

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CONTENTS

Appendices

Figures

Tables

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1 INTRODUCTION

The Client proposes development on a 9.48-acre property located off of SE Inner Loop in Georgetown, Williamson County, Texas. The limits of the site Geologic Assessment (project area) lie within the Edwards Aquifer Recharge Zone (EARZ).

It is SWCA's understanding that the total project disturbance is to-be-determined based upon the final design. SWCA Environmental Consultants (SWCA) was contracted to conduct a geologic assessment of the project area and prepare this geologic assessment report. This narrative geologic assessment report accompanies the Texas Commission on Environmental Quality (TCEQ) geologic assessment form TCEQ-0585 completed for the project in the City of Georgetown, Williamson County, Texas.

2 METHODOLOGY

Prior to conducting the geological assessment field survey, SWCA scientists studied documents pertaining to known caves within the vicinity of the project area in an attempt to gather information related to documented caves (unpublished data related to SWCA et al. 2008 and other area projects). SWCA also examined aerial photography (current and historic), U.S. Geological Survey (2019) topographic maps, mapped fault lines, and project area geology.

SWCA scientists conducted the field survey on December 22, 2022. The field survey was completed by walking parallel transects spaced approximately 50 feet apart as directed by the TCEQ (2004) in the *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (Rev. 10-01-04). Closer spacing was used where vegetation inhibited clear observation. The SWCA geologist carefully examined all potential karst features for subsurface extent, including depressions, holes, and animal burrows. SWCA used several techniques for this effort, including probing with a digging implement to determine the thickness and consistency of fill material and feeling for air flow, which may indicate the presence of a sub-surface void space. Other techniques included recording notable feature characteristics, such as vegetation types or a semi-circular burrow mound produced by small mammal activity.

3 RESULTS

3.1 Project Overview

The project area is within the Recharge Zone of the Northern Segment of the Edwards Aquifer (TCEQ 2022). The project area consists a rural property that is cleared and mowed on the western portion. Scrub-shrub brush is present on the eastern portion of the project area. The elevation of the project area ranges from approximately 760 to 780 feet above mean sea level.

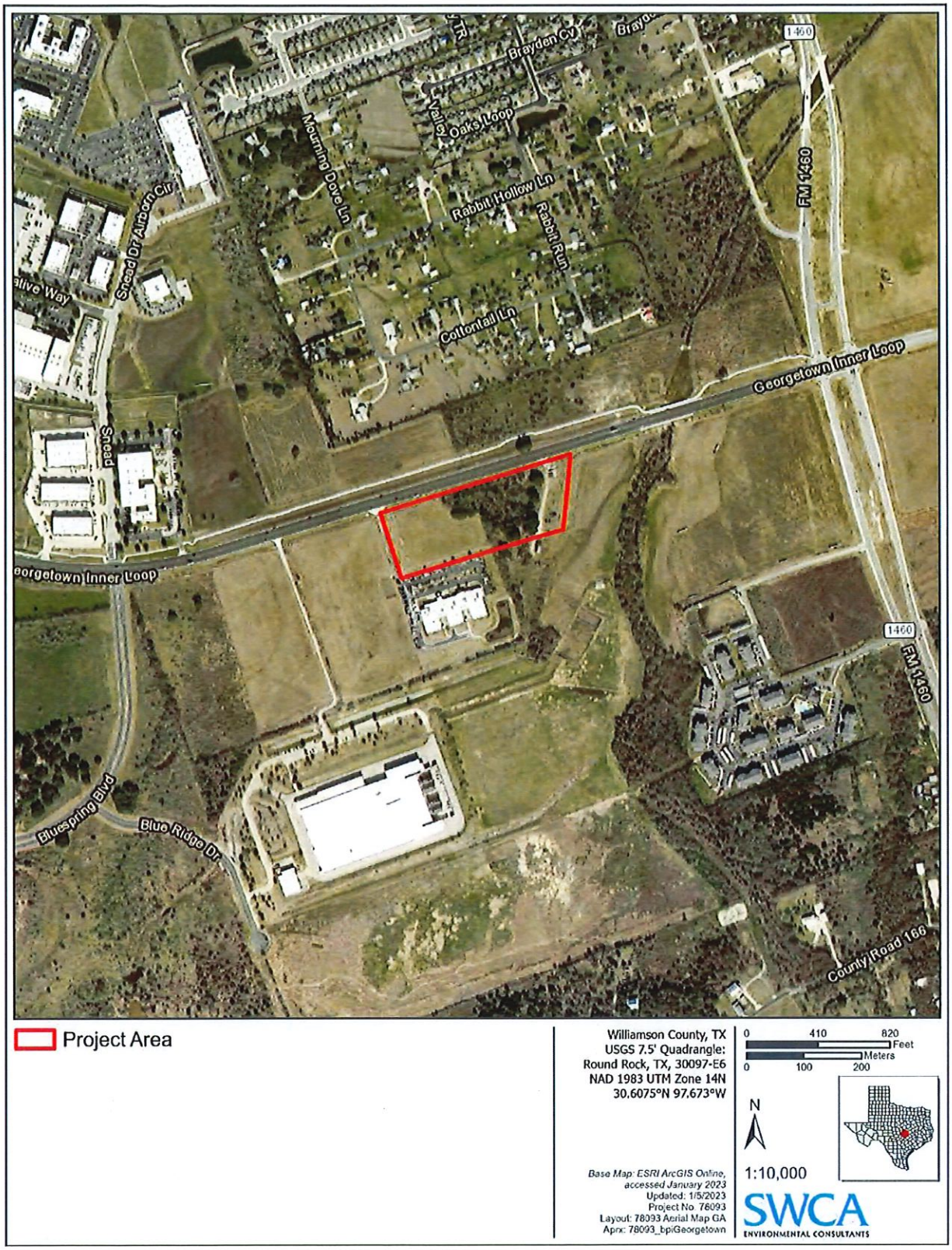

Figure 1. Project area location map.

3.2 Geology

The project area occurs along the eastern portion of the Balcones Fault Zone (BFZ) within the Edwards Aquifer Recharge Zone. Structural down-warping occurred with the ancestral formation of the Gulf of Mexico during the middle Tertiary. The earth's crust was stretched in response and the BFZ formed along a zone of weakness, which currently marks the boundary between the Edwards Plateau and the Gulf Coastal Plain in central Texas. This zone is characterized by a series of northeast-trending, predominantly normal, nearly vertical, en echelon faults. No faults cross the project area (Collins 2005). The regional trend of the mapped faults within the area is approximately 20 degrees, therefore, any features within 15 degrees (5 to 35 degrees) will be awarded an additional 10 points on the geologic assessment table in Appendix A, Attachment A.

Rock outcropping within the project area is Cretaceous in age and consists of Georgetown Formation. The geology of the project area has been mapped most recently at a useful scale by Collins (2005), and SWCA finds this interpretation of the geology to be generally accurate. Rock outcrop was not visible in the project area. A stratigraphic column is included in Appendix A, Attachment B.

The project area is mapped as Georgetown Formation (Kgt) by Collins (2005) (Appendix A, Attachment D). The Georgetown Formation (Kgt) is described by Collins (2005) as:

> limestone and marl; mostly limestone, fine grained, argil-laceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft, light gray to yellowish gray; marine megafossils include Kingena wacoensis and Gryphaea washitaensis; thickness 30-80 feet, thins southward

Recharge into the Edwards Aquifer primarily occurs in areas where the Edwards Limestone or Georgetown Formation is exposed at the surface. Most recharge is from direct infiltration via precipitation and streamflow loss. Recharge occurs predominantly along secondary porosity features such as faults, fractures, and karst features (caves, solution cavities, sinkholes, etc.). Karst features commonly form along joints, fractures, and bedding plane surfaces in the Edwards Limestone or Georgetown Formation.

Inner Space Caverns, an extensive cavern system, is located approximately 0.8 miles upgradient to the west of the project area. This is not likely to affect the project area.

3.3 Soils

The Natural Resources Conservation Service (2023) has mapped Three soil units within the project area (Table 1). The locations of soils occurring within the project area have been depicted on a figure in Appendix A, Attachment E.

Table 1. Project Area Soils

Soil Name	Hydric	Hydrologic Soil Group*	Drainage Class	Frequency of Flooding/ Ponding
AsB: Austin silty clay, 1 to 3 percent slopes	No	D	Well drained	None
AwD3: Austin-Whitewright complex, 2 to 6 percent slopes, eroded	No	D	Well drained	None
SvB: Heiden clay, 1 to 3 percent slopes	No	D	Well drained	None

Data Source: Natural Resources Conservation Service 2020.

* Group D – Soils had very slow infiltration rates when thoroughly wetted and exhibit the highest potential for runoff.

3.4 Site Hydrogeologic Assessment

SWCA did not identify any features within the project area during the geologic assessment field survey. (Appendix A, Attachment A Photographs of the site can be found in Appendix A, Attachment F.

The depth to water has been measured between 103 and 107 feet below ground surface in nearby water well State ID No. 58-18-403. This well has a land surface elevation of 805 feet amsl, 25-45 feet greater than that at the project area. Based on this well measurement in the Edwards formation, the estimated depth to water on the project area is 62 to 82 feet (TWDB 2023).

3.5 Conclusion

The geologic assessment on the approximate 9.48 SE Inner Loop Industrial project did not identify any geologic or manmade features within the project area. Additionally, there were no streams or springs identified within the project area.

4 LITERATURE CITED

Collins, E.W. 2005. Geologic Map of the West Half of the Taylor, Texas, 30 X 60 Minute Quadrangle: Central Texas Urban Corridor, Encompassing Round Rock, Georgetown, Salado, Briggs, Liberty Hill, and Leander. University of Texas at Austin, Bureau of Economic Geology. Miscellaneous Map 43. 1:100,000.Natural Resources Conservation Service. 2022. Soil Survey Staff, Natural Resources Conservation Service, U.S. Department of Agriculture. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/. Accessed November 2022.

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SWCA Environmental Consultants (SWCA), Smith, Robertson, Elliott, Glen, Klein, & Bell, LLP, Prime Strategies, Inc., Texas Perspectives, Inc. 2008. *Williamson County Regional Habitat Conservation Plan*. Prepared for Williamson County Conservation Foundation and The Honorable Lisa Birkman.

Texas Commission on Environmental Quality. (TCEQ). 2004. *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. TCEQ-0585-Instructions* (Rev. 10-01-04).

———. 2022. Edwards Aquifer Viewer v3.8. Available at: http://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd. Accessed December 2022.

Texas Water Development Board (TWDB). 2023. Water Data Interactive— Viewer. Available online at: https://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer. Accessed January 2023.

U.S. Geological Survey. 2019. 7.5-minute Topographic Map of the *Round Rock Quadrangle 2019.* U.S. Department of the Interior, U.S. Geological Survey. Scale 1:24,000.

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APPENDIX A

Texas Commission on Environmental Quality (TCEQ) Forms

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: Luke Rome, P.G. Telephone: (512) 476-0891

Date: November 6, 2023 Fax: 512.476.0893

Representing: SWCA Environmental Consultants (TBPG Firm Registration #50159) (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: SE Inner Loop Industrial

Project Information

1. Date(s) Geologic Assessment was performed: 12/22/2022
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
AsB: Austin silty clay, 1 to 3 percent slopes	D	6-7
AwD3: Austin-Whitewright complex, 2 to 6 percent slopes, eroded	D	6-7
SvB: Heiden clay, 1 to 3 percent slopes	D	6-7

Soil Name	Group*	Thickness(feet)

** 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" = 50'
   Site Geologic Map Scale: 1" = 50'
   Site Soils Map Scale (if more than 1 soil type): 1" = 416'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.

☐ Other method(s). Please describe method of data collection: _____

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

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

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

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

Administrative Information

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

ATTACHMENT A

Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: SE Inner Loop Industrial

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
No Geologic Features were found.																				

* DATUM: NAD 83

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

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

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

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

STATE OF TEXAS
LUKE ROME
GEOLOGY
No. 12028
LICENSED
PROFESSIONAL GEOSCIENTIST

Date 1/3/2022
Amended 11/06/2023
Sheet 1 of 1

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

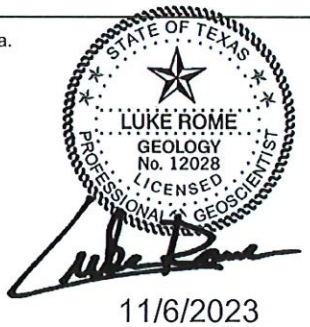
ATTACHMENT B

Stratigraphic Column

Stratigraphic Column

Upper Cretaceous	Upper Confining Units	Navarro and Taylor Groups
		Austin Group
		Eagle Ford Group
		Buda Limestone
		Del Rio Clay
Lower Cretaceous	Edwards Aquifer	Georgetown Formation
		Edwards Limestone (Ked) – up to 300 feet thick
		Comanche Peak Formation
	Lower Confining Units	Walnut Formation
		Upper member of Glen Rose Limestone

Note: The shaded areas represent the lithology that outcrops in the project area.



11/6/2023

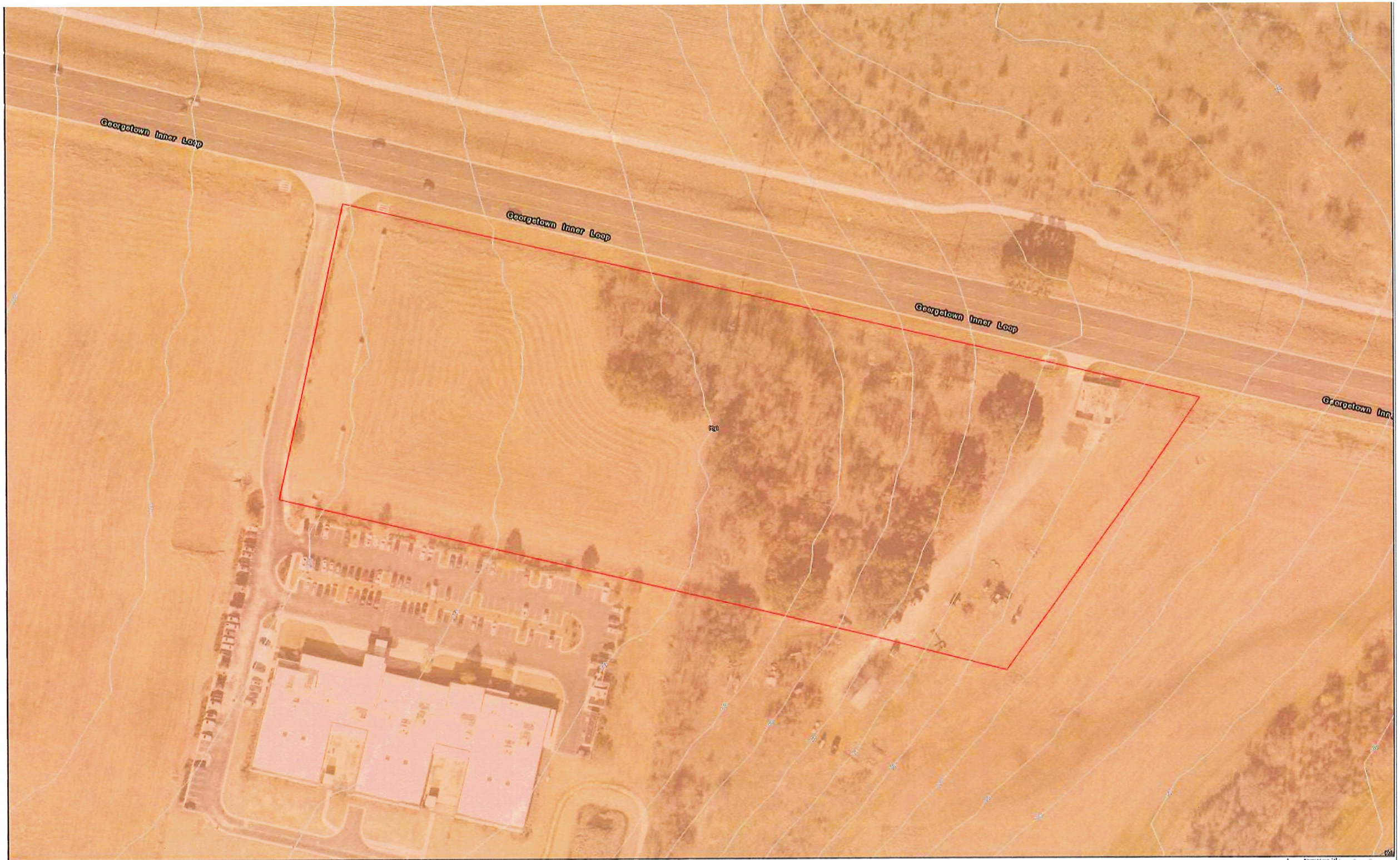
ATTACHMENT C

Narrative Description of Site Geology

PLEASE REFER TO SECTION 3.2 OF THIS REPORT FOR GEOLOGIC NARRATIVE DESCRIPTION

ATTACHMENT D

Geologic Map



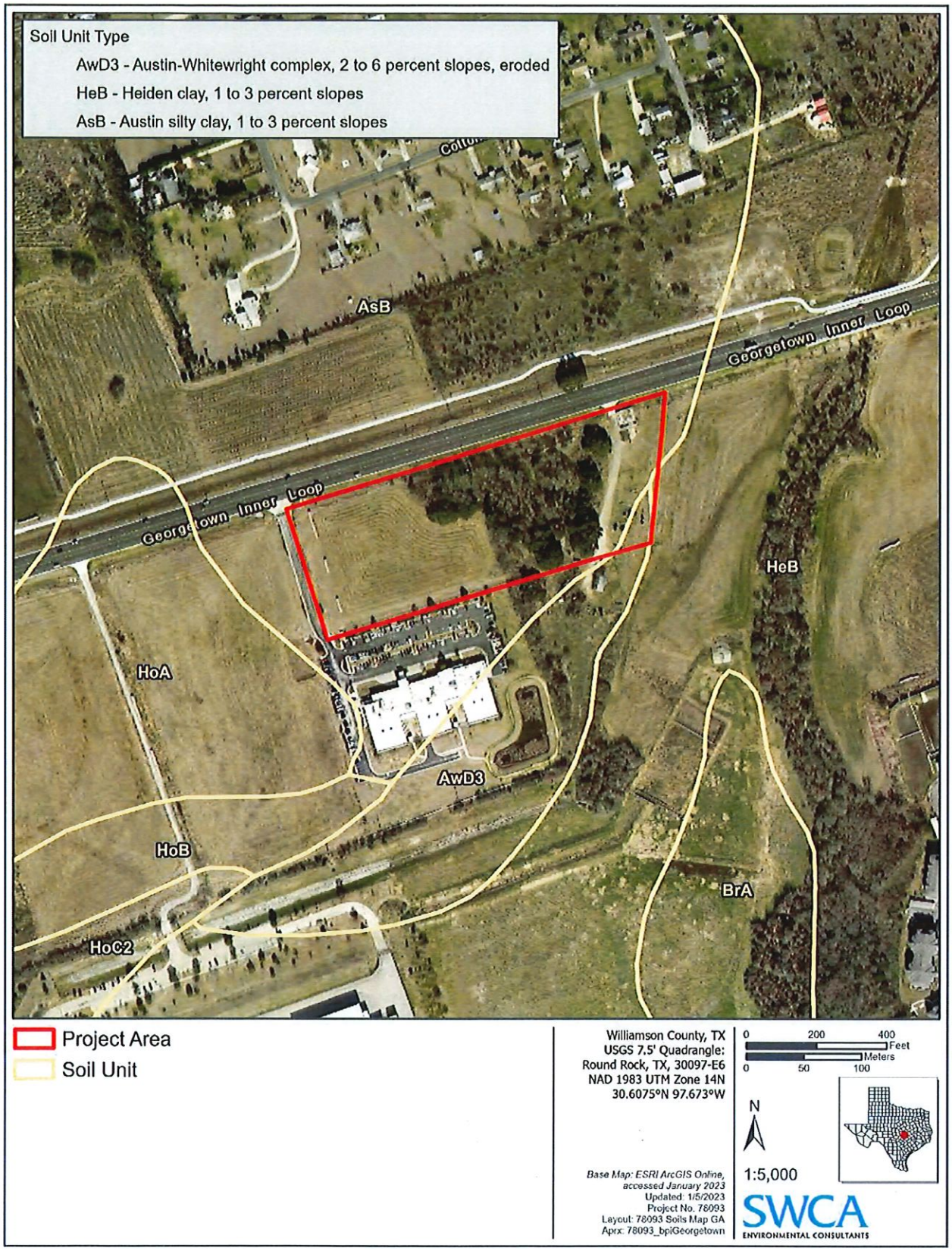
Geologic Map

1 inch = 50 feet

2-ft Topographic Contour
Project Area
Kgl - Georgetown Formation

ATTACHMENT E

Soils Map


Soil Unit Type
AwD3 - Austin-Whitewright complex, 2 to 6 percent slopes, eroded
HeB - Heiden clay, 1 to 3 percent slopes
AsB - Austin silty clay, 1 to 3 percent slopes
AsB
Georgetown Inner Loop
Georgetown Inner Loop
HeB
HoA
AwD3
HoB
BrA
HoC2
Project Area
Soil Unit
Williamson County, TX
USGS 7.5' Quadrangle:
Round Rock, TX, 30097-E6
NAD 1983 UTM Zone 14N
30.6075°N 97.673°W
0 200 400 Feet
0 50 100 Meters
N
1:5,000
Base Map: ESRI ArcGIS Online, accessed January 2023
Updated: 1/5/2023
Project No. 78093
Layout: 78093 Soils Map GA
Aprx: 78093_bpiGeorgetown
SWCA
ENVIRONMENTAL CONSULTANTS

ATTACHMENT F

Photographic Log

Photograph 1. Site overview photograph.

Photograph 2. Site overview photograph.

SECTION 4: WATER POLLUTION ABATEMENT PLAN

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.

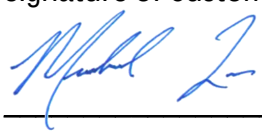
Signature

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: Michael Lee, PE

Date: 11/07/2023

Signature of Customer/Agent:



Regulated Entity Name: SE Inner Loop Industrial

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):9.441

3. Estimated projected population:N/A

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	108,815	÷ 43,560 =	2.50
Parking	122,247	÷ 43,560 =	2.81
Other paved surfaces	22,457	÷ 43,560 =	0.52
Total Impervious Cover	253,519	÷ 43,560 =	5.82

Total Impervious Cover 5.81 ÷ Total Acreage 9.44 X 100 = 62% 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:

100% Domestic	6,120 Gallons/day
_____% Industrial	_____ Gallons/day
_____% Commingled	_____ Gallons/day
TOTAL gallons/day 6,120	

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 San Gabriel (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" = 40'.

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): Federal Emergency Management Agency FLood Insurance Rate Map (FEMA) and 48491C0485F dated December 20th 2019

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 Water Quality

Materials that are anticipated to be used on site that could be a potential source of contamination include the following:

During Construction:

1. Petroleum drippings from vehicle movement
2. Integrated pest management
3. Asphalt and/or concrete products
4. Soil/Stockpile
5. Concrete and masonry materials
6. Wood, plastic, and metal materials
7. Tar and hydrocarbons from paving operations
8. Oil, grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
9. Fertilizers, herbicides, and pesticides
10. Cleaning solutions and detergents
11. Miscellaneous construction trash and debris
12. Soil erosion and sedimentation due to construction activity

Ultimate Use:

1. Pollutants generated from vehicles utilizing the site
2. Fertilizers, herbicides, and pesticides used to maintain landscaping
3. Miscellaneous trash and debris generated from the public

This is not intended to be an all-inclusive list. All practical management practices will be used to reduce the risk of spills and other exposure of any contaminant to surface or groundwater.

Kimley»Horn

ATTACHMENT B: Volume and Character of Stormwater

Existing Drainage Conditions

The site consists of two on-site drainage areas (EX-1 and EX-2) and three off-site drainage areas (OFF-1, OFF-2, and OFF-3) with two points of analysis (POA-1 and POA-2).

Existing drainage area OFF-2 contains the proposed area draining to the detention pond proposed in the Blue Springs Business Park development (SP-2021-58-SDP). This pond outfalls in the existing channel in the south side of our site then flows to Point of Analysis 1.

Drainage Areas EX-2, OFF-1, and OFF-3 all flow to the SE Inner Loop Right of Way north of our site. These areas contribute 52.51-cfs of flow in the 100-yr condition to the culvert along SE Inner Loop analyzed as Point of Analysis 2. A table showing the summary of these existing drainage areas is provided below.

EXISTING DRAINAGE AREA CALCULATIONS											
DRAINAGE AREA	AREA (ac.)	IMPERVIOUS COVER (%)	CN-VALUE (IMPERVIOUS)	PERVIOUS COVER (%)	CN-VALUE (PERVIOUS)	CN (COMPOSITE)	TC (MIN)	Q_2 (CFS)	Q_{10} (CFS)	Q_{25} (CFS)	Q_{100} (CFS)
EX-1	4.97	5%	98	95%	80	80.9	14.1	10.07	20.04	25.73	34.72
EX-2	4.47	4%	98	96%	80	80.6	14.2	8.87	17.78	22.89	30.97
OFF-1	0.16	100%	98	0%	80	98.0	13.8	0.71	1.00	1.17	1.42
OFF-2	9.93	78%	98	22%	80	94.1	5.0	50.03	73.29	87.25	105.51
OFF-3	4.19	48%	98	52%	80	88.6	30.8	8.98	15.66	19.64	25.28

Proposed Drainage Conditions

The site proposes more impervious cover and higher flow rates than in existing conditions; therefore detention will be required. Additionally, this site is located in the Edwards Aquifer Recharge Zone, therefore stormwater treatment will be required by the Texas Commission on Environmental Quality (TCEQ).

Proposed drainage areas DA-1 and OFF-1 will flow to the proposed on-site stacked water quality and detention pond, where the proposed impervious cover will be treated, and flows will be detained to match existing conditions. This pond outfalls at Point of Analysis 1 and uses flow spreaders to spread the flow back to existing conditions.

Drainage Areas DA-2 and OFF-2 have no increased flow rate, or additional impervious cover than in existing conditions therefore detention and water quality will not be required. These areas bypass the proposed pond and outfall at Point of Analysis 1.

Drainage Areas DA-3 and OFF-3 flow to the culvert in the SE Inner Loop Right of Way north of our site labeled Point of Analysis 2. The flow rates to this culvert in proposed conditions do not exceed existing conditions. A table showing the summary of these drainage areas is provided below.

PROPOSED DRAINAGE AREA CALCULATIONS											
DRAINAGE AREA	AREA (ac.)	IMPERVIOUS COVER (%)	CN-VALUE (IMPERVIOUS)	PERVIOUS COVER (%)	CN-VALUE (PERVIOUS)	CN (COMPOSITE)	TC (MIN)	Q_2 (CFS)	Q_{10} (CFS)	Q_{25} (CFS)	Q_{100} (CFS)
DA-1	6.91	79%	98	21%	80	94.3	6.0	34.14	49.80	58.97	71.67
DA-2	1.55	5%	99	95%	81	82.0	6.0	4.09	7.87	10.21	13.27
DA-3	0.98	26%	98	74%	80	84.8	6.0	3.05	5.48	6.95	8.88
OFF-1	0.16	100%	98	0%	80	98.0	6.0	0.89	1.21	1.41	1.70
OFF-2	9.93	78%	98	22%	80	94.1	5.0	50.03	73.29	87.25	105.51
OFF-3	4.19	48%	98	52%	80	88.6	30.8	8.98	15.66	19.64	25.28

ATTACHMENT C: Suitability Letter from Authorized Agent

Attachment C is not applicable for this project. An on-site sewage facility will not be implemented for this development.

ATTACHMENT D: Exception to the Required Geologic Assessment

Attachment D is not applicable for this project. A geologic assessment exemption will not be requested. MLA Geotechnical has prepared a Geologic Assessment for this site, see Geologic Assessment Form and Attachments.

SECTION 5: TEMPORARY STORMWATER SECTION

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: Michael Lee, PE

Date: 11/07/2023

Signature of Customer/Agent:

Regulated Entity Name: SE Inner Loop Industrial

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: Smith Branch 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

The following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be maintained on-site in the material data sheets (MSDS) and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Contact the MS4 Operator, TCEQ (800-832-8224), and the National Response Center (800-424-8802) to inform of any spill of toxic or hazardous material regardless of the size.

The spill prevention plan will be adjusted to include measures to prevent this type of spill from recurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

Reportable Quantities Link: https://www.tceq.texas.gov/response/spills/spill_rq.html

ATTACHMENT B: Potential Sources of Contamination

Surface water quality can be affected by disturbance during construction and by development after construction. Soil disturbance from clearing and grubbing and cut / fill operations can lead to discharge of sediment unless adequate temporary erosion control measures are in place. For this project, the use of silt fence, construction entrances, and rock berms will prevent sediment from leaving the site. Siltation collected by the control measures will be cleaned from fences, berms, etc. on a routine schedule as outlined in the SWPPP and contract specifications.

During construction, surface water quality may also be affected by a spill of hydrocarbons or other hazardous substances used in construction. The most likely instances of a spill of hydrocarbons or hazardous substances are:

a) Refueling construction equipment.
b) Oil and grease from the asphalt pavement and vehicle traffic.
c) Performing operator-level maintenance, including adding petroleum, oils, or lubricants.
d) Normal silt build-up.
e) Unscheduled or emergency repairs, such as hydraulic fluid leaks.
f) Trash with becomes loose from subdivision residents.
g) Fertilizers used in the landscaping around the apartment buildings.

Every effort will be taken to be cautious and prevent spills. In the event of a fuel or hazardous substance spill as defined by the Reportable Quantities Table 1 (page 3) of the TCEQ's Small-Business Handbook for Spill Response (RG-285, June 1997), the contractor is required to clean up the spill and notify the TCEQ as required in RG-285. During business hours report spills to the TCEQ's Austin Regional Office at (512) 339-2929, after business hours call 1-800-832-8224, the Environmental Response Hotline or (512) 463-7727, the TCEQ Spill Reporting Hotline, which is also answered 24 hours a day.

After construction is complete, impervious cover for the tract of land is the major reason for degradation of water quality. Impervious cover includes the building foundation, street pavement and concrete sidewalks. Oil and fuel discharge from vehicles is anticipated. The proposed permanent BMPs on this project will help mitigate these occurrences.

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ATTACHMENT C: Sequence of Major Activities

SEQUENCE OF CONSTRUCTION:

1) INSTALL EROSION CONTROLS PER APPROVED PLANS.
   a) This activity effects less than 0.50-arces of the site, as its mostly concentrated at the borders of the site. The erosion controls will be in place for the duration of the construction and until the permanent BMPs have been established.
2) HOLD PRE-CONSTRUCTION CONFERENCE.
3) DEMOLISH, REMOVE AND DISPOSE OF PROPERLY ALL EXISTING IMPROVEMENTS SHOWN TO BE REMOVED PER PLANS.
   a) This activity will effect approximately 0.5-acres of the site. The erosion controls initially placed will be maintained through this activity.
4) ROUGH-CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.
   a) This activity will continue to effect the 1.25-acres of the site. This activity is preparing the site for the designed drainage condition (grading and ponds). The erosion controls initially placed will be maintained through this activity.
5) BEGIN CONSTRUCTION OF UNDER GROUND UTILITY, PAVING AND BUILDING, INSTALL INLET EROSION/SEDIMENTATION PROTECTION.
   a) This activity will effect approximately 8.5-acres and the erosion controls measures initially placed will remain.
6) 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.
   a) This activity will effect approximately 1.5 acres and includes placement of the permanent BMPs. The temporary BMPs will only be removed once the permanent BMPs have been established.
7) PROJECT ENGINEER INSPECTS JOB AND WRITES LETTER OF CONCURRENCE TO THE PERMITTING AUTHORITY, FINAL INSPECTION WILL BE SCHEDULED UPON RECEIPT OF THE LETTER.
8) REMOVE ALL TRASH AND DEBRIS FROM THE SITE AND DISPOSE OF LEGALLY.

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ATTACHMENT D: Temporary Best Management Practices and Measures

A. Up-gradient stormwater does exist based on current topography maps and field observations. 12.18-acres from the Blue Springs Business Park Development (2021-58-SDP) outfall onto our site from an existing detention pond. This area is conveyed across our site through an existing public drainage channel. This stormwater will not be treated nor detained with our proposed development. Another 0.07-acres of upstream flow comes from the access road adjacent to our site. This offsite area will also not be treated but will be detained in the proposed detention pond on our site. Please refer to the Proposed Drainage Area Map that is provided in Attachment G of the Temporary Stormwater Section.

B. Temporary BMP's will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction. Inlet protection will be placed over all existing and proposed inlets to stop the discharge of sediments into the sewer system. Please reference the attached copy of the Erosion and Sedimentation Control Plans for specific locations and details of all controls.

   BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil, and other contaminants, which may mobilize in storm water flows by slowing the flow of runoff to allow sediment and suspended solids to settle out of the runoff. Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

   The contractor is expected to inspect the controls weekly and after significant rainfalls to ensure proper function.

C. There are no sensitive environmental features or surface streams within the boundaries of the project. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down-gradient of the site.

D. There were no sensitive features on the 9.44-acre site identified during the geologic assessment. However, the BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally occurring sensitive features that are discovered during construction.

ATTACHMENT E: Request to Temporarily Seal a Feature

Naturally-occurring features will not be sealed on the site; therefore this section is not applicable

ATTACHMENT F: Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found in Attachment F of the Permanent Stormwater Section.

Description of Temporary BMP's

Temporary Construction Entrance/Exit

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

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

Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.

- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Inlet Protection

In developments for which drainage is to be conveyed by underground storm sewers (i.e., streets with curbs and gutters), all inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types

ATTACHMENT G: Drainage Area Map

An existing and proposed drainage area map is provided at the end of this report in Section 8 to support the aforementioned requirement.

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

The proposed development will not use a temporary sediment pond, therefore this section is not applicable.

ATTACHMENT I: Inspection and Maintenance for BMPs

A. Inspection Schedule

1. All disturbed areas, as well as all erosion and sediment control devices, will be inspected according to one of the following schedules:

    a) at least every seven (7) calendar days and within 24 hours after a rainfall of 0.25" or greater, or

    b) every seven (7) days on the same day of the week each week, regardless of whether or not there has been a rainfall event since the previous inspection.

2. Inspections will occur on the schedule provided in this plan and any changes made to the schedule must adhere to the following:

    a) the schedule can change a maximum of one time each month,

    b) the schedule change must be implemented at the beginning of a calendar month, and

    c) the reason for the schedule change must be documented in this plan (an inspection schedule form is located below).

B. Inspection Reports

1. Completed inspection reports (see below) will include the following information:

        a) scope of the inspection,

        b) date of the inspection,

        c) name(s) of personnel making the inspection,

        d) reference to qualifications of inspection personnel,

        e) observed major construction activities, and

        f) actions taken as a result of the inspection.

2. All disturbed areas (on and off-site), areas for material storage locations where vehicles enter or exit the site, and all of the erosion and sediment controls that were identified as part this plan must be inspected. The inspection report must state whether the site was in compliance or identify any incidents of non-compliance. The report will be signed by the qualified inspector in accordance with the TPDES general permit and filed in this plan. A sample Inspection Report is included below along with an Inspector Qualification Form. All reports and inspections required by the general construction permit will be completed by a duly authorized representative.

3. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in this plan, and wherever possible, those changes implemented before the next storm event or as soon as practicable. A list of maintenance guidelines are included below.

4. Inspection reports will be kept in the Operator's file, along with this plan, for at least three years from the date that the NOT is submitted to the TCEQ for the construction site.

C. Final Stabilization

Final stabilization of the construction site has been achieved when all soil disturbing activities at the site have been completed, and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. If a vegetative cover cannot be established, equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) can be employed. When these conditions have been met, BMPs can be removed from the construction area.

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Inspector Qualifications*

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

**Personnel conducting inspections must be knowledgeable of the general permit, familiar with the construction site, and knowledgeable of the SWP3 for the site.*

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INSPECTION SCHEDULE

Inspections must be conducted:

- **Option 1** – at least once every 7 calendar days and within 24 hours of the end of a storm event of 0.25 inch or greater
- **Option 2** – at least once every 7 calendar days, regardless of whether or not there has been a rainfall event since the previous inspection.

Any changes to the schedule are conducted in accordance with the following:

- the schedule is changed a maximum of one time each month,
- the schedule change must be implemented at the beginning of a calendar month, and
- the reason for the schedule change must be documented below.

Date	Schedule Option	Reason for Schedule Change

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Construction Site SWP3 Inspection Report

Status		
	☐ Complies	
	☐ Warning	No.
	☐ Project Shutdown	

SWP3	On-Site		Up-to-date	
	Yes	No[1]	Yes	No[2]

General Information		
	Project:	Date:
	Address:	Inspector:
		Qualifications: see Appendix E of SWP3
		Weather Conditions:
	Owner:	Contractor:

BMP	BMP In Use		Maint. Req'd		Comments
	Yes	No	Yes[2]	No	

[1]The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3.

[2]Items marked in this column need to be addressed in the Actions to be Taken table.

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ACTIONS TO BE TAKEN	RESPONSIBLE PERSON(S)	DUE DATE	DATE COMPLETED	INITIALS

NOTE: These reports will be kept on file as part of the Storm Water Pollution Prevention Plan for at least three years. A copy of the SWP3 will be kept at the site at all times during construction.

CERTIFICATION STATEMENT: *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Name:	
Address:	
Telephone:	
Site Location:	
Inspector Signature:	Date:

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MAINTENANCE GUIDELINES

1. Below are some maintenance practices to be used to maintain erosion and sediment controls:
   - All control measures will be inspected according to the schedule identified in Appendix E.
   - All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
   - BMP Maintenance (as applicable)
     - Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
     - Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
     - Drainage swale will be inspected and repaired as necessary.
     - Inlet control will be inspected and repaired as necessary.
     - Check dam will be inspected and repaired as necessary.
     - Straw bale dike will be inspected and repaired as necessary.
     - Diversion dike will be inspected and any breaches promptly repaired.
     - Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
     - If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.
     - Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

2. To maintain the above practices, the following will be performed:
   - Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.
   - Any necessary revisions to the SWP3 as a result of the inspection must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event.
   - Personnel selected for inspection and maintenance responsibilities must be knowledgeable of the general permit, familiar with the construction site, and knowledgeable of the SWP3 for the site.

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ATTACHMENT J: Schedule of Interim and Permanent Soil Stabilization Practices

Construction Activity Schedule

Activities	Start Date	Finish Date
1.Demolition (0.25-acres): Silt fence protection, tree protection, rock berm		
2.Rough Grading (9-acres): Construction entrance/exit shall be installed and all prior erosion control measures installed above to be maintained as necessary during rough grading.		
3.Utility Installation (2-acres): All prior erosion control measures installed above to be maintained as necessary during utility installation, inlet protection shall be installed as storm drainage system is constructed.		
4.Building Construction (2.5-acres): All prior erosion control measures installed above to maintained as necessary during construction.		
5.Paving (3-acres): All prior erosion control measures installed above to be maintained as necessary during paving and throughout the remainder of the project.		
6.Final Grading/Soil Stabilization/Landscaping (3.5-acres): All temporary erosion control measures to be removed at the conclusion of the project once final stabilization has been achieved. All affected storm sewer inlets and post development BMPs shall be cleaned prior to site completion.		

*Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.

*Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

SECTION 6: PERMANENT STORMWATER

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: Michael Lee, PE

Date: 11/07/2023

Signature of Customer/Agent

Regulated Entity Name: SE Inner Loop Industrial

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

The site will be an industrial development with more than 20% impervious cover. Therefore, a waiver will not be submitted for this project, and this section is not applicable.

ATTACHMENT B: BMP’s for Up-Gradient Stormwater

Up-gradient stormwater does exist based on current topography maps and field observations. 12.18-acres from the Blue Springs Business Park Development (2021-58-SDP) outfall onto our site from an existing detention pond. This area is conveyed across our site through an existing public drainage channel. This stormwater will not be treated nor detained with our proposed development. Another 0.07-acres of upstream flow comes from the access road adjacent to our site. This offsite area will also not be treated but will be detained in the proposed detention pond on our site.

ATTACHMENT C: BMP’s for On-Site Stormwater

The site proposes one stacked water quality batch system and detention pond that detains and treats 7.77-acres from Drainage Area DA-1. The total capture volume required by TCEQ for this development is 21,185 cubic feet. A 30” diameter smartpond trash screen with perforated riser will treat this volume of stormwater. In a 48-hour period this flow will then outfall through a 6” smartpond outfall valve at Point of Analysis 1. Construction plans, calculations and specifications are provided in Attachment F in the Permanent Stormwater Section of this report. The TSS Spreadsheet Calculations are included on Sheet 17 of the SE Inner Loop Industrial Civil Construction Plans.

ATTACHMENT D: BMP’s for Surface Streams

There are no existing surface streams or sensitive features on the subject site. Therefore, this section is not applicable.

ATTACHMENT E: Request to Seal a Feature

The permanent sealing of or diversion of flow from a naturally occurring “sensitive” or “possibly sensitive” feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally occurring “sensitive” or “possibly sensitive” features on this site; and therefore, this section is not applicable.

ATTACHMENT F: Construction Plans

Construction plans, details, specifications, calculations, and construction notes for the site plan are provided in Section 8 which is attached at the end of this report.

Kimley»Horn

ATTACHMENT G: Inspection, Maintenance, Repair and Retrofit Plan

The inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather-related conditions.

It is the responsibility of the owner to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

Disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

Maintenance records shall be kept on the installation, maintenance, or removal of items necessary for the proper operation of the facilities. All inspections shall be documented.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party:	Building Plastics Inc.				
Mailing Address:	4365 Sharpe Ave				
City, State:	Memphis, TN	Zip:	38111		
Telephone:	(901) 745-6351			Fax:	(901) 745-6344

I, the owner, have read and understand the requirements of the attached Inspection and Maintenance Plan for the proposed Permanent Best Management Practices for my project. I acknowledge that I will maintain responsibility for the implementation and execution of the plan until the responsibility is transferred to or assumed by another party in writing through a binding legal instrument.

Signature of Responsible Party: William R. McAlexander Jr. Date: 10/06/23

Water Quality Ponds

Routine Maintenance

Mowing. The side-slopes, embankment, and emergency spillway of the basin should be mowed at least twice a year to prevent woody growth and to control weeds.

Inspections. Water Quality Ponds should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for subsidence, erosion, leakage, cracking, and tree growth. The condition of the emergency spillway should be checked. The inlet, barrel, and outlet should be inspected for clogging. Stability of the side slopes should be checked. Modifications to the basin structure and contributing watershed should be evaluated. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of wetland vegetation may be required at first, until a viable mix of species is established. Cracks, voids, and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage. The inspections should be carried out with As-built pond plans in hand.

Sediment Removal. Inspection of the forebay should be completed every three months for the first two years after construction completion, and during the three-month inspection cycle, if more than 15% of the forebay volume is lost, the sediment build-up should be removed. After the two-year period, the sediment forebay should be inspected every three years, and the sediment should be cleaned out if more than one third of the forebay volume is lost. Every six years, the sediment build-up in the mail pool should be inspected and sediment should be removed if twenty percent of the main pool volume is lost.

Erosion Control. The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as re-grading and re-vegetation may be necessary.

Nuisance Control. Most public agencies surveyed indicate that control of insects, weeds, odors, and algae may be needed in some ponds. Nuisance control is probably the most frequent maintenance item demanded by local residents. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Biological control of algae and mosquitoes using fish such as fathead minnows is preferable to chemical applications.

Non-Routine Maintenance

Structural Repairs and Replacement. The structural integrity of the embankment, outlet structure and retaining walls should be inspected during the required routine inspections. Leakage or seepage of water through the embankment must be avoided and any structural damage should be repaired immediately.

Harvesting. If vegetation is present on the fringes or in the pond, it can be periodically harvested, and the clippings removed to provide export of nutrients and to prevent the basin from filling with decaying organic matter.

ATTACHMENT H: Pilot-Scale Field Testing Plan

The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site; therefore pilot-scale field testing is not required for this project.

ATTACHMENT I: Measures for Minimizing Surface Stream Contamination

All flows generated onsite due to this development are conveyed through a combination of sheet flow and storm sewer systems. Ultimately the flows are conveyed to Granger Lake-San Gabriel River Watershed.

The TSS removal calculations for the proposed permanent BMP's are attached in the construction plans. These plans can be found in Attachment F of the Permanent Stormwater Section of this report.

Surface streams do not exist on site. Therefore, 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 because of the construction and development are not provided at the end of this form. All disturbed areas will be re-vegetated as soon as practical.

SECTION 7:
ADDITIONAL FORMS

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

I WALLACE R. McALEXANDER JR.,
Print Name

TREASURER,
Title - Owner/President/Other

of BUILDING PLASTICS INC.,
Corporation/Partnership/Entity Name

have authorized Michael Lee, PE
Print Name of Agent/Engineer

of Kimley-Horn and Associates
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:

Wallace R. McAlexander, Jr.
Applicant's Signature

August 31, 2023
Date

THE STATE OF Tennessee §

County of Shelby §

BEFORE ME, the undersigned authority, on this day personally appeared Wallace R. McAlexander 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 31st day of August, 2023.

LESLIE B. DILWORTH
STATE OF TENNESSEE
NOTARY PUBLIC
SHELBY COUNTY
MY COMMISSION EXPIRES 8-3-2025

Leslie B. Dilworth
NOTARY PUBLIC

Leslie B. Dilworth
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: August 3, 2025

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: SE Inner Loop Industrial
Regulated Entity Location: Georgetown, TX
Name of Customer: Building Plastics Inc.
Contact Person: Wally McAlexander Phone: (901) 745-6351
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____
Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	9.44 Acres	$ 5,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 11/07/2023

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

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)*

CN

Follow this link to search for CN or RN numbers in Central Registry**

3. Regulated Entity Reference Number *(if issued)*

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:

Building Plastics Inc.

7. TX SOS/CPA Filing Number

0009271506

8. TX State Tax ID (11 digits)

16210731614

9. Federal Tax ID (9 digits)

62-1073161

10. DUNS Number *(if applicable)*

034754036

11. Type of Customer:

☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☒ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ Yes ☒ No

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

☐ Owner ☐ Operator ☒ Owner & Operator

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

15. Mailing Address:

3623 Sharpe Ave

City: Memphis State: TN ZIP: 38111 ZIP + 4:

16. Country Mailing Information *(if outside USA)*

N/A

17. E-Mail Address *(if applicable)*

wmcalexander@bpiteam.com

18. Telephone Number

19. Extension or Code

20. Fax Number *(if applicable)*

(901) 745-6351		(901) 745-6344

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.)*

SE Inner Loop Industrial

23. Street Address of the Regulated Entity: *(No PO Boxes)*	720 SE Inner Loop							
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4	
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

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:	30.607294		28. Longitude (W) In Decimal:	-97.673932	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	36	26.26	-97	40	20.16

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)
5023	N/A	423220	N/A

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

Industrial Warehouse

34. Mailing Address:	4365 Sharpe Ave							
	City	Memphis	State	TN	ZIP	38111	ZIP + 4	
35. E-Mail Address:	wmcalexander@bpiteam.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(901) 745-6351		(901) 745-6344

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

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

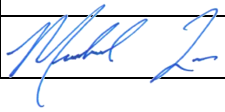
SECTION IV: Preparer Information

40. Name:	Michael Lee, PE	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 646-2237		( ) -	michael.lee@kimley-horn.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:	Kimley-Horn	Job Title:	Project Manager	
Name *(In Print)*:	Michael Lee		Phone:	(512) 646- 2237
Signature:			Date:	11/7/2023

SECTION 8:
CIVIL DESIGN PLANSET

REVISIONS/CORRECTIONS							
NO.	DESCRIPTION	REVISE (R) VOID (V) ADD (A) SHEET NO.'S	TOTAL NO. SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	TOTAL SITE IMP. COVER (SQ. FT.)/%	CITY OF AUSTIN APPROVAL DATE	DATE IMAGED

CIVIL SITE DEVELOPMENT PLANS

FOR

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TX 78626

GENERAL NOTES

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO INSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORM WATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLAN MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. FIRE FLOW REQUIREMENTS OF 1,500 PER MINUTE ARE BEING MET BY THIS PLAN.
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
15. PARKLAND DEDICATION SATISFIED BY FEE IN LIEU OF. PARKLAND DEDICATION FEES MUST BE RECEIVED BEFORE FINAL APPROVAL (UDC 3.09.030, 13.08.030)
16. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
17. FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE REQUIRED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER. DEVELOPMENT OCCURRING IN THE DOWNTOWN OVERLAY DISTRICT SHOULD BE HIGHLY ENCOURAGED TO LOCATE OVERHEAD ELECTRIC UNDERGROUND WITH THE SITE WORK.
18. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
19. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06
20. SCREENING AND LOCATION OF OUTDOOR STORAGE SHALL COMPLY WITH SECTION 5.09 OF THE UDC
21. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
22. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON SEPTEMBER 13, 2023. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

LEGAL DESCRIPTION

A 9.441 ACRE OF LAND OUT OF THE LEWIS P. DYCHES SURVEY ABSTRACT NO. 180, SITUATED IN THE CITY OF GEORGETOWN, WILLIAMSON COUNTY, TEXAS BEING A PORTION OF THAT CERTAIN TRACT 3 – 62.8417 ACRE TRACT OF LAND CONVEYED TO LONGHORN JUNCTION LAND AND CATTLE COMPANY BY DEED OF RECORD IN 2010002544 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; SAID 9.441 ACRE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

SITE DATA

PROPOSED USE: WHOLESALE SHOWROOM
ZONING DISTRICT: BUSINESS PARK
LAND AREA IN ACRES: 9.441 ACRES
LAND AREA IN SQUARE FEET: 411,254 SQ. FT.
TOTAL AREA IMPERVIOUS COVER: 5.82 ACRES (62%)
MAXIMUM ALLOWABLE IMPERVIOUS COVER: 5.94 ACRES (63%)
TOTAL GROSS FLOOR AREA: 106,139 SF
PROPOSED SQUARE FOOTAGE: 106,139 SF

ARCHITECT
AZIMUTH
COLE WILLIAMS
501 S. 2ND AVE., SUITE A-500
DALLAS, TX 75226
PH: (214) 261-9060

OWNER
BUSINESS PLASTICS INC
4365 SHARPE AVE
MEMPHIS, TN 38111
PH: (800) 765-1274

LANDSCAPE ARCHITECT
KIMLEY-HORN
5301 SOUTHWEST PKWY BLDG. 2,
STE. 100
AUSTIN, TX 78735
PH: (512) 646-2237

DEVELOPER
BUSINESS PLASTICS INC
4365 SHARPE AVE
MEMPHIS, TN 38111
PH: (800) 765-1274

SURVEYOR
STANTEC
ATTN: JOHN BILNOSKI
1905 ALDRICH STREET, SUITE 300
AUSTIN, TX 78723
PH. (512) 469-5324

PREPARED BY:

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78735
CERTIFICATE OF REGISTRATION #928

Tel. No. (512) 418-1771
Fax No. (512) 418-1791

TELECOM SERVICE

SUDDENLINK COMMUNICATIONS
111 N COLLEGE STREET
GEORGETOWN, TEXAS 78626
TELEPHONE: (469)307-2698
CONTACT: DEAN COLE
WEBSITE: www.suddenlink.com

ELECTRIC SERVICE

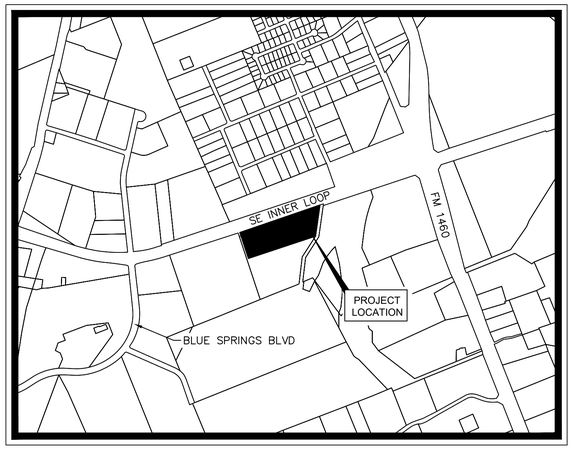
CITY OF GEORGETOWN
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TEXAS 78626
TELEPHONE: (512)930-6117
CONTACT: JIMMY SIKES
WEBSITE: https://gus.georgetown.org/

WATER SERVICE

CITY OF GEORGETOWN
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TEXAS 78626
TELEPHONE: (512)930-3555
CONTACT: DAVID MUNK
WEBSITE: https://gus.georgetown.org/

WASTEWATER SERVICE

CITY OF GEORGETOWN
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TEXAS 78626
TELEPHONE: (512)930-3555
CONTACT: DAVID MUNK
WEBSITE: https://gus.georgetown.org/



VICINITY MAP
SCALE: 1" = 1,000'

COA GRID: F12
MAPSCO: 703D, 703H

OCTOBER 2023

SUBMITTED BY: _____ DATE _____

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF GEORGETOWN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER. REVIEW OF THE SUBMITTED MATERIALS DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR ORDINANCE COMPLIANCE BY THE CITY ENGINEER.

SHEET INDEX

THIS NOTE IS BEING PLACED ON THE PLAN SET IN PLACE OF A TEMPORARY TRAFFIC CONTROL STRATEGY WITH THE FULL UNDERSTANDING THAT, AT A MINIMUM OF 6 WEEKS PRIOR TO THE START OF CONSTRUCTION, A TEMPORARY TRAFFIC CONTROL PLAN MUST BE REVIEWED AND APPROVED BY THE RIGHT OF WAY MANAGEMENT DIVISION. THE OWNER/REPRESENTATIVE FURTHER RECOGNIZES THAT A REVIEW FEE, AS PRESCRIBED BY THE MOST CURRENT VERSION OF THE CITY'S FEE ORDINANCE, SHALL BE PAID EACH TIME A PLAN OR PLAN REVISION IS SUBMITTED TO RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW. THE FOLLOWING MUST BE TAKEN INTO CONSIDERATION WHEN DEVELOPING FUTURE TRAFFIC CONTROL STRATEGIES:

PEDESTRIAN AND BICYCLE TRAFFIC ACCESS MUST BE MAINTAINED AT ALL TIMES, UNLESS OTHER WISE AUTHORIZED BY RIGHT OF WAY MANAGEMENT.

NO LONG-TERM LANE CLOSURES WILL BE AUTHORIZED, UNLESS RIGHT OF WAY MANAGEMENT DETERMINES THAT ADEQUATE ACCOMMODATIONS HAVE BEEN MADE TO MINIMIZE TRAFFIC IMPACT.

PROJECT SHOULD BE PHASED SO THAT UTILITY INSTALLATION MINIMALLY IMPACTS EXISTING OR TEMPORARY PEDESTRIAN FACILITIES.

ITE Code	Land Use Description	No. of Units	Total Trips Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out
150	Warehousing	98.142	194	17	18	13	4	5	13
710	General Office Building	7.897	128	20	20	18	2	3	17
			322	37	38	31	6	8	30

BENCHMARKS

ELEVATIONS HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UTILIZING REAL-TIME KINEMATIC (RTK) CORRECTIONS PROVIDED BY RTK COOPERATIVE NETWORK, MANAGED BY ALLTERRA CENTRAL AND ADDITIONALLY REFERENCED TO THE NATIONAL GEODETIC SURVEY (NGS) GEOID MODEL 12A.

TBM 101: PK NAIL WITH "TBM 101" WASHER FOUND ON THE NORTH CORNER OF DRAINAGE STRUCTURE ON SOUTH SIDE OF SE INNER LOOP NEAR ATMOS GAS SUB STATION ± 1550 WEST OF FM 1460. ELEV = 762.76' (AS SHOWN)

TBM 102: PK NAIL WITH WASHER SET ON THE SOUTH SIDE OF SE INNER LOOP NEAR THE END OF GUARDRAIL ± 975 WEST IF FM 1460. ELEV = 759.51' (AS SHOWN)

811 Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SE INNER LOOP INDUSTRIAL

No.	REVISIONS	DATE	BY

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
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TBPE Firm No. 928

Michael B. Lee
STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

COVER SHEET

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
1 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:43:31am File Path: K:\sou_civil\069412900 - se inner loop georgetown\CAD\plansheets\C - Cover Sheet.dwg
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June 12, 2023
Sent via Electronic Email

Michael Lee
Kimley-Horn and Associates
10814 Jollyville Road Campus IV, Suite 200
Austin, TX 78759

RE: 2023-32-LTR - Plat Certification Letter for 9.44 acres in the Lewis P. Dyches Survey, Abstract No. 180, generally located at 720 SE Inner Loop

Dear Mr. Lee:

This letter is in response to your request for a Plat Certification Letter for 720 SE Inner Loop. In accordance with Section 3.08.030 of the Unified Development Code (UDC[1]) of the City of Georgetown, this letter confirms that the property consisting of **9.44 acres in the Lewis P. Dyches Survey, Abstract No. 180**, located at 720 SE Inner Loop *is* exempt based on 3.08.020B. Thus, pursuant to Section 3.08.020B, a plat *is not* required for this tract to be developed, unless it were to be divided.

In addition, please note that this letter does not authorize the property owner to proceed with development of the tract and does not specify requirements that must be met for future development. For your information, "development" is defined in UDC Section 16.02 as "Initiation of any activity governed by this Unified Development Code related to land or property modification whether for imminent or future construction activities including, but not limited to, division of a parcel of land into two or more parcels; alteration of the surface or subsurface of the land including grading, filling, or excavating; mining or drilling operations; clearing or removal of natural vegetation and/or trees; installation of public infrastructure including utilities, roadways, and drainage facilities; and construction or enlargement of any building, structure, or impervious surface. Exclusions from this definition include maintenance of lawns, gardens, and trees; repairs to existing utilities; minimal clearing of vegetation for surveying and testing; and bona fide agricultural activities."

If you have any questions or would like to discuss further, please do not hesitate to contact me.

Sincerely,
Diane Johnson, Principal Planner

[1] You can access the complete UDC on the City's internet site at https://udc.georgetown.org

CC: Project Number: 2023-32-LTR, MyGovernmentOnline.org

Plotted By:Stokes, Adam Date:November 07, 2023 09:43:38am File Path:K:\sau_civil\069412900 — se inner loop georgetown\CAD\plansheets\2_LETTER OF REGULATORY COMPLIANCE.dwg
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No.	REVISIONS	DATE	BY

Kimley»Horn
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TBPE Firm No. 928

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE:	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

LETTER OF REGULATORY COMPLIANCE

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
2 OF 42

2023-58-SDP

GENERAL NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS, THE CITY OF GEORGETOWN "UNIFIED DEVELOPMENT CODE" AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS.
3. CONTRACTOR SHALL CONTACT ALL FRANCHISE UTILITY COMPANIES TO HAVE THEM LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION AND DEPTH OF ALL FRANCHISE UTILITY SERVICES AND ANY REQUIRED RELOCATION AND/OR EXTENSIONS. SERVICES SHOWN ON THE PLANS ARE CONCEPTUAL.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELOCATION AND INSTALLATION OF FRANCHISE UTILITIES NECESSARY FOR ON AND OFF SITE CONSTRUCTION.
5. BRACING OF UTILITY POLES MAY BE REQUIRED BY UTILITY COMPANIES WHEN TRENCHING OR EXCAVATION IS IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR. THERE IS NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE VARIOUS PAY ITEMS FOR INSTALLATION OF PIPE.
6. THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY RECORDS AND PLANS AND ARE CONSIDERED APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE CONTRACTOR SHALL PRESERVE AND PROTECT PUBLIC AND PRIVATE UTILITIES AT ALL TIMES DURING CONSTRUCTION. ANY DAMAGE TO UTILITIES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT THEIR EXPENSE. THE ENGINEER SHALL BE NOTIFIED WHEN PROPOSED FACILITY GRADES CONFLICT WITH EXISTING UTILITY GRADES.
7. CONTRACTOR SHALL USE ALL NECESSARY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES.
8. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS, INCLUDING EXISTING GRADES AND UTILITY FLOW LINES, AND SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
9. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY, INCLUDING, BUT NOT LIMITED TO FENCES, WALLS, PAVEMENT, GRASS, TREES, LAWN SPRINKLER AND IRRIGATION SYSTEMS AT NO COST TO THE OWNER. THIS WORK SHALL BE SUBSIDIARY TO THE CONTRACT (UNLESS OTHERWISE NOTED) AND IS NOT A SEPARATE PAY ITEM.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE APPROVED CONTRACT DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE CONSTRUCTION RECORD PLANS.
13. CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT AND PROFESSIONAL MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS (FOR APPROVAL) OF METHODS PROPOSED.
14. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE OWNER AND ENGINEER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
15. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
16. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO THE FINAL CONNECTION OF SERVICES.
17. CONTRACTOR SHALL VERIFY BENCHMARKS AND DATUM PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS.
18. ALL HORIZONTAL DIMENSIONS GIVEN ARE TO FACE OF CURB AND TO PIPE CENTERLINES, UNLESS OTHERWISE NOTED ON PLANS.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING. CONSTRUCTION STAKING SHALL BE PERFORMED BY A REGISTERED PUBLIC SURVEYOR IN THE STATE OF TEXAS.
20. THE CONTRACTOR SHALL TOPSOIL, SEED AND FERTILIZE ALL AREAS DISTURBED BY CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE WHATEVER MEASURES ARE NEEDED INCLUDING TEMPORARY IRRIGATION TO ENSURE FULL COVERAGE OF GRASSING. UNLESS OTHERWISE NOTED, PRIVATE LAWN AREAS AND PARKWAYS IN FRONT OF PRIVATE LAWN AREAS DISTURBED BY CONSTRUCTION SHALL BE REPLACED WITH BLOCK SOD OF A SIMILAR GRASS TO THAT EXISTING. ALL SEEDED OR SODDED AREAS SHALL RECEIVE SIX(6) INCHES OF TOPSOIL. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
21. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH. THE AREAS SHALL THEN BE SEEDED, IRRIGATED, AND STABILIZED AS SPECIFIED IN THE PLANS, AND MAINTAINED UNTIL SOIL IS STABILIZED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE STABILIZED AND MULCHED AS SHOWN ON THE LANDSCAPE, GRADING, AND EROSION CONTROL PLANS.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
23. SOD MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES.
24. CONTRACTOR IS TO CONSTRUCT A STABILIZED CONSTRUCTION EXIT AT ALL PRIMARY POINTS OF ACCESS. THIS STABILIZED EXIT SHALL BE CONSTRUCTED PER CITY DETAILS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE SWPPP MUST BE MADE READILY AVAILABLE AT THE TIME OF AN ON-SITE INSPECTION TO: THE EXECUTIVE DIRECTOR; A FEDERAL, STATE, OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, GRADING PLANS, OR STORMWATER MANAGEMENT PLANS; LOCAL GOVERNMENT OFFICIALS; AND THE OPERATOR OF A MUNICIPAL SEPARATE STORM SEWER (MS4) RECEIVING DISCHARGES FROM THE SITE.
26. ANY ENTITY THAT MEETS THE DEFINITION OF A "PRIMARY OPERATOR" FOR A LARGE CONSTRUCTION ACTIVITY (FIVE OR MORE ACRES) SHALL BE RESPONSIBLE FOR COMPLETING AND SUBMITTING A NOTICE OF INTENT (NOI) AND A NOTICE OF TERMINATION (NOT) WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
27. THE CONTRACTOR MUST CONSTRUCT AND MAINTAIN A PERMANENT STABLE PROTECTIVE COVER (GRASS) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT. THE PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT STABLE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF IT'S INSTALLATION.
28. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE AS-BUILT PLANS IDENTIFYING ALL DEVIATIONS OR VARIATIONS OF ORIGINAL PLANS. AS-BUILT PLANS ARE SUBSIDIARY TO ALL OTHER BID ITEMS AND SHALL NOT BE PAID FOR AS A SEPARATE LINE ITEM.
29. DURING CONSTRUCTION, ALL MATERIAL TESTING SHALL BE COORDINATED WITH THE CITY OF GEORGETOWN CONSTRUCTION INSPECTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CITY STANDARD SPECIFICATIONS. ALL SOILS TESTING IS THE RESPONSIBILITY OF AND WILL BE PAID FOR BY THE CONTRACTOR. MATERIAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
30. ALL EXISTING TRAFFIC AND STREET SIGNS DISTURBED SHALL BE REINSTALLED WHERE APPLICABLE BY THE CONTRACTOR.
31. ALL EXISTING SHRUBS, TREES, PLANTING, AND OTHER VEGETATION, OUTSIDE OF PROPERTY LIMITS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH EQUIVALENT MATERIAL BY THE CONTRACTOR AT NO ADDITIONAL COST.
32. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES.
33. CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS OFFSITE FROM THE EXISTING ROADWAYS AND PROJECT SITE THAT ARE A RESULT OF THE PROPOSED CONSTRUCTION AS REQUESTED BY THE CITY OF GEORGETOWN. AT A MINIMUM, THIS TASK SHOULD OCCUR ONCE A WEEK.
34. CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT AND PROFESSIONAL MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS (FOR APPROVAL) OF METHODS PROPOSED.
35. WATER SHALL NOT BE PERMITTED IN OPEN TRENCHES DURING CONSTRUCTION.
36. CONTRACTOR SHALL CONTACT THE DESIGNATED CONSTRUCTION INSPECTOR ASSIGNED TO THIS PROJECT AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
37. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TRENCH SAFETY PLAN TO THE CITY OF GEORGETOWN PUBLIC WORKS DEPARTMENT AT THE TIME OF THE PRECONSTRUCTION MEETING, OR PRIOR TO BEGINNING CONSTRUCTION OF THESE IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY STANDARDS, TEXAS STATE LAW, AND O.S.H.A. STANDARDS FOR ALL EXCAVATION IN EXCESS OF FIVE FEET IN DEPTH. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT WITHOUT THE PRIOR SPECIFIC WRITTEN APPROVAL OF THE CITY OF GEORGETOWN PUBLIC WORKS DEPARTMENT, OR DESIGNATED REPRESENTATIVE. ONSITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
38. CONTRACTOR TO REVIEW DESIGN INTENT OF THESE PLANS AND SUBMIT REQUESTS-FOR-INFORMATION IN A TIMELY MANNER PRIOR TO COMMENCING THAT WORK.
39. ALL APPURTENANCES INSTALLED IN PAVEMENT AREAS SHALL BE ADJUSTED AS REQUIRED TO BE FLUSH WITH FINISHED PAVEMENT.
40. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR COMPLETING AND IMPLEMENTING TRAFFIC CONTROL PLAN.

PAVING & STRIPING NOTES

1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF GEORGETOWN, TX STANDARD SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAVEMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. THE OWNER SHALL APPROVE THE LABORATORY NOMINATED TO DO THE TESTING OF MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITY'S SPECIFICATIONS AND THESE PLANS.
3. BARRIER FREE RAMPS SHALL BE CONSTRUCTED AT ALL DRIVEWAY APPROACHES PER CITY STANDARDS.
4. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
5. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT FOR PAVEMENT MARKINGS SHALL ADHERE TO CITY OF GEORGETOWN STANDARD DETAILS AND SPECIFICATIONS.
6. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN.
7. REFER TO GEOTECHNICAL REPORT FOR REINFORCEMENT STEEL.
8. REFER TO GEOTECHNICAL REPORT FOR SOIL COMPACTION SPECIFICATION.
9. FIRE LANES SHALL BE DESIGNATED BY CONTINUOUS PAINTED LINES SIX (6) INCHES IN WIDTH ON EACH SIDE OF THE FIRE LANE STARTING AT THE ENTRANCE FROM THE STREET AND TO BE CONTINUED TO THE EXIT. SUCH LINES SHALL BE BRIGHT RED IN COLOR.
10. FIRE LANES ADJACENT TO CURBS SHALL BE OUTLINED BY A SIX (6) INCH WIDE STRIP PAINTED BRIGHT RED IN COLOR ALONG THE CURB'S GUTTER LINE.
11. ALL HANDICAP RAMPING, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT THAT IS MOST CURRENT.
12. REFERENCE CITY OF GEORGETOWN, TX STANDARD CONSTRUCTION DETAILS FOR CURB RAMP AND OTHER PAVING DETAILS.
13. CONTRACTOR RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY CITY OF GEORGETOWN, TX OF TRAFFIC CONTROL PLAN PRIOR TO START OF CONSTRUCTION.
14. SIDEWALKS ADJACENT TO CURB SHALL BE CONNECTED TO BACK OF CURB USING LONGITUDINAL BUTT JOINT.
15. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE LOCATED OUT OF THE PEDESTRIAN AND AUTOMOBILE ROUTES AND SHALL BE LOCATED BETWEEN THREE TO FIVE FEET BEHIND THE NEAREST BACK OF CURB. SIGN HEIGHT, LOCATION, AND STRUCTURE SHALL BE SUCH THAT THE SIGNS POSE NO THREAT TO PUBLIC SAFETY.
16. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED, FIELD ADJUSTMENTS OF LOCATION AND ORIENTATION OF THE SIGNS ARE TO BE MADE TO ACCOMPLISH THIS.
17. THE CONTRACTOR FOR THE PROJECT SHALL NOT PLACE ANY PERMANENT PAVEMENT UNTIL ALL SLEEVING FOR ELECTRIC, GAS, TELEPHONE, CABLE TV, SITE IRRIGATION, OR ANY OTHER UNDERGROUND UTILITY HAS BEEN INSTALLED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT ALL SLEEVING IS IN PLACE PRIOR TO PLACEMENT OF PERMANENT PAVEMENT.
18. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A. & T.A.S) EXIST TO AND FROM EVERY DOOR. IN NO CASE SHALL HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A. AND T.A.S. COMPLIANCE ISSUES.
19. STREETS, SIDEWALKS, DRIVEWAYS, AND STORM DRAINAGE FACILITIES IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CITY OF GEORGETOWN INFRASTRUCTURE DESIGN & DEVELOPMENT STANDARDS MANUAL, LATEST EDITION.
20. FIRE LANES SHALL REMAIN OPEN/ACCESSIBLE AT ALL TIMES DURING CONSTRUCTION; FIRE LANE SHALL BE INSTALLED & ACCEPTED BY THE CITY PRIOR TO ANY CONSTRUCTION ABOVE THE FOUNDATION.

GRADING NOTES

1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF GEORGETOWN, TX STANDARD SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREAS REFLECT TOP OF PAVEMENT SURFACE. ADD .50' TO PAVING GRADE FOR TOP OF CURB GRADE. THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF PAVEMENT.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER AND CITY) AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION REQUIREMENTS. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION. CONTRACTOR IS RESPONSIBLE FOR FILING N.O.I. AND N.O.T. WITH THE TCEQ. CONTRACTOR SOLELY RESPONSIBLE FOR ALL MANDATED SWPPP RECORD KEEPING AND REPORTING.
4. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE BY THE GRADING CONTRACTOR AT HIS EXPENSE.
5. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED BY THE PLANS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
6. REFERENCE STRUCTURAL DRAWINGS AND SPECIFICATIONS AND GEOTECHNICAL REPORT FOR STRUCTURAL SCOPE AND PAVING SUBGRADE INFORMATION.
7. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
8. GRADING CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS.
9. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAYMENTS FOR SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. THE OWNER SHALL APPROVE THE LABORATORY NOMINATED TO DO THE TESTING OF MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITY'S SPECIFICATIONS AND THESE PLANS.
10. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
11. REFER TO SITE PLAN AND/OR DIMENSION CONTROL PLAN AND FINAL PLAT FOR HORIZONTAL DIMENSIONS.
12. REFER TO EROSION CONTROL PLAN FOR EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
13. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE.
14. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL PRIOR TO COMMENCING CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE CONSTRUCTION COMMENCES.
15. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORM RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.

STORM SEWER NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN SCOPE OF CONSTRUCTION. IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT HIS OWN EXPENSE.
2. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
3. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
4. THE INSPECTOR SHALL INSPECT ALL "PUBLIC" CONSTRUCTION. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
5. ALL PVC TO RCP CONNECTIONS SHALL BE CONSTRUCTED WITH CONCRETE COLLARS.
6. ALL PRIVATE STORM SHALL BE NOTED AS ON PLANS. CONTRACTOR TO CONTACT ENGINEER WITH QUESTIONS ABOUT PIPE MATERIAL PRIOR TO ORDERING. CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO PROJECT ENGINEER AND CITY ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL.
7. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING FOR ALL STORM SEWER LINES AND OTHER UTILITIES.
8. EMBEDMENT FOR ALL ONSITE SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY OF GEORGETOWN, TX STANDARD DETAILS.
9. REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR ALL WATER AND WASTEWATER CROSSINGS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND IMPLEMENTING A TRENCH PROTECTION PLAN FOR ALL OPEN TRENCH EXCAVATION.
11. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
12. ALL PRIVATE LANDSCAPE AREA DRAINS SHALL BE OF MATERIAL APPROVED BY BOTH ENGINEER AND LANDSCAPE ARCHITECT.

WATER AND SANITARY SEWER NOTES

1. ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE REQUIREMENTS SET FORTH IN THE CITY OF GEORGETOWN WATER AND WASTEWATER CONSTRUCTION STANDARDS AND DETAILS, LATEST EDITION.
2. WATER MAINS SHALL HAVE THE FOLLOWING MINIMUM COVER BELOW STREET GRADES:

SIZE	COVER
6"	3.5'
8"	4.0'
10"	4.0'
12"	5.0'
LARGER	AS SHOWN ON PLANS

3. PLASTIC TAPE FOR UTILITY SERVICES SHALL BE ATTACHED TO THE ENDS OF ALL WATER AND SEWER SERVICE LINES AND EXTEND ABOVE GROUND LEVEL. THE TAPE SHALL MEET THE FOLLOWING SPECIFICATION:
   A. "GEORGETOWN MARKING TAPE" OR APPROVED EQUAL.
   B. ROLL MARKED CONTINUOUSLY, "CAUTION WATER LINE" OR "CAUTION SEWER LINE".
   C. SIX (6) INCHES IN WIDTH.
   D. RED TAPE FOR SEWER SERVICES.
   E. BLUE TAPE FOR WATER SERVICES.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY EXACT LOCATIONS OF EXISTING PUBLIC AND PRIVATE UTILITIES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL CALL 811 FOR FIELD LOCATION OF EXISTING UTILITIES. CALL AT LEAST 48 HOURS BEFORE LOCATIONS ARE NEEDED. NOTE THAT THE DIG TESS SERVICE DOES NOT LOCATE ALL UTILITIES, ONLY THOSE REGISTERED WITH THE SERVICE.
5. REFER TO SITE GRADING PLANS, PAVING PLANS, AND LANDSCAPE PLANS FOR FINAL GRADES FOR DETERMINING PROPOSED MANHOLE RIM ELEVATIONS.
6. LOCATIONS AND SIZES OF EXISTING PUBLIC AND PRIVATE UTILITIES SHOWN ON THESE PLANS ARE FROM CITY AND UTILITY COMPANY RECORDS ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING "RECORD" PLANS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN, COORDINATING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING AND/OR CROSSING OTHER UTILITIES.
9. ALL WATER AND SANITARY SEWER SERVICES SHALL TERMINATE FIVE (5) FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE.
10. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE UTILITIES. ALL PUBLIC PIPE, STRUCTURES, AND FITTINGS SHALL BE INSPECTED BY THE CITY INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING DISINFECTION AND PRESSURE TESTING OF ALL MAINS. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
11. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE TRENCH SAFETY DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A TRENCH EXCAVATION PROTECTION PLAN, SEALED BY A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR ALL TRENCHES DEEPER THAN FIVE (5) FEET.
12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING FOR ALL WATER AND SANITARY SEWER LINES AND OTHER UTILITIES.
13. REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR ALL UTILITY CROSSINGS.
14. CONTRACTOR TO SEQUENCE CONSTRUCTION AS TO AVOID INTERRUPTION OF WATER OR SANITARY SEWER SERVICE TO SURROUNDING AREAS.
15. EXISTING MANHOLE TOPS, VALVE BOXES, ETC. ARE TO BE ADJUSTED AS REQUIRED TO MATCH PROPOSED GRADES.
16. FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF TWO (2) FEET AND A MAXIMUM OF SIX (6) FEET BEHIND THE CURB LINE OF FIRE LANE AND STREET.
17. ANY WATER OR SANITARY SEWER SERVICE LOCATED OUTSIDE OF A STREET, ALLEY OR EASEMENT SHALL BE INSTALLED BY A PLUMBER AND BE INSPECTED BY CODE ENFORCEMENT.

CITY OF GEORGETOWN NOTES:

1. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS AND SIDEWALK ALONG PARKLAND, OPEN SPACE, OR OTHER NON-RESIDENTIAL LOTS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.
22. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
23. THE DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
24. THE SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
25. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
26. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
27. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
28. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.05 OF THE UDC.
29. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
30. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
31. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
32. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
33. FIRE FLOW REQUIREMENTS OF 1,500 GALLONS PER MINUTE ARE BEING MET BY THIS PLAN.
34. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CAR, PRUNING, AND REMOVAL REQUIREMENTS OF THE UDC.

FIRE PROTECTION NOTES

1. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.
2. BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.
3. ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTILLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.
4. ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING AND JOINT RESTRAINED WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.
5. ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINT RESTRAINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.
6. ALL UNDERGROUND SHALL BE FLUSHED PER THE REQUIREMENTS OF NFPA STANDARD 24 AND WITNESSED BY GEORGETOWN FMO.
7. ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI. OR 50 PSI MORE THAN THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE + OR - 5 PSI FOR 2 HOURS.
8. FENCES, LANDSCAPING, AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT, AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOTE FDCS.
9. LICENSE REQUIREMENTS OF EITHER RME-U OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYOR'S MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

No.	REVISIONS	DATE	BY

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TBPE Firm No. 928

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

GENERAL NOTES

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
3 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:43:48am File Path: K:\sau_civil\069412900 - se inner loop georgetown\CAD\plansheets\C - General Notes.dwg
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KH GENERAL NOTES

OVERALL:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
20. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
21. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
24. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
26. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
28. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC.…) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.
29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
30. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.….) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
32. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING.
34. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
35. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
36. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.… TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
40. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
41. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
42. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
43. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
46. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
47. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
48. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
49. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
50. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
51. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
52. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
53. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

EROSION CONTROL:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000".
3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE.
4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
8. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.
14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT ALL TIMES FOR ALL INGRESS/EGRESS.
15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP.
18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
19. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
22. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
23. UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT, OR A UNIFORM PERENNIAL VEGETATIVE COVER.
24. AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

STORM WATER DISCHARGE AUTHORIZATION:

1. CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.
3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) RECEIVING DISCHARGE FROM THE SITE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI).
5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

DEMOLITION:

1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

GRADING:

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB ELEVATION.
4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.
5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
6. ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
7. CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE PAVEMENT SECTION.
8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER.
9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO.
14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL.
15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
16. NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED.
17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.
18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.
19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
20. CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING.
21. ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
22. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
23. THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION IN THE BUILDING PAD.
24. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
25. CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION.
26. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER.
27. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL INFORMATION.
28. EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.
29. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK.
30. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT.
31. CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.
32. NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S).
33. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.
34. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED.
35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

RETAINING WALLS:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

PAVING:

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
2. ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA.
3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS.
9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST EDITION.
11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
12. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION.
13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT.
15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT.
16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.
17. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK.
20. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT.
21. FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS.
22. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
23. CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED.
24. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
25. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

STORM DRAINAGE:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.
9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL.
10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED.
11. IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT.
12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
13. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
15. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

POND NOTES:

1. ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT.
2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS.
3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT.
4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION.
5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL.
6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT.
7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

WATER AND WASTEWATER:

1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE.
5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES.
9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS.
11. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT.
14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES.
15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT.
18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
19. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS.
20. CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING.
21. ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53.
22. ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 290.44.
23. ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING:
   a. ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS.
   b. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD.
24. CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS, AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE.
25. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.
26. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.
27. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.
28. CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE (E.G. FLOOR ELEVATION OF FIXTURE UNIT IS BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER). CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED.
29. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
30. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

ABBREVIATIONS AND DEFINITIONS:

A	AREA
AI	AREA INLET
ADA	AMERICANS WITH DISABILITIES ACT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B-B	BACK TO BACK
BC	BEGIN CURVE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CFS	CUBIC FEET PER SECOND
CI	CURB INLET
CITY	CITY, TOWN, OR OTHER APPLICABLE LOCAL GOVERNMENT JURISDICTION
C/L	CENTERLINE
CL	CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
DE	DRAINAGE EASEMENT
DEMO	DEMOLITION
DG	DECOMPOSED GRANITE
DI	DROP INLET
DOM	DOMESTIC
DTL	DETAIL
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
EG	EXISTING GROUND
EL	ELEVATION
ELEC	ELECTRICAL / ELECTRICITY
ELEV	ELEVATION
EPA	UNITES STATES ENVIRONMENTAL PROTECTION AGENCY
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX.	EXISTING
F-F	FACE TO FACE
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOW LINE
FOC	FACE OF CURB
FT	FEET
GI	GRATE INLET
HGL	HYDRAULIC GRADE LINE
IRR	IRRIGATION
KH	KIMLEY-HORN AND ASSOCIATES, INC.
KHA	KIMLEY-HORN AND ASSOCIATES, INC.
LAT	LATERAL
LF	LINEAR FEET
LS	LANDSCAPE
LT	LEFT
MAX	MAXIMUM
ME	MATCH EXISTING ELEVATION
MH	MANHOLE
MIN	MINUTE / MINIMUM
NO	NUMBER
NOI	NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT
NOT	NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT
NTS	NOT TO SCALE
OC	ON CENTER
OFF	OFFSET
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVATURE
PGL	PROPOSED GRADE LINE
PI	POINT OF INFLECTION
PROP	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INFLECTION
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RT	RIGHT
SF	SQUARE FEET
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SY	SQUARE YARD
TAS	ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS
TC	TOP OF CURB
TCEQ	TEXAS COMMISSION OF ENVIRONMENTAL QUALITY
TEMP	TEMPORARY
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TXMUTCD	TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
TW	TOP OF WALL
TYP	TYPICAL
VC	VERTICAL CURVE
WE	WATER EASEMENT
WI	WYE INLET
WTR	WATER
WW	WASTEWATER

THESE PLAN AND GENERAL NOTES REFER TO:
GEOTECHNICAL ENGINEERING REPORT
(FIRM) **MLA GEOTECHNICAL**
(PROJ./REPORT #) **23106100.140**
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LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

KIMLEY-HORN GENERAL NOTES

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:43:48am File Path: K:\sau_civil\069412900 – se inner loop georgetown\CAD\plansheets\C – General Notes.dwg
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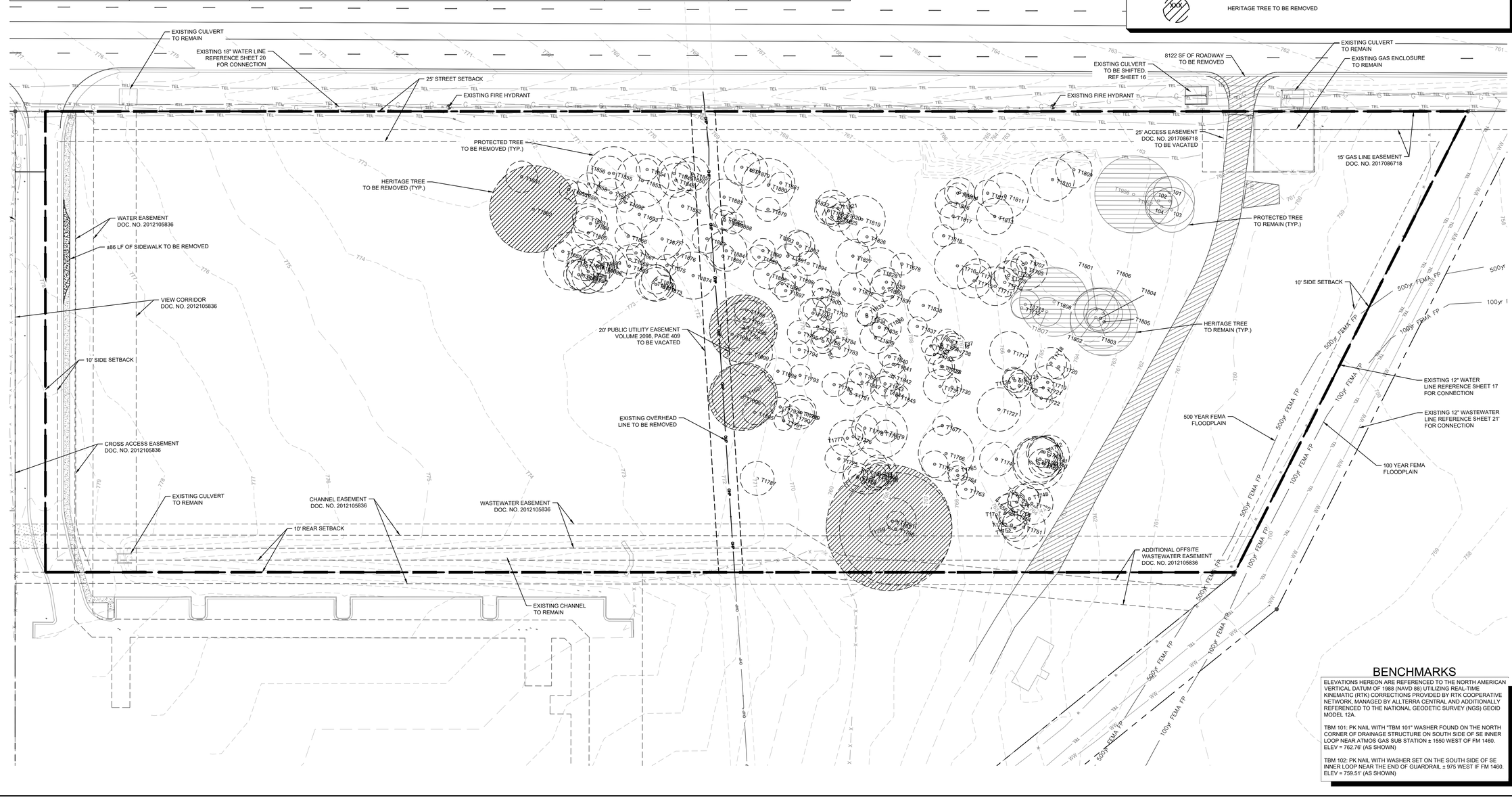
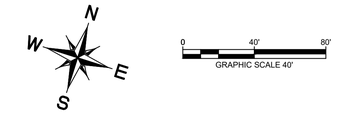
Number	Size (DBH)	Species	Status
101	13	Live Oak	P
102	20.5	Live Oak	P
103	18.5	Live Oak	P
104	13.5	Live Oak	P
1677	8	Live Oak	R
1678	8.5	Live Oak	R
1679	10	Live Oak	R
1680	7.5	Live Oak	R
1681	22	Live Oak	R
1682	13	Live Oak	R
1683	12.5	Live Oak	R
1685	14	Live Oak	R
1686	17	Live Oak	R
1687	15	Live Oak	R
1688	20	Live Oak	R
1689	7.5	Live Oak	R
1690	13.5	Live Oak	R
1691	12	Live Oak	R
1692	8	Cedar Elm	R
1693	19	Cedar Elm	R
1694	12	Cedar Elm	R
1695	9.5	Live Oak	R
1696	27.5	Live Oak	R
1697	27	Live Oak	R
1698	10	Live Oak	R
1699	18.5	Live Oak	R
1700	28	Live Oak	R
1701	8	Cedar Elm	R
1702	11	Cedar Elm	R
1703	10	Cedar Elm	R
1704	10	Cedar Elm	R
1705	18	Cedar Elm	R
1706	9.5	Cedar Elm	R
1707	8.5	Cedar Elm	R
1708	9	Cedar Elm	R
1709	11	Cedar Elm	R
1710	11	Cedar Elm	R
1711	15.5	Cedar Elm	R
1712	8.5	Cedar Elm	P
1713	12	Cedar Elm	P
1714	11	Cedar Elm	R
1715	12.5	Cedar Elm	R
1716	17.5	Cedar Elm	R
1717	15	Cedar Elm	R
1718	12.5	Live Oak	R
1719	14	Live Oak	R
1720	9.5	Live Oak	R
1721	18	Live Oak	R
1722	9	Live Oak	R
1723	9.5	Live Oak	R
1724	8.5	Live Oak	R
1725	9.5	Live Oak	R
1726	8.5	Live Oak	R
1727	19	Cedar Elm	R
1728	8	Cedar Elm	R
1729	10.5	Cedar Elm	R
1730	8	Cedar Elm	R
1731	13.5	Cedar Elm	R
1732	8	Cedar Elm	R
1733	8	Cedar Elm	R
1734	8	Cedar Elm	R
1735	9	Cedar Elm	R
1736	8	Live Oak	R
1737	9	Live Oak	R
1738	10	Live Oak	R
1739	12	Live Oak	R
1740	9.5	Live Oak	R
1741	16	Live Oak	R
1742	12.5	Live Oak	R
1743	11.5	Live Oak	R
1744	18	Live Oak	R
1745	20	Live Oak	R
1746	21.5	Live Oak	R
1747	13.5	Live Oak	R
1748	8.5	Live Oak	R
1749	12.5	Live Oak	R
1750	17.5	Live Oak	R
1751	17	Live Oak	R
1752	11	Live Oak	R
1753	11	Live Oak	R
1754	10	Live Oak	R
1755	14	Live Oak	R
1756	15	Live Oak	R
1757	8	Live Oak	R
1758	8	Live Oak	R
1759	51	Live Oak	R
1760	46.5	Live Oak	R
1761	8	Live Oak	R
1762	19.5	Live Oak	R
1763	8	Cedar Elm	R
1764	7	Cedar Elm	R
1765	7.5	Cedar Elm	R
1766	22	Live Oak	R
1767	10.5	Live Oak	R
1768	9.5	Live Oak	R
1769	14.5	Live Oak	R
1770	11.5	Live Oak	R
1771	11	Live Oak	R
1772	19	Live Oak	R
1773	7.5	Live Oak	R
1774	12.5	Live Oak	R
1775	11.5	Live Oak	R
1776	8	Live Oak	R
1777	14.5	Live Oak	R
1778	10.5	Live Oak	R
1779	9.5	Live Oak	R
1780	21.5	Live Oak	R
1781	10	Cedar Elm	R
1782	9.5	Cedar Elm	R
1783	7	Cedar Elm	R
1784	7.5	Cedar Elm	R
1785	9.5	Cedar Elm	R
1786	8	Cedar Elm	R
1787	14	Cedar Elm	R
1788	13.5	Live Oak	R
1789	10.5	Live Oak	R
1790	7.5	Live Oak	R
1791	7.5	Live Oak	R
1792	8	Live Oak	R
1793	8.5	Live Oak	R
1794	7.5	Cedar Elm	R
1795	9.5	Cedar Elm	R
1796	9	Cedar Elm	R
1797	8	Cedar Elm	R
1798	22.5	Live Oak	R
1801	18	Live Oak	P
1802	8	Live Oak	P
1803	8.5	Cedar Elm	P
1804	25	Live Oak	P
1805	28	Live Oak	P
1806	16	Live Oak	R
1807	12	Cedar Elm	P
1808	28.5	Cedar Elm	R
1809	14	Cedar Elm	R
1810	17.5	Cedar Elm	R
1811	18.5	Cedar Elm	R
1812	10	Cedar Elm	R
1813	13.5	Cedar Elm	R
1814	12.5	Cedar Elm	R
1815	8.5	Cedar Elm	R
1816	13	Live Oak	R
1817	10.5	Cedar Elm	R
1818	8.5	Cedar Elm	R
1819	19.5	Cedar Elm	R
1820	9	Cedar Elm	R
1821	10	Cedar Elm	R
1822	14	Cedar Elm	R
1823	11.5	Cedar Elm	R
1824	8	Cedar Elm	R
1825	11	Cedar Elm	R
1826	8	Cedar Elm	R
1827	13.5	Cedar Elm	R
1828	18.5	Cedar Elm	R
1829	11.5	Cedar Elm	R
1830	10	Cedar Elm	R
1831	7.5	Cedar Elm	R
1832	13	Cedar Elm	R
1833	8.5	Cedar Elm	R
1834	8	Cedar Elm	R
1835	7.5	Cedar Elm	R
1836	12	Cedar Elm	R
1837	7.5	Cedar Elm	R
1838	11.5	Cedar Elm	R
1839	11.5	Cedar Elm	R
1840	8.5	Cedar Elm	R
1841	8	Cedar Elm	R
1842	11	Cedar Elm	R
1843	9.5	Cedar Elm	R
1844	11.5	Cedar Elm	R
1845	9	Cedar Elm	R
1846	8.5	Cedar Elm	R
1847	11.5	Cedar Elm	R
1848	14	Cedar Elm	R
1849	13	Cedar Elm	R
1850	11	Cedar Elm	R
1851	12	Cedar Elm	R
1852	11.5	Cedar Elm	R
1853	21.5	Cedar Elm	R
1854	8.5	Cedar Elm	R
1855	21	Cedar Elm	R
1856	14	Cedar Elm	R
1857	11.5	Cedar Elm	R
1858	9	Cedar Elm	R
1859	8.5	Live Oak	R
1860	7.5	Live Oak	R
1861	13	Live Oak	R
1862	36	Pecan	R
1863	9.5	Live Oak	R
1864	13.5	Live Oak	R
1865	13.5	Live Oak	R
1866	9.5	Live Oak	R
1867	7.5	Live Oak	R
1868	11	Live Oak	R
1869	10	Live Oak	R
1870	11.5	Live Oak	R
1871	14.5	Live Oak	R
1872	13.5	Live Oak	R
1873	10.5	Live Oak	R
1874	19.5	Live Oak	R
1875	8	Live Oak	R
1876	11	Live Oak	R
1877	17	Live Oak	R
1878	14	Cedar Elm	R
1879	12.5	Cedar Elm	R
1880	22	Cedar Elm	R
1881	8.5	Cedar Elm	R
1882	13	Cedar Elm	R
1883	10.5	Cedar Elm	R
1884	15.5	Cedar Elm	R
1885	9	Cedar Elm	R
1886	8	Cedar Elm	R
1887	8.5	Cedar Elm	R
1888	8.5	Cedar Elm	R
1889	9.5	Cedar Elm	R
1890	9.5	Cedar Elm	R
1891	9	Cedar Elm	R
1892	10.5	Cedar Elm	R
1893	11	Cedar Elm	R
1894	11.5	Cedar Elm	R
1895	12.5	Cedar Elm	R
1896	10	Cedar Elm	R
1897	8.5	Cedar Elm	R
1898	10	Cedar Elm	R
1899	9	Cedar Elm	R
1900	7.5	Cedar Elm	R
1956	31.5	Live Oak	P
1957	11	Live Oak	P





0 40' 80'

GRAPHIC SCALE 40'

LEGEND

PROPERTY LINE	BENCHMARK
ADJACENT PROPERTY LINE	FIRE HYDRANT
EASEMENT LINE	WATER MANHOLE
W — WATER LINE	WATER VALVE
WW — WASTEWATER LINE	WASTEWATER CLEANOUT
STORM SEWER LINE	WASTEWATER MANHOLE
GAS — GAS	GAS SIGN
OHE — OVERHEAR ELECTRIC	UTILITY POLE
TEL — TELEPHONE LINE	GUY ANCHOR
LIMITS OF CONSTRUCTION AREA	100 YR FEMA FP — 100 YR FEMA FLOODPLAIN
	500 YR FEMA FP — 500 YR FEMA FLOODPLAIN
EXISTING TREE TO REMAIN	AREA OF DEMO
EXISTING TREE TO BE REMOVED	
HERITAGE TREE TO REMAIN	
HERITAGE TREE TO BE REMOVED	

BENCHMARKS

ELEVATIONS HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UTILIZING REAL-TIME KINEMATIC (RTK) CORRECTIONS PROVIDED BY RTK COOPERATIVE NETWORK, MANAGED BY ALLTERRA CENTRAL AND ADDITIONALLY REFERENCED TO THE NATIONAL GEODETIC SURVEY (NGS) GEOID MODEL 12A.

TBM 101: PK NAIL WITH "TBM 101" WASHER FOUND ON THE NORTH CORNER OF DRAINAGE STRUCTURE ON SOUTH SIDE OF SE INNER LOOP NEAR ATMOS GAS SUB STATION ± 1550 WEST OF FM 1460. ELEV = 762.76' (AS SHOWN)

TBM 102: PK NAIL WITH WASHER SET ON THE SOUTH SIDE OF SE INNER LOOP NEAR THE END OF GUARDRAIL ± 975 WEST IF FM 1460. ELEV = 759.51' (AS SHOWN)

No.	REVISIONS	DATE	BY

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
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Michael B. Lee
STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900	DATE OCTOBER 2023	DESIGNED BY: MBL	DRAWN BY: AKS
	SCALE: AS SHOWN		CHECKED BY: MBL

EXISTING CONDITIONS AND DEMO PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
5 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 - 09:44:01am File Path: K:\Sou_Civil\069412900 - se inner loop georgetown\Civil\plansheets\C - Existing Conditions and Demo Plan.dwg
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NOTES

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY RULES AND REGULATIONS
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURE DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(D) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
6. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
7. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
8. REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 7.
9. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING [ECM 1.4.4.B.3, SECTION 5, I.]. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY [ECM 1.4.4.D.4].
10. ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF AUSTIN STANDARDS.
11. SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.

N W E S

0 40' 80'
GRAPHIC SCALE 40'

LEGEND

SF	SILT FENCE
TP	TREE PROTECTION
IP	PROPOSED INLET PROTECTION
CE	CONSTRUCTION ENTRANCE
RB	ROCK BERM
450	EXISTING CONTOURS
450	PROPOSED CONTOURS
	LIMITS OF CONSTRUCTION AREA
	PROPERTY BOUNDARY
	TREE TO REMAIN

DEWATERING SKIMMER

RIP RAP AND FLOW SPREADER (TYP.)

DRAINAGE CHANNEL

LIMITS OF CONSTRUCTION

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TBPE Firm No. 928

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

No.	REVISIONS	DATE	BY

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

EROSION CONTROL PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
6 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:44:45am File Path: K:\Sou_Civil\069412900 - se inner loop georgetown\CAD\plansheets\6 EROSION CONTROL PLAN.dwg
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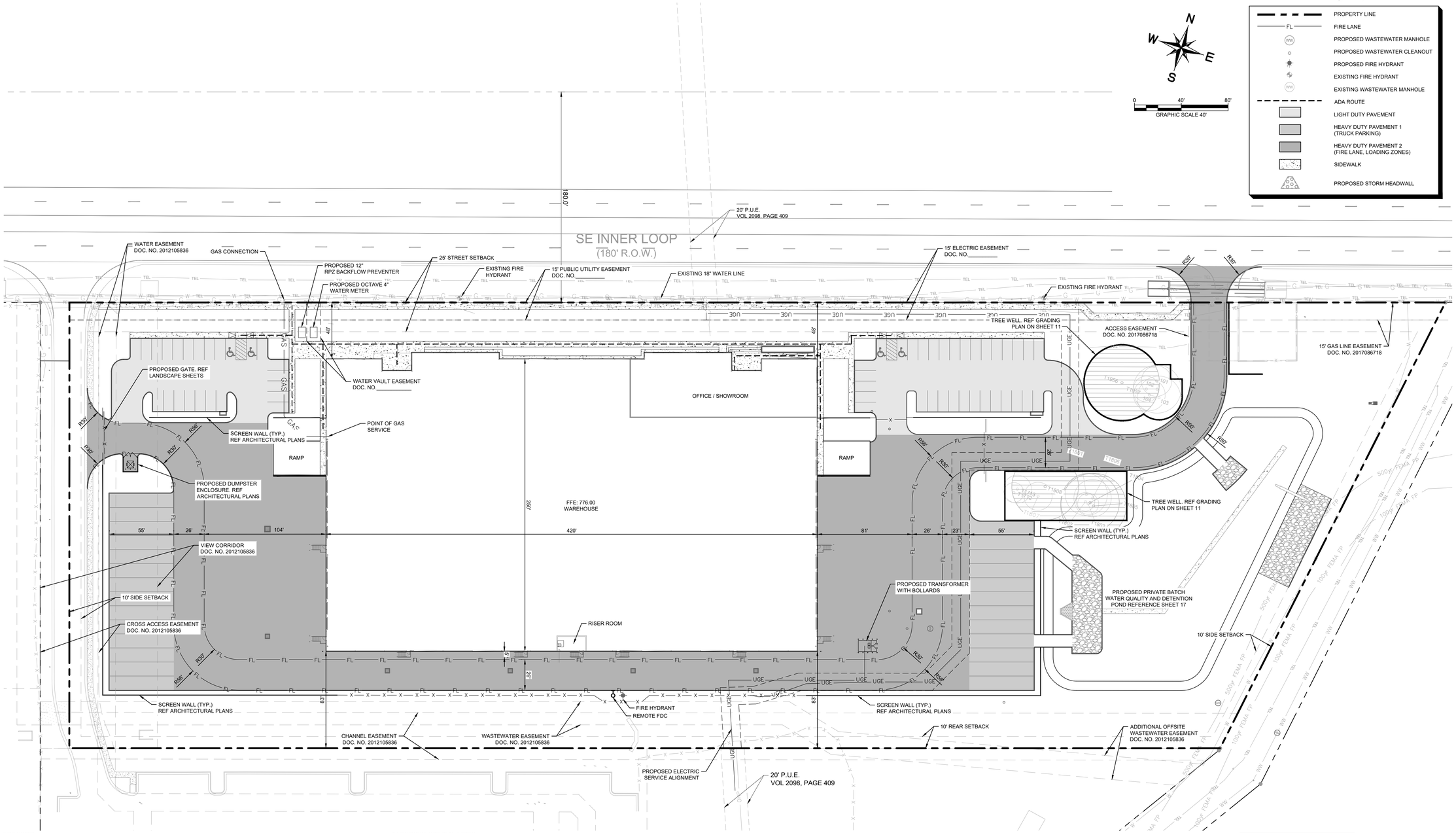

FIRE NOTES:

GATES SECURING FIRE APPARATUS ROADS SHALL COMPLY WITH ALL OF THE FOLLOWING CRITERIA:

1. THE MINIMUM UNOBSTRUCTED GATE WIDTH SHALL BE 20 FEET (6096MM).
   A. EXCEPTIONS: ONE-AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
2. GATES SHALL BE OF THE SWINGING OR SLIDING TYPE.
3. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATION BY ONE PERSON.
4. GATE COMPONENTS SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRICALLY OPERATED GATES:
   A. SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCESS. EMERGENCY ACCESS DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
      (1) KNOX KEY SWITCH AND
      (2) OPTICOR SYSTEM
   B. SHALL BE IN THE FULLY-OPENED POSITION FOR NO MORE THAN 30 SECONDS.
   C. SHALL HAVE A MANUAL OVERRIDE SYSTEM. MANUAL OVERRIDE OPERATIONS SHALL BE LOCATED ON THE ENTRANCE SIDE OF THE GATE, OR WHEN POWER HAS FAILED, THE GATE(S) SHALL OPEN AND STAY OPEN UNTIL POWER IS RESTORED FOR NORMAL OPERATIONS.
   D. SHALL HAVE INSTALLED APPROVED PREEMPTIVE CONTROL OPENING EQUIPMENT.
   E. EXCEPTIONS.
      (i) DRIVEWAYS SERVING ONE- AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
      (ii) GATES SERVING AS AN EMERGENCY ACCESS WITH 24-HOUR STAFFED GATEHOUSES.
6. MANUAL OPENING GATES:
   A. MAY BE LOCKED WHEN APPROVED BY FIRE CODE OFFICIAL.
   B. IF EQUIPPED WITH A LOCK KEYS SHALL BE PROVIDED FOR INSTALLATION INTO AN APPROVED FIRE DEPARTMENT KEY BOX. KEYS SHALL BE MAINTAINED CURRENT.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.
8. ELECTRIC GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325.
9. GATES INTENDED FOR AUTOMATIC OPERATION SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200.
10. A CONSTRUCTION PERMIT IN ACCORDANCE WITH SUBSECTION 503.6 IS REQUIRED TO INSTALL OR MODIFY A GATE ACROSS FIRE APPARATUS ROADWAYS. D103.5
11. ALL CURBS AND CURB ENDS SHALL BE PAINTED RED WITH FOUR-INCH WHITE LETTERING STATING, "FIRE LANE -- TOW AWAY ZONE". THESE WORDS "FIRE LANE" BY THEMSELVES ARE NOT ACCEPTABLE. WORDING MAY NOT BE SPACED MORE THAN 30 FEET APART.

DIMENSIONAL SITE PLAN NOTES:

1. ALL LIGHTING FIXTURES SHALL BE DESIGNATED TO COMPLETELY CONCEAL AND FULLY SHIELD, WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED, ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
2. ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
3. PER CHAPTER 8, THE DUMPSTER ENCLOSURE MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN; THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.
4. REFERENCE LANDSCAPE PLANS FOR HARDSCAPE WALKWAY MATERIAL.

SITE DATA TABLE

BUILDING	DESCRIPTION	FLOOR AREA (SF)	# OF LEVELS	TOTAL GFA (SF)	USE	FFE (FT)	CONSTRUCTION TYPE	FIRE DEMAND (50% REDUCTION) GPM
1	WAREHOUSE	98,142	1	98,142.00	WAREHOUSE	776.00	IIB	1,500.00
	OFFICE	7,997	1	7,997.00	OFFICE / SHOWROOM	776.00	IIB	1,500.00
TOTAL				**106,139.00**				

PARKING TABLE

USE	RATIO	GFA (SF)	REQUIRED	PROVIDED
INDUSTRIAL MANUFACTURING AND WAREHOUSING USES	1 per 500 ft2 GFA of indoor facility	7,897	16	55
	+ 1 additional per 2,500 ft2 indoor and outdoor storage area	98,142	39	
*PER CITY OF GEORGETOWN PARKING REQUIREMENTS		**TOTAL**	55	55

THESE PLAN AND GENERAL NOTES REFER TO:
GEOTECHNICAL ENGINEERING REPORT
(FIRM) MLA GEOTECHNICAL
(PROJ.REPORT #) 23106100.140
(DATE) 11/03/2023
INCLUDING ALL REVISIONS AND ADDENDA TO THIS REPORT THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.

SITE DATA

PROPOSED USE: INDUSTRIAL
ZONING DISTRICT: BUSINESS PARK
LAND AREA IN ACRES: 9.441 ACRES
LAND AREA IN SQUARE FEET: 411,254 SQ. FT.
TOTAL AREA IMPERVIOUS COVER: 5.82 ACRES (62%)
MAX ALLOWABLE IMPERVIOUS COVER: 5.94 ACRES (63%)
TOTAL GROSS FLOOR AREA: 106,139 SF
PROPOSED SQUARE FOOTAGE: 106,139 SF

No.	REVISIONS	DATE	BY

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10/25/2023

KHA PROJECT	069412900		
DATE	OCTOBER 2023		
SCALE:	AS SHOWN		
DESIGNED BY:	MBL	DRAWN BY:	AKS
CHECKED BY:	MBL		

OVERALL SITE PLAN AND PAVING PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
7 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:45:08am File Path: K:\Geo_Civil\069412900 - se inner loop georgetown\CAD\plansheets\Y OVERALL SITE PLAN AND PAVING PLAN.dwg
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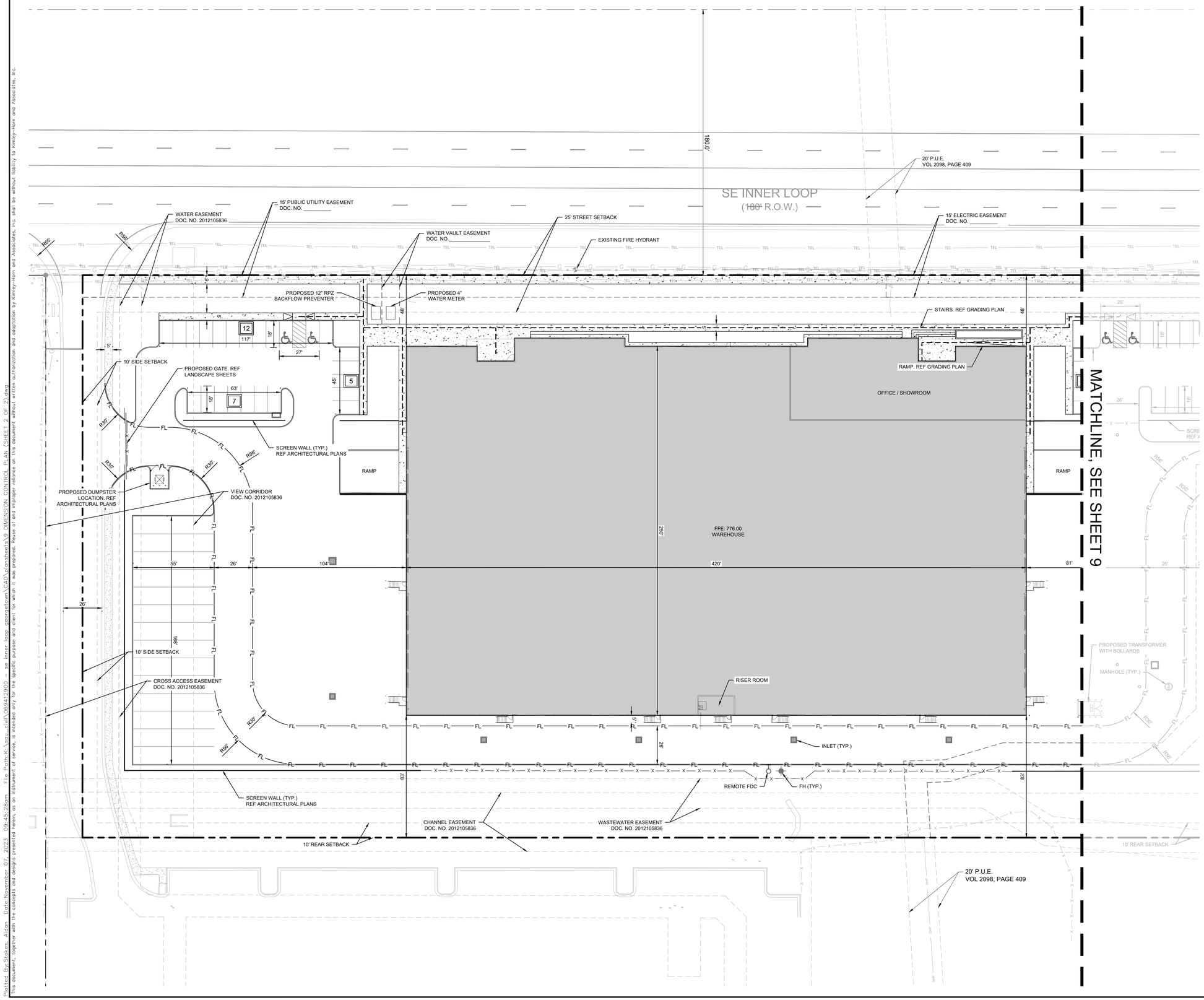

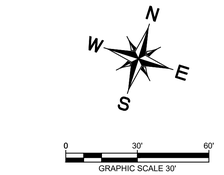

LEGEND

- PROPERTY LINE
- PROPOSED EASEMENT
- ROW DEDICATION
- FL — FIRE LANE
- PROPOSED WALL
- X (TYPE X) — BUILDING NUMBER / BUILDING TYPE
- 100yr FEMA FP — 100-YR FEMA FLOODPLAIN
- 500yr FP — 500-YR FEMA FLOODPLAIN
- ADA ROUTE

NOTES

1. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 13'-6" VERTICAL CLEARANCE.
2. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS "FIRE ZONE/TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF, PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2
3. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
4. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A1171-1986-4.6.2.
5. CONTRACTOR TO HAVE STAKING VERIFIED BY OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
7. ALL RADII TO BE 2' OR 10' UNLESS OTHERWISE NOTE D.
8. SEE OVERALL SITE PLAN ON SHEET 7 FOR ADDITIONAL NOTES.
9. RETAINING WALLS SHALL BE ENGINEERED AND REQUIRE A SEPARATE BUILDING PERMIT [IBC 105.2].
10. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.
11. ALL STANDARD PARKING STALLS TO BE 9' WIDE BY 18' DEEP TO FACE OF CURB. ALL COMPACT PARKING STALLS TO BE 7.5' WIDE BY 15.0' DEEP TO FACE OF CURB.

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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

DIMENSION CONTROL PLAN (SHEET 1 OF 2)

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
8 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 - 09:45:28am File Path: K:\Aus_civil\069412900 - se inner loop georgetown\CAD\plansheets\9 DIMENSION CONTROL PLAN (SHEET 2 OF 2).dwg
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0 30' 60'

GRAPHIC SCALE 30'

LEGEND

- PROPERTY LINE
- PROPOSED EASEMENT
- ROW DEDICATION
- FL — FIRE LANE
- PROPOSED WALL
- X (TYPE X) — BUILDING NUMBER / BUILDING TYPE
- 100yr FEMA FP — 100-YR FEMA FLOODPLAIN
- 500yr FEMA FP — 500-YR FEMA FLOODPLAIN

NOTES

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2. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS "FIRE ZONE/TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF, PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2
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TBPE Firm No. 928

STATE OF TEXAS
MICHAEL B. LEE
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PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

DIMENSION CONTROL PLAN (SHEET 2 OF 2)

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
9 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:45:31am File Path: K:\Geo_Civil\069412900 - se inner loop georgetown\CAD\plansheets\9 DIMENSION CONTROL PLAN (SHEET 2 OF 2).dwg
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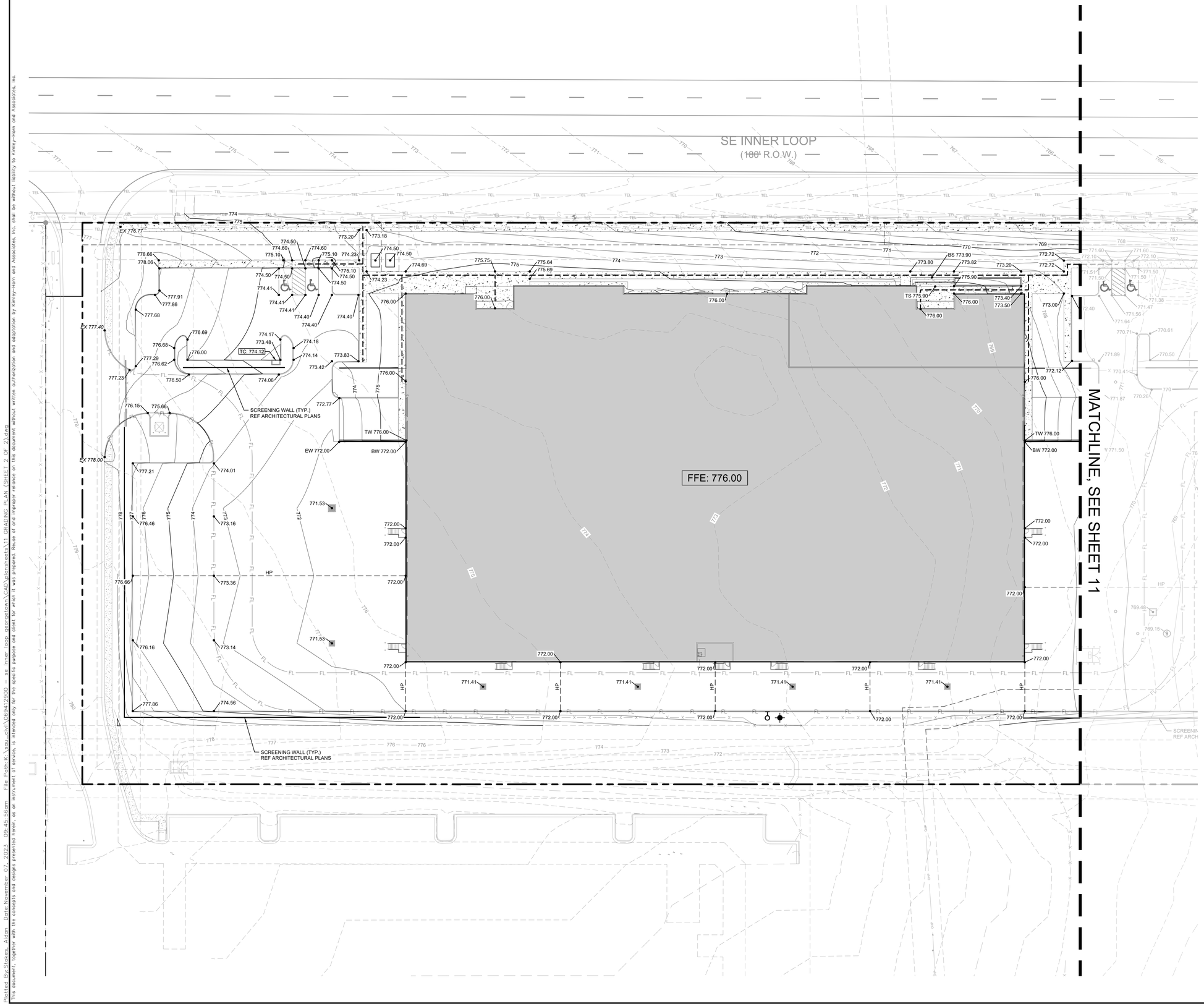

LEGEND

	PROPERTY LINE
FF=XXX.XX	PROPOSED FINISHED FLOOR ELEVATION
XXX.X	PROPOSED TOP OF PAVEMENT ELEVATION
EX XXX.X	EXISTING TOP OF PAVEMENT ELEVATION
TG XXX.X	PROPOSED TOP OF GRATE
TW XXX.X	PROPOSED GRADE AT TOP OF WALL
BW XXX.X	PROPOSED GRADE AT BOTTOM OF WALL
EW XXX.X	PROPOSED GRADE AT END OF WALL
	PROPOSED SWALE
HP	HIGH POINT
	FLOW DIRECTION
	PROPOSED RETAINING WALL
555	PROPOSED CONTOUR
555	EXISTING CONTOUR
	EXISTING TREE TO REMAIN
	ADA ROUTE

NOTES

1. ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED.
2. ALL TOP OF WALL ELEVATIONS ARE TO TOP OF GRADE AT WALL.
3. ALL BOTTOM OF WALL ELEVATIONS ARE TO BOTTOM OF GRADE AT WALL.
4. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS: NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
5. MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.

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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE:	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

GRADING PLAN (SHEET 1 OF 2)

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
10 OF 42

2023-58-SDP

Plotted By:Stokes, Aidan Date:November 07, 2023 09:45:56am File Path:K:\sau_civil\069412900 se inner loop georgetown\CAD\plansheets\11 GRADING PLAN (SHEET 2 OF 2).dwg
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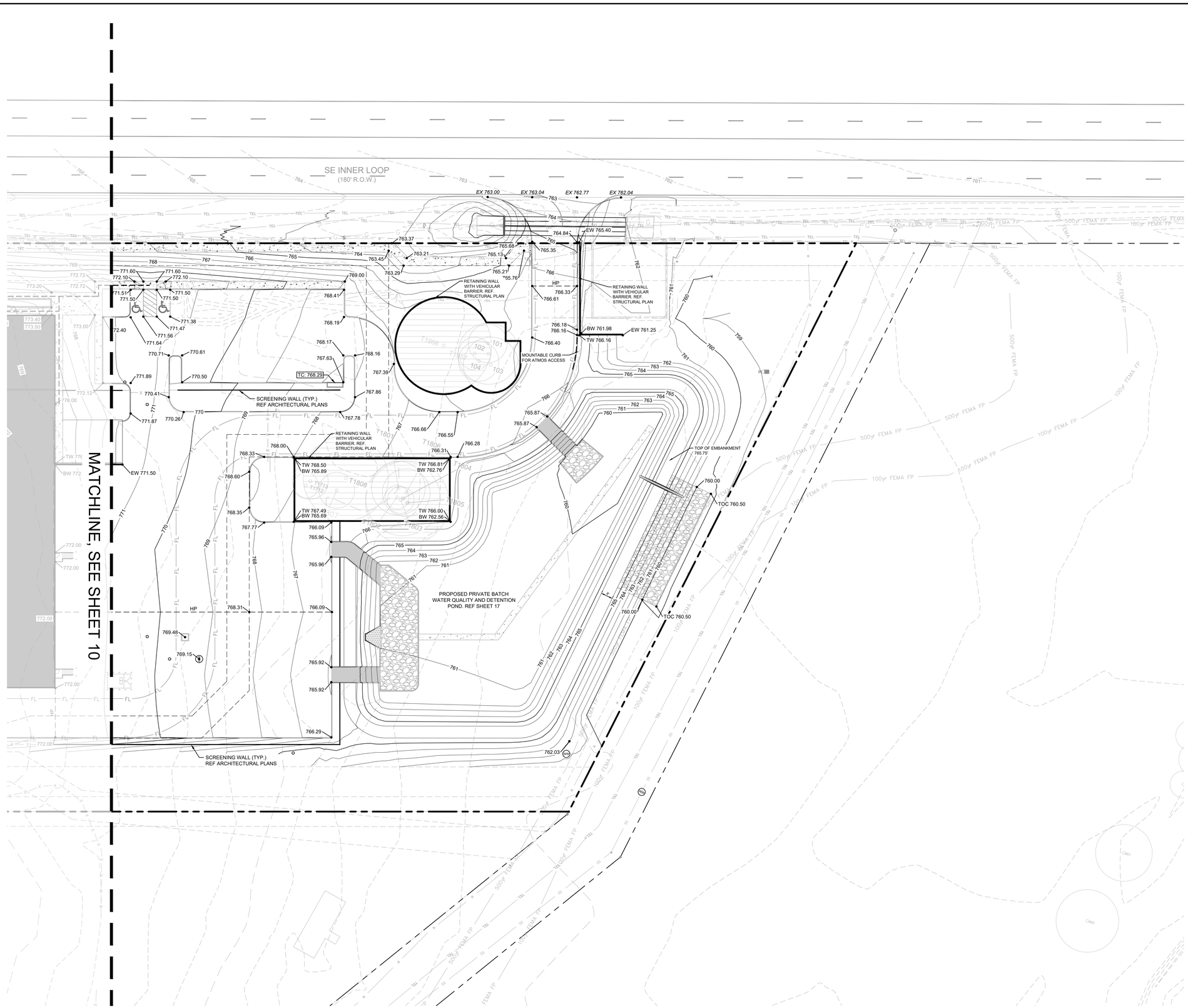

N
W E
S

0 30' 60'
GRAPHIC SCALE 30'

LEGEND

	PROPERTY LINE
FF=XXX.XX	PROPOSED FINISHED FLOOR ELEVATION
XXX.X	PROPOSED TOP OF PAVEMENT ELEVATION
EX XXX.X	EXISTING TOP OF PAVEMENT ELEVATION
TG XXX.X	PROPOSED TOP OF GRATE
TW XXX.X	PROPOSED GRADE AT TOP OF WALL
BW XXX.X	PROPOSED GRADE AT BOTTOM OF WALL
EW XXX.X	PROPOSED GRADE AT END OF WALL
	PROPOSED SWALE
HP	HIGH POINT
	FLOW DIRECTION
	PROPOSED RETAINING WALL
555	PROPOSED CONTOUR
555	EXISTING CONTOUR
	EXISTING TREE TO REMAIN
	ADA ROUTE

NOTES

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No.	REVISIONS	DATE	BY

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TBPE Firm No. 928

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

GRADING PLAN (SHEET 2 OF 2)

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
11 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:45:58am File Path: K:\sou_civil\069412900 - se inner loop georgetown\CAD\plansheets\11 GRADING PLAN (SHEET 2 OF 2).dwg
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TIME OF CONCENTRATION CALCULATIONS

SHEET FLOW		SHALLOW CONCENTRATED FLOW		CHANNEL FLOW	
EX-1					
n=	0.120	paved?	NO	v(fps)=	3.00
S (ft/ ft)=	0.021	S (ft/ft)=	0.020	L (ft)=	0
L (ft)=	100	L (ft)=	950		
T_{t1}=	7.1	T_{t2}=	7.0	T_{t4}=	0.0
Total TC =	14.1 minutes				

SHEET FLOW		SHALLOW CONCENTRATED FLOW		CHANNEL FLOW	
EX-2					
n=	0.117	paved?	NO	v(fps)=	3.00
S (ft/ ft)=	0.021	S (ft/ft)=	0.0174	L (ft)=	0
L (ft)=	100	L (ft)=	918		
T_{t1}=	7.0	T_{t2}=	7.2	T_{t4}=	0.0
Total TC =	14.2 minutes				

SHEET FLOW		SHALLOW CONCENTRATED FLOW		CHANNEL FLOW	
OFF-1					
n=	0.100	paved?	NO	v(fps)=	3.00
S (ft/ ft)=	0.019	S (ft/ft)=	0.017	L (ft)=	0
L (ft)=	100	L (ft)=	927		
T_{t1}=	6.4	T_{t2}=	7.3	T_{t4}=	0.0
Total TC =	13.8 minutes				

SHEET FLOW		SHALLOW CONCENTRATED FLOW		CHANNEL FLOW	
OFF-3					
n=	0.150	paved?	NO	v(fps)=	3.00
S (ft/ ft)=	0.010	S (ft/ft)=	0.01	L (ft)=	1589
L (ft)=	100	L (ft)=	1018		
T_{t1}=	11.5	T_{t2}=	10.5	T_{t4}=	8.8
Total TC =	30.8 minutes				

EXISTING DRAINAGE AREA CALCULATIONS

DRAINAGE AREA	AREA (ac.)	IMPERVIOUS COVER (%)	CN-VALUE (IMPERVIOUS)	PERVIOUS COVER (%)	CN-VALUE (PERVIOUS)	CN (COMPOSITE)	TC (MIN)	Q_2 (CFS)	Q_{10} (CFS)	Q_{25} (CFS)	Q_{100} (CFS)
EX-1	4.97	5%	98	95%	80	80.9	14.1	10.07	20.04	25.73	34.72
EX-2	4.47	4%	98	96%	80	80.6	14.2	8.87	17.78	22.89	30.97
OFF-1	0.16	100%	98	0%	80	98.0	13.8	0.71	1.00	1.17	1.42
OFF-2	9.93	78%	98	22%	80	94.1	5.0	50.03	73.29	87.25	105.51
OFF-3	4.19	48%	98	52%	80	88.6	30.8	8.98	15.66	19.64	25.28

NOTES:

1. OFFSITE FLOWRATE THAT GOES THROUGH EX-2 CHANNEL HAS BEEN PROVED VIA BLUE SPRINGS BUSINESS PARK SITE PLAN 2021-58-SDP.

N W E S

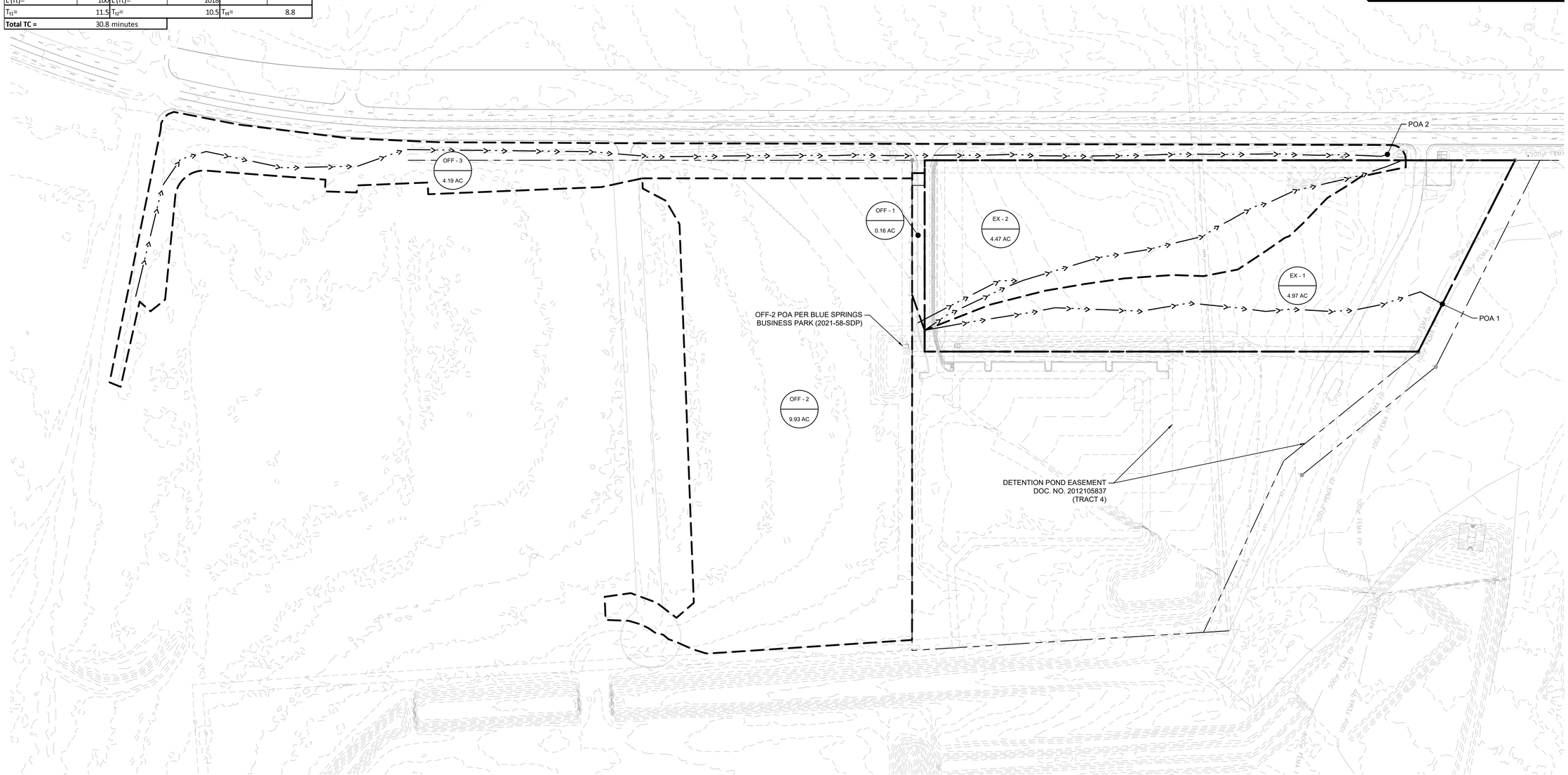
0 100' 200'
GRAPHIC SCALE 100'

EX - 1 | OFF - 2 → POINT OF ANALYSIS 1

EX - 2 | OFF - 1 | OFF - 3 → POINT OF ANALYSIS 2

LEGEND

- X-1 / 9.9 ac — AREA DESIGNATOR / AREA IN ACRES
- PROPERTY LINE
- EXISTING STORM DRAIN LINE
- EXISTING DRAINAGE DIVIDE
- EXISTING STORM DRAIN INLET
- EXISTING STORM DRAIN MANHOLE
- EXISTING STORM DRAIN HEADWALL
- EXISTING FLOW DIRECTION
- 555 — EXISTING CONTOUR
- TIME OF CONCENTRATION PATHWAY



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MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900	DATE: OCTOBER 2023	SCALE: AS SHOWN	DESIGNED BY: MBL	DRAWN BY: AKS	CHECKED BY: MBL

No.	REVISIONS	DATE	BY

EXISTING DRAINAGE AREA MAP

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
12 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 11:22:08am File Path: K:\Sou_Cle\069412900 - se inner loop georgetown\CAD\plotsheets\12 EXISTING DRAINAGE AREA MAP.dwg
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PROPOSED DRAINAGE AREA CALCULATIONS

DRAINAGE AREA	AREA (ac.)	IMPERVIOUS COVER (%)	CN-VALUE (IMPERVIOUS)	PERVIOUS COVER (%)	CN-VALUE (PERVIOUS)	CN (COMPOSITE)	TC (MIN)	Q_2 (CFS)	Q_{10} (CFS)	Q_{25} (CFS)	Q_{100} (CFS)
DA-1	6.91	79%	98	21%	80	94.3	6.0	34.14	49.80	58.97	71.67
DA-2	1.55	5%	99	95%	81	82.0	6.0	4.09	7.87	10.21	13.27
DA-3	0.98	26%	98	74%	80	84.8	6.0	3.05	5.48	6.95	8.88
OFF-1	0.16	100%	98	0%	80	98.0	6.0	0.89	1.21	1.41	1.70
OFF-2	9.93	78%	98	22%	80	94.1	5.0	50.03	73.29	87.25	105.51
OFF-3	4.19	48%	98	52%	80	88.6	30.8	8.98	15.66	19.64	25.28

TIME OF CONCENTRATION CALCULATIONS

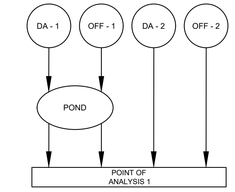
SHEET FLOW		SHALLOW CONCENTRATED FLOW		CHANNEL FLOW	
#REF!					
n=	0.200	paved?	no	v(fps)=	3.00
S (ft/ ft)=	0.02	S (ft/ft)=	1.00	L (ft)=	927
L (ft)=	66	L (ft)=	0		
T_{t1}=	7.9	T_{t2}=	0.0	T_{t4}=	5.2
Total TC =	13.0 minutes				

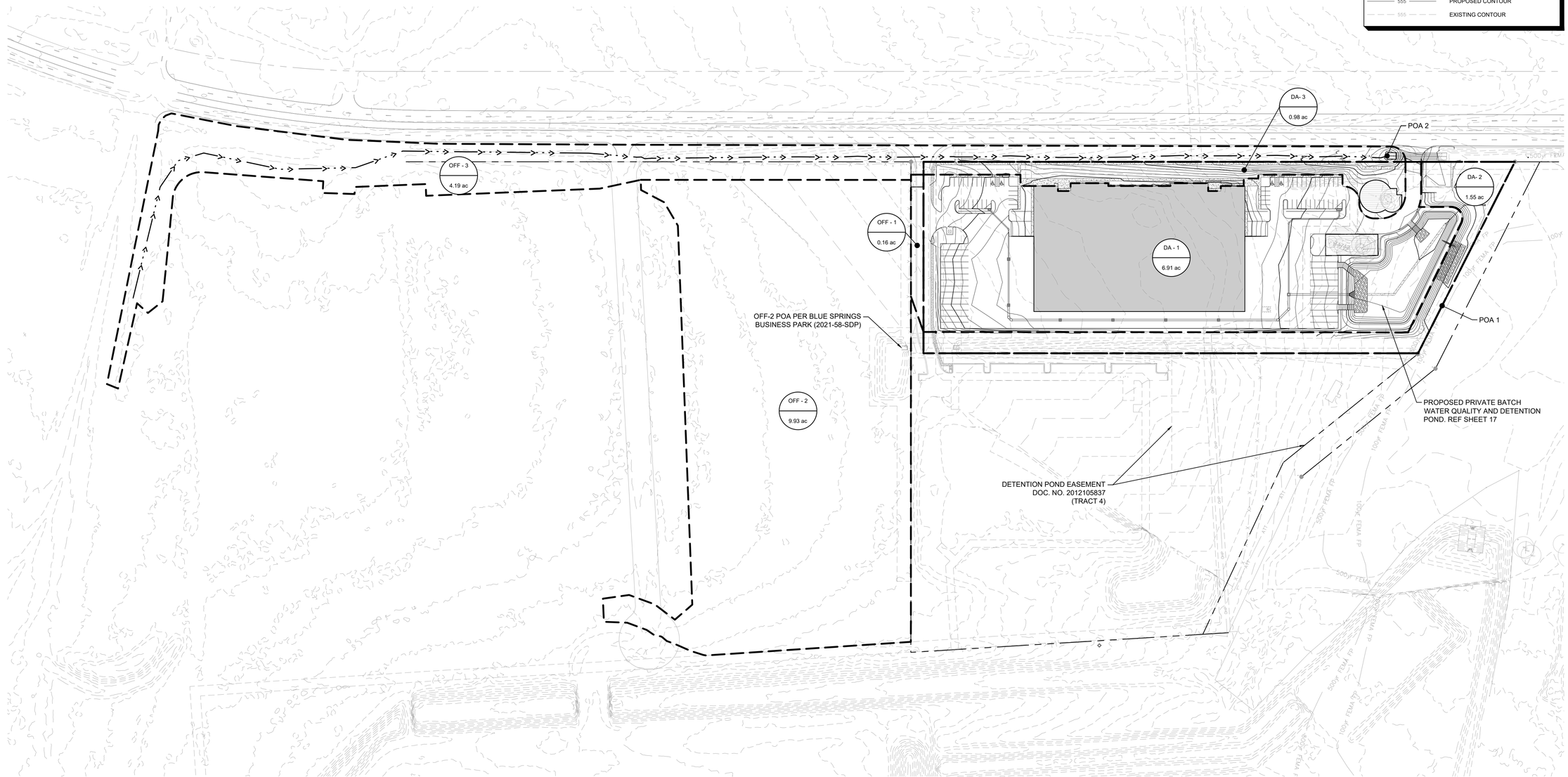
POINT OF ANALYSIS TABLE

Point of Analysis	Storm Event	Existing Runoff (cfs)	Developed Runoff (cfs)	Is Developed ≤ Existing?
1	2	38.82	37.66	YES
	10	58.24	56.94	YES
	25	69.81	69.25	YES
	100	87.89	87.83	YES
2	2	16.48	9.93	YES
	10	31.00	17.57	YES
	25	39.58	22.22	YES
	100	52.51	28.65	YES

NOTES:

1. OFFSITE FLOWRATE THAT GOES THROUGH EX-2 CHANNEL HAS BEEN PROVED VIA BLUE SPRINGS BUSINESS PARK SITE PLAN 2021-58-SDP.





0 100' 200'
GRAPHIC SCALE 100'

LEGEND

- X-1 / 9.9 ac — AREA DESIGNATOR / AREA IN ACRES
- A-1 — INLET NUMBER
- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED DRAINAGE DIVIDE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 — PROPOSED CONTOUR
- 555 — EXISTING CONTOUR

No.	REVISIONS	DATE	BY

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MICHAEL B. LEE 138483 LICENSED PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

PROPOSED DRAINAGE AREA MAP

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
13 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 11:22:45am File Path: K:\sou_civ\069412900 - se inner loop georgetown\CAD\plotsheets\13 PROPOSED DRAINAGE AREA MAP.dwg
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INLET PEAK FLOW CALCULATIONS - RATIONAL METHOD

Formulas: **Q = CiA**

Q = Peak Runoff (cfs)
C = Weighted Runoff Coefficient
i = Rainfall intensity (in/hr)
A = Drainage Area (acres)

Hydrologic Runoff Coefficients (Table 3-1 DCM)

	2 yr	10 yr	25 yr	50 yr	100 yr
Impervious C (Concrete/Roof)	0.97	0.97	0.97	0.97	0.97
Pervious C (Grass 75%+ Cover, 0-2% slopes)	0.24	0.28	0.31	0.33	0.36

IDF Coefficients (Table 3-3 DCM)

	2 yr	10 yr	25 yr	50 yr	100 yr
a	106.29	96.84	111.07	119.51	129.03
b	16.81	15.88	17.23	17.32	17.83
c	0.9076	0.7952	0.7815	0.7705	0.7625

Peak Flow Calculation - Rational Method — **RUNOFF COEFFICIENT (C)** — **RAINFALL INTENSITY (I)**

Inlet	Drainage Area	Area (sf)	Area (Acres)	Impervious Cover (Acres)	% I.C.	C 2-Year	C 10-Year	C 25-Year	C 50-Year	C 100-Year	Tc (min)	I 2-Year	I 10-Year	I 25-Year	I 50-Year	I 100-Year	Q 2-Year	Q 10-Year	Q 25-Year	Q 50-Year	Q 100-Year
CI-1	DA-1	3049.200	0.070	0.070	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	0.44	0.59	0.67	0.74	0.81
GI-2	DA-2	37295.200	1.890	1.750	93%	0.92	0.92	0.92	0.92	0.92	5.00	6.48	8.64	9.84	10.92	11.88	11.22	15.01	17.13	19.04	20.77
GI-3	DA-3	54860.920	0.800	0.770	96%	0.94	0.94	0.95	0.95	0.95	5.00	6.48	8.64	9.84	10.92	11.88	4.89	6.53	7.44	8.26	9.00
GI-4	DA-4	19665.010	0.080	0.080	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	0.50	0.67	0.76	0.85	0.92
GI-5	DA-5	21175.510	0.080	0.080	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	0.50	0.67	0.76	0.85	0.92
GI-6	DA-6	26599.530	0.080	0.080	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	0.50	0.67	0.76	0.85	0.92
GI-7	DA-7	14255.880	0.080	0.080	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	0.50	0.67	0.76	0.85	0.92
CI-8	DA-8	24537.960	0.450	0.450	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	2.83	3.77	4.29	4.77	5.19
CI-9	DA-9	24070.080	0.990	0.990	100%	0.97	0.97	0.97	0.97	0.97	5.00	6.48	8.64	9.84	10.92	11.88	6.22	8.30	9.45	10.49	11.41
CI-10	DA-10	20010.000	0.510	0.477	94%	0.92	0.93	0.93	0.93	0.93	5.00	6.48	8.64	9.84	10.92	11.88	3.05	4.08	4.65	5.17	5.64
CI-11	DA-11	31982.710	0.800	0.747	93%	0.92	0.92	0.93	0.93	0.93	5.00	6.48	8.64	9.84	10.92	11.88	4.78	6.39	7.29	8.10	8.84
HW-1	DA-12	132733.790	3.050	0.560	18%	0.37	0.41	0.43	0.45	0.47	27.20	3.43	4.86	5.73	6.41	7.08	3.91	6.03	7.53	8.76	10.19

Curb Inlet Flow Calculations Table

Weir Equation: $Q=C_fC_iLh^{1.5}$ — C_i: 3.0 — g (ft/s²): 32.16 — h (ft): 0.5 — Clogging Factor C_f: 10%

Drainage Basin	Area (ac.)	Q25-Yr (cfs)	Q100-Yr (cfs)	Req. Length (ft)	Inlet Size	Full Flow Capacity (cfs)	Q25-Yr Pass?
DA-1	0.07	0.67	0.81	0.70	5'	4.77	YES
DA-8	0.45	4.29	5.19	4.50	10'	9.55	YES
DA-9	0.99	9.45	11.41	9.90	15'	14.32	YES
DA-10	0.02	4.65	5.64	4.87	10'	9.55	YES
DA-11	0.80	7.29	8.84	7.64	10'	9.55	YES

Grate Inlet Flow Calculations Table

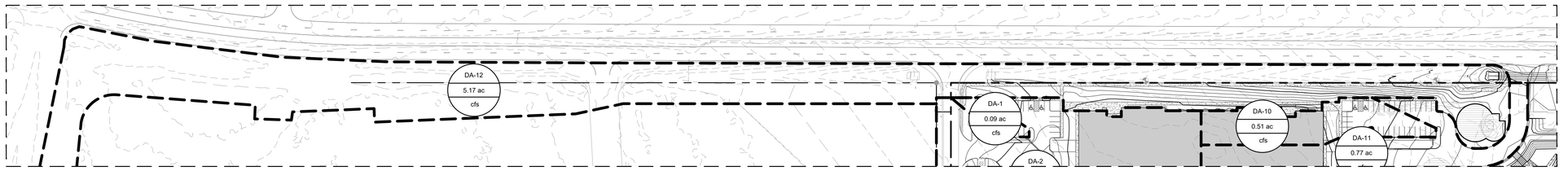
Orifice Equation: $Q=C_fC_oA(2gh)^{.5}$ — C_o: 0.6 — g (ft/s²): 32.16 — h (ft): 0.5 or 1.5 — Clogging Factor C_f: 90%

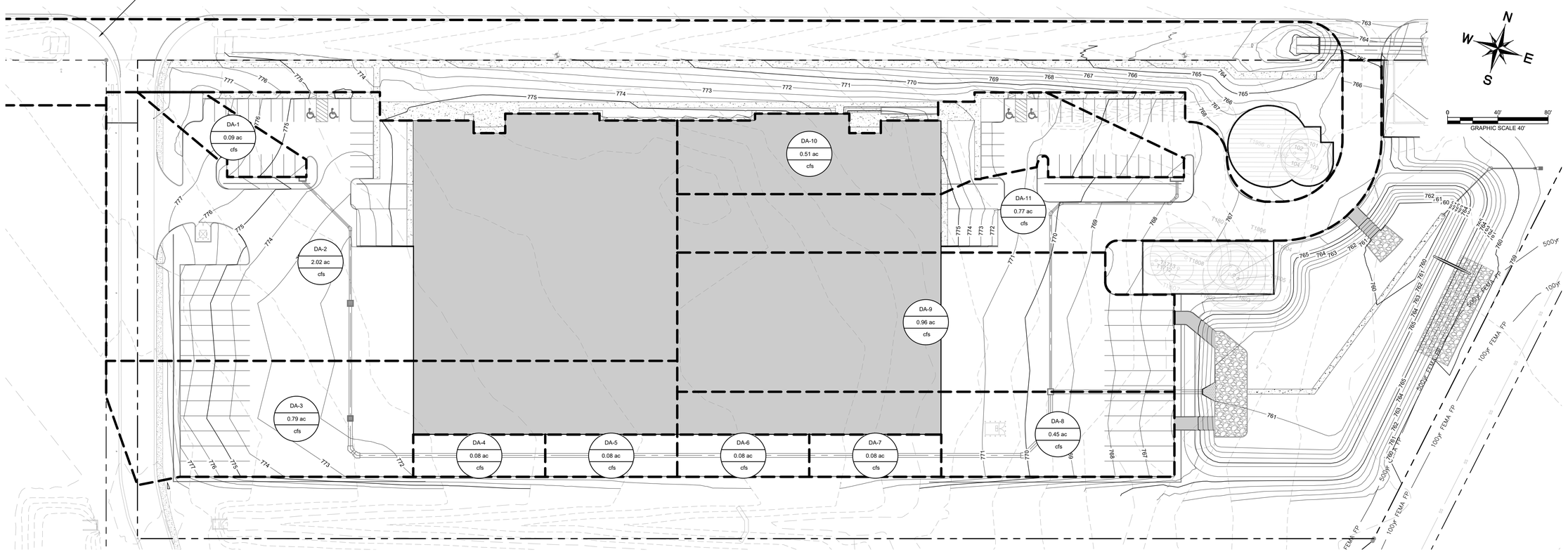
Drainage Basin	Area (ac.)	h (ft)	Q25-Yr (cfs)	Q100-Yr (cfs)	Req. Open Area (ft²)	Inlet Size	Full Flow Capacity (cfs)	Q25-Yr Pass?
DA-2	1.89	0.50	17.13	20.77	5.59	5' X 5'	28.91	YES
DA-3	0.80	0.50	7.44	9.00	2.43	3' X 3'	13.84	YES
DA-4	0.08	0.50	0.76	0.92	0.25	3' X 3'	13.84	YES
DA-5	0.08	0.50	0.76	0.92	0.25	3' X 3'	13.84	YES
DA-6	0.08	0.50	0.76	0.92	0.25	3' X 3'	13.84	YES
DA-7	0.08	0.50	0.76	0.92	0.25	3' X 3'	13.84	YES

LEGEND

- X-1 / 9.9 ac / 5.5 cfs — AREA DESIGNATOR, AREA IN ACRES, Q100 FLOW IN CFS
- A-1 — INLET NUMBER
- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED DRAINAGE DIVIDE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 — PROPOSED CONTOUR
- 555 — EXISTING CONTOUR

DA-12 DETAIL





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STATE OF TEXAS — MICHAEL B. LEE — 138483 — LICENSED PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 069412900
DATE: OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

INLET DRAINAGE AREA MAP

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
14 OF 42

2023-58-SDP

BY | DATE | REVISIONS | No.

Plotted By: Stokes, Aidan Date: November 07, 2023 09:48:03am File Path: K:\Sou_Civil\069412900 - se inner loop georgetown\CAD\plansheets\14 INLET DRAINAGE AREA MAP.dwg
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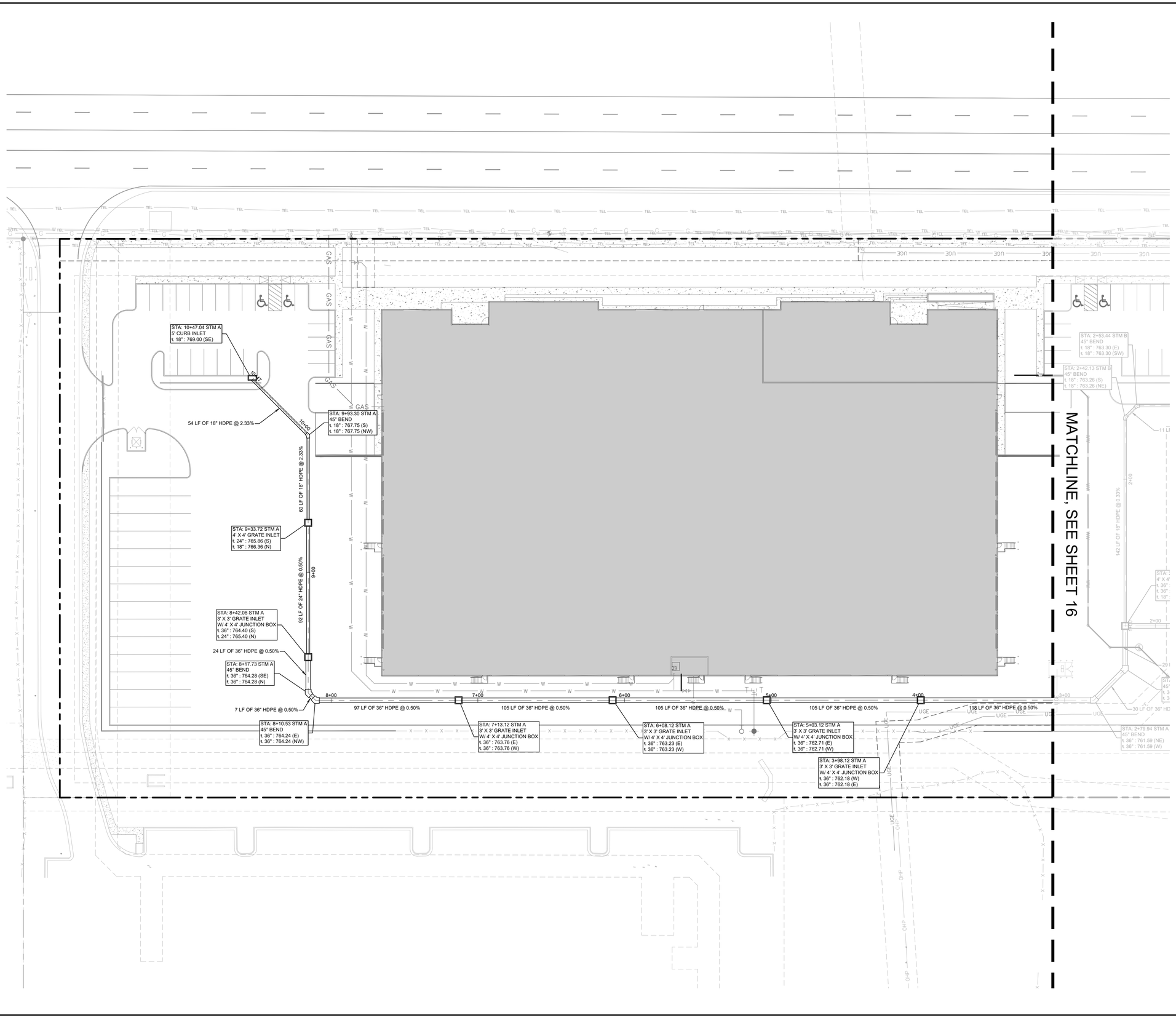

N

W E

S

0 30' 60'

GRAPHIC SCALE 30'

LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WASTEWATER MANHOLE

STORM NOTES

1. STORM (STM) PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   - A) RCP - ASTM C76 CLASS III - REQUIRED IN PUBLIC RIGHT OF WAY, PUBLIC DRAINAGE EASEMENTS, AND AT CONNECTION POINTS TO PUBLIC STORM SEWER
   - B) DUCTILE IRON PIPE - ASTM A746
   - C) HDPE - AASHTO M252 TYPE S , M294 TYPE S R ASTM F 2306 SMOOTH WALL
   - D) PVC - ASTM D 3034 SDR35

CLASS IV RCP NOTE

1. ALL STORM PIPE WITH LESS THAN 3' OF COVER LOCATED UNDER VEHICULAR PAVEMENT SHALL BE CLASS IV RCP.

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
MICHAEL B. LEE
138483
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PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

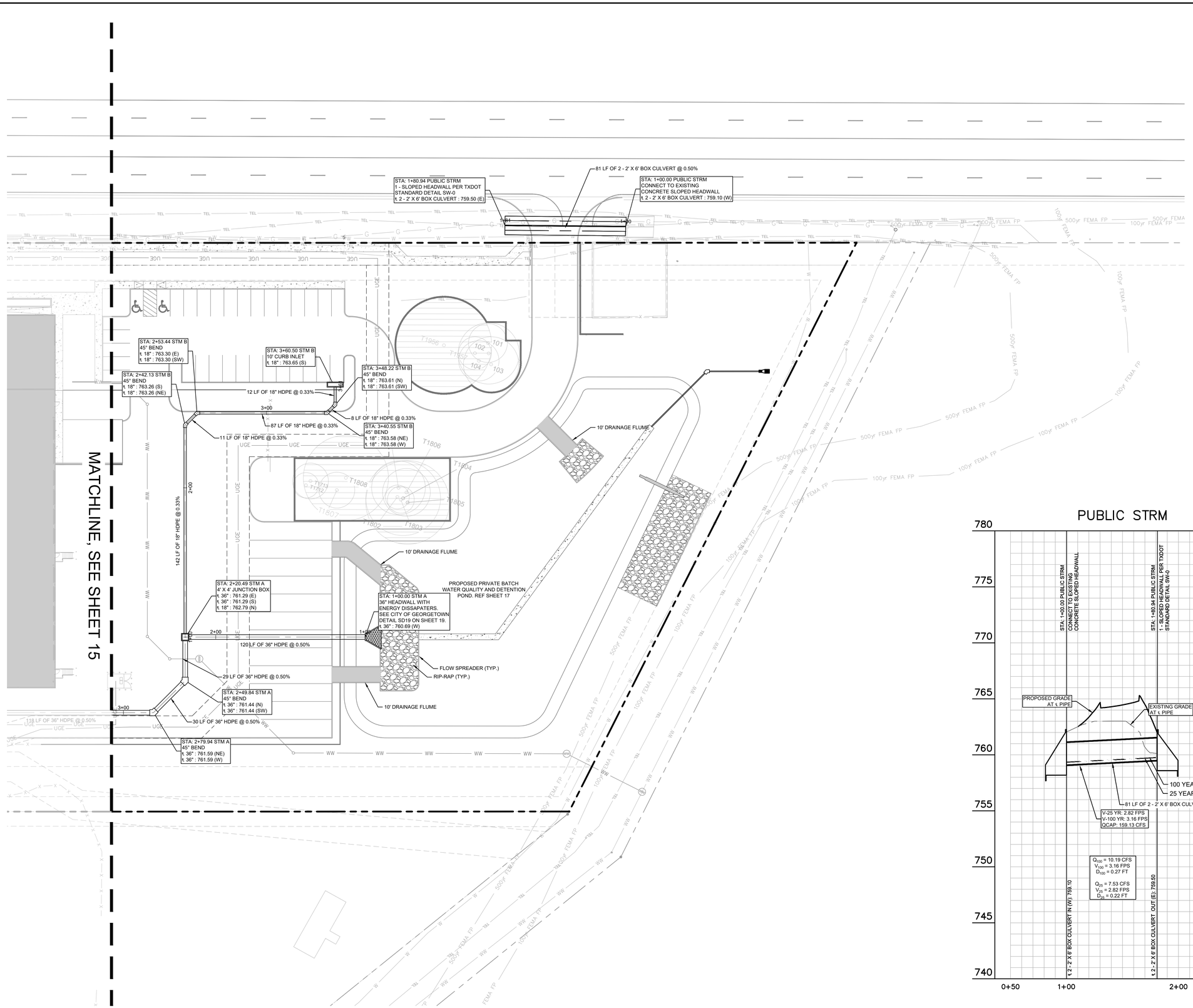
STORM PLAN (SHEET 1 OF 2)

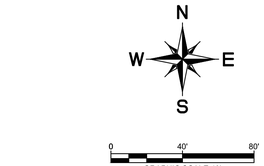
SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
15 OF 42

2023-58-SDP





LEGEND

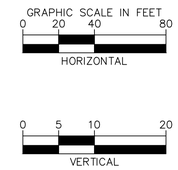
- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WASTEWATER MANHOLE

STORM NOTES

1. STORM (STM) PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   - A) RCP - ASTM C76 CLASS III - REQUIRED IN PUBLIC RIGHT OF WAY, PUBLIC DRAINAGE EASEMENTS, AND AT CONNECTION POINTS TO PUBLIC STORM SEWER.
   - B) DUCTILE IRON PIPE - ASTM A746
   - C) HDPE - AASHTO M252 TYPE S , M294 TYPE S R ASTM F 2306 SMOOTH WALL
   - D) PVC - ASTM D 3034 SDR35

CLASS IV RCP NOTE

1. ALL STORM PIPE WITH LESS THAN 3' OF COVER LOCATED UNDER VEHICULAR PAVEMENT SHALL BE CLASS IV RCP.



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10/25/2023

KHA PROJECT	069412900
DATE:	OCTOBER 2023
SCALE:	AS SHOWN
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DRAWN BY:	AKS
CHECKED BY:	MBL

STORM PLAN (SHEET 2 OF 2)

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
16 OF 42

2023-58-SDP

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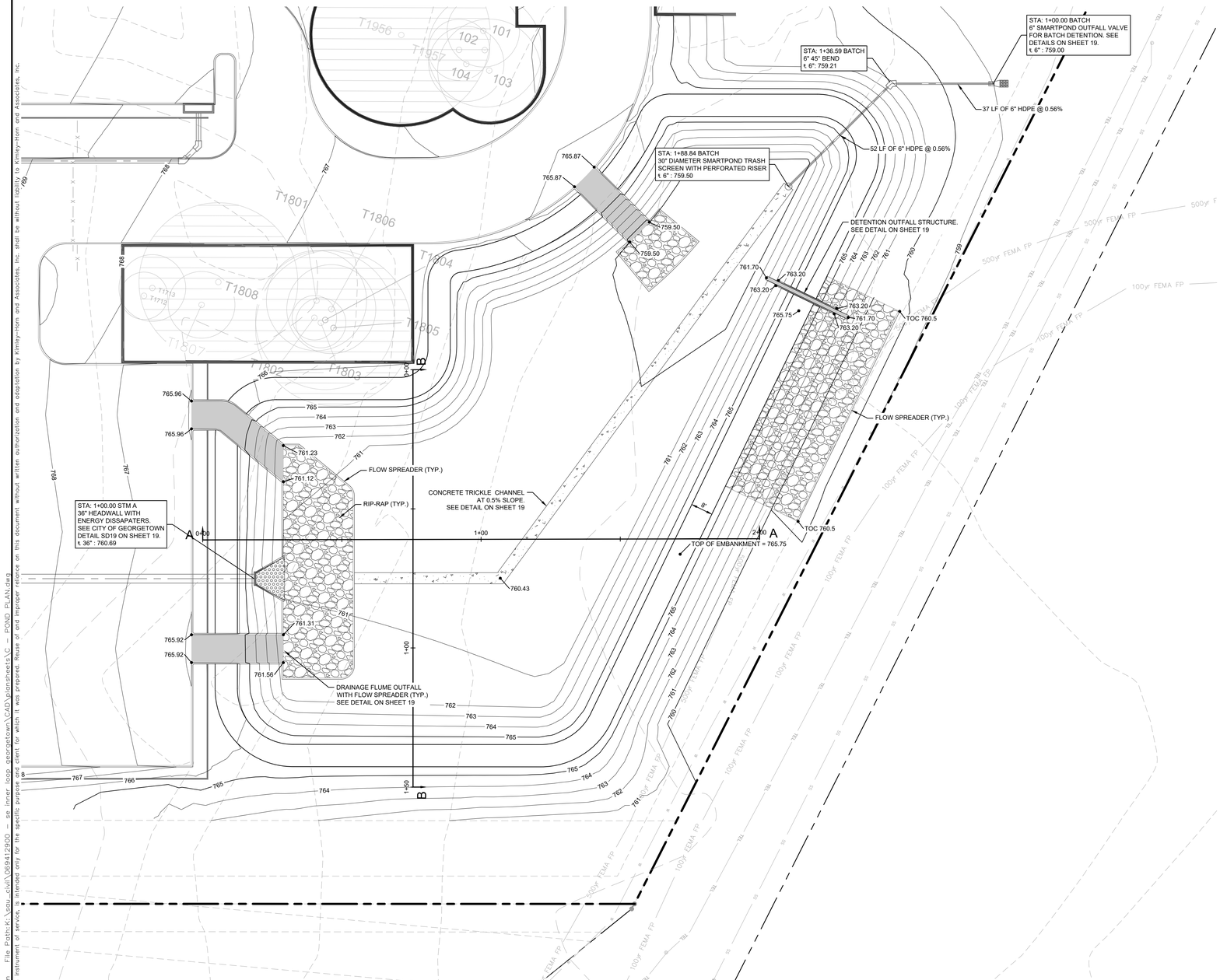

N
W E
S

0 20' 40'
GRAPHIC SCALE 20'

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED CONTOUR
- EXISTING CONTOUR
- CONCRETE LINED TRICKLE CHANNEL

WEIR COEFFICIENT: 2.985 FOR 1.2' WEIR, 3 FOR 0.5' WEIR
WEIR EQUATION:
$Q = CLH^{(\frac{3}{2})}$

NOTE:
1. THE WEIR COEFFICIENT WAS INTERPOLATED FROM CITY OF GEORGETOWN DRAINAGE CRITERIA MANUAL TABLE 5-5.

WATER QUALITY AND DETENTION POND
STAGE STORAGE CALCULATION

ELEVATION (FT)	AREA (SF)	AREA (AC)	DEPTH (FT)	VOLUME (CF)	VOLUME (AC-FT)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
759.50	0	0.00	0.00	0.0	0.00	0.00	0.00
760.00	3,145	0.07	0.50	786.3	0.02	786.25	0.02
760.50	8,776	0.20	0.50	2980.3	0.07	3,766.50	0.09
761.00	15,686	0.36	0.50	6115.5	0.14	9,882.00	0.23
761.50	18,737	0.43	0.50	8605.8	0.20	18,487.75	0.42
761.70	19,388	0.45	0.20	3812.5	0.09	22,300.25	0.51
762.00	20,047	0.46	0.30	5915.2	0.14	28,215.50	0.65
762.50	21,100	0.48	0.50	10286.8	0.24	38,502.25	0.88
763.00	22,176	0.51	0.50	10818.9	0.25	49,321.13	1.13
763.50	23,282	0.53	0.50	11364.4	0.26	60,685.51	1.39
764.00	24,411	0.56	0.50	11923.3	0.27	72,608.76	1.67
764.50	25,556	0.59	0.50	12491.8	0.29	85,100.51	1.95
765.00	26,727	0.61	0.50	13070.8	0.30	98,171.26	2.25
765.50	27,930	0.64	0.50	13664.3	0.31	111,835.51	2.57
765.75	34,977	0.80	0.25	7863.4	0.18	119,698.89	2.75

DETENTION OUTLET STRUCTURE
STAGE-STORAGE-DISCHARGE

RETURN PERIOD (YR)	MAX WSEL (FT)	PEAK STORAGE (AC-FT)	PEAK DISCHARGE (CFS)
WQE	**761.70**	**0.00**	**0.00**
	761.75	0.02	0.04
	762.00	0.14	0.60
	762.25	0.25	1.45
	762.50	0.37	2.55
	762.75	0.49	3.82
	763.00	0.62	5.31
	763.25	0.75	6.90
2-YR	**763.28**	**0.77**	**7.13**
	763.50	0.88	8.90
	763.75	1.02	11.10
	764.00	1.15	13.55
10-YR	**764.11**	**1.22**	**14.66**
	764.25	1.30	16.15
	764.50	1.44	19.00
25-YR	**764.54**	**1.47**	**19.53**
	764.75	1.59	21.92
	765.00	1.74	25.11
100-YR	**765.12**	**1.82**	**26.67**

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10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

No.	REVISIONS	DATE	BY

WATER QUALITY AND DETENTION POND PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
17 OF 42

2023-58-SDP

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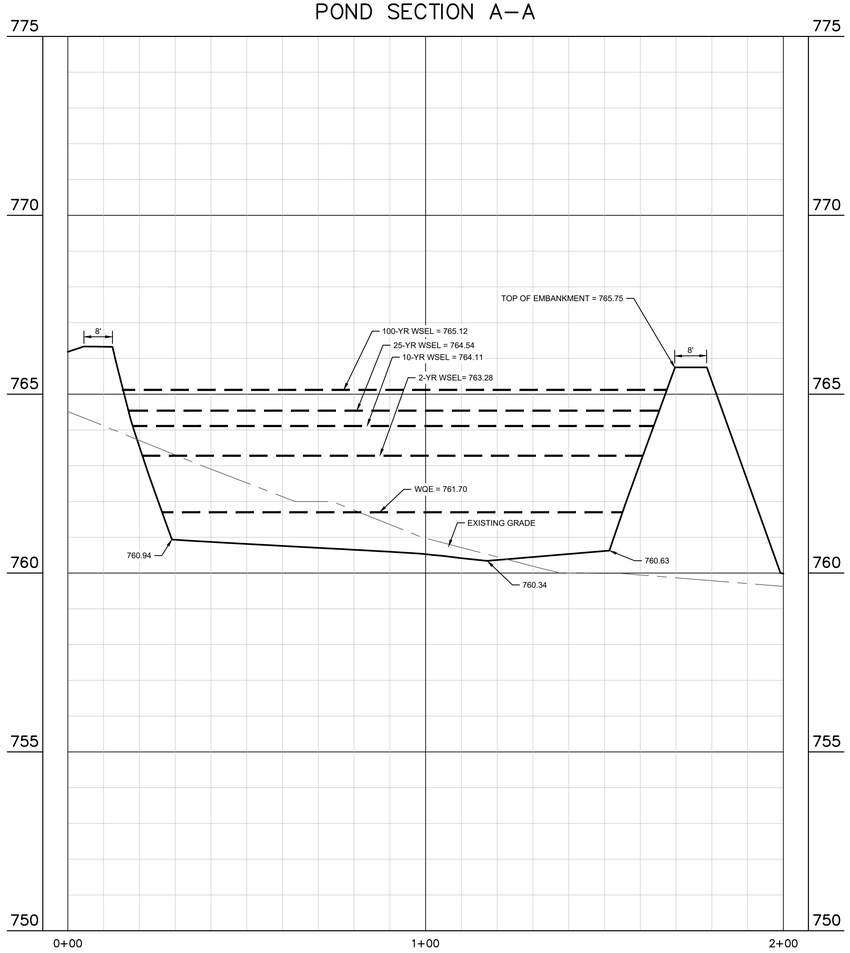
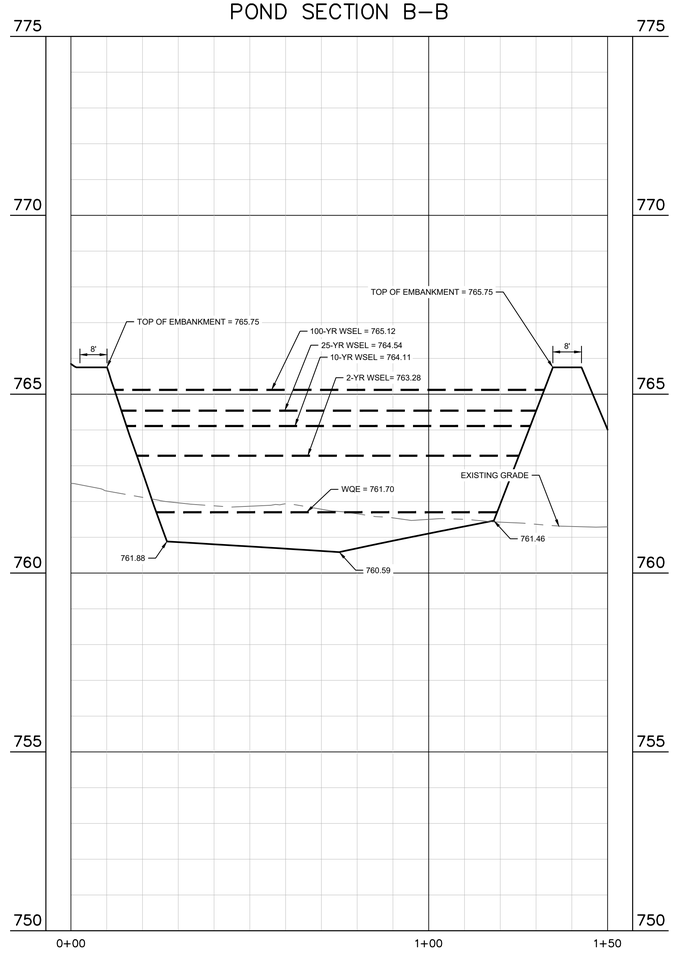
POND SECTION A–A



GRAPHIC SCALE IN FEET
0 10 20 40
HORIZONTAL

0 2.5 5 10
VERTICAL

POND SECTION B–B



GRAPHIC SCALE IN FEET
0 10 20 40
HORIZONTAL

0 2.5 5 10
VERTICAL

No.	REVISIONS	DATE	BY

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POND PROFILES

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
18 OF 42

2023-58-SDP

TCEQ 80% TSS REMOVAL CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SE INNER LOOP GEORGETOWN
Date Prepared: 8/17/2023

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

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

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

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Williamson	
Total project area included in plan * =	9.44	acres
Predevelopment impervious area within the limits of the plan * =	0.42	acres
Total post-development impervious area within the limits of the plan* =	5.58	acres
Total post-development impervious cover fraction * =	0.59	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	4485	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	9.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.42	acres
Post-development impervious area within drainage basin/outfall area =	5.58	acres
Post-development impervious fraction within drainage basin/outfall area =	0.59	
$L_{M\ THIS\ BASIN}$ =	4485	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	9.44	acres
A_I =	5.58	acres
A_P =	3.86	acres
L_R =	5680	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 4771 lbs.

F = 0.84

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

Rainfall Depth =	1.26	inches
Post Development Runoff Coefficient =	0.41	
On-site Water Quality Volume =	17865	cubic feet

Calculations from RG-348 | Pages 3-36 to 3-37

Offsite area draining to BMP =	0.00	acres
Offsite Impervious cover draining to BMP =	0.00	acres
Impervious fraction of offsite area =	0	
Offsite Runoff Coefficient =	0.00	
Offsite Water Quality Volume =	0	cubic feet
Storage for Sediment =	3573	
Total Capture Volume (required water quality volume(s) x 1.20) =	21439	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

22. Batch Detention Basin System | Designed as Required in RG-348 | Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

CITY OF GEORGETOWN 85% TSS REMOVAL CALCULATIONS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SE INNER LOOP GEORGETOWN
Date Prepared: 8/17/2023

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

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

Page 3-29 Equation 3.3: $L_M = 28.93(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Williamson	
Total project area included in plan * =	9.44	acres
Predevelopment impervious area within the limits of the plan * =	0.42	acres
Total post-development impervious area within the limits of the plan* =	5.58	acres
Total post-development impervious cover fraction * =	0.59	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	4771	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	9.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.42	acres
Post-development impervious area within drainage basin/outfall area =	5.58	acres
Post-development impervious fraction within drainage basin/outfall area =	0.59	
$L_{M\ THIS\ BASIN}$ =	4771	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Bioretention
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A_P =	3.86	acres
L_R =	5680	lbs

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Desired $L_{M\ THIS\ BASIN}$ = 4771 lbs.

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

Rainfall Depth =	1.26	inches
Post Development Runoff Coefficient =	0.41	
On-site Water Quality Volume =	17865	cubic feet

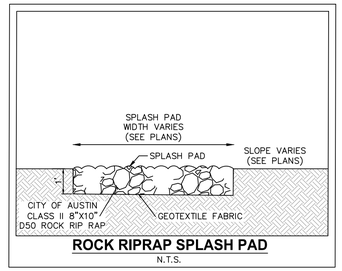
Calculations from RG-348 | Pages 3-36 to 3-37

Offsite area draining to BMP =	0.00	acres
Offsite Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Offsite Runoff Coefficient =	0.00	
Offsite Water Quality Volume =	0	cubic feet
Storage for Sediment =	3573	
Total Capture Volume (required water quality volume(s) x 1.20) =	21439	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

22. Batch Detention Basin System | Designed as Required in RG-348 | Pages 3-46 to 3-51

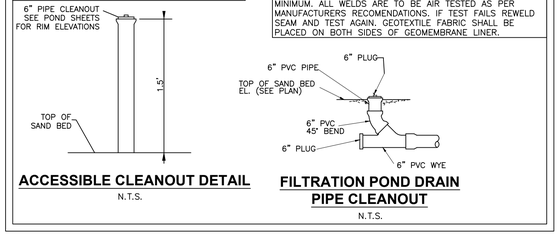
Required Water Quality Volume for extended detention basin = NA cubic feet



ROCK RIPRAP SPLASH PAD
N.T.S.

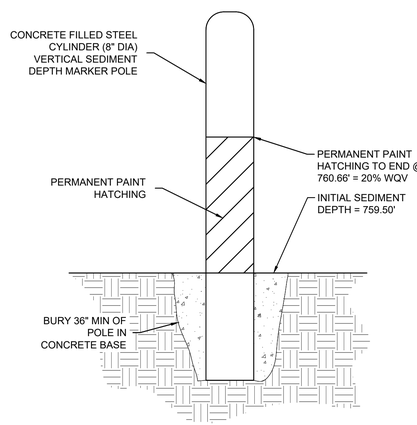
NOTE: CONCRETE WALL OF THE WATER QUALITY POND SHALL BE CONSTRUCTED WITH WATER TIGHT JOINTS. SEE STRUCTURAL PLANS FOR REINFORCING, JOINTS, AND OTHERS DETAILS.

NOTE: WHERE A GEOMEMBRANE LINER IS USED IT SHALL HAVE A MINIMUM THICKNESS OF THIRTY (30) MILS HDPE. IT SHALL ALSO BE DOUBLE FUSION WELDED AT ALL SEAMS WITHIN THE LINER. EXTRUSION WELD TO BE KEPT TO A MINIMUM. ALL WELDS ARE TO BE AIR TESTED AS PER MANUFACTURERS RECOMENDATIONS. IF TEST FAILS REWELD SEAM AND TEST AGAIN. GEOTEXTILE FABRIC SHALL BE PLACED ON BOTH SIDES OF GEOMEMBRANE LINER.



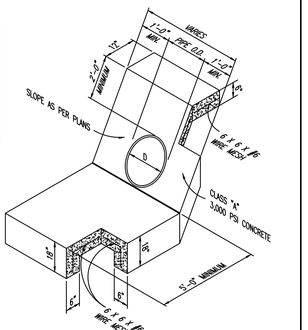
ACCESSIBLE CLEANOUT DETAIL
N.T.S.

FILTRATION POND DRAIN PIPE CLEANOUT
N.T.S.



VERTICAL SEDIMENT DEPTH MARKER DETAIL
N.T.S.

MINIMUM RIP-RAP QUANTITIES	
PIPE	SQ. YDS.
18"	6.2
24"	6.9
27"	7.8
30"	9.5
36"	10.4
42"	12.0
48"	14.3
54"	16.4

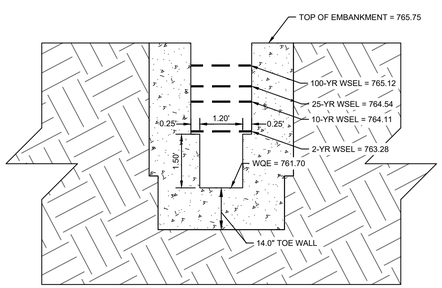


NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATERS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING WIRE MESH REQUIRED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

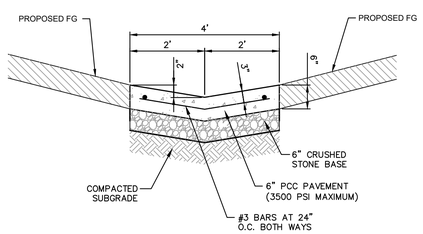
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL CONCRETE RIP-RAP AT PIPE

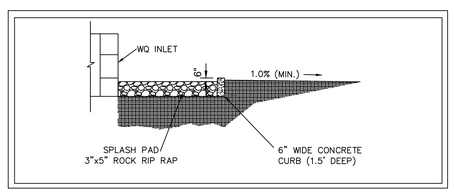
ADOPTED 6/21/2006
SD19
SCALE: NTS | 1/2003
DRAWN BY: MTS | CHECKED BY: TYB



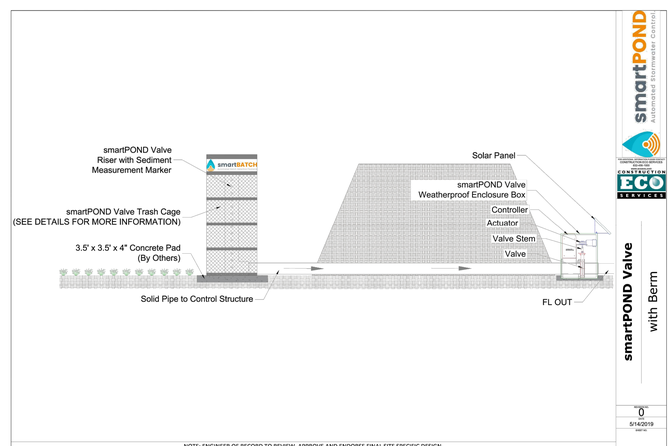
OUTLET CONTROL STRUCTURE DETAIL



CONCRETE "V" TRICKLE CHANNEL DETAIL
N.T.S.



WQ POND LEVEL SPREADER DETAIL (TYP)
N.T.S.



NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TBPE Firm No. F-928 TBPLS Firm No. 928

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STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT 068412900	DATE OCTOBER 2023	SCALE: AS SHOWN	
		DESIGNED BY:	MBL
		DRAWN BY:	AKS
		CHECKED BY:	MBL

NO.	REVISIONS	DATE	BY

POND DETAILS

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
19 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:48:48am File Path: K:\Sou_Civil\068412900 — se inner loop georgetown\CAD\plansheets\C — POND PLAN.dwg
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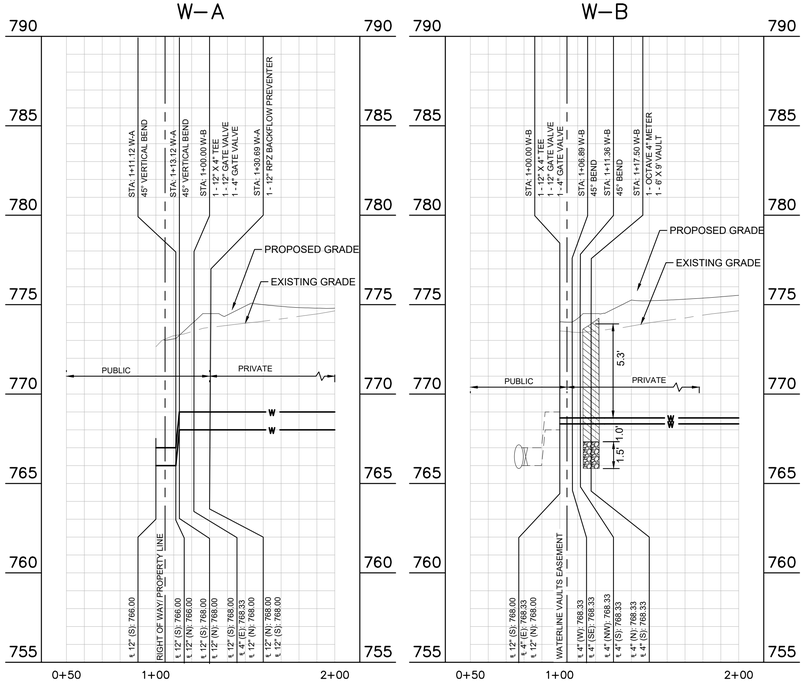
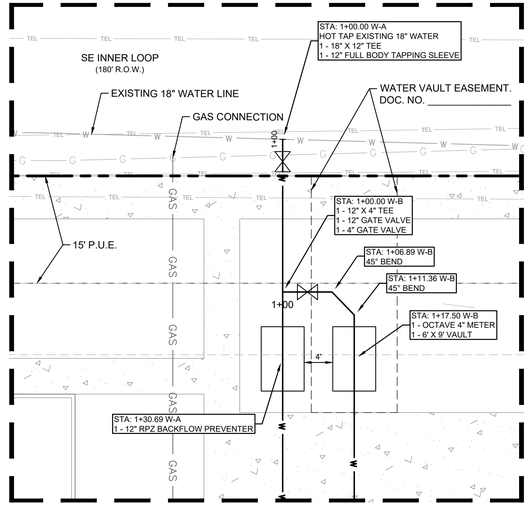


GRAPHIC SCALE IN FEET
0 20 40 80
HORIZONTAL

0 5 10 20
VERTICAL

DETAIL A



GRAPHIC SCALE IN FEET
0 5 10 20

LEGEND

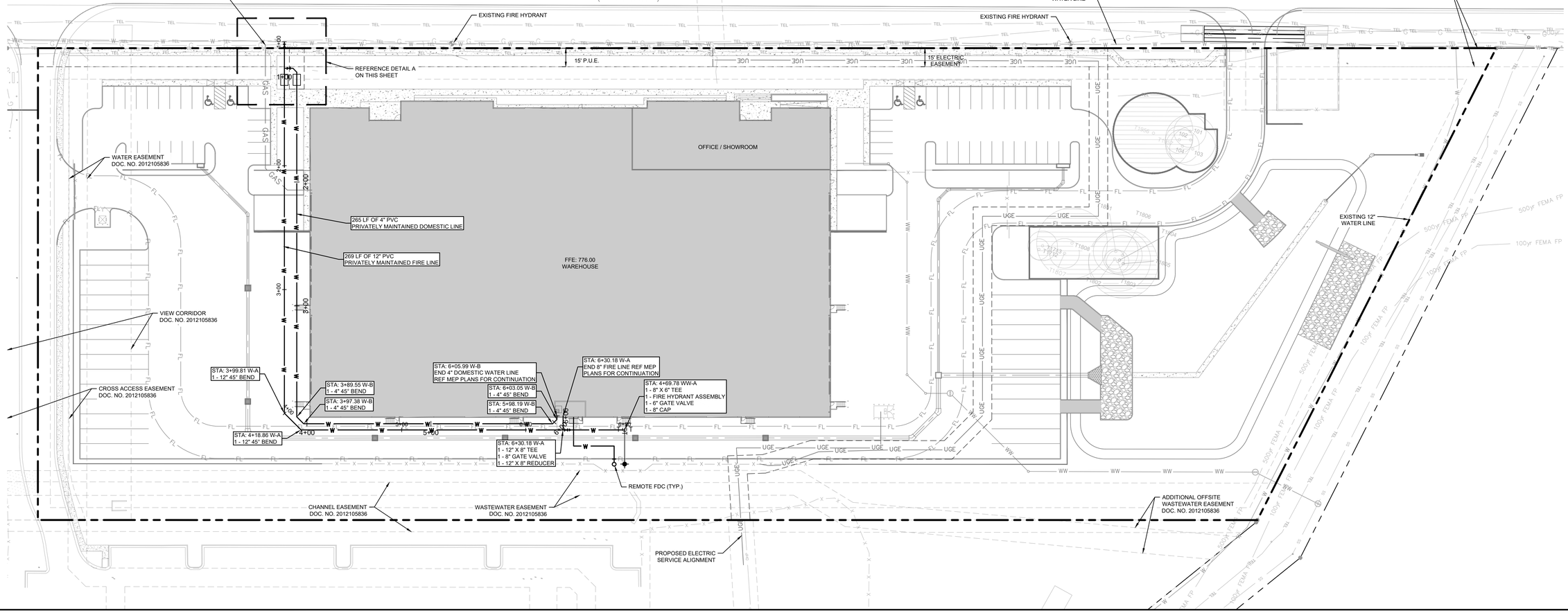
- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- PROPOSED FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE

NOTES:
1. FIRE LINE TO BE PRIVATELY MAINTAINED
2. IMMEDIATE ACCESS TO FIRE DEPARTMENT CONNECTIONS SHALL ALWAYS BE MAINTAINED AND WITHOUT OBSTRUCTION BY FENCES, BUSHES, TREES, WALLS, BEHIND PARKING STALL, OR ANY OTHER FIXED OR MOVABLE OBJECT. 2015 IFC 912.3 ACCESS.
3. FIRE DEPARTMENT CONNECTIONS SHALL BE SO LOCATED THAT FIRE APPARATUS AND HOSE CONNECTED TO SUPPLY THE SYSTEM WILL ALLOW ACCESS TO THE BUILDING FOR OTHER FIRE APPARATUS.

N
W E
S

0 40' 80'
GRAPHIC SCALE 40'

SECTION LA- 507.5.7 CITY OF GEORGETOWN FIRE HYDRANT COLOR CODE SYSTEM. PRIVATE FIRE HYDRANT MAINTENANCE SHALL BE IN ACCORDANCE WITH NFPA 291.
A. ALL PRIVATE HYDRANT BARRELS WILL BE PAINTED RED WITH THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C OF THIS SECTION TO INDICATE FLOW. THE CUSTOMER WILL BE RESPONSIBLE FOR TESTING AND MAINTAINING THEIR PRIVATE FIRE HYDRANT(S).
B. ALL PRIVATE FIRE HYDRANTS SHOULD BE INSPECTED, MAINTAINED, AND FLOW TESTED ANNUALLY, AND COLOR CODED TO INDICATE THE EXPECTED FIRE FLOW FROM THE HYDRANT DURING NORMAL OPERATION. SUCH COLOR APPLIED TO THE FIRE HYDRANT BY PAINTING THE BONNET THE APPROPRIATE COLOR FOR THE EXPECTED FLOW CONDITION.
C. HYDRANT FLOW CODING STANDARDS. PUBLIC HYDRANTS BARRELS WILL BE PAINTED SILVER. THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN AS FOLLOWS: AT 20 PSI RESIDUAL.
FLOW COLOR
GREATER THAN 1500 GPM BLUE
1000- 1500 GPM GREEN
500-999 GPM ORANGE
LESS THAN 500 GPM RED
NOT WORKING BLACK OR BAGGED
D. AT THE CONCLUSION OF CONSTRUCTION FIRE HYDRANTS SHALL BE FLOW TESTED AND COLOR CODED IN ACCORDANCE WITH CITY'S STANDARDS, AND RESULTS SHALL BE EMAILED TO THE FIRE DEPARTMENT. IFC-LA-507.5.7 FIRE HYDRANT SYSTEMS.



Kimley»Horn
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WWW.KIMLEY-HORN.COM
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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

Michael B. Lee
STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

OVERALL WATER PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
20 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:49:05am File Path: K:\Sou_Civil\069412900 — se inner loop georgetown\CAD\plansheets\17 WATER PLAN.dwg
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Plotted By: Stokes, Aidan Date: November 07, 2023 09:49:17am File Path: K:\aau_civil\069412900 - se inner loop georgetown\CAD\plansheets\1B WASTEWATER PLAN.dwg
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LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
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- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE

N W E S

0 40' 80'
GRAPHIC SCALE 40'

GAS CONNECTION

OFFICE / SHOWROOM

FFE: 776.00
WAREHOUSE

STA. 6+81.54 WW-A
8" STUB
REF. MEP FOR CONNECTION
FL 6" OUT(E) 769.42

STA. 6+46.54 WW-A
6" 45° BEND
FL 6" OUT(SE) 767.96
FL 6" IN(W) 767.96

STA. 6+25.33 WW-A
6" 45° BEND
FL 6" OUT(S) 767.07
FL 6" IN(NW) 767.07

35 LF OF 6" PVC
@ 4.17%

21 LF OF 6" PVC
@ 4.17%

6+00

156 LF OF 6" PVC
@ 4.17%

5+00

20 LF OF 6" PVC
@ 4.17%

STA. 4+28.77 WW-A
4' MANHOLE
RIM: 769.15
FL 6" OUT(SE) 758.78
FL 6" IN(W) 758.88

STA. 4+69.78 WW-A
6" 45° BEND
FL 6" OUT(SE) 760.59
FL 6" IN(N) 760.59

21 LF OF 6" PVC
@ 4.17%

STA. 4+48.56 WW-A
6" 45° BEND
FL 6" OUT(E) 759.70
FL 6" IN(NW) 759.70

4+00

89 LF OF 6" PVC
@ 2.31%

STA. 3+39.63 WW-A
6" 45° BEND
FL 6" OUT(E) 756.72
FL 6" IN(NW) 756.72

3+00

183 LF OF 6" PVC
@ 2.31%

2+00

57 LF OF 6" PVC
@ 5.00%

STA. 1+59.58 WW-A
4' BOLTED WATERTIGHT MANHOLE
RIM: 760.06
FL 6" OUT(E) 752.40
FL 6" IN(W) 752.50

1+00

STA. 1+00 WW-A
4' BOLTED WATERTIGHT MANHOLE
RIM: 760.21
FL 6" IN(W) 749.57
FL 18" IN (N) = 749.50
FL 18" OUT (S) = 749.40

PROPOSED ELECTRIC
SERVICE ALIGNMENT

No.	REVISIONS	DATE	BY

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AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
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STATE OF TEXAS REGISTERED # ARCHITECTURAL FIRM OR ENGINEERING FIRM
TBPE Firm No. 928

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OVERALL WASTEWATER PLAN

SE INNER LOOP INDUSTRIAL

720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
21 OF 42

2023-58-SDP

45 FOOT STREET (BACK TO BACK)
37 FOOT STREET (BACK TO BACK)
28 FOOT STREET (BACK TO BACK)
NOTES:
1. 2" HOT MIX ASPHALTIC CONCRETE.
2. 6" FLUSHING SHALL BE PLACED IN LIFTS NOT EXCEEDING 3".
3. CROWN SHALL BE 1/4" PER FOOT OF MINIMUM GRADIENT OR DISTANCE IN TEX-1 OC AT 6.0 GAL/SY OF MINIMUM GRADIENT.
4. LINE STABILIZATION MAY BE USED IF A QUALIFIED GEOTECHNICAL ENGINEER DETERMINES SLOPES SHOULD NOT CAN THROUGH.
STREET AND ROADWAY DESIGN CRITERIA
STREET CLASSIFICATION
TOTAL EQUIVALENT 18K AXLE LOAD APPLICATIONS (20 YEAR FLEXIBLE DESIGN)
LOCAL
ALLEY
RESIDENTIAL LANE
LOCAL STREET
COLLECTORS
COMMERCIAL
MAJOR NEIGHBORHOOD
ARTERIALS
MINOR ARTERIAL
MAJOR ARTERIAL
50,000
100,000
1,000,000
1,500,000
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL STAMP DETAILS — SECTIONS FOR H.M.A.C. SURFACED STREETS
ADOPTED 6/21/2006
SD01
(EX. WATER VALVE)
BACK OF CURB
GUTTER
EDGE OF CURB
PLAN VIEW (TYPICAL)
NOTES:
1. ALL WATER SERVICE, WASTE WATER SERVICE AND VALVE LOCATIONS SHALL BE APPROXIMATELY MARKED AS FOLLOWS:
WATER SERVICE "W" TOP OF CURB
WASTE WATER SERVICE "S" TOP OF CURB
VALVE "V" TOP OF CURB
2. LETTERS SHALL HAVE A 1/2" MAX. WIDTH.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB STAMP DETAIL
ADOPTED 6/21/2006
SD05
SPILL CURB
CATCH AND LAYDOWN CURB
CURB DOWEL DETAIL
NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO NCTM 6473, METAL, CURB, AND CURB AND GUTTER, EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB ABUTS OR TRANSITIONS TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OF DIFFERENT HEIGHTS SHALL HAVE A 2:1 TAPER FOR A 6" FOOT DISTANCE AS REQUIRED BY THE CITY OF GEORGETOWN.
6. ALL CURBS SHALL BE CLASS A, 3,000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR EXPERIENCING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE INCORPORATED INTO THE CONSTRUCTION OF ALL CURBS AND GUTTER (REINFORCED SPILL): HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 24 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH SPACERS OR OTHER APPROVED METHODS.
11. REPAIR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PRODUCED BY A SLIP FORM PAVER AND INSERTED INTO THE CURB SECTION.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB AND GUTTER DETAILS
ADOPTED 6/21/2006
SD06
MOUNTABLE CURB
CURB DOWEL DETAIL
NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO NCTM 6473, METAL, CURB, AND CURB AND GUTTER, EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB ABUTS OR TRANSITIONS TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OF DIFFERENT HEIGHTS SHALL HAVE A 2:1 TAPER FOR A 6" FOOT DISTANCE AS REQUIRED BY THE CITY OF GEORGETOWN.
6. ALL CURBS SHALL BE CLASS A, 3,000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR EXPERIENCING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE INCORPORATED INTO THE CONSTRUCTION AND LAYDOWN CURB AS REQUIRED BY THE CITY ENGINEER ON THE CITY OF GEORGETOWN:
A. CURB AND GUTTER: TWO #4 LONGITUDINAL REINFORCEMENT.
B. ALL TYPES OF CURB AND GUTTER: TWO #4 LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 24 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH SPACERS OR OTHER APPROVED METHODS.
11. REPAIR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PRODUCED BY A SLIP FORM PAVER AND INSERTED INTO THE CURB SECTION.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
MOUNTABLE CURB AND GUTTER DETAILS
ADOPTED 6/21/2006
SD07
RIBBON CURB
CURB DOWEL DETAIL
NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO NCTM 6473, METAL, CURB, AND CURB AND GUTTER, EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB ABUTS OR TRANSITIONS TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OF DIFFERENT HEIGHTS SHALL HAVE A 2:1 TAPER FOR A 6" FOOT DISTANCE AS REQUIRED BY THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR EXPERIENCING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE INCORPORATED INTO THE CONSTRUCTION AND LAYDOWN CURB AS REQUIRED BY THE CITY ENGINEER ON THE CITY OF GEORGETOWN:
A. CURB AND GUTTER: TWO #4 LONGITUDINAL REINFORCEMENT.
B. ALL TYPES OF CURB AND GUTTER: TWO #4 LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 24 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH SPACERS OR OTHER APPROVED METHODS.
11. REPAIR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PRODUCED BY A SLIP FORM PAVER AND INSERTED INTO THE CURB SECTION.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
RIBBON CURB DETAILS
ADOPTED 6/21/2006
SD08
TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES, TRIPLEXES AND QUADRAPLEXES.
TYPE II – AS REQUIRED FOR MULTI-FAMILY, OTHER NON-RESIDENTIAL USES AND PARKING LOTS/STRUCTURES.
ALL THOROUGHFARES (COLLECTOR AND ABOVE) REQUIRE TYPE II.
NOTES:
1. STANDARD LOCATION OF SIDEWALK SHALL BE IN CONFORMANCE WITH THE UDC.
2. SIDEWALK SHALL CONFORM TO CURRENT TAS/TAS STANDARDS.
3. ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND BY THE CITY ENGINEER.
4. ANY VARIANCE TO LOCATION, GRADE OR ALIGNMENT SHALL BE APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND BY THE CITY ENGINEER.
5. SLIP JOINED SIDEWALKS ARE REQUIRED AT EVERY LONGITUDINAL EXPANSION JOINT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER DURING ENGINEERING PLAN REVIEW PRIOR TO FINAL DESIGN.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK SECTION AND JOINT DETAILS
REVISED 6/25/2015 WBD
ADOPTED 6/21/2006 TRB
SD14

NOTES:
1. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 30'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-0" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY PERMITS SHALL BE ACQUIRED FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR "RADIUS" AT CORNERS, PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY" RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION SHALL BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, SHALL NOT EXCEED 2.0%.
7. DRIVEWAY APPROACH THICKNESS SHALL BE A MIN. OF 6".
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DRIVEWAY APPROACH TYPICAL
REVISED 6/25/2015 WBD
ADOPTED 6/21/2006 TRB
SD15

NOTES:
1. MINIMUM COVER OVER CULVERT PIPE SHALL BE 6" (SEE NOTE 5).
2. 5" CONCRETE RIP-RAP SHALL BE INSTALLED.
3. CULVERT PIPE TO BE MINIMUM OF 12" DIAMETER.
4. CULVERT PIPE MATERIAL TO BE R.C.P. (CLASS III), UNLESS PRIOR APPROVAL IS GRANTED BY THE CITY ENGINEER.
5. MINIMUM COVER OVER CULVERT PIPE SHALL PROVIDE H20 LOADING.
6. BACKFILL AROUND CULVERT PIPE SHALL BE SELECT MATERIAL TO BE PLACED AND COMPACTED TO 95% TEX-113-E.
7. CULVERT PIPE SHALL EXTEND 10" FROM THE DOWN STREAM SIDE USING THE NOMINAL STONE SIZE DIA. OF 6" OR A DEPTH OF 10" (MINIMUM).
8. MINIMUM CHANNEL SIDE SLOPE SHALL BE 4:1.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
RURAL NON-RESIDENTIAL UNDIVIDED DRIVEWAY APPROACH WITH CULVERT PIPE
ADOPTED 6/21/2006
SD17

NOTES:
1. MINIMUM COVER OVER CULVERT PIPE SHALL BE 6" (SEE NOTE 5).
2. 5" CONCRETE RIP-RAP SHALL BE INSTALLED.
3. CULVERT PIPE TO BE MINIMUM OF 12" DIAMETER.
4. CULVERT PIPE MATERIAL TO BE R.C.P. (CLASS III), UNLESS PRIOR APPROVAL IS GRANTED BY THE CITY ENGINEER.
5. MINIMUM COVER OVER CULVERT PIPE SHALL PROVIDE H20 LOADING.
6. BACKFILL AROUND CULVERT PIPE SHALL BE SELECT MATERIAL TO BE PLACED AND COMPACTED TO 95% TEX-113-E.
7. CULVERT PIPE SHALL EXTEND 10" FROM THE DOWN STREAM SIDE USING THE NOMINAL STONE SIZE DIA. OF 6" OR A DEPTH OF 10" (MINIMUM).
8. MINIMUM CHANNEL SIDE SLOPE SHALL BE 4:1.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
RURAL NON-RESIDENTIAL UNDIVIDED DRIVEWAY APPROACH WITH CULVERT PIPE
ADOPTED 6/21/2006
SD18

NOTES:
1. ALL MATERIALS SHALL BE FURNISHED BY THE CONTRACTOR WITH THE EXCEPTION OF THE CITY OF GEORGETOWN ELECTRICAL SIGNS WILL BE FURNISHED BY THE CITY.
2. ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PROJECT SIGN TYPE II
ADOPTED 6/21/2006
SD26
NOTES:
1. COMMERCIAL SIDEWALK WIDTHS – 6'
RESIDENTIAL SIDEWALK WIDTHS – 5'
2. ALL SLOPES ARE MAXIMUM ALLOWABLE. FLATTER SLOPES THAT WILL STILL DRAIN PROPERLY ARE ENCOURAGED.
3. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
4. FOR PURPOSES OF MARKING, THE CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.
5. TEXTURES MAY CONSIST OF PAVERS WITH TRUNCATED DOMED SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD CAUSE WATER TO ACCUMULATE ARE PROHIBITED.
6. COLOR CONTRAST, FOR EXAMPLE, MAY BE ACCOMPLISHED WITH COLORED CONCRETE PAVERS THAT HAVE TRUNCATED DOMES WHICH WOULD PROVIDE A CONTRAST WITH TYPICALLY LIGHT COLORED CONCRETE.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. MEDIAN CROSSING SHALL BE A MINIMUM OF 6'. MEDIAN CROSSING SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY "REGISTERED ACCESSIBILITY SPECIALIST" (RAS).
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL MEET THE REQUIREMENTS OF A RAMP PER TAS 405.THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE OR ACT PROTRUDING OBJECTS.
12. ALL SIDEWALKS SHALL BE DOWELED INTO EXISTING SIDEWALKS, DRIVEWALLS, DRIVEWAYS, INLET BOXES, RETAINING WALLS, ETC.
13. ALL SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.
(PENETRATES) A CURB.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PEDESTRIAN RAMPS GENERAL NOTES
REVISED 6/25/2015 WBD
ADOPTED 6/21/2006 TRB
SD28

The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAILS TYPE 1–3
REVISED 6/25/2015 WBD
ADOPTED 6/21/2006 TRB
SD31

The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAIL TYPES 4 & 5
REVISED 7/5/2015 WBD
ADOPTED 6/21/2006 TRB
SD33

The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DRIVEWAY APRON TYPE 10
REVISED 7/5/2015 WBD
ADOPTED 6/21/2006 TRB
SD34

CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-936, C-33, AND SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.
CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.
CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR FROM THE SURROUNDING AREA. COLOR OF THE CONCRETE PAVER UNITS SHALL BE SHOWN ELSEWHERE IN THE PLANS. (QUIKCRETE SURFACES INCLUDE SIDE FLARES).
CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY AND ANY CUT UNIT SHALL BE NOT LESS THAN 25 PERCENT OF A FULL UNIT.
MOLDED SLOPE OF PROFILE OF DOMES, NOT VIA TROWEL FILL.
CONCRETE PAVER WITH TRUNCATED DOME SURFACE
SIDE FLARE (TYPICAL)
CLASS "S" 3,000 PSI CONCRETE – SHALL CONFORM TO APPLICABLE SPECIFICATION
CLASS "S" 3,000 PSI CONCRETE – SHALL CONFORM TO APPLICABLE SPECIFICATION
6" MORTAR BED – SHALL CONFORM TO APPLICABLE SPECIFICATIONS
CONTROL JOINT PERMISSIBLE
2" SAND CUSHION
NO. 2 REBAR MIN., 18" OC CENTER BOTH WAYS
4" MIN.
The Architect/Engineer assumes responsibility for appropriate use of this standard.
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP TEXTURES TYPE A
REVISED 7/7/2015 WBD
ADOPTED 6/21/2006 TRB
SD37

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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

Michael B. Lee
STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

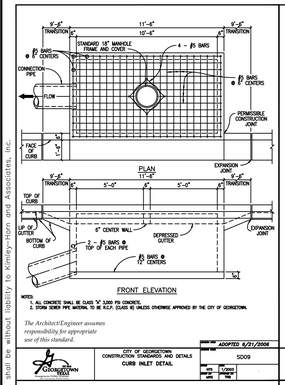
SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

PAVING DETAILS

SHEET NUMBER
23 OF 42

2023-58-SDP

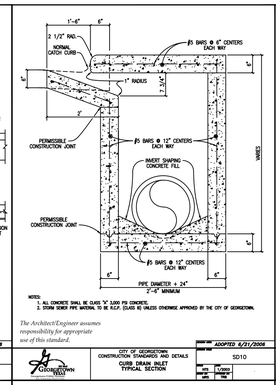
Plotted By: Stokes, Aidan Date: November 07, 2023 09:49:39am File Path: K:\sau_civil\069412900 – se inner loop georgetown\CAD\plansheets\20 PAVING DETAILS.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

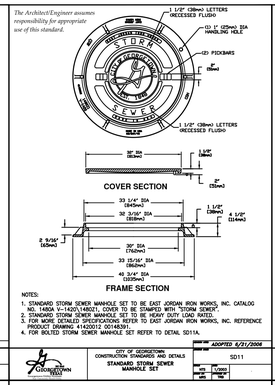
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB INLET DETAIL
ADOPTED 6/21/2006
SD09



NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

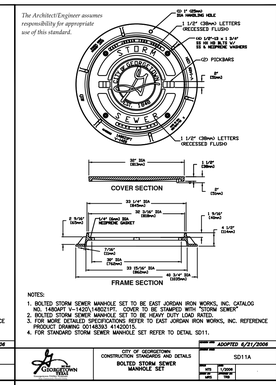
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB DRAIN INLET TYPICAL SECTION
ADOPTED 6/21/2006
SD10



NOTES:
1. STANDARD STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1460A W-1-1420/L140321, COVER TO BE STAMPED WITH "STORM SEWER".
2. STANDARD STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00146391.
4. FOR BOLTED STORM SEWER MANHOLE SET REFER TO DETAIL SD11A.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

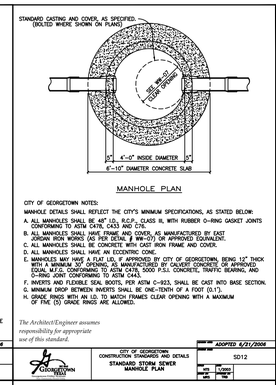
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE SET
ADOPTED 6/21/2006
SD11



NOTES:
1. BOLTED STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1460AWT W-1-1420/L140321PT. COVER TO BE STAMPED WITH "STORM SEWER".
2. BOLTED STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148393 41420015.
4. FOR STANDARD STORM SEWER MANHOLE SET REFER TO DETAIL SD11.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

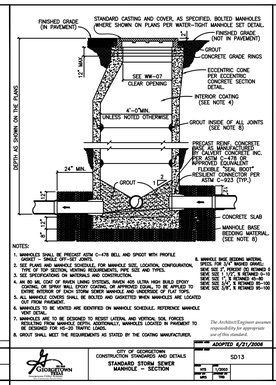
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
BOLTED STORM SEWER MANHOLE SET
ADOPTED 6/21/2006
SD11A



CITY OF GEORGETOWN NOTES:
MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:
A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER O-RING GASKET JOINTS CONFORMING TO ASTM C478, C443 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY CALVERT CONCRETE OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING, AND O-RING GASKET CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM OF FIVE (5) GRADE RINGS ARE ALLOWED.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

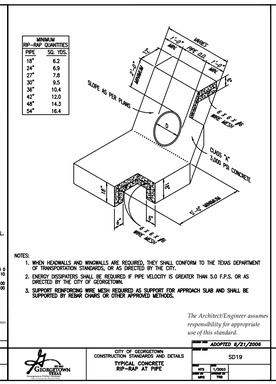
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE PLAN
ADOPTED 6/21/2006
SD12



NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET - SINGLE BUTYLCAST JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. ALL MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
4. ALL BELOW GRADE CAST IRON SURFACES SHALL BE ULTRA HIGH BUILD EPOXY COATING OR OTHER BELL STOFF COATING OR APPROVED EQUAL. TO BE APPLIED TO ENTIRE INTERIOR OF EACH STORM SEWER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED IN THE 100 YEAR FLOOD.
6. MANHOLES TO BE INVERTS ARE ADDITIVED ON MANHOLE SCHEDULE, REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH; ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE SECTIONS WITHIN STUBS SHALL BE CONSTRUCTED AS FOLLOWS:
   SIDE SEE 7' RISERS OR SHORTER: 2 SIDE SEE 7' RISERS TO 9': 3 SIDE SEE 9'-1' RISERS AND 10': 4
   SIDE SEE 11'-1' RISERS AND 12': 5
   SIDE SEE 13'-1' RISERS AND 14': 6
   SIDE SEE 15'-1' RISERS 16'-18': 7
   SIDE SEE 19'-1' RISERS 20'-22': 8

The Architect/Engineer assumes responsibility for appropriate use of this standard.

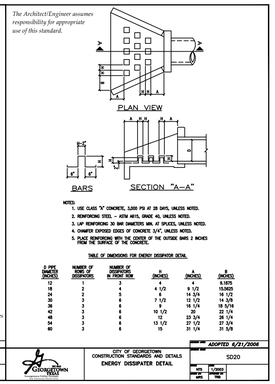
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE — SECTION
ADOPTED 6/21/2006
SD13



NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATORS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING WIRE MESH REQUIRED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL CONCRETE RIP-RAP AT PIPE
ADOPTED 6/21/2006
SD19



NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL — ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE COVER OF THE OUTSIDE BARS 3 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF SIDES OF DISSIPATORS	NUMBER OF RISERS IN DISSIPATOR	A (INCHES)	B (INCHES)
12	3	3	6	9.1875
18	3	4	4 1/2	12 1/16
24	3	5	6	14 1/2
30	3	6	7 1/2	12 1/2
36	3	6	9	15 1/16
42	3	6	10 1/2	22 1/16
48	3	6	12	27 1/16
54	3	6	13 1/2	27 1/2
60	3	6	15	31 1/4

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
ADOPTED 6/21/2006
SD20

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CONCRETE TRANCH CAP DETAIL FOR STORM SEWER
ADOPTED 6/21/2006
SD39

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH, EMBEDMENT AND PAVEMENT REPLACEMENT (PROFILE) FOR STORM SEWER ROADWAY FOR STORM SEWER
ADOPTED 6/21/2006
SD40

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH, EMBEDMENT AND PAVEMENT REPLACEMENT (PROFILE) FOR STORM SEWER UNDER ROADWAY FOR STORM SEWER
ADOPTED 6/21/2006
SD41

NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MIRFI-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER
ADOPTED 6/21/2006
SD42

NOTES:
1. EVERY BUILDING CONSTRUCTED SHALL BE ACCESSIBLE TO EMERGENCY APPARATUS BY WAY OF TEMPORARY ALL WEATHER DRIVING SURFACES.
2. A TEMPORARY ALL WEATHER DRIVING SURFACE SHALL EXTEND TO WITHIN 150' OF ALL EXTERIOR PORTIONS OF BUILDINGS.
3. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE CONSTRUCTED AS SHOWN ON CONSTRUCTION PLANS AND IN ACCORDANCE WITH ITEM 310 SURFACE TREATMENTS OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES.
4. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE CAPABLE OF SUPPORTING A DESIGN WHEEL LOAD OF 16,000 LB. (H-20 LOADING) IN ORDER TO SUPPORT A GROSS VEHICLE WEIGHT OF 80,000 LB. IF SUBGRADE CONDITIONS CHANGE OR ARE VERY UNSTABLE, AN ADDITIONAL GEOTECHNICAL AND/OR ENGINEERING DESIGN MAY REQUIRE A GREATER CROSS SECTION.
5. THE DEVELOPER OR DEVELOPER SHALL MAINTAIN TEMPORARY ALL WEATHER DRIVING SURFACE THROUGHOUT CONSTRUCTION.
6. APPLICABLE SIGNAGE SHALL BE INSTALLED BY THE CONTRACTOR TO DISALLOW PARKING (NO PARKING – FIRE LANE).
7. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE INSTALLED PRIOR TO THE ERECTION OF ANY STRUCTURAL FRAMING ABOVE THE FOUNDATION SLAB. CONTACT FIRE SERVICES FOR THE COORDINATION OF TEMPORARY ALL WEATHER DRIVING SURFACES FOR CONSTRUCTION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY ALL WEATHER DRIVING SURFACE
ADOPTED 6/21/2006
SD43

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

STATE OF TEXAS
MICHAEL B. LEE
138483
LICENSED
PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

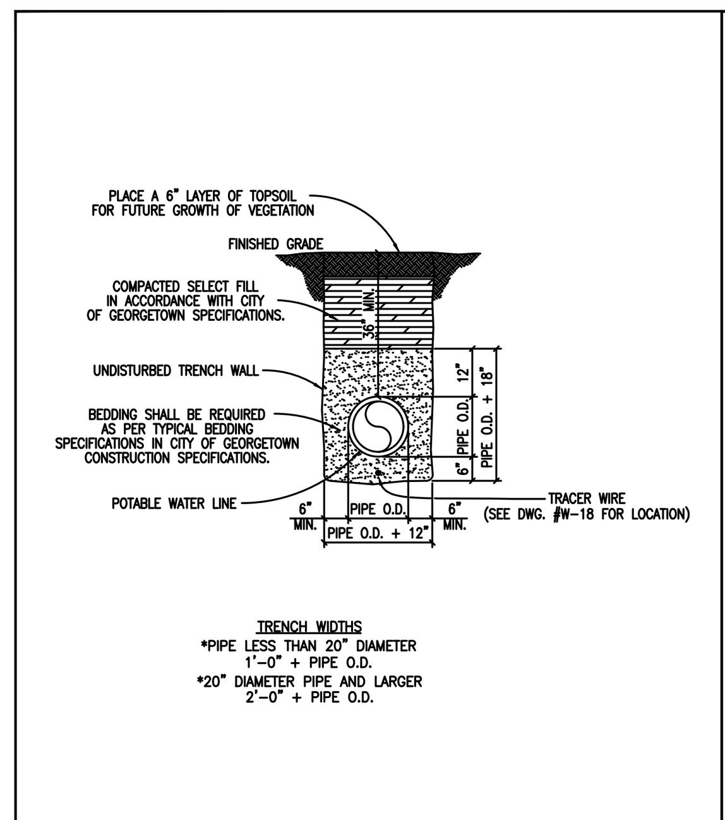
SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

STORM DRAIN DETAILS

SHEET NUMBER
24 OF 42

2023-58-SDP

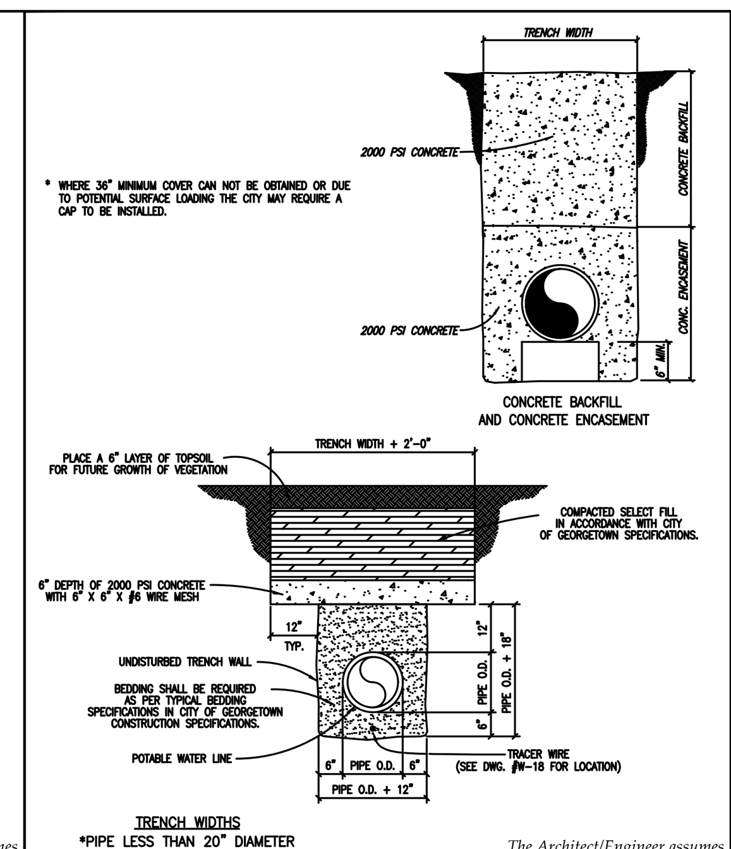
Plotted By: Stokes, Aidan Date: November 07, 2023 09:49:52am File Path: K:\sau_civil\069412900 — se inner loop georgetown\CAD\plansheets\21 STORM DRAIN DETAILS.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

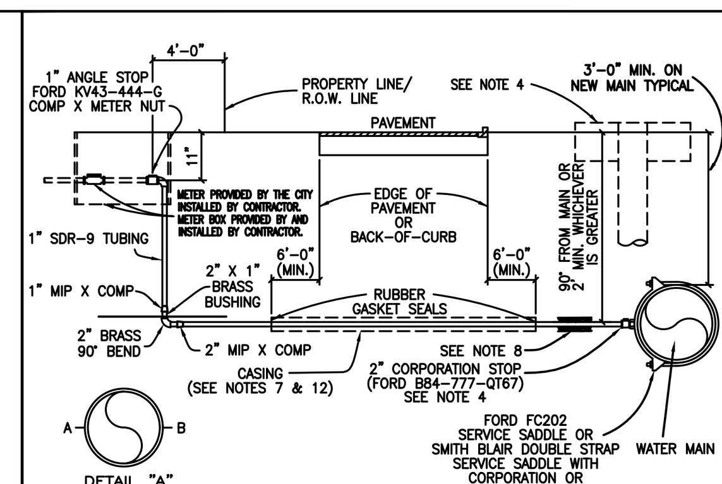
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS — W02 — NTS 1/2003 MRS TRB



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

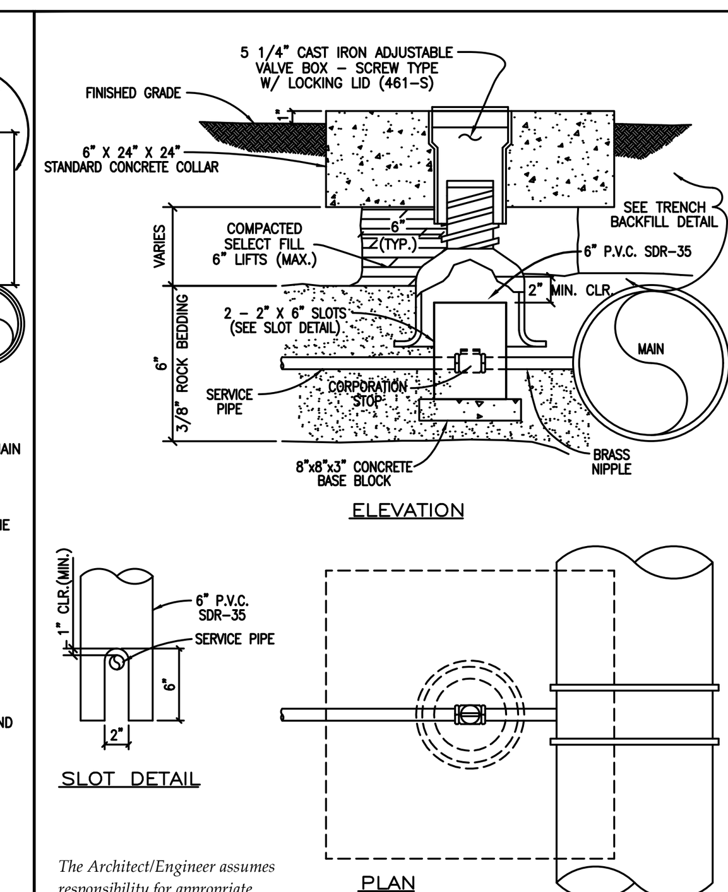
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE TRENCH CAP DETAIL — W02A — NTS 1/2003 MRS TRB



NOTES:
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL. SEE STD. RISER FOR CORP. STOP DETAIL, (DWG # W08).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR-26 REQUIRED FOR OPEN-CUT. STEEL CASING PIPE REQUIRED FOR JACK AND BORE. LIMITS OF CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK-OF-CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE. USE DFW-PLASTICS, INC. PART NO. 1200.SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY. SEE DETAIL W23.
12. CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

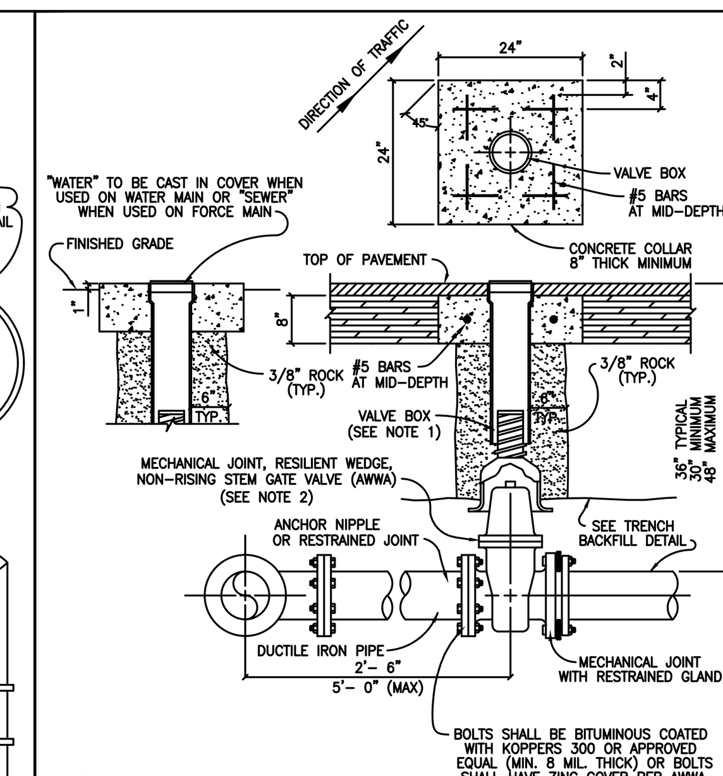
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL WATER SERVICE-ELEVATION — W03 — NTS 1/2013



The Architect/Engineer assumes responsibility for appropriate use of this standard.

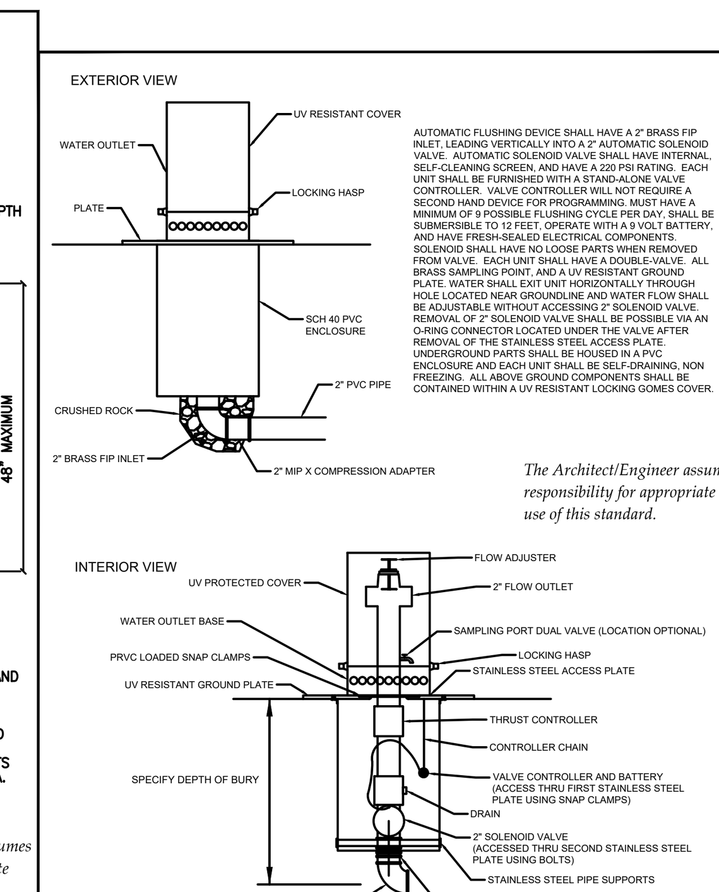
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD RISER BOX FOR CORPORATION STOP — W08 — NTS 1/2003 MRS TRB



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR - 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL - SERIES 2500
   B. MUELLER - 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

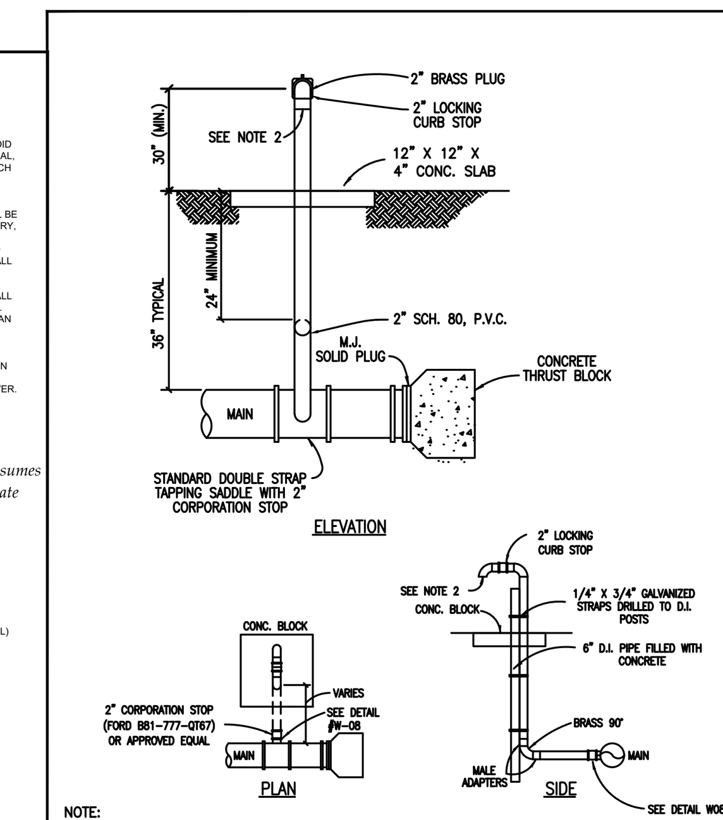
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL VALVE SETTING — W07 — NTS 1/2003 MRS TRB



AUTOMATIC FLUSHING DEVICE SHALL HAVE A 2" BRASS FIP INLET, LEADING VERTICALLY INTO A 2" AUTOMATIC SOLENOID VALVE. AUTOMATIC SOLENOID VALVE SHALL HAVE INTERNAL, SELF-CLEANING SCREEN, AND HAVE A 220 PSI RATING. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE VALVE CONTROLLER. VALVE CONTROLLER WILL NOT REQUIRE A SECOND HAND DEVICE FOR PROGRAMMING. MUST HAVE A MINIMUM OF 9 POSSIBLE FLUSHING CYCLE PER DAY, SHALL BE SUBMERSIBLE TO 12 FEET, OPERATE WITH A 9 VOLT BATTERY, AND HAVE FRESH-SEALED ELECTRICAL COMPONENTS. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE. EACH UNIT SHALL HAVE A DOUBLE-VALVE. ALL BRASS SAMPLING POINT, AND A UV RESISTANT GROUND PLATE. WATER SHALL EXIT UNIT HORIZONTALLY THROUGH HOLE LOCATED NEAR GROUNDLINE AND WATER FLOW SHALL BE ADJUSTABLE WITHOUT ACCESSING 2" SOLENOID VALVE. REMOVAL OF 2" SOLENOID VALVE SHALL BE POSSIBLE VIA AN O-RING CONNECTOR LOCATED UNDER THE VALVE AFTER REMOVAL OF THE STAINLESS STEEL ACCESS PLATE. UNDERGROUND PARTS SHALL BE HOUSED IN A PVC ENCLOSURE AND EACH UNIT SHALL BE SELF-DRAINING, NON FREEZING. ALL ABOVE GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV RESISTANT LOCKING GOMES COVER.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

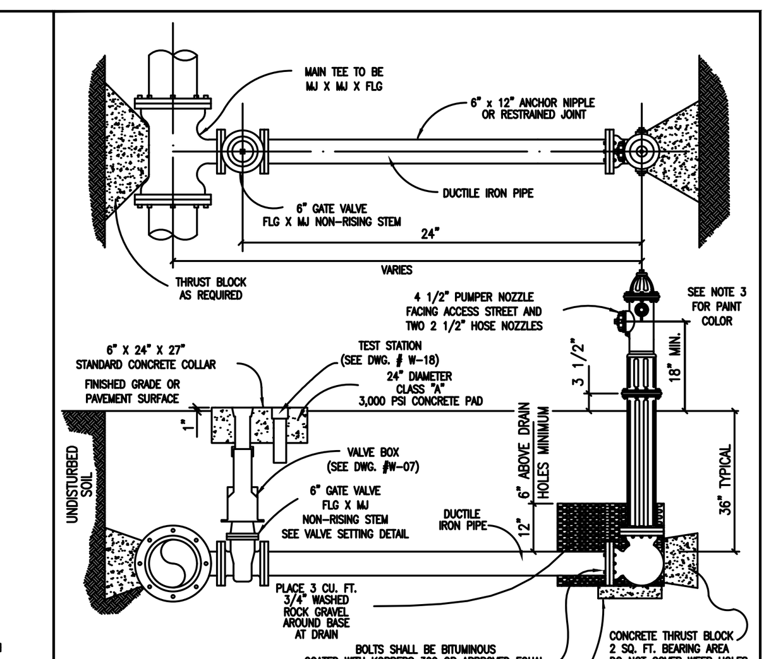
TRANSFERED FROM TCTSUD — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — AUTOMATIC FLUSHING VALVE — W-08C — NTS 7/2015 TP



NOTE:
1. ATTACH FIRE HYDRANT CONNECTION AT THE END OF THE BLOW OFF VALVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

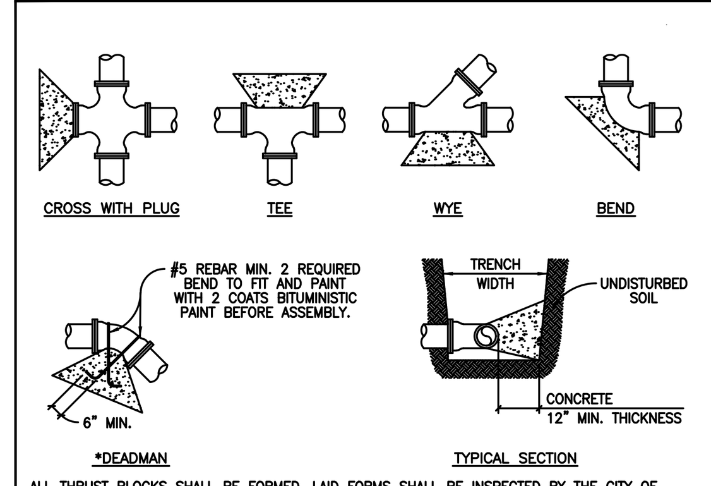
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD BLOW-OFF — W09 — NTS 1/2003 MRS TRB



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY - K81
   B. AMERICAN DARLING - B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL POLYETHELENE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL FIRE HYDRANT INSTALLATION — W10 — NTS 1/2003 MRS TRB



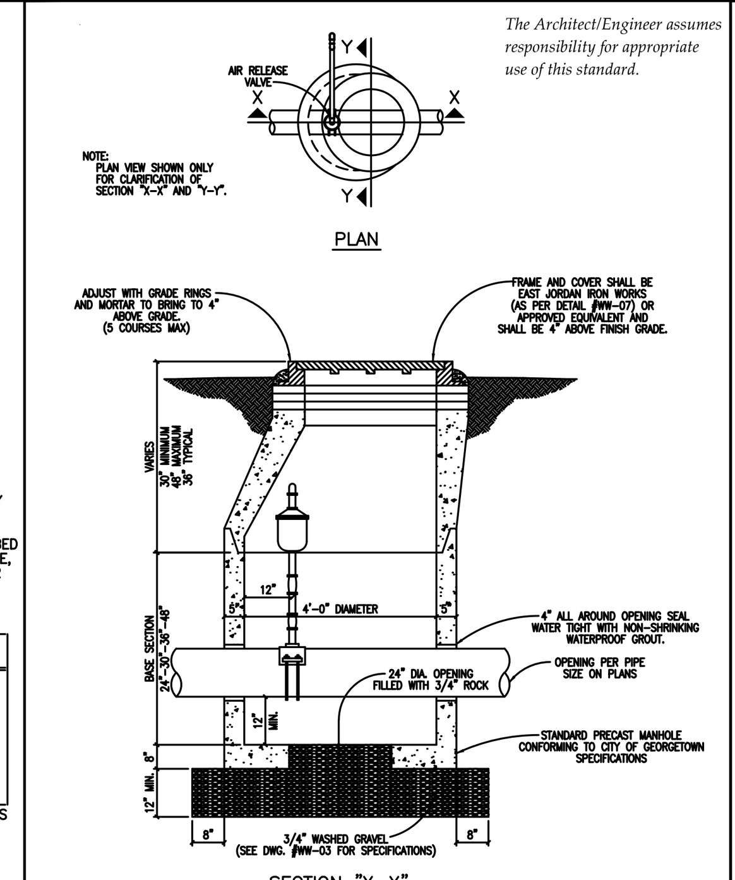
ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER. CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

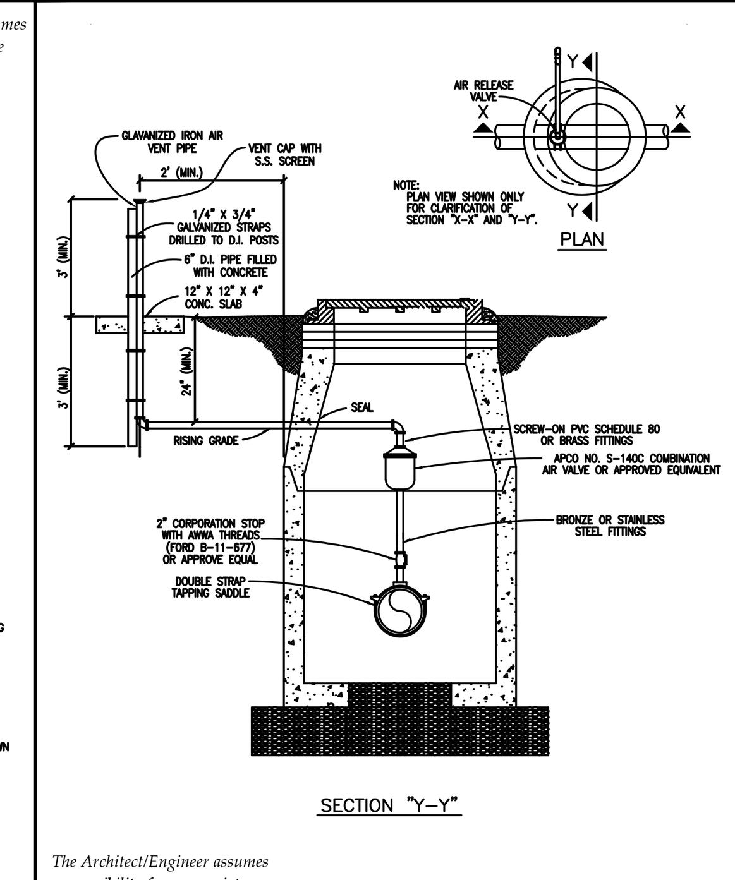
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN — W11 — NTS 1/2003 MRS TRB



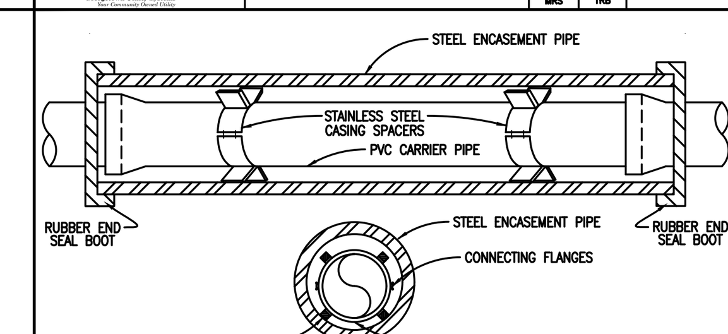
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD AIR RELEASE VALVE FOR WATER MAIN — W12 — NTS 1/2003 MRS TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD AIR RELEASE VALVE FOR WATER MAIN — W13 — NTS 1/2003 MRS TRB

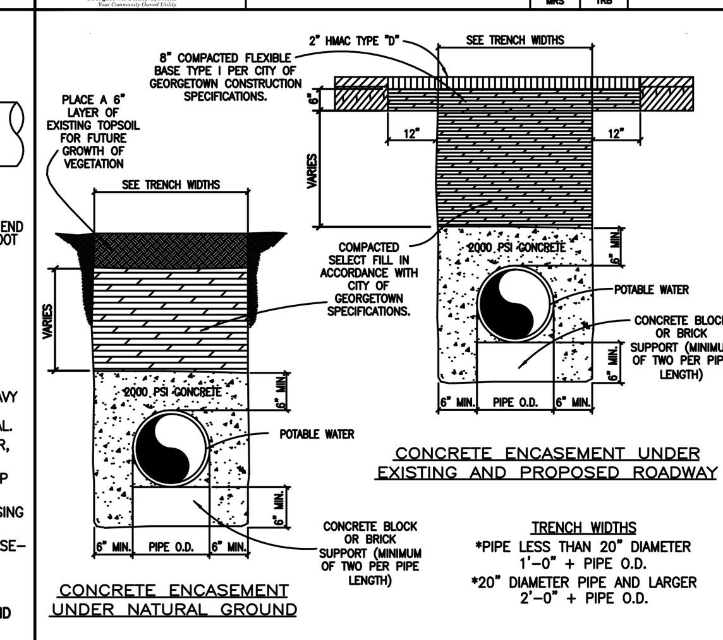


NOTES:
1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH THICKNESS ACCORDING TO THE FOLLOWING TABLE:
7. WHEN CASING IS REQUIRED UNDER PAVEMENT WITHIN THE R.O.W., THE CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.
8. ALL JOINTS SHALL BE RESTRAINED ON PVC CARRIER PIPE.

PIPE SIZE-CARRIER (DIAMETER)	PIPE SIZE-CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"		
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

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — INSTALLATION OF P.V.C. PIPE THROUGH CASING — W14 — NTS 1/2003 MRS TRB

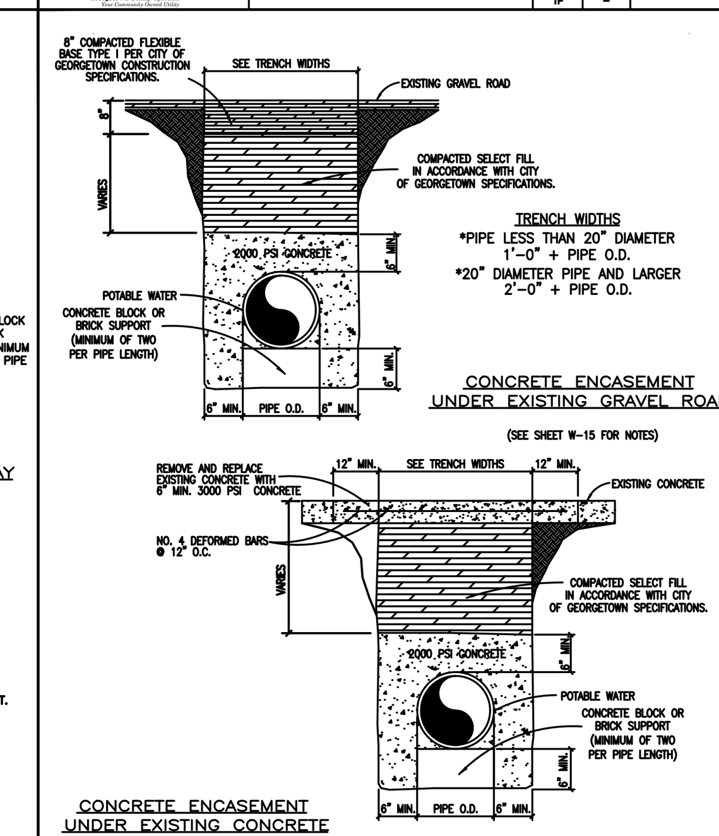


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

NOTES:
1. ENCASEMENT TO BE CONSTRUCTED WHERE SEWER LINES PASS OVER OR UNDER A WATER MAIN WITH LESS THAN TWELVE INCHES (12") CLEAR DISTANCE.
2. AT CROSSINGS, ENCASEMENT SHALL EXTEND TEN FEET (10'-0") ON EITHER SIDE OF CROSSING.
3. BEGINNING AND ENDING OF ENCASEMENTS SHALL NOT BE MORE THAN SIX INCHES (6") FROM A PIPE JOINT.
4. WHERE WATER AND SEWER LINES PARALLEL WITH LESS THAN TEN FEET (10'-0") HORIZONTAL CLEAR DISTANCE, NO ENCASEMENT IS REQUIRED IF BOTH LINES ARE 150 PSI PRESSURE PIPE.
5. RAW WATER MAINS SHALL BE 150 PSI PRESSURE RATED WHEN PARALLELING POTABLE WATER MAINS WITH LESS THAN NINE FEET (9'-0") HORIZONTAL CLEARANCE.
6. WHERE MINIMUM COVER, THIRTY SIX INCHES (36") IS NOT AVAILABLE, ENCASEMENT WILL BE REQUIRED.
7. ALL CONCRETE ENCASEMENTS MUST BE FORMED AND INSPECTED BY THE CITY OF GEORGETOWN INSPECTOR PRIOR TO PLACING CONCRETE AND BACKFILLING.
8. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

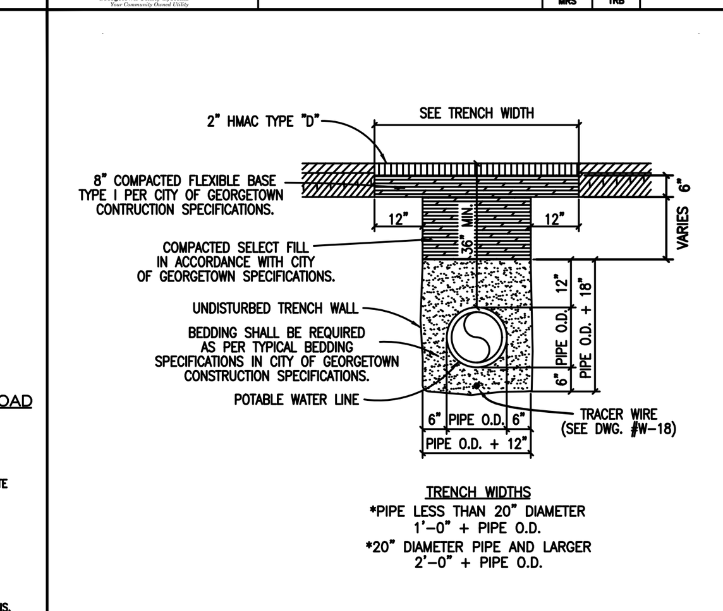
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE ENCASEMENT DETAIL — W15 — NTS 1/2003 MRS TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE ENCASEMENT DETAIL — W16 — NTS 1/2003 MRS TRB

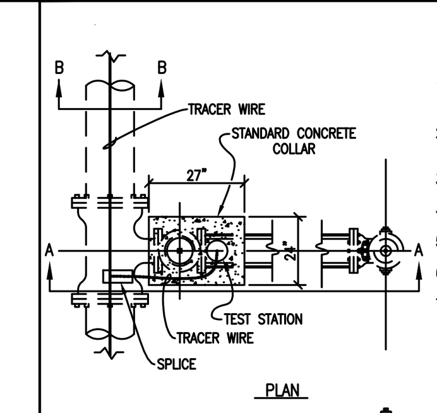


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

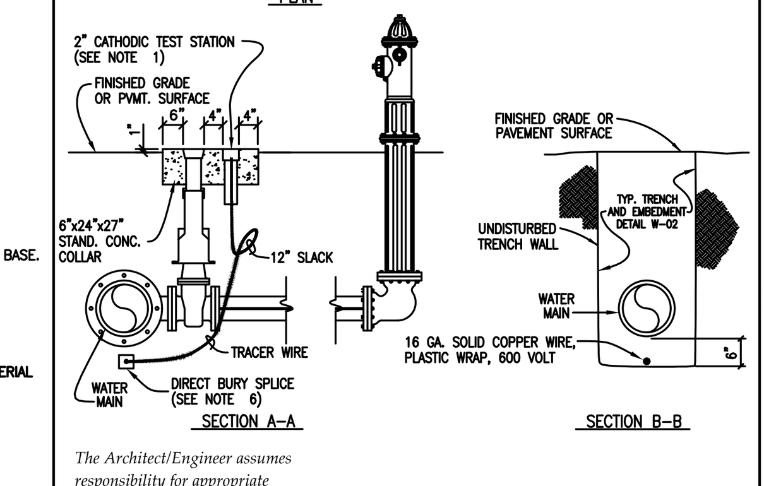
NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY — W17 — NTS 1/2003 MRS TRB

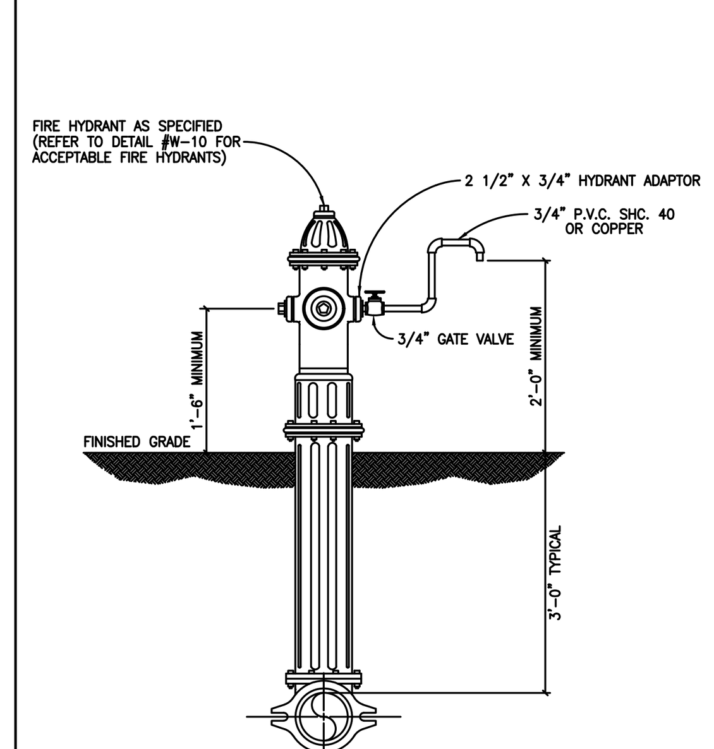


NOTES:
1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. - 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
6. BURY SPLICE SHALL BE 3M DIRECT BURY SPLICE (DBR) OR APPROVED EQUAL.
7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.



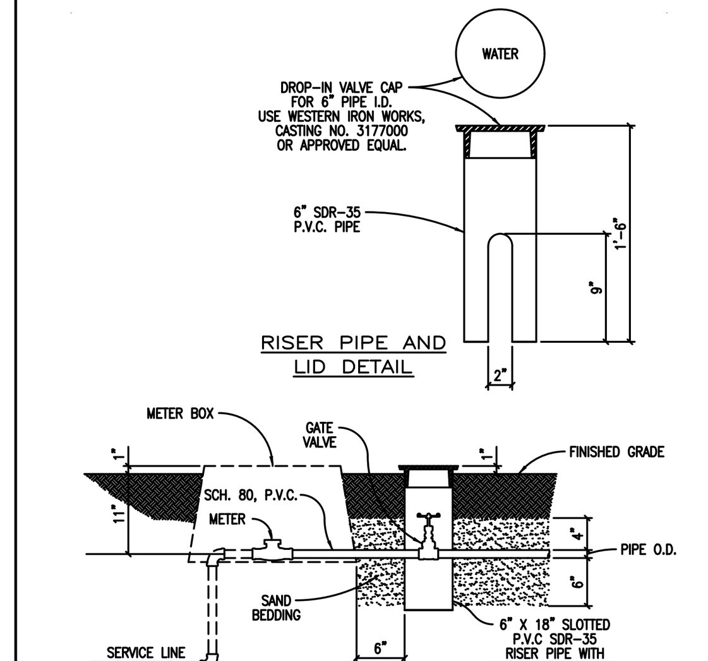
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRACER WIRE INSTALLATION AND TEST STATION LOCATION — W18 — NTS 1/2003 MRS TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

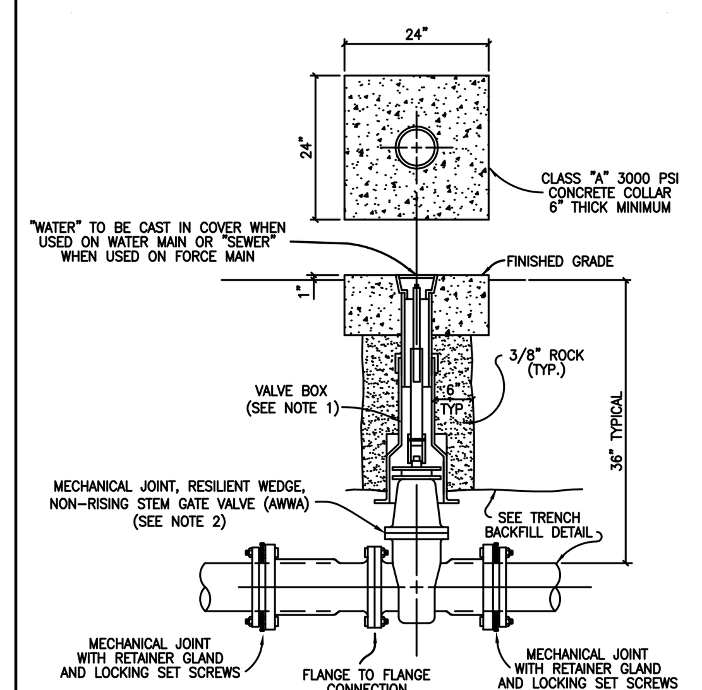
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — FIRE HYDRANT SAMPLING POINT — W19 — NTS 1/2003 MRS TRB



NOTES:
1. GATE VALVE SHALL BE A HAMMOND IB645, CLASS 125, BRONZE GATE, SCREWED BONNET, NON-RISING STEM, SOLID WEDGE DISC WITH THREADED ENDS OR APPROVED EQUAL.
2. DROP-IN VALVE CAP SHALL BE CAST WITH THE WORD "WATER" ON TOP.
3. USE SCHEDULE 80, M.I.P. ADAPTER AS REQUIRED.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

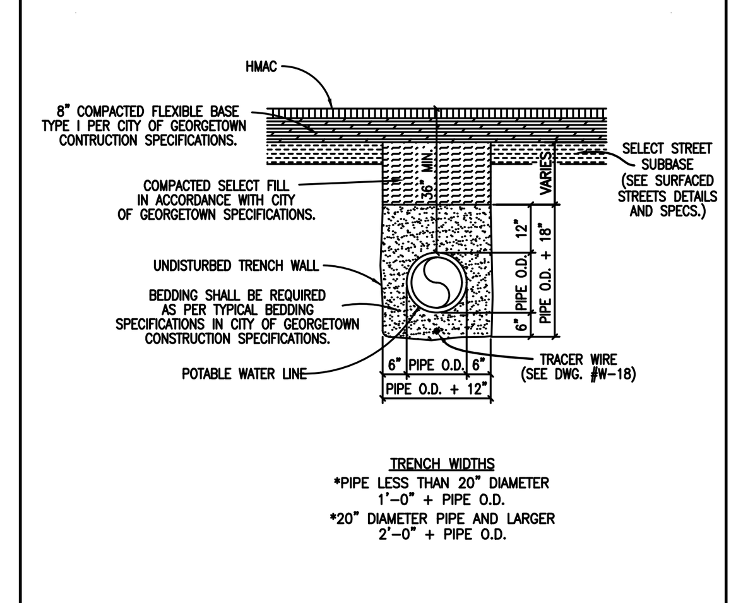
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CUSTOMER'S CUT-OFF — W20 — NTS 1/2003 MRS TRB



NOTES:
1. SEE VALVE SETTING DETAIL, DWG. #W-07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER - 2360 SERIES
   B. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — INLINE VALVE INSTALLATION — W21 — NTS 1/2003 MRS TRB

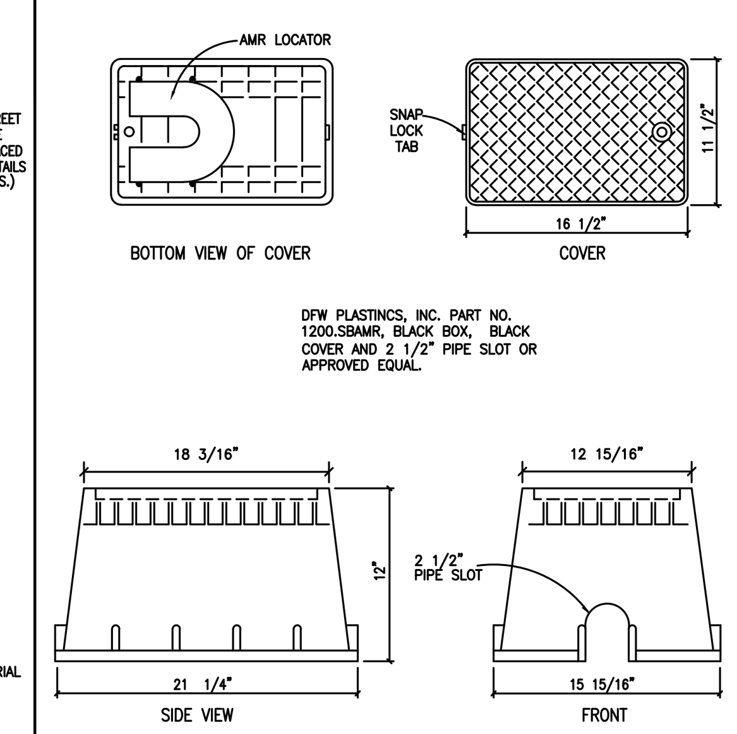


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY — W22 — NTS 1/2003 MRS TRB

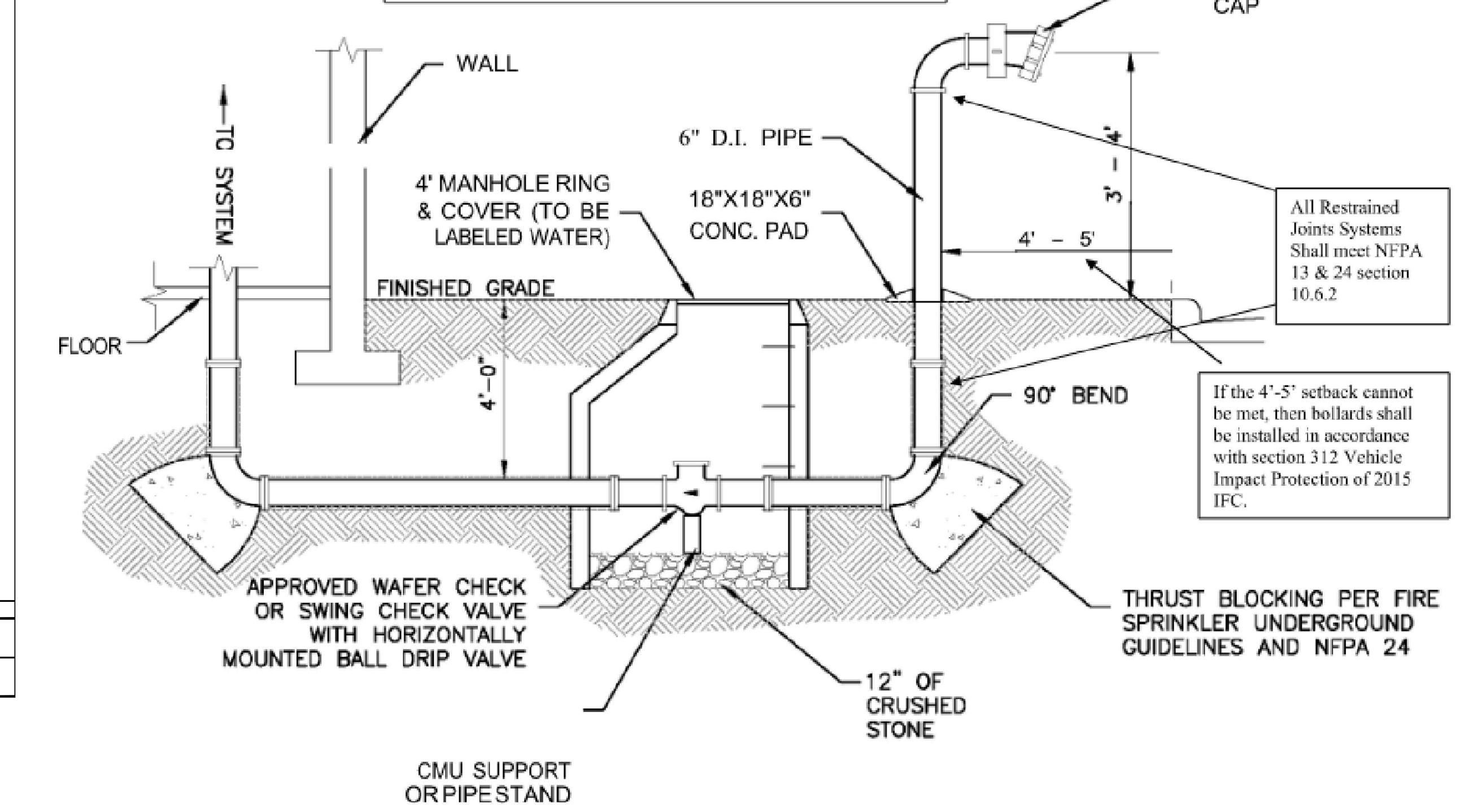


The Architect/Engineer assumes responsibility for appropriate use of this standard.

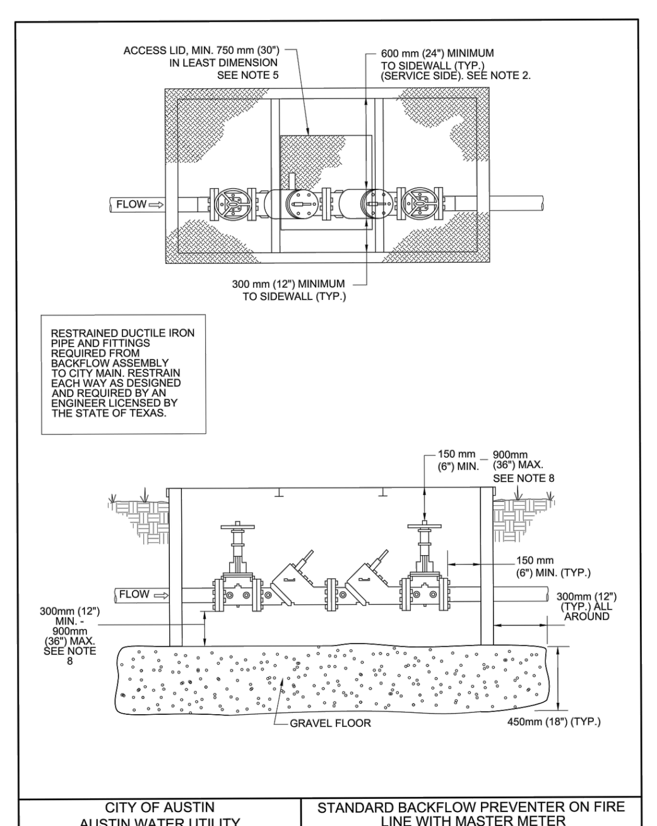
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — METER BOX (NON-TRAFFIC AREAS) — W23 — NTS 1/2003 MRS TRB

Per State Fire Marshall's Office an RME-G or U License is required in order to work on Private Fire Mains and Their Appurtenances (NFPA 24)

All Fire Department Connections (FDCs) shall be marked as approved by the Fire Code Official. Two red street lane reflectors (stimsonite model 88AB or similar) shall be installed six inches from centerline of the fire apparatus access roadway on the side closest to the FDC. Markers shall be parallel to the FDC having the reflective ends of the street markers facing the direction of traffic. 2015 IFC 912.7



FIRE DEPARTMENT CONNECTION
NOT TO SCALE



CITY OF AUSTIN AUSTIN WATER UTILITY — RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011 ADOPTED — STANDARD BACKFLOW PREVENTER ON FIRE LINE WITH MASTER METER — THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. — STANDARD NO. 520S-19B 1 OF 2

NOTES:
1. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
2. ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.
3. BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.
4. CLEARANCE SHALL BE AS INDICATED,AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM.
5. ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.
6. TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.
7. VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.
8. VAULT DEPTH MAY NOT EXCEED 1.8m (72"), BOTTOM OF LID TO TOP OF FLOOR.
9. HAND WHEELS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.
10. FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H20 LOADING REQUIRED).
11. FOR VAULT SEE SPL WW-298 OR APPROVED EQUAL (H20 LOADING REQUIRED).
12. VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.
13. THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.

CITY OF AUSTIN AUSTIN WATER UTILITY — RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011 ADOPTED — STANDARD BACKFLOW PREVENTER ON FIRE LINE WITH MASTER METER — THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. — STANDARD NO. 520S-19B 2 OF 2

Plotted By: Stokes, Aidan Date: November 07, 2023 09:50:18am File Path: K:\sau_civil\069412900 - se inner loop georgetown\CAD\plansheets\22 UTILITY DETAILS.dwg
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TBPE Firm No. 928

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STATE OF TEXAS — MICHAEL B. LEE — 138483 — LICENSED PROFESSIONAL ENGINEER
10/25/2023

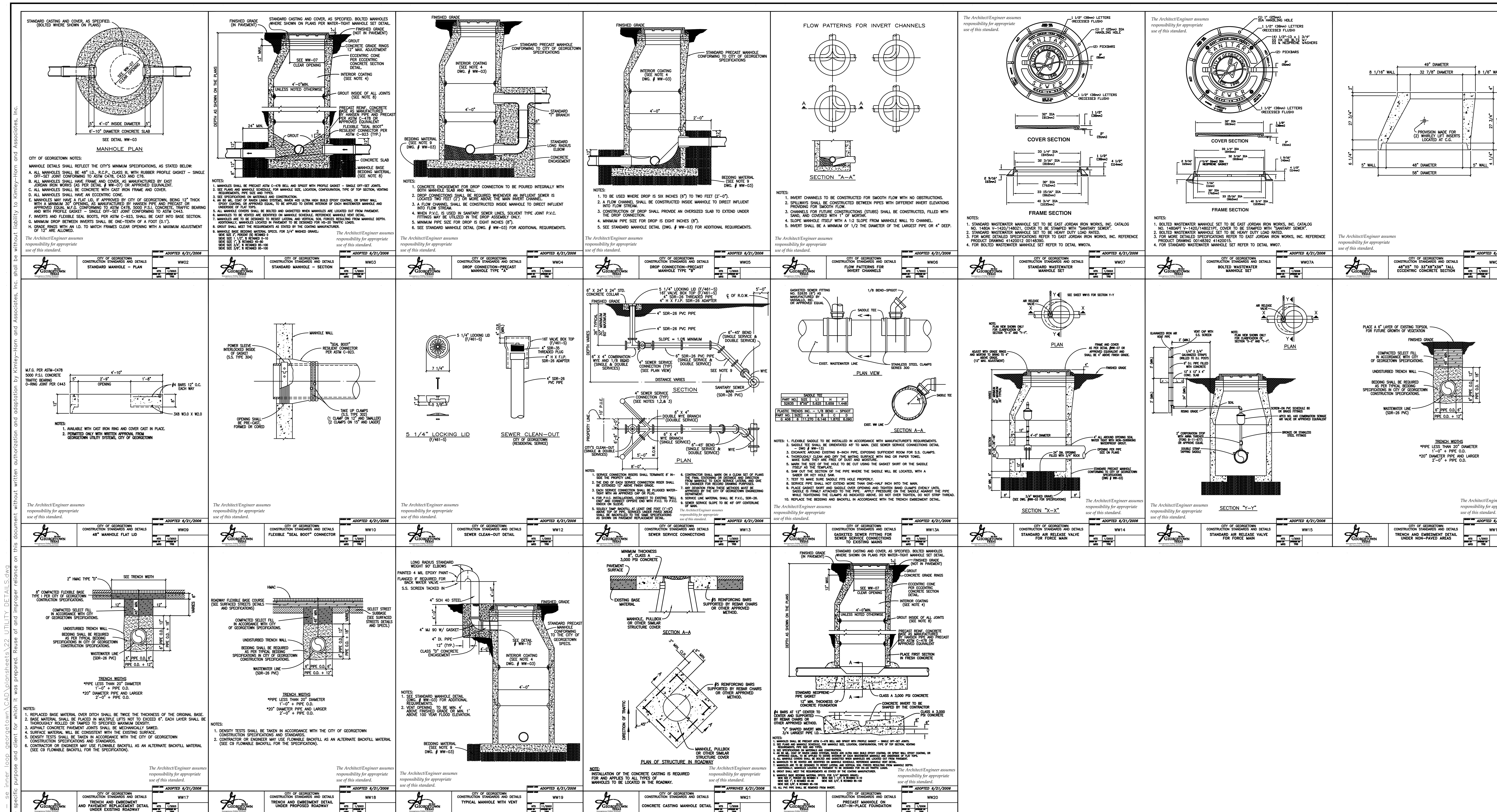
KHA PROJECT 069412900
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

UTILITY DETAILS (SHEET 1 OF 3)

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
25 OF 42

2023-58-SDP



UTILITY DETAILS (SHEET 2 OF 3)

SE INNER LOOP INDUSTRIAL

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CHECKED BY:	MBL

SHEET NUMBER
26 OF 42

2023-58-SDP

Plotted By: Stokes, Aidan Date: November 07, 2023 09:50:21am File Path: K:\sau_civil\069412900 - se inner loop georgetown\CAD\plansheets\22 UTILITY DETAILS.dwg
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OCTAVE® ULTRASONIC METER

NSF · FM APPROVED · SS 316

Octave brings the latest in ultrasonic metering technology to Commercial/Industrial (C&I) water meters and puts precise measurement where the real flows exist. An excellent alternative to mechanical compound, single-jet, floating ball, fire-service type and turbine meters, Octave excels at maintaining sustained accuracy for the life of the meter while providing smart AMR capabilities.

Technical Specifications:

Working Pressure - 175 PSI

Liquid Temperature - 32.1° – 122.1F

Metrological Characteristics - Meets ANSI/AWWA Standard C715-18, C700-10, ISO 4064 rev. 2005

Configuration - Compact-Display built into unit

Power Source - 2 x D Size Lithium Thionyl Chloride batteries - 10 year warranted life time

Environmental Protection - NEMA 6P (IP68), Ambient operation temp. - +3.9 °F / +131 °F for the display

Display Units - Multi line 12-digit LCD (Programmable USG, Cubic Feet, Cubic Meters, Acre Feet for volume and GPM, Lps, or MYh for rate of flow)

Output - Programmable digital pulse, Modbus, encoder OR combination of Modbus & pulse, Optional dual output available in encoder + pulse.

Features & Benefits:

- Industry leading low flow sensitivity reduces Non-Revenue Water
- Grade 316 Stainless Steel (2"-8") or Epoxy Coated Ductile Iron (10"-12") body design provides full compliance with ANSI/NSF 372 (AB1953 or NSF61G)
- Easy to install Floating Flanges on 2"-8" and Integrated Flanges on 10"-12".
- No moving parts. Minimal flow intrusion. Enduring accuracy.
- No required strainer
- Industry standard communication protocol for integration with most third-party AMR/AMI systems
- Active leak, theft, backflow, meter damage/tamper, rate of flow, and battery life indication
- Detailed LCD Display features immediate reporting and visual indicators for 8 critical conditions
- Ruggedized NEMA 6P/IP-68 construction; fully submersible design
- Designed to meet standards for both North American and International C&I water meters
- Optional flow measurements; Forward Only, Net Volume or Alternating Display (Forward and Reverse Consumption displayed separately)

OCTAVE® ULTRASONIC METER

Performance Data

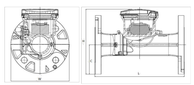
Octave Nominal Size inch (mm)	Protected Low Flow 95% – 100% Accuracy GPM (l/m)	Normal Flow Range 98.5% – 101.5% Accuracy GPM (l/m)	Continuous Safe Max Flow GPM (l/m)	Linearity Range +/- 0.5% Maximum Deviation GPM (l/m)
2" (50 mm)	1.4 (5.3)	14 - 220 (53 - 833)	250 (946)	4 - 220 (15 - 833)
3" (80 mm)	3.2 (12)	32 - 500 (121 - 1,893)	570 (2,158)	9 - 500 (34 - 1,893)
4" (100 mm)	5.6 (21)	56 - 1,000 (212 - 3,785)	1,000 (3,785)	16 - 1,000 (61 - 3,785)
6" (150 mm)	12.5 (47)	125 - 2,200 (473 - 8,328)	2,200 (8,328)	35 - 2,200 (132 - 8,328)
8" (200 mm)	22 (83)	220 - 3,800 (833 - 14,385)	3,800 (14,385)	60 - 3,800 (227 - 14,385)
10" (250 mm)	35 (132)	350 - 5,500 (1,325 - 20,820)	5,500 (20,820)	400 - 5,500 (1,514 - 20,820)

* Continuous Safe Max Flow ranges listed for the octave are for accurate flow measurement only and do not limit the Octave from meeting the short-term Design Flow for the said octave.

Dimensions

Model	Octave								
	Floating Flanges				Solid Flange				
Nominal Size	2" x 10" (51 mm x 254 mm)	3" (76 mm)	4" (102 mm)	6" (152 mm)	8" (203 mm)	10" (254 mm)	12" (305 mm)	4" (102 mm)	6" (152 mm)
L - Length	10" (254 mm)	12" (305 mm)	15.25" (387 mm)	19" (482 mm)	23" (584 mm)	29" (737 mm)	35" (889 mm)	12.94" (329 mm)	19.94" (507 mm)
W - Width	6.94" (176 mm)	7.44" (189 mm)	9.06" (230 mm)	11.06" (281 mm)	13.56" (344 mm)	16.06" (408 mm)	18.56" (471 mm)	9" (229 mm)	11" (279 mm)
H - Height	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)	8.19" (208 mm)
L - Center Face (Laying Length)	2.95" (75 mm)	3.15" (80 mm)	3.54" (90 mm)	3.94" (100 mm)	4.33" (110 mm)	5.90" (150 mm)	5.90" (150 mm)	3.54" (90 mm)	3.94" (100 mm)
Weight (Sacrificial Anode)	15 lbs (7 kg)	20 lbs (9 kg)	23 lbs (10 kg)	34 lbs (15 kg)	51 lbs (23 kg)	78 lbs (35 kg)	111 lbs (50 kg)	48 lbs (22 kg)	68 lbs (31 kg)
Weight (Impressed Current)	15 lbs (7 kg)	20 lbs (9 kg)	23 lbs (10 kg)	34 lbs (15 kg)	51 lbs (23 kg)	78 lbs (35 kg)	111 lbs (50 kg)	48 lbs (22 kg)	68 lbs (31 kg)

* Octave is offered in 10" weight with an optional add-on of a 3", a 5.25" or a 7" spool. Gaskets, nuts, bolts, & washers are included in lengths of 12", 15.25" and 17".



MASTER METER

Master Meter, Inc.
Toll Free: 800.765.4518
Fax: 817.842.8100
innovate@mastermeter.com

NOTE — For Performance charts please see **Engineering Document - Octave | Version 10.17**

Blue Brute | C900

PRESSURE-RATED PVC PIPE

AWWA C900-16, CSA B137.3
ASTM D1784 Cell Class 12454
ANSI/NSF 61/14, UL 1285

Gasket: ASTM F477
Joint: ASTM D3139

JM Eagle — DELIVERING GOOD WATER TO YOU

MARKETS

Potable · Irrigation · Reclaim · Sewer

DESCRIPTION

Available Pipe Sizes (CIOD)

4", 6", 8", 10", 12", 14", 16", 18", 20", 24", 30", 36", 42", 48"

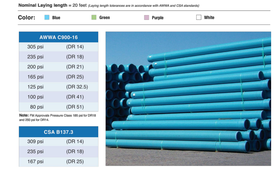
Nominal Laying length = 20 feet (*Laying length tolerances are in accordance with ASTM and CSA standards)

Color: Blue · Green · Purple · White

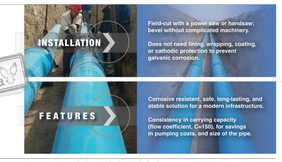
AWWA C900-16	
305 psi	(DR 14)
235 psi	(DR 18)
200 psi	(DR 21)
165 psi	(DR 25)
125 psi	(DR 32.5)
100 psi	(DR 41)
80 psi	(DR 51)

NOTE: PW Applicable Pressure Class 165 psi for DR18 and 200 psi for DR14.

CSA B137.3	
309 psi	(DR 14)
235 psi	(DR 18)
167 psi	(DR 25)



BENEFITS



*50 year warranty only applicable to CWA/Eagle Loc 900, CW00, CW90, AWWA C900/CW90. Check www.jmeagle.com/warranty for full details.

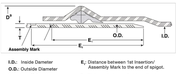
Blue Brute | C900

PRESSURE-RATED PVC PIPE

JM Eagle — DELIVERING GOOD WATER TO YOU

SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	MIN. I.D. (IN)	MIN. T (IN)	APPROX. Q (GPM)	APPROX. Q (GPM)	APPROX. WT (LBS/FT)	APPROX. WT (LBS/FT)
				DR 25	DR 18	DR 25	DR 18
4	4.80	4.07	0.348	4.6	5.5	6.493	8.2
6	6.90	5.86	0.495	9.4	10.9	12.98	16.2
8	9.05	7.68	0.648	15.5	18.1	22.78	28.4
10	11.10	9.42	0.795	23.3	27.2	34.32	42.8
12	13.20	11.20	0.942	32.6	38.1	47.72	59.5
14	15.30	13.00	1.092	43.4	50.7	63.01	78.6
16	17.40	14.76	1.242	55.7	65.0	80.97	101.0
18	19.50	16.54	1.392	69.6	81.3	101.6	126.7
20	21.60	18.33	1.542	85.1	99.4	124.9	155.8
24	25.80	21.89	1.842	118.1	138.0	178.9	223.1
30	32.00	27.16	2.283	181.6	212.1	274.9	342.9
36	38.30	32.50	2.733	260.1	303.8	393.6	491.0
42	44.50	37.76	3.175	353.1	412.4	534.5	666.7
48	50.80	43.10	3.625	461.2	538.7	698.1	870.8
PIPE SIZE (IN)	**AVERAGE O.D. (IN)**	**MIN. I.D. (IN)**	**MIN. T (IN)**	**APPROX. Q (GPM)**	**APPROX. Q (GPM)**	**APPROX. WT (LBS/FT)**	**APPROX. WT (LBS/FT)**
				DR 21	DR 14	DR 21	DR 14
4	4.80	4.23	0.287	4.8	5.5	6.244	7.8
6	6.90	6.09	0.366	9.85	11.0	12.03	15.0
8	9.05	7.98	0.503	16.25	18.2	20.74	25.9
10	11.10	9.79	0.617	25.0	28.0	31.84	39.8
12	13.20	11.64	0.732	35.7	39.9	45.44	56.8
14	15.30	13.50	0.850	48.5	54.3	61.93	77.4
16	17.40	15.35	0.967	63.4	70.9	81.00	101.2
18	19.50	17.20	1.083	80.2	89.7	102.5	128.1
20	21.60	19.06	1.200	99.0	110.7	126.5	158.1
24	25.80	22.76	1.433	142.5	159.4	182.1	227.6
30	32.00	28.23	1.775	219.0	244.9	279.9	349.8
36	38.30	33.79	2.125	313.7	350.8	400.8	500.8
42	44.50	39.26	2.467	425.9	476.2	544.2	680.1
48	50.80	44.82	2.817	556.3	622.1	710.5	887.9
PIPE SIZE (IN)	**AVERAGE O.D. (IN)**	**MIN. I.D. (IN)**	**MIN. T (IN)**	**APPROX. Q (GPM)**	**APPROX. Q (GPM)**	**APPROX. WT (LBS/FT)**	**APPROX. WT (LBS/FT)**
				DR 18	DR 14	DR 18	DR 14
4	4.80	4.28	0.267	5.0	5.5	6.045	7.6
6	6.90	6.01	0.378	9.25	10.3	9.427	5.9
8	9.05	7.89	0.496	15.25	17.0	15.62	19.5
10	11.10	10.16	0.642	7.25	8.25	10.00	12.5
12	13.20	12.08	0.529	8.25	9.25	13.95	14.4
14	15.30	14.06	0.612	9	10	16.99	16.8
16	17.40	15.92	0.695	7.25	8.75	20.67	25.38
18	19.50	17.84	0.779	8.25	9.25	25.71	32.14
20	21.60	19.77	0.862	10.25	11.25	31.74	39.68
24	25.80	23.61	1.030	9.75	11.25	39.239	56.96
30	32.00	29.29	1.280	11.5	13.5	57.338	69.46
36	38.30	35.06	1.532	13.25	15.25	44.134	126.41
42	44.50	40.73	1.780	14.5	17.0	107.14	175.52
48	50.80	46.49	2.032	16.5	19.5	84.263	231.05
PIPE SIZE (IN)	**AVERAGE O.D. (IN)**	**MIN. I.D. (IN)**	**MIN. T (IN)**	**APPROX. Q (GPM)**	**APPROX. Q (GPM)**	**APPROX. WT (LBS/FT)**	**APPROX. WT (LBS/FT)**
				DR 14	DR 11	DR 14	DR 11
14	15.30	14.06	0.471	6.5	8	17.799	70.10
16	17.40	15.92	0.535	7.25	8.75	20.219	79.60
18	19.50	16.33	0.600	7.75	9.25	23.908	23.75
20	21.60	19.77	0.664	8.75	10.25	29.497	29.25
24	25.80	23.12	0.794	9.75	11.25	39.712	39.71
30	32.00	28.91	0.985	11.5	13.5	56.682	86.43
36	38.30	35.80	1.178	13.25	15.25	43.983	38.02
42	44.50	41.44	1.063	15.5	18.5	57.599	178.45



I.D.: Inside Diameter — E_1: Distance between 1st Insertion/ Assembly Mark to the end of spigot.
O.D.: Outside Diameter
T: Wall Thickness — E_2: Distance between 2nd Insertion/ Assembly Mark to the end of spigot.
D°: Bell Outside Diameter

This information may have been updated. Please visit www.jmeagle.com for all updated information and warranty details.

CUSTOMER SERVICE:1.800.621.4404

THIS PRODUCT IS MADE IN AMERICA

PRINTED JUNE 2016 REV03

ES-A-InBuildingRiser

Engineering Specification

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

LEAD FREE

Series IBR

In-Building Risers Customizable

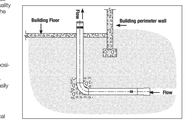
Sizes: 4" – 10"

Series IBR In-Building Risers are used to connect the main fire supply to the building overhead fire system. The fitting passes under the foundation without joints and extends up through the floor. Provided with installation tabs, the unit has a QPS (Cast Iron Pipe Size) coupler for easy connection to the underground supply (AWWA C900 PVC and Ductile Iron Pipe) and industry standard grooved-end connection (AWWA C606) on the building side for easy connection to the overhead fire sprinkler system. Series IBR is designed and tested for construction to comply with Lead Free* installation requirements.

Ames In-Building Risers are precision engineered and manufactured to provide exceptional reliability and reduce installation time & labor costs associated with field assembly. In accordance with NFPA 24, the UL/FM approved In-Building Risers replace numerous fittings, elbows & spools and reduces the possibility of leaks or failure in comparison to traditional installation methods and materials. Factory tested integrity ensures the highest quality installation. The use of stainless steel significantly increases the reliability and life of the riser.

Features

- Cost savings
- Corrosion resistant stainless steel construction, type 304
- Ease of installation and light weight allows one person to position and handle the riser
- Minimal site preparation; joint restraint one-piece construction reduces time and labor; no missing parts, no leaks; easily identifiable for approvals
- Includes Test Cap and Coupler
- UL/FM approved
- Sizes: available in 4" – 10" with various lengths to meet local requirements
- Designed to meet NFPA 24
- AWWA C900 InsertXP
- AWWA C606 Outlet



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Ames Fire & Waterworks product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Ames Fire & Waterworks Technical Service. Ames Fire & Waterworks reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Ames Fire & Waterworks products previously or subsequently sold.

AMES FIRE & WATERWORKS — A WATTS Brand

Specifications

In-Building Riser shall be installed as indicated on the plans. Riser shall be composed of a single extended 90 degree fitting of fabricated ASTM A312 304 stainless steel tubing, mechanically grooved on one end to fit a CIPS coupler and have a grooved-end connection on the outlet (building) side and a CIPS coupler on the inlet (underground) side. The grooved end shall include a coupler and cap to facilitate testing of the underground piping. The In-Building Riser shall be an Ames Fire & Waterworks Series IBR.

Approvals

Fittings FM class 1920
UL HHQA (4"-10")

Dimensions – Weights

SIZE	A (QS)	B	C		WEIGHT	
in	in	mm	in	mm	lbs	kg
4	4½	114	6	183	71	32
4	4½	114	8'-6"	183	86	39
4	4½	114	9	274	183	82
4	4½	114	5	152	213	71
6	6⅝	168	6	183	86	44
6	6⅝	168	8'-6"	259	183	122
6	6⅝	168	9	274	183	127
6	6⅝	168	5	152	213	98
8	8⅝	219	6	183	129	59
8	8⅝	219	8'-6"	259	183	163
8	8⅝	219	9	274	183	170
8	8⅝	219	5	152	213	139
10	10¾	273	6	183	202	92
10	10¾	273	8	274	183	208
10	10¾	273	9	152	7	213

**Each 8 (vertical) and C (horizontal) leg is customizable from 3" to 20" with UL/FM approvals. Consult with your factory representative for details.

Standards

NFPA — Designed to allow the contractor to conform to NFPA 24

Where a riser is close to building foundations, underground fittings of proper design and type shall be used to avoid pipe joints being located under the foundations.

End Connections

Horizontal End: Mates with Ductile Iron Pipe and AWWA C900 Pipe (PVC Pipe with Ductile Iron Pipe Equivalent OD's)

Utilizes Gasket conforming to UL 157 with "Lock in" gasket configuration

SIZE	MATING PIPE OD	
in	in	mm
4	4.8	122
6	6.9	175
8	9.1	230
10	11.1	282

Vertical End:

Meets AWWA C-606 dimensions for roll grooved pipe
Meets AWWA C-207 class D for flanges

Ratings

Meets AWWA C-900 pressure class 200, DR 14 Pipe

Testing

Welds are 100% leak tested at the factory

NOTICE

Inquire with governing authorities for local installation requirements

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

AMES FIRE & WATERWORKS — A WATTS Brand

USA: Backflow Tel: (978) 689-6066 • Fax: (978) 975-8350 • AmesFireWater.com
USA: Control Valves Tel: (713) 943-0909 • Fax: (713) 944-9445 • AmesFireWater.com
Canada: Tel: (905) 332-4090 • Fax: (905) 481-2316 • AmesFireWater.com
Latin America: Tel: (52 55-4122-0138 • AmesFireWater.com

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ES-A-4000SS-12

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

LEAD FREE

Series 4000SS

Reduced Pressure Zone Assemblies

Sizes: 12"

Series 4000SS Reduced Pressure Zone Assemblies are designed to provide protection of the potable water supply in accordance with national codes. This series can be used where approved by the local authority having jurisdiction on health-hazard cross-connections. Series 4000SS features short lay length, lightweight stainless steel body, corrosive-resistant stainless steel relief valves, and patented cam-check assembly.

Features

- Stainless steel construction provides long term corrosion resistance and maximum strength
- Stainless steel body is half the weight of competitive designs reducing installation & shipping costs
- Short end-to-end dimensions makes retrofit easy
- Cam-check assembly provides maximum flow at low pressure drop
- No special tools required for servicing
- Compact construction allows for smaller enclosures
- Stainless steel relief valve features a balanced rolling diaphragm to eliminate sliding seals and lower maintenance costs

Specifications

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure of hazardous materials into the potable water supply. The series 4000SS features Lead Free* construction to comply with Lead Free* installation requirements. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating cam-check assemblies. The main valve body shall be manufactured from 300 Series stainless steel for corrosion resistance. The cam-check assembly shall be of thermoplastic material and shall seal to the main valve body by the use of an O-ring bearing. The cam-check assembly shall utilize a single torsion-spring design to minimize pressure drop through the assembly. The cam-check assembly shall be modular and shall seal to the main valve body by the use of an O-ring. There shall be no brass or bronze parts used within the check assembly or relief valve. The use of seat screws to retain the check valve seat is prohibited. All internal parts shall be accessible through a single cover on the valve assembly securely held in place by a two-bolt grooved coupling. The differential relief valve shall be hydraulically operated, spring loaded and shall utilize a rolling diaphragm and no sliding seals. The relief valve shall be bottom mounted and supplied with a steel reinforced sensing hose. The assembly shall include two resilient seated shutoff valves & four ball type test cocks. The assembly shall be an Ames Fire & Waterworks Series 4000SS.

NOTICE

When installing a drain line on Series 4000SS backflow preventer, use 90° ells.
See Literature ES-A-AG/EL/TC for additional information.

Standards

AWWA C511-92

Available Models

Suffix:
NRS – non-rising stem resilient seated gate valves
OSY – UL/FM outside stem and yoke resilient seated gate valves
LG – less gates

Materials

All internal metal parts: 300 Series stainless steel
Main valve body: 300 Series stainless steel
Check assembly: Noryl®
Range dimension in accordance with AWWA Class D

Capacity

Documented flow characteristics (including shutoff valves).

Pressure – Temperature

Temperature Range: 33°F – 110°F (0.5°C – 43°C)
Maximum Working Pressure: 175 psi (12.1 bar)

Dimensions – Weights

Note: Strainer sold separately

SIZE	A		C (OSY)		G(NRS)		D		H		L		NET WEIGHT			
													w/Gates		w/o Gates	
in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg
12	57¼	1461	53¼	1349	26⅝	679	12½	318	19	483	29½	749	1043	474	219	100

Noryl® is a registered trademark of General Electric Company

AMES FIRE & WATERWORKS — A WATTS Brand

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Canada: Tel: (905) 332-4090 • Fax: (905) 481-2316 • AmesFireWater.com
Latin America: Tel: (52 55-4122-0138 • AmesFireWater.com

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TBPE Firm No. 928

Michael B. Lee — STATE OF TEXAS — MICHAEL B. LEE — 138483 — LICENSED PROFESSIONAL ENGINEER
10/25/2023

No.	REVISIONS	DATE	BY

KHA PROJECT 069412900
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: MBL
DRAWN BY: AKS
CHECKED BY: MBL

UTILITY DETAILS (SHEET 3 OF 3)

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
27 OF 42

2023-58-SDP

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

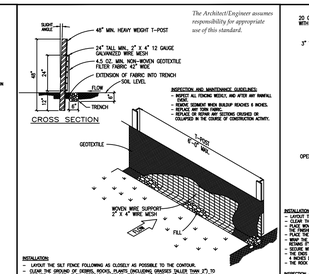
CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES — EC01 — ADOPTED 6/21/2006

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SWPPP THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING AS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT PROPERTY, VEGETATION, CONSTRUCTION, OR THE COMPLETION OF THE PROJECT WILL BE CORRECTED BY CONTRACTOR.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARDS AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WASTE POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. ANY DEVIATION FROM THE APPROVED PLAN MUST BE APPROVED BY THE CITY AND SUBMITTED TO AND APPROVED BY THE CITY AS A REVISED PLAN.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 (EXCEPT AS SPECIFICALLY APPROVED IN WRITING BY THE CITY OF GEORGETOWN). ALL DISTURBED AREAS SHALL BE PERMANENTLY PLANTED, SODDED OR PROTECTED BY SOME OTHER METHOD APPROVED BY THE CITY OF GEORGETOWN BY SEPTEMBER 15. ANY DISTURBED AREA NOT EXHIBITING 70% COVERAGE BY NOVEMBER 15 SHALL BE RE-SEEDED WITH A TEMPORARY COVER CROP AND MULCHED. SEED MIXES AND RATES SHALL BE APPROVED BY THE CITY. MULCHING AND SEEDING SHALL BE REPEATED AS NECESSARY TO ACHIEVE ADEQUATE COVERAGE. ALL SEEDING SHALL BE PERFORMED BY HAND OR WITH EQUIPMENT CONFORMABLE WITH EXISTING TOPOGRAPHY.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE OWNER SHALL EMPLOY A SECOND PARTY TESTING AGENCY TO INSPECT AND CONFIRM CONTROL OF EROSION, BUT WILL INDEPENDENTLY SIGN THE FOLLOWING STATEMENT PRIOR TO THE RELEASE OF ANY LETTER OF CREDIT OR ESCROW ACCOUNTS: "I/WE HAVE BEEN ASSIGNED RESPONSIBILITY FOR CONSTRUCTION OVERSIGHT OF THE GRADE, DRAINAGE AND EROSION CONTROL FACILITIES FOR THIS PROJECT. I/WE HEREBY CERTIFY THAT THE CONSTRUCTION HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND IN CONFORMANCE WITH EXCELLENT ENGINEERING PRACTICE."
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS ATTAINED AT LEAST 1-1/2 INCHES HIGH WITH NO BARE GROUND EXPOSED IN AN AREA OF 100 SQUARE FEET.
8. NO CUTTING OF TREES (10 INCHES OR GREATER, DBH) SHALL BE ALLOWED DISTURBED OR CONSTRUCTION.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN ANY VIOLATIONS DURING THEIR PERIOD.
10. TO AVOID TOX CONSTRUCTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
11. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON WOOD PLANKS TO A HEIGHT OF EIGHT (8) FEET. PLANKS SHALL NOT BE NAILED DIRECTLY TO THE TREE BUT SPACED WITH SPACERS.
12. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
13. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. EXPOSED ROOT AREAS ARE NOT TO REMAIN EXPOSED FOR MORE THAN FOUR (4) HOURS. ALL ROOTS TO BE REMOVED IN A MANNER WHICH REDUCES SOIL DISTURBANCE, AND MINIMIZES WATER LOSS DUE TO COMPENSATION.
14. PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A HOOK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
15. TREES WHICH HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES, SHOULD BE WATERED DEEPLY ONCE A WEEK DURING THE GROWING SEASON. TREES IN OPEN AREAS DURING THE GROWING SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
16. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
17. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
18. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

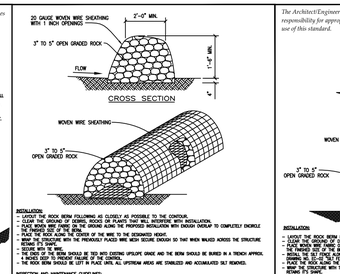
CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES — EC01A — ADOPTED 6/21/2006



INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY AND AFTER ANY RAINFALL
- REPAIR AS NEEDED
- REMOVE SEDIMENT WHEN BULGE REACHES 6 INCHES HIGH WITH SILT STANDING
- REPAIR OR SIGN DAMAGE
- REPAIR ANY FENCE BEFORE SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — SILT FENCE DETAIL — EC02 — ADOPTED 6/21/2006

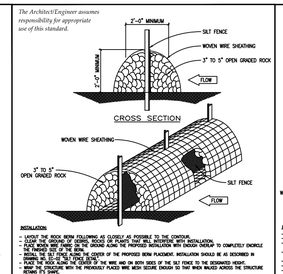


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- EXCAVATE A KEY 4" DEEP INTO THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE TWISTED END OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- FOLD THE WIRE OVER ITSELF TWICE AND CRIMP WITH THE PREVIOUSLY PLACED WIRE WITH SECURE ENOUGH TO PREVENT FAILURE OF THE CRIMPS.
- SECURE WITH TIE WIRE.
- THE ROCK BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CRIMPS.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BULGUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR LOOSE WIRE SHEATHING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — ROCK BERM DETAIL — EC03 — ADOPTED 6/21/2006

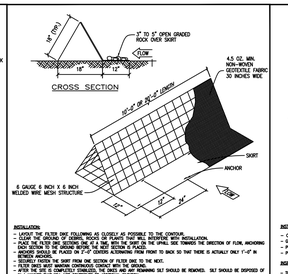


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- EXCAVATE A KEY 4" DEEP INTO THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE TWISTED END OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DETAIL EC-02 OF THIS MANUAL.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
- FOLD THE WIRE OVER ITSELF TWICE AND CRIMP WITH THE PREVIOUSLY PLACED WIRE WITH SECURE ENOUGH TO PREVENT FAILURE OF THE CRIMPS.
- SECURE WITH TIE WIRE.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE CONTRACTOR. FOR THE INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BULGUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- TIE WIRE SHOULD BE REWAPPED AS NEEDED DURING INSPECTION.
- SILT WIRE SHOULD BE REPLACED WHEN THE INSPECTION CLOSES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE WOVEN WIRE SHEATHING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — HIGH SERVICE ROCK BERM DETAIL — EC04 — ADOPTED 6/21/2006

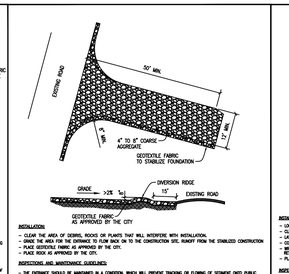


INSTALLATION:
- LAYOUT THE FILTER DIKE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE THE FILTER DIKE SECTIONS ONE AT A TIME WITH THE SKIRT ON THE UPHILL SIDE TOWARDS THE DIRECTION OF FLOW, ANCHORING EACH SECTION TO THE GROUND BEFORE THE NEXT SECTION IS PLACED.
- WOVEN WIRE SHEATHING TO BE PLACED ON 2'-0" CENTERS ALTERNATING FROM FRONT TO BACK SO THAT THERE IS ACTUALLY ONLY 1'-0" IN BETWEEN ANCHORS.
- SECURELY FASTEN THE SKIRT FROM ONE SECTION OF FILTER DIKE TO THE NEXT.
- THE FILTER DIKE SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED.
- AFTER THE SITE IS COMPLETELY STABILIZED, THE SIDES AND ANY REMAINING SILT SHOULD BE REMOVED. SILT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- MESH AND REINFORCEMENT SHOULD BE REPAIRED AS NEEDED TO PREVENT GAPS BETWEEN THE SECTIONS.
- SILT SHOULD BE REMOVED BEFORE EACH RAINFALL EVENT, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — TRIANGULAR FILTER DIKE — EC05 — ADOPTED 6/21/2006

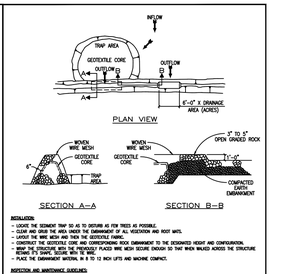


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE, RAMP FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEEL WASHING/WHEEL BRUSHES SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — STABILIZED CONSTRUCTION ENTRANCE — EC06 — ADOPTED 6/21/2006



INSTALLATION:
- LOCATE THE SEDIMENT TRAP SO AS TO DISTURB AS FEW TREES AS POSSIBLE.
- CLEAR AND GRUB THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MATS.
- LAYOUT THE WIRE MESH AND THEN THE GEOTEXTILE FABRIC.
- CONSTRUCT THE GEOTEXTILE CORE AND CORRESPONDING ROCK EMBANKMENT TO THE DESIGNATED HEIGHT AND CONFIGURATION.
- BEAM THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE DOES NOT SHIFT OR SETTLE UNEVENLY.
- PLACE THE EMBANKMENT MATERIAL IN 8 TO 12 INCH LIFTS AND MACHINE COMPACT.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENTS, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- SEDIMENT AND DEBRIS SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.
- SEDIMENT REMOVED FROM THE TRAP SHOULD BE DEPOSITED IN AN APPROVED SPOILS AREA AND IN SUCH A MANNER THAT IT WILL NOT CAUSE ADDITIONAL SILTATION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — SEDIMENT TRAP DETAIL — EC07 — ADOPTED 6/21/2006

SEDIMENT BASIN BAFFLE DESIGN
$W_B = A / (L_1 + L_2)$
W_B = EFFECTIVE WIDTH OF BASIN
A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTIONS SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- SEDIMENT AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT WHEN THE SILT HAS REACHED A DEPTH EQUAL TO ONE-HALF THE DESIGN DEPTH OF THE BASIN.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — SEDIMENT BASIN BAFFLE DESIGN — EC08 — ADOPTED 6/21/2006

NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES. WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT 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 SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY).
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE ALTERNATIVE TREE PROTECTION MAY BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — TREE PROTECTION – CHAIN LINK FENCE — EC09 — ADOPTED 6/21/2006

NOTES:
1. WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'-0") TO A TREE TRUNK; PROTECT THE TRUNK WITH STRAPPED-ON WOOD PLANKS TO A HEIGHT OF EIGHT (8') FEET (6'-0") OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REQUIRED FENCING PROVIDED.
2. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. EXPOSED ROOT AREAS ARE NOT TO REMAIN EXPOSED FOR MORE THAN FOUR (4) HOURS. ALL ROOTS TO BE REMOVED IN A MANNER WHICH REDUCES SOIL DISTURBANCE, AND MINIMIZES WATER LOSS DUE TO COMPENSATION.
3. PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A HOOK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
4. TREES WHICH HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES, SHOULD BE WATERED DEEPLY ONCE A WEEK DURING THE GROWING SEASON. TREES IN OPEN AREAS DURING THE GROWING SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
6. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
7. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN — CONSTRUCTION STANDARDS AND DETAILS — TREE PROTECTION – WOOD SLATS — EC10 — ADOPTED 6/21/2006

Plotted By:Stokes, Aidan Date:November 07, 2023 09:50:38am File Path:K:\sou_civl\069412900 – se inner loop georgetown\CAD\plansheets\25 EROSION CONTROL DETAILS.dwg
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No.	REVISIONS	DATE	BY

Michael B. Lee — STATE OF TEXAS — 138483 — LICENSED — PROFESSIONAL ENGINEER
10/25/2023

KHA PROJECT	069412900
DATE	OCTOBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	MBL
DRAWN BY:	AKS
CHECKED BY:	MBL

EROSION CONTROL DETAILS

SE INNER LOOP INDUSTRIAL
720 SOUTHEAST INNER LOOP
GEORGETOWN, TEXAS

SHEET NUMBER
28 OF 42

2023-58-SDP