

ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

ELDORADO SUBDIVISION – PHASE 7 AND PHASE 8
RONALD REAGAN BOULEVARD
LIBERTY HILL, WILLIAMSON COUNTY, TEXAS

Prepared For:

PHTB ELDORADO LLC

3200 Southwest Fwy, Suite 2800
Houston, TX
(210) 580-8598

Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

5301 Southwest Parkway, Building 2, Suite 100
Austin, Texas 78735
(512) 646-2237

Firm No. 928
KHA Project No. 069288000



November 2025

Table of Contents

EDWARDS AQUIFER APPLICATION COVER PAGE	Section 1
GENERAL INFORMATION	Section 2
General Information Form	TCEQ-0587
Road Map	Attachment A
USGS / Edwards Recharge Zone Map	Attachment B
Project Description.....	Attachment C
GEOLOGIC ASSESSMENT	Section 3
Geologic Assessment Form	TCEQ-0585
Geologic Assessment Table	Attachment A
Stratigraphic Column	Attachment B
Site Geology	Attachment C
Site Geologic Map(s).....	Attachment D
ORGANIZED SEWAGE COLLECTION SYSTEM PLAN	Section 4
Organized Sewage Collection System Plan Application Form	TCEQ-0584
SCS Engineering Design Report.....	Attachment A
TEMPORARY STORMWATER	Section 6
Temporary Stormwater Form	TCEQ-0602
Spill Response Actions	Attachment A
Potential Sources of Contamination	Attachment B
Sequence of Major Activities	Attachment C
Temporary Best Management Practices and Measures.....	Attachment D
Request to Temporarily Seal a Feature.....	Attachment E
Structural Practices	Attachment F
Drainage Area Map	Attachment G
Inspection and Maintenance for BMPs	Attachment I
Schedule of Interim and Permanent Soil Stabilization Practices	Attachment J
ADDITIONAL FORMS	Section 8
Agent Authorization Form	TCEQ-0599
Application Fee Form.....	TCEQ-0574
Check Payable to the “Texas Commission on Environmental Quality”	
Core Data Form	TCEQ-10400
EXHIBITS.....	Section 9
Civil Design Plan Sets.....	Exhibit 1

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: Eldorado Subdivision Phase 7 and Phase 8				2. Regulated Entity No.: N/A			
3. Customer Name: PHTB ELDORADO LLC				4. Customer No.: N/A			
5. Project Type: (Please circle/check one)	<input checked="" type="radio"/> New	Modification		Extension		Exception	
6. Plan Type: (Please circle/check one)	WPAP	CZP	<input checked="" type="radio"/> SCS	UST	AST	EXP	EXT
7. Land Use: (Please circle/check one)	<input checked="" type="radio"/> Residential		Non-residential		8. Site (acres):		50.3
9. Application Fee:	\$4,088		10. Permanent BMP(s):		Batch Detention		
11. SCS (Linear Ft.):	8,176		12. AST/UST (No. Tanks):		N/A		
13. County:	Williamson		14. Watershed:		North Fork San Gabriel		

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

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Trinity-Glen Rose	<u>—</u> Edwards Aquifer Authority	<u>—</u> Kinney	<u>—</u> EAA <u>—</u> Medina	<u>—</u> EAA <u>—</u> Uvalde
City(ies) Jurisdiction	<u>—</u> Castle Hills <u>—</u> Fair Oaks Ranch <u>—</u> Helotes <u>—</u> Hill Country Village <u>—</u> Hollywood Park <u>—</u> San Antonio (SAWS) <u>—</u> Shavano Park	<u>—</u> Bulverde <u>—</u> Fair Oaks Ranch <u>—</u> Garden Ridge <u>—</u> New Braunfels <u>—</u> Schertz	NA	<u>—</u> 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.

Benjamin L. Green, P.E.

Print Name of Customer/Authorized Agent



11/04/2025

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: Benjamin L. Green, P.E.

Date: 11/04/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Eldorado Subdivision Phase 7 and Phase 8

2. County: Williamson County

3. Stream Basin: Brazos River

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: Nick McIntyre
Entity: PHTB ELDORADO LLC
Mailing Address: 3200 SOUTHWEST FWY #STE 2800
City, State: HOUSTON, TX Zip: 77027
Telephone: 210-580-8598 FAX: _____
Email Address: nick.mcintyre@perryhomes.com

8. Agent/Representative (If any):

Contact Person: Benjamin L. Green, P.E.
Entity: Kimley-Horn
Mailing Address: 5301 Southwest Parkway, Bldg. 2, Ste. 100
City, State: Austin, Texas Zip: 78735
Telephone: +1 512-646-2243 FAX: _____
Email Address: ben.green@kimley-horn.com

9. Project Location:

- ☐ The project site is located inside the city limits of _____.
- ☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Liberty Hill
- ☐ 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 project is located approximately 2 miles north of the intersection of SH-29 and Ronald Reagan Blvd. The site is on the west side of Ronald Reagan Blvd near the Liberty Hill Fire station.

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: At the time of construction

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:

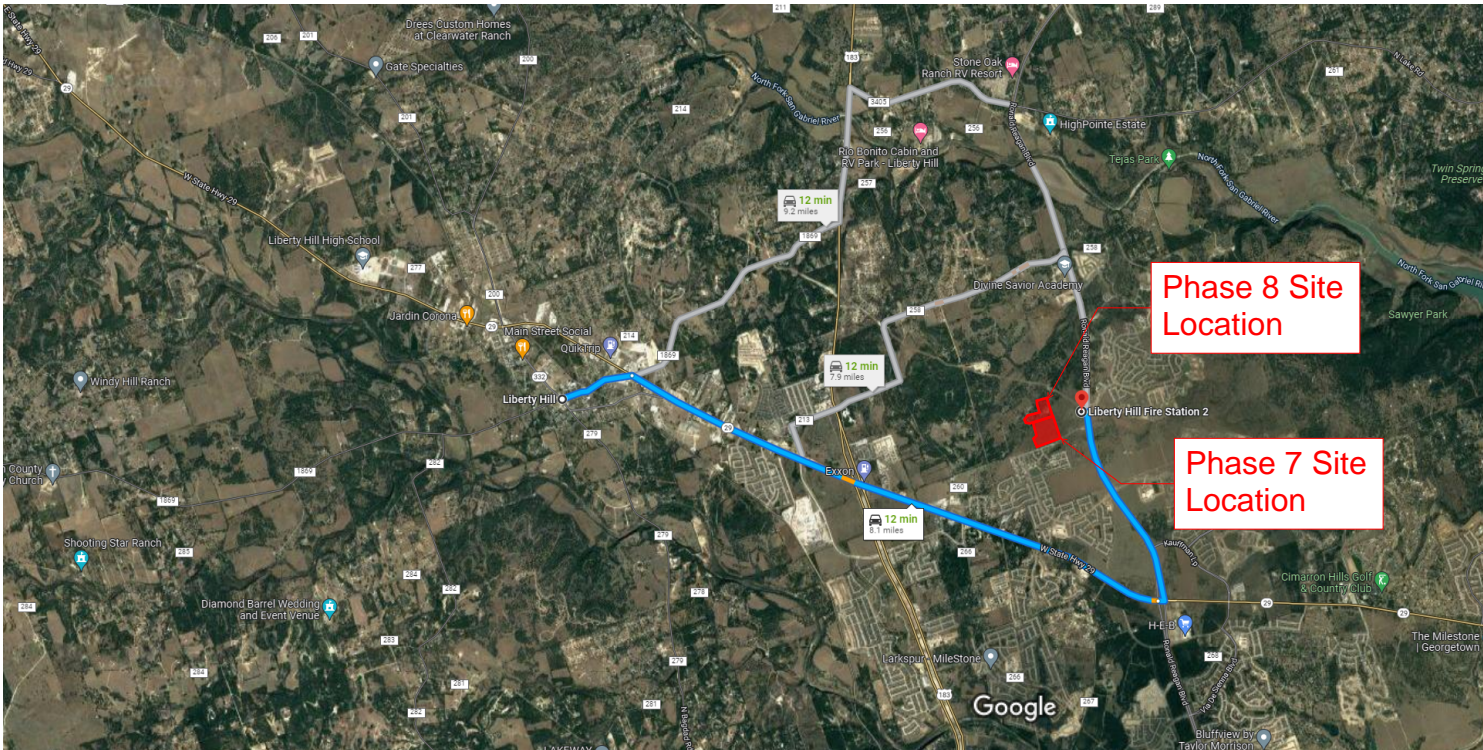
- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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



Imagery ©2022 CAPCOG, CNES / Airbus, Landsat / Copernicus, Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEQ, Map data ©2022 2000 ft

-  via TX-29 E/W State Hwy 29 12 min
Best route now due to traffic conditions 8.1 miles
-  via FM1869/Ranch Rd 1869 and Ronald Reagan Blvd 12 min
9.2 miles
-  via Co Rd 258 12 min
7.9 miles

Explore Liberty Hill Fire Station 2

Restaurants Hotels Gas stations Parking Lots More



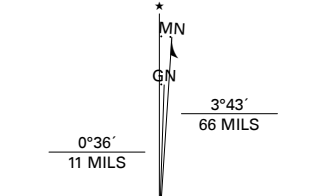
Attachment B: USGS / Edwards Recharge Zone Map



Produced by the United States Geological Survey

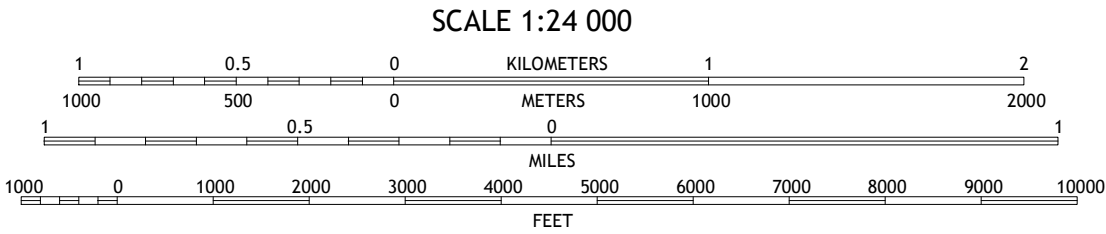
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) - Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 14R
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain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

Imagery.....NAIP, August 2016 - November 2016
Roads.....U.S. Census Bureau, 2015
Names.....GNIS, 1979 - 2018
Hydrography.....National Hydrography Dataset, 2002 - 2011
Contours.....National Elevation Dataset, 2002 - 2004
Boundaries.....Multiple sources; see metadata file 2016 - 2017
Wetlands.....FWS National Wetlands Inventory 1982



UTM GRID AND 2019 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PV 00
PU 00
Grid Zone Designation
14R



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, 2011.
A metadata file associated with this product is draft version 0.6.18



QUADRANGLE LOCATION

1	2	3
4	5	6
7	8	9

1 Mahomet
2 Florence
3 Cobbs Cavern
4 Liberty Hill
5 Georgetown
6 Nameless
7 Leander
8 Round Rock

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



Attachment C

Project Description

Project Description

Introduction

The Eldorado Subdivision Phase 7 and Phase 8 project is proposed on a 50.3-acre tract of land in the City of Liberty Hill ETJ located approximately 2 miles north of the intersection of SH-29 and Ronald Reagan Blvd. The site is on the west side of Ronald Reagan Blvd near the Liberty Hill Fire station. The entire build out of the Eldorado Subdivision consists of 332-acre proposing approximately 918 new single-family homes and three commercial sites that will be located within the legal boundary of the property.

Phase 1 of the subdivision is currently in construction. The remaining existing 171.593 acre parcel, which is currently undeveloped, is to be subdivided into 134 single family lots and 1 drainage lot shown in the phase 7 and phase 8 construction documents that will be contained in the 50.3 acres. The remaining 121.293 acres will become 1 undeveloped lot until the remaining phases come online.

The proposed improvements for Phase 7 and Phase 8 include mass grading, roadway, water utilities, wastewater utilities, and stormwater management infrastructure. It is important to note that the full build out of the Eldorado subdivision will include several water quality and detention facilities with their associated drainage infrastructure. There will be a total of 8 proposed BMPs. All eight BMPs are proposed to be batch detention. All of the drainage infrastructure has an approved WPAP.

The site is not located in the Federal Emergency Management Agency's (FEMA) 100 year floodplain, according to Flood Insurance Rate Map 48491C0275E. The site is located within the Edwards Aquifer Recharge Zone according to the TCEQ Edwards Aquifer Map.

Current Tract Conditions

Site History

There is no previous SCS history for the Eldorado Subdivision Phase 7 and Phase 8 development. However, there is an approved SCS associated with Phase 1 of the subdivision, (Edwards Aquifer Protection Program ID: 11003441, Regulated identity No.: RN111628756). Additionally, the entire subdivision's water quality detention facilities have an approved WPAP (Edwards Aquifer Protection Program ID: 11003440, Regulated identity No.: RN111628756). It is important to note that Phase 7 and Phase 8 are adjacent to Phase 1, and Phase 2 through 6 will be constructed at a later time.

Legal Description

The legal description of the parcel is as follows:

- AWO417 AWO417 - Manlove, B. Sur., ACRES 171.593

Land Use

Phase 7 and Phase 8 of the Eldorado Subdivision consists of 50.3 acres of undeveloped land. The only areas being demolished are located on Phase 1 of the subdivision which includes removing a portion of an existing wall, and curb and gutter to connect Phase 8 and Phase 1 roadways. This proposed demolition plan is shown on the attached Eldorado Phase 8 plans. The proposed sewage system consists of all public sewer lines. The public line will connect to an existing sewer manhole that was constructed in the Eldorado Phase 1 Construction Documents (permitted number 23-005CON). The manhole connection is shown on sheet 52 at station 1+00 of the Eldorado Phase 7 Construction Documents.

Existing Conditions

Under existing conditions, the 50.3 acre subject sits on a high point and consists of two existing drainage areas and two offsite drainage areas. There is no impervious cover (0%) on the existing site. Each drainage area has its own distinct point of analysis (POA) for outfall. The site's primary drainage pattern directs water northwest towards the floodplain.

This 50.3 -acre parcel features diverse topography, with slopes generally varying between 0.1% and 30%.

Proposed Conditions

The Eldorado Subdivision Phase 7 and Phase 8 project propose 134 single family lots, sidewalks, utility, and storm infrastructure.

The development proposes 28.09 acres (32.92%) of impervious cover. The development will have inlets laid throughout the site and will convey storm runoff through means of pipes into the batch detention basin pond located on the east side of the property. The water quality batch detention basins will be designed for an ultimate site condition of 36% impervious cover and will ensure the required 80 percent removal of the increased load in TSS is met. Once the required volume of water is treated, flows will be discharged through outlet structures that will eventually discharge into the adjacent floodplain located northwest of the site. The outfall structure is designed to release flows at a rate where proposed flows will be less than existing flows at the point of analysis.

Wastewater

The Eldorado Phase 7 and phase 8 development includes 134 single family homes. The homes will be served with wastewater service that is owned and operated by the City of Liberty Hill. The proposed wastewater system consists of 8,176 linear feet of wastewater lines. A variable width wastewater easement will be established offsite of the Eldorado Phase 7 and Phase 8 boundary owned by the City of Liberty Hill, to connect the existing Eldorado Phase 1 manhole. This manhole is connected to a wastewater system that gravity's to the Eldorado Phase 1 lift station. The lift station then pumps to an existing City of Liberty Hill manhole and wastewater line. The wastewater line has been designed to meet both current and future demands, with hydraulic calculations confirming compliance with the City's Utility Criteria Manual (UCM). Peak Wet Weather Flows will remain below 85% of full pipe capacity, and Peak Dry Weather Flows will stay under 65%, ensuring system reliability.

The public wastewater infrastructure is being designed through construction plans 2025-8-CON and 2025-8-CON. Both systems will be built concurrently to ensure seamless integration. All construction activities will adhere to Liberty Hill's Unified Development Code and Texas Commission on Environmental Quality (TCEQ) regulations to show compliance with wastewater design standards.

SECTION 3: GEOLOGIC ASSESSMENT

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: Jack D Smitherman

Telephone: 512-535-4368

Date: 09/01/2020

Fax: 512-535-4451

Representing: Capitol Environmental, Inc TBPG Firm Registration #50389 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Eldorado Estates

Project Information

1. Date(s) Geologic Assessment was performed: August 13, 2020

2. Type of Project:

☐ WPAP

☒ SCS

☐ AST

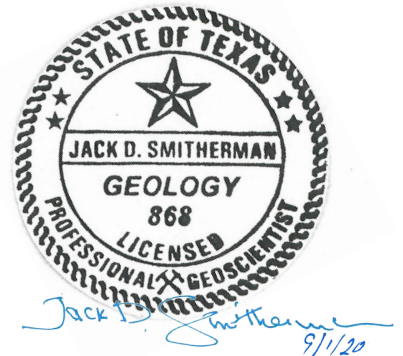
☐ UST

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)
Brackett clay loam(BkE)	D	1-10'
Denton silty clay (DnB)	D	1-10'
Denton (DnC) 1-5% slope	D	1-10'
Doss silty clay (DoC) 1-5%	D	1-10'

*additional soils on following page

Soil Name	Group*	Thickness(feet)
Eckrant cobbly clay (EaD)	D	1-10'

** Soil Group Definitions (Abbreviated)*

- A. Soils having a high infiltration rate when thoroughly wetted.
- B. Soils having a moderate infiltration rate when thoroughly wetted.
- C. Soils having a slow infiltration rate when thoroughly wetted.
- D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7. ☒ **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8. ☒ **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'
 Applicant's Site Plan Scale: 1" = 250'
 Site Geologic Map Scale: 1" = 250'
 Site Soils Map Scale (if more than 1 soil type): 1" = 250'
9. Method of collecting positional data:
☒ Global Positioning System (GPS) technology.
☐ Other method(s). Please describe method of data collection: _____
10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

Soil Units – Page 2

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Eckrant stony clay (EeB), 0-3 % slope	D	1-10'
Eckrant-Rock outcrop (ErE), rolling	D	1-10'
Fairlie clay (FaA) 0-1% slope	D	1-10'
Fairlie clay (FaB) 1-2% slope	D	1-10%

Soil Name	Group*	Thickness(feet)
Sunev silty clay loam (SuB) 1-3% slope	D	1-10%

** 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.

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 2 (#) 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: ELDORADO ESTATES														
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	
F-1	30.657306	-97.852358	O	5	Kc	1	2	0.5					O	10	15	X		X		Hillside
F-2	30.659051	-97.850148	O	5	Kc	1	3	0.5					O	10	15	X		X		Hillside
F-3	30.65874	-97.850739	O	5	Kc	3	4	1.5					O	10	15	X		X		Hillside
F-4	30.662975	-97.845844	O	5	Ked	5	6.5	2					O	10	15	X		X		Hillside
M-1	30.660995	-97.853277	MB	30	Kkv	Water Well			Contributing Zone			X	0	30	X		X		Hilltop	
M-2	30.667365	-97.849066	MB	30	Kkv	WW (windmill)			Contributing Zone			X	0	30	X		X		Hilltop	
S-1	30.660591	-97.856439	O	5	Kbc	Streambed			Contributing Zone			C	5	10	X			X		Streambed
S-2	30.668083	-97.853375	O	5	Kgru	Streambed			Contributing Zone			C	5	10	X			X		Streambed
S-3	30.665324	-97.848341	O	5	Kkv	Streambed			Contributing Zone			C	5	10	X			X		Streambed
S-4	30.662413	-97.851534	O	5	Kkv	Streambed			Contributing Zone			C	5	10	X			X		Streambed

*DATUM: NAD 83 StatePlane Texas Central

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

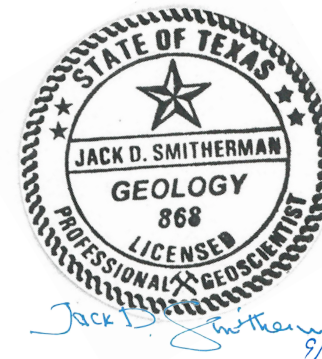
I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Jack D. Smitherman

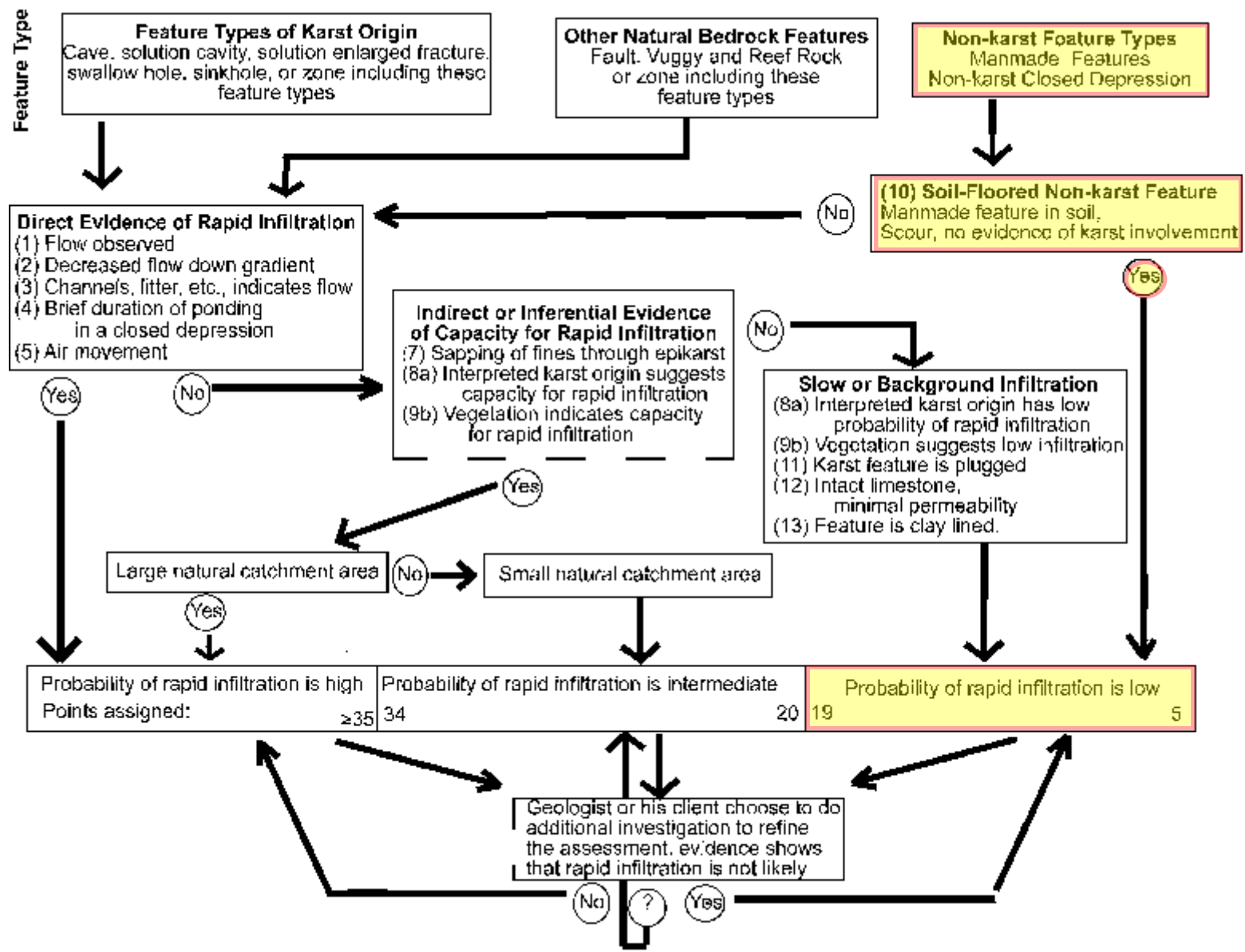
Date: 9-1-20

Sheet: 1 of 1



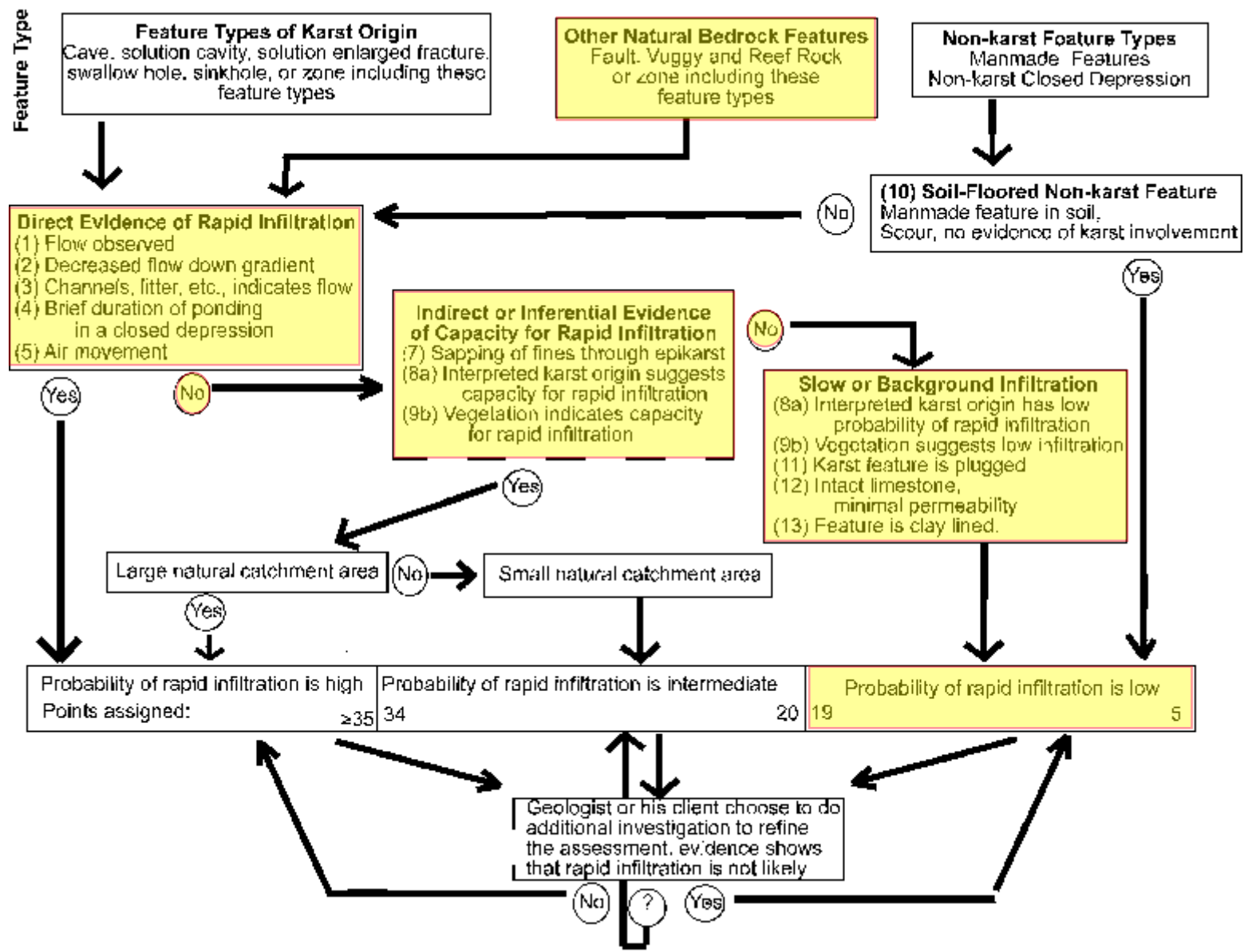
Feature: F-1 (Non-karst Closed Depression)

Figure 1: Assessing the Probability that Rapid Infiltration may Occur at a Feature



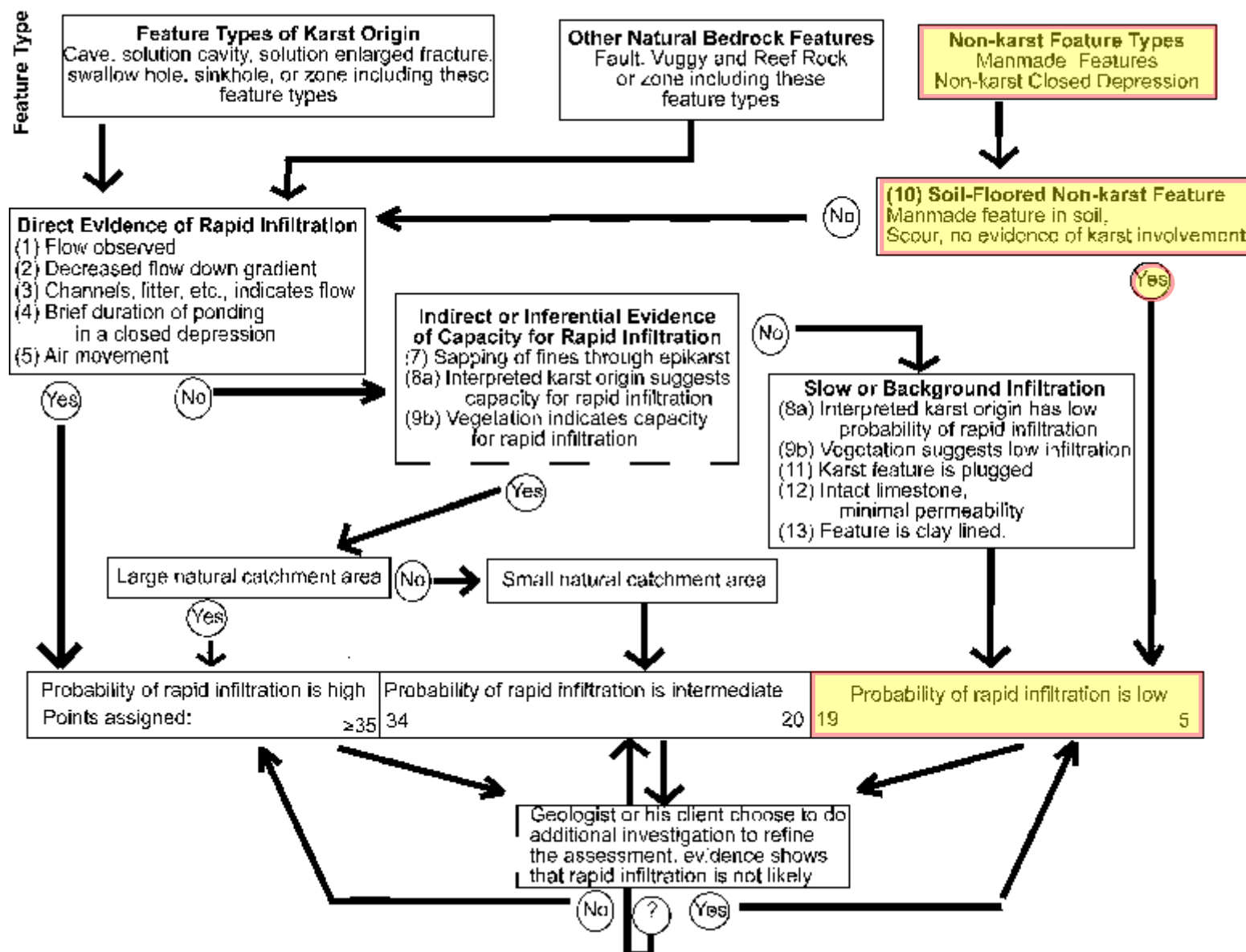
Features: F-2, F-3, F-4

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



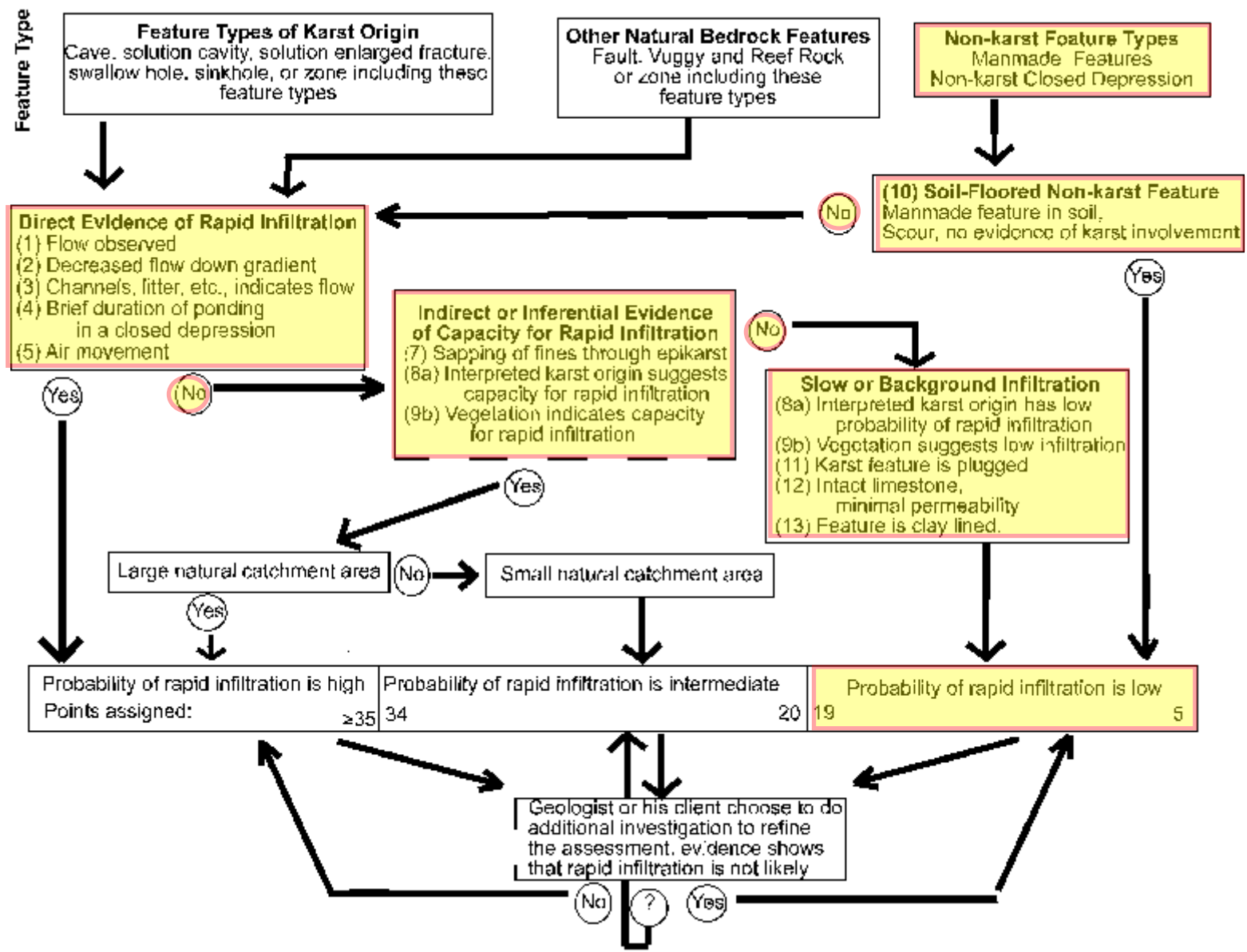
Features: M-1 & M-2 (Water Well & Windmill)

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



Feature: S-1, S-2, S-3 & S-4 (Streambeds)

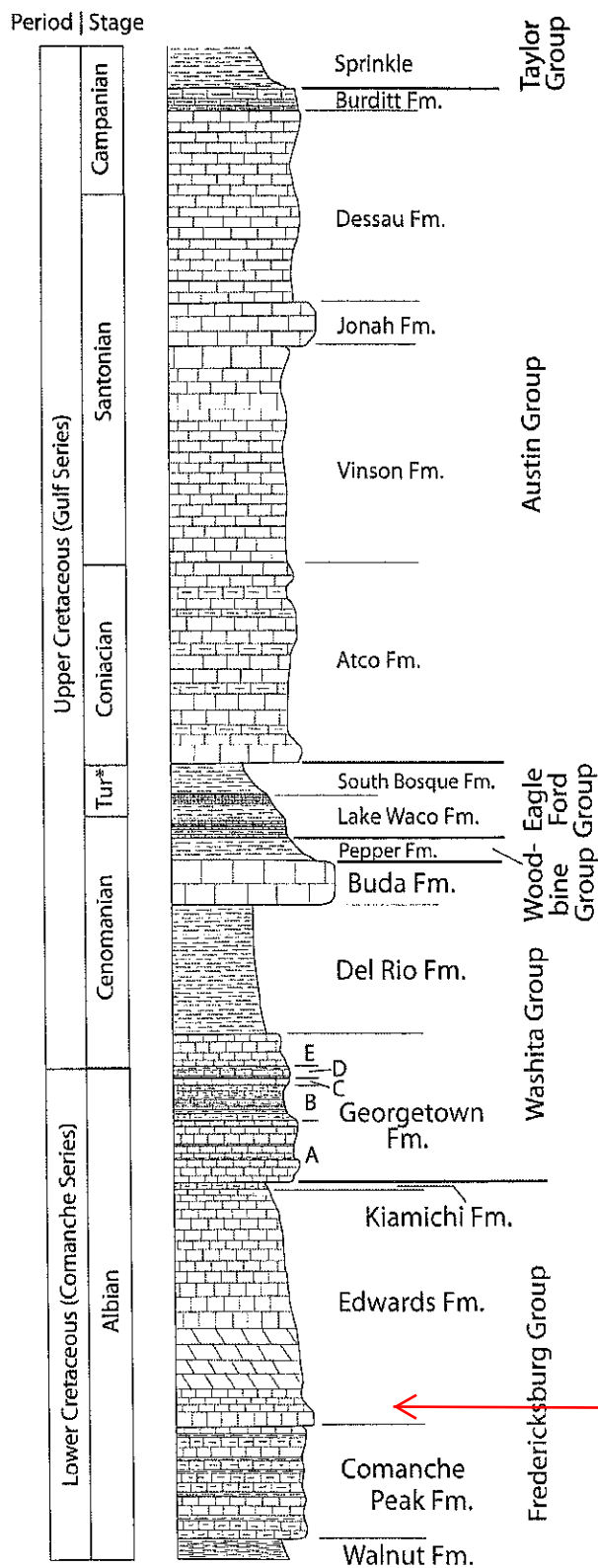
Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



Attachment B

Stratigraphic Column

Generalized Stratigraphic Column of the Round Rock Area



Jack D. Smitherman
9/1/20

Apparent Outcropping Formation



Tur* - Turonian

Attachment C
Site Geology

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY

ELDORADO ESTATES

333.269 ACRE TRACT

LIBERTY HILL, WILLIAMSON COUNTY, TEXAS

08/13/2020

LOCATION

The subject site is an approximate 333.269 acres, more or less, tract of land located at County Road 260 in Liberty Hill, Williamson County, Texas at approximately 30.654745° North Latitude and approximately -97.86088° West Longitude. This location lies within the designated Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone. Therefore, future intended development of the site must conform to criteria in accordance with the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program Rules in accordance with Title 30 of the Texas Administrative Code, Section 213 (30 TAC§ 213).

EXPLANATION OF ASSESSMENT

This assessment follows general guidelines contained in Texas Commission on Environmental Quality (TCEQ) *"Instruction for Geologist for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones"* (TCEQ Guidance 0585). The site is located on an area of the recharge zone that may contain karst features formed by selective solutioning of limestone minerals by water. Karst features may be expressed as surface features but more commonly tend to persist with depth. This assessment documents the presence or absence of site conditions that were present at the time the site visit that was performed on 08/13/2020. The site visit consisted of a walk-through survey that consisted of a non-intrusive visual observation or survey of readily accessible, easily visible surface property conditions that were present on the subject property at the time of the site visit. Intrusive subsurface testing such as excavation, cave mapping, infiltrometer test, geophysical studies or tracer studies are not required for the geologic assessment of any feature in accordance with this practice.

A sensitive geologic or manmade feature, for the purpose of this practice is a feature on the recharge zone or transition zone of the Edwards Aquifer with a superficial appearance that suggest a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and that has the apparent potential for rapid infiltration into the subsurface.

PHYSICAL DESCRIPTION OF SITE

The subject site is currently undeveloped land used for livestock pastureland and agricultural pastureland.

SURFACE DRAINAGE

After reviewing the project site topographic survey, surface runoff appears to flow from the mapped Edwards Aquifer Recharge Zone on the property onto the mapped Edwards Aquifer Contributing Zone towards the north-northwest. Thus, geological and hydrological conditions across the Contributing Zone on the subject property do not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and geologic features on the Contributing Zone are not identified as sensitive features in connection with the subject property.

SOIL DESCRIPTION

The site soil is composed of:

Brackett gravelly clay loam, 3 to 12 percent slopes (BkE), Hydrologic Group D

The Brackett series consists of very shallow to shallow soils over bedrock. These well drained and moderately permeable soils formed in residuum over chalky limestone bedrock mainly of the Glenrose formation of Cretaceous Age. These soils are on gently sloping to very steep uplands. Slopes range from 1 to 60 percent. Well drained. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes and high on 20 to 60 percent slopes. Permeability is moderate.

Denton silty clay, 1 to 3 percent slopes (DnB), Hydrologic Group D

The Denton series consist of deep, well drained, slowly permeable soils that formed in clayey materials over residuum weathered from limestone bedrock. These nearly level or gently sloping soils are on uplands and have slopes ranging from 0 to 5 percent. Well drained; medium surface runoff; slow permeability.

Denton silty clay, 3 to 5 percent slopes (DnC), Hydrologic Group D

The Denton series consist of deep, well drained, slowly permeable soils that formed in clayey materials over residuum weathered from limestone bedrock. These nearly level or gently sloping soils are on uplands and have slopes ranging from 0 to 5 percent. Well drained; medium surface runoff; slow permeability.

Doss silty clay, moist, 1 to 5 percent slopes (DoC), Hydrologic Group D

The Doss series consists of shallow to weakly cemented limestone, well drained, moderately slow permeable soils that formed in calcareous loamy and clayey residuum derived from marls and limestone. These very gently to moderately sloping soils occur on hill slopes on dissected plateaus. Slope ranges from 1 to 8 percent. Mean annual precipitation is about 762 mm (30 in), and mean annual air temperature is about 18.9 degrees C (66 degrees F). Well drained. Permeability is moderately slow. Runoff is medium on 1 to 5 percent slopes and high on 5 to 8 percent slopes.

Eckrant cobbly clay, 1 to 8 percent slopes (EaD), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Eckrant extremely stony clay, 0 to 3 percent slopes (EeB), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone

bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Eckrant-Rock outcrop complex, rolling (ErE), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Fairlie clay, 0 to 1 percent slopes (FaA), Hydrologic Group D

The Fairlie series consists of deep, moderately well drained, very slowly permeable soils. These soils are on nearly level to gently sloping uplands. The slope is typically 1 to 3 percent but ranges from 0 to 5 percent. Fairlie soils are moderately well drained and very slow permeability. Water enters the soil rapidly when it is dry and cracked, and very slow when the soil is saturated. Runoff is low on 0 to 1 percent slopes; moderate on 1 to 3 percent slopes; and high on 3 to 5 percent slopes.

Fairlie clay, 1 to 2 percent slopes (FaB), Hydrologic Group D

The Fairlie series consists of deep, moderately well drained, very slowly permeable soils. These soils are on nearly level to gently sloping uplands. The slope is typically 1 to 3 percent but ranges from 0 to 5 percent. Fairlie soils are moderately well drained and very slow permeability. Water enters the soil rapidly when it is dry and cracked, and very slow when the soil is saturated. Runoff is low on 0 to 1 percent slopes; moderate on 1 to 3 percent slopes; and high on 3 to 5 percent slopes.

Sunev silty clay loam, 1 to 3 percent slopes (SuB), Hydrologic Group B

The Sunev series consists of very deep, well drained soils that formed in loamy alluvium. These soils are on nearly level to moderately steep stream terraces or footslopes of valleys and ridges. Slope ranges from 0 to 15 percent. Mean annual air temperature is about 17 to 21 degrees C (62 to 69 degrees F), and mean annual precipitation is about 711 to 864 mm (28 to 34 in). Well drained. Permeability is moderate. Runoff is negligible on slopes less than 1 percent, low on 1 to 5 percent slopes, and moderate on 5 to 15 percent slopes.

GEOLOGY

The site is located on the:

Comanche Peak Limestone (Kc)

The Comanche Peak Limestone consist of fine to very fine grained, fairly hard, nodular, light gray, weathers white, extensively burrowed, burrow fillings slightly coarser and darker, typically crops out in scarp face beneath Edwards Limestone; thickness up to 80 feet, feathers out southward near Williamson-Travis County line.

Edwards Limestone (Ked)

The Edwards Limestone consist of limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much miliolid biosparite; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward

Bee Cave Marl (Kbc)

The Bee Cave Marl consist of lithologically and faunally similar to Keys Valley Marl, except *Exogyra texana* are more abundant and ammonites are scarce; thickness 25-40 feet.

Upper Glen Rose Formation (Kgru)

The Upper Glen Rose Formation consist of Limestone, dolomite, and marl subdivided into two units by *Corbula* bed C; alternating resistant and recessive beds forming stairstep topography; limestone aphanitic to fine grained, hard to soft and marly, light gray to yellowish gray; dolomite, fine grained, porous, yellowish brown; marine megafossils include molluscan steinkerns, rudistids, oysters, and echinoids; upper part, relatively thinner bedded, more dolomitic, and less fossiliferous than the lower part, thickness about 220 feet; thickness of Glen Rose Formation 380± feet.

Keys Valley Marl (Kkv)

The Keys Valley Marl consist of soft, white; marine megafossils include *Exogyra texana*, *Gryphaea mucronata*, and other pelecypods, ammonites, gastropods, and echinoids; thickness up to 50 feet, feathers out southward near Williamson-Travis County line.

Fluviatile terrace deposits (Qt)

The Fluviatile terrace deposits consist of Terraces along streams, consist of three or more levels which may correspond to coastal Pleistocene units; gravel, sand, silt, and clay in various proportions with gravel more prominent in the older, higher terraces; gravel along Guadalupe River, siliceous, coarse, along Colorado River, mostly dolomite, limestone, chert, quartz, and various igneous and metamorphic rocks from the Llano region and dolomite, limestone, and chert from the Edwards Plateau; sand mostly quartz.

STRUCTURAL TREND and FEATURES:

The subject site is located on the Edwards Plateau within the Balcones / Ouachita structural province in central Texas. The Balcones / Ouachita structural province is an arcuate band of mostly down-to-the-coast normal faults that sub-parallel the Gulf of Mexico. In Williamson County, the regional structural trend of the Balcones / Ouachita province is generally southwest to northeast.

(Source: "Lineament Analysis and Inference of Geologic Structure-Examples from the Balcones/Ouachita Trend of Texas." Curan, Woodruff, Jr, and Thompson, 1982)

The site is located in the vicinity of mapped regional faulting. No surface expressions of local structural features were observed during this assessment.

SITE SPECIFIC GEOLOGIC FEATURE DESCRIPTIONS Identified 08/13/2020

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 08/13/2020 no geologic features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer except for the following:

F-1 CD: **Non-Karst Closed Depression:** This feature appears to be a natural, soil floored topographic depression. Non-karst closed depressions are not formed by karst processes and are not bedrock floored. This Closed Depression, as observed at the time of the assessment, is relatively shallow, soil floored with evidence of activity around opening indicative of a large animal burrow.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

F-2 O: **Other Natural Bedrock Feature - Surface Out Crop:** Feature F-2 is located on a high-standing erosional remnant of limestone outcrop of the Edwards Group. This feature appears to be a localized surface area of enhanced solutioning associated with fractured slabs or blocks of limestone in the weathering profile. Dissolution of limestone in connection with this feature appears to have been controlled by localized bedding and shallow fracturing of exposed limestone bedrock located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and associated regolith. The extent of weathering and dissolution diminishes with depth at this feature and, when probed with a wooden rod, terminates in apparently consolidated bedrock.

The feature's ability to capture rainfall runoff appears to be limited to only what falls directly within its' immediate vicinity which is estimated to be much less than 1.6 acres.

Conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

F-3 O: **Other Natural Bedrock Feature - Surface Out Crop:** Feature F-3 is located on a high-standing erosional remnant of limestone outcrop of the Edwards Group. This feature appears to be a localized surface area of enhanced solutioning associated with fractured slabs or blocks of limestone in the weathering profile. Dissolution of limestone in connection with this feature appears to have been controlled by localized bedding and shallow fracturing of exposed limestone bedrock located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and associated regolith. The extent of weathering and dissolution diminishes with depth at this feature and, when probed with a wooden rod, terminates in apparently consolidated bedrock.

The feature's ability to capture rainfall runoff appears to be limited to only what falls directly within its' immediate vicinity which is estimated to be much less than 1.6 acres.

Conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

F-4 O: **Other Natural Bedrock Feature - Surface Out Crop:** Feature F-4 is located on a high-standing erosional remnant of limestone outcrop of the Edwards Group. This feature appears to be a localized surface area of enhanced solutioning associated with fractured slabs or blocks of limestone in the weathering profile. Dissolution of limestone in connection with this feature appears to have been controlled by localized bedding and shallow fracturing of exposed limestone bedrock located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and associated regolith. The extent of weathering and dissolution diminishes with depth at this feature and, when probed with a wooden rod, terminates in apparently consolidated bedrock.

The feature's ability to capture rainfall runoff appears to be limited to only what falls directly within its' immediate vicinity which is estimated to be much less than 1.6 acres.

Conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

M-1 MB: **Manmade Feature - Water Well:** Assuming that this water well was properly completed in accordance with Texas Department of Licensing and Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

M-2 MB: **Manmade Feature – Wind Mill (Water Well):** Assuming that this water well was properly completed in accordance with Texas Department of Licensing and

Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

S-1 O: **Non-Karst Feature – Streambed:** This non-karst topographic feature is a natural drainage way that is designated as an intermittent Stream by the United States Geological Survey's (USGS's) National Hydrography Dataset (NHD). An Intermittent Stream is a dry drainage way that flows only at certain times of the year and does not flow continuously. In accordance with the TCEQ Edwards Aquifer Protection Program, streambeds, including dry drainage ways, may be significant because run-off is focused to them. Karst features in streambeds and natural drainage ways are likely to receive large volumes of recharge from surface run-off and are often a part of hydrologically integrated flow paths due to enhanced erosion and solutioning. To the extent that surface conditions were observed in connection with this feature, there was no indication of sensitive karst features such as open fractures, swallets or swallow holes observed within the streambed at the time of Capitol's assessment.

This streambed is located in the mapped Contributing Zone of the Edwards Aquifer. 30 TAC §213.22 (2) defines the Contributing Zone of the Edwards Aquifer as the area or watershed where runoff from precipitation flows downgradient towards the Recharge Zone of the Edwards Aquifer. Topographic mapping indicates that intermittent run off into the subject streambed, however, flows away from the Recharge Zone of the Edwards Aquifer.

Topographic conditions and stratigraphy observed in connection with this feature, therefore, do not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and this feature is not identified as a sensitive feature at this time.

S-2 O: **Non-Karst Feature – Streambed:** This non-karst topographic feature is a natural drainage way that is designated as an intermittent Stream by the United States Geological Survey's (USGS's) National Hydrography Dataset (NHD). An Intermittent Stream is a dry drainage way that flows only at certain times of the year and does not flow continuously. In accordance with the TCEQ Edwards Aquifer Protection Program, streambeds, including dry drainage ways, may be significant because run-off is focused to them. Karst features in streambeds and natural drainage ways are likely to receive large volumes of recharge from surface run-off and are often a part of hydrologically integrated flow paths due to enhanced erosion and solutioning. To the extent that surface conditions were observed in connection with this feature, there was no indication of sensitive karst features such as open fractures, swallets or swallow holes observed within the streambed at the time of Capitol's assessment.

This streambed is located in the mapped Contributing Zone of the Edwards Aquifer. 30 TAC §213.22 (2) defines the Contributing Zone of the Edwards Aquifer as the area or watershed where runoff from precipitation flows downgradient towards the Recharge Zone of the Edwards Aquifer. Topographic mapping indicates that intermittent run off into the subject streambed, however, flows away from the Recharge Zone of the Edwards Aquifer.

Topographic conditions and stratigraphy observed in connection with this feature, therefore, do not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and this feature is not identified as a sensitive feature at this time.

S-3 O: **Non-Karst Feature – Streambed:** This non-karst topographic feature is a natural drainage way that is designated as an intermittent Stream by the United States Geological Survey's (USGS's) National Hydrography Dataset (NHD). An Intermittent Stream is a dry drainage way that flows only at certain times of the year and does not flow continuously. In accordance with the TCEQ Edwards Aquifer Protection Program, streambeds, including dry drainage ways, may be significant because run-off is focused to them. Karst features in streambeds and natural drainage ways are likely to receive large volumes of recharge from surface run-off and are often a part of hydrologically integrated flow paths due to enhanced erosion and solutioning. To the extent that surface conditions were observed in connection with this feature, there was no indication of sensitive karst features such as open fractures, swallets or swallow holes observed within the streambed at the time of Capitol's assessment.

This streambed is located in the mapped Contributing Zone of the Edwards Aquifer. 30 TAC §213.22 (2) defines the Contributing Zone of the Edwards Aquifer as the area or watershed where runoff from precipitation flows downgradient towards the Recharge Zone of the Edwards Aquifer. Topographic mapping indicates that intermittent run off into the subject streambed, however, flows away from the Recharge Zone of the Edwards Aquifer.

Topographic conditions and stratigraphy observed in connection with this feature, therefore, do not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and this feature is not identified as a sensitive feature at this time.

S-4 O: **Non-Karst Feature – Streambed:** This non-karst topographic feature is a natural drainage way that is designated as an intermittent Stream by the United States Geological Survey's (USGS's) National Hydrography Dataset (NHD). An Intermittent Stream is a dry drainage way that flows only at certain times of the year and does not flow continuously. In accordance with the TCEQ Edwards Aquifer Protection Program, streambeds, including dry drainage ways, may be significant because run-off is focused to them. Karst features in streambeds and natural drainage ways are likely to receive large volumes of recharge from surface run-off and are often a part of hydrologically integrated flow paths due to enhanced erosion and solutioning. To the extent that surface conditions were observed in connection with this feature, there was no indication of sensitive karst features such as open fractures, swallets or swallow holes observed within the streambed at the time of Capitol's assessment.

This streambed is located in the mapped Contributing Zone of the Edwards Aquifer. 30 TAC §213.22 (2) defines the Contributing Zone of the Edwards Aquifer as the area or watershed where runoff from precipitation flows downgradient towards the Recharge Zone of the Edwards Aquifer. Topographic mapping indicates that intermittent run off into the subject streambed, however, flows away from the Recharge Zone of the Edwards Aquifer.

Topographic conditions and stratigraphy observed in connection with this feature, therefore, do not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and this feature is not identified as a sensitive feature at this time.

OBSERVATIONS

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 08/13/2020 no sensitive features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer.

CONCLUDING STATEMENTS

The Client understands that no non-intrusive visual observation or survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. Unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

This assessment does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Respectfully,



Jack D. Smitherman, P.G.
Project Geologist
Capitol Environmental, Inc
TBPG Firm Registration #50389
Austin, Texas



DISCLAIMER:

Under standard geologic assessment practice, this assessment is an assessment of surface property conditions that were readily accessible and easily visible at the time of the assessment.

Services performed under this contract were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Under standard geologic assessment practice, information developed in this report represents an assessment of environmental conditions observed as present or absent on portions of the surface of the subject property at the time of the assessment. The field observations, measurements and research reported in this report are considered sufficient in detail and scope to form a contained assessment of discrete portions of the subject property. Capitol warrants that the findings and conclusions contained in this report have been prepared in accordance with generally accepted methods normal for the subject site described in this report.

Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the Client and information developed in the course of the inquiry. The Assessment has been developed to provide the Client with information regarding apparent indications of the presence or absence of geologic conditions relating to the surface of the subject site. The Geologic Assessment report is necessarily limited to the conditions observed and to the information available at the time the work was performed. Due to the limited nature of the work, there is a possibility that conditions may exist in connection with the subject site which could not be identified within the scope of this assessment practice or which were not easily visible or not disclosed at the time the report was prepared.

It is also possible that assessment methods employed at the time the report was prepared may be later superseded by more discrete assessment methods. The definition of a "sensitive geologic feature" and / or a "critical environmental feature" can also change statutorily over time. Capitol does not warrant the content or findings of this report in the event of changes in conditions in connection with the subject property; in the event of changes in assessment methods; or in the event of changes in statute that may apply to the subject property in the future.

In preparing this report, Capitol has relied on information derived from third party sources and personal interviews, as well as other investigative work. Except as set forth in this report, Capitol has made no independent investigation as to the accuracy or completeness of the information derived from third party sources.

This report does not address uncertainty about site conditions across those portions of the subject property not specifically assessed in this report. The Client understands that no surface assessment can wholly eliminate uncertainty regarding the possible presence of geologic conditions at depth in connection with the subject property. The Client should recognize that conditions elsewhere in the assessment area may differ from those at the study /sample locations, and that surface conditions described in the assessment practice herein may change at depth. This assessment should not to be used as a basis for engineering design.

This report was prepared for the Client, to identify the presence or absence of geologic conditions on surface portions of the subject property. Any use of this report for other purposes or any use of information presented in this report by other parties other than the Client is the Client's responsibility.

Attachment D
Site Geologic Map(s)

LEGEND

PROJECT LIMITS (approx)

FEATURE TYPES

FEATURE

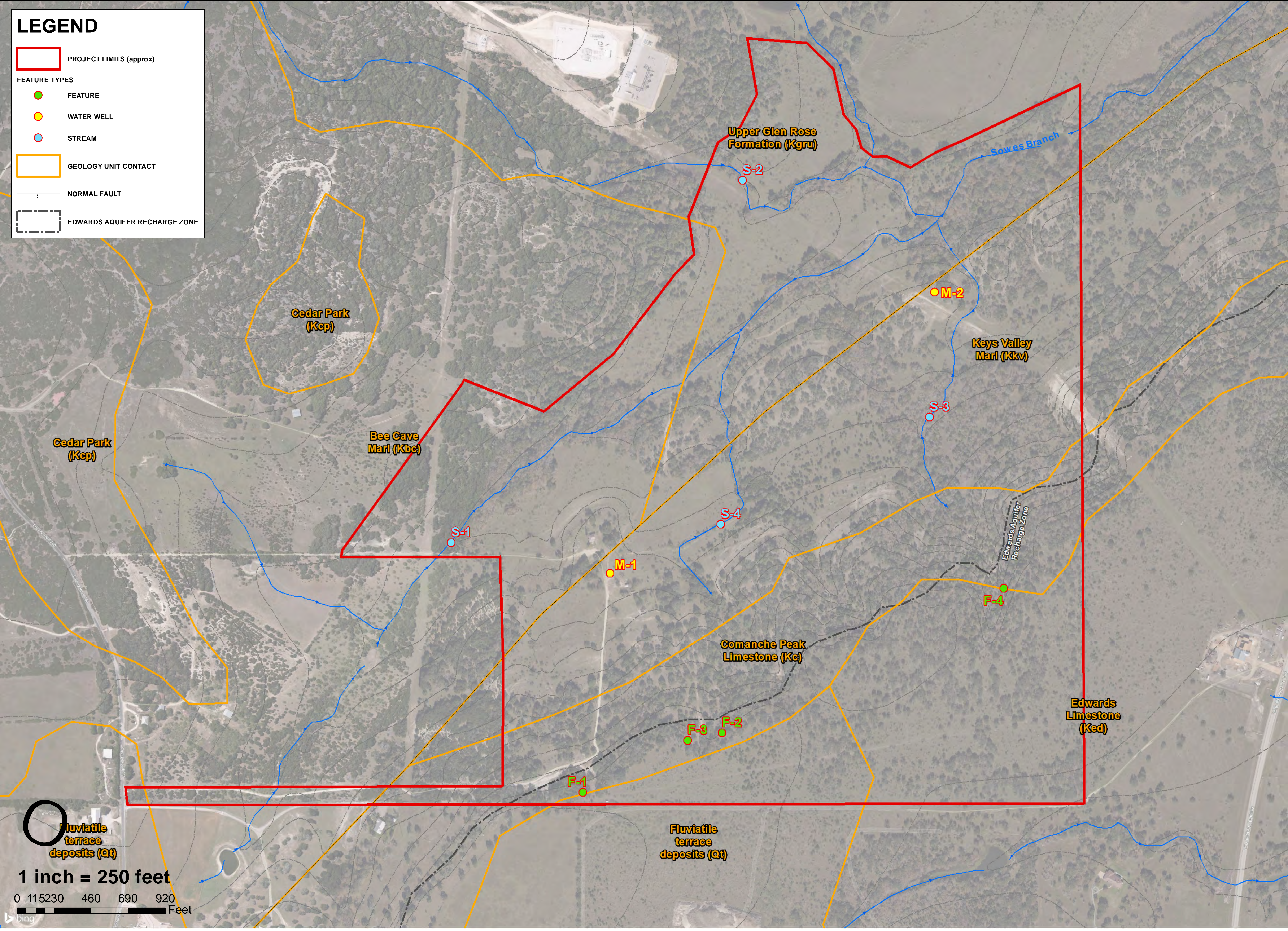
WATER WELL

STREAM

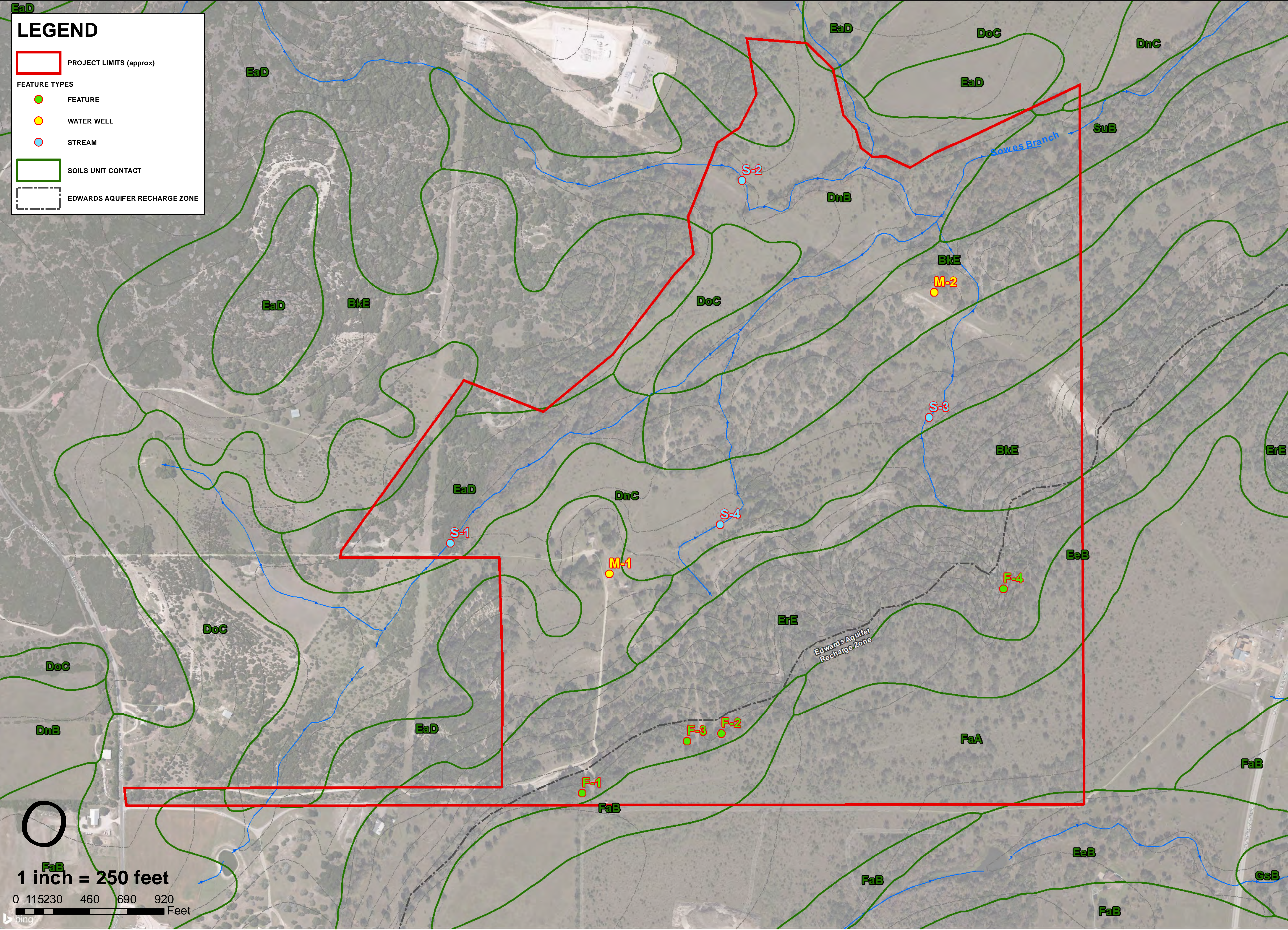
GEOLOGY UNIT CONTACT

NORMAL FAULT

EDWARDS AQUIFER RECHARGE ZONE



ELDORADO ESTATES		GEOLOGIC SITE MAP	TBPG Firm Registration #50389 CAPITOL ENVIRONMENTAL www.capitolenvironmental.com 512.535.4368	 Jack D. Smitherman 9/1/20
Prepared under the supervision of: D. Bryan Fairsh, P. G. Date: 9/1/2020				
Not For Construction or Building Purposes		Sheet No. 1 of 2		



LEGEND

PROJECT LIMITS (approx)

FEATURE TYPES

FEATURE

WATER WELL

STREAM

SOILS UNIT CONTACT

EDWARDS AQUIFER RECHARGE ZONE

ELDERADO ESTATES	
SOILS SITE MAP	
TBPG Firm Registration #50389	
<div><div><div></div><div>CAPITOL ENVIRONMENTAL</div></div><div>512.535.4368 www.capitolenvironmental.com</div></div>	
<div><div><div>STATE OF TEXAS</div><div>JACK D. SMITHERMAN</div><div>GEOLOGY</div><div>868</div><div>LICENSED</div><div>PROFESSIONAL ENGINEER</div><div>197120</div></div><div>Jack D. Smitherman</div></div>	
Not For Construction or Building Purposes	
Sheet No. 2 of 2	

SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), 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.

Regulated Entity Name: Eldorado Subdivision Phase 7 & 8

1. ☒ **Attachment A – SCS Engineering Design Report.** This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

Contact Person: Nick McIntyre

Entity: PHTB ELDORADO LLC

Mailing Address: 3200 Southwest Fwy #Ste 2800

City, State: Houston, TX

Zip: 77027

Telephone: (210) 580-8598

Fax: N/A

Email Address: nick.mcintyre@perryhomes.com

The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

Contact Person: Benjamin L. Green, P.E

Texas Licensed Professional Engineer's Number: 132190

Entity: Kimley-Horn and Associates, Inc.

Mailing Address: 5301 Southwest Parkway, Building 2, Suite 100, Austin,

City, State: Austin, TX

Zip: 78735

Telephone: +1 512-646-2243

Fax: N/A

Email Address: ben.green@kimley-horn.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

- ☒ Residential: Number of single-family lots: 134
☐ Multi-family: Number of residential units:
☐ Commercial
☐ Industrial
☐ Off-site system (not associated with any development)
☐ Other: _____

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

100% Domestic 116,681 gallons/day
_____% Industrial _____gallons/day
_____% Commingled _____gallons/day
Total gallons/day: 116,681

6. Existing and anticipated infiltration/inflow is 37,500 gallons/day. This will be addressed by: increasing pipe size and slope.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

- ☒ The WPAP application for this development was approved by letter dated May 12, 2023.
A copy of the approval letter is attached.
☐ The WPAP application for this development was submitted to the TCEQ on _____,
but has not been approved.
☐ A WPAP application is required for an associated project, but it has not been submitted.
☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

<i>Pipe Diameter(Inches)</i>	<i>Linear Feet (1)</i>	<i>Pipe Material (2)</i>	<i>Specifications (3)</i>
8	8176	PVC	AWWA C900

Total Linear Feet: 8176

- (1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the Liberty Hill Wastewater Treatment Plant. The treatment facility is:

- ☒ Existing
☐ Proposed

10. All components of this sewage collection system will comply with:

- ☒ The City of Liberty Hill standard specifications.
☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

- ☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

- ☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes.**

A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

- ☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
WWTR-A PH7	57 OF 86	2+47.01	MANHOLE
WWTR-A PH7	57 OF 86	3+42.64	MANHOLE
WWTR-A PH7	57 OF 86	6+80.45	MANHOLE
WWTR-A PH7	57 OF 86	9+02.44	MANHOLE
WWTR-A PH7	58 OF 86	10+90.28	MANHOLE
WWTR-A PH7	58 OF 86	14+76.20	MANHOLE

WWTR-A PH7	58 OF 86	15+68.38	MANHOLE
WWTR-A PH7	59 OF 86	18+99.49	MANHOLE
WWTR-A PH7	59 OF 86	20+39.44	MANHOLE
WWTR-A PH7	59 OF 86	21+95.34	MANHOLE
WWTR-A PH7	60 OF 86	24+58.73	MANHOLE
WWTR-A PH7	60 OF 86	27+89.50	MANHOLE
WWTR-A PH7	60 OF 86	28+51.40	MANHOLE
WWTR-A PH7	61 OF 86	34+73.40	MANHOLE
WWTR-A PH7	61 OF 86	38+07.52	MANHOLE
WWTR-B PH7	62 OF 86	6+80.00	MANHOLE
WWTR-B PH7	62 OF 86	8+69.41	MANHOLE
WWTR-C PH7	63 OF 86	3+98.48	MANHOLE
WWTR-C PH7	63 OF 86	6+84.90	MANHOLE
WWTR-D PH7	64 OF 86	3+99.94	MANHOLE
WWTR-D PH7	64 OF 86	6+27.91	MANHOLE
WWTR-D PH7	64 OF 86	8+55.89	MANHOLE
WWTR-D PH7	64 OF 86	9+35.55	MANHOLE
WWTR-E PH7	65 OF 86	1+00.00	MANHOLE
WWTR-F PH7	66 OF 86	2+06.88	MANHOLE
WWTR-A PH8	37 OF 58	2+72.98	MANHOLE
WWTR-A PH 8	37 OF 58	4+78.14	MANHOLE
WWTR-A PH8	37 OF 58	8+53.08	MANHOLE
WWTR-B PH8	38 OF 58	2+04.94	MANHOLE
WWTR-B PH8	38 OF 58	5+92.77	MANHOLE

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.
16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

- ☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing.** The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.
17. ☐ All manholes will be monolithic, cast-in-place concrete.
- ☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.
- Site Plan Scale: 1" = 100'.
19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.
20. Lateral stub-outs:
- ☒ The location of all lateral stub-outs are shown and labeled.
- ☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

- ☒ The entire water distribution system for this project is shown and labeled.
- ☒ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
- ☐ There will be no water lines associated with this project.

22. 100-year floodplain:

- ☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
- ☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

- ☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
- ☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on eachsheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☒ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☐ There will be no water line crossings.

☐ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

<i>Line</i>	<i>Station or Closest Point</i>	<i>Crossing or Parallel</i>	<i>Horizontal Separation Distance</i>	<i>Vertical Separation Distance</i>
WATR-A PH7	WWTR-A PH 7 1+21.50	CROSSING	-	10'
WATR-A PH7	WWTR-A PH 7 3+68.50	CROSSING	-	4.9'
WATR-C PH7	WWTR-E PH 7 1+31.50	CROSSING	-	7.5'
WATR-C PH 7	WWTR-E PH 7 3+79.62	CROSSING	-	13.8'
WATR-B-PH 7	WWTR-F PH 7 1+21.50	CROSSING	-	3.3'

- ☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

- ☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
- ☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
- ☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>

27. Drop manholes:

- ☐ There are no drop manholes associated with this project.
- ☒ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(I)(2)(H).

Table 7 - Drop Manholes

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>
WWTR-A PH7	5' DROP MANHOLE	31+56.40	60 OF 86
WWTR-B PH7	5' DROP MANHOLE	1+00.00	62 OF 86
WWTR-B PH7	5' DROP MANHOLE	3+95.00	62 OF 86
WWTR-C PH7	5' DROP MANHOLE	1+00.00	63 OF 86
WWTR-D PH7	5' DROP MANHOLE	1+00.00	64 OF 86
WWTR-E PH7	5' DROP MANHOLE	4+01.12	65 OF 86
WWTR-E PH7	5' DROP MANHOLE	7+51.12	65 OF 86
WWTR-F PH7	5' DROP MANHOLE	1+00.00	66 OF 86

28. Sewer line stub-outs (For proposed extensions):

- ☐ The placement and markings of all sewer line stub-outs are shown and labeled.
- ☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

29. Lateral stub-outs (For proposed private service connections):

- ☒ The placement and markings of all lateral stub-outs are shown and labeled.
- ☐ No lateral stub-outs are to be installed during the construction of this sewage collection system.

30. Minimum flow velocity (From Appendix A)

- ☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

31. Maximum flow velocity/slopes (From Appendix A)

- ☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.

Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.

Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

<i>Line</i>	<i>Profile Sheet</i>	<i>Station to Station</i>	<i>FPS</i>	<i>% Slope</i>	<i>Erosion/Shock Protection</i>

32. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

- ☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
- ☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
- ☒ N/A

Administrative Information

33. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.
34. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	Shown on Sheet
Lateral stub-out marking [Required]	N/A
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) [Required]	82 OF 86
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	83 OF 86
Typical trench cross-sections [Required]	79 OF 86
Bolted manholes [Required]	N/A
Sewer Service lateral standard details [Required]	83 of 86
Clean-out at end of line [Required, if used]	N/A
Baffles or concrete encasement for shock/erosion protection [Required, if flow velocity of any section of pipe >10 fps]	N/A
Detail showing Wastewater Line/Water Line Crossing [Required, if crossings are proposed]	83 OF 86
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	of
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	82 OF 86

35. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.
36. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.
- ☐ Survey staking was completed on this date: _____
37. ☒ 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.
38. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Benjamin L. Green, P.E.

Date: 11/4/2025

Place engineer's seal here:



Signature of Licensed Professional Engineer:

A handwritten signature of Benjamin L. Green, written in black ink, positioned above a horizontal line.

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

<i>Pipe Diameter(Inches)</i>	<i>% Slope required for minimum flow velocity of 2.0 fps</i>	<i>% Slope which produces flow velocity of 10.0 fps</i>
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

Figure 1 - Manning's Formula

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Where:

v = velocity (ft/sec)

n = Manning's roughness coefficient (0.013)

Rh = hydraulic radius (ft) *S* = slope(ft/ft)



ENGINEERING REPORT

**Eldorado Subdivision
Sewage Collection System
22700 Ronald Reagan Blvd
Liberty Hill, Texas 78642**

October 23, 2022

Prepared For:

**Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753**

Prepared By:

Kimley»Horn

2600 Via Fortuna
Terrace I, Suite 300
Austin, Texas 78746

TEXAS REGISTRATION #928

Job No. 063451834



Attachment A: SCS Engineering Design Report

TABLE OF CONTENTS

I. PROJECT OVERVIEW

II. CURRENT TRACT CONDITIONS

Legal Description
Land Use

III. PROPOSED DEVELOPMENT

IV. ENGINEERING ANALYSIS

Existing Collection System Infrastructure
Proposed Collection System Infrastructure

V. SUMMARY AND CONCLUSIONS

VI. EXHIBIT A

Sewer Collection System Design

I. PROJECT OVERVIEW

The content of this report is based on 333.23-acre tract of land. The property in acquisition is located on the west side of Ronald Regan Blvd, Northwest of the intersection of Highway 183 and Ronald Reagan, in Liberty Hill, Texas. The client is proposing 918 single family lots along with 2 open space lots, and two other lots allocated for a school and amenity center totaling 942 lots. Kimley-Horn has prepared this Drainage Report to evaluate the existing drainage conditions and highlight the proposed drainage system needed to serve a proposed 918-lot single-family subdivision.

The proposed improvements include mass grading, building construction, road construction, and utilities. This project is located within the Northfork – San Gabriel River Watershed of the Brazos River Basin

No portion of this site is located in the Federal Emergency Management Agency's 100-year floodplain per the Flood Insurance Rate Map 48491C0275E dated September 26, 2008, for Williamson County, Texas. No floodplain modifications are proposed.

The entire 333.23 tract is located within the Edwards Aquifer Recharge and Contributing Zone Zone.

II. CURRENT TRACT CONDITIONS

Legal Description

AW0417 AW0417 - Manlove, B. Sur., ACRES 255.924

AW0417 MANLOVE, B. SUR., ACRES 72.0

Land Use

The land is currently undeveloped.

III. PROPOSED DEVELOPMENT

The proposed development includes the construction of public roads, sidewalks, landscaping, stormwater management infrastructure, water and sanitary sewer utilities. The subdivision will consist of 942 total lots; 918 of these will be single-family, 22 denoted for open space and amenities, and the remaining 2 will designated for other uses.

IV. ENGINEERING ANALYSIS

Existing Collection System Infrastructure

The City of Liberty Hill owns a 24" Wastewater Line that runs along the western boundary of the project. This wastewater line is located within the ROW of County Road 260. This sites wastewater collection system will connect to this line.

Proposed Collection System Infrastructure

The proposed development includes 918 single family homes. The homes will be serve with wastewater service that is owned and operated by the City of Liberty Hill. Each home will be provide either a double service or single service connection as required by the City of Liberty Hill.

The collection system flows were designed using the following calculations:

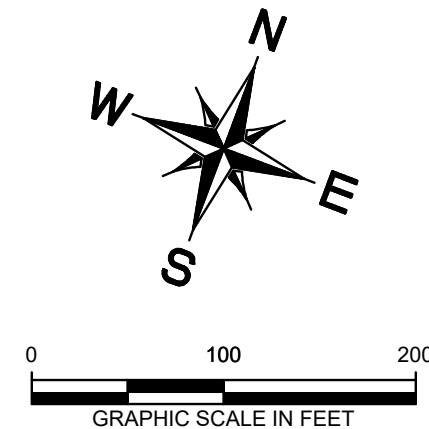
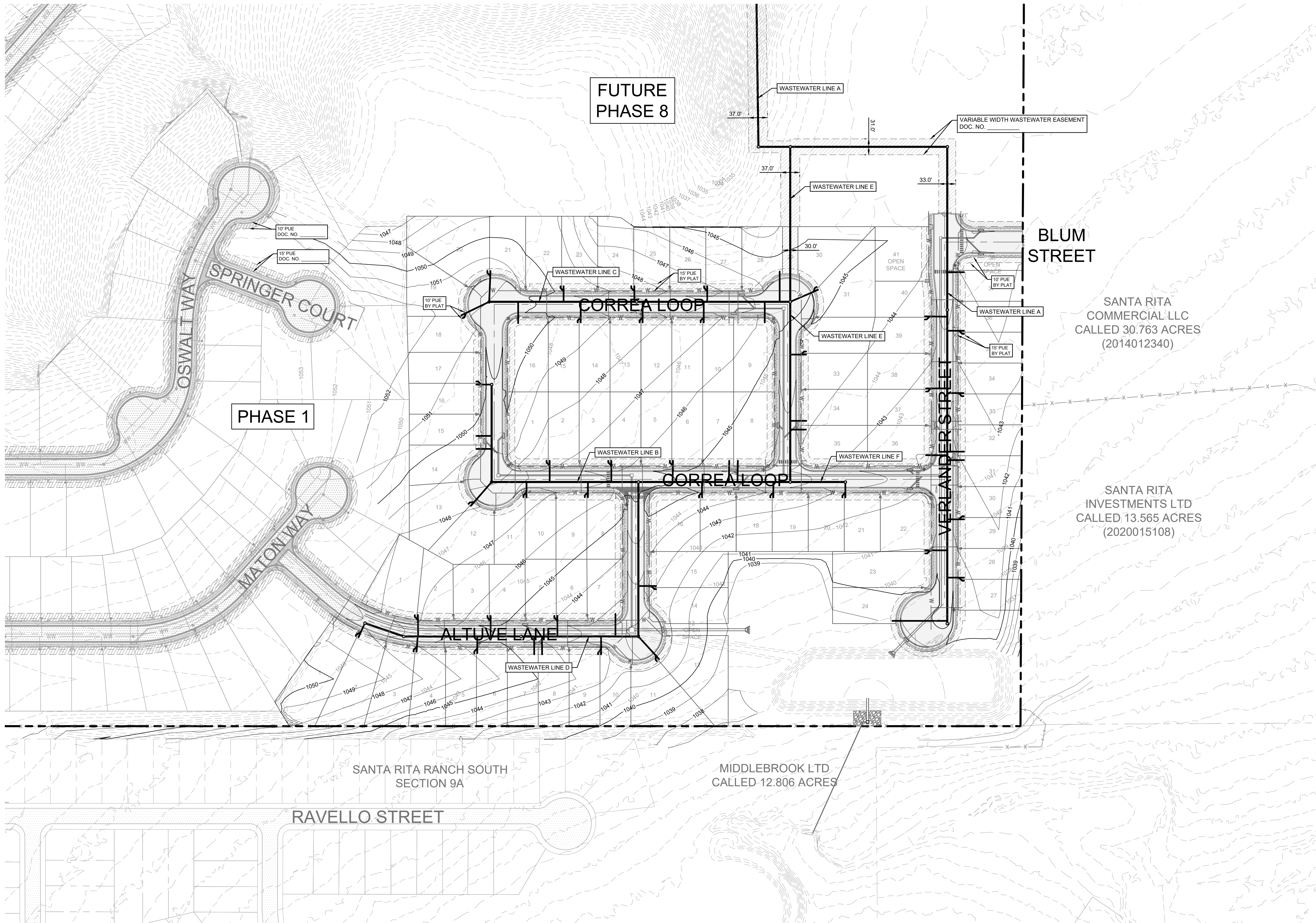
Wastewater Design Flows		
Service Population	569.25	people
Building Square Footage (retail)	0	sq ft
Building Square Footage (office)	0	sq ft
Dwelling Units (SF)	225	units
Dwelling Units (MF)	0	units
Contributing Drainage Area	0	acres
Average Dry Weather Flow - flow rates (ADWF)		
Single-Family	225	gal/day/dwelling unit
Multi-Family	112	gal/day/dwelling unit
Retail	225	gal/day/1000 sq ft
Office	65	gal/day/1000 sq ft
Peak Dry Weather Flow (PDWF)		
PDWF = ADWF * PF (Peaking Factor)		
$PF = (18 + 0.139 * (F^{0.5})) / (4 + 0.139 * (F^{0.5}))$		
average wastewater flow	100	gal/day/capita
F	39.53	gal/min
PF	3.87	unitless
PDWF (Single-Family)	196041.03	gal/day
PDWF (Multi-Family)	0.00	gal/day
PDWF (Retail)	0.00	gal/day
PDWF (Office)	0.00	gal/day
Peak Wet Weather Flow (PWWF)		
PWWF = ADWF * PF + I/I		
I/I = Inflow/Infiltration	750	gal/day/acre of contributing drainage area
I/I	0	gal/day
PWWF (Single-Family)	196041.03	gal/day
PWWF (Multi-Family)	0.00	gal/day
PWWF (Retail)	0.00	gal/day
PWWF (Office)	0.00	gal/day

Using the flow calculations derived from the above tables, a sewer collection system was design. See exhibit A for a full detail of the SCS design.

V. CONCLUSIONS

This report and exhibit have fully documented the design of the sewer collection system for the Eldorado Subdivision. This design meets the criteria of the City of Liberty Hill and TCEQ for sewer collection systems.

Plotted By:Salas, Nathalie Date:November 04, 2025 05:01:27pm File Path:K:\SAU_Civil\069288000 Eldorado - Liberty Hill Single Family\069288000 Public Construction\PlanSheets\1 Overall Wastewater Plan.dwg
This document, together with the concepts and designs presented herein, is 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.



LEGEND	
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	PROPOSED FIRE HYDRANT
	PROPOSED STORM DRAIN LINE
	EXISTING 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

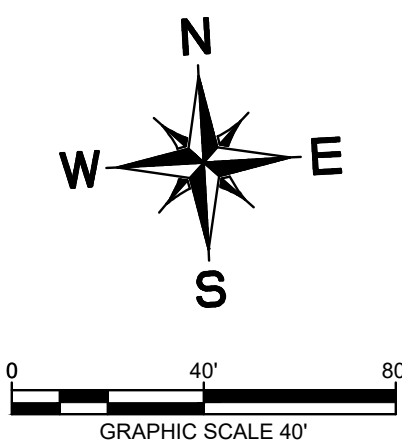
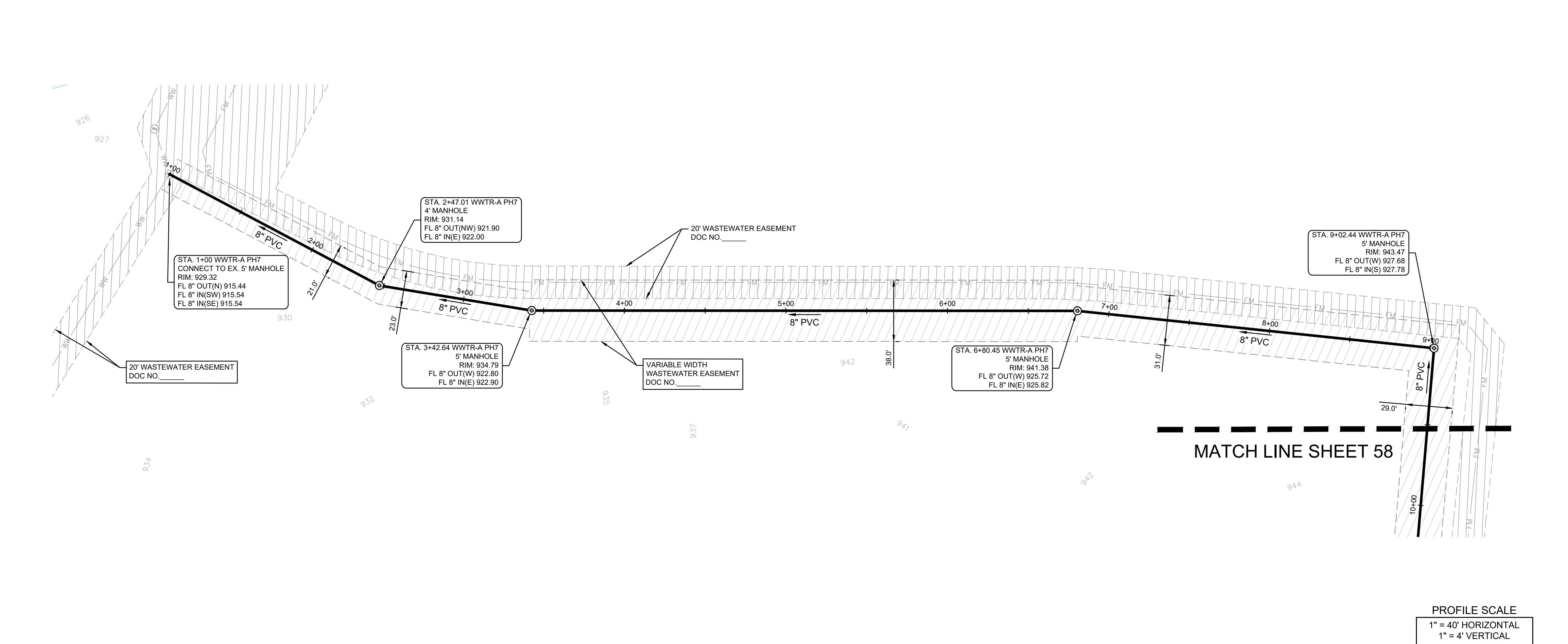
- NOTES:
- REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR WATER AND SANITARY SEWER CROSSINGS.
 - UTILITY CONNECTIONS TERMINATE 5' FROM BUILDING ENVELOPE SEE MEP PLANS FOR CONTINUATION.
 - REFER TO IRRIGATION PLANS FOR EXACT LOCATION AND SIZE OF IRRIGATION SLEEVES.
 - CONTRACTOR TO ADJUST EXISTING SANITARY SEWER MANHOLES, ELECTRICAL MANHOLES, FIRE HYDRANTS, VALVE BOXES, WATER METERS, ETC. TO MATCH PROPOSED FINISHED GRADES IF NECESSARY.
 - 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.
 - FIRE SPRINKLER LINE SHALL BE SIZED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR.
 - ALL CONSTRUCTION SPECIFICATIONS WITHIN CITY R.O.W. AND EASEMENTS SHOULD COMPLY WITH CITY OF LIBERTY HILL STANDARDS. PRIOR APPROVAL TO USE ANY NON-STANDARD MATERIAL IS REQUIRED.
 - REFER TO SHEET 2 FOR GENERAL NOTES.



BENCHMARKS	
TBM:	
1. BM1 (#301)	ELEVATION=1004.244'
2. BM2 (#302)	ELEVATION=1045.526'
3. BM3 (#303)	ELEVATION=944.476'
4. BM4 (#300)	ELEVATION=954.147'

	5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100 AUSTIN, TEXAS 78746 PHONE: 512-446-2222 WWW.KIMLEY-HORN.COM © 2024 KIMLEY-HORN AND ASSOCIATES, INC. TPE Firm No. 928		REVISIONS	DATE	BY
	KIMLEY-HORN		No.		
	STATE OF TEXAS BENJAMIN L. GREEN 121790 LICENSED PROFESSIONAL ENGINEER				
11/04/2025					
KHA PROJECT	PROJECT NUMBER	DATE	MONTH YEAR	SCALE: AS SHOWN	DESIGNED BY: BLG
OVERALL WASTEWATER PLAN					
ELDORADO SUBDIVISION PHASE 7 CITY OF LIBERTY HILL WILLIAMSON COUNTY, TEXAS					
SHEET NUMBER 56 OF 86					
2025-5-CON					

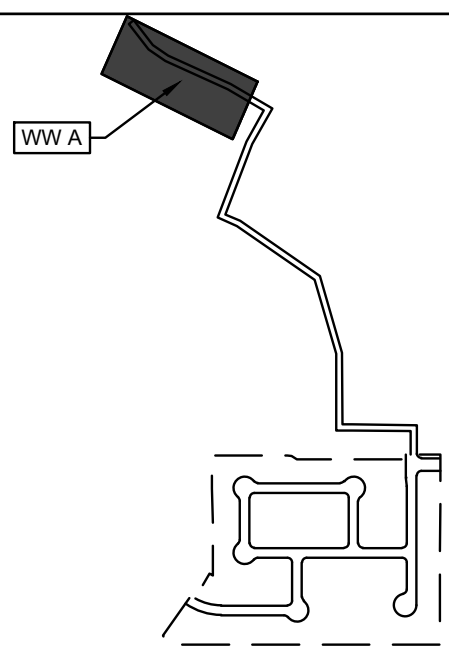
Plotted By: Soles, Nathalie Date: November 04, 2025 05:02:18pm File Path: K:\SAU\Civil\069288000 Eldorado - Liberty Hill Single Family\Add\PH7\PUBLIC CONSTRUCTION\Plan\Sheets\ - Wastewater P&P Sheets.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, 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.



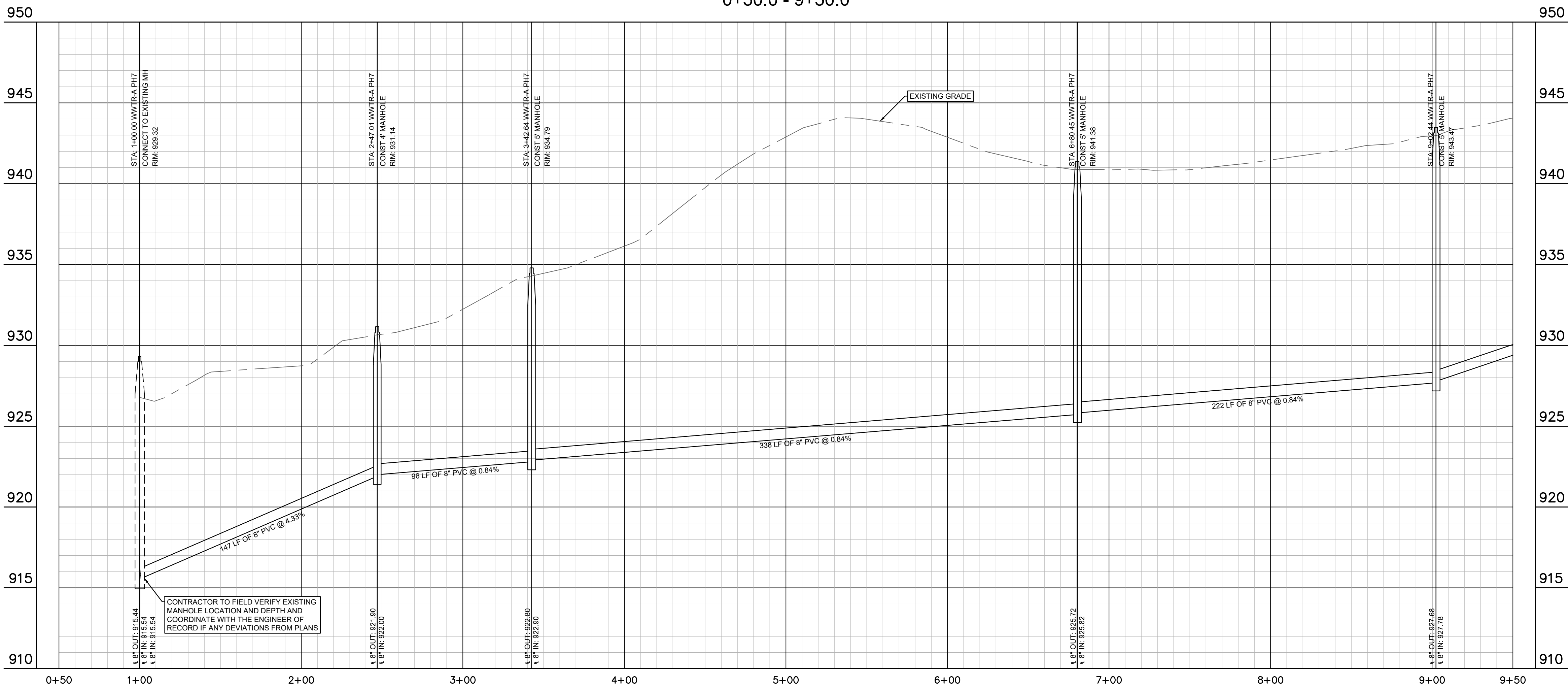
LEGEND

---	PROPERTY LINE
---	PROPOSED STORM LINE
---	PROPOSED WATER LINE
---	PROPOSED FORCE MAIN LINE
---	PROPOSED STORM INLET
---	PROPOSED FIRE HYDRANT
---	EXISTING WATER LINE
---	EXISTING WASTEWATER LINE
---	EXISTING FORCE MAIN LINE
---	EXISTING STORM LINE

KEY MAP SCALE 1:1000



WWTR-A PH7 0+50.0 - 9+50.0



Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max Min	6.50% 0.50%	8.83 ft/s 2.45 ft/s	9.39 ft/s 2.61 ft/s	9.90 ft/s 2.75 ft/s
WWTR-B PH7	Max Min	0.93% 0.50%	3.34 ft/s 2.45 ft/s	3.56 ft/s 2.61 ft/s	3.75 ft/s 2.75 ft/s
WWTR-C PH7	Max Min	1.86% 0.50%	4.72 ft/s 2.45 ft/s	5.03 ft/s 2.61 ft/s	5.30 ft/s 2.75 ft/s
WWTR-D PH7	Max Min	1.36% 0.50%	4.04 ft/s 2.45 ft/s	4.30 ft/s 2.61 ft/s	4.53 ft/s 2.75 ft/s
WWTR-E PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s
WWTR-F PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s

BENCHMARKS

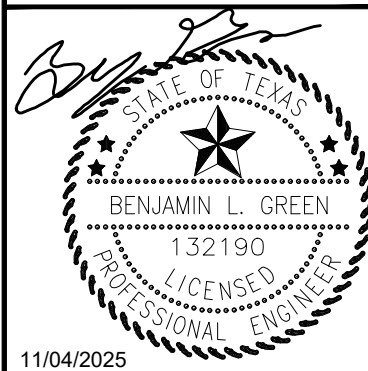
TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'



Know what's below.
Call before you dig.

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 028

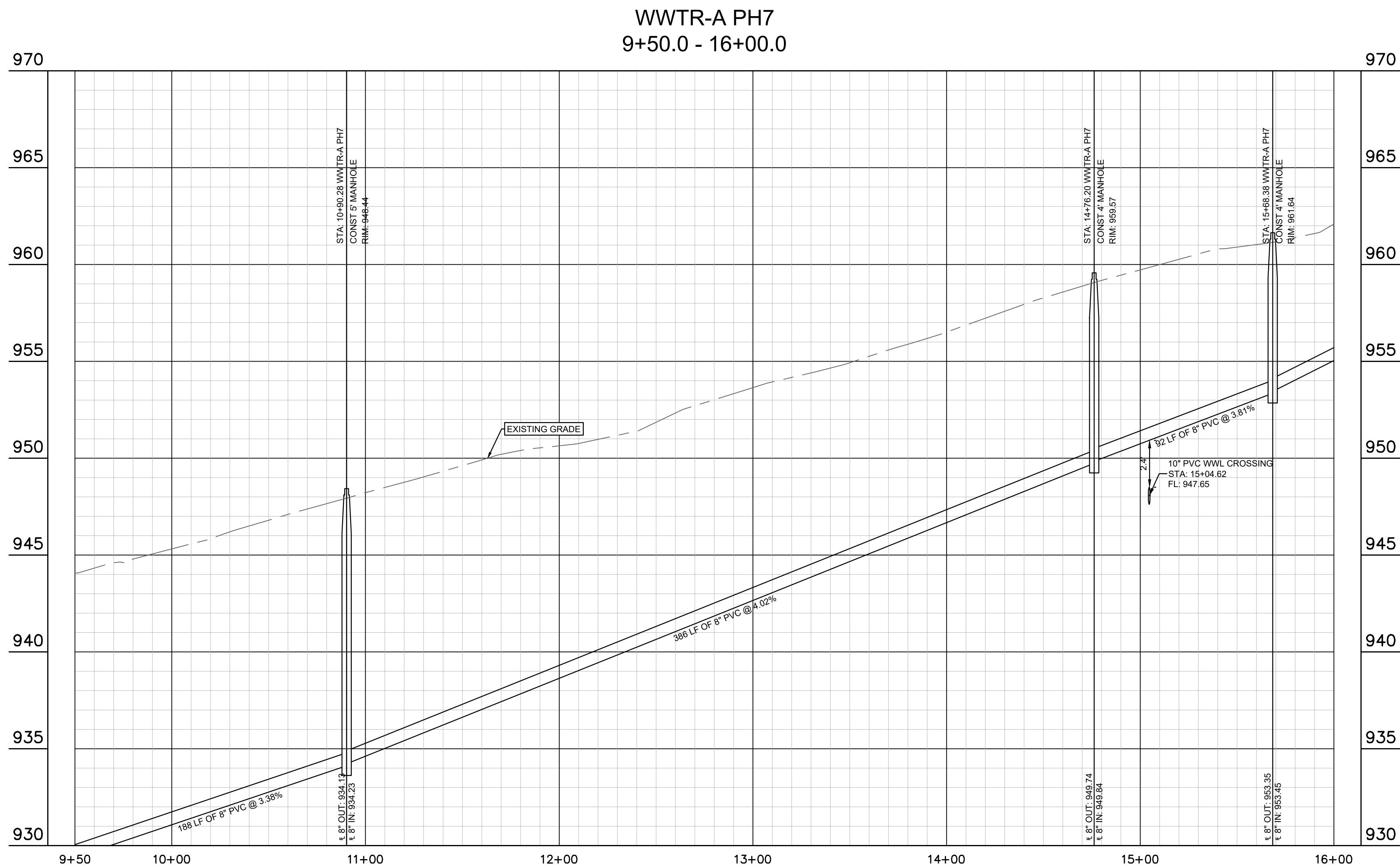
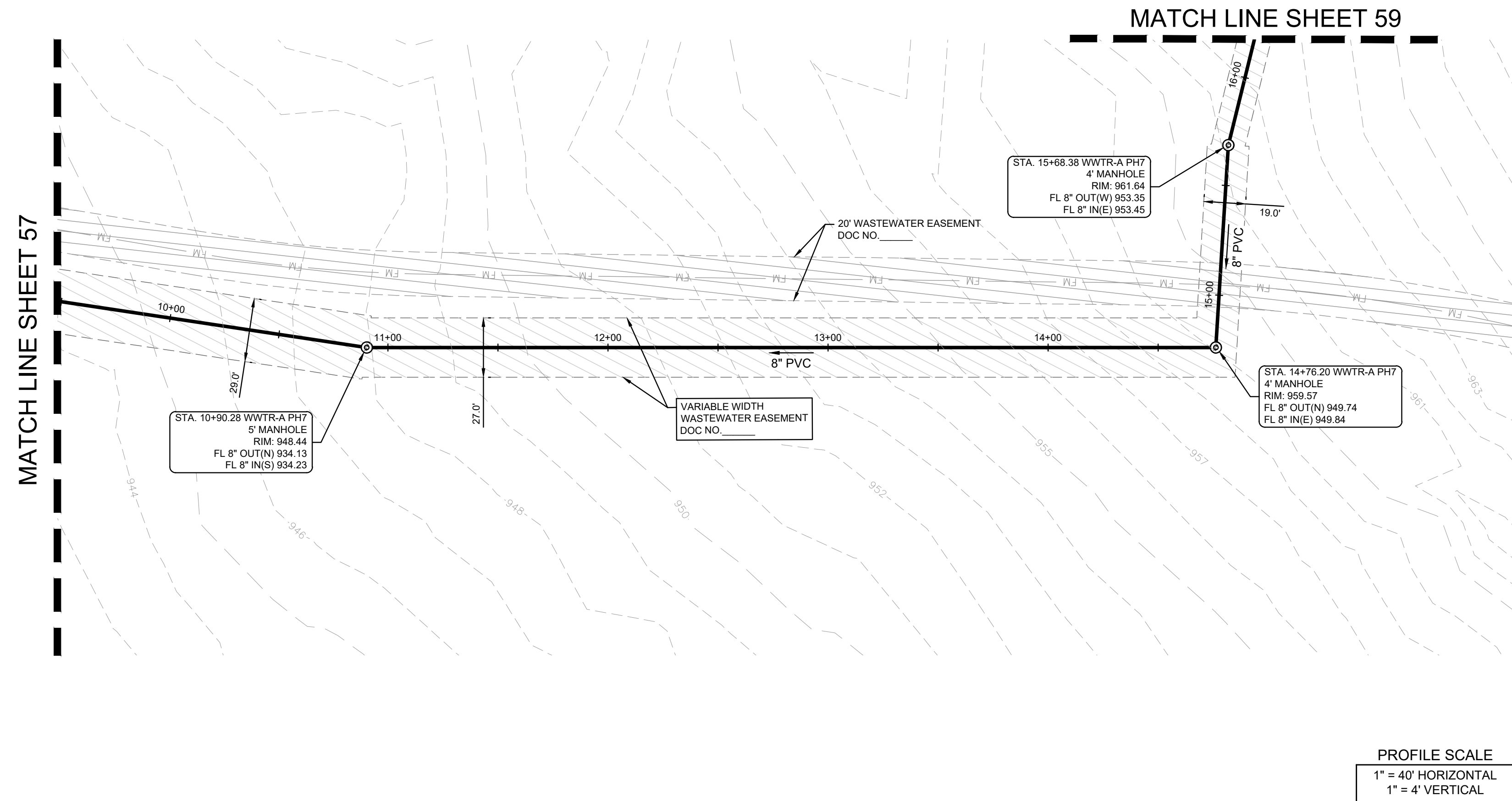


KHA PROJECT	PROJECT NUMBER	DATE	MONTH YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG
WWTR-A PH7	0+50.0 - 9+50.0	11/04/2025	11	1:1000	1:1000	BENJAMIN L. GREEN	132190				

WASTEWATER P&P - LINE A (SHEET 1 OF 5)

**ELDORADO
SUBDIVISION
PHASE 7**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
57 OF 86

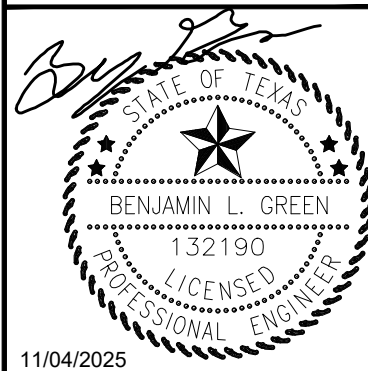


Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s



Know what's below.
Call before you dig.

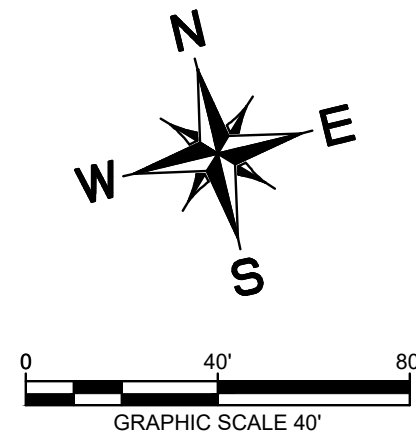
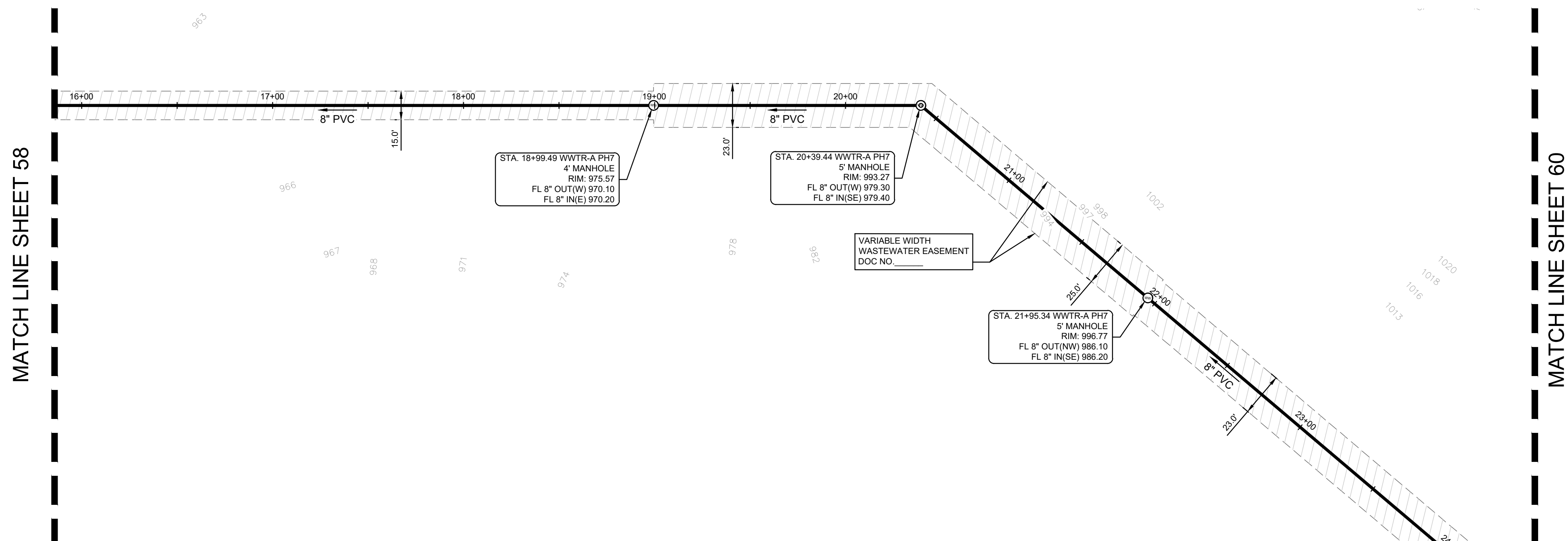
TBM:
1. BM1 (#301)
ELEVATION=1004.24
2. BM2 (#302)
ELEVATION=1045.52
3. BM3 (#303)
ELEVATION=944.476
4. BM4 (#300)
ELEVATION=954.147



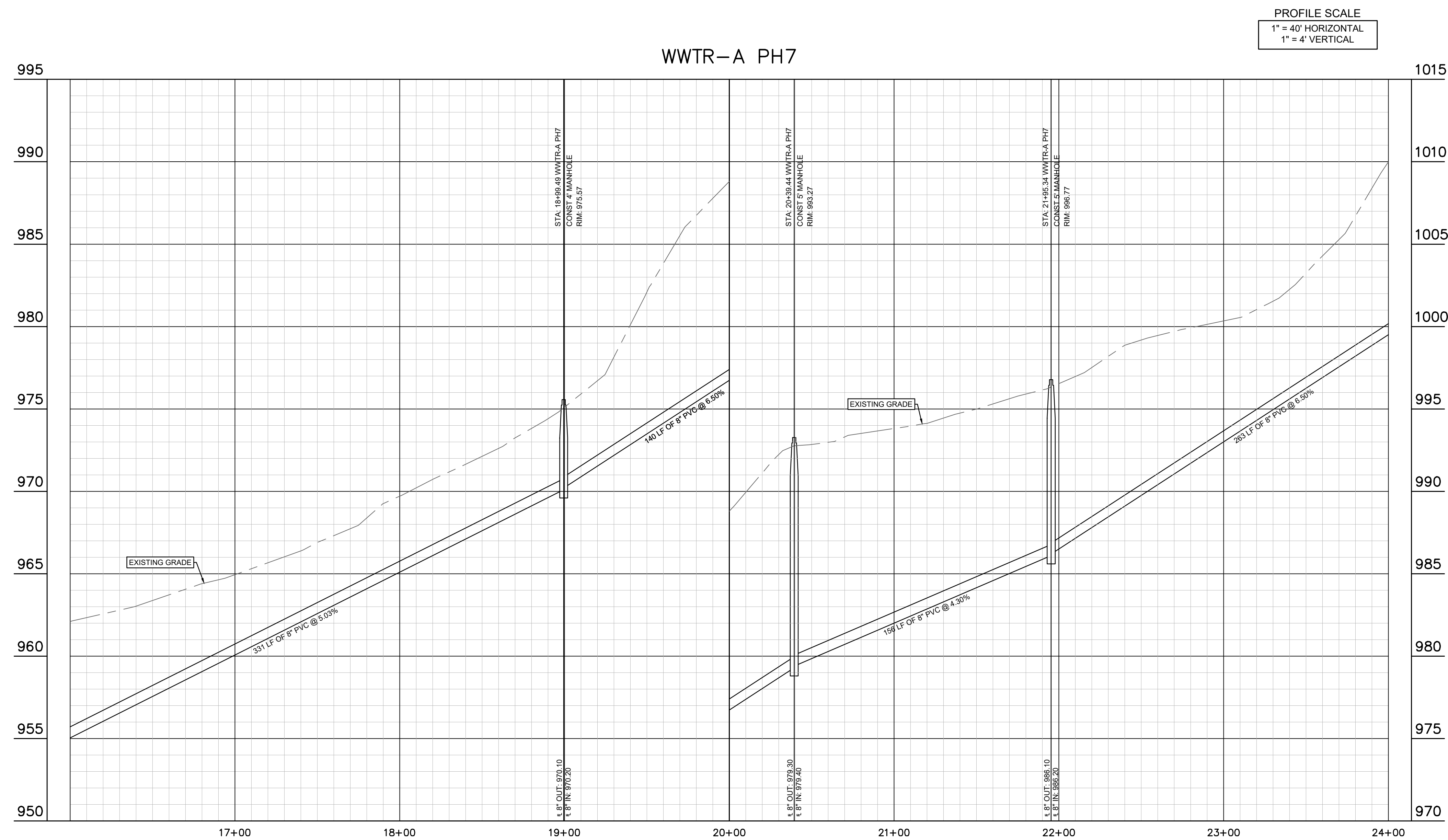
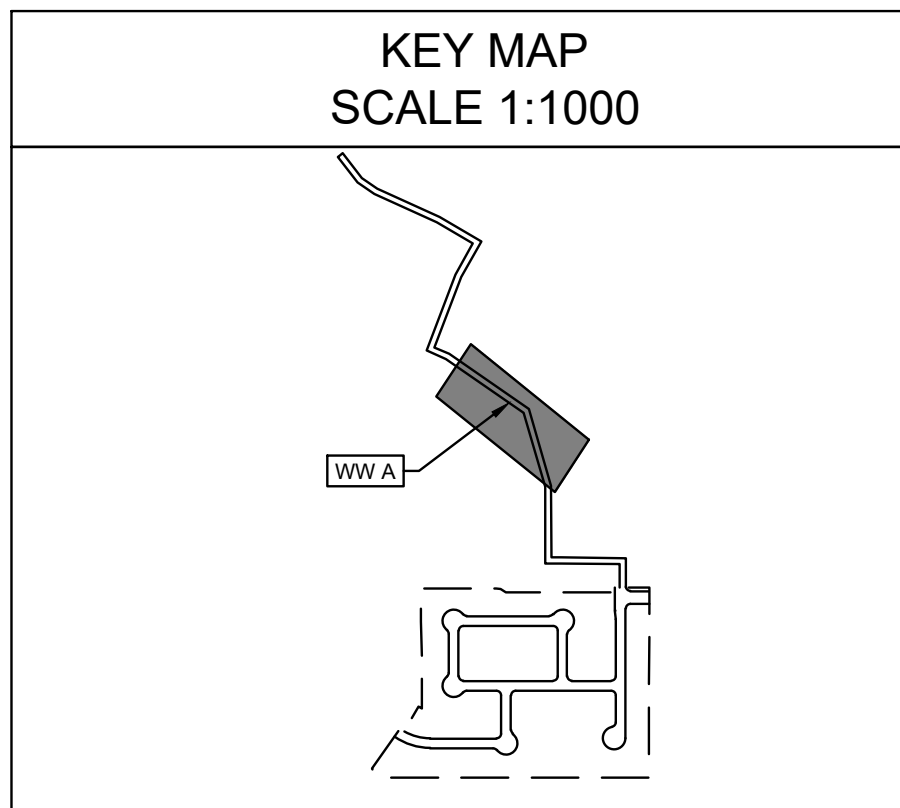
KHA PROJECT	DATE
PROJECT NUMBER	MONTH YEAR
SCALE: AS SHOWN	
DESIGNED BY: BLG	
DRAWN BY: NS	
CHECKED BY: RIG	

WASTEWATER P&P -
LINE A (SHEET 2 OF 5)

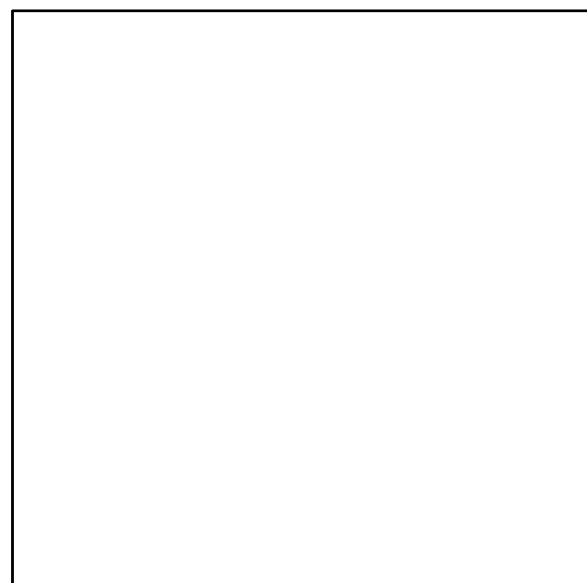
**ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS**



	PROPOSED STORM LINE
	PROPOSED STORM LINE
	PROPOSED WATER LINE
	PROPOSED FORCE MAIN LINE
	PROPOSED STORM INLET
	PROPOSED FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	EXISTING FORCE MAIN LINE
	EXISTING STORM LINE



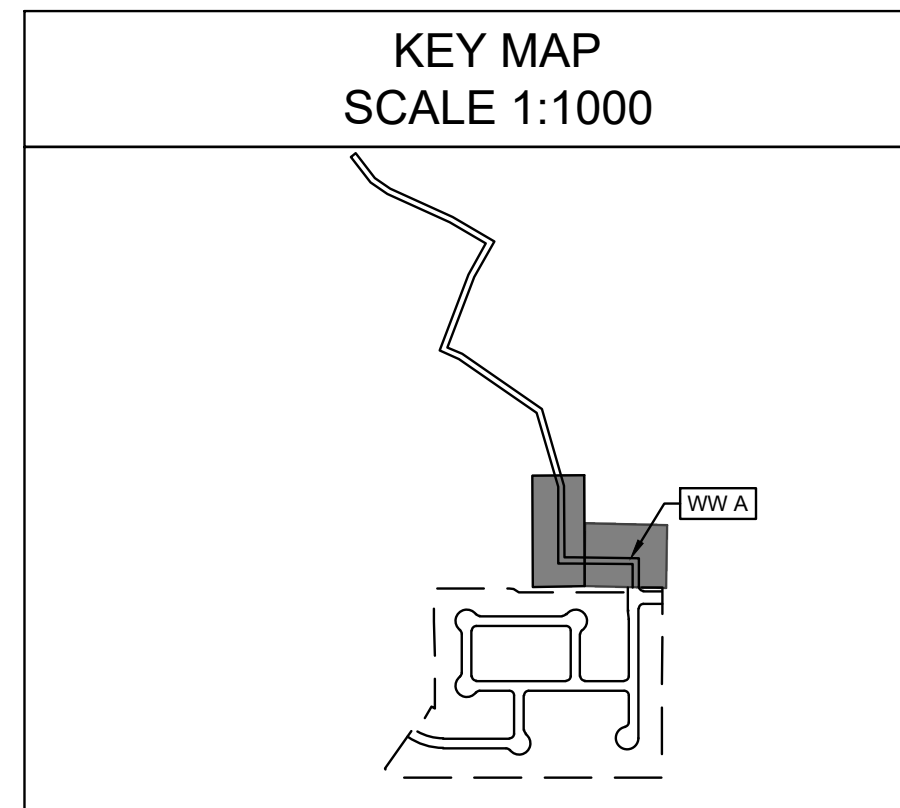
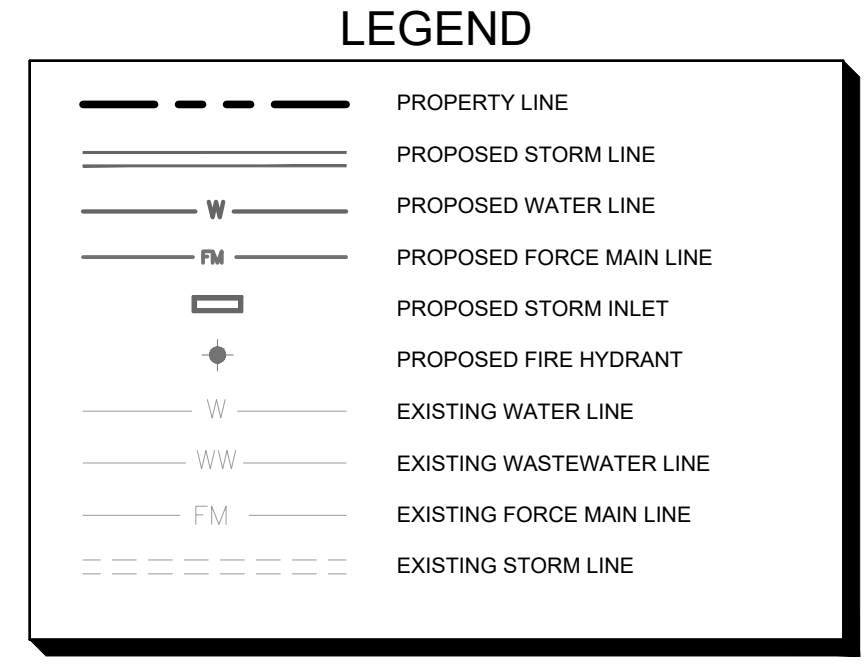
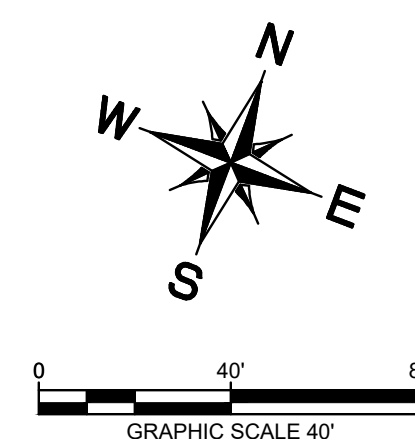
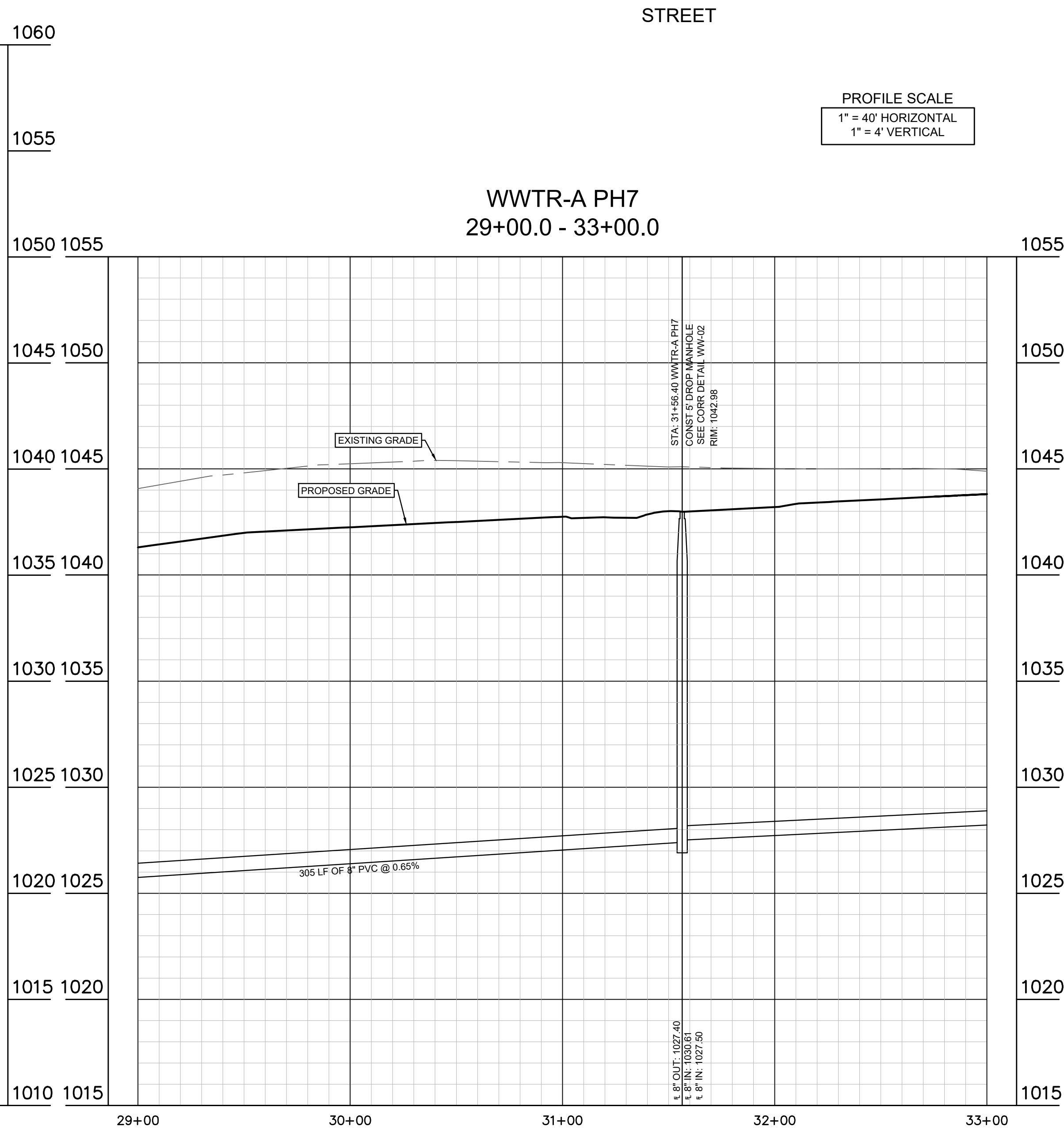
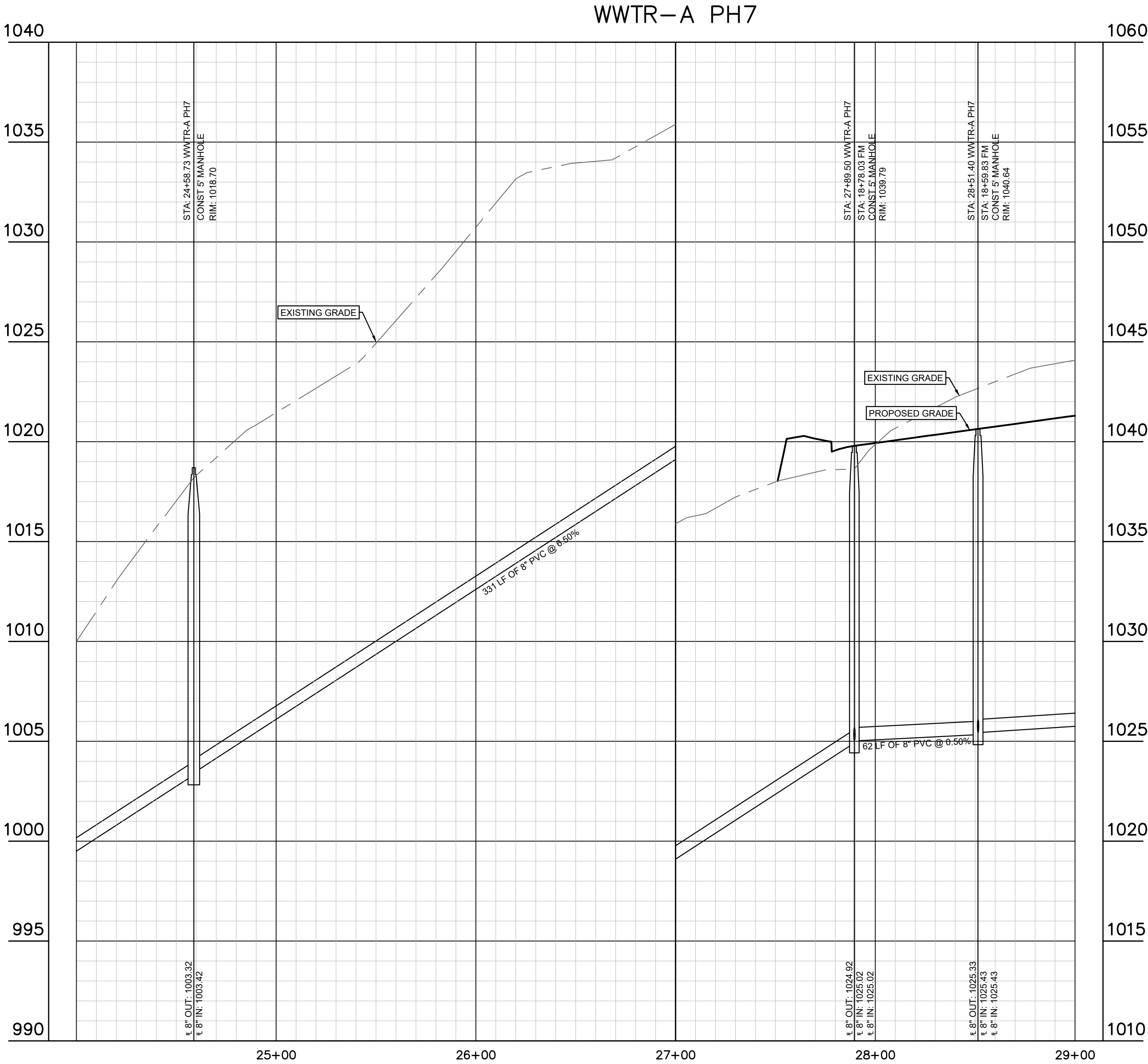
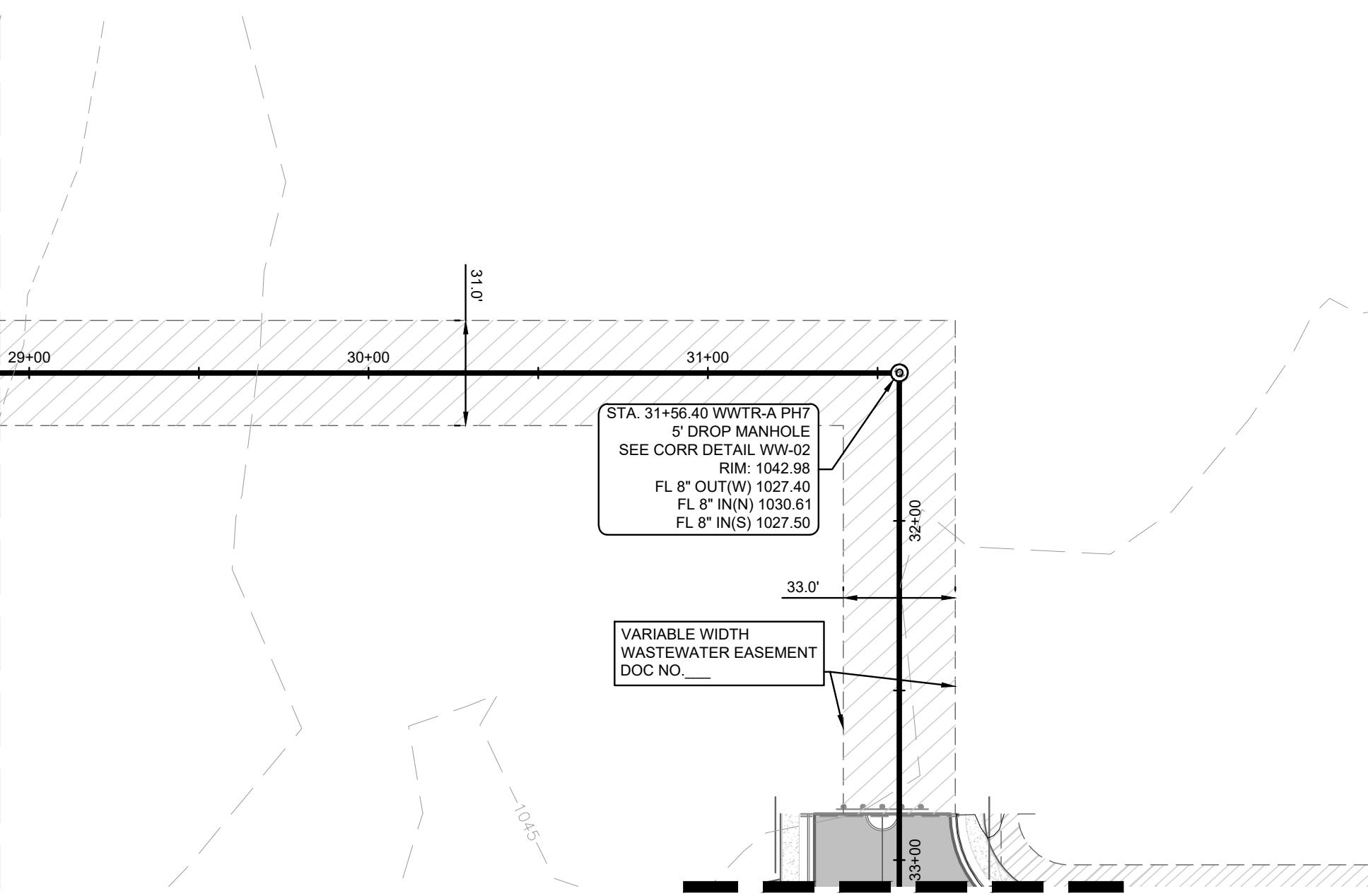
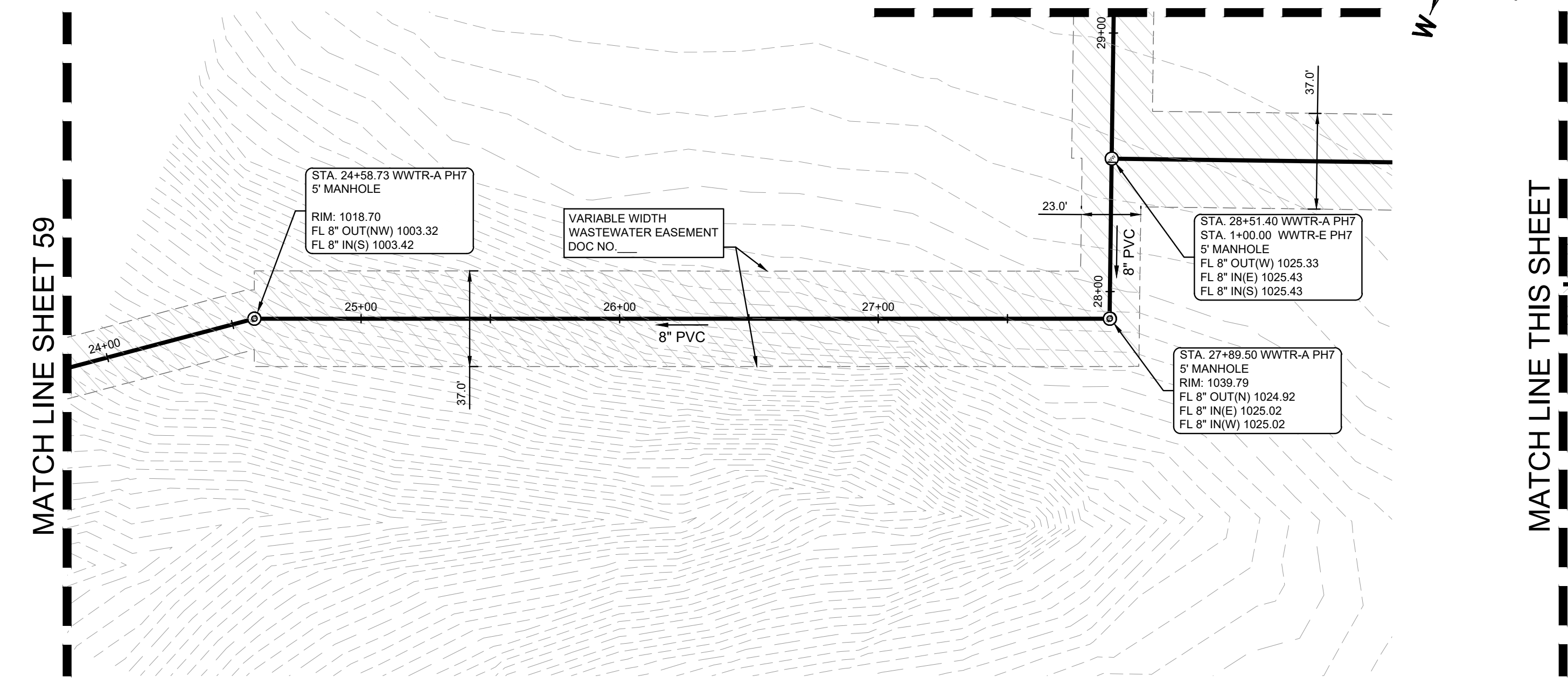
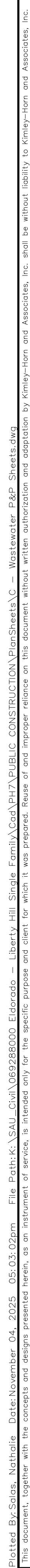
Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWT-R A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWT-R B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWT-R C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWT-R D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWT-R E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWT-R F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s



TBM:
1. BM1 (#301)
ELEVATION=1004.244
2. BM2 (#302)
ELEVATION=1045.526
3. BM3 (#303)
ELEVATION=944.476
4. BM4 (#300)
ELEVATION=954.147



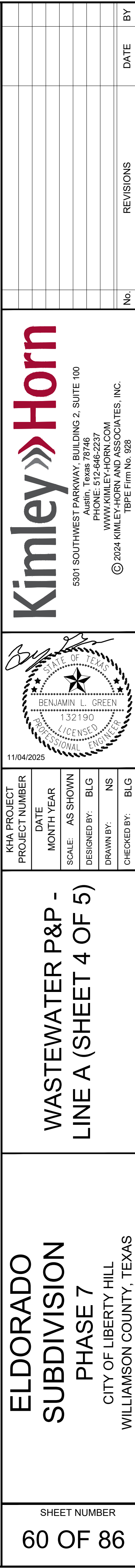
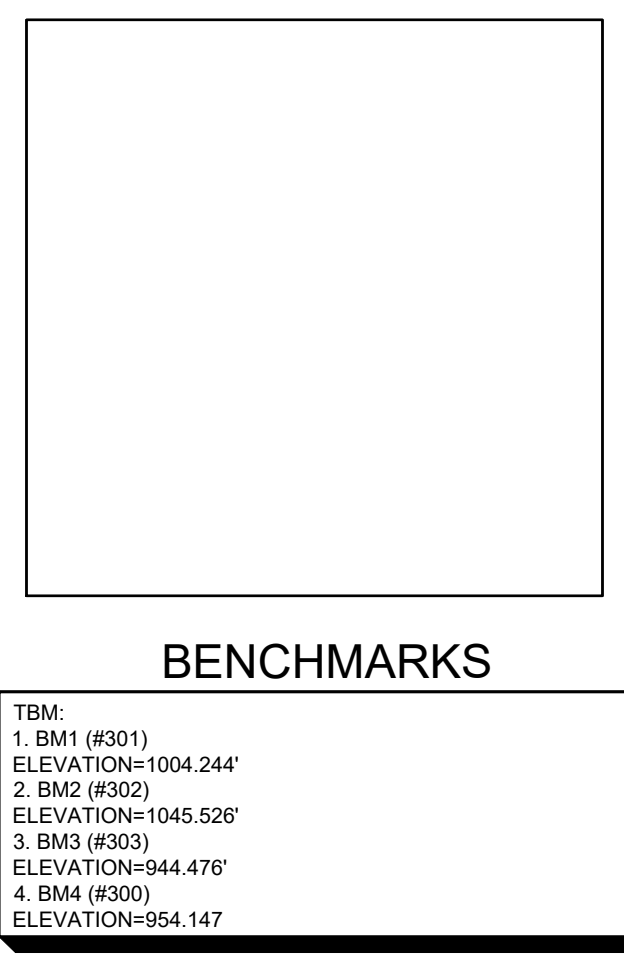
Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s

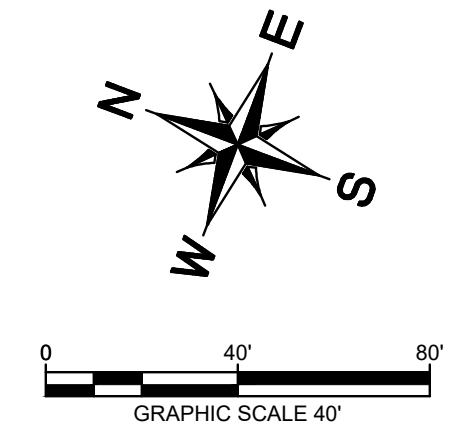
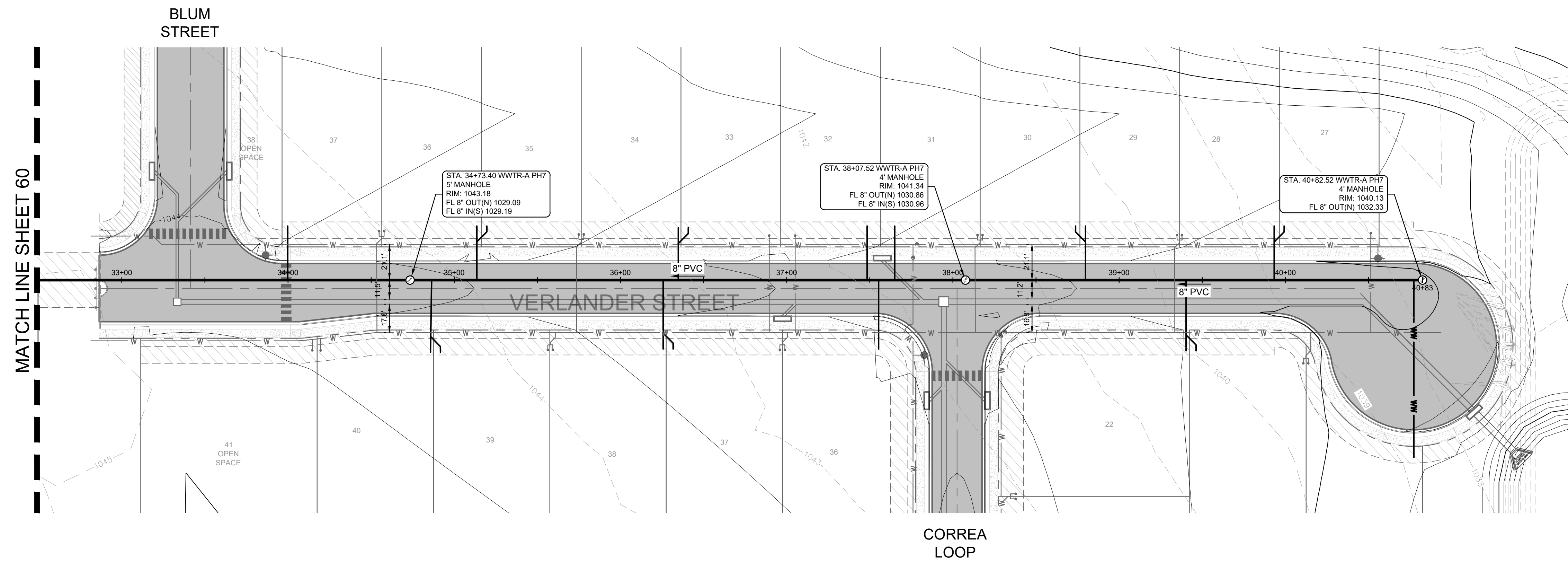












Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s

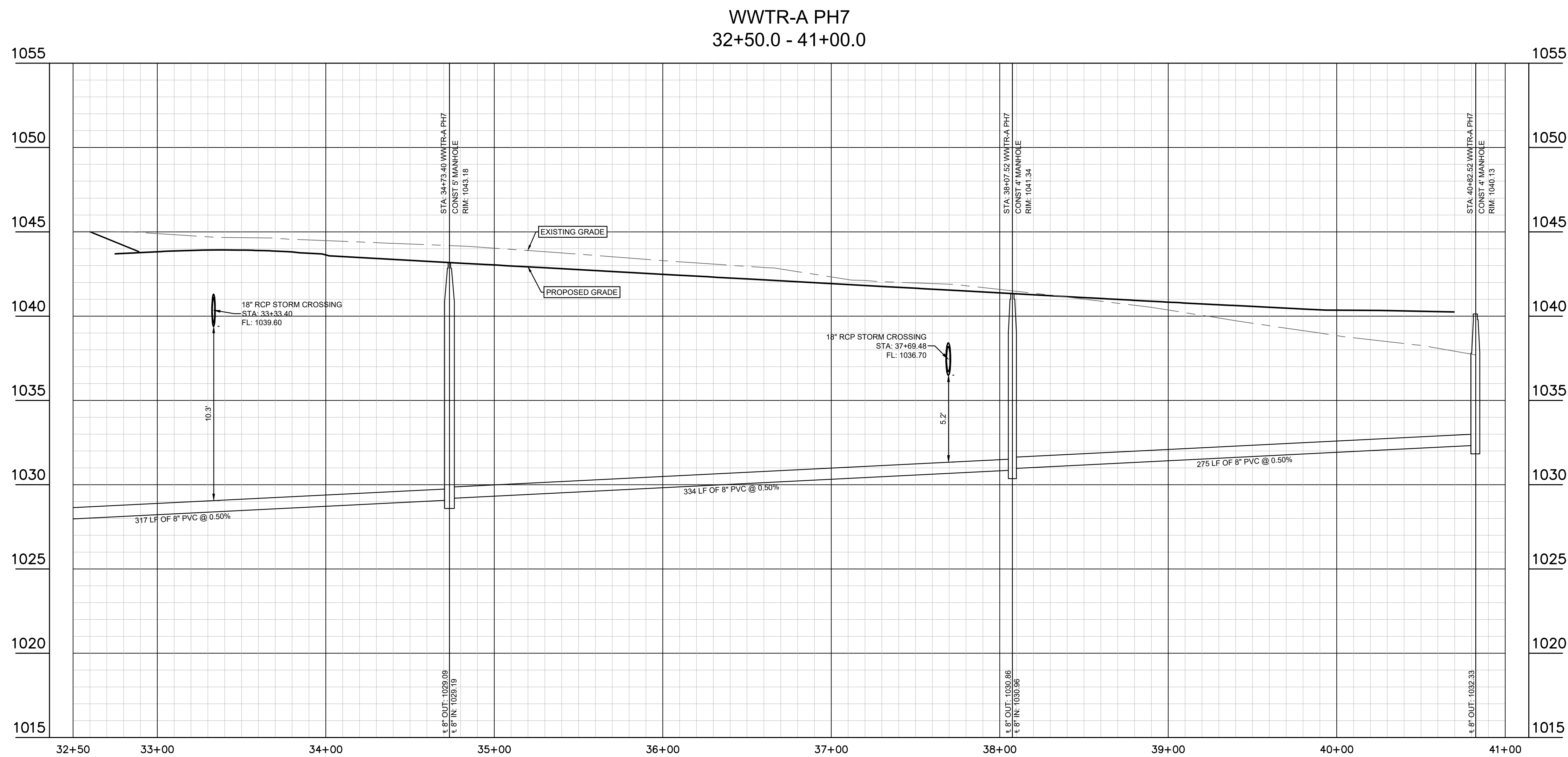
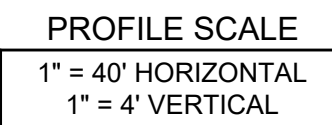
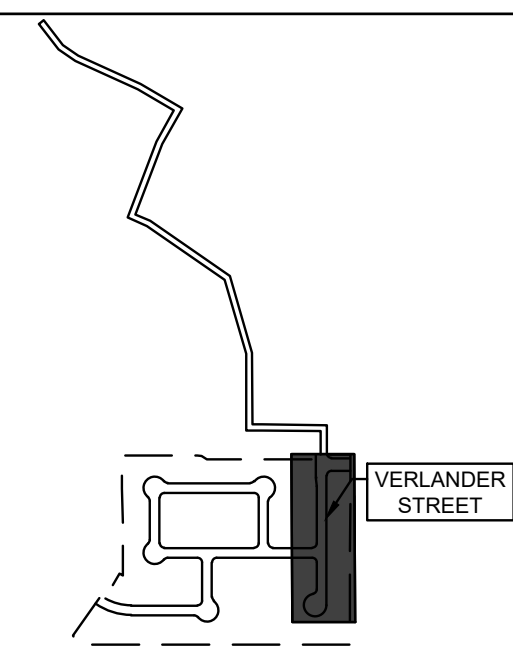


Know what's **below**.
Call before you dig.

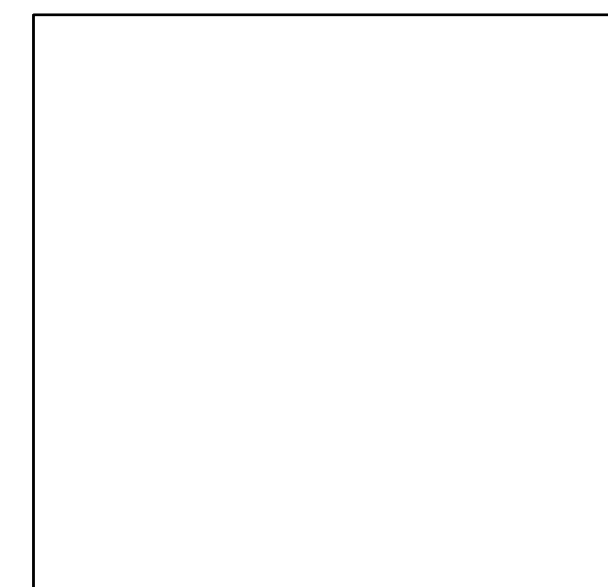




	PROPERTY LINE
	PROPOSED STORM LINE
	PROPOSED WATER LINE
	PROPOSED FORCE MAIN LINE
	PROPOSED STORM INLET
	PROPOSED FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	EXISTING FORCE MAIN LINE
	EXISTING STORM LINE



Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WWTR-F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s



BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244
2. BM2 (#302)
ELEVATION=1045.526
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147

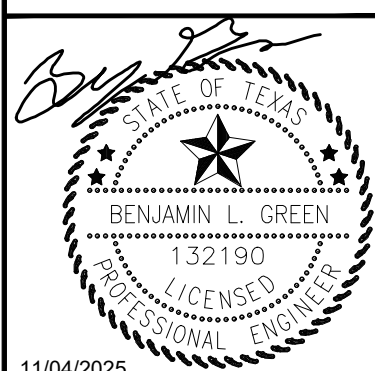


Know what's **below**.
Call before you dig.

[illegible]

Kimley»»Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
 TBPE Firm No. 928
 www.kimley-horn.com
 PHONE: 512-646-2237
 Austin, Texas 78746
 111 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100



KHA PROJECT	DATE
PROJECT NUMBER	MONTH YEAR
SCALE:	AS SHOWN
DESIGNED BY:	BLG
DRAWN BY:	NS
CHECKED BY:	BLG

WASTEWATER P&P -
LINE A (SHEET 5 OF 5)

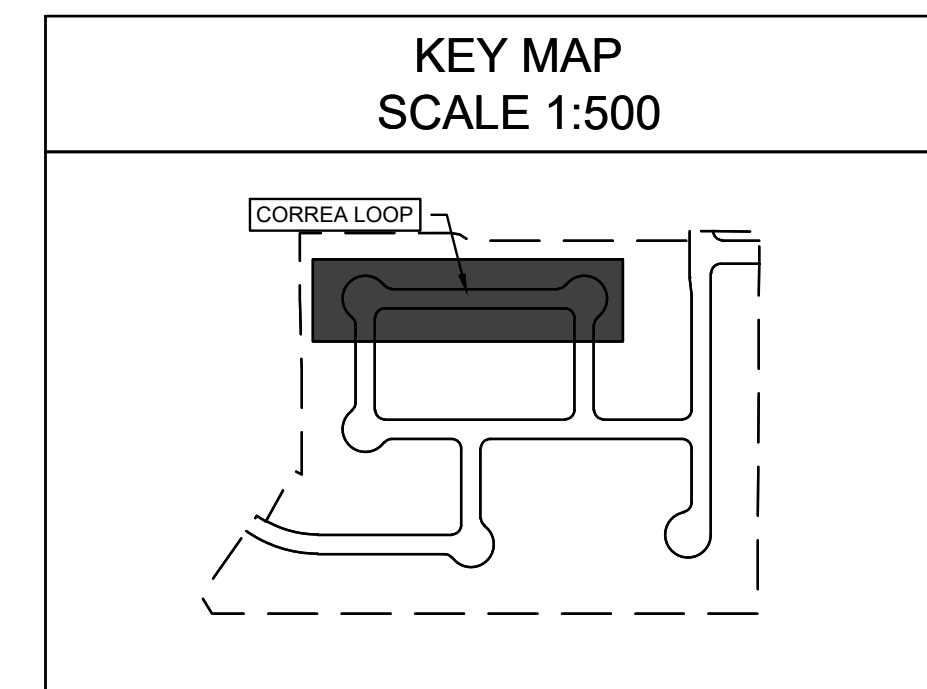
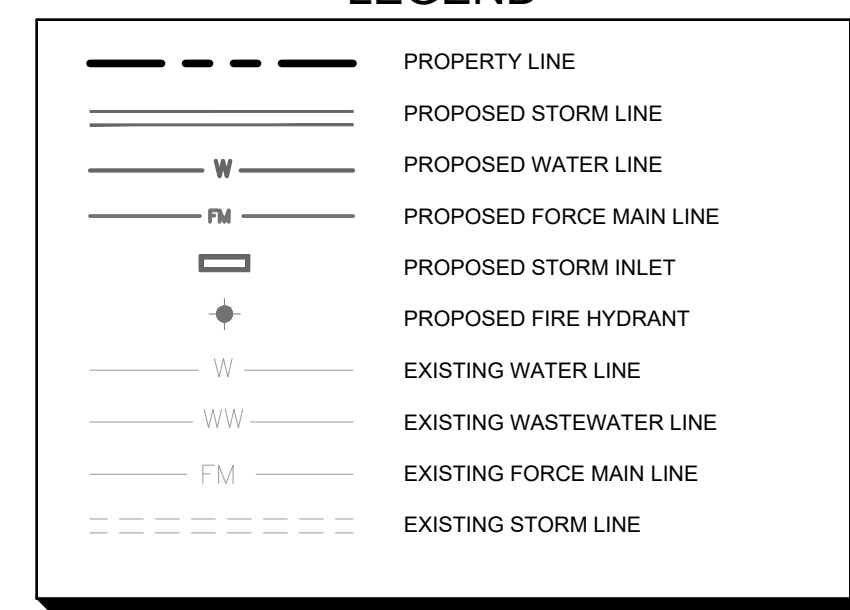
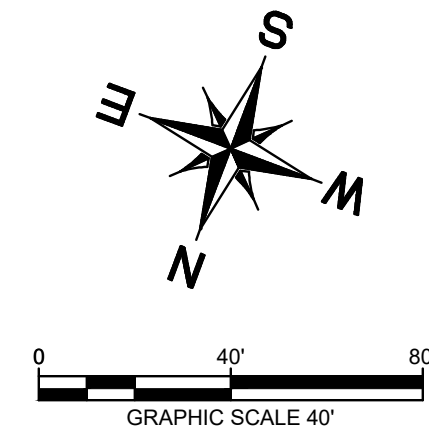
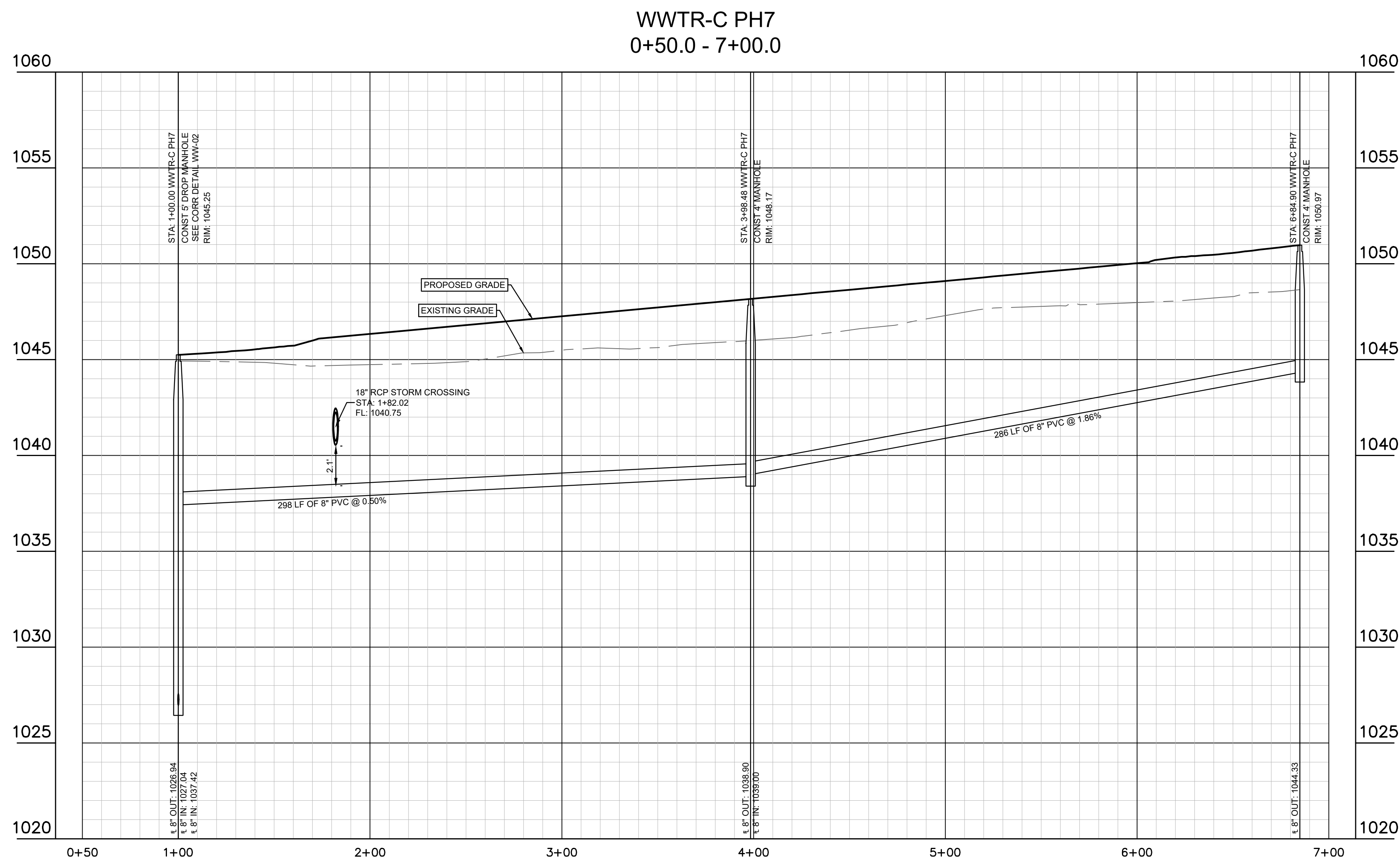
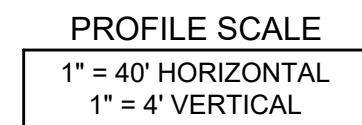
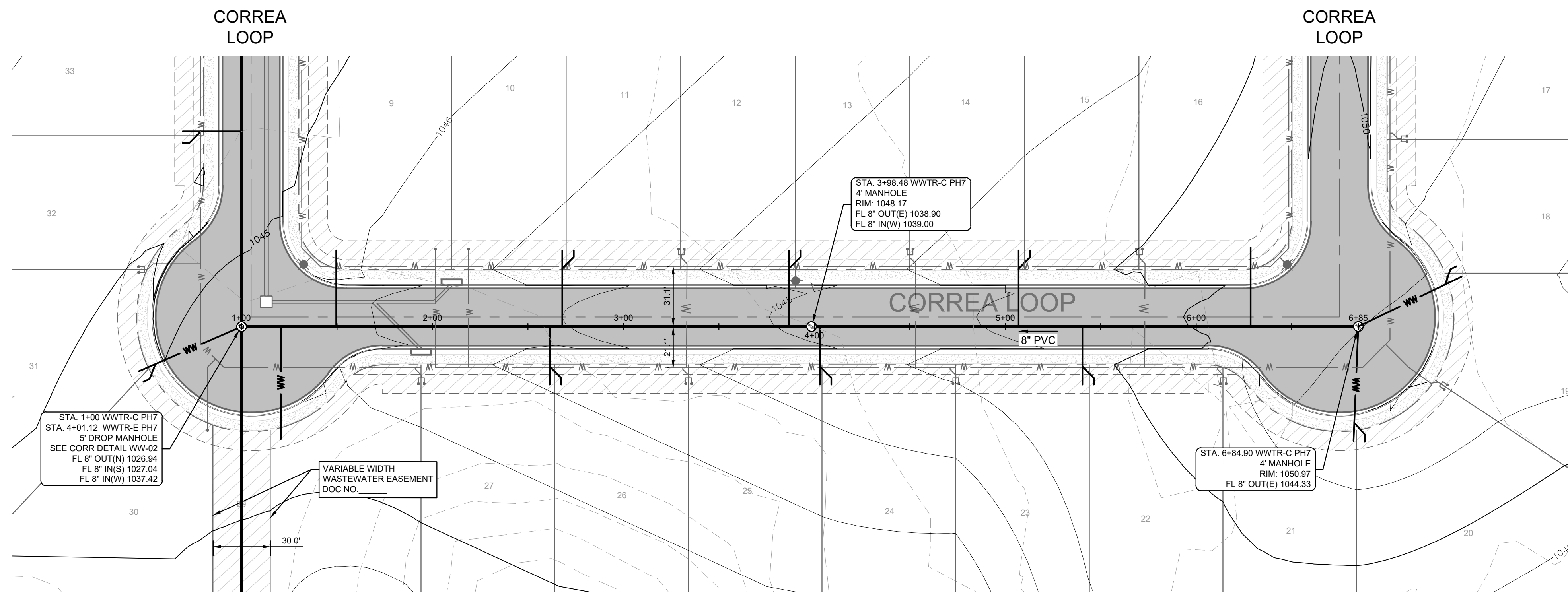
**ELDORADO
SUBDIVISION
PHASE 7**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

61 OF 86

2025-5-CON

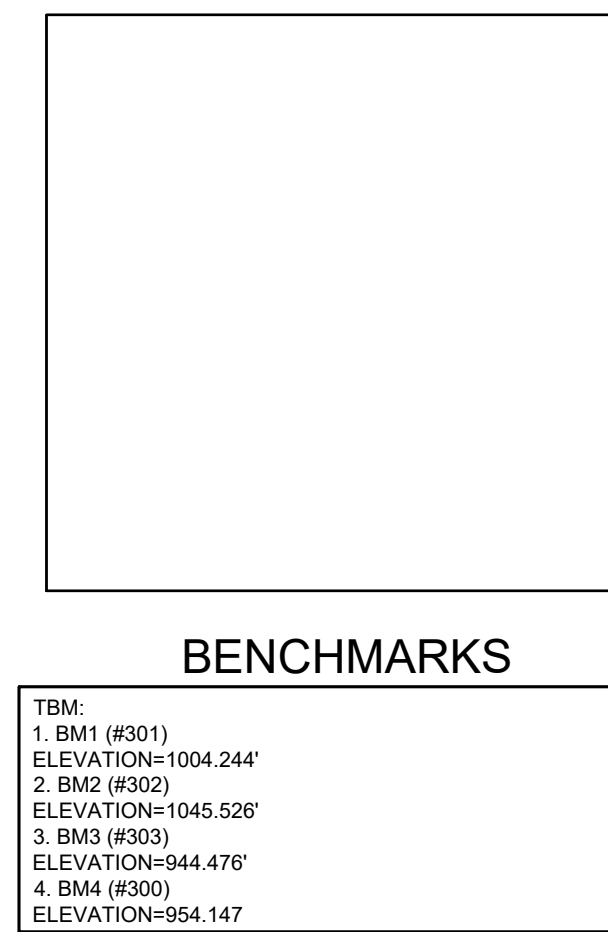
Plotted By: Soia, Nathalie Date: November_04_2025 05:03:14pm File Path: C:\SAU-Civil\069288000_Eldorado - Liberty Hill Single Family\CA04\PH7\FUBLC CONSTRUCTION\PlanSheets\NC - Wastewater_P&P Sheets.dwg
This document is the property of Krimly-Horn and Associates, Inc. and is loaned to you for your use only. It is to be used for the project and purpose stated on the title block. It is not to be reproduced, copied, or distributed in any form without written authorization and obligation by Krimly-Horn and Associates, Inc. shall be without liability to Krimly-Horn and Associates, Inc.



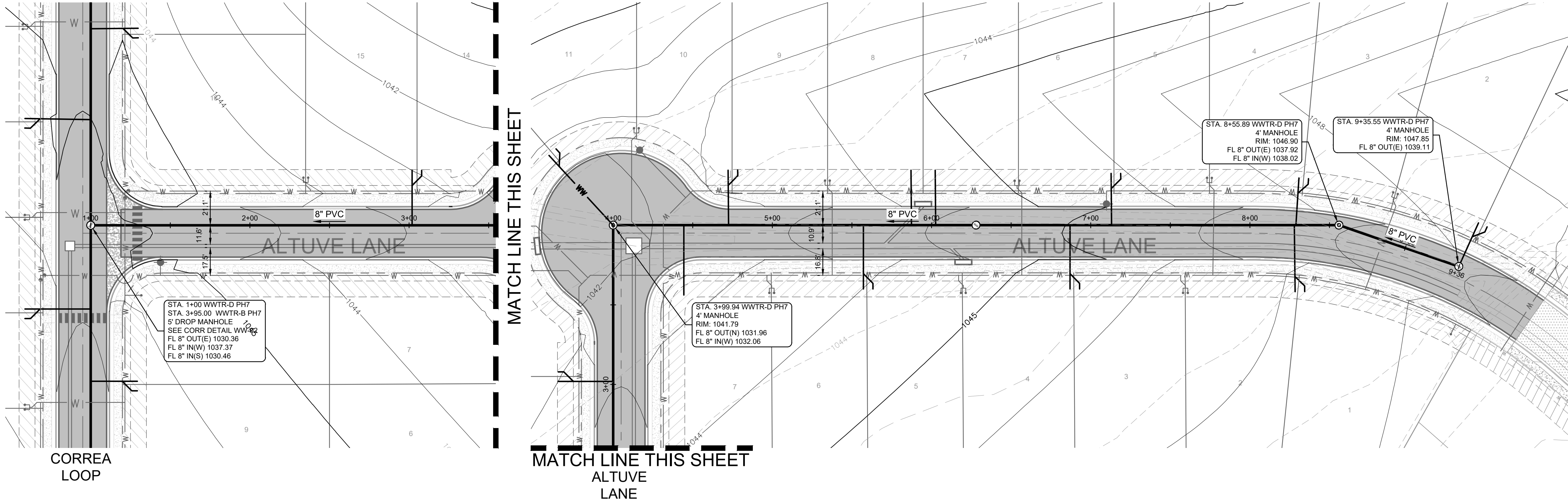
Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WVTR-A PH7	Max	6.50%	8.83 ft/s	9.39 ft/s	9.90 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WVTR-B PH7	Max	0.93%	3.34 ft/s	3.56 ft/s	3.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WVTR-C PH7	Max	1.86%	4.72 ft/s	5.03 ft/s	5.30 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WVTR-D PH7	Max	1.36%	4.04 ft/s	4.30 ft/s	4.53 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WVTR-E PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
WVTR-F PH7	Max	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s
	Min	0.50%	2.45 ft/s	2.61 ft/s	2.75 ft/s



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

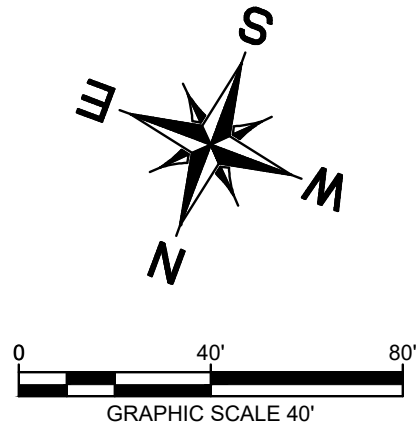
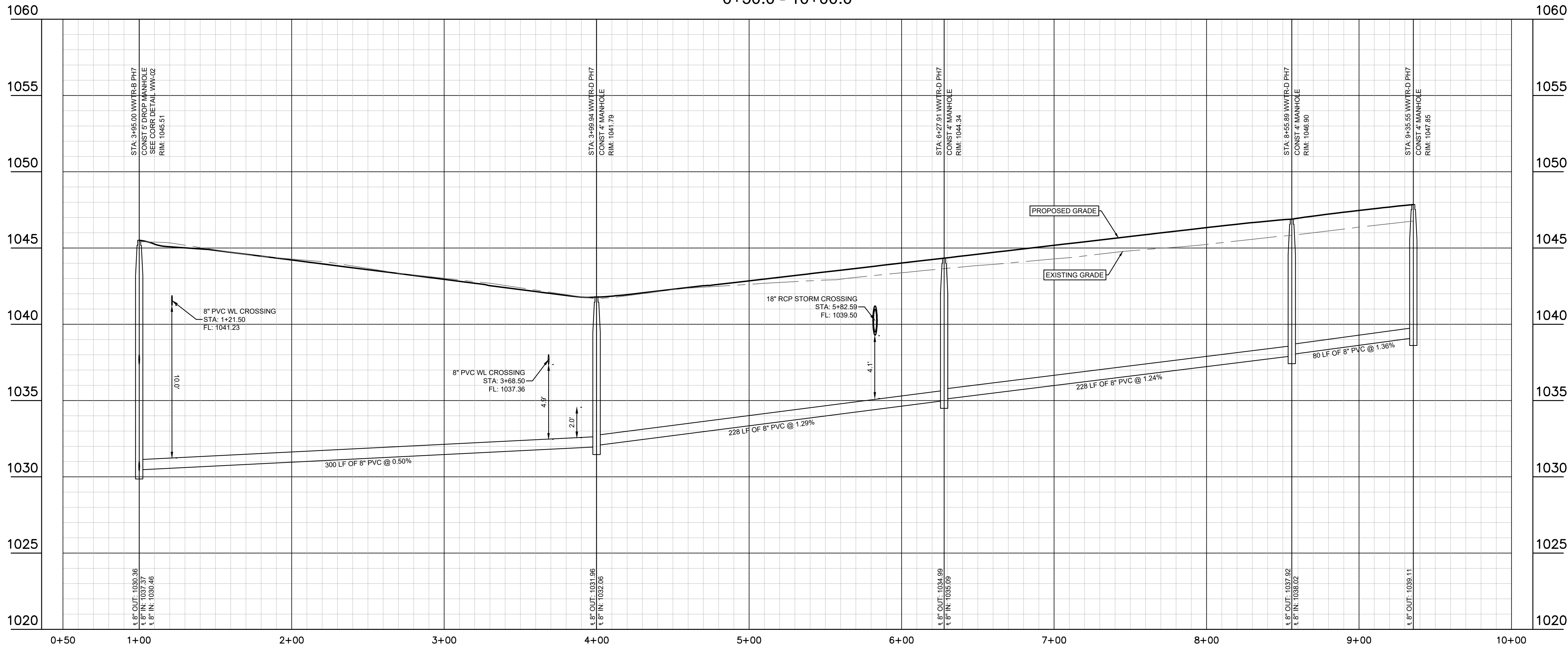


Plotted By: Soles, Nathalie Date: November 04, 2025 05:03:52pm File Path: K:\SAU_Civil\069286000 Eldorado - Liberty Hill Single Family\069286000 PH7\PUBLIC CONSTRUCTION\PlanSheets\0 - Wastewater P&P Sheets.dwg
This document, together with the concepts and designs presented herein, is intended only for 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.



PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

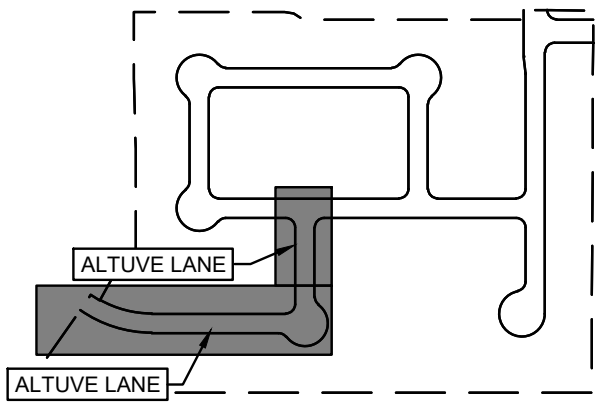
WWTR-D PH7
0+50.0 - 10+00.0



LEGEND

---	PROPERTY LINE
---	PROPOSED STORM LINE
---	PROPOSED WATER LINE
---	PROPOSED FORCE MAIN LINE
---	PROPOSED STORM INLET
---	PROPOSED FIRE HYDRANT
---	EXISTING WATER LINE
---	EXISTING WASTEWATER LINE
---	EXISTING FORCE MAIN LINE
---	EXISTING STORM LINE

KEY MAP SCALE 1:500



Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max Min	6.50% 0.50%	8.83 ft/s 2.45 ft/s	9.39 ft/s 2.61 ft/s	9.90 ft/s 2.75 ft/s
WWTR-B PH7	Max Min	0.93% 0.50%	3.34 ft/s 2.45 ft/s	3.56 ft/s 2.61 ft/s	3.75 ft/s 2.75 ft/s
WWTR-C PH7	Max Min	1.86% 0.50%	4.72 ft/s 2.45 ft/s	5.03 ft/s 2.61 ft/s	5.30 ft/s 2.75 ft/s
WWTR-D PH7	Max Min	1.36% 0.50%	4.04 ft/s 2.45 ft/s	4.30 ft/s 2.61 ft/s	4.53 ft/s 2.75 ft/s
WWTR-E PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s
WWTR-F PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s

BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'



Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE	AS SHOWN	BLG	NS	BLG
11/04/2025									

WASTEWATER P&P
- LINE D

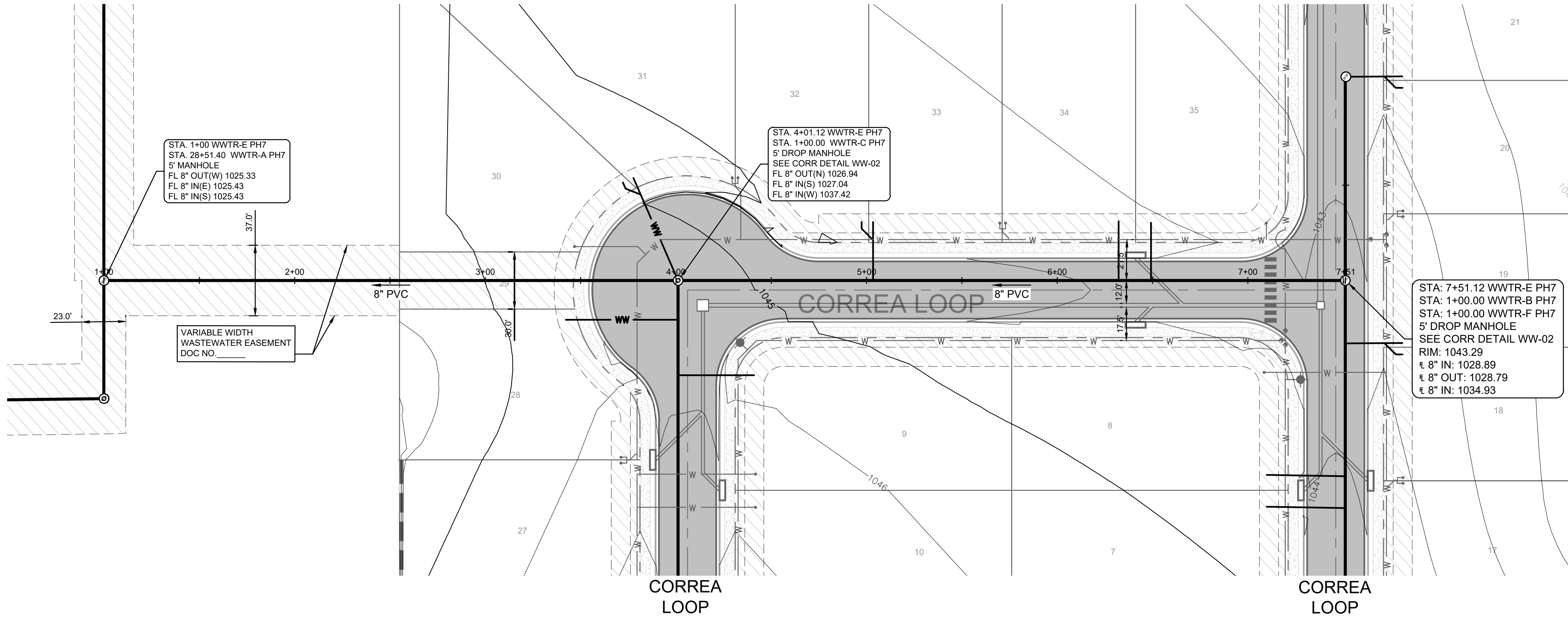
ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

64 OF 86

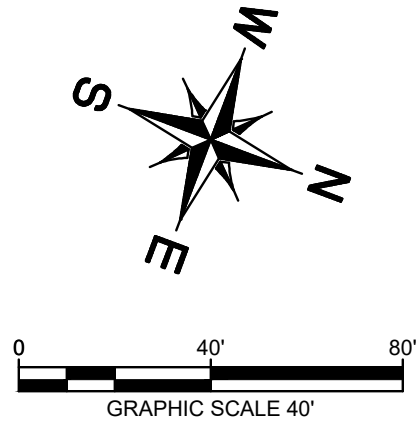
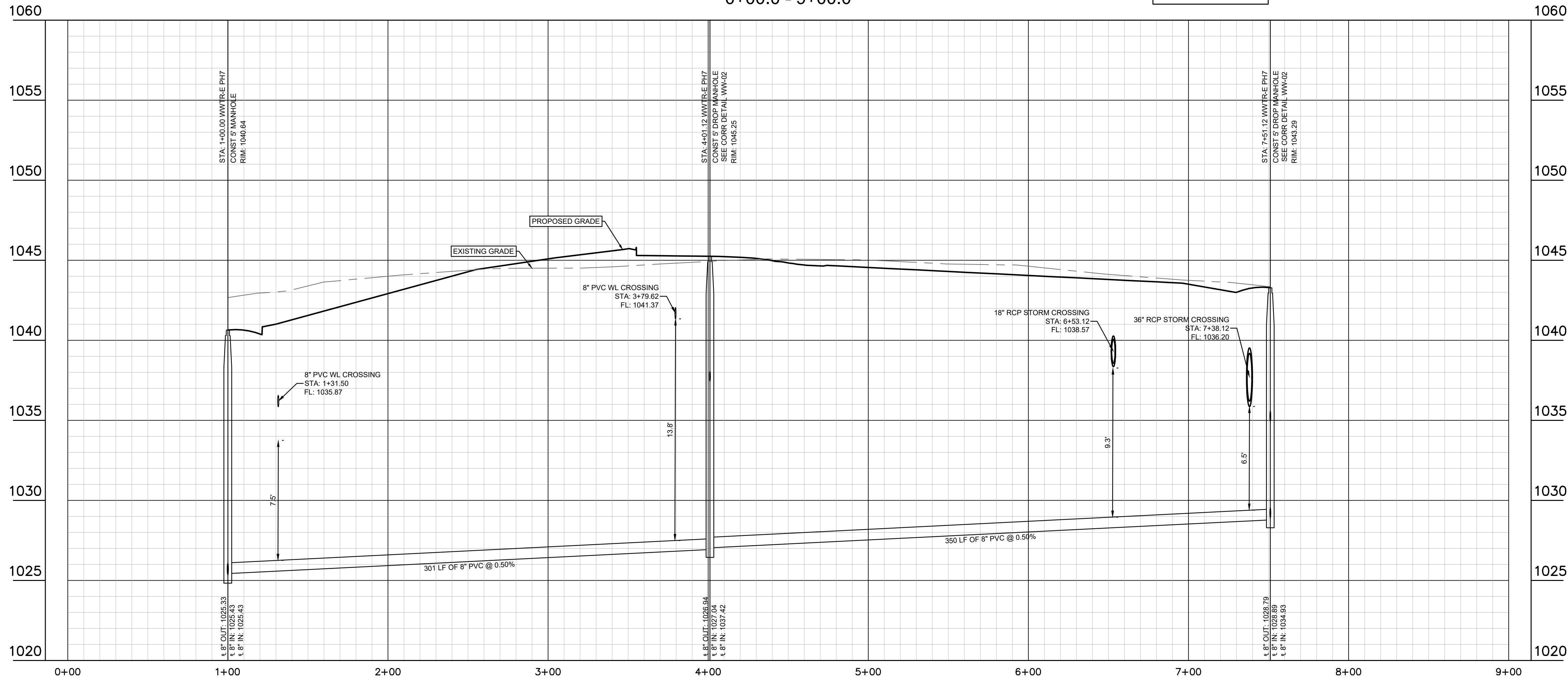
2025-5-CON

Plotted By: Soias, Nathalie - Date: November 04, 2025 05:04:04pm File Path: K:\SAU_Civil\069286000_Eldorado - Liberty Hill Single Family\Coa\PH7\PUBLIC CONSTRUCTION\PlanSheets\Co - Wastewater P&P Sheets.dwg
This document, together with the concepts and designs presented herein, is 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.



WWTR-E PH7
0+00.0 - 9+00.0

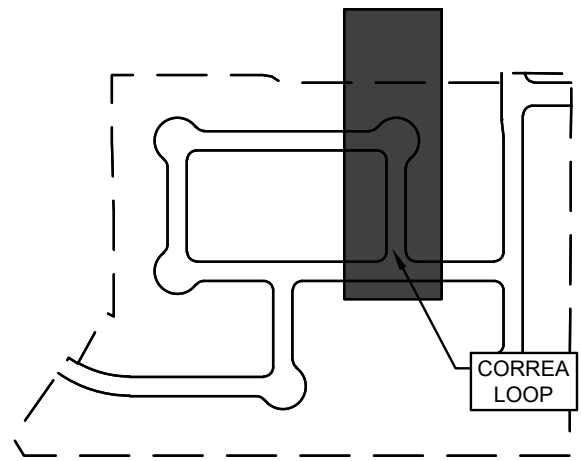
PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL



LEGEND

---	PROPERTY LINE
---	PROPOSED STORM LINE
W	PROPOSED WATER LINE
FM	PROPOSED FORCE MAIN LINE
□	PROPOSED STORM INLET
+	PROPOSED FIRE HYDRANT
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
FM	EXISTING FORCE MAIN LINE
---	EXISTING STORM LINE

KEY MAP SCALE 1:500



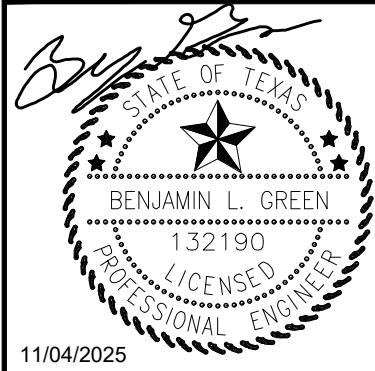
Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH7	Max Min	6.50% 0.50%	8.83 ft/s 2.45 ft/s	9.39 ft/s 2.61 ft/s	9.90 ft/s 2.75 ft/s
WWTR-B PH7	Max Min	0.93% 0.50%	3.34 ft/s 2.45 ft/s	3.56 ft/s 2.61 ft/s	3.75 ft/s 2.75 ft/s
WWTR-C PH7	Max Min	1.86% 0.50%	4.72 ft/s 2.45 ft/s	5.03 ft/s 2.61 ft/s	5.30 ft/s 2.75 ft/s
WWTR-D PH7	Max Min	1.36% 0.50%	4.04 ft/s 2.45 ft/s	4.30 ft/s 2.61 ft/s	4.53 ft/s 2.75 ft/s
WWTR-E PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s
WWTR-F PH7	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.61 ft/s 2.61 ft/s	2.75 ft/s 2.75 ft/s

BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#502)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'



Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	PROJECT NUMBER	DATE	MONTH YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG

WASTEWATER P&P -
LINE E

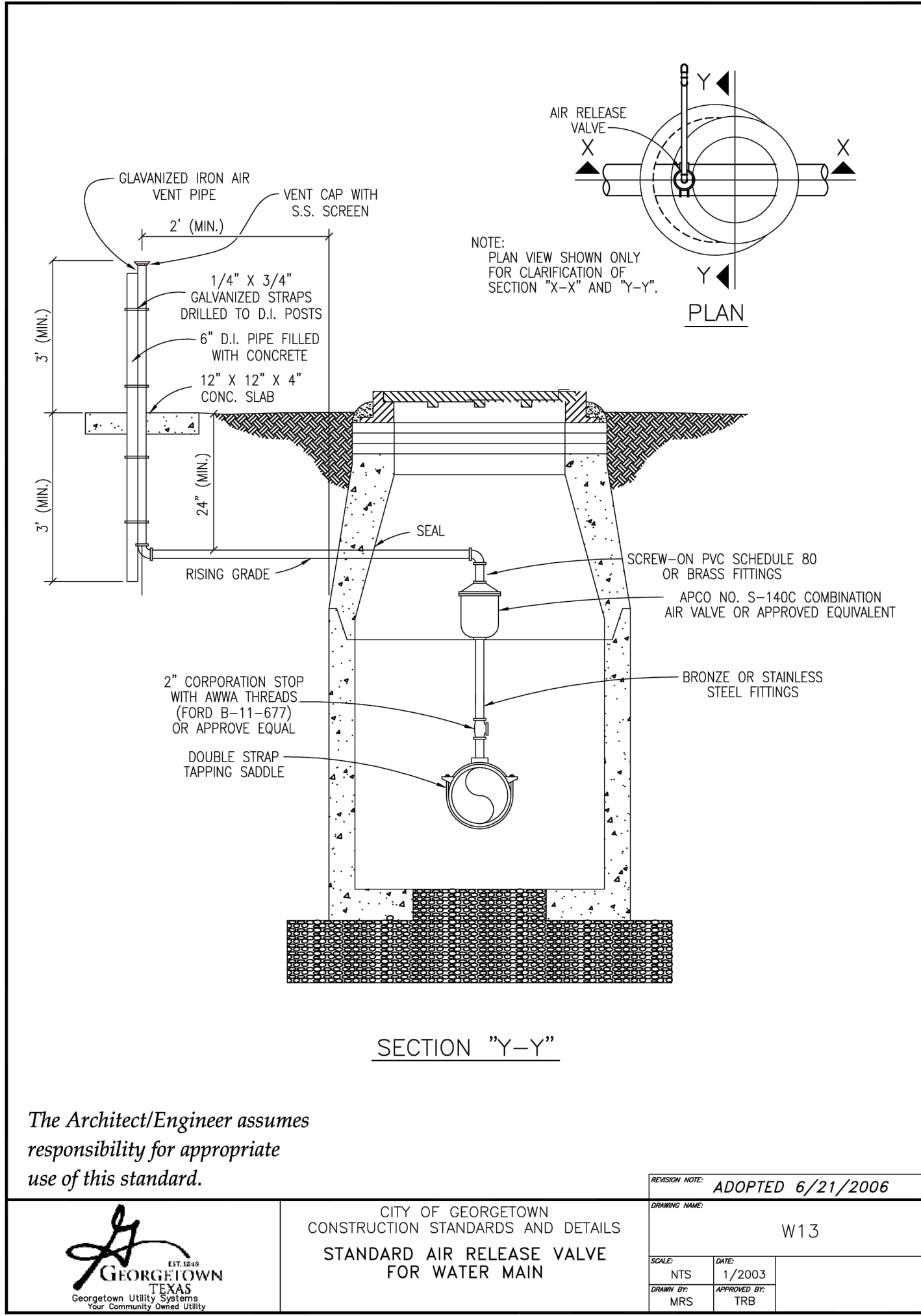
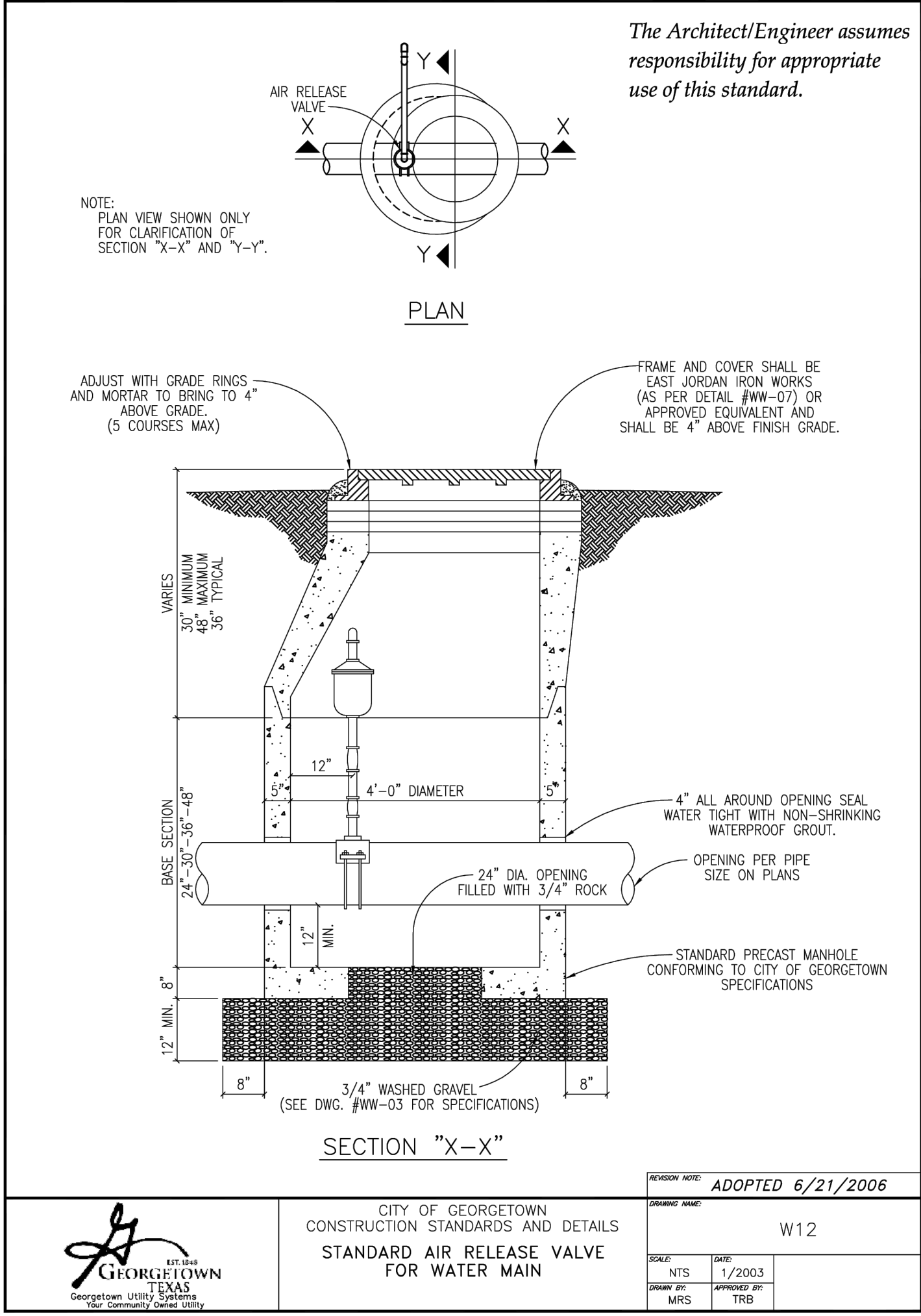
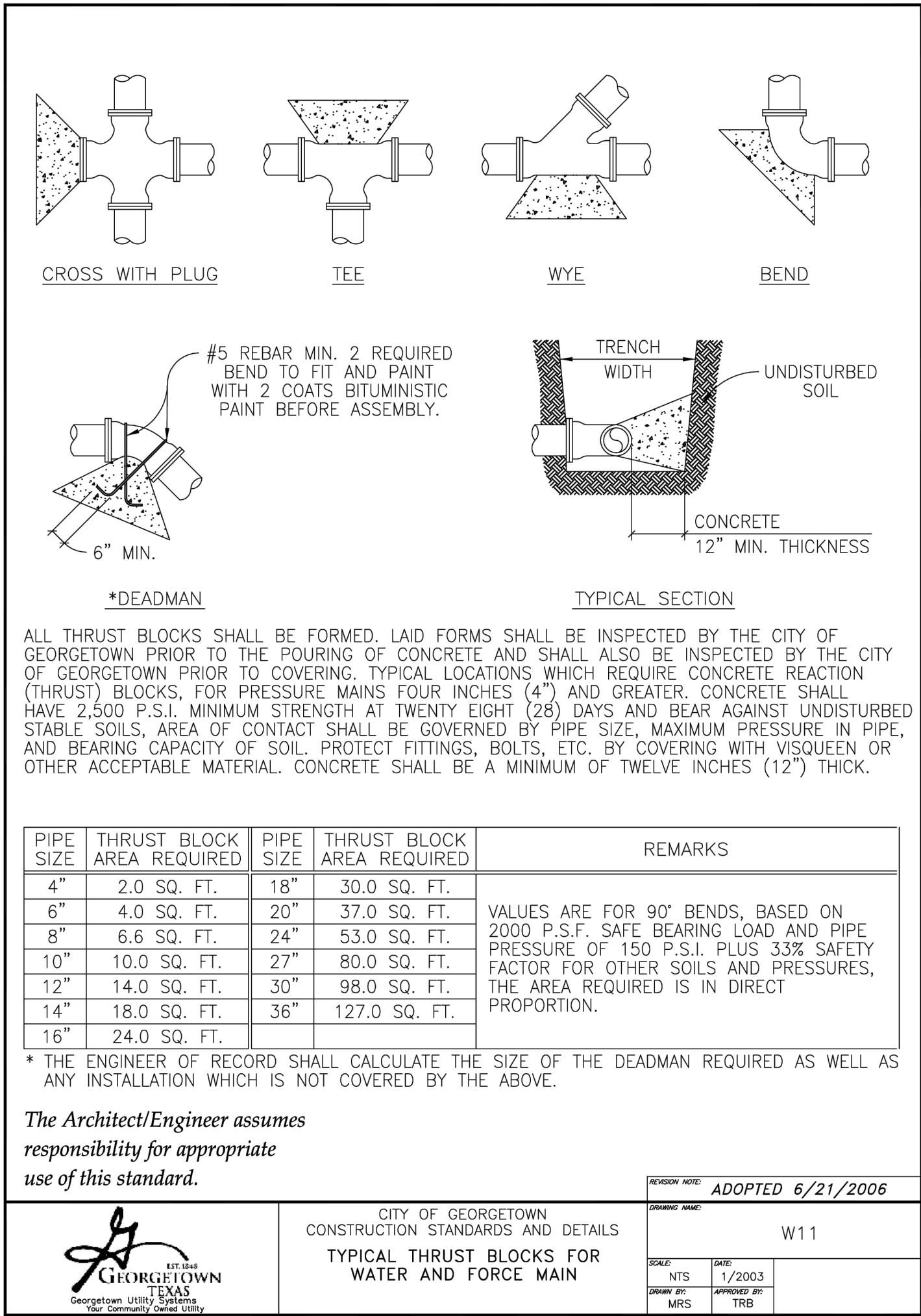
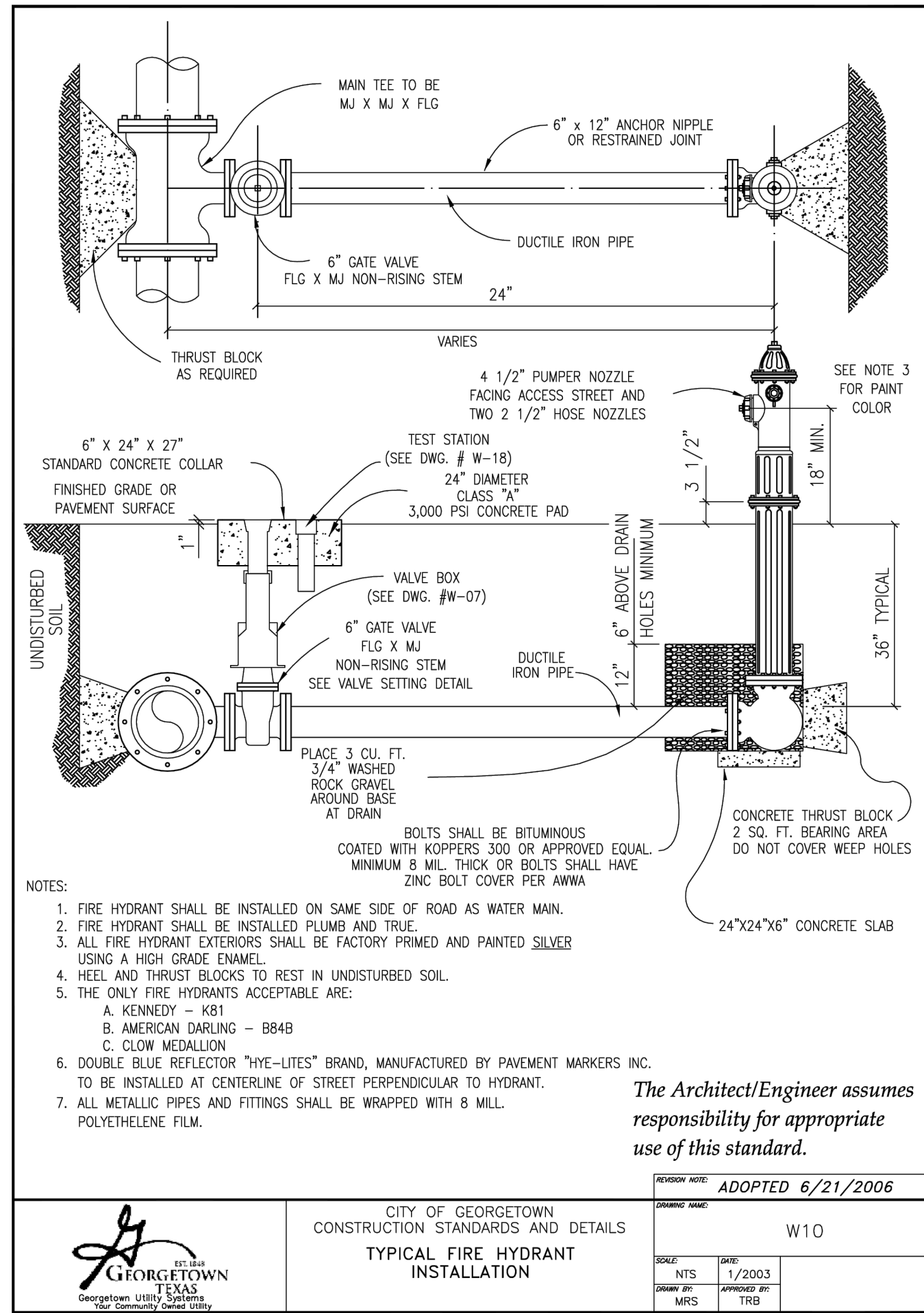
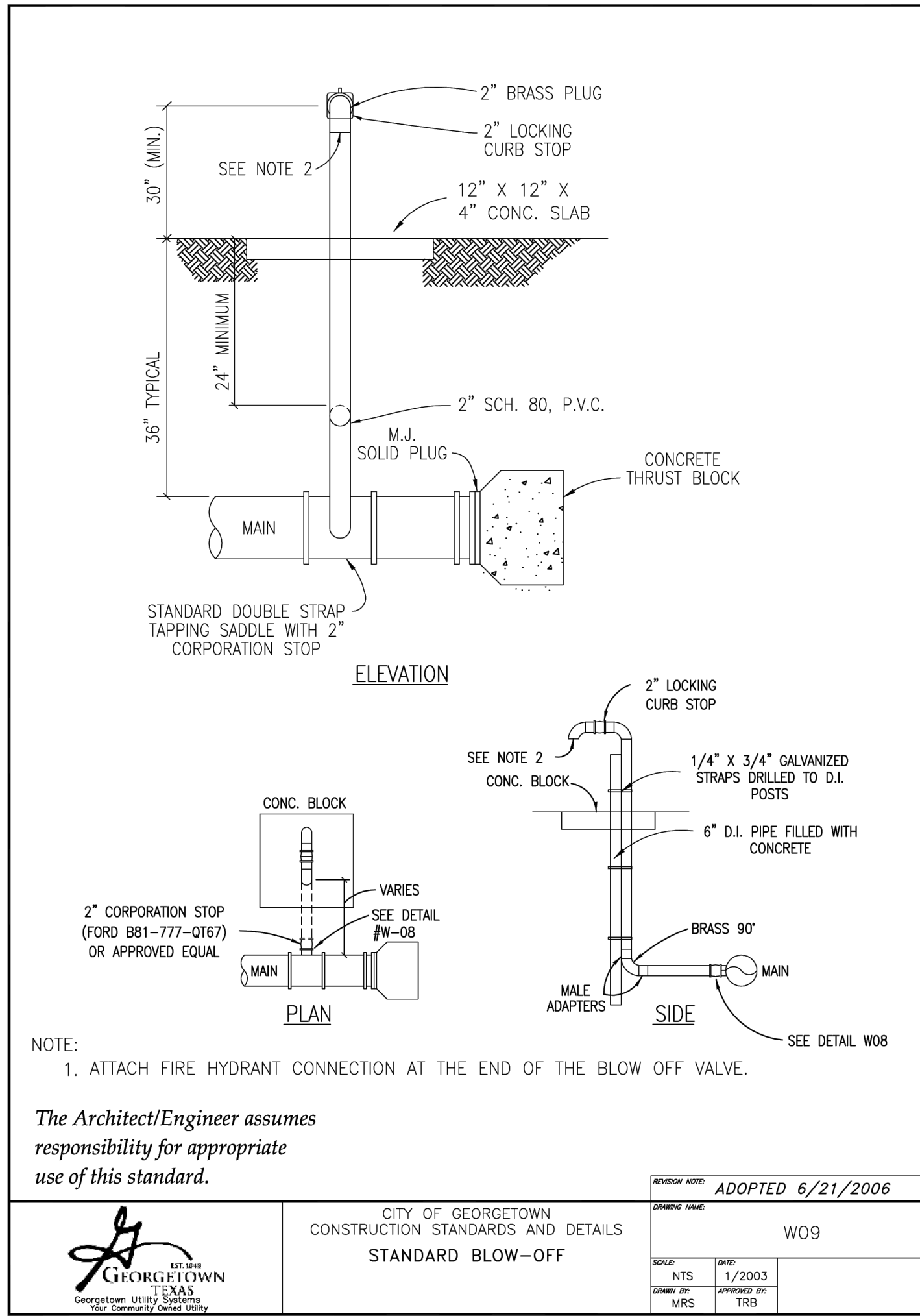
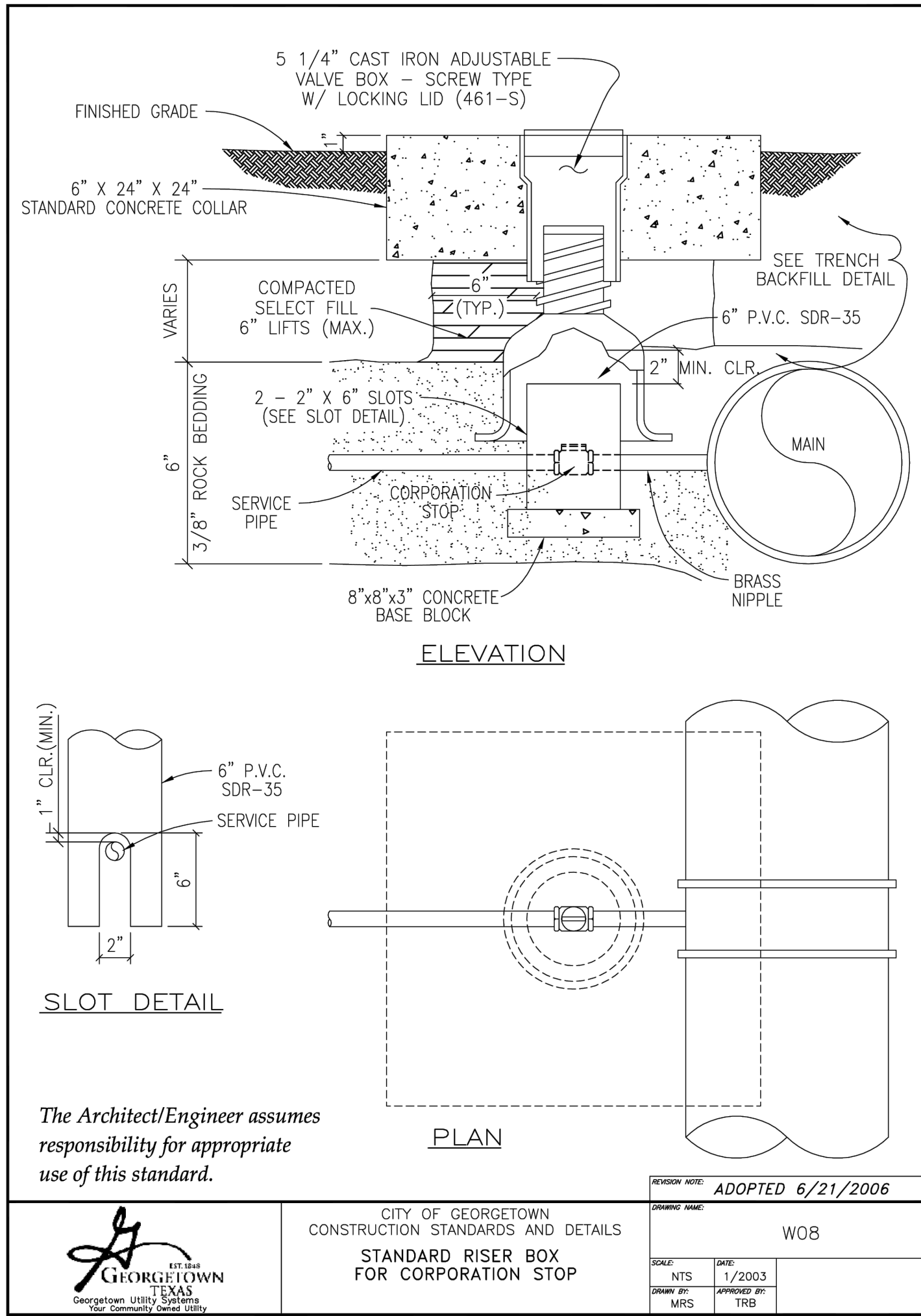
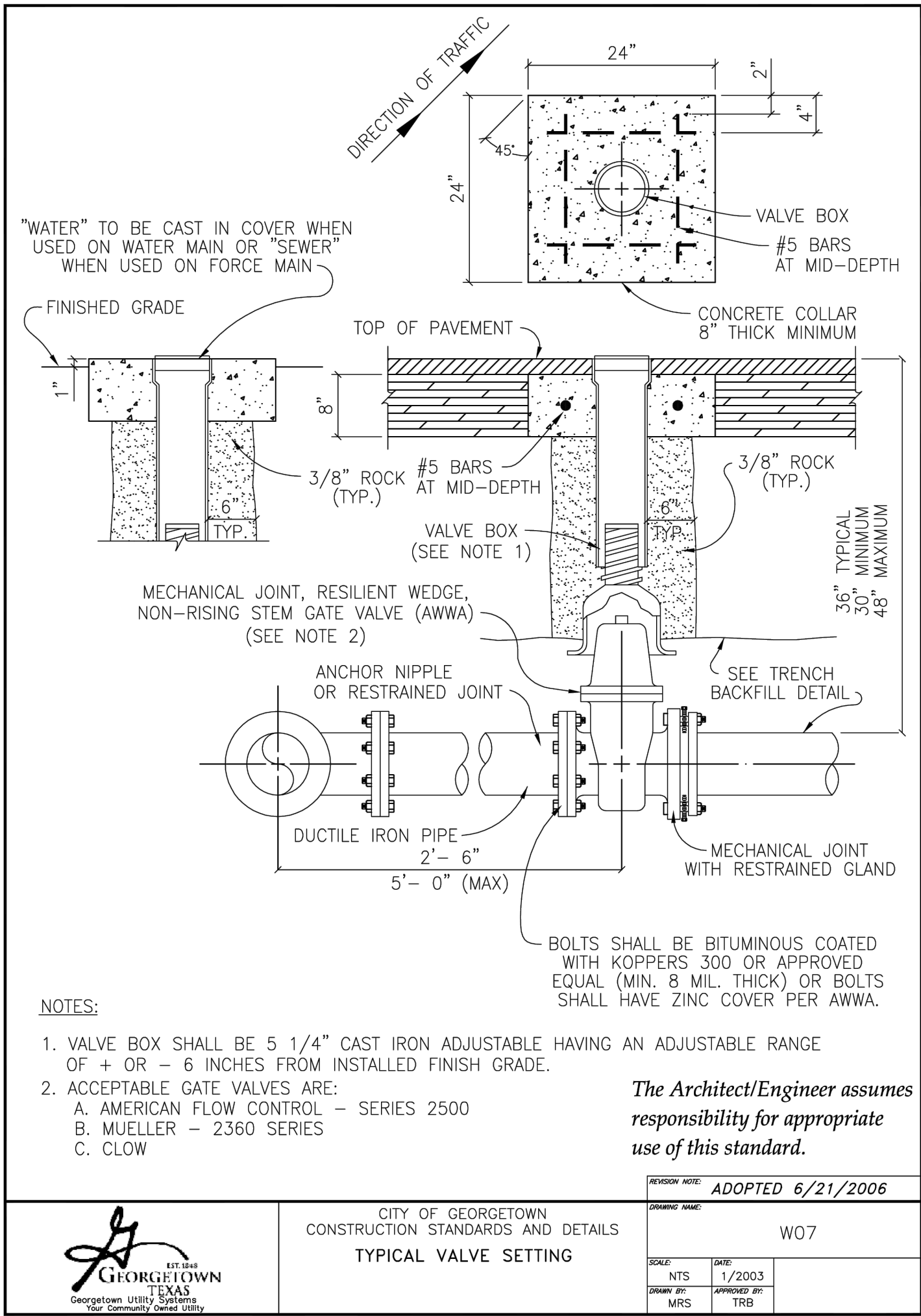
ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

65 OF 86

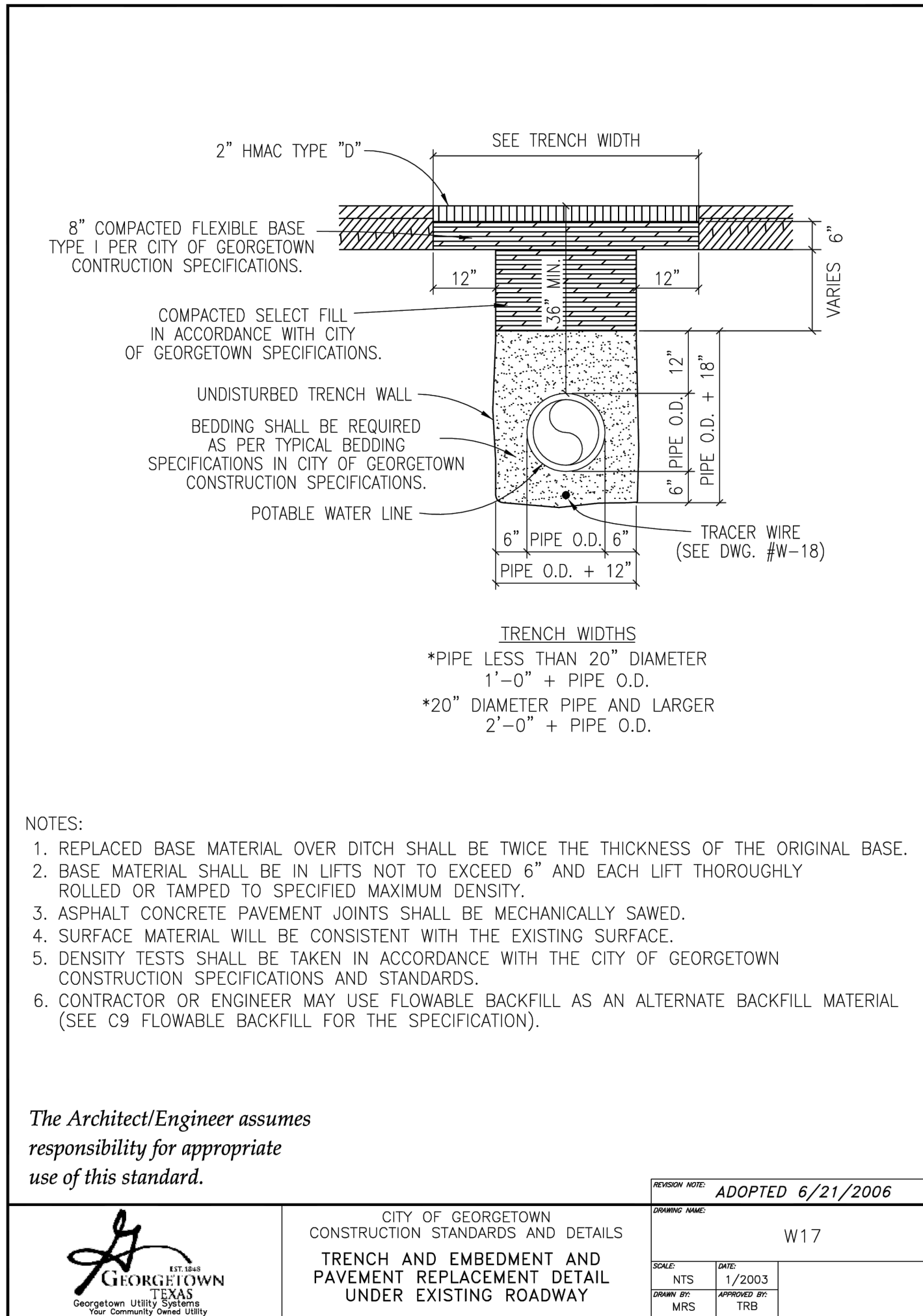
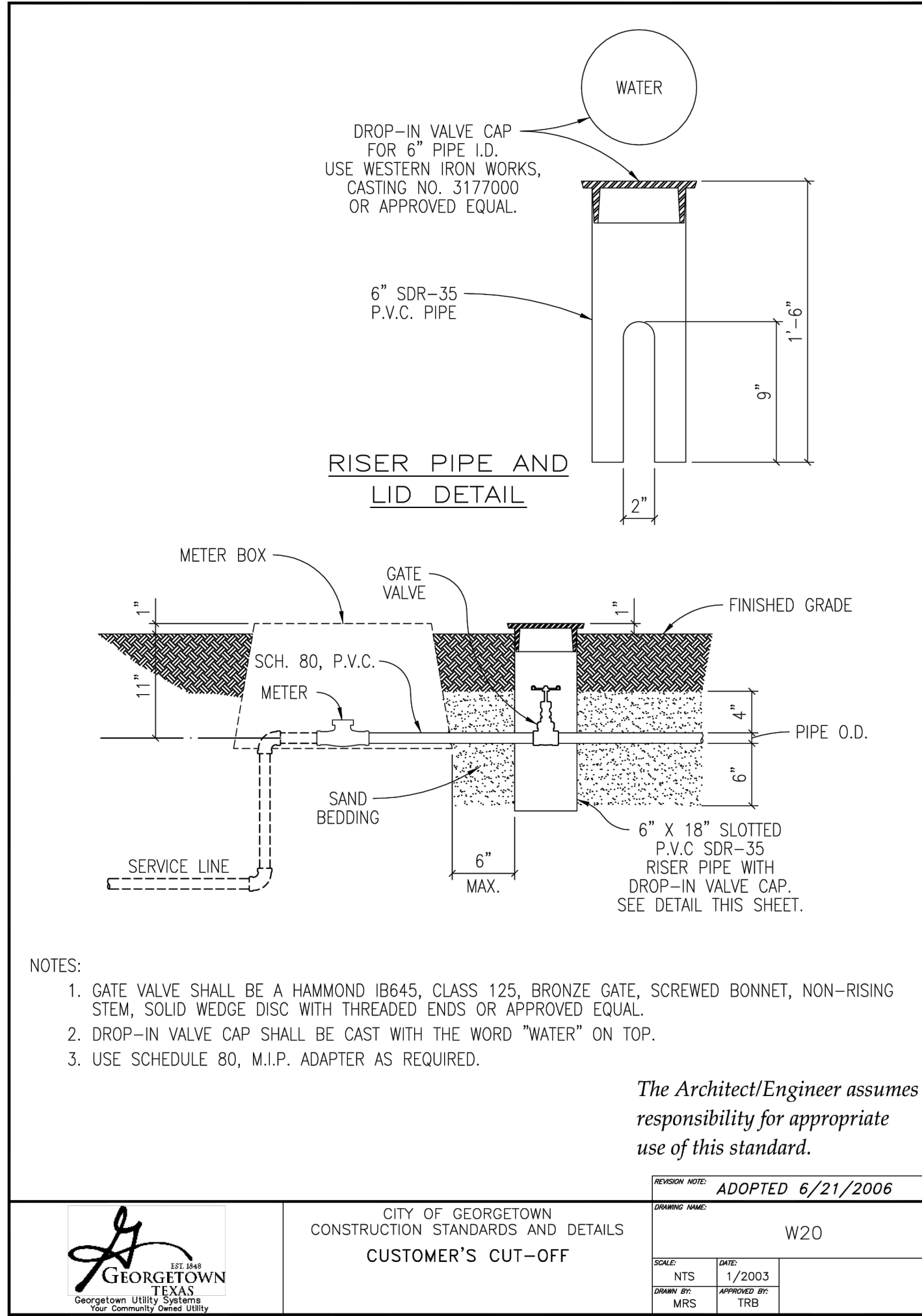
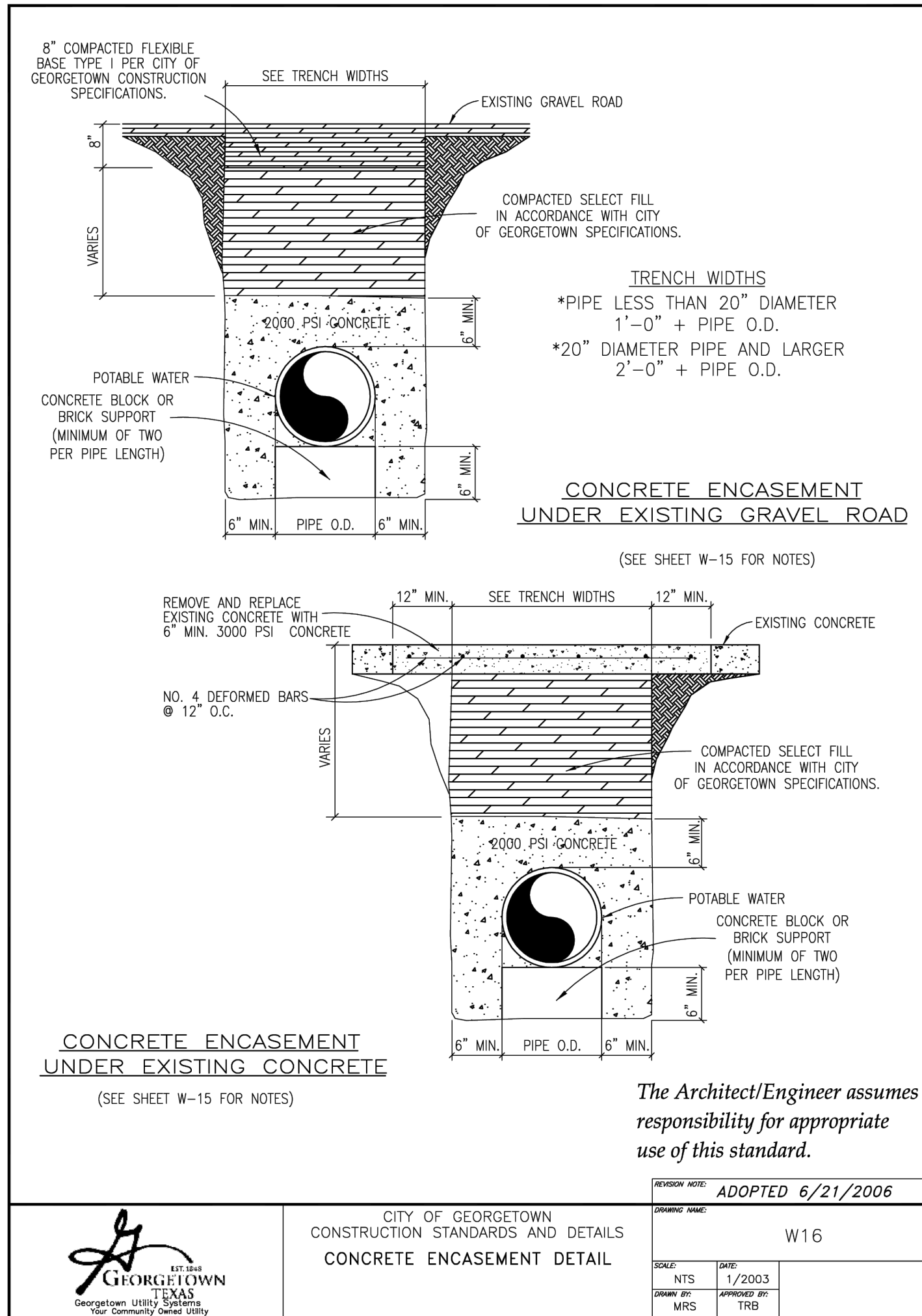
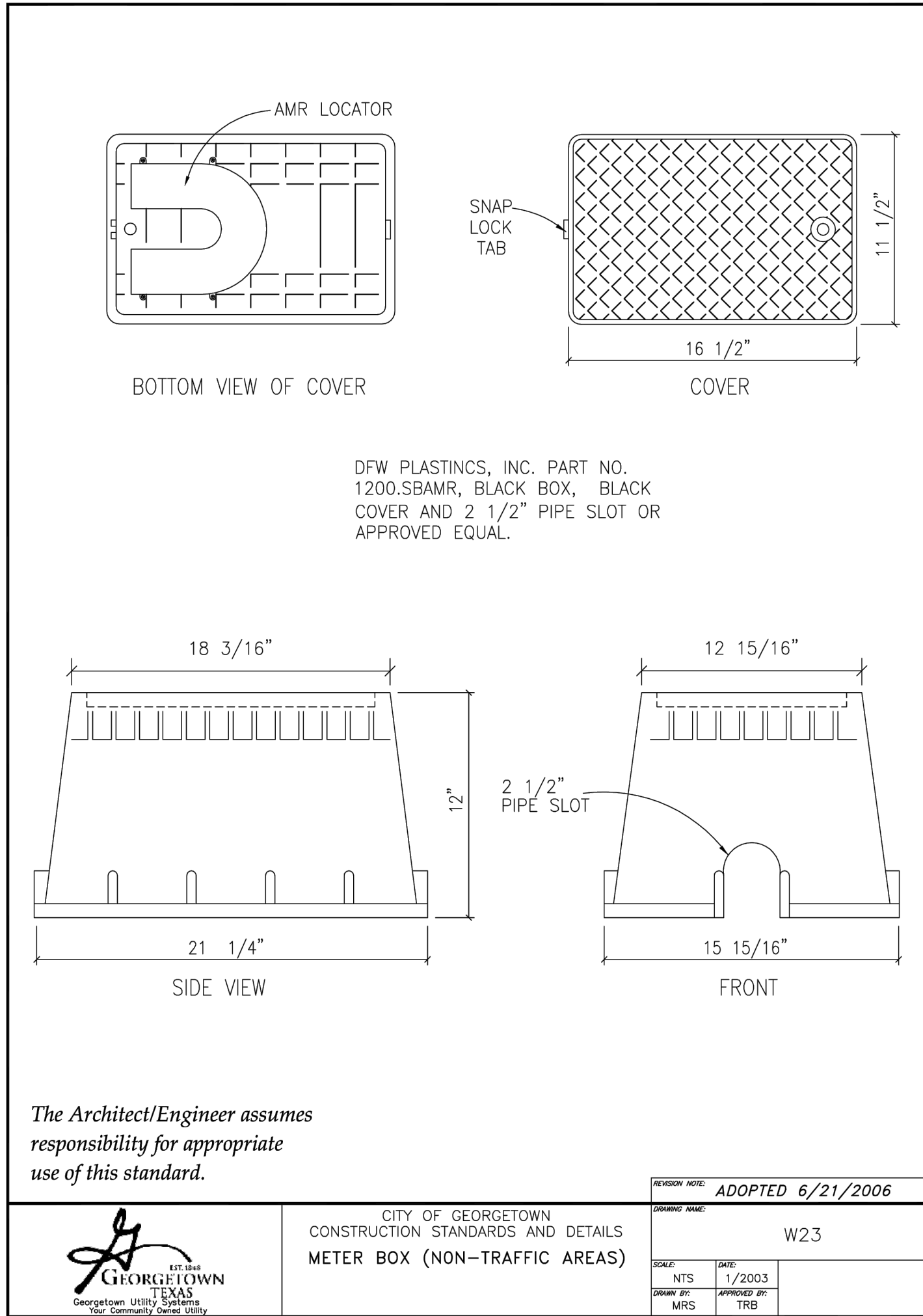
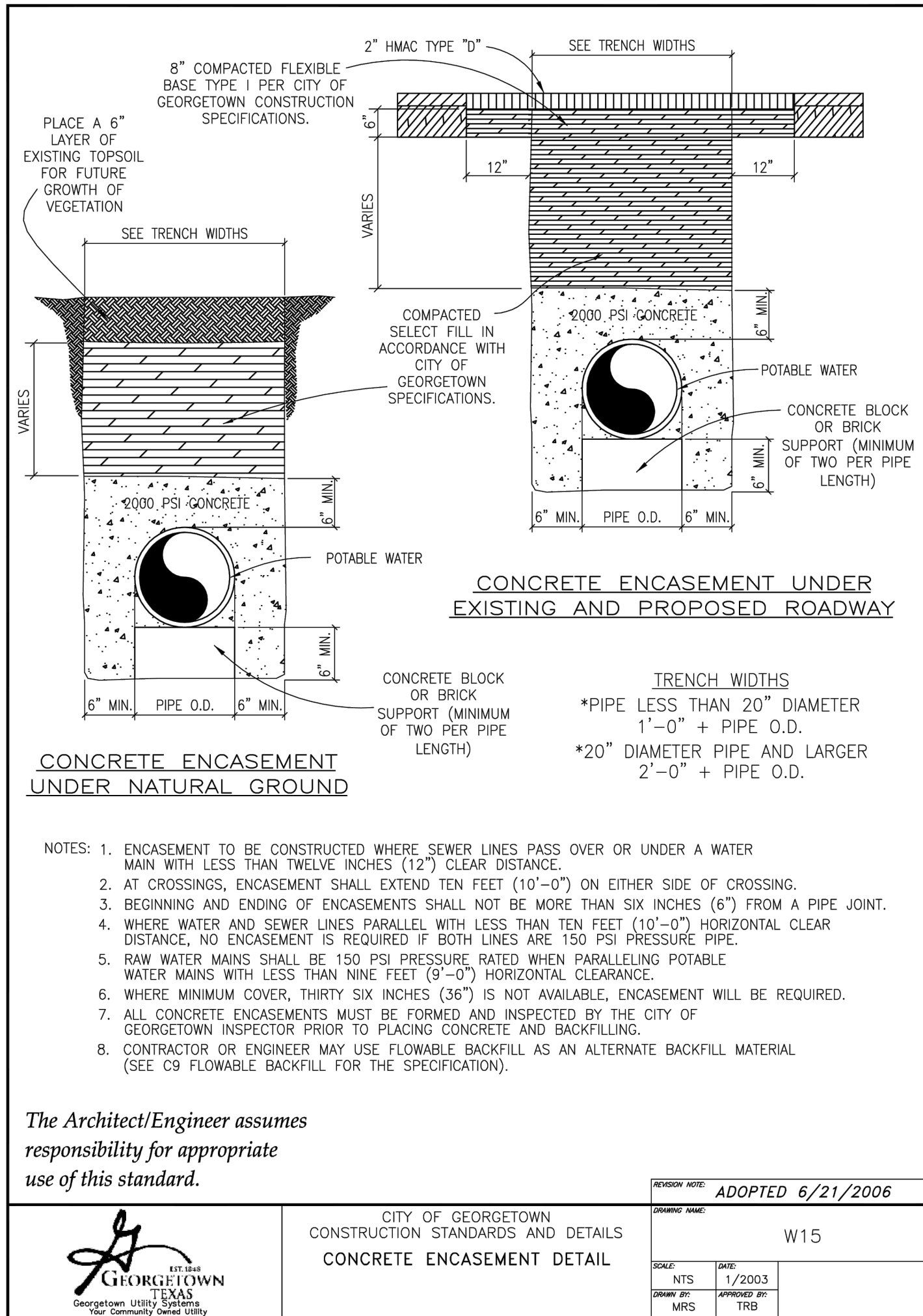
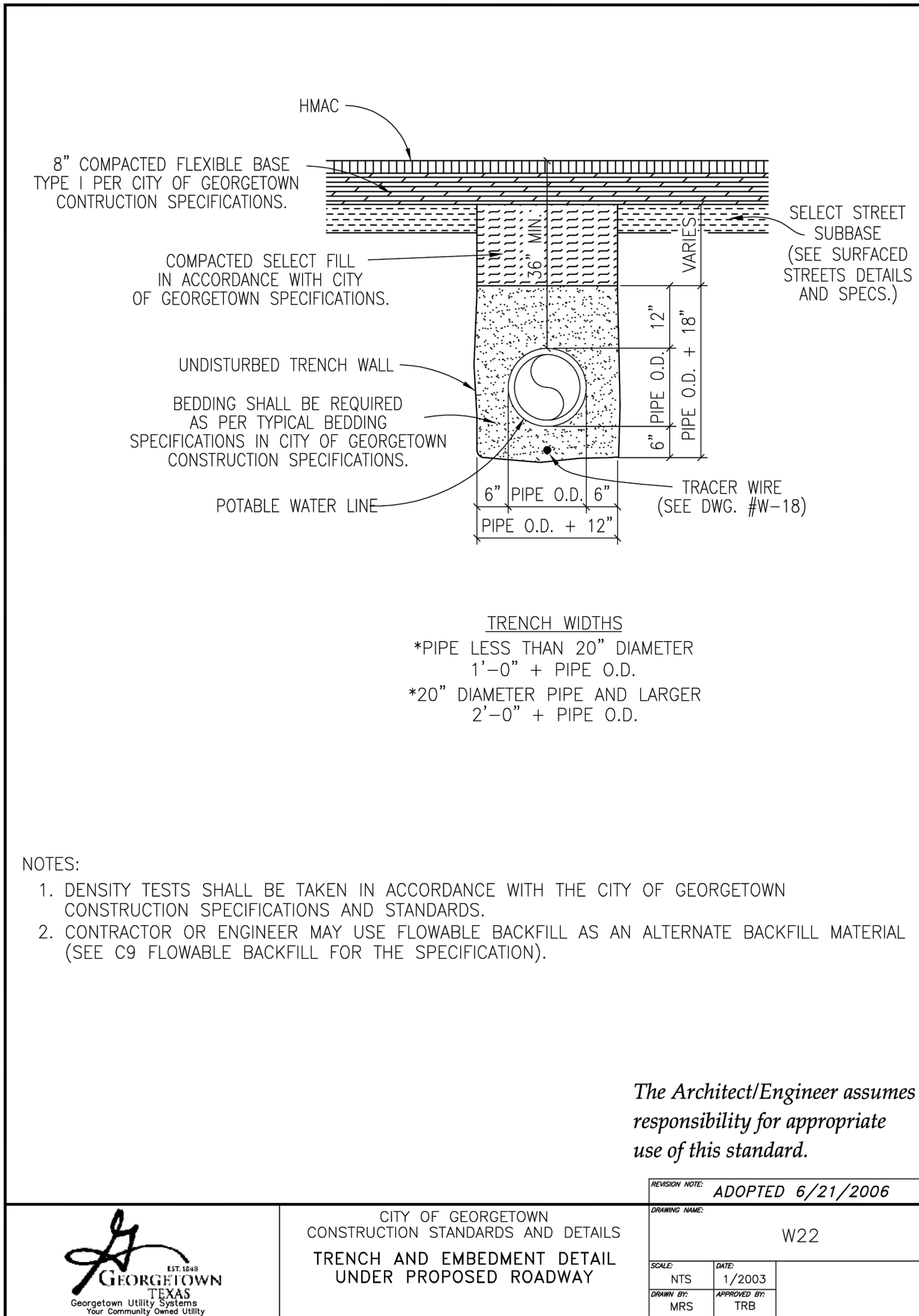
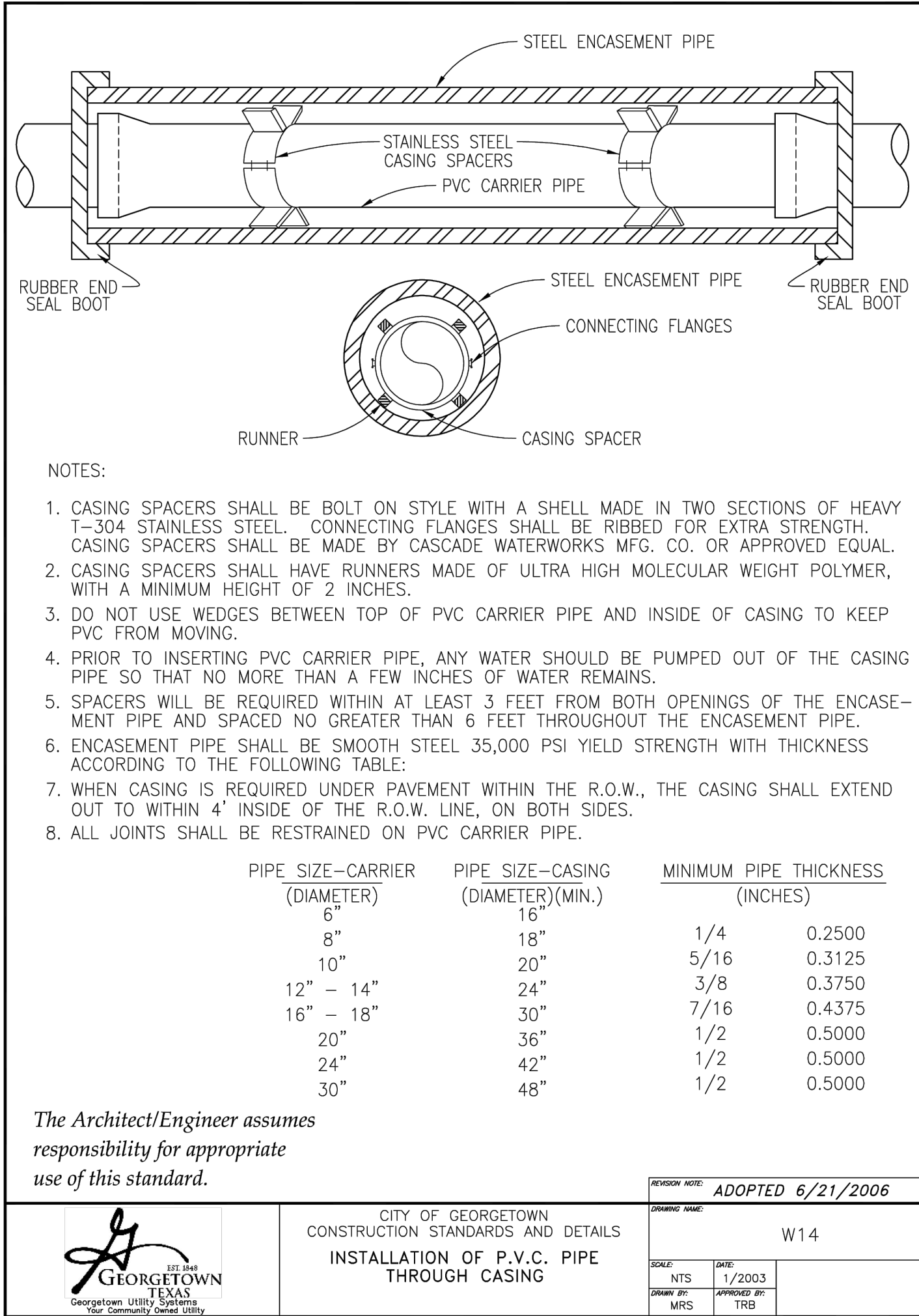
2025-5-CON

Plotted By:Salas, Nathalie Date:November 04, 2025 05:02:18pm File Path:K:\NSAU_Civil\069288000_Eldorado - Liberty Hill Single Family\Gd\PH7-PUBLIC CONSTRUCTION\Plan\Sheets\C - Utility Details.dwg
This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Plotted By: Soles, Nathalie Date: November 04, 2025 05:02:27pm File Path: K:\SAU-Civil\069286000 EIdorado - Liberty Hill Single Family\A-Cad\PH7-PUBLIC CONSTRUCTION\PlanSheets\C - Utility 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.



NO.	REVISIONS	DATE	BY

5301 SOUTHWEST PARKWAY BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE 512-466-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628

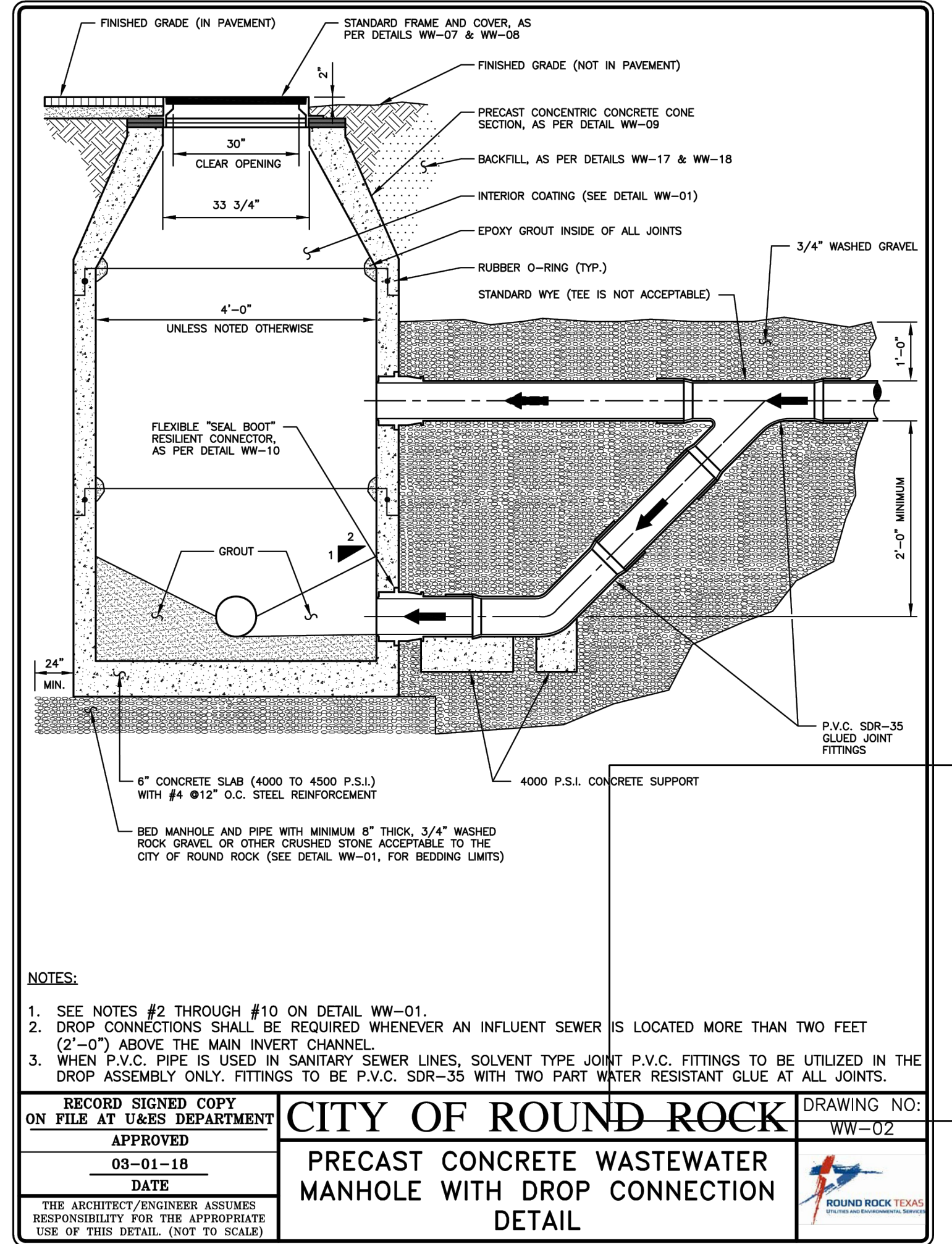
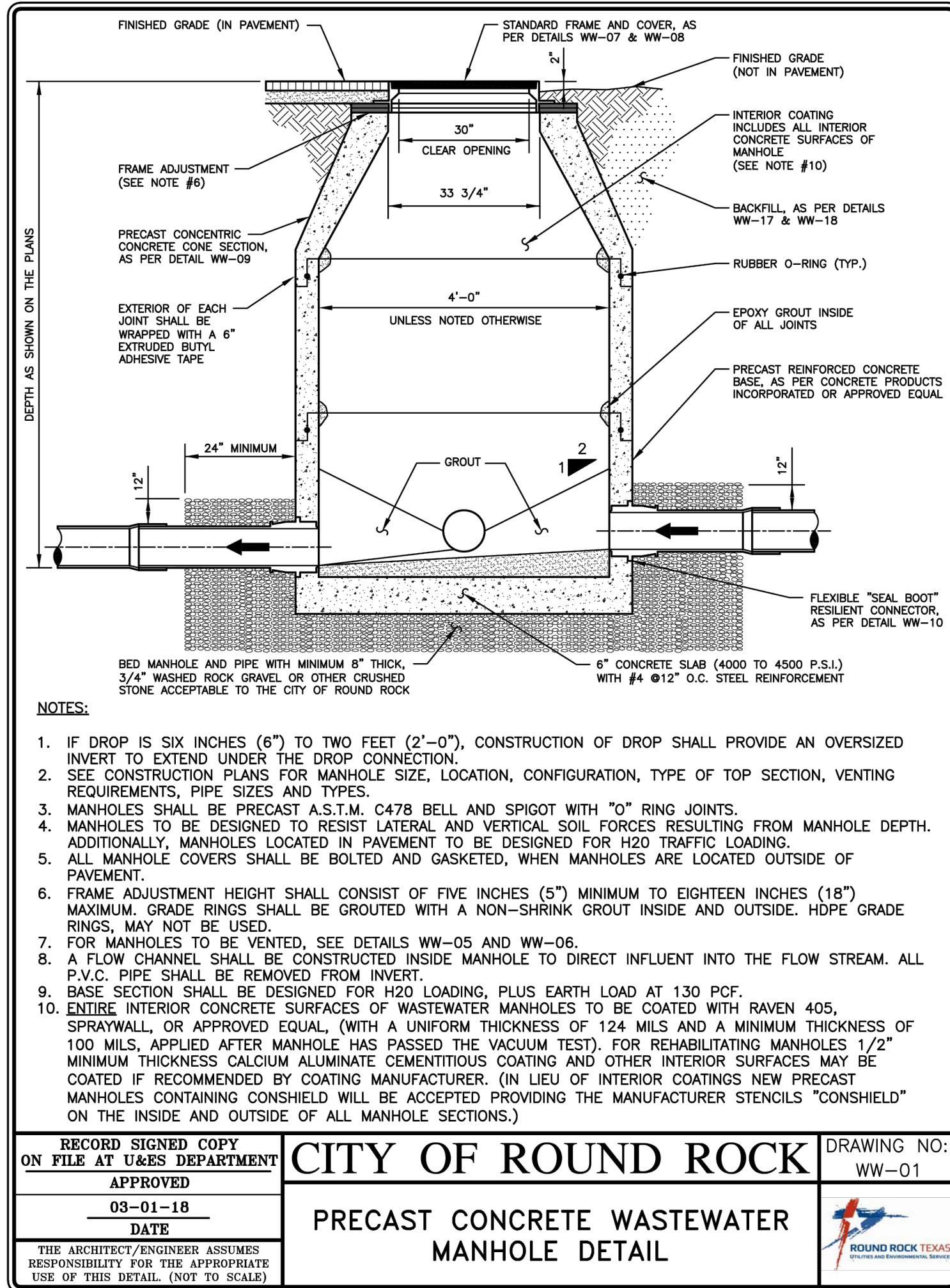
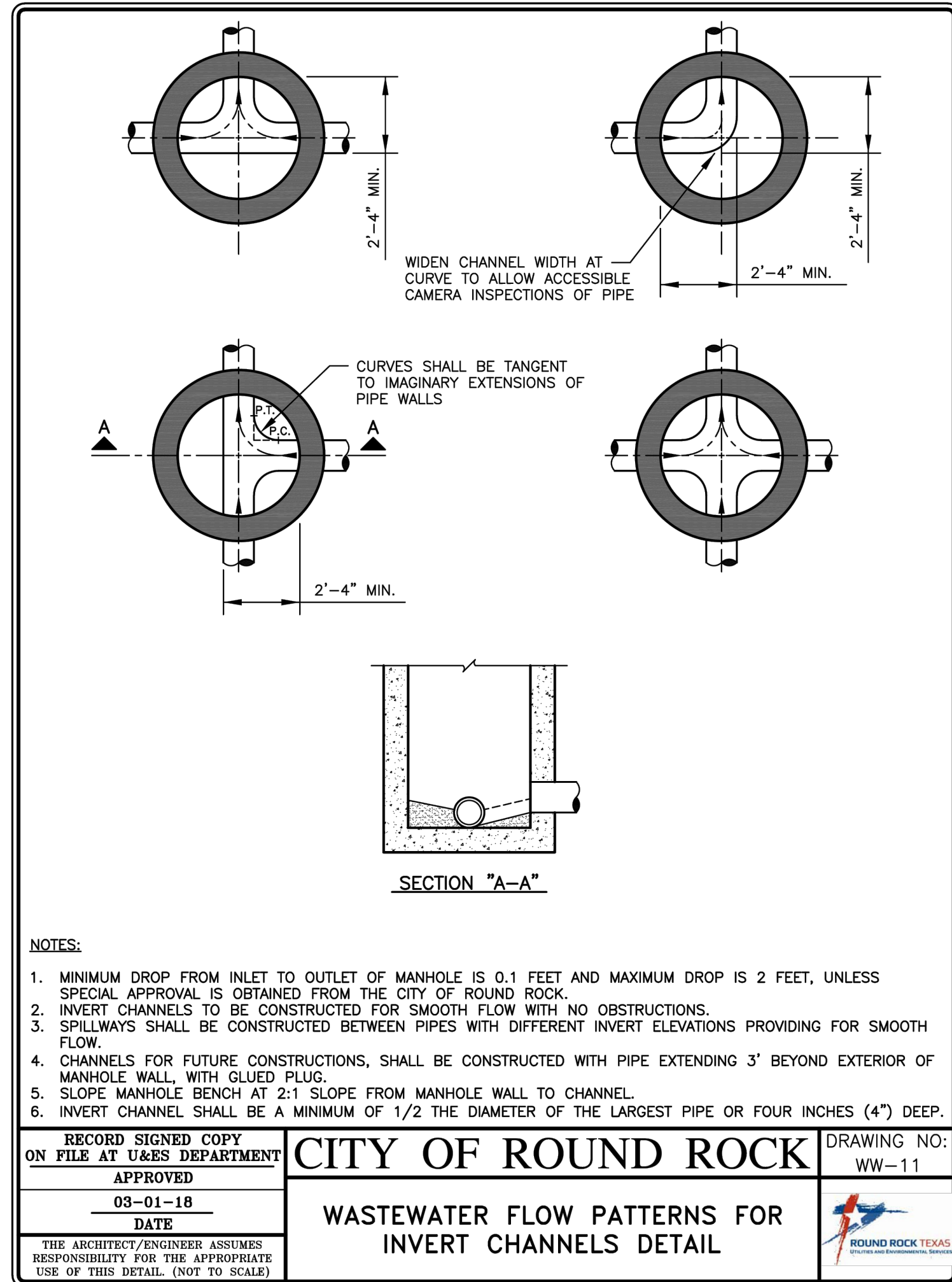
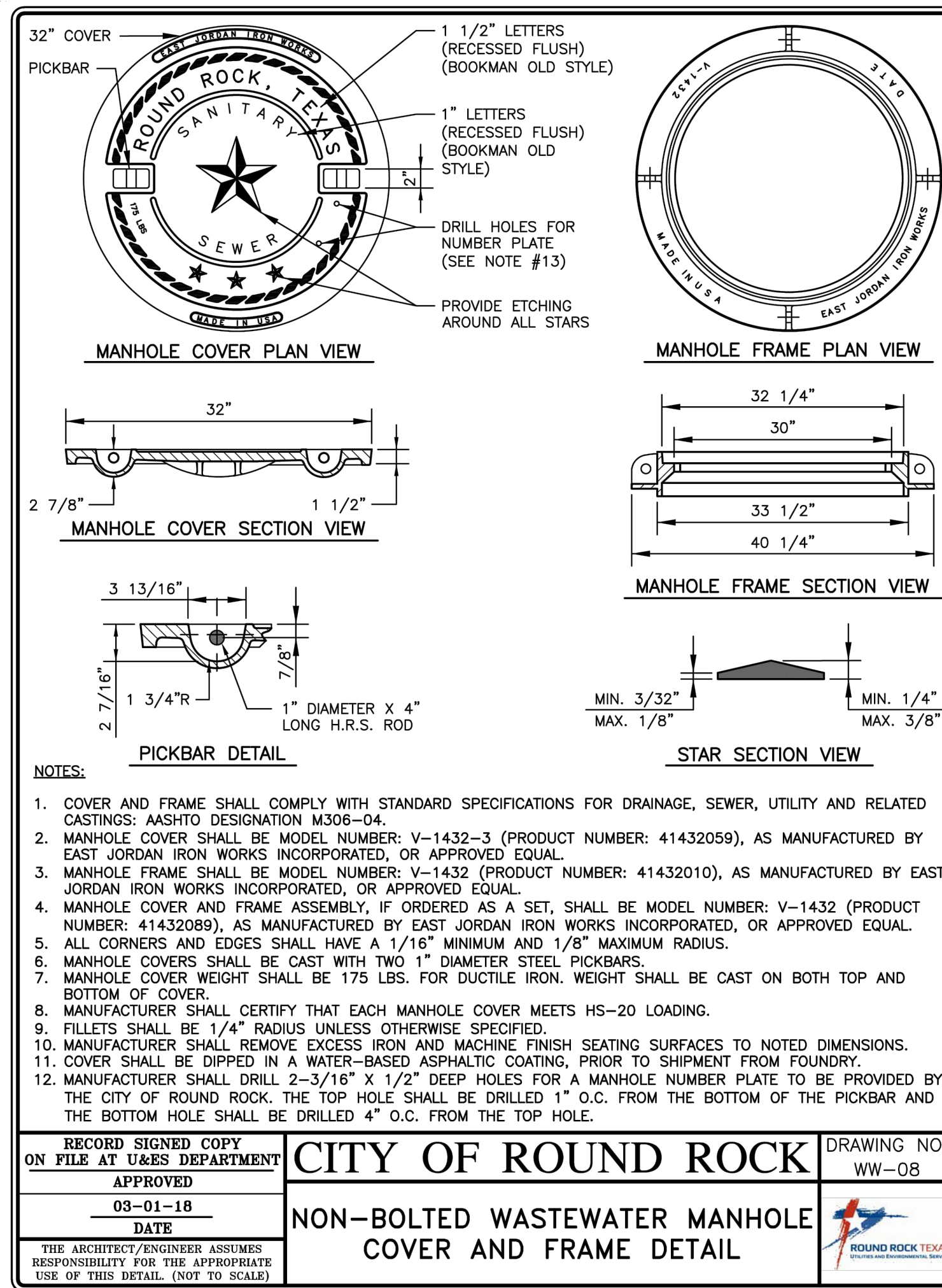
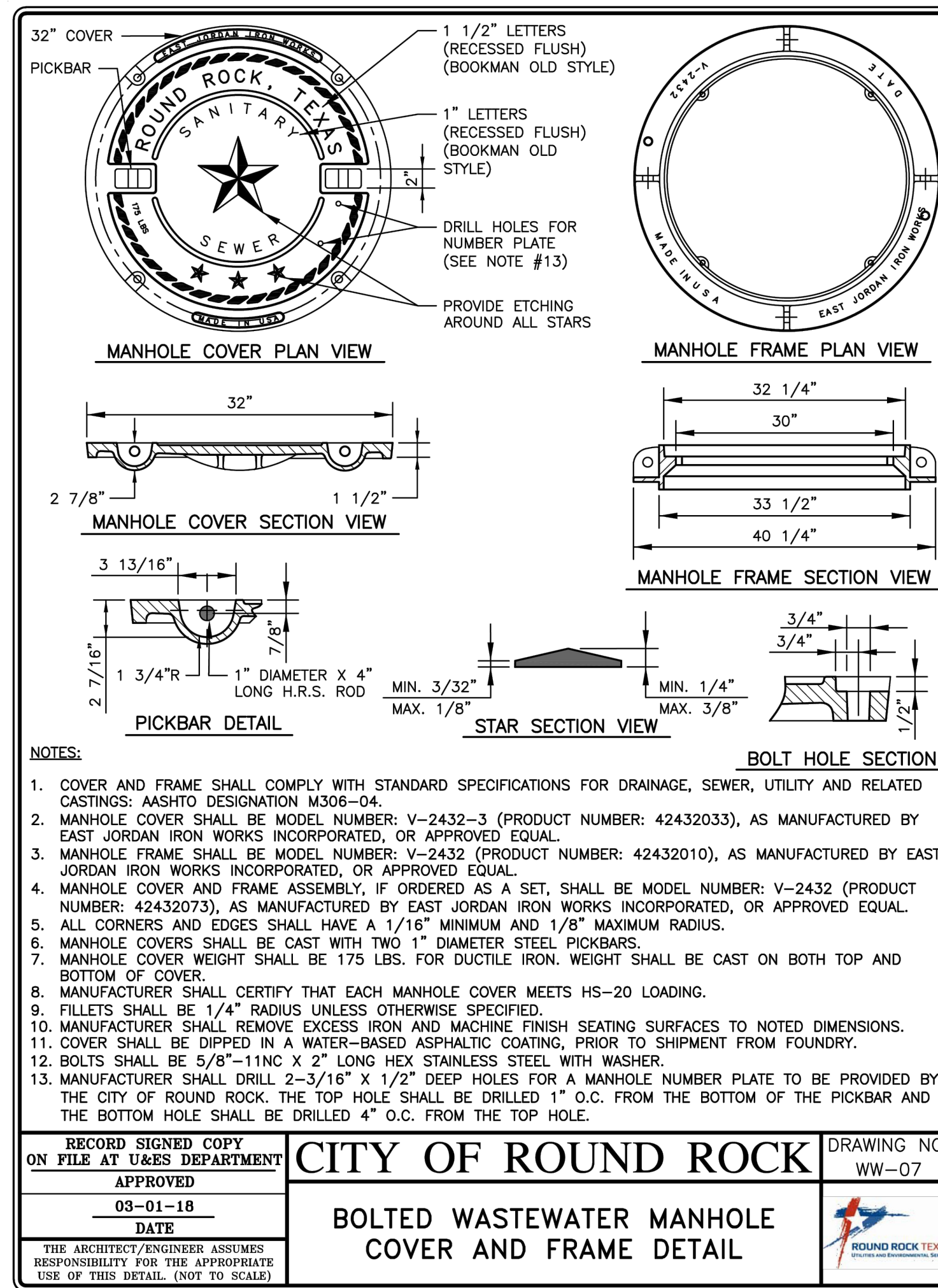
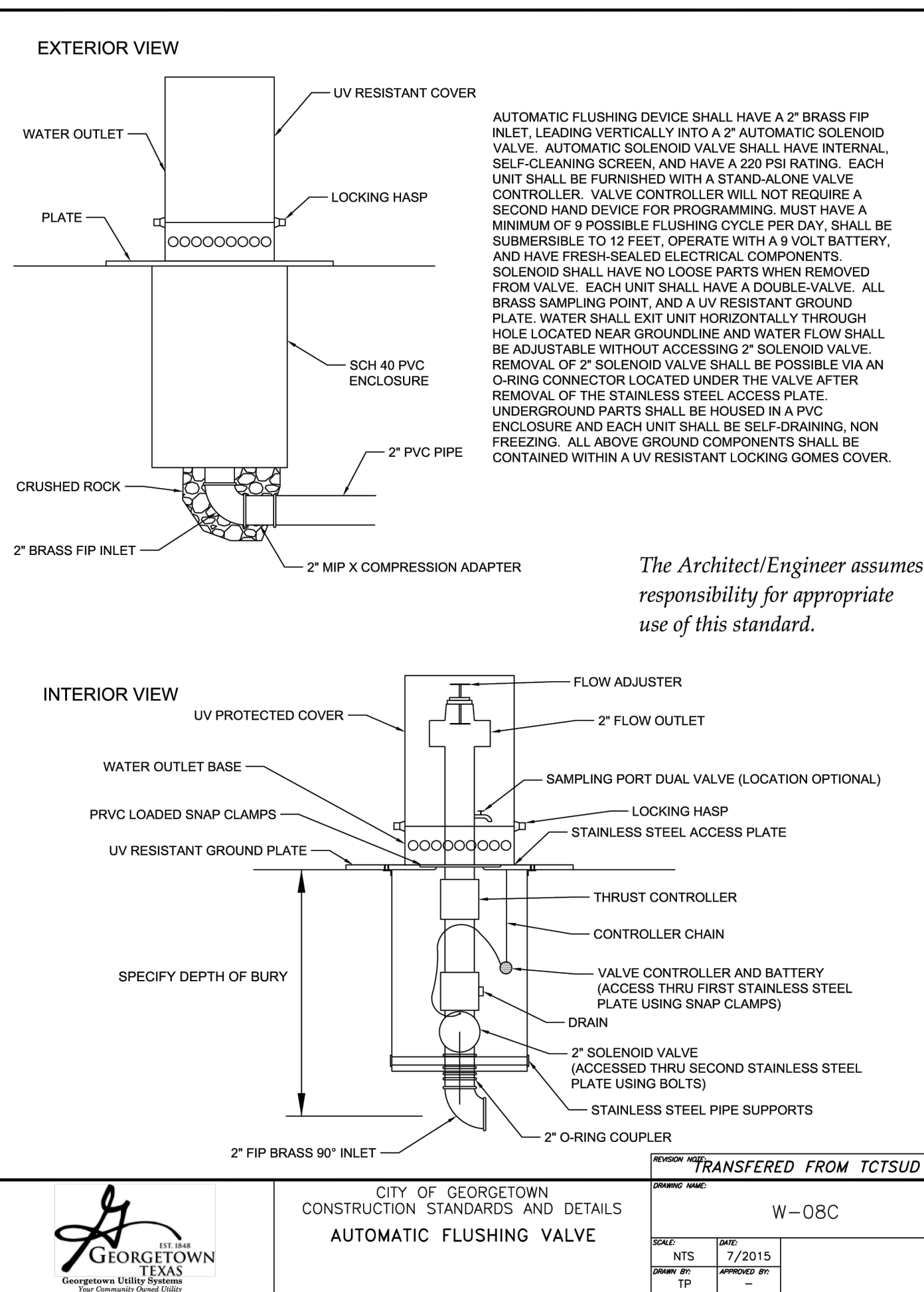
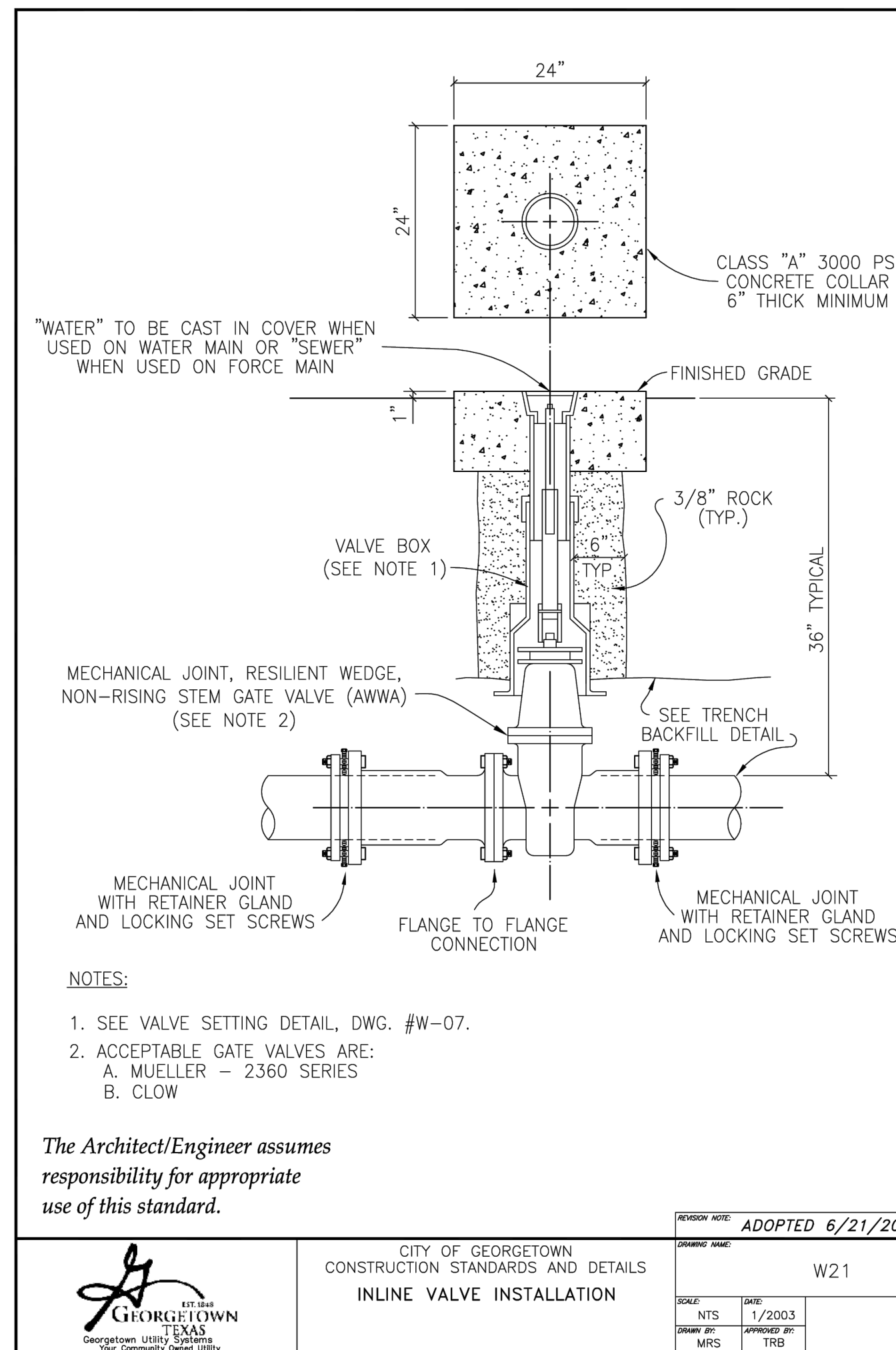
BENJAMIN L. GREEN
132190
PROFESSIONAL ENGINEER
STATE OF TEXAS

KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE:	AS SHOWN	DESIGNED BY:	BLG	NS	BLG

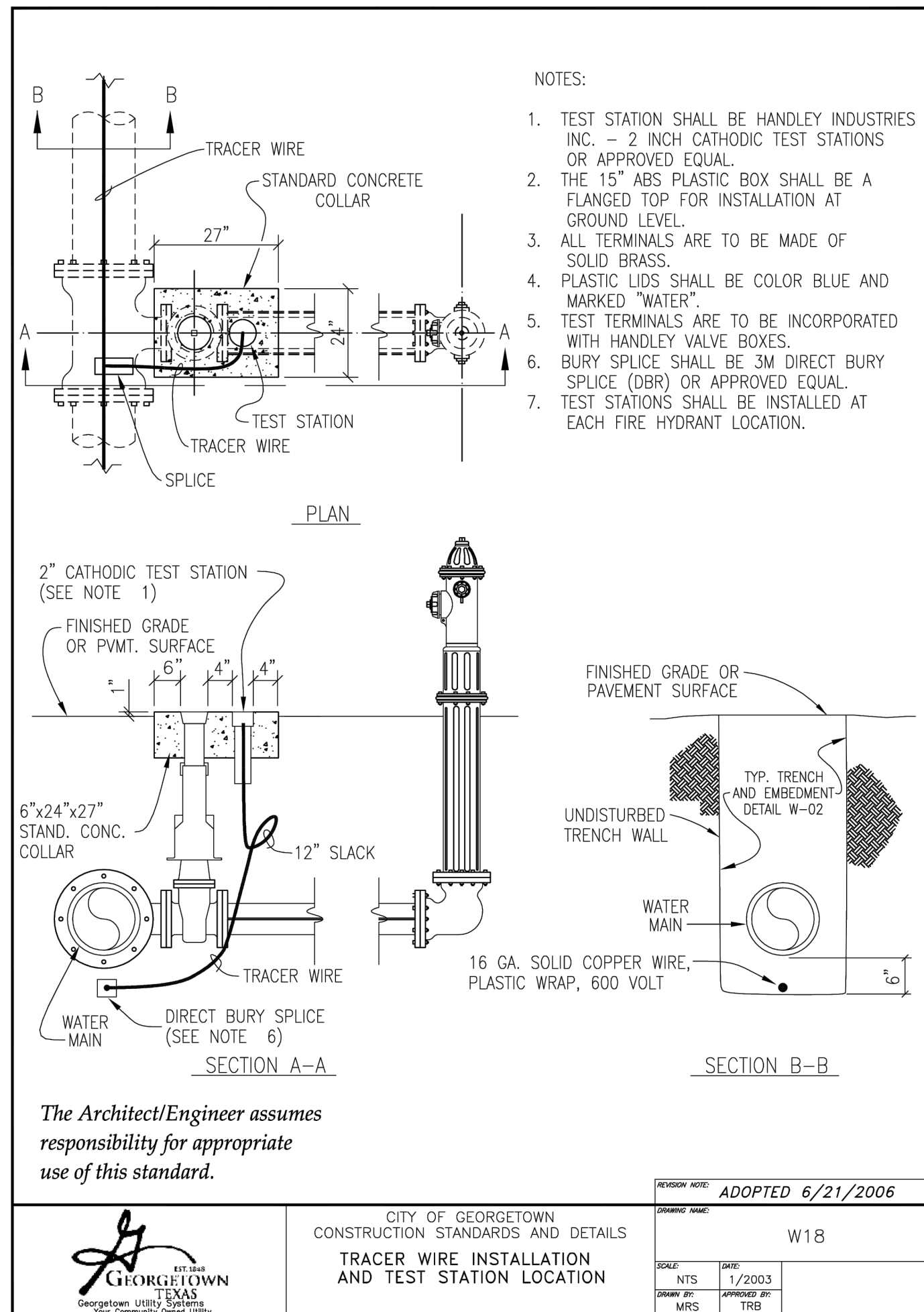
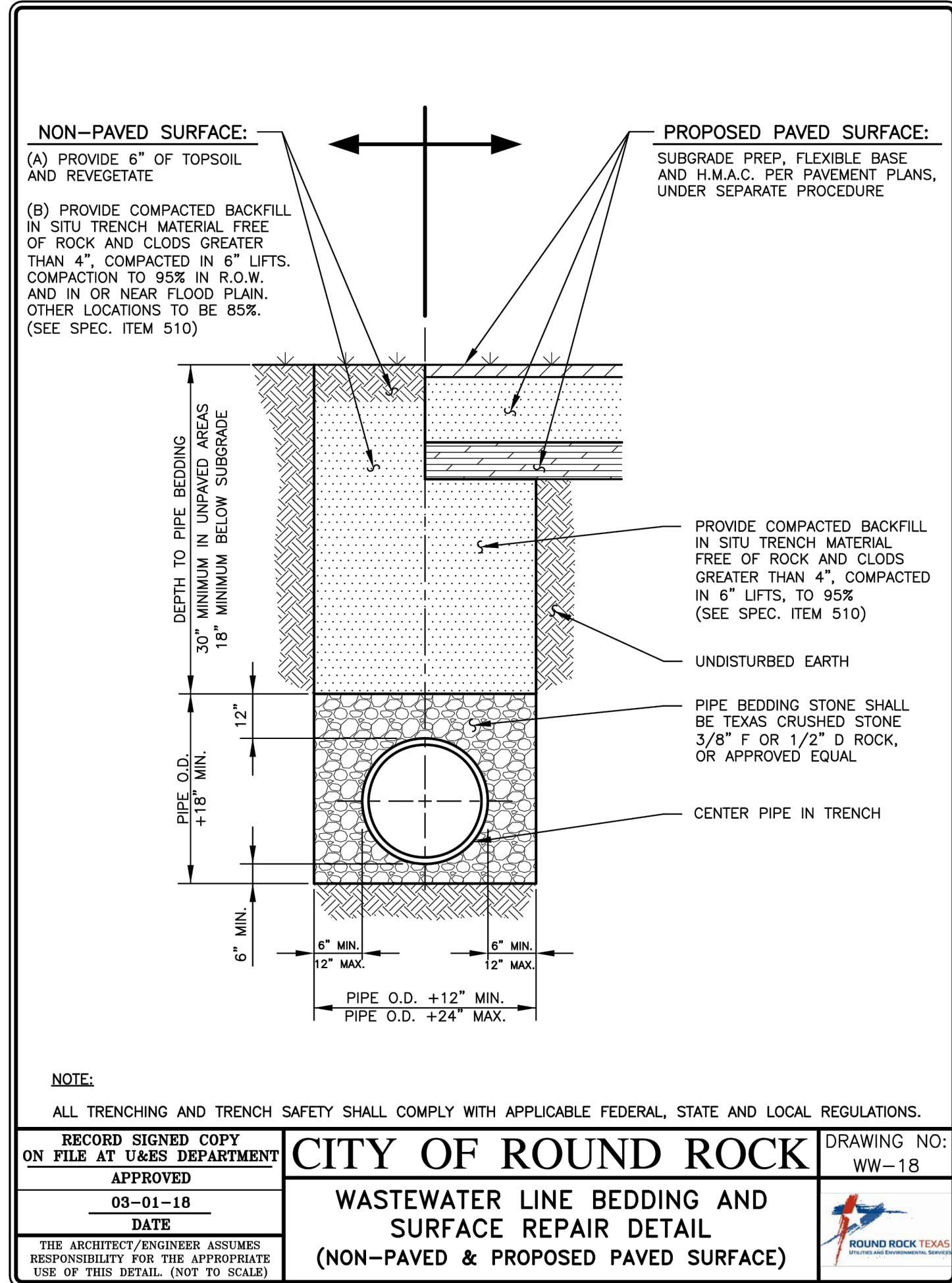
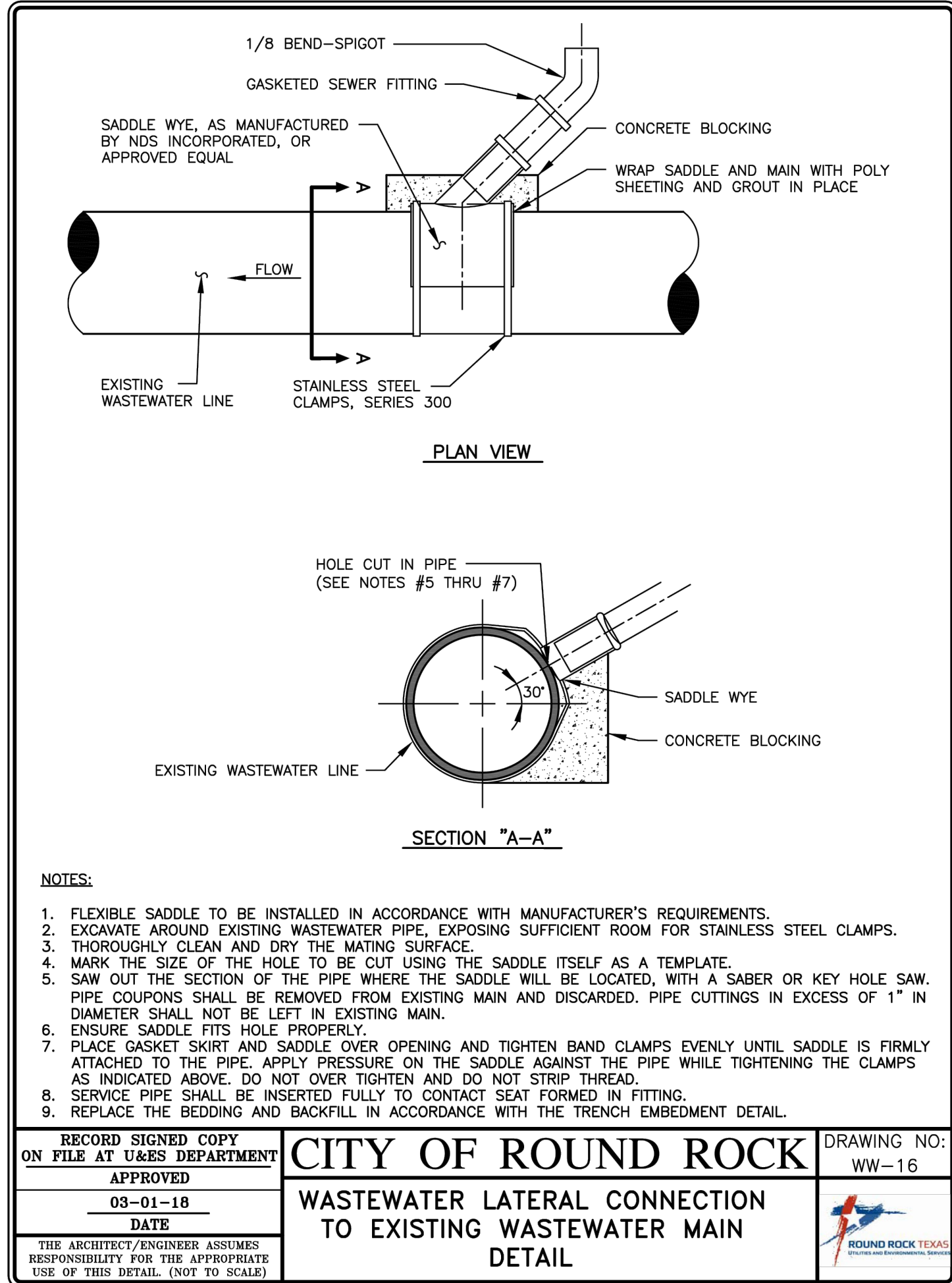
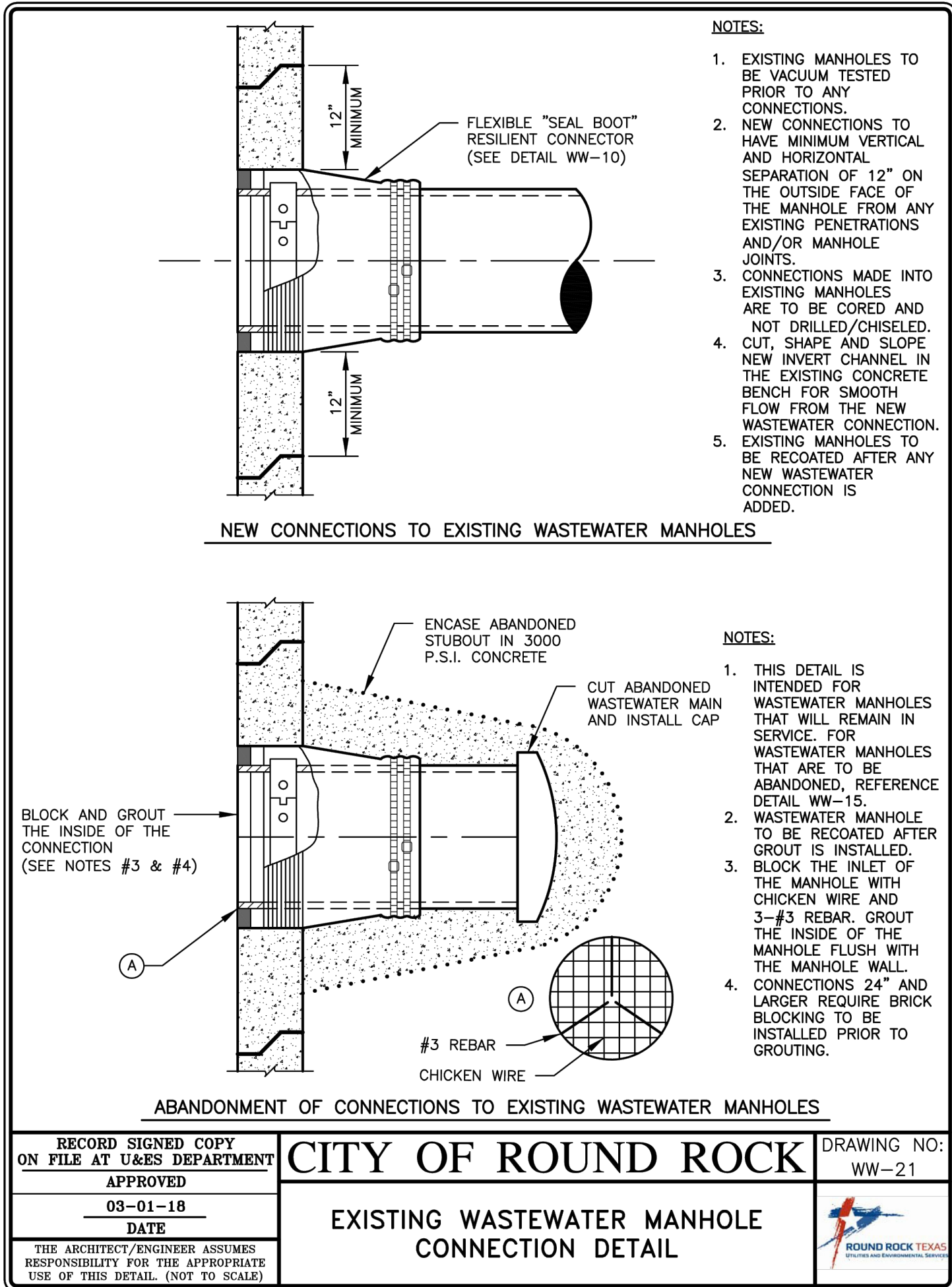
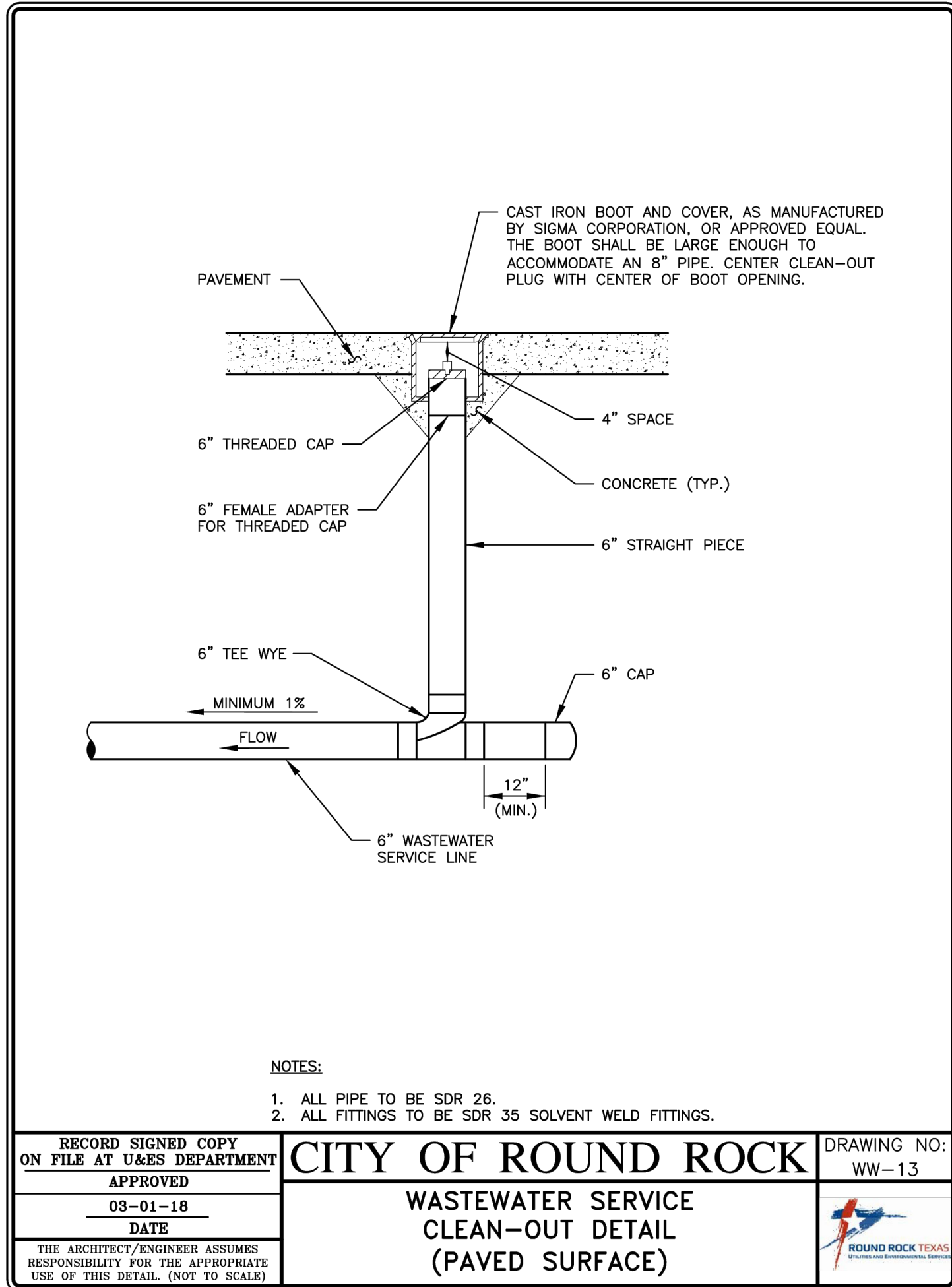
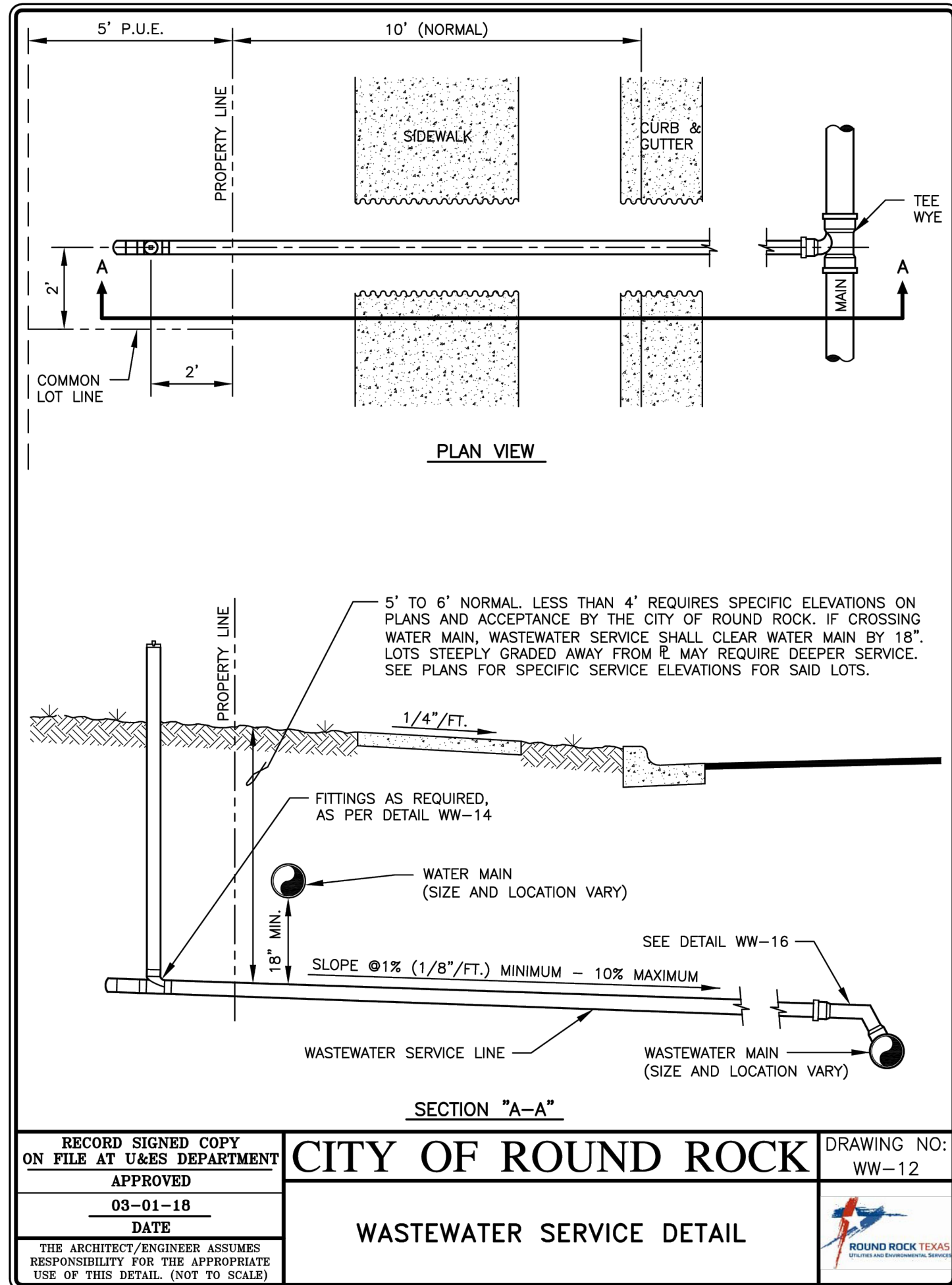
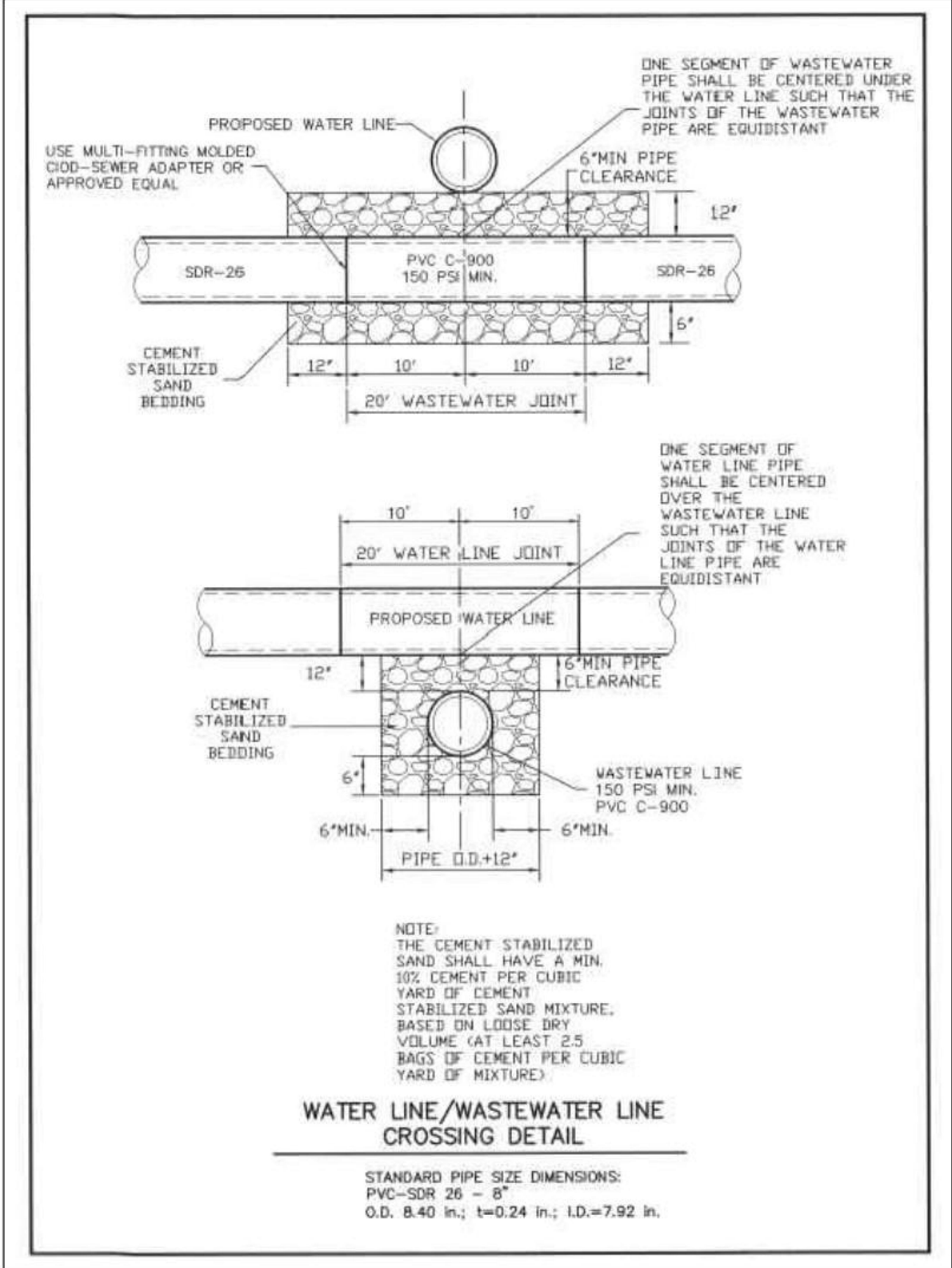
UTILITY DETAILS

ELDORADO SUBDIVISION PHASE 7

CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS



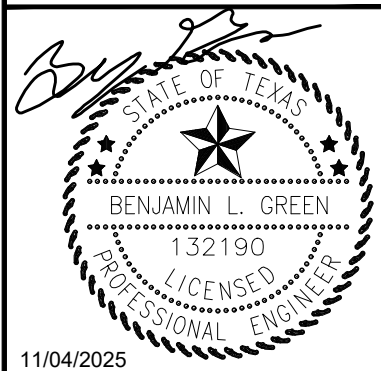
Plotted By:Sales, Nathalie Date:November 04, 2025 05:07:45pm File Path:k:\SAU-Civil\069286000 EIdorado - Liberty Hill Single Family\A-Cad\PH7-PUBLIC CONSTRUCTION\Plan\Sheets\C - Utility Details.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific 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.



NO.	REVISIONS	DATE	BY

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE 512-946-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 028



KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG

UTILITY DETAILS

ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

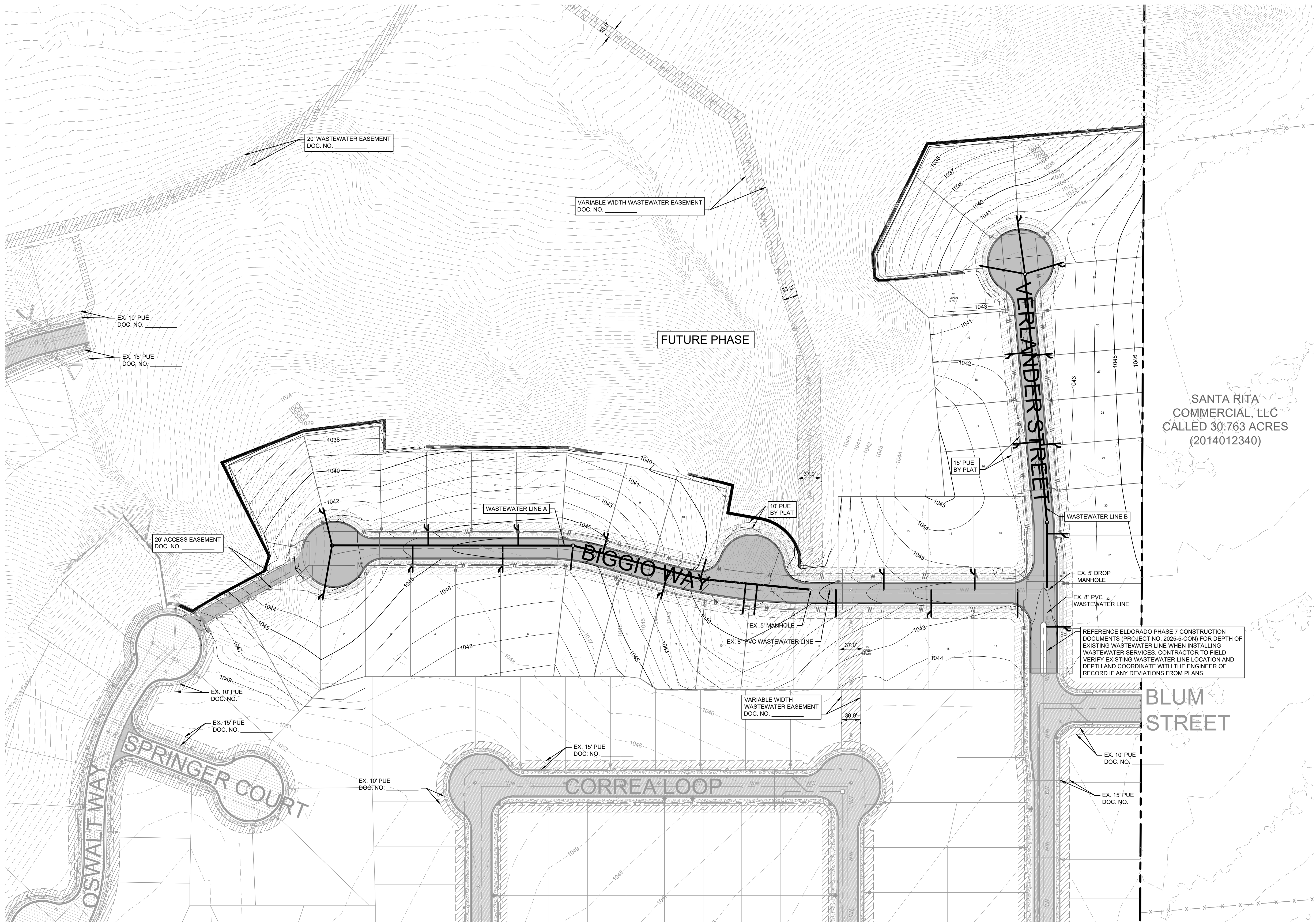
SHEET NUMBER

83 OF 86

2025-5-CON

Plotted By: Grace, korn. Date: November 04, 2025. 05:13:36pm. File Path: K:\SAU-Civil\069288000 Eldorado - Liberty Hill Single Family\069288000 Public Construction Plan\Sheets\3 - Overall Wastewater Planning.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.

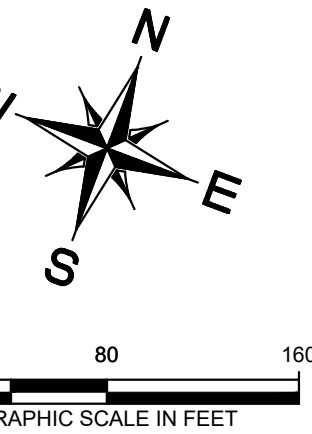


LEGEND

---	PROPERTY LINE
---	PROPOSED WASTEWATER LINE
W	PROPOSED WATER LINE
MH	PROPOSED WASTEWATER MANHOLE
○	PROPOSED WASTEWATER CLEANOUT
+	PROPOSED FIRE HYDRANT
---	PROPOSED STORM DRAIN LINE
□	EXISTING STORM DRAIN INLET
OHP	EXISTING OVERHEAD POWER LINE
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
---	EXISTING STORM SEWER LINE
○	EXISTING POWER POLE
+	EXISTING FIRE HYDRANT
○	EXISTING WATER VALVE
MH	EXISTING WASTEWATER MANHOLE

- NOTES:**
- REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR WATER AND SANITARY SEWER CROSSINGS.
 - UTILITY CONNECTIONS TERMINATE 5' FROM BUILDING ENVELOPE SEE MEP PLANS FOR CONTINUATION.
 - REFER TO IRRIGATION PLANS FOR EXACT LOCATION AND SIZE OF IRRIGATION SLEEVES.
 - CONTRACTOR TO ADJUST EXISTING SANITARY SEWER MANHOLES, ELECTRICAL MANHOLES, FIRE HYDRANTS, VALVE BOXES, WATER METERS, ETC. TO MATCH PROPOSED FINISHED GRADES IF NECESSARY.
 - 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.
 - FIRE SPRINKLER LINE SHALL BE SIZED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR.
 - ALL CONSTRUCTION SPECIFICATIONS WITHIN CITY R.O.W. AND EASEMENTS SHOULD COMPLY WITH CITY OF LIBERTY HILL STANDARDS. PRIOR APPROVAL TO USE ANY NON-STANDARD MATERIAL IS REQUIRED.
 - REFER TO SHEET 2 FOR GENERAL NOTES.

REFERENCE ELDORADO PHASE 7 CONSTRUCTION DOCUMENTS (PROJECT NO. 2025-5-CON) FOR DEPTH OF EXISTING WASTEWATER LINE WHEN INSTALLING WASTEWATER SERVICES. CONTRACTOR TO FIELD VERIFY EXISTING WASTEWATER LINE LOCATION AND DEPTH AND COORDINATE WITH THE ENGINEER OF RECORD IF ANY DEVIATIONS FROM PLANS.



GRAPHIC SCALE IN FEET

BENCHMARKS

- TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	069288000	DATE	November 25	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG
-------------	-----------	------	-------------	-------	----------	-------------	-----	----------	----	------------	-----

**OVERALL
WASTEWATER PLAN**

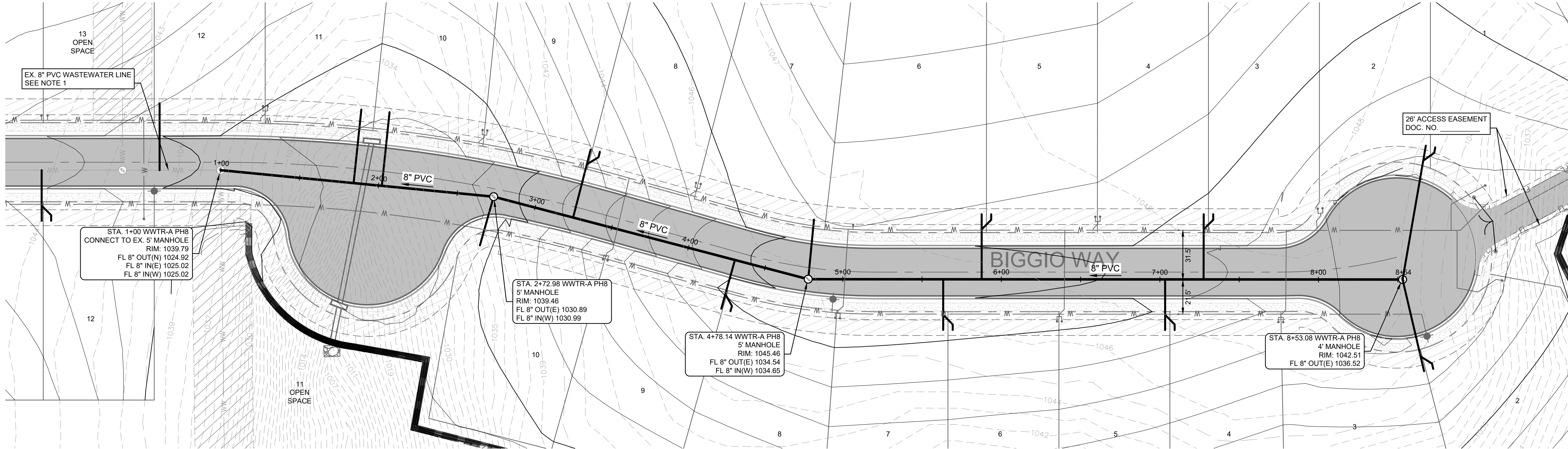
**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

36 OF 58

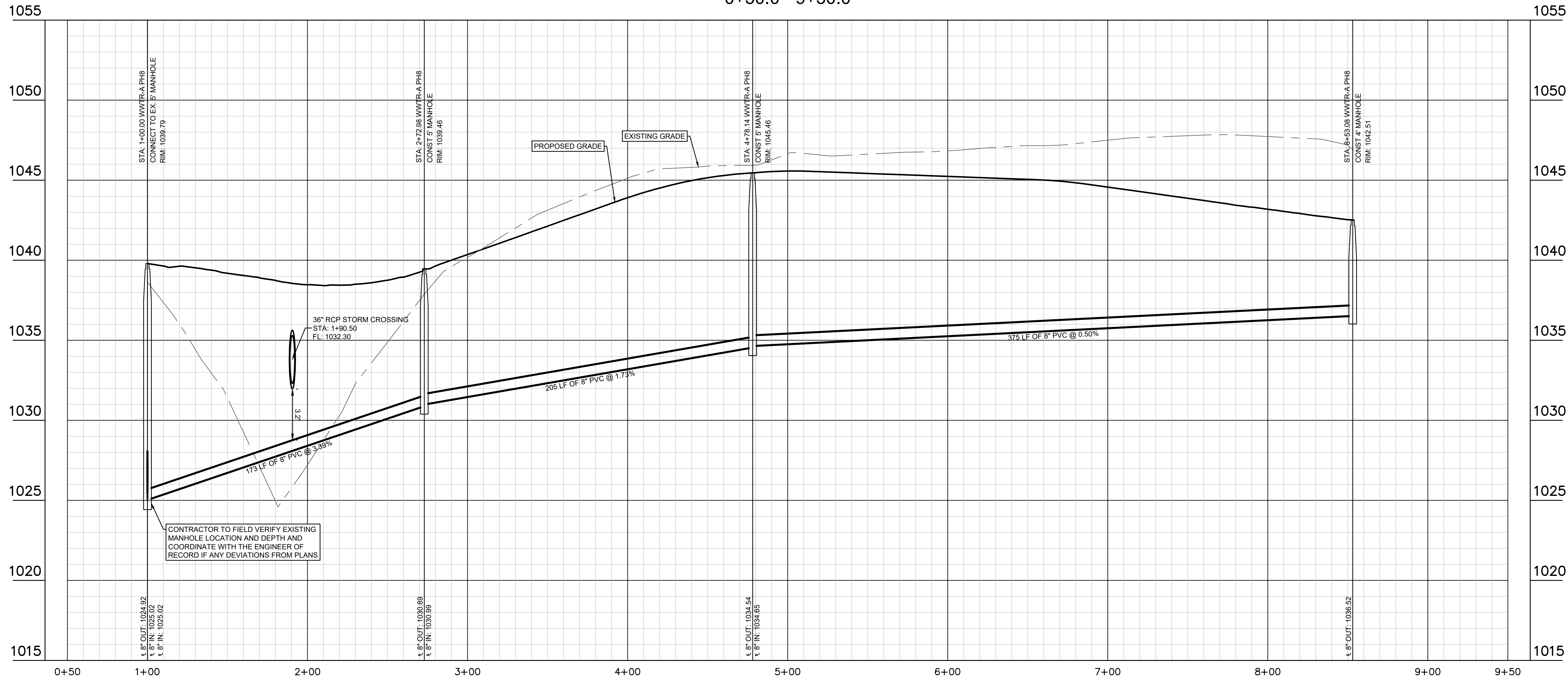
2025-8-CON

Plotted By: Grace, korn. Date: November 04, 2025. 05:15:41pm. File Path: K:\SAU-Civil\069288000_Eldorado - Liberty Hill Single Family\04-P&P\Public Construction\PlanSheets\3 - Wastewater P&P Sheets.dwg
This document, together with the concepts and designs presented herein, is 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.



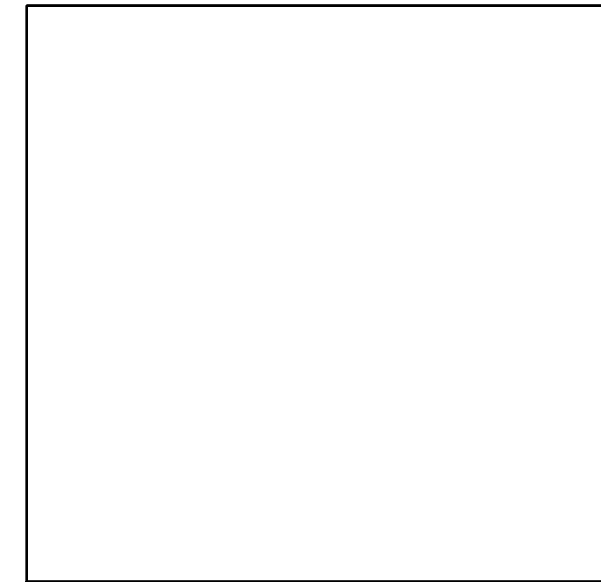
PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

WWTR-A PH8
0+50.0 - 9+50.0



BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.528'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'



Alignment	Max/Min	Slope	Velocity (Flowing Full)	Velocity (Peak Dry Weather)	Velocity (Peak Wet Weather)
WWTR-A PH8	Max Min	3.03% 0.50%	6.03 ft/s 2.45 ft/s	6.52 ft/s 2.60 ft/s	6.83 ft/s 2.75 ft/s
WWTR-B PH8	Max Min	0.50% 0.50%	2.45 ft/s 2.45 ft/s	2.60 ft/s 2.60 ft/s	2.75 ft/s 2.75 ft/s

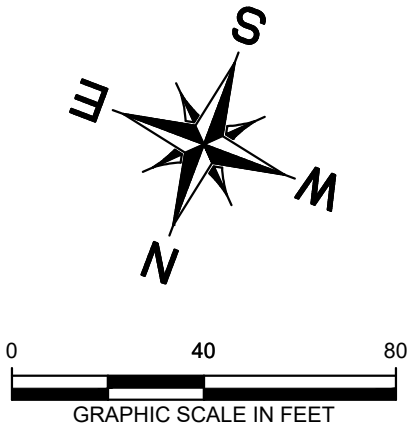
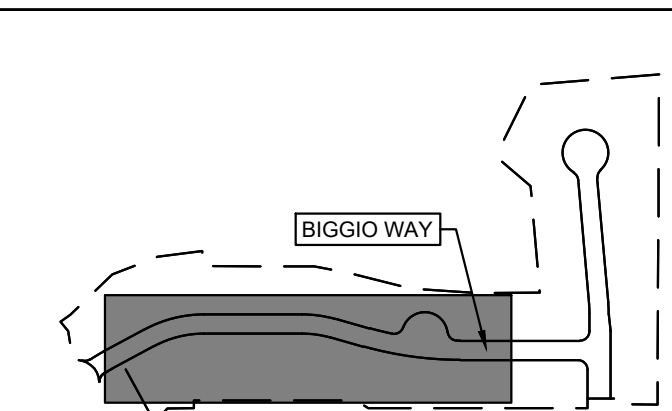
NOTES:

- REFERENCE ELDORADO PHASE 7 CONSTRUCTION DOCUMENTS (PROJECT NO. 2025-5-CON) FOR DEPTH OF EXISTING WASTEWATER LINE WHEN INSTALLING WASTEWATER SERVICES. CONTRACTOR TO FIELD VERIFY EXISTING WASTEWATER LINE LOCATION AND DEPTH AND COORDINATE WITH THE ENGINEER OF RECORD IF ANY DEVIATIONS FROM PLANS.

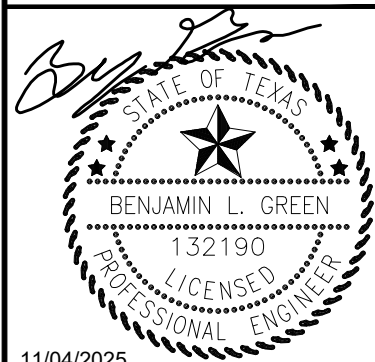
LEGEND

---	PROPERTY LINE
---	PROPOSED STORM LINE
---	PROPOSED WATER LINE
---	PROPOSED FORCE MAIN LINE
---	PROPOSED STORM INLET
---	PROPOSED FIRE HYDRANT
---	EXISTING WATER LINE
---	EXISTING WASTEWATER LINE
---	EXISTING FORCE MAIN LINE
---	EXISTING STORM LINE

KEY MAP
SCALE 1:500



Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2220
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT 069288000	DATE November 25	SCALE AS SHOWN	DESIGNED BY BLG	DRAWN BY NS	CHECKED BY BLG
--------------------------	---------------------	-------------------	--------------------	----------------	-------------------

WASTEWATER P&P -
LINE A

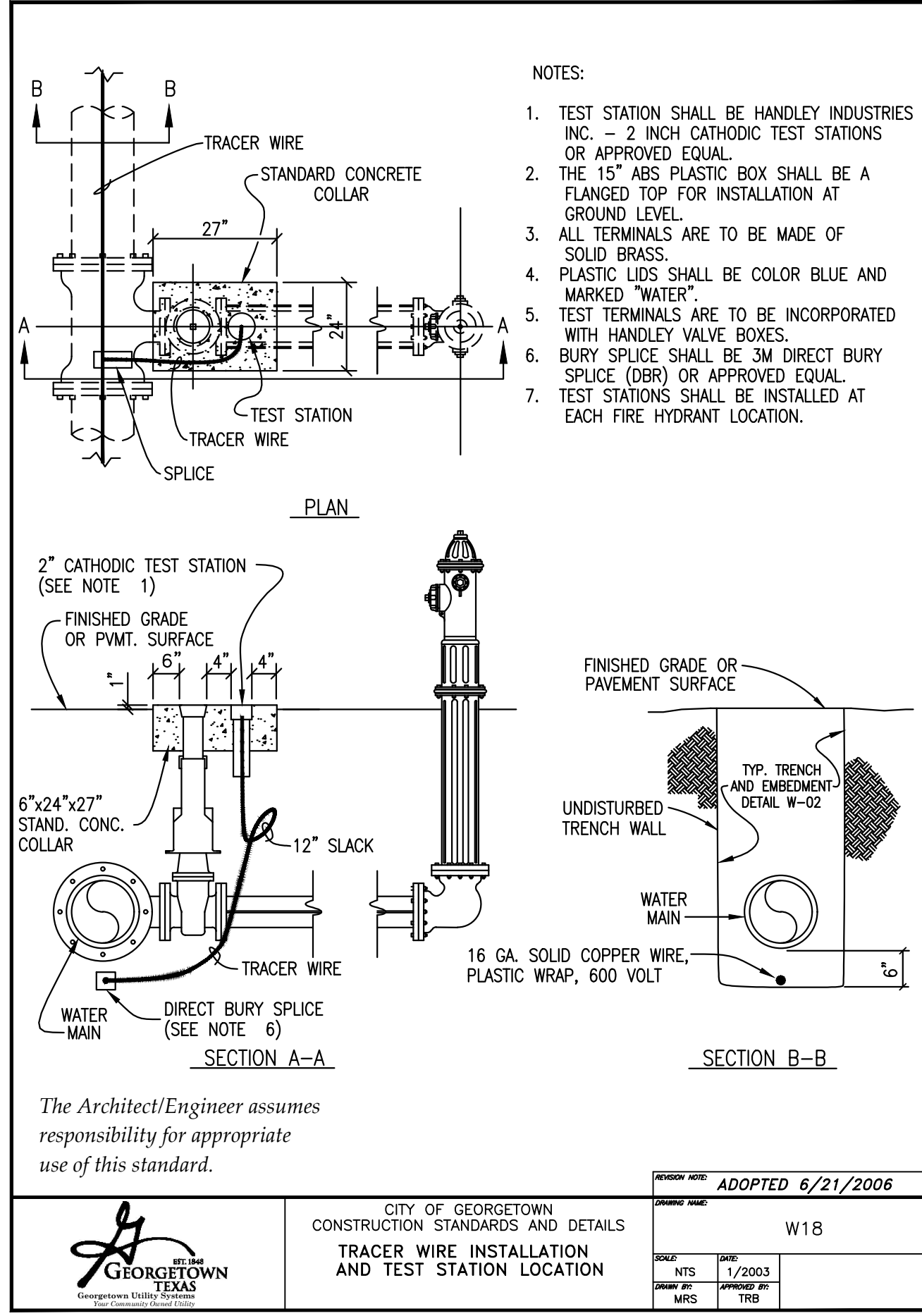
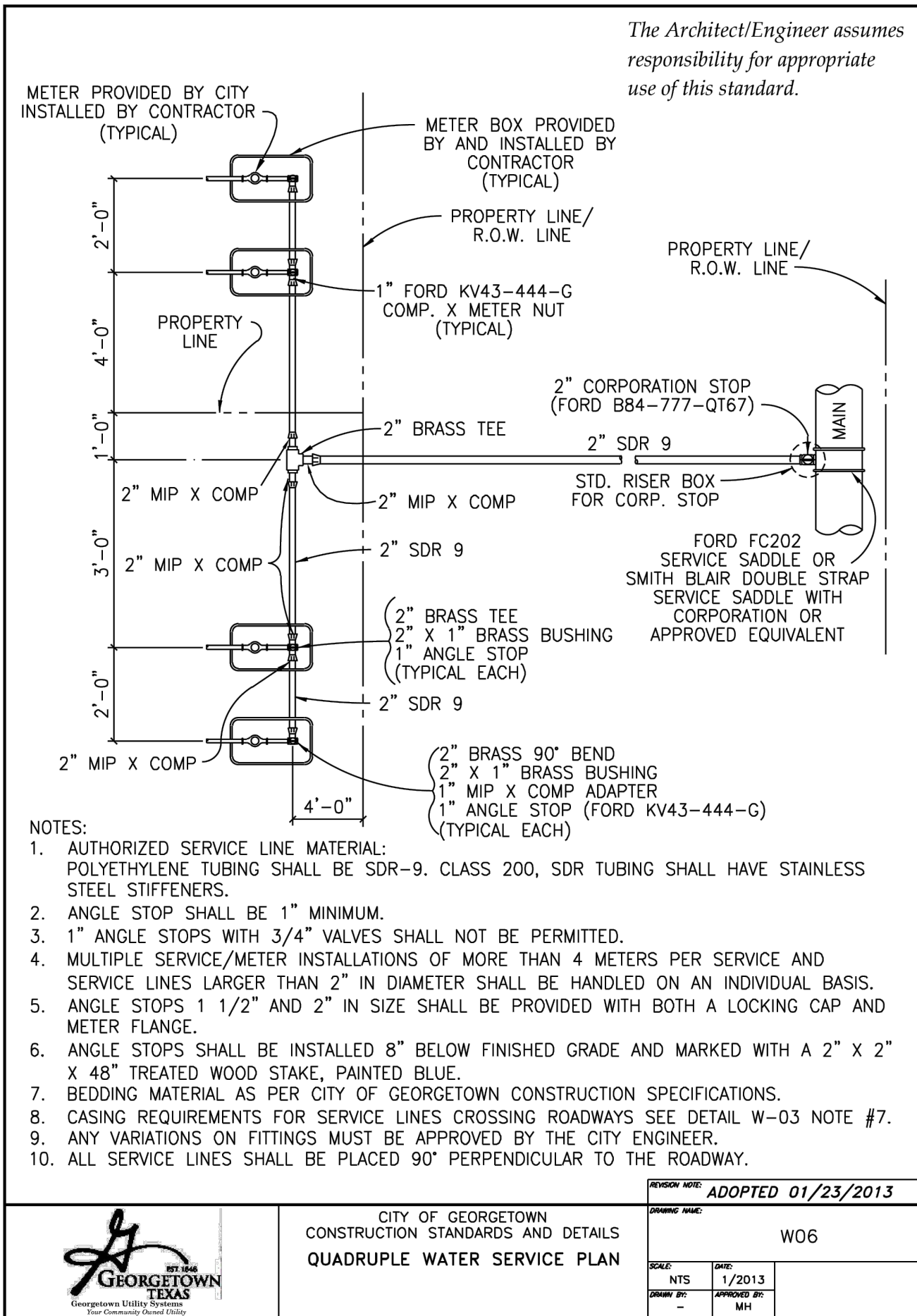
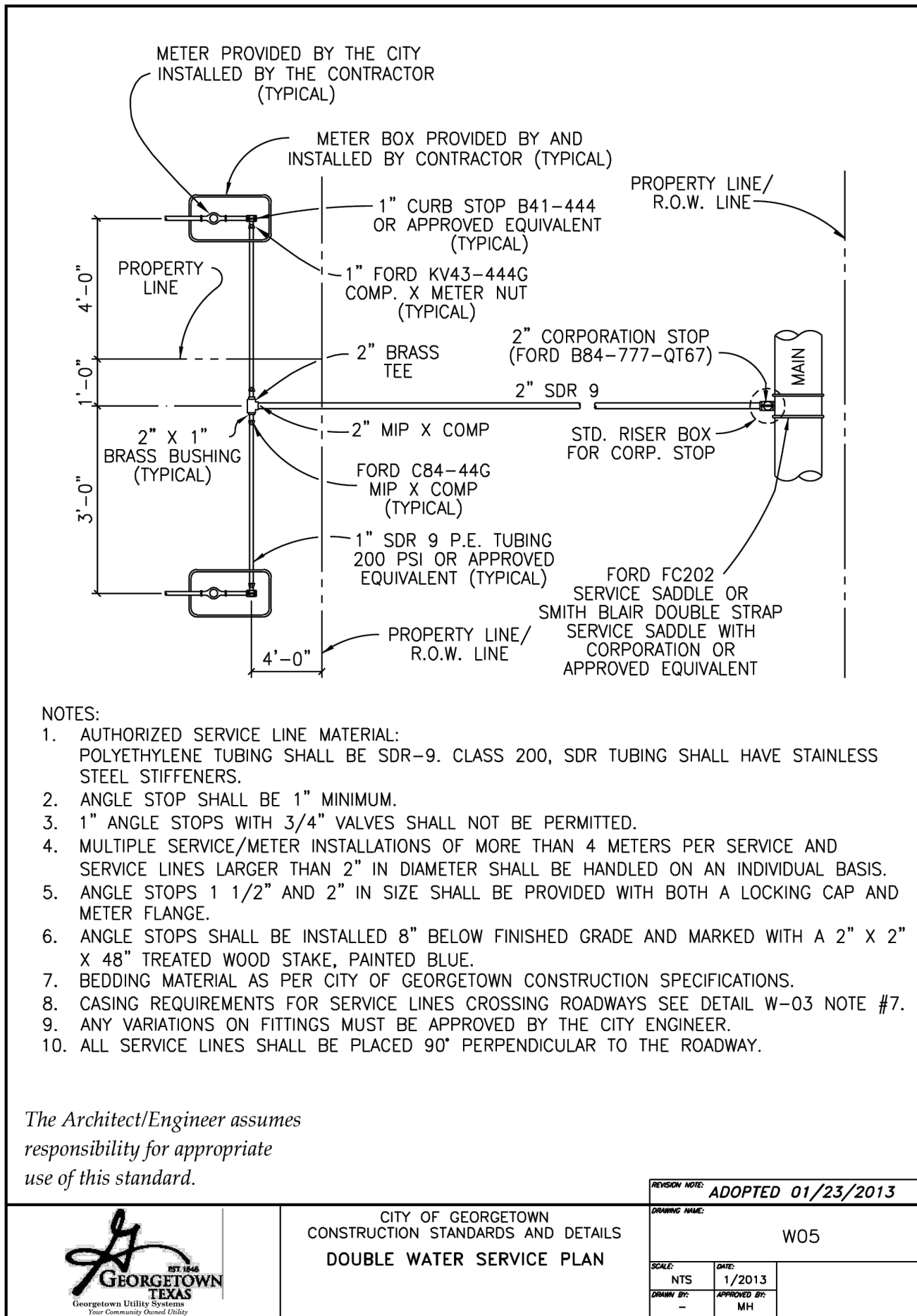
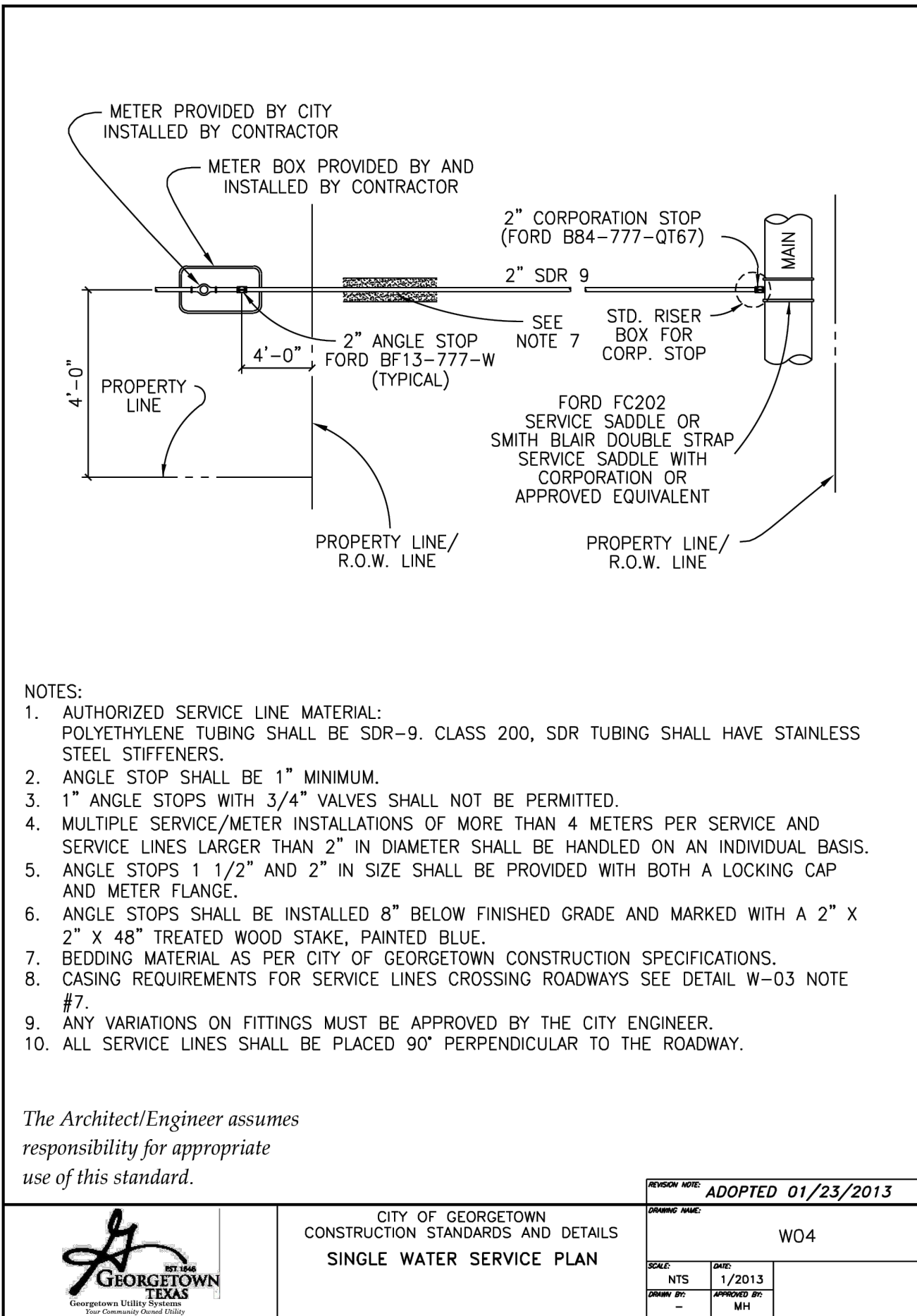
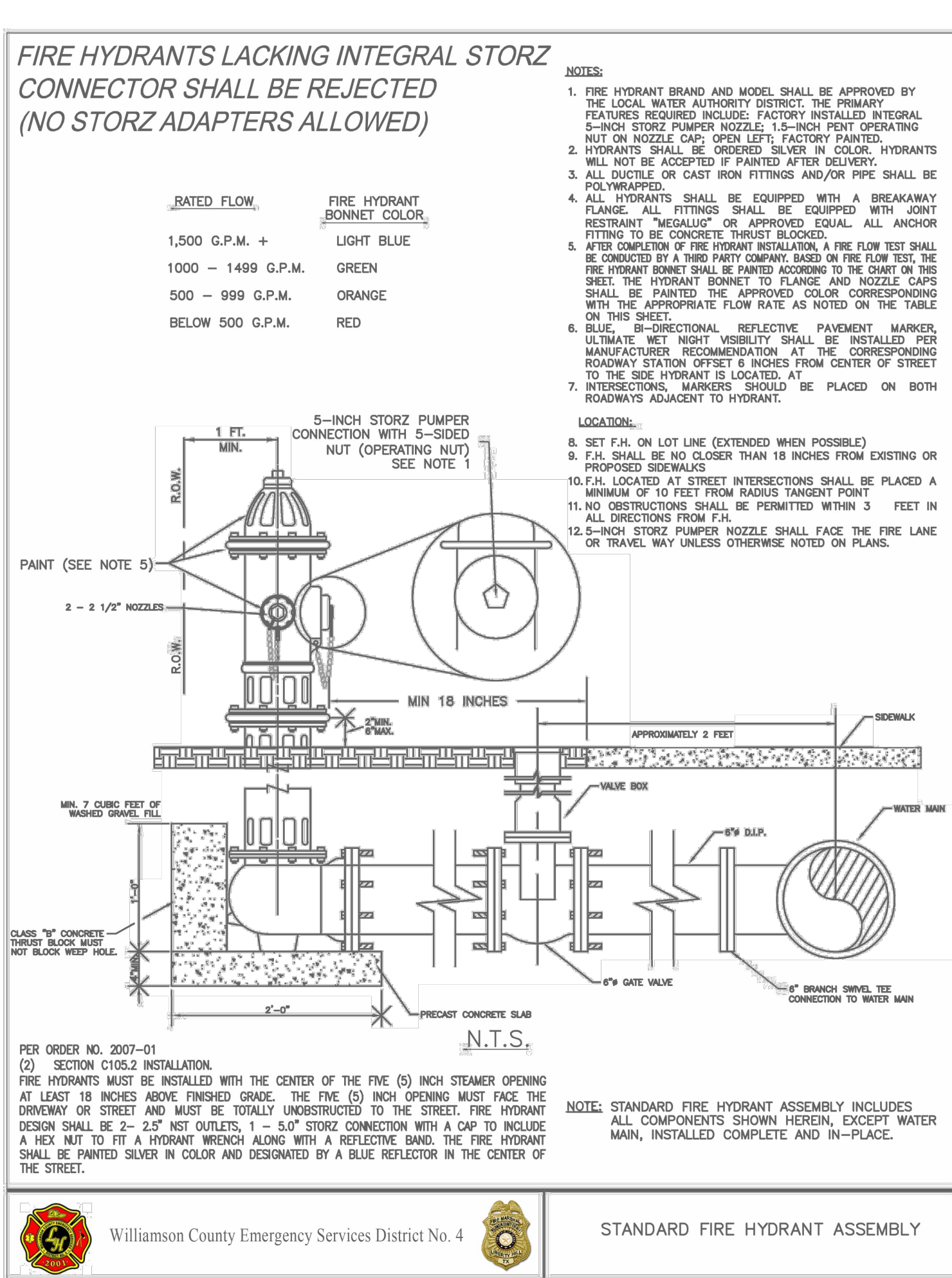
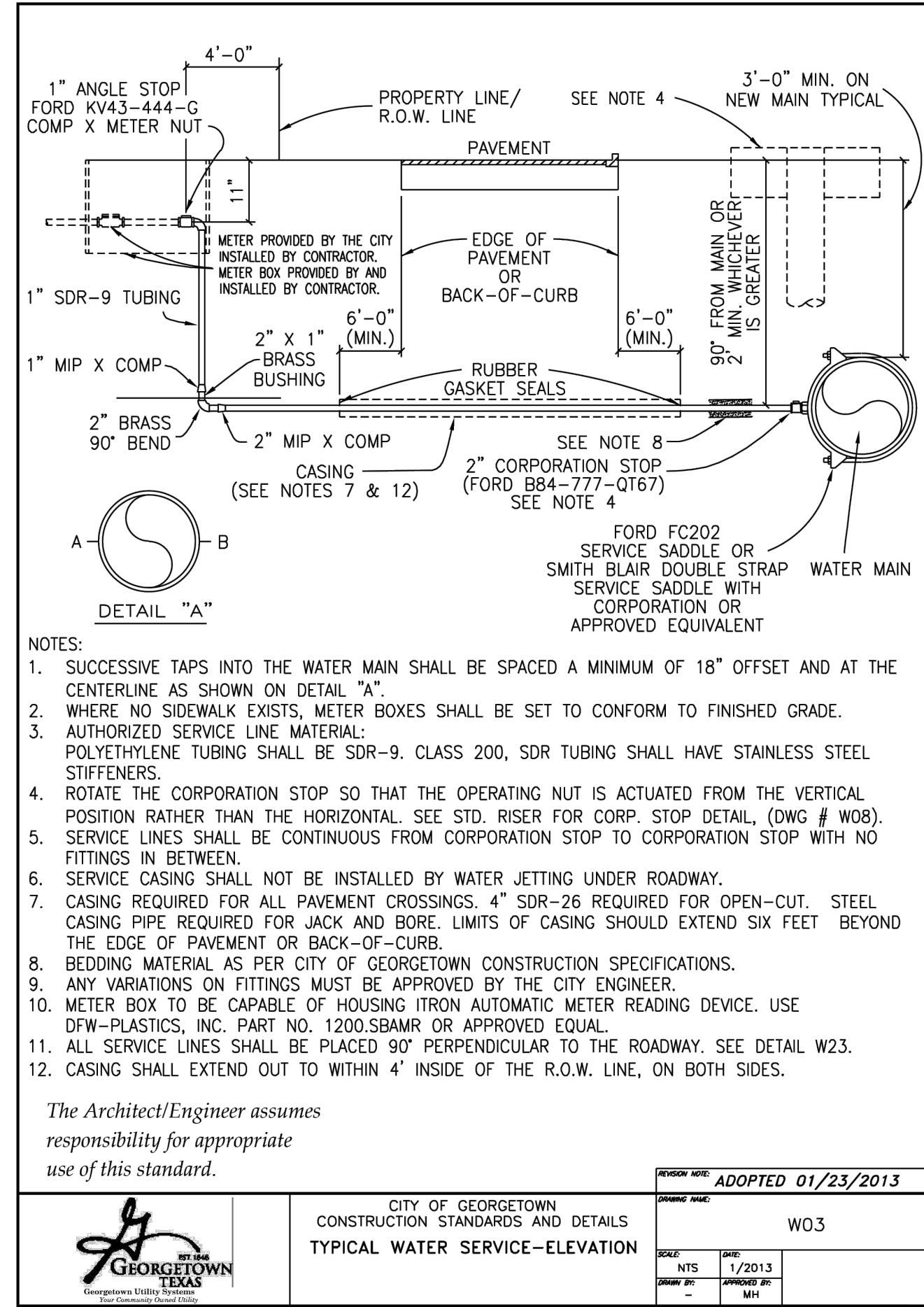
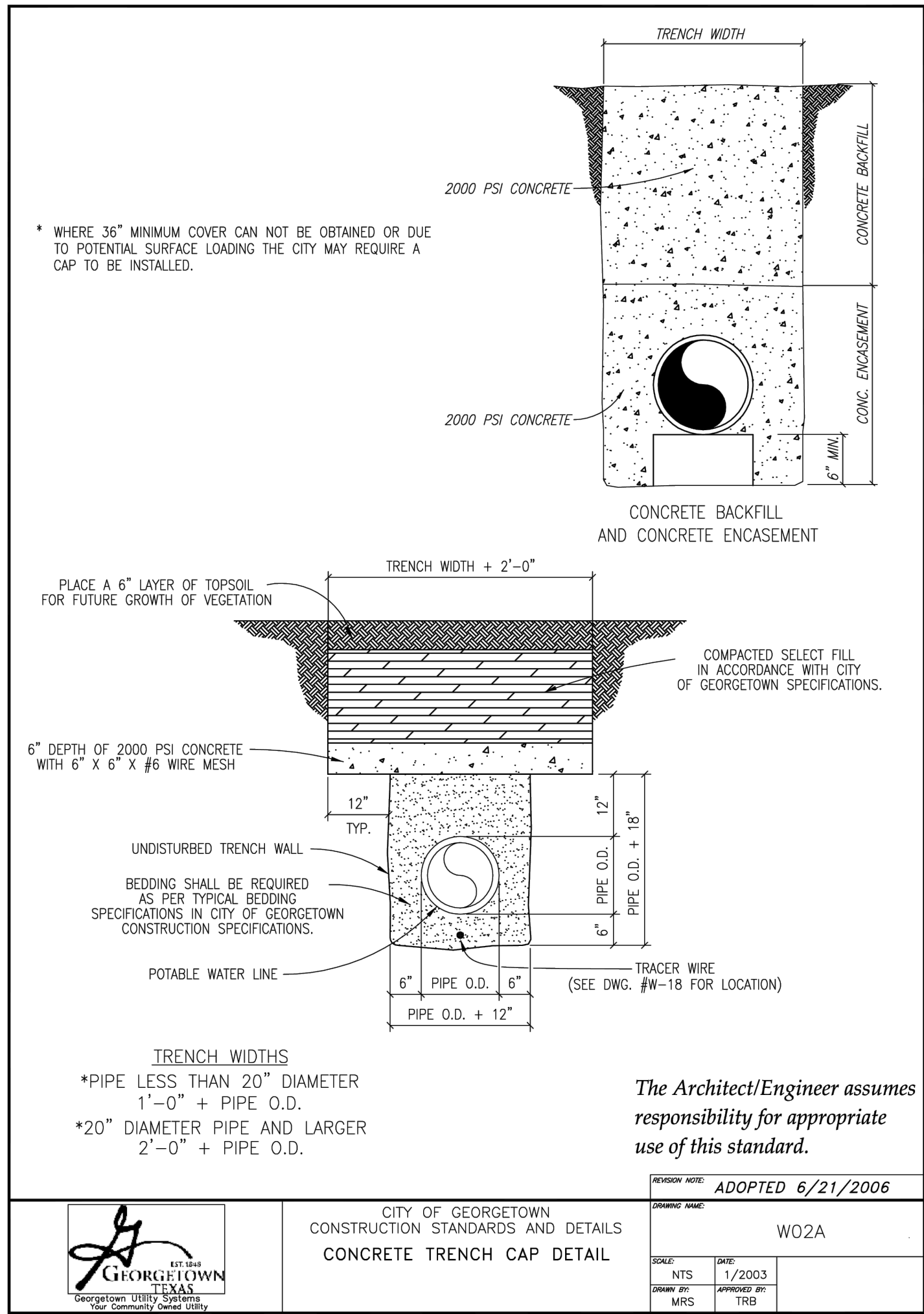
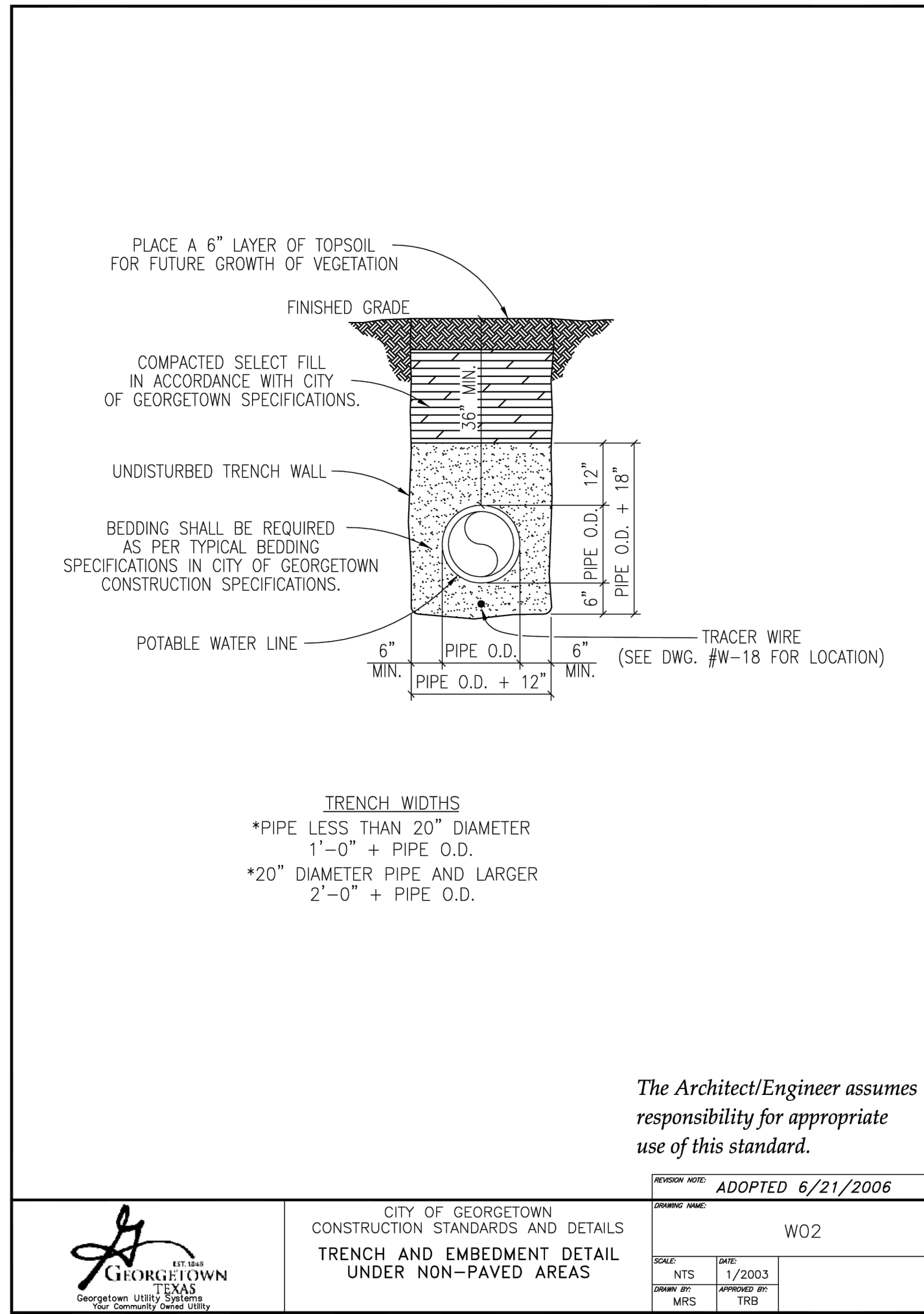
ELDORADO
SUBDIVISION
PHASE 8
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

37 OF 58

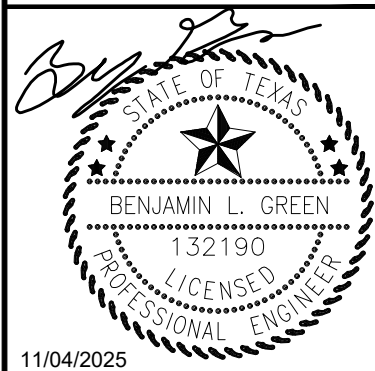
2025-8-CON

Plotted By: Grace, Korn Date: November 04, 2025 05:19:04pm File Path: K:\SAU-Civil\069288000 Eldorado - Liberty Hill Single Family\Gad-PH8\PUBLIC CONSTRUCTION\PlanSheets\C - Utility 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 the document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE 512-446-2220
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TEPE Firm No. 628



11/04/2025

KHA PROJECT	069288000
DATE	November 25
SCALE	AS SHOWN
DESIGNED BY	BLG
DRAWN BY	NS
CHECKED BY	BLG

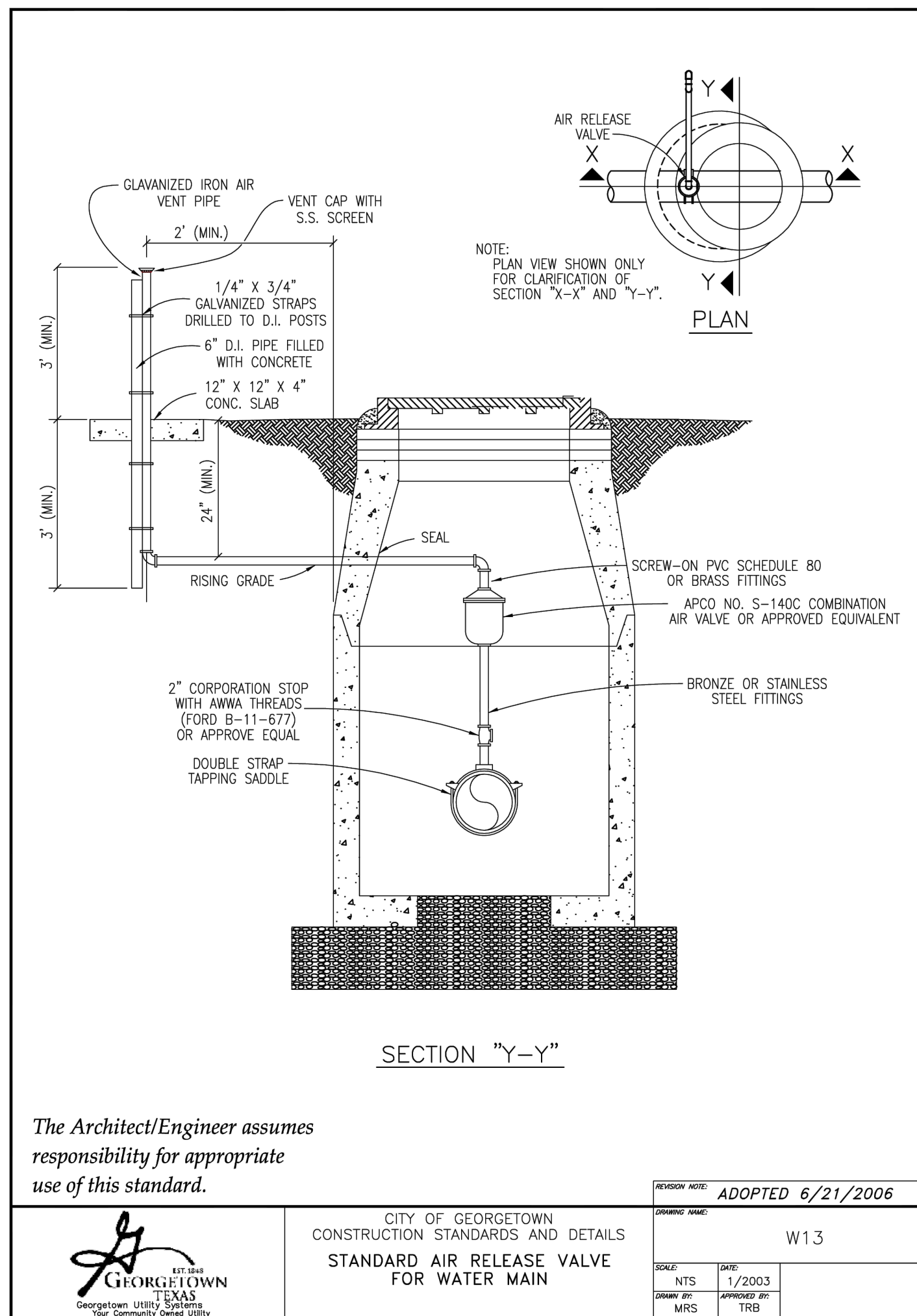
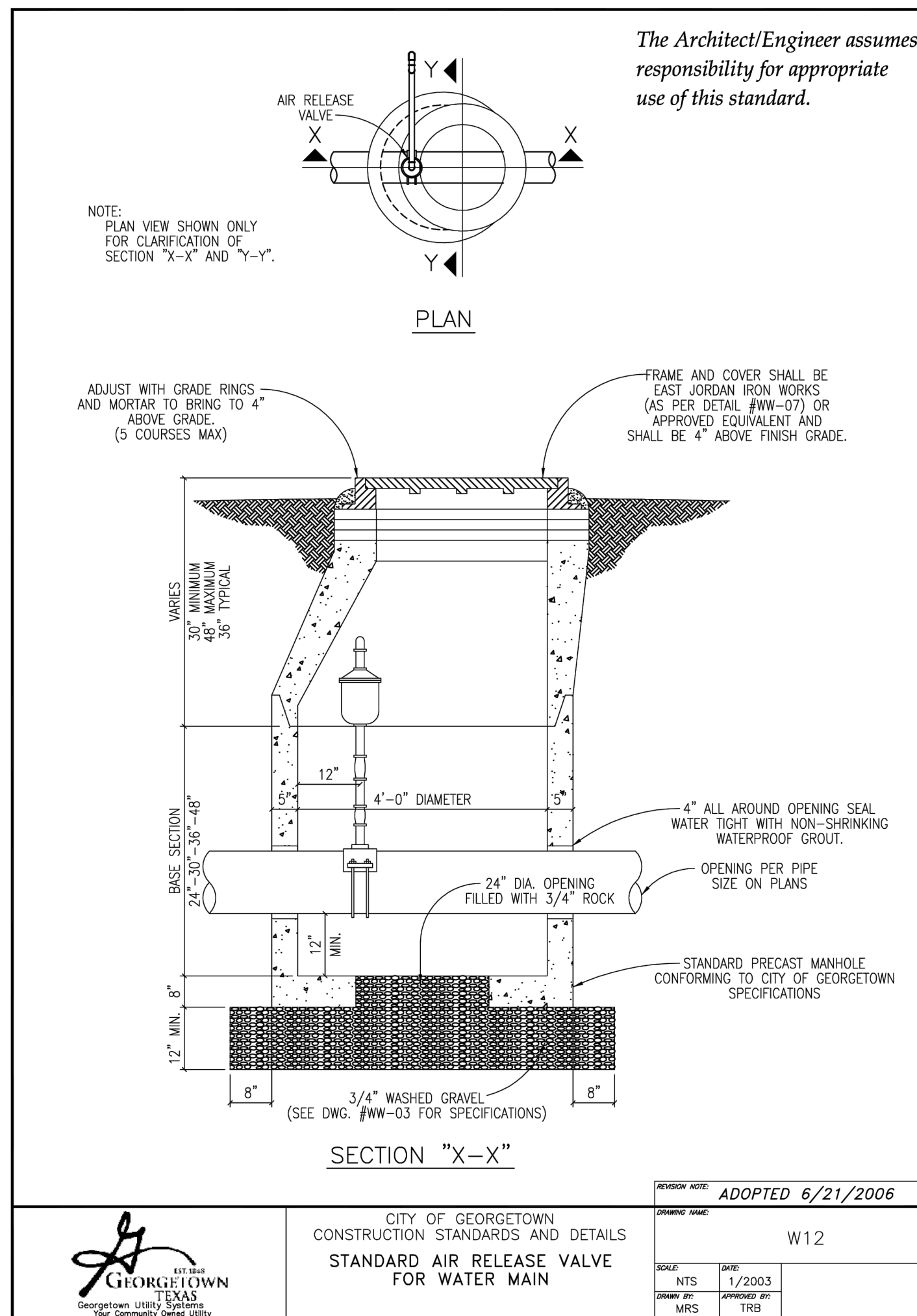
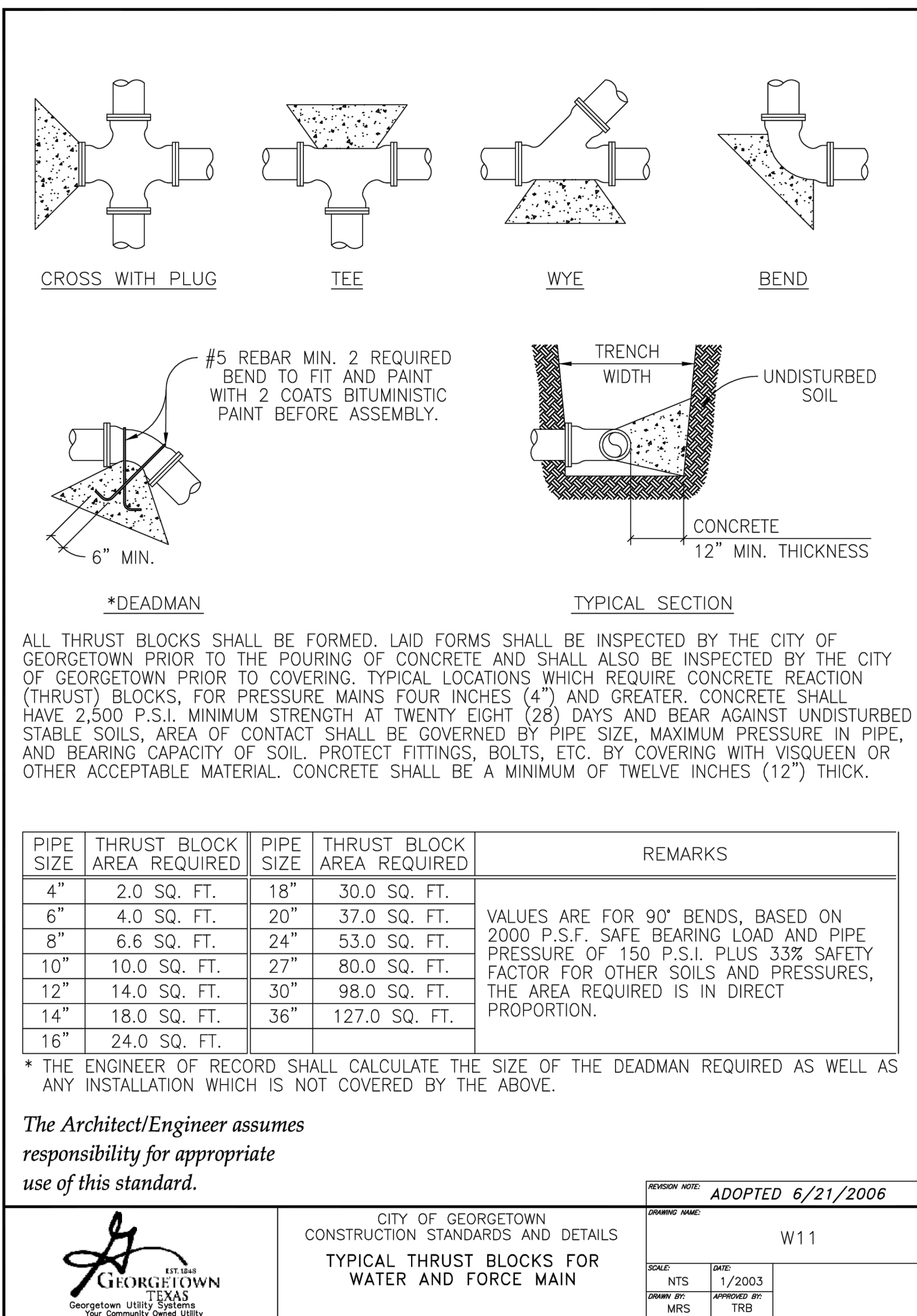
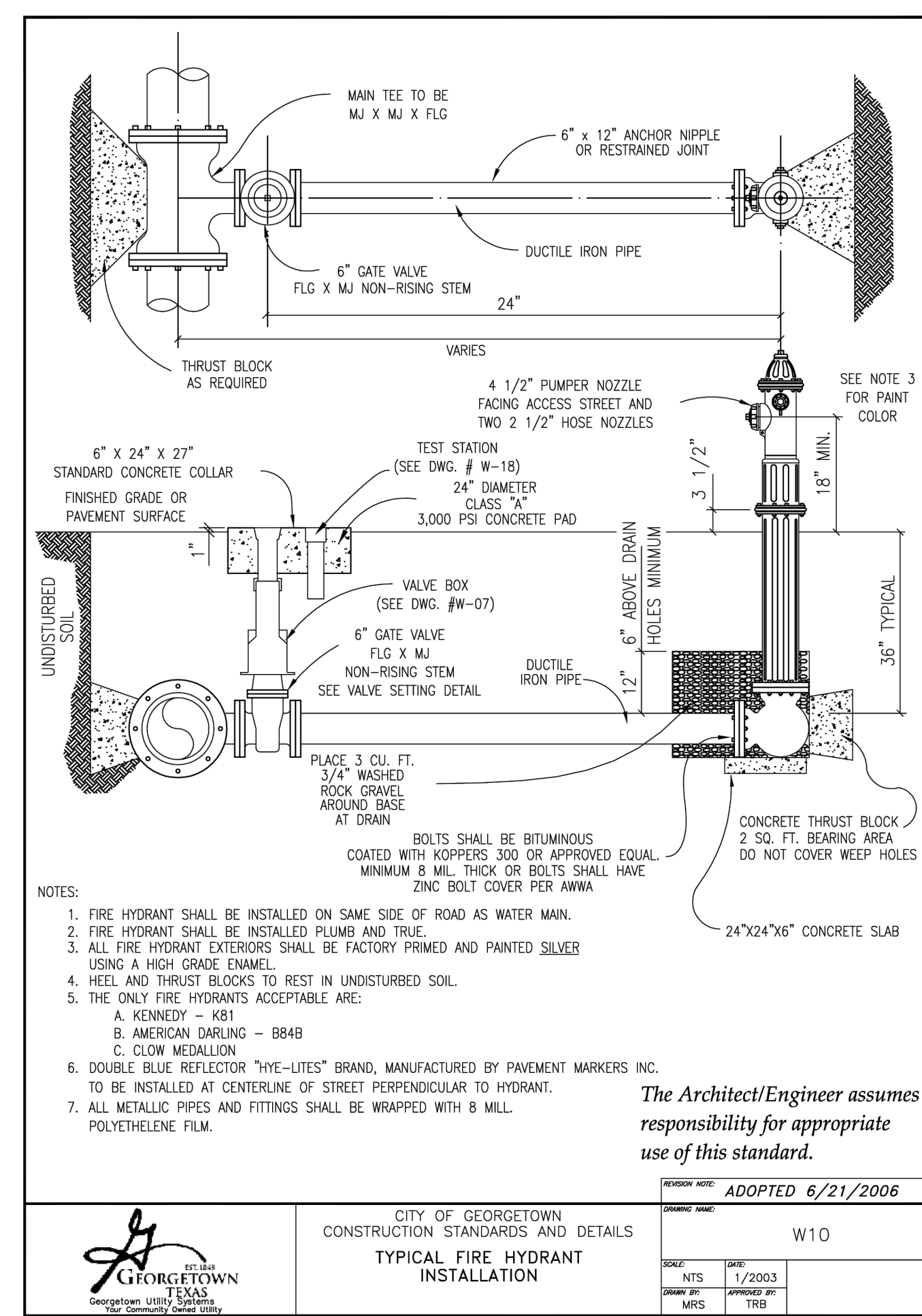
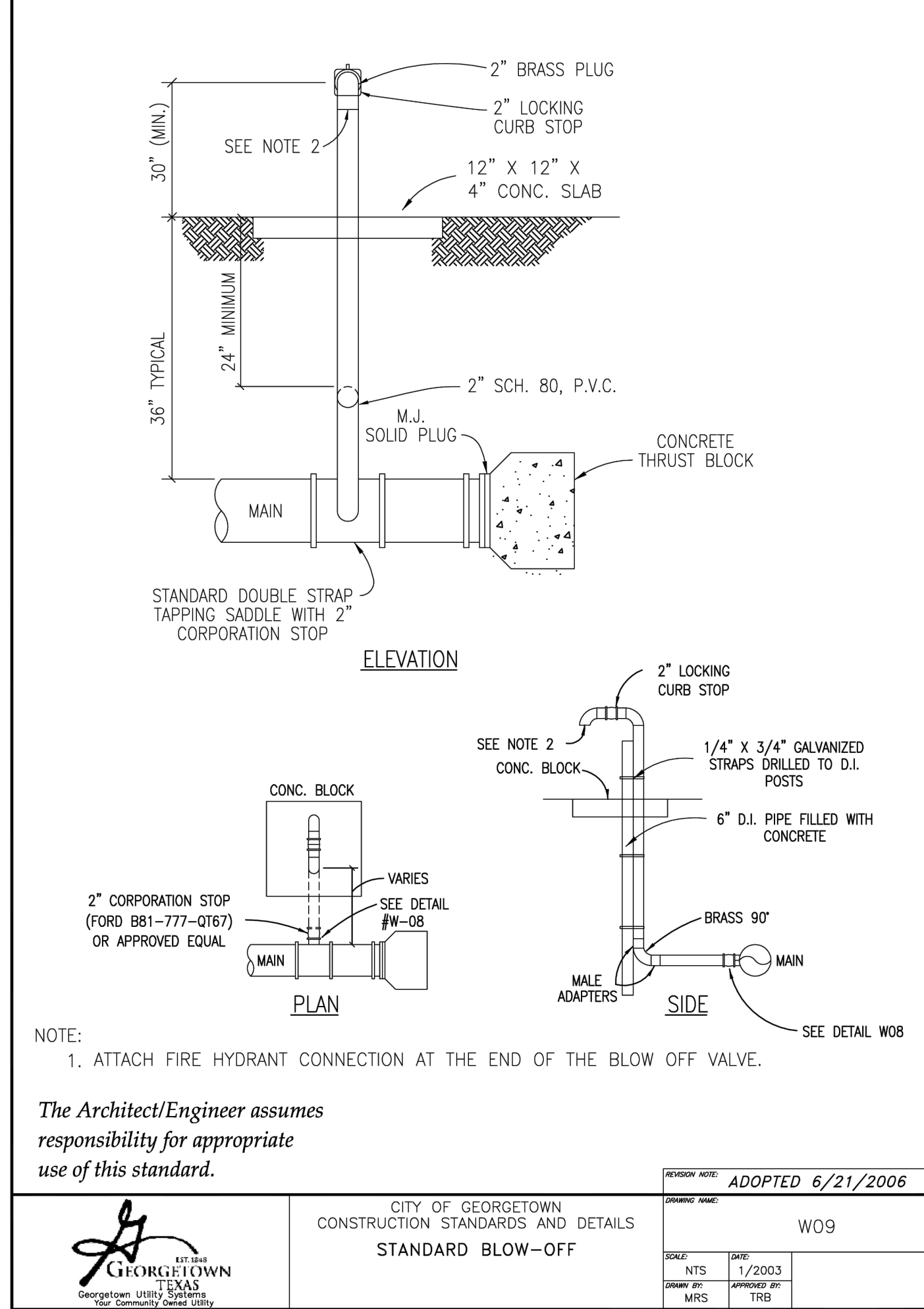
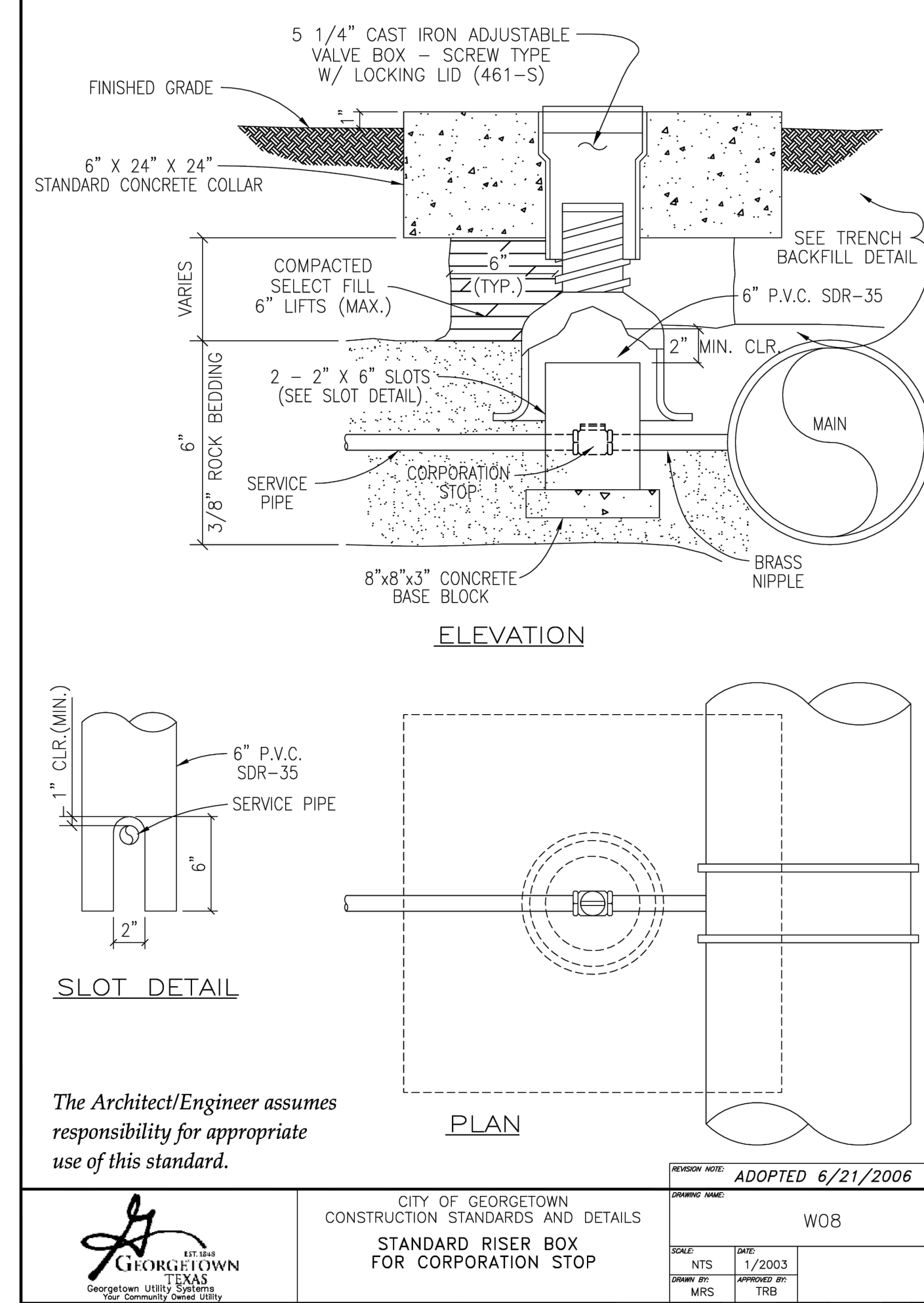
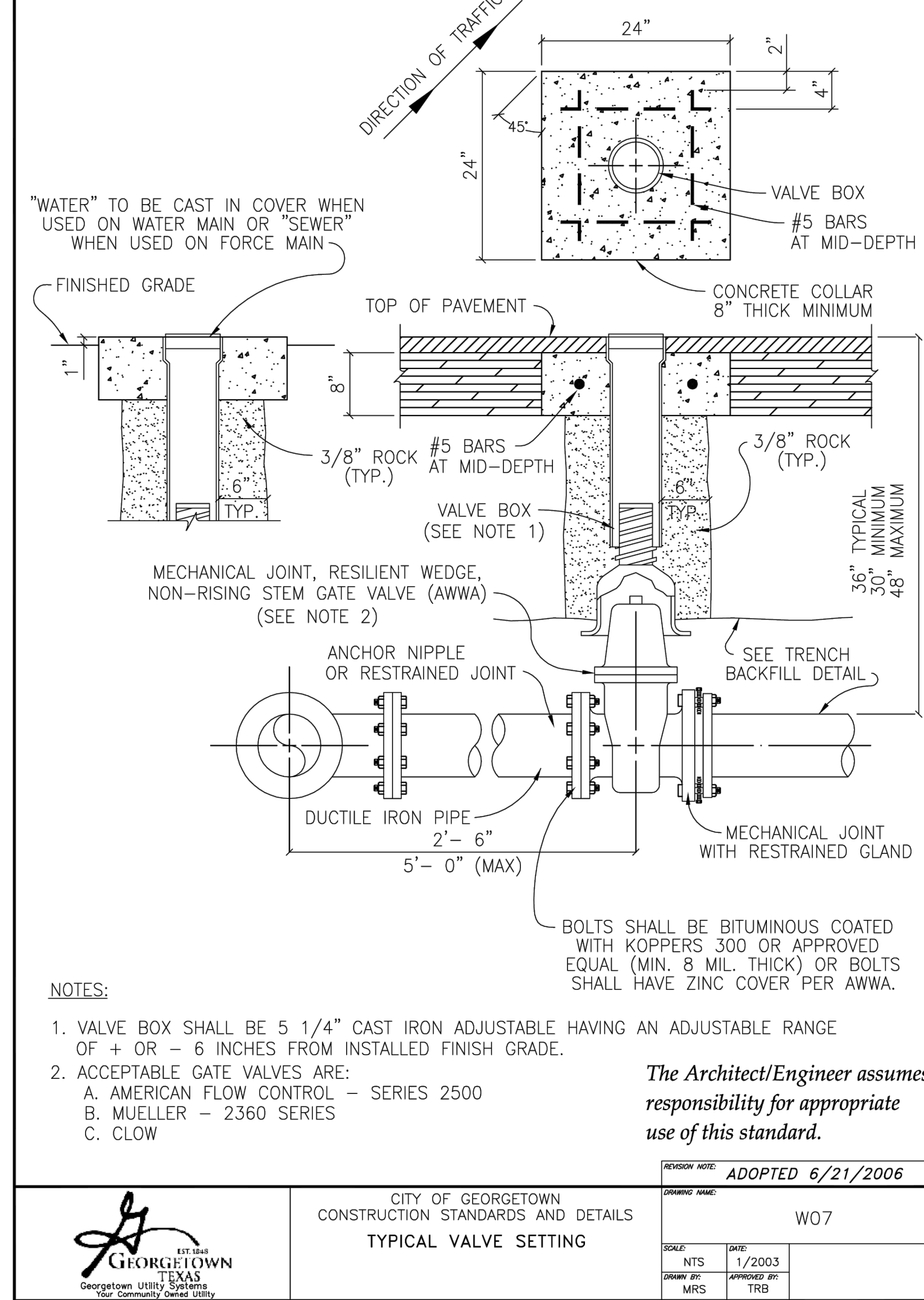
UTILITY DETAILS
(SHEET 1 OF 5)

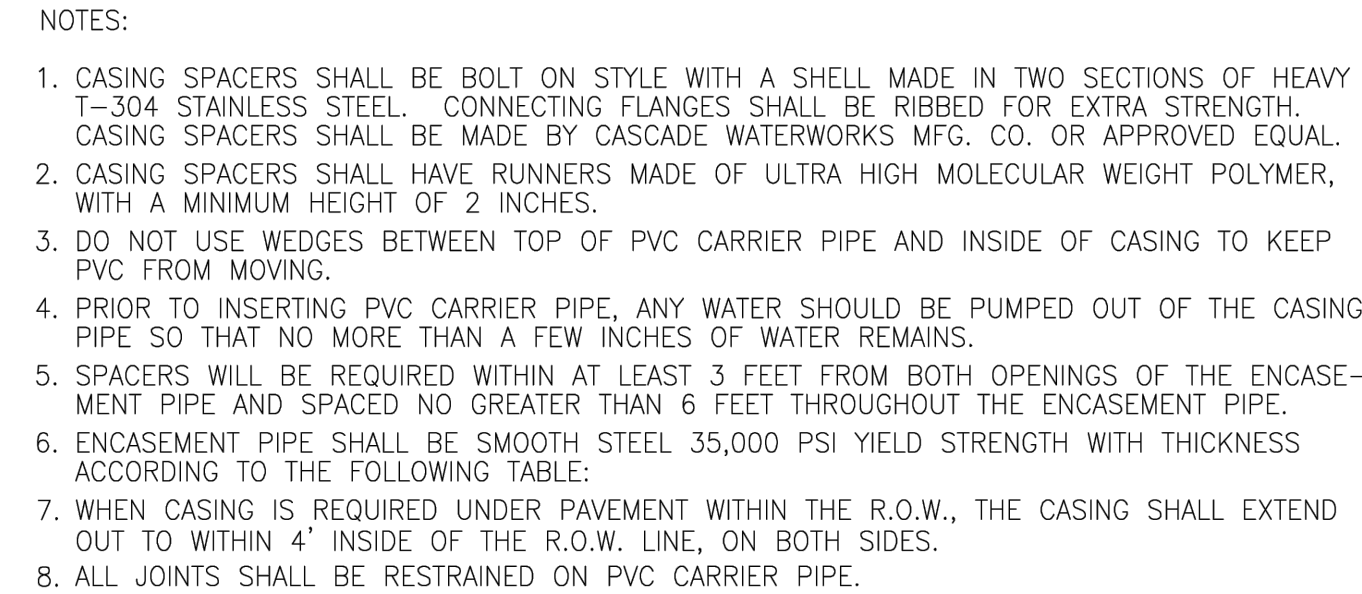
ELDORADO
SUBDIVISION
PHASE 8
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

51 OF 58

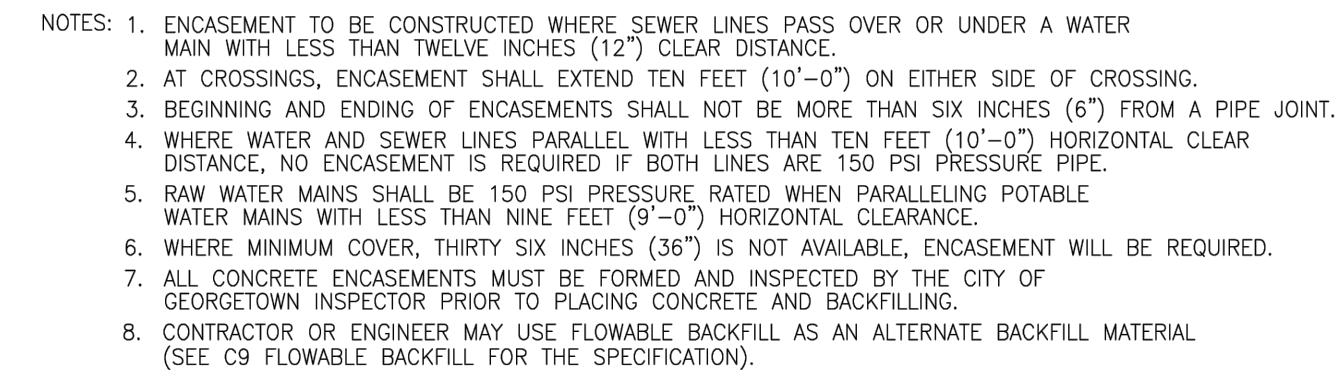
2025-8-CON



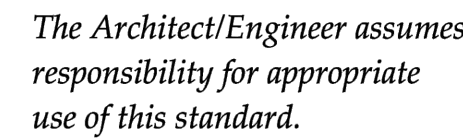


The Architect/Engineer assumes responsibility for appropriate use of this standard.

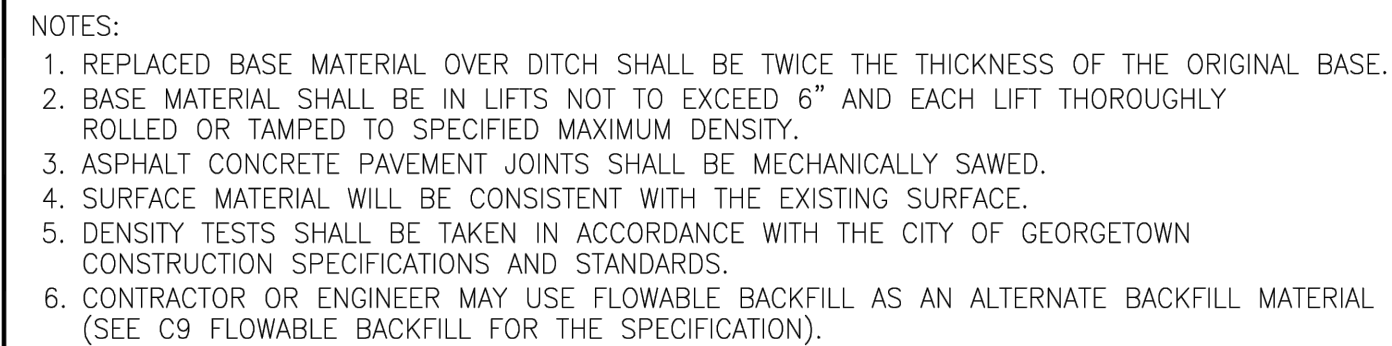
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB



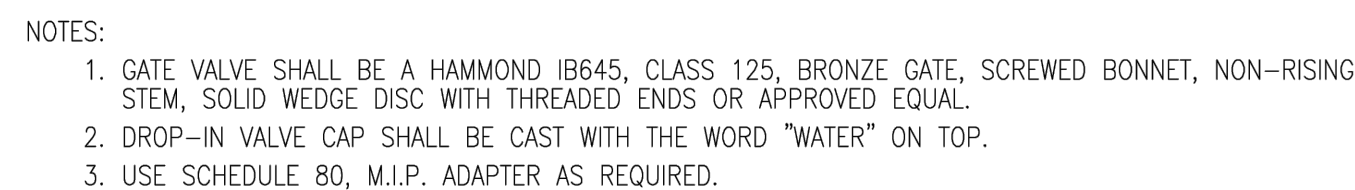
SCALE:	DATE:
NTS	1/2003
DRAWN BY:	APPROVED BY:
MRS	TRB



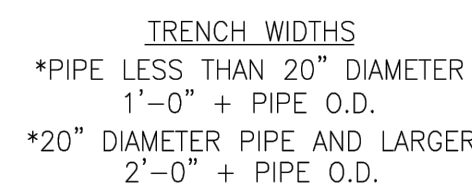
SCALE:	DATE:
NTS	1/2003
DRAWN BY:	APPROVED BY:
MRS	TRB



SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB



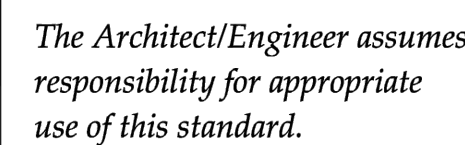
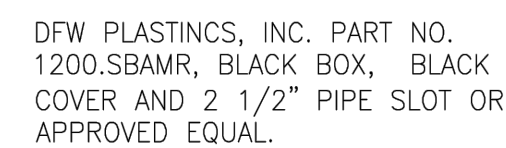
SCALE:	DATE:
NTS	1/2003
DRAWN BY:	APPROVED BY:
MRS	TRB



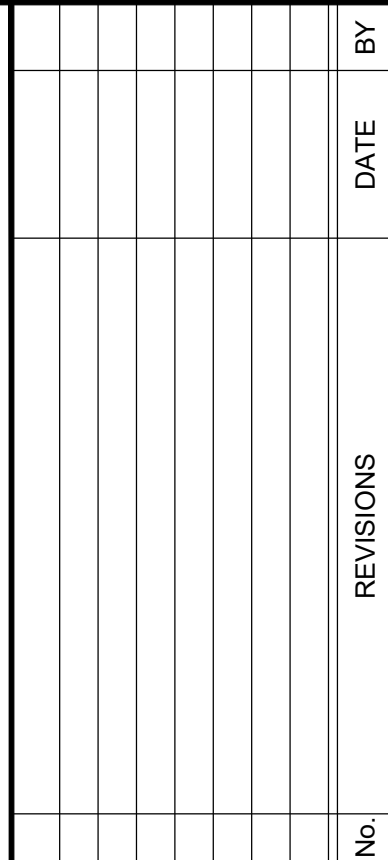
NOTES:

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).

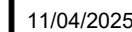
SCALE:	DATE:	
NTS	1/2003	
DRAWN BY:	APPROVED BY:	
MRS	TRB	



SCALE:	DATE:
NTS	1/2003
DRAWN BY:	APPROVED BY:
MRS	TRB



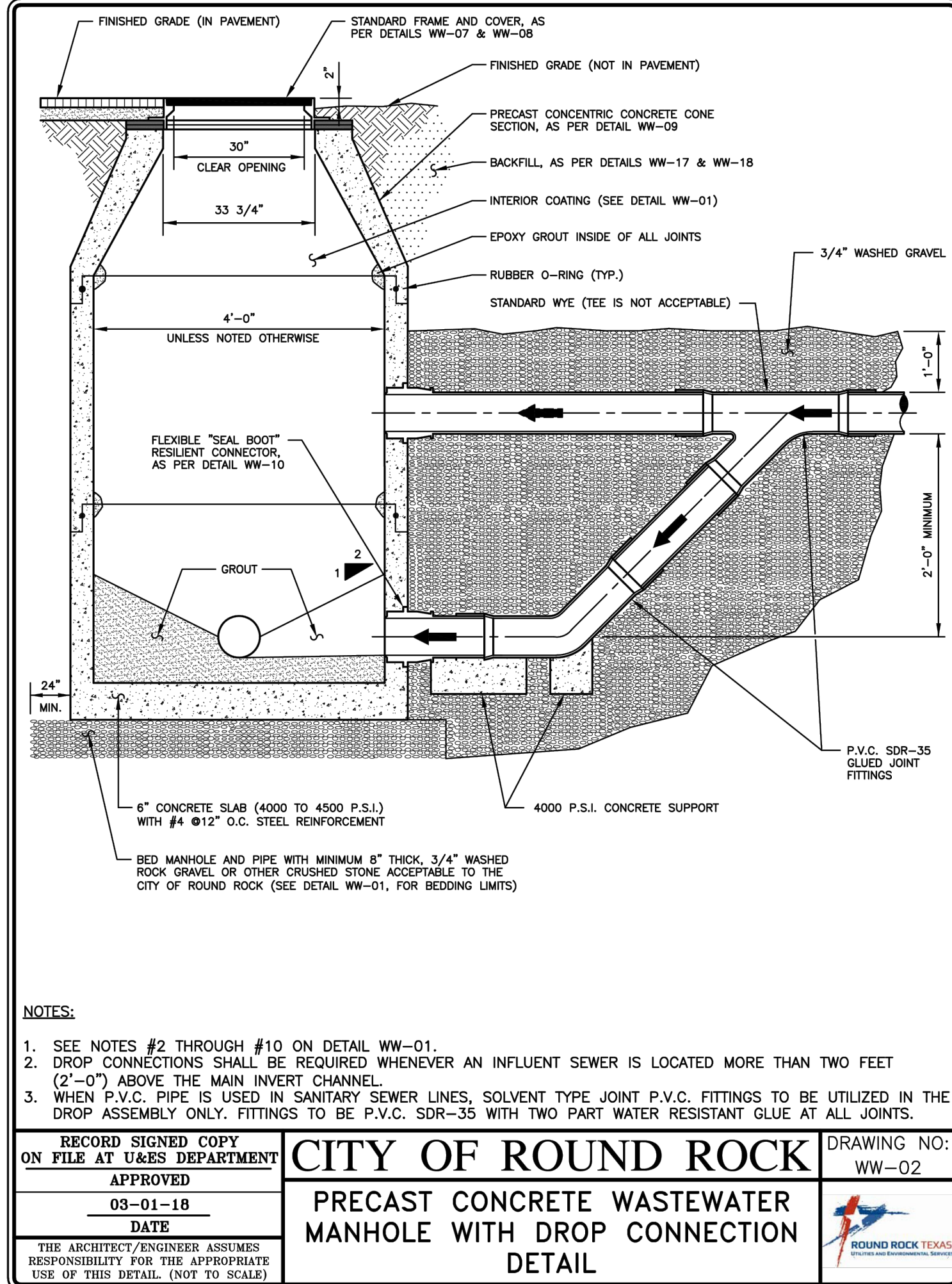
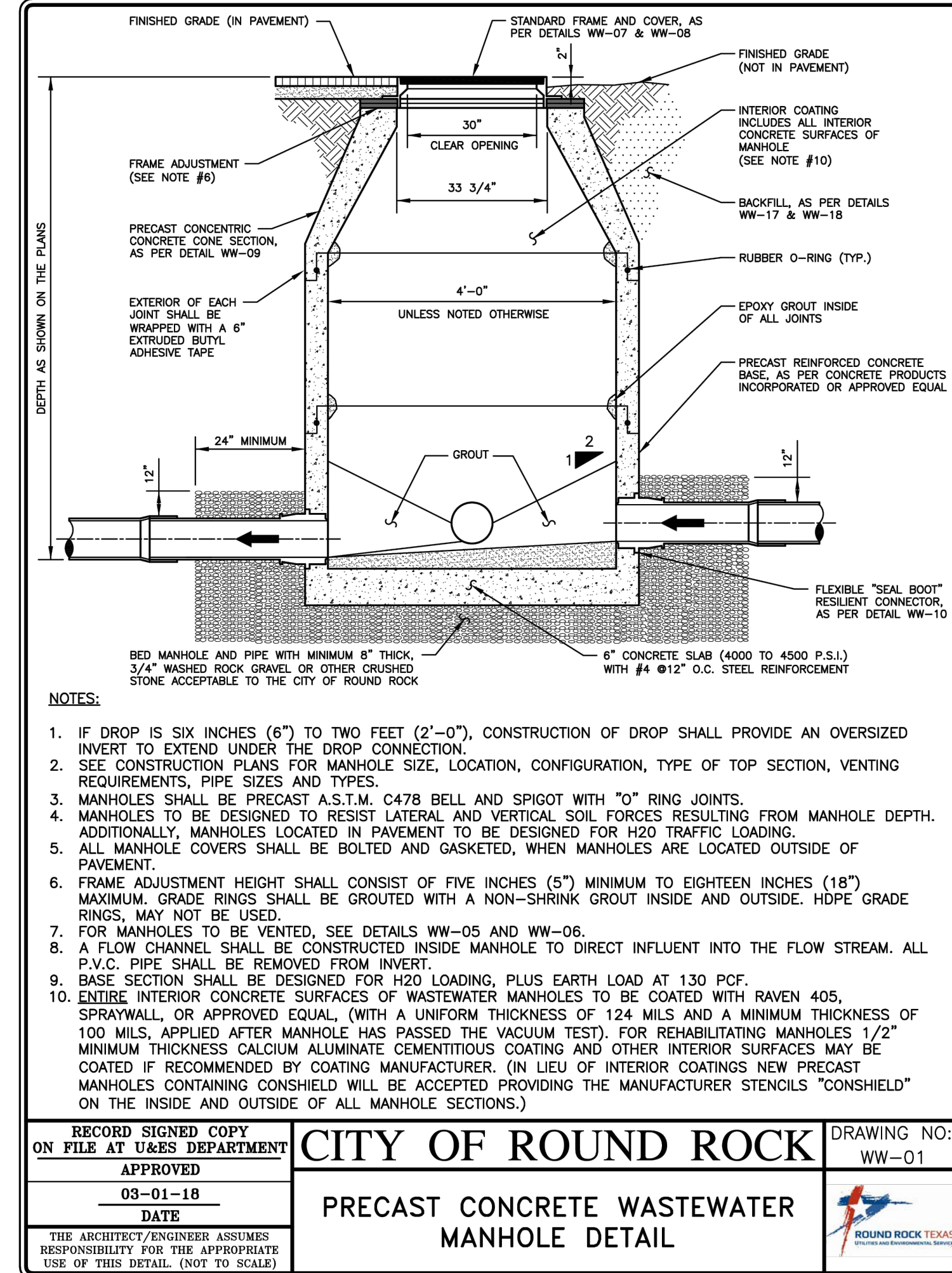
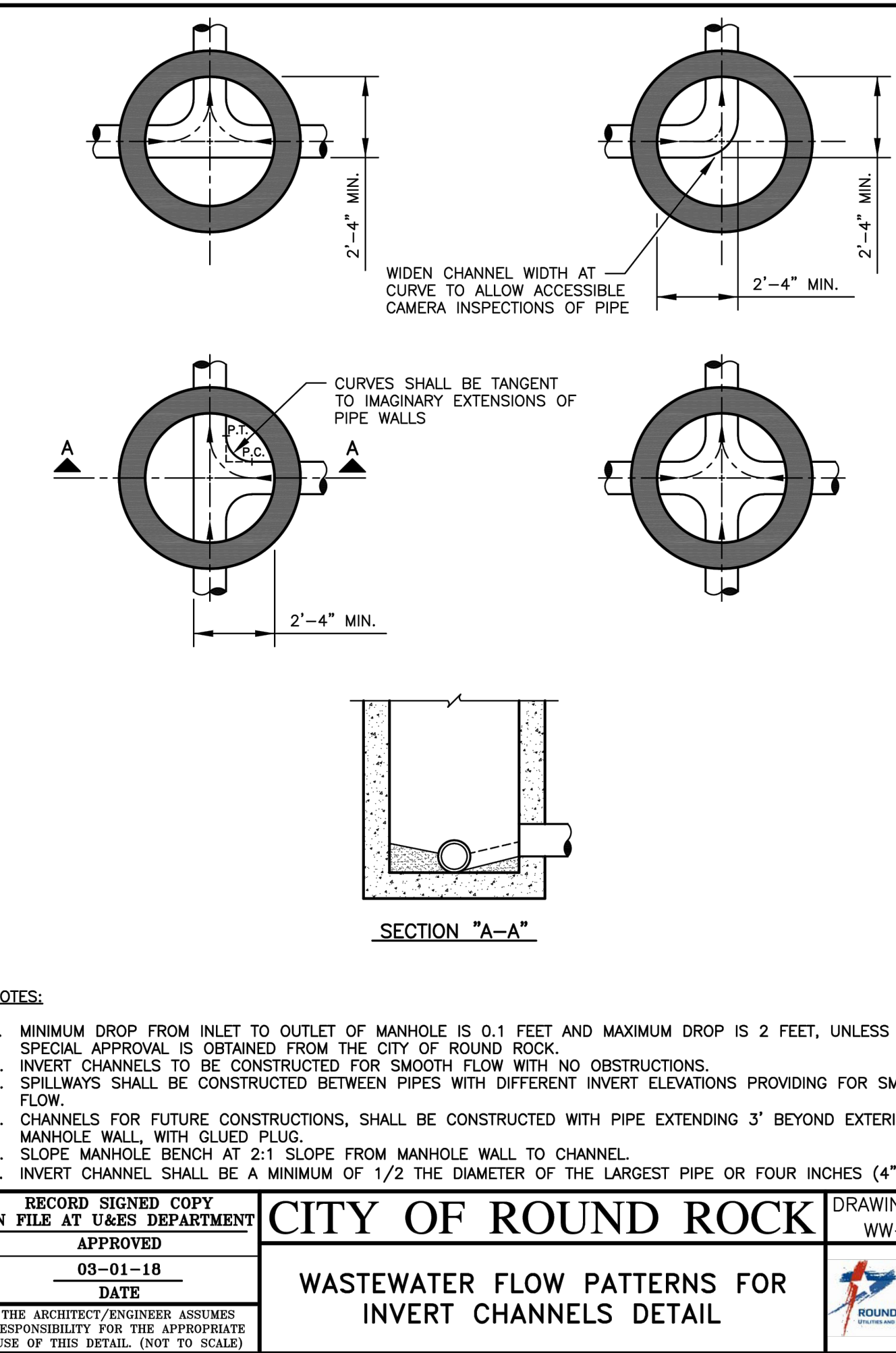
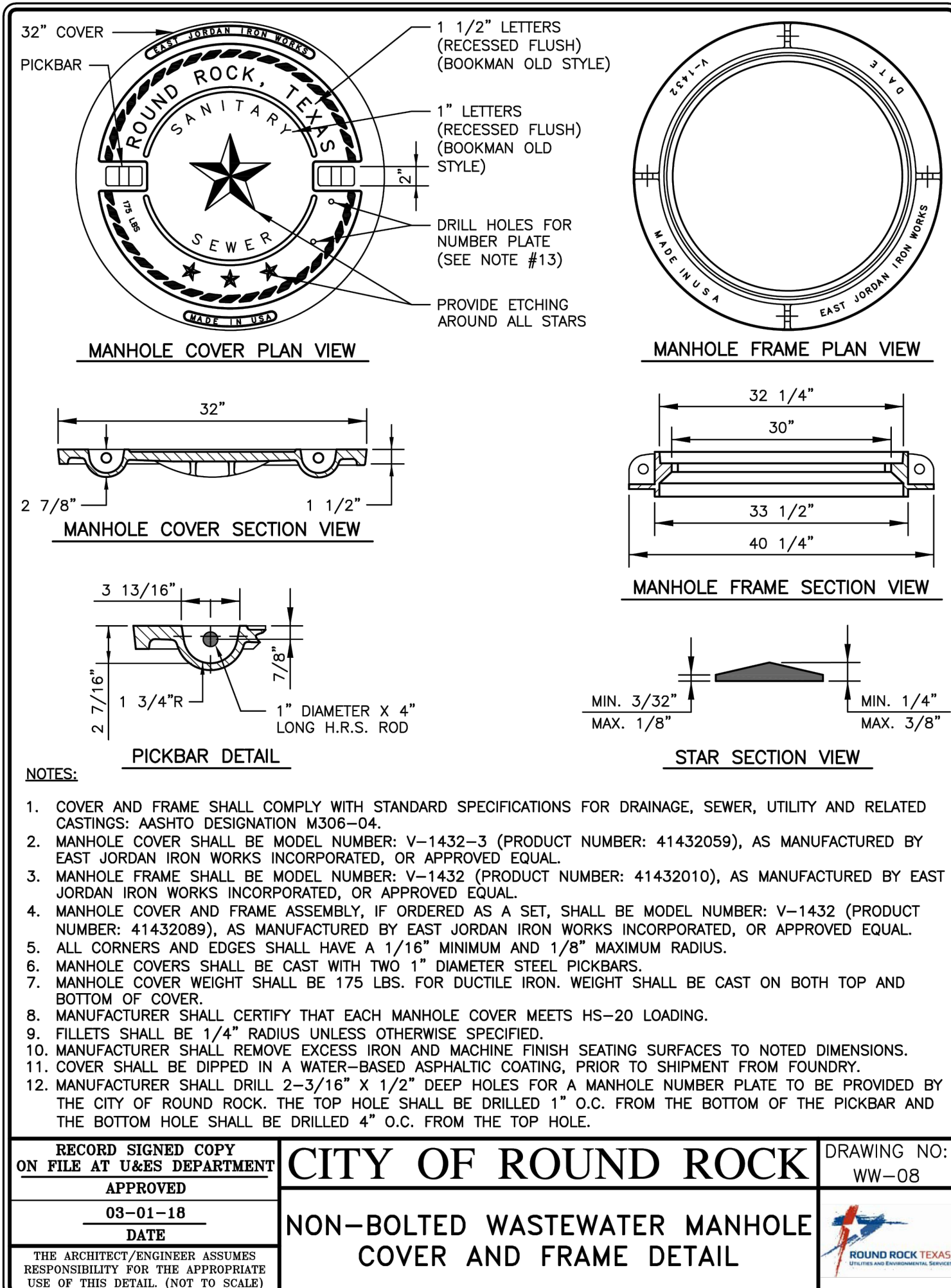
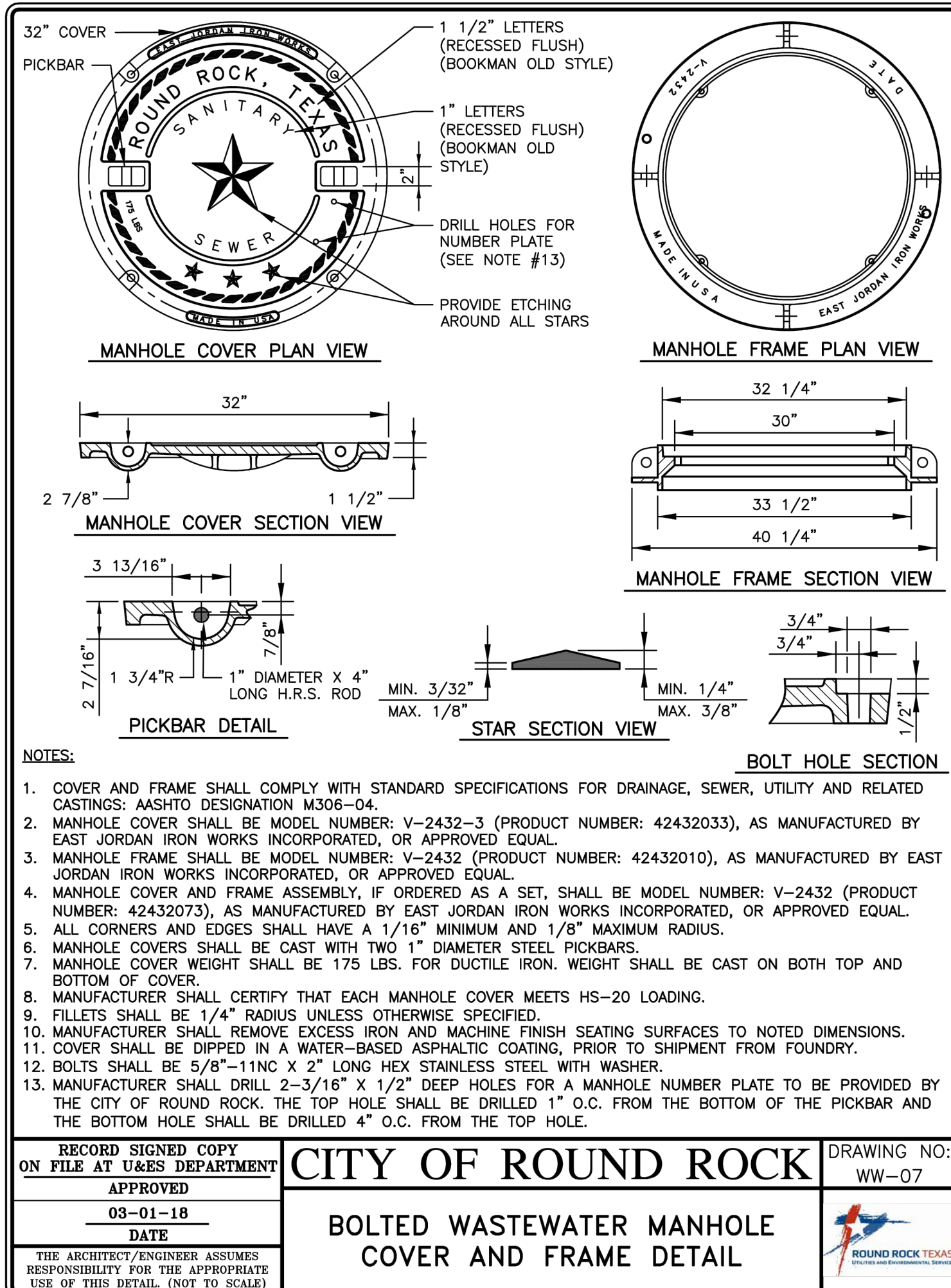
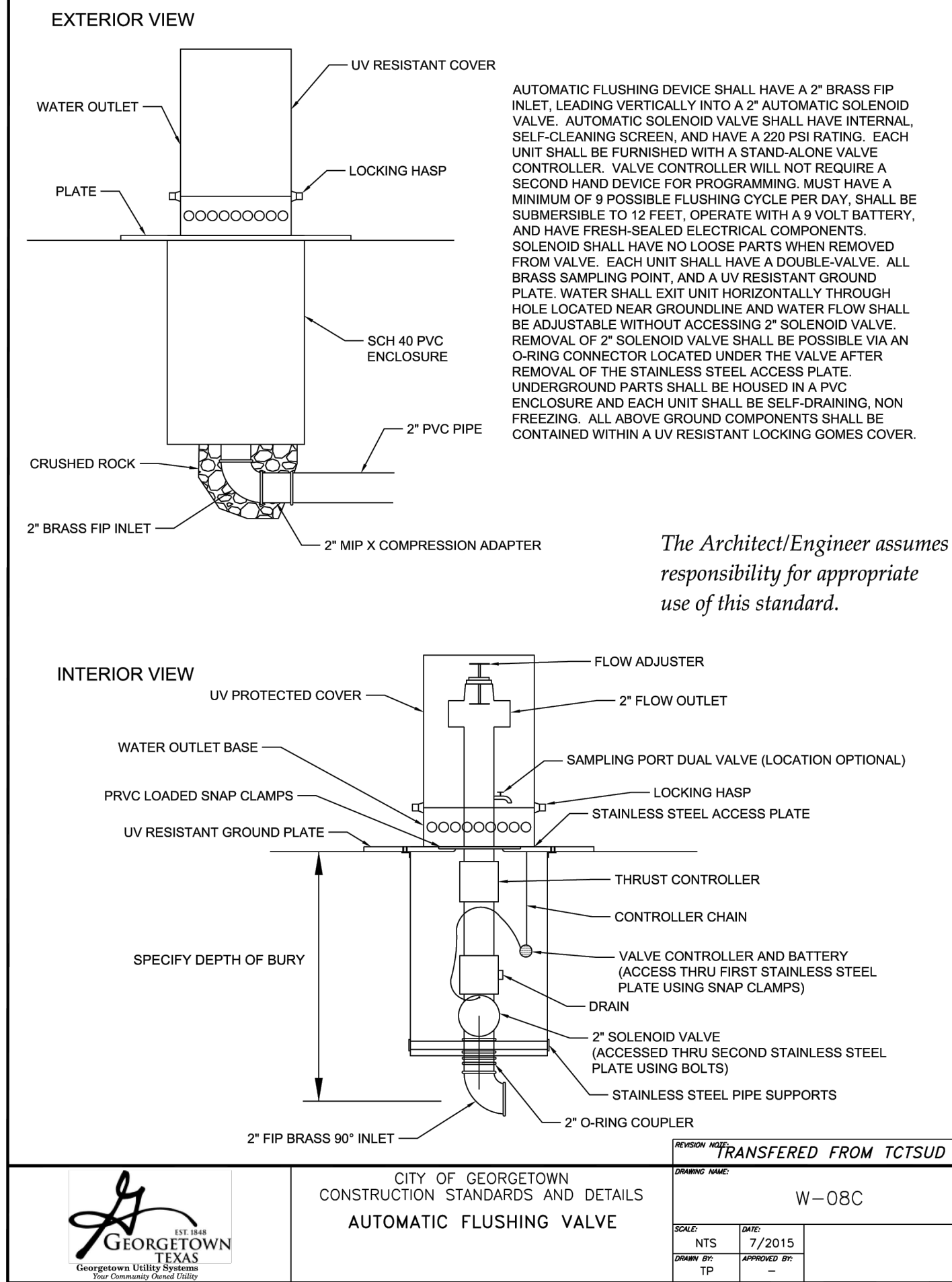
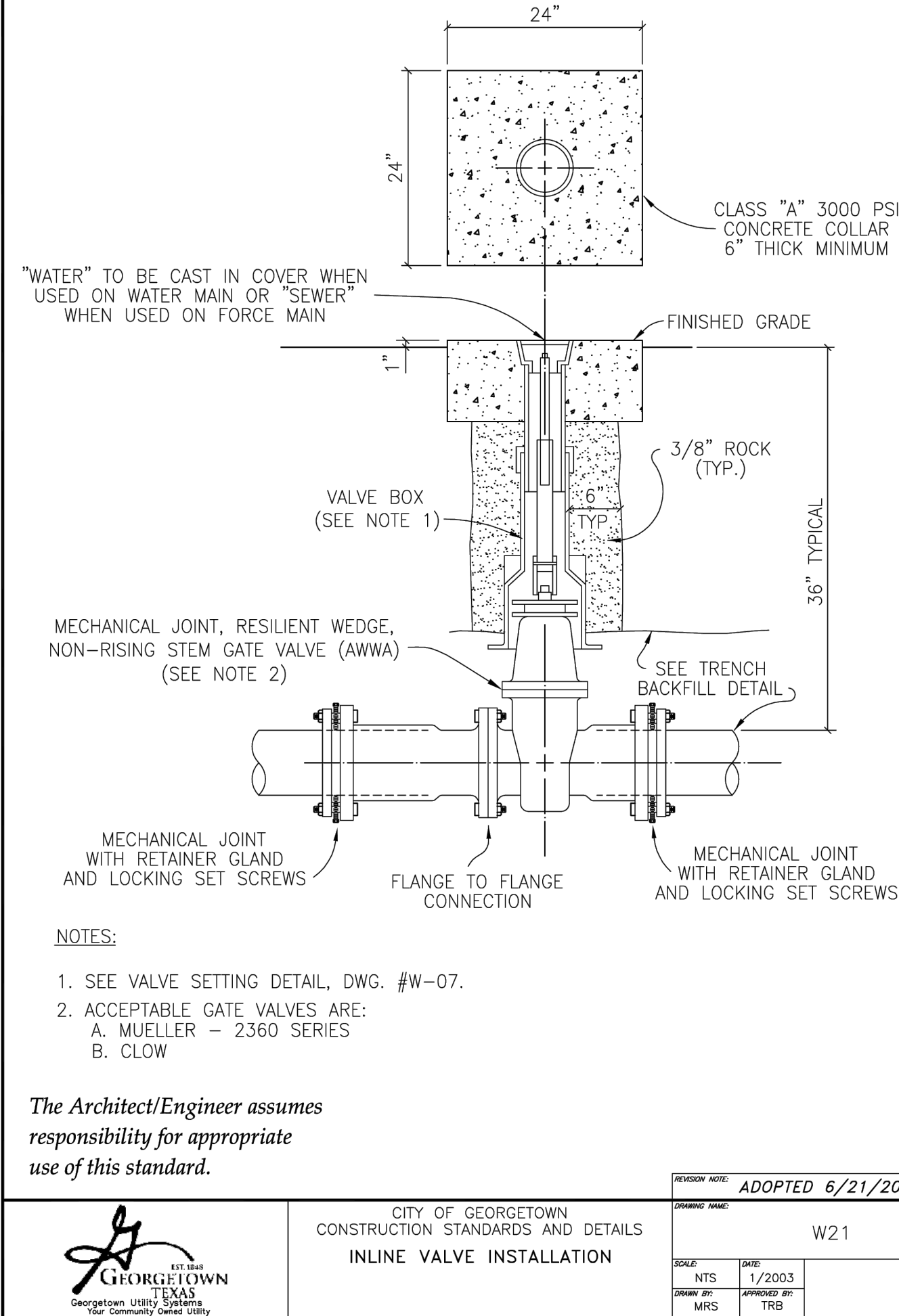
111 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928



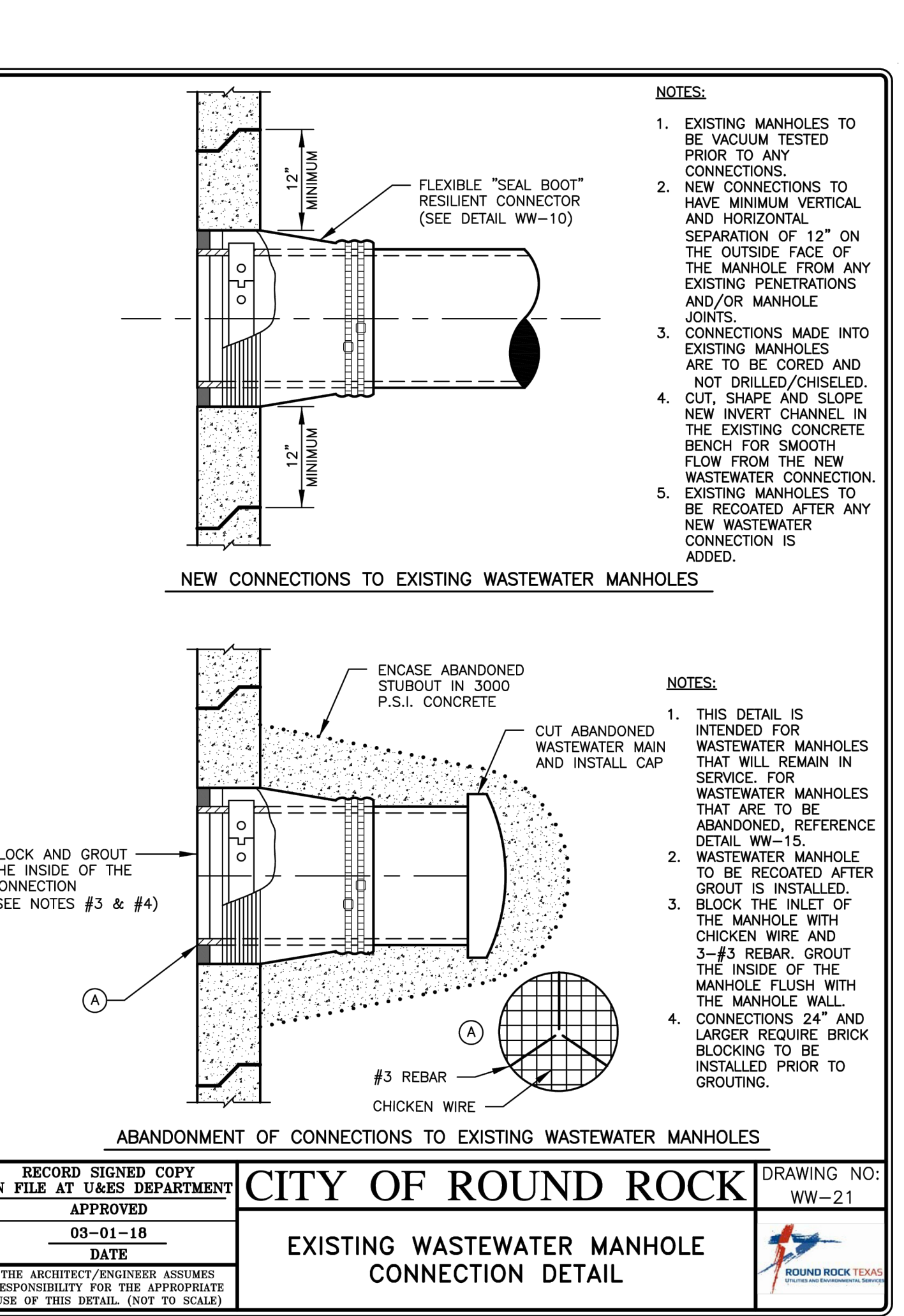
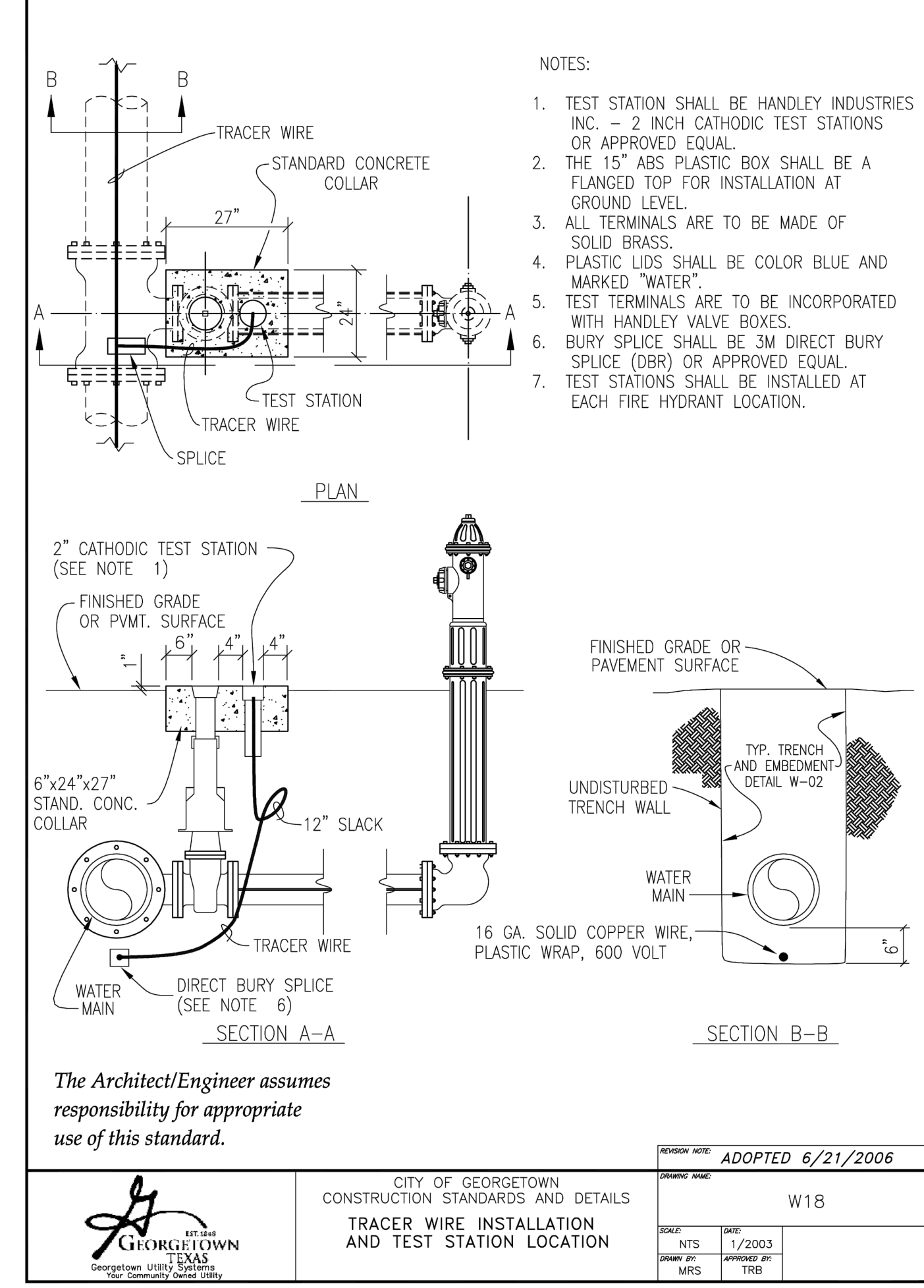
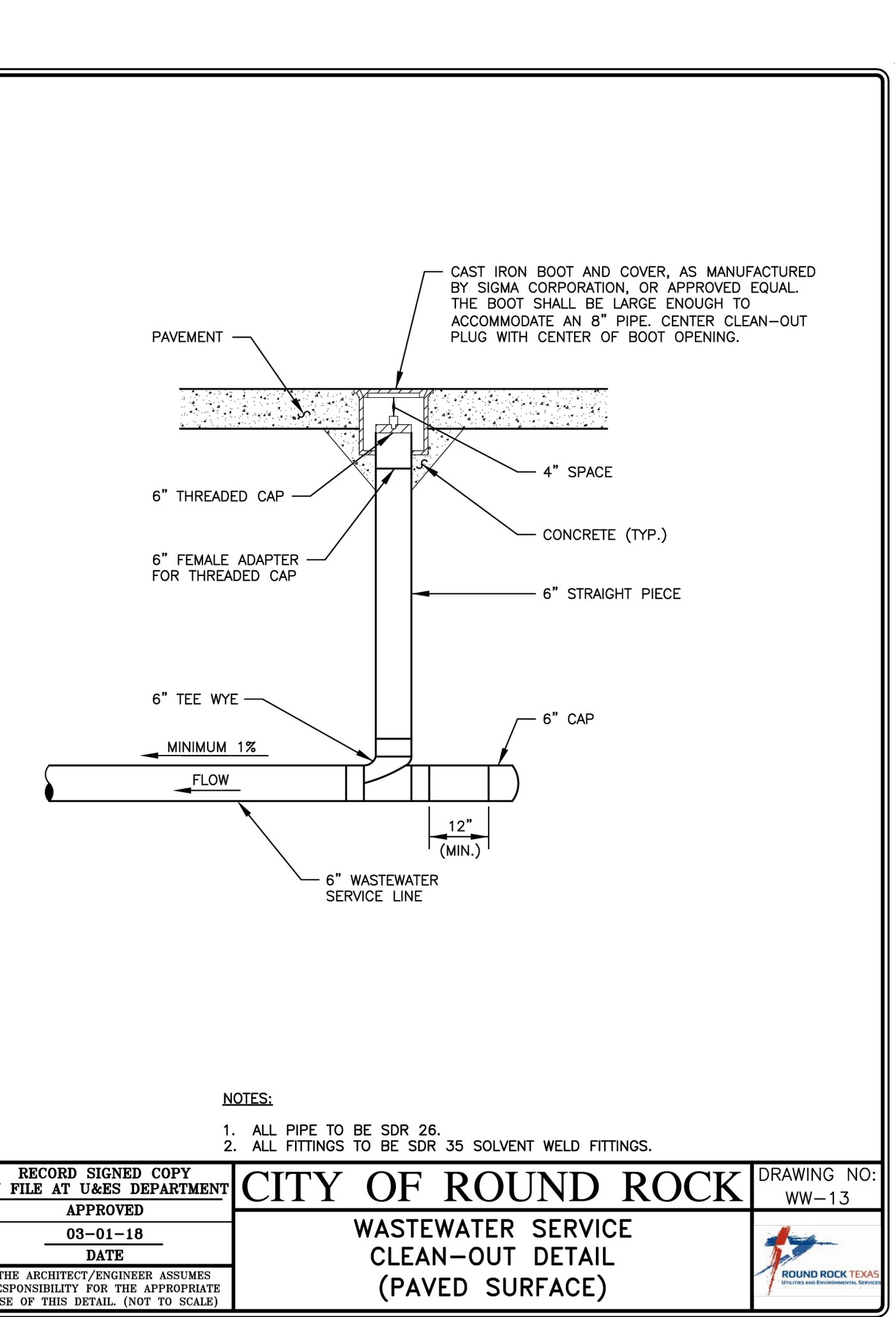
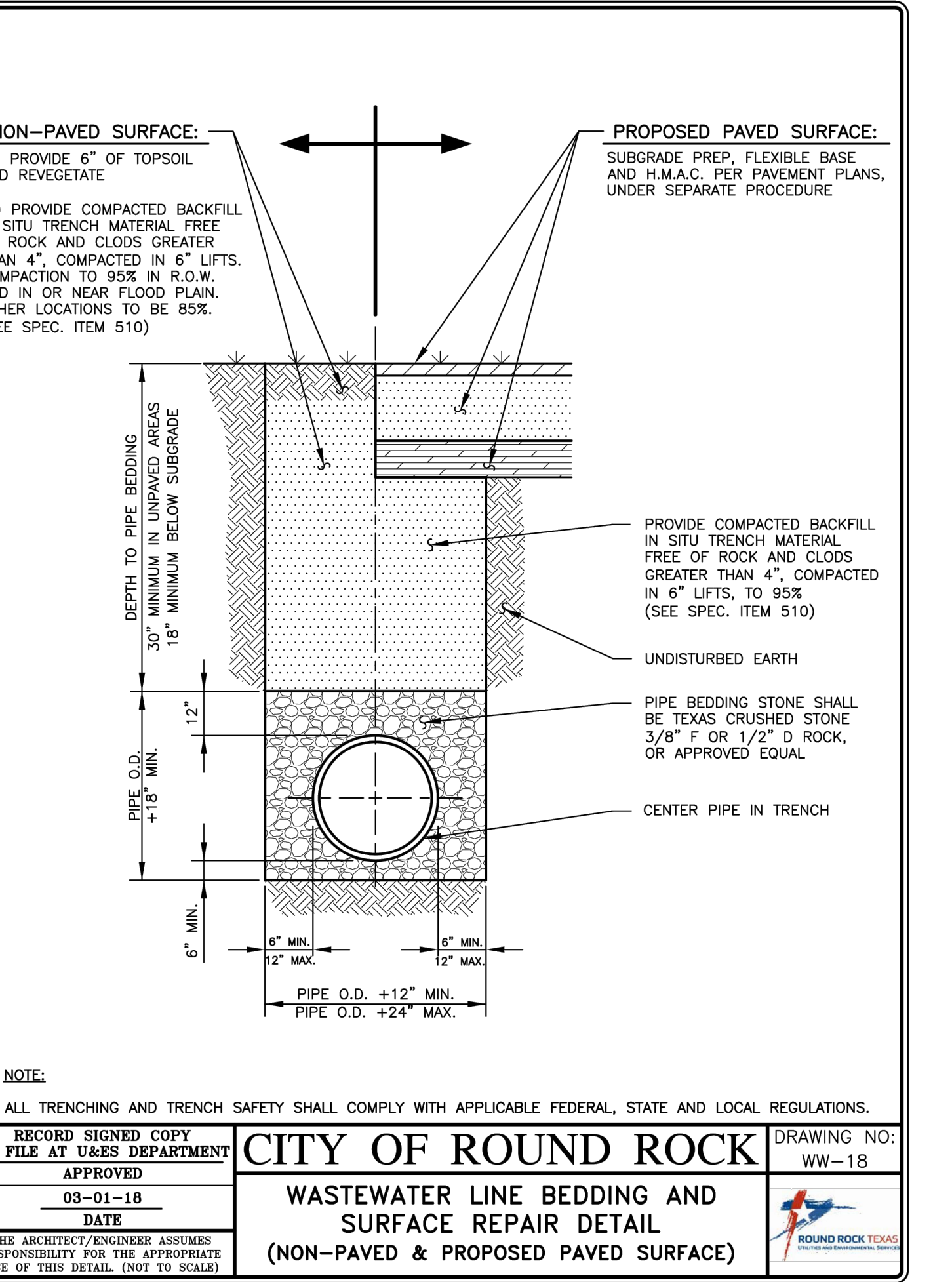
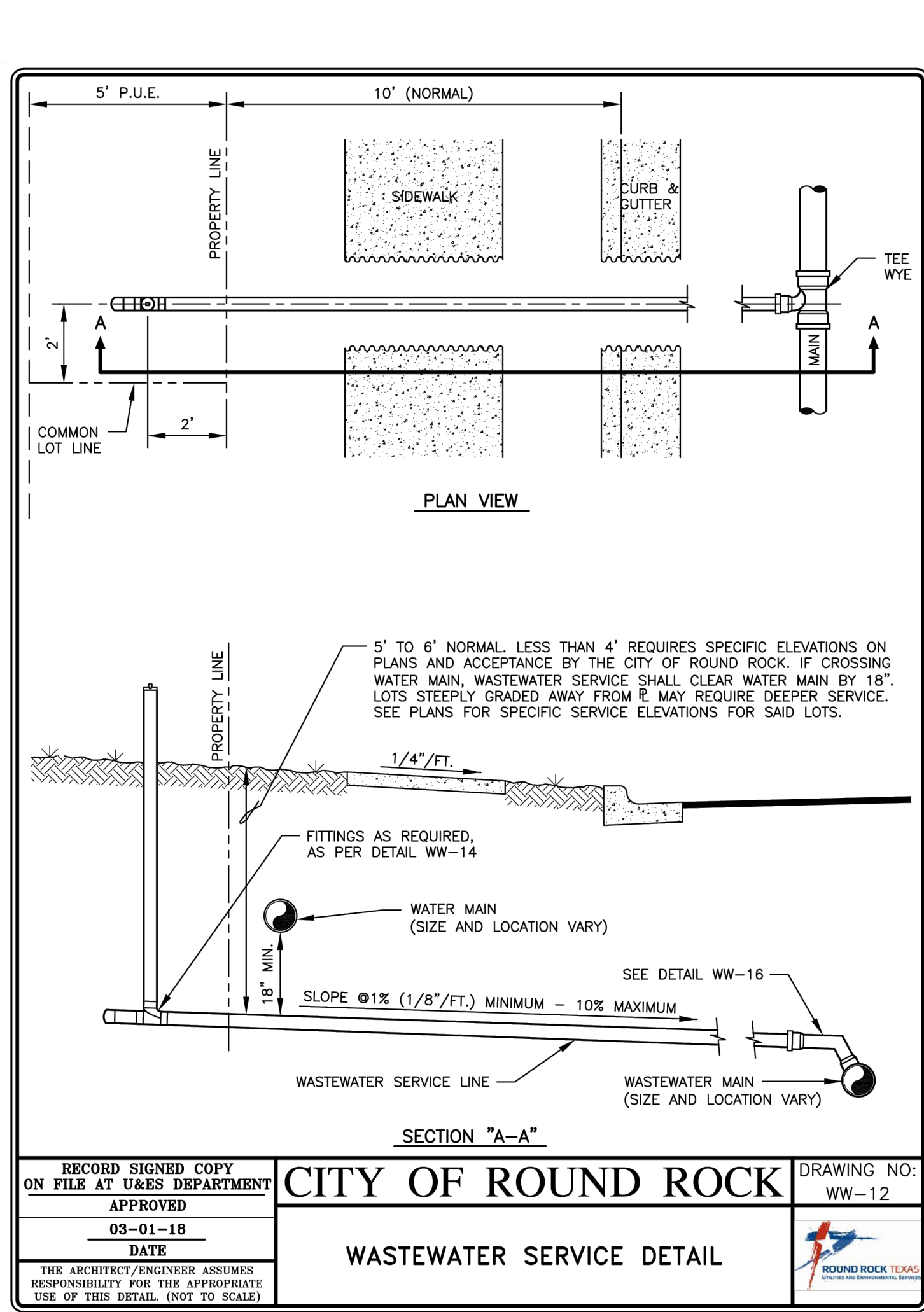
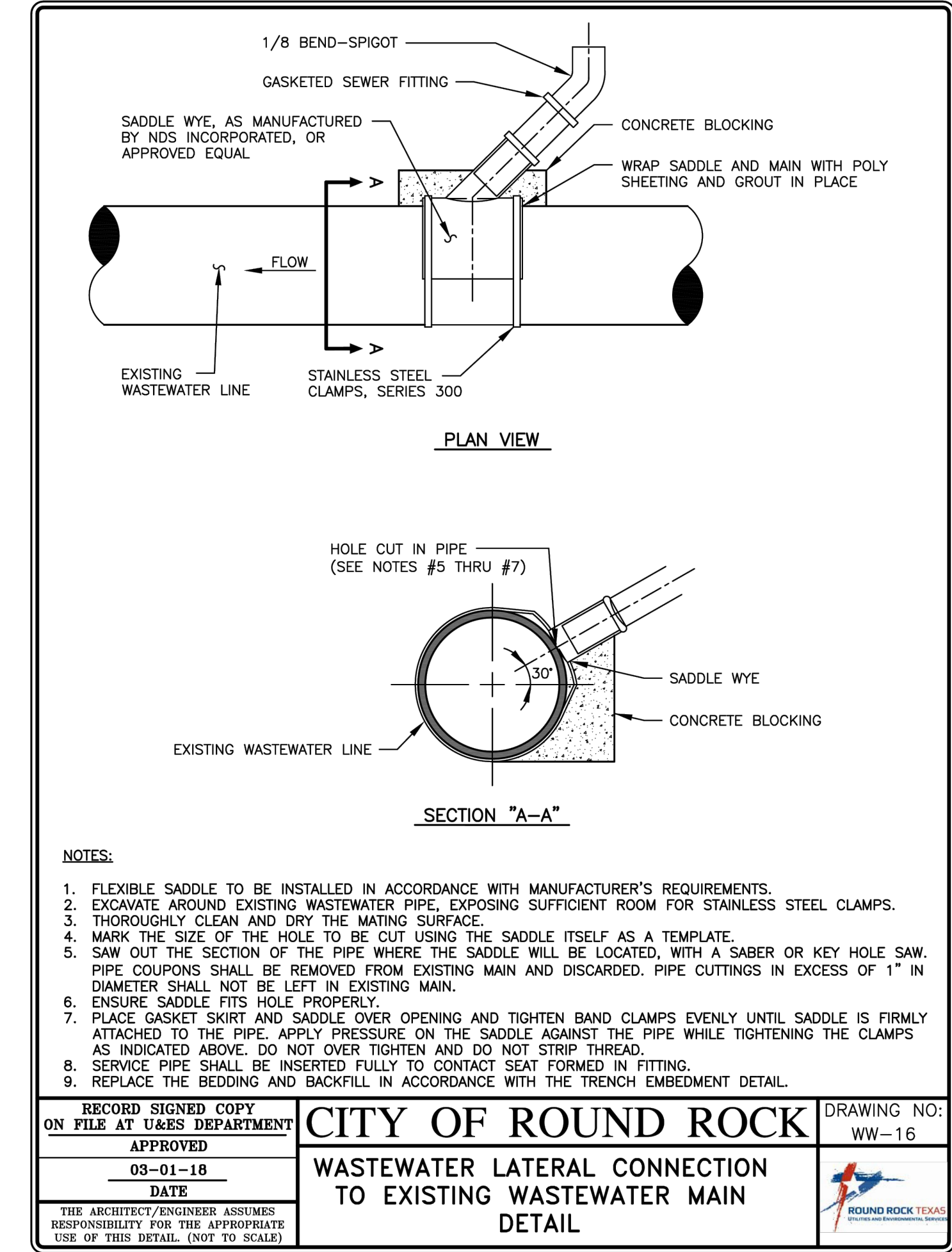
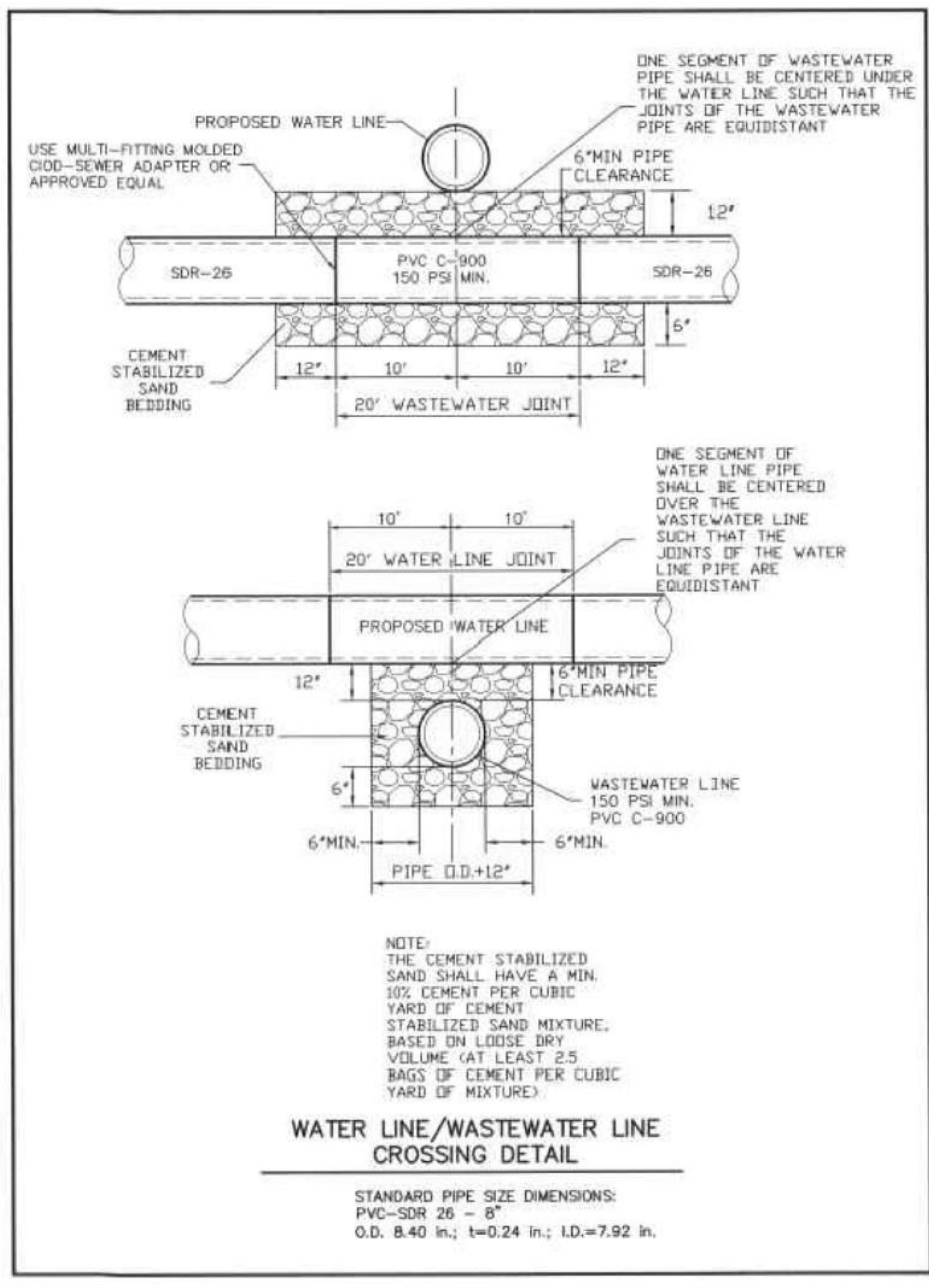
UTILITY DETAILS
(SHEET 3 OF 5)

**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

Plotted By: Gaces, korn Date: November 04, 2025 05:19:34pm File Path: K:\NSAU-Civil\069288000 Eldorado - Liberty Hill Single Family\CD\PH8\PUBLIC CONSTRUCTION\PlanSheets\C - Utility Details.dwg
This document, together with the concepts and designs presented herein, 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.



Plotted By: Grace, korn Date: November 04, 2025 05:19:47pm File Path: K:\SAU-Civil\069288000 Eldorado - Liberty Hill Single Family\CD\PH8\PUBLIC CONSTRUCTION\PlanSheets\C - Utility Details.dwg
This document, together with the concepts and designs presented herein, 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.



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: Benjamin L. Green, P.E.

Date: 11/4/2025

Signature of Customer/Agent:



Regulated Entity Name: Eldorado Subdivision Phase 7 & 8

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: Sowes Branch

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.
- A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.
- ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information

must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached.
18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

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

Attachment A

Spill Response Actions

Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 1.4.16.

Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
 - Contain the spread of the spill.
 - Recover spilled materials.
 - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

- Contain spread of the spill.
- Notify the project foreman immediately.
- If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

Attachment B
Potential Sources of Contamination

Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Silt leaving the site.

Preventative Measures: Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel and excavated materials stock piled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stock piled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

Potential Source: Portable toilet spill.

Preventative Measures: Toilets on the site will be emptied on a regular basis by the contracted toilet company.

Attachment C

Sequence of Major Activities

Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

Intended Schedule or Sequence of Major Activities:

1. Construct Access (0.099 Acres)
2. Installation of Temporary BMPs (up to 50.3 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (32.9 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (50.3 Acres)
5. Wet and Dry Utility Construction (up to 1.127 Acres)
6. Topsoil, Irrigation and Landscaping (up to 32.9 Acres)
7. Site cleanup and Removal of Temporary BMPs (50.3 Acres)

Maximum total construction time is not expected to exceed 24 months.

Attachment D
Temporary Best Management Practices
and Measures

Temporary Best Management Practices and Measures

- A. There is no storm water that originates up gradient from the site that will flow across the site.
- B. Temporary 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 on each phase to reduce vehicle “tracking” onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction.

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.

- C. There are no sensitive features or surface streams within the boundaries of the project. However, the site will discharge into a Sowes Branch surface stream. 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 identified on the 332- 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 F

Structural Practices

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 at the end of this report under Section 8.

Description of Temporary BMPs

Temporary Construction Entrance/Exit

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

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

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.

Staging and Spoils Area

A staging and spoils area serves as a designated space for temporarily storing materials, equipment, and excavated soils (spoils) during construction activities. Its main purpose is to organize and centralize resources, making loading, unloading, and assembly more efficient, and to reduce clutter and congestion around the active work zone.

These areas are most effective when located on flat, stable ground that's close enough to the work site for easy access, but far enough to avoid interfering with daily operations or causing safety hazards. Placement on previously disturbed or paved ground is ideal to minimize environmental impact and facilitate later site restoration. Staging and spoils areas help streamline workflow, improve safety for crews and equipment, and support compliance with environmental and operational requirements.

Inlet Protection

Inlet protections are temporary sediment control barriers installed around storm drain inlets during construction activities to prevent sediment, debris, and pollutants from entering the storm drain system. Their primary purpose is to filter runoff and minimize water pollution, ensuring compliance with environmental regulations and protecting downstream water quality.

Temporary Vegetation

The purpose of temporary vegetation is to stabilize disturbed areas that will be idle for 14 days or more but less than 12 months. It involves planting rapid-growing annual grasses, small grains, or legumes to provide initial ground cover. This practice is particularly useful during construction activities, on slopes, washouts, topsoil stockpiles, and temporary excavation areas. Temporary vegetation helps reduce sediment runoff, prevents mud and dust production, and protects earthen structures such as dikes and sediment basins. It's especially valuable when final grading is incomplete or when it's not the appropriate season for establishing permanent vegetation. While temporary vegetation offers quick soil protection, it's often used in conjunction with mulch or other temporary covers to ensure immediate erosion control until the vegetation becomes established.

Hydraulic Mulch

Hydraulic mulch is a versatile erosion control method that involves spraying a slurry mixture onto exposed soil surfaces. This slurry typically consists of water, fiber mulch, seed, fertilizer, and a tackifier or soil binder. When applied, it forms a protective layer that adheres to the soil, providing immediate erosion control by shielding the surface from wind and water erosion. The mulch helps retain moisture, promotes

seed germination, and aids in establishing vegetation. It's particularly useful for stabilizing steep slopes, large areas, or locations that are difficult to access with traditional seeding methods.

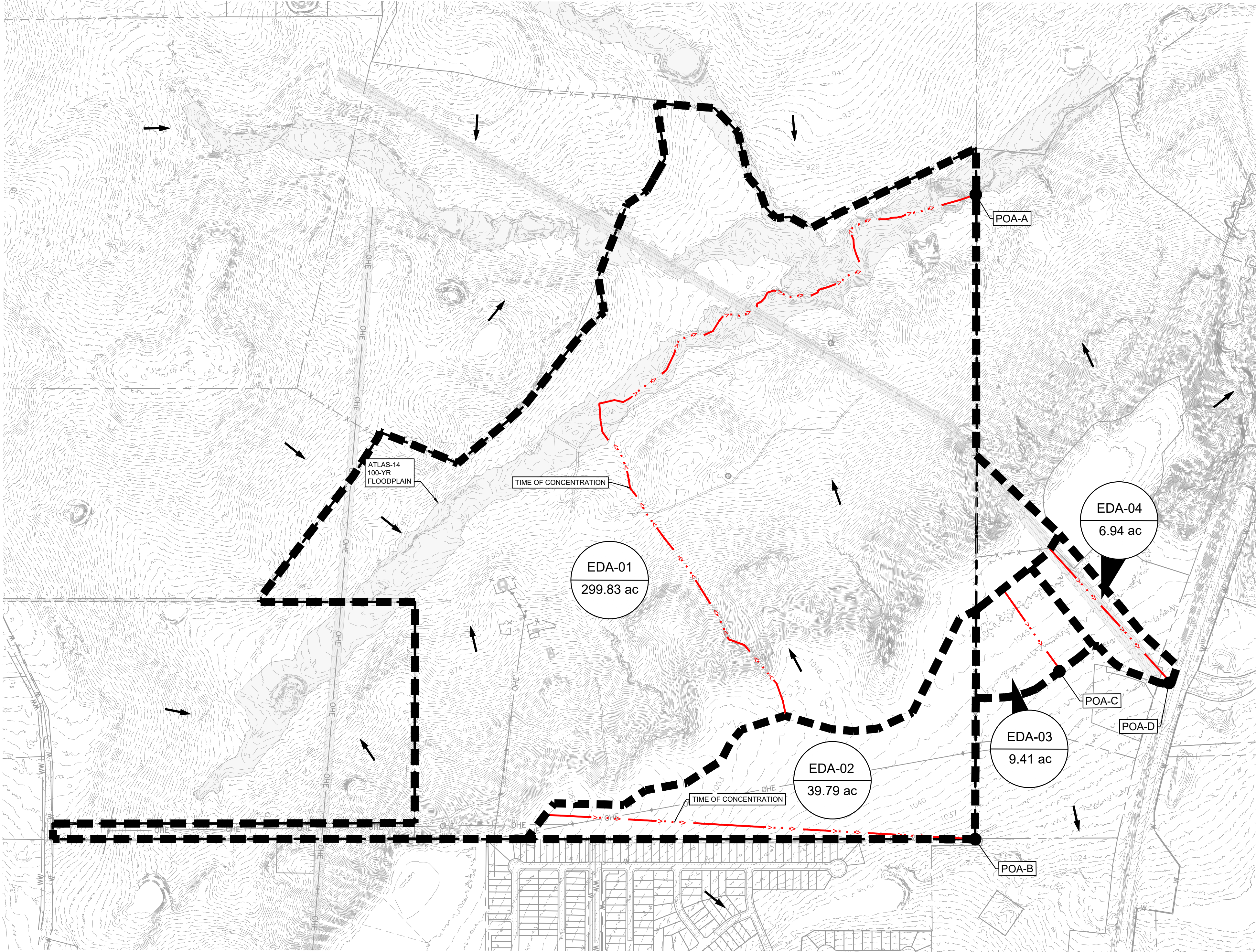
Attachment G

Drainage Area Map

Drainage Area Maps

Plotted By:Salas, Nathalie Date:November 04, 2025 04:56:34pm File Path:k:\NSAU-Civil\069286000 Eldorado - Liberty Hill Single Family\069286000 PH7-PUBLIC CONSTRUCTION\PlanSheets\0 - Existing Drainage Area Map.dwg

This document, together with the concepts and designs presented herein, 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.



EXISTING CONDITIONS									
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)	
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71	
POA-A					528.51	1019.13	1364.38	1938.71	
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64	
POA-B					67.46	131.50	175.86	249.64	
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31	
POA-C					18.48	35.96	48.03	68.31	
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74	
POA-D					13.30	25.70	34.36	48.74	

*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES

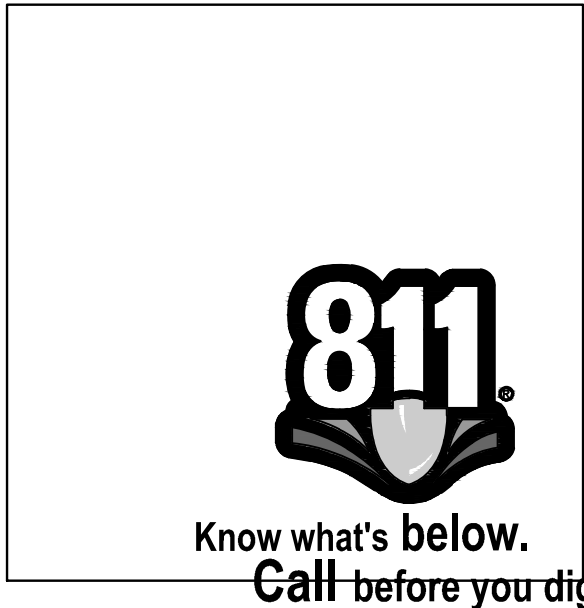
EXISTING TIME OF CONCENTRATION CALCULATIONS

Sheet Flow		Shallow		Channel Flow	
n=	0.15	paved?	no	v (fps)=	6
S (ft/ft)=	0.010	S (ft/ft)=	0.080	L (ft)=	3217
L (ft)=	100	L (ft)=	2316		
T ₁₁ =	12.5	T ₁₂ =	8.5	T ₁₃ =	8.9
Total TC = 29.9 mins					

Sheet Flow		Shallow		Channel Flow	
n=	0.15	paved?	no	v (fps)=	6
S (ft/ft)=	0.010	S (ft/ft)=	0.010	L (ft)=	1175.0
L (ft)=	100	L (ft)=	1500		
T ₁₁ =	12.5	T ₁₂ =	15.5	T ₁₃ =	3.3
Total TC = 31.2 mins					

Sheet Flow		Shallow		Channel Flow	
n=	0.15	paved?	no	v (fps)=	6
S (ft/ft)=	0.006	S (ft/ft)=	0.006	L (ft)=	0
L (ft)=	100	L (ft)=	546		
T ₁₁ =	15.3	T ₁₂ =	7.3	T ₁₃ =	0.0
Total TC = 22.6 mins					

Sheet Flow		Shallow		Channel Flow	
n=	0.15	paved?	no	v (fps)=	6
S (ft/ft)=	0.010	S (ft/ft)=	0.008	L (ft)=	0
L (ft)=	100	L (ft)=	1063		
T ₁₁ =	12.5	T ₁₂ =	12.3	T ₁₃ =	0.0
Total TC = 24.7 mins					



BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn



11/04/2025

KHA PROJECT	DATE	MONTH	YEAR	SCALE	AS SHOWN	BLG	NS	BLG
PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY:					

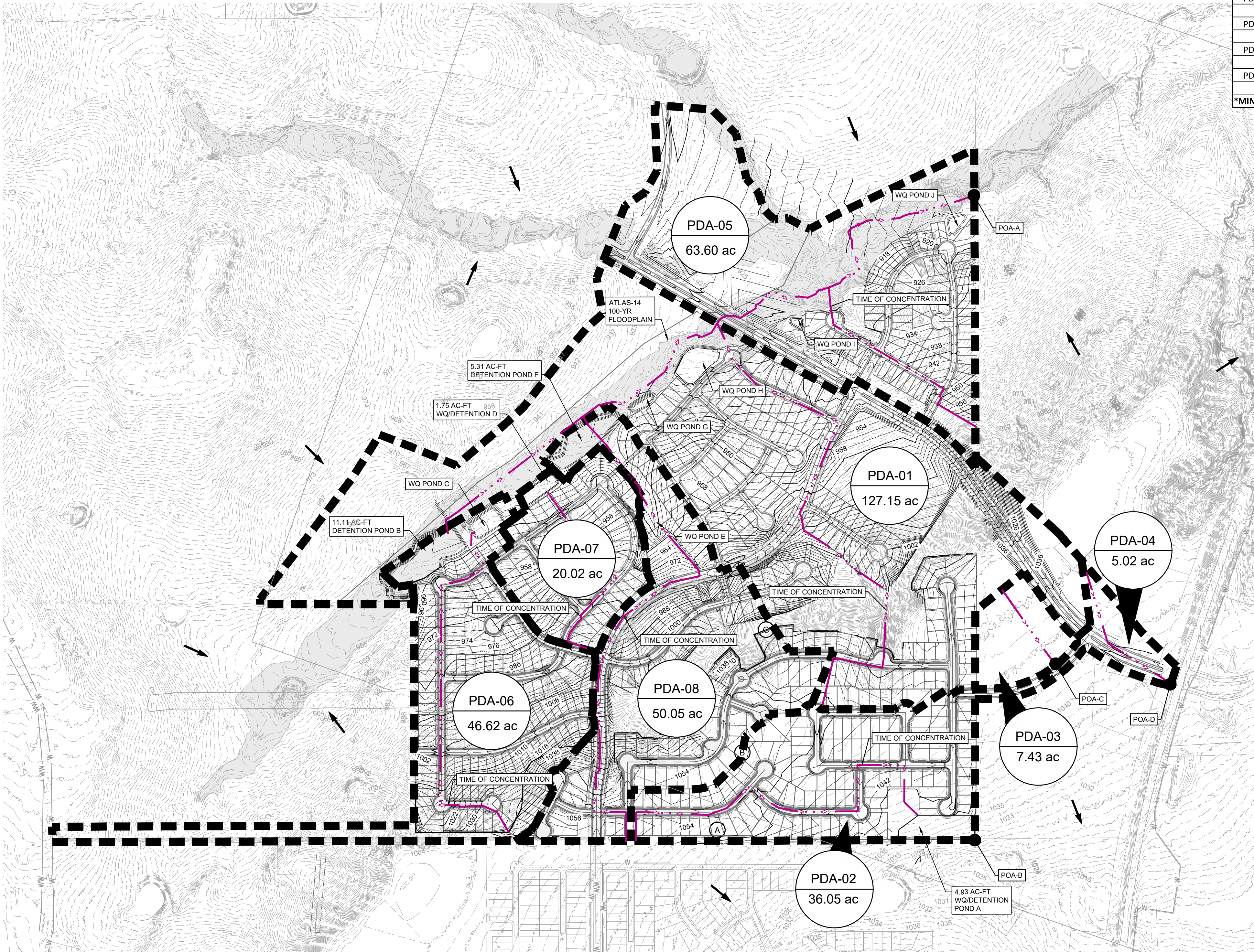
EXISTING DRAINAGE
AREA MAP

ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
26 OF 86

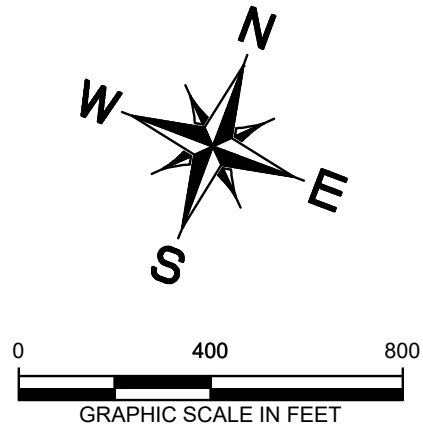
2025-5-CON

Plotted By: Salas, Nathalie Date: November 04, 2025 05:00:03pm File Path: K:\NSAU-Civil\069286000 Eldorado - Liberty Hill Single Family\PH7-PUBLIC CONSTRUCTION\PlanSheets\7-C - Proposed Drainage Area Map.dwg
This document, together with the concepts and designs presented herein, 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.



EXISTING CONDITIONS								
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71
POA-A					528.51	1019.13	1364.38	1938.71
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64
POA-B					67.46	131.50	175.86	249.64
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31
POA-C					18.48	35.96	48.03	68.31
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74
POA-D					13.30	25.70	34.36	48.74
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								

PROPOSED CONDITIONS								
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
PDA-01	127.15	48.31%	78	29.0	315.85	531.88	675.05	909.36
PDA-05	63.60	43.50%	78	19.3	182.82	311.01	395.85	534.71
PDA-06	46.62	39.13%	78	24.3	109.71	187.05	238.34	322.26
PDA-07	20.02	46.99%	78	21.6	56.09	95.05	120.82	162.99
PDA-08	50.05	37.34%	78	28.7	116.45	202.31	259.58	353.39
POA-A					526.28	1011.43	1361.15	1938.37
PDA-02	36.05	48.75%	78	26.0	94.15	158.76	201.52	271.49
POA-B					64.27	131.06	175.34	244.58
PDA-03	7.43	0.00%	78	21.9	14.72	28.56	38.18	54.43
POA-C					14.72	28.56	38.18	54.43
PDA-04	5.02	26.95%	78	19.0	13.02	23.23	30.08	41.30
POA-D					13.02	23.23	30.08	41.30
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								



LEGEND

	AREA DESIGNATOR
	AREA IN ACRES
	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
	PROPOSED CONTOUR
	EXISTING CONTOUR

PDA-01		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.027	L (ft)=	1251	L (ft)=	1727		
L (ft)=	100	L (ft)=	215	L (ft)=	320						
T ₁₁ =	18.2	T ₁₂ =	2.2	T ₁₂ =	1.6	T ₁₃ =	3.5	T ₁₃ =	3.6		
Total TC =		29.0 mins									

PDA-02		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2031		
L (ft)=	100	L (ft)=	86	L (ft)=	468						
T ₁₁ =	18.2	T ₁₂ =	0.9	T ₁₂ =	2.7	T ₁₃ =	0.0	T ₁₃ =	4.2		
Total TC =		26.0 mins									

PDA-03		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.006	S (ft/ft)=	0.006	S (ft/ft)=	0.006	L (ft)=	0	L (ft)=	0		
L (ft)=	100	L (ft)=	495	L (ft)=	0						
T ₁₁ =	15.3	T ₁₂ =	6.6	T ₁₂ =	0.0	T ₁₃ =	0.0	T ₁₃ =	0.0		
Total TC =		21.9 mins									

PDA-04		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.011	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	0		
L (ft)=	100	L (ft)=	374	L (ft)=	481						
T ₁₁ =	12.5	T ₁₂ =	3.7	T ₁₂ =	2.8	T ₁₃ =	0.0	T ₁₃ =	0.0		
Total TC =		19.0 mins									

PDA-05		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.030	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	1468.337	L (ft)=	1017.892		
L (ft)=	100	L (ft)=	195	L (ft)=	41						
T ₁₁ =	11.7	T ₁₂ =	1.2	T ₁₂ =	0.2	T ₁₃ =	4.1	T ₁₃ =	2.1		
Total TC =		19.3 mins									

PDA-06		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2127		
L (ft)=	100	L (ft)=	54	L (ft)=	247						
T ₁₁ =	18.2	T ₁₂ =	0.3	T ₁₂ =	1.4	T ₁₃ =	0.0	T ₁₃ =	4.4		
Total TC =		24.3 mins									

PDA-07		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	1069		
L (ft)=	100	L (ft)=	36	L (ft)=	167						
T ₁₁ =	18.2	T ₁₂ =	0.2	T ₁₂ =	1.0	T ₁₃ =	0.0	T ₁₃ =	2.2		
Total TC =		21.6 mins									

PDA-08		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	1248.22	L (ft)=	1666.15		
L (ft)=	100	L (ft)=	92	L (ft)=	454						
T ₁₁ =	18.2	T ₁₂ =	1.0	T ₁₂ =	2.7	T ₁₃ =	3.5	T ₁₃ =	3.5		
Total TC =		28.7 mins									

BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#502)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-466-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



11/04/2025

KHA PROJECT	PROJECT NUMBER	DATE	MONTH YEAR	SCALE	AS SHOWN	BLG	NS	BLG

PROPOSED DRAINAGE AREA MAP

ELDORADO SUBDIVISION PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

27 OF 86

2025-5-CON

Attachment I
Inspection and Maintenance for BMPs

Inspection and Maintenance for BMPs

Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule

The primary operator is required to choose one of the two inspections listed below.

- ☐ **Option 1:** Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.
- ☐ **Option 2:** Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be 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 (e.g., end of "dry" season and beginning of "wet" season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded.

Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation;
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

Corrective Action

Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions 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 attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

Maintenance

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- 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.
- 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 if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Inlet protections will be inspected and repaired as necessary.
- 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 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.

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.

BMP-Specific Inspection and Maintenance Schedules

Temporary Vegetation

- Temporary vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
- Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
- If the vegetated cover is less than 80%, the area should be reseeded.

Hydraulic Mulch

- Mulched areas should be inspected weekly and after each rain event to locate and repair any damage.
- Areas damaged by storms or normal construction activities should be regraded and hydraulic mulch reapplied as soon as practical.

Construction Entrance/Exit

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-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.

Silt Fence

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

Inspector Qualifications Log*

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 _____

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 _____

** The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.*

Amendment Log

[illegible]

Construction Activity Sequence Log

Name of Operator	Projected dates Month/year	Activity Disturbing Soil clearing, excavation, etc.	Location on-site where activity will be conducted	Acreage being disturbed

*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.

Stormwater Control Installation and Removal Log

[illegible]

Stabilization Activities Log

[illegible]

Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.

Inspection Frequency Log

[illegible]

Rain Gauge Log

[illegible]

General Information					
Name of Project		Tracking No.		Inspection Date	
Inspector Name, Title & Contact Information					
Present Phase of Construction					
Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted)					
Inspection Frequency Standard Frequency: <input type="checkbox"/> Weekly <input type="checkbox"/> Every 14 days and within 24 hours of a 0.25” rain Increased Frequency: <input type="checkbox"/> Every 7 days and within 24 hours of a 0.25” rain Reduced Frequency: - <input type="checkbox"/> Once per month (for stabilized areas) - <input type="checkbox"/> Once per month and within 24 hours of a 0.25” rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought) - <input type="checkbox"/> Once per month (for frozen conditions where earth-disturbing activities are being conducted)					
Was this inspection triggered by a 0.25” storm event? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how did you determined whether a 0.25” storm event has occurred? <input type="checkbox"/> Rain gauge on site <input type="checkbox"/> Weather station representative of site. Specify weather station source: Total rainfall amount that triggered the inspection (in inches):					
Unsafe Conditions for Inspection Did you determine that any portion of your site was unsafe for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If “yes”, complete the following: - Describe the conditions that prevented you from conducting the inspection in this location: - Location(s) where conditions were found:					

Condition and Effectiveness of Erosion and Sediment (E&S) Controls				
Type/Location of E&S Control	Repairs or Other Maintenance Needed?	Corrective Action Required?	Date on Which Maintenance or Corrective Action First Identified?	Notes
1.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
4.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
5.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
6.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
7.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
8.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
9.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Condition and Effectiveness of Pollution Prevention (P2) Practices				
Type/Location of P2 Practices	Repairs or Other Maintenance Needed?	Corrective Action Required?	Identification Date	Notes
1.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
4.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
5.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
6.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
7.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
8.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
9.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Stabilization of Exposed Soil			
Stabilization Area	Stabilization Method	Have You Initiated Stabilization?	Notes
1.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
2.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
3.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
4.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
5.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
Description of Discharges			
Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If “yes”, provide the following information for each point of discharge:			
Discharge Location	Observations		
1.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:		
2.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:		
3.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:		

Contractor or Subcontractor Certification and Signature

"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."

Signature of Contractor or Subcontractor: _____ **Date:** _____

Printed Name and Affiliation: _____

Certification and Signature by Permittee

"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."

**Signature of Permittee or
"Duly Authorized Representative":** _____ **Date:** _____

Printed Name and Affiliation: _____

Section A – Initial Report				
(Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)				
Name of Project		Tracking No.		Today's Date
Date Problem First Discovered			Time Problem First Discovered	
Name and Contact Information of Individual Completing this Form				
<p>What site conditions triggered the requirement to conduct corrective action:</p> <p><input type="checkbox"/> A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3</p> <p><input type="checkbox"/> The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards</p> <p><input type="checkbox"/> A prohibited discharge has occurred or is occurring</p> <p>Provide a description of the problem:</p> <p>Deadline for completing corrective action (<i>Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day</i>):</p> <p>If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:</p>				
Section B – Corrective Action Progress				
(Complete this section <u>no later than 7 calendar days</u> after discovering the condition that triggered corrective action)				
Section B.1 – Why the Problem Occurred				
Cause(s) of Problem (Add an additional sheet if necessary)			How This Was Determined and the Date You Determined the Cause	
1.			1.	
2.			2.	
3.			3.	
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem				
List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes	
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
3.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		

Section A – Initial Report				
(Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)				
Name of Project		Tracking No.		Today's Date
Date Problem First Discovered			Time Problem First Discovered	
Name and Contact Information of Individual Completing this Form				
<p>What site conditions triggered the requirement to conduct corrective action:</p> <p><input type="checkbox"/> A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3</p> <p><input type="checkbox"/> The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards</p> <p><input type="checkbox"/> A prohibited discharge has occurred or is occurring</p> <p>Provide a description of the problem:</p> <p>Deadline for completing corrective action (<i>Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day</i>):</p> <p>If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:</p>				
Section B – Corrective Action Progress				
(Complete this section <u>no later than 7 calendar days</u> after discovering the condition that triggered corrective action)				
Section B.1 – Why the Problem Occurred				
Cause(s) of Problem (Add an additional sheet if necessary)			How This Was Determined and the Date You Determined the Cause	
1.			1.	
2.			2.	
3.			3.	
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem				
List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes	
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
3.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		

Contractor or Subcontractor Certification and Signature

“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.”

Signature of Contractor or Subcontractor: _____ **Date:** _____

Printed Name and Affiliation: _____

Certification and Signature by Permittee

“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.”

**Signature of Permittee or
“Duly Authorized Representative”:** _____ **Date:** _____

Printed Name and Affiliation: _____

Attachment J
***Schedule of Interim and Permanent Soil
Stabilization Practices***

Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity.

Records of the following shall be maintained:

- a) The dates when major grading activities occur;
- b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
- c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

SECTION 6: ADDITIONAL FORMS

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

I Nick McIntyre,
Print Name
Senior VP Land,
Title - Owner/President/Other
of PHTB ELDORADO LLC,
Corporation/Partnership/Entity Name
have authorized Benjamin L. Green, P.E.
Print Name of Agent/Engineer
of Kimley-Horn and Associates, Inc.
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

J. N. McIntyre

Applicant's Signature

11/5/2025

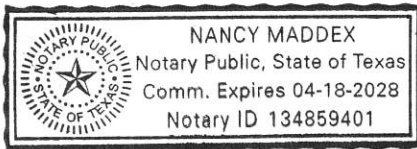
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Dick McIntyre 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 5th day of November, 2025



Nancy Maddex
NOTARY PUBLIC

Nancy Maddex
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 04/18/2028

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Eldorado Subdivision Phase 7 & 8

Regulated Entity Location: 22700 Ronald Reagan Blvd, Liberty Hill, TX 78642

Name of Customer: PHTB ELDORADO LLC

Contact Person: Nick McIntyre

Phone: (210) 580-8598

Customer Reference Number (if issued): N/A

Regulated Entity Reference Number (if issued): [Click or tap here to enter text.](#)

Austin Regional Office (3373)

☐ Hays

☐ Travis

☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☒ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone

☐ Contributing Zone

☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System	8,176 L.F.	\$ 4,088
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: 11/4/2025

Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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



Check Payable to the "Texas Commission on Environmental Quality"



Core Data Form



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.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN		RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)							
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)									
<i>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).</i>									
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>					
PHTB ELDORADO LLC									
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)				
0806016823		32099963962							
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Individual		Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited					
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:					
12. Number of Employees				13. Independently Owned and Operated?					
<input type="checkbox"/> 0-20 <input checked="" type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following									
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant									
15. Mailing Address:		3200 SOUTHWEST FWY							
		#STE 2800							
		City	HOUSTON	State	TX	ZIP	77027	ZIP + 4	
16. Country Mailing Information (if outside USA)						17. E-Mail Address (if applicable)			

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
(210) 580-8598		() -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)								
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>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).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
ELDORADO SUBDIVISION PHASE 7 & 8								
23. Street Address of the Regulated Entity: (No PO Boxes)								
	City		State		ZIP		ZIP + 4	
24. County								

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

25. Description to Physical Location:	LOCATED APPROXIMATELY 2 MILES NORTH OF THE INTERSECTION OF SH-29 AND RONALD REAGAN BLVD. THE SITE IS ON THE WEST SIDE OF RONALD REAGAN BLVD NEAR THE LIBERTY HILL FIRE STATION.							
26. Nearest City	State				Nearest ZIP Code			
LIBERTY HILL	TX				78642			
<i>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).</i>								
27. Latitude (N) In Decimal:		30.660810			28. Longitude (W) In Decimal:		-97.845509	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	39	38.9	97	50	43.8			
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)		
1512	1531		237210			236115		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
SINGLE-FAMILY								
34. Mailing Address:	3200 SOUTHWEST FWY							
	#STE 2800							
	City	HOUSTON	State	TX	ZIP	77027	ZIP + 4	
35. E-Mail Address:								
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)		
(210) 580-8598						() -		

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


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

SECTION IV: Preparer Information

40. Name:	BENJAMIN GREEN, P.E.	41. Title:	PROJECT ENGINEER
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 795-1623		() -	BEN.GREEN@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:	
Name (In Print):	BENJAMIN GREEN, P.E.	Phone:	(512) 646- 2243
Signature:		Date:	11/4/2025

SECTION 7: EXHIBITS

AW0417 AW0417 - MANLOVE, B. SUR., ACRES 254.914
AW0417 MANLOVE, B. SUR., ACRES 72.0

1. CONTRACTOR WILL FOLLOW WILLIAMSON COUNTY'S MOST CURRENT CONSTRUCTION SPECIFICATIONS.
2. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS THE WILLIAMSON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
3. NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100YR FLOOD PLAIN, AS DESCRIBED IN FEMA FIRM PANEL NO. 48491C0275E, DATED SEPTEMBER 28, 2008, WILLIAMSON COUNTY, TX.
4. NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
5. THIS PROJECT IS SUBJECT TO TCEQ'S TPDES SWPPP REGULATIONS PER TEXAS WATER CODE CHAPTER 26. IF NOT ALREADY DONE, HAVE A TX P.E., C.P.E.S.C. OR QP/SWPPP DEVELOP AND SEND A PROJECT-SPECIFIC SWPPP AND **SEEK APPLICABLE TPDES PERMIT TXR1500000 COVERAGE IMMEDIATELY PER TXR150000 PARTS I-III AND CITY CODE SECTION 86.529(B)(2) OR 86.529(C)(3).** **A HARD-COPY OF THE SWPPP, INCLUDING FULL-SIZE MAP, MUST BE AVAILABLE AT THE PRE-CON MEETING, KEPT ONSITE, AND UPDATED TO MATCH SITE CONDITIONS DURING THE PROJECT.**
6. THESE PLANS WERE DESIGNED USING AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS"
7. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN, AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS ACT IF ANY ROAD CLOSURE IS INVOLVED.
8. ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY
9. ASSOCIATED DETENTION PONDS MUST BE IN PLACE PRIOR TO CONSTRUCTION OF THIS PHASE.
10. THE CONTRACTOR SHALL AVOID INSTALLATION OF IRRIGATION, PLANTING, SILT FENCE, ETC. IN THE BASE OVERBUILD.
11. ADEQUACY OF THESE PLANS FOR CONSTRUCTION IS THE RESPONSIBILITY OF THE SIGNING/SEALING ENGINEER.
12. IT IS THE RESPONSIBILITY OF THE SIGNING/SEALING ENGINEER TO PROVIDE DOCUMENTATION OF TDLR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
13. THE CITY OF LIBERTY HILL HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISLATION RELATED TO ACCESSIBILITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS.
14. BASED ON THE ENGINEER'S CERTIFICATION OF COMPLIANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL REGULATIONS, THE WASTEWATER PORTION OF THESE PLANS AND SPECIFICATIONS CONTAINED HEREIN HAVE BEEN REVIEWED AND ARE FOUND TO BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LIBERTY HILL.

STREET SUMMARY							
STREET	TYPE	ROW	STREET LENGTH	SPEED DESIGN	PAVEMENT WIDTH	URBAN/RURAL	PUBLIC/PRIVATE
CORREA LOOP	LOCAL	50'	2125'	25 MPH	30'	URBAN	PUBLIC
VERLANDER STREET	LOCAL	50'	714'	25 MPH	30'	URBAN	PUBLIC
VERLANDER STREET	LOCAL	60'	90'	25 MPH	40'	URBAN	PUBLIC
BLUM STREET	LOCAL	50'	151'	25 MPH	30'	URBAN	PUBLIC
ALTUVE LANE	LOCAL	50'	882'	25 MPH	30'	URBAN	PUBLIC

TRAFFIC CONTROL NOTES:
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 AND THE CITY OF LOS ANGELES. 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 REVIEW IS SUBMITTED TO RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW.

OWNER:
PERRY HOMES
(PH): (512) 484-7469
ATTN: NICK MCINTYRE

SANTA RITA COMMERCIAL LLC
8200 N MOPAC, SUITE 300
AUSTIN, TX 78759

SANTA RITA INVESTMENTS LTD
8300 N MOPAC, SUITE 300
AUSTIN, TX 78759

ENGINEER
KIMLEY-HORN
5301 SOUTHWEST PARKWAY,
BUILDING 2, SUITE 100
AUSTIN, TX 78735
PH: (512) 646-2243
ATTN: BENJAMIN GREEN
PREPARED BY:

WATER:
CITY OF GEORGETOWN
300-1 INDUSTRIAL AVE.
PO BOX 409
GEORGETOWN, TEXAS 78627
PH: (512) 930-3558

WASTEWATER:
CITY OF LIBERTY HILL
926 LOOP 332
PO BOX 1920
LIBERTY HILL, TX 7864
PH: (512) 745-1222

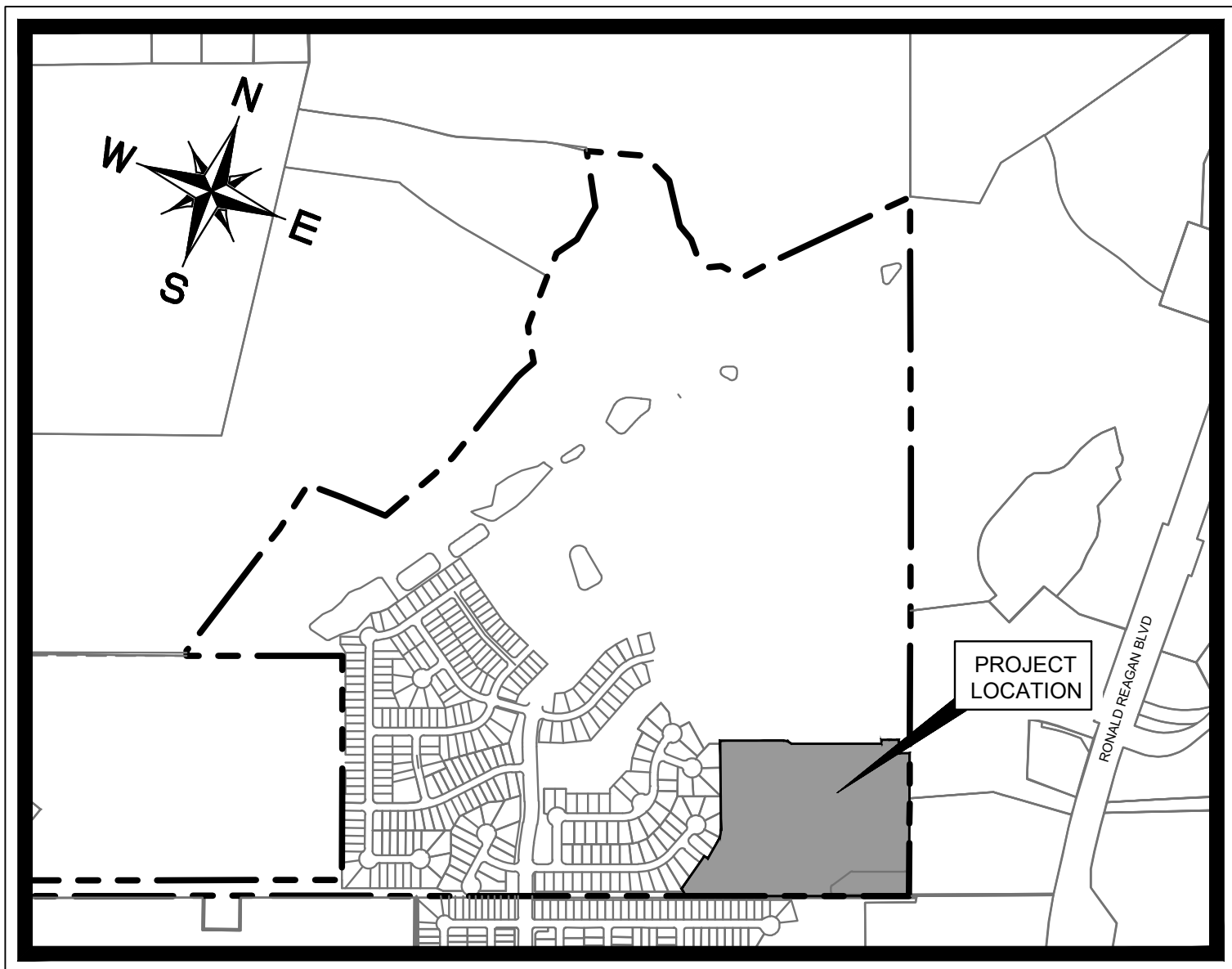
ELECTRIC PROVIDER:
PEDERNALES ELECTRIC COOP, INC.
PO BOX 1
JOHNSON CITY, TEXAS 78636
PH: (800) 868-4791

Kimley»»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
CERTIFICATE OF REGISTRATION #928

Tel. No.(512) 646-2237

RONALD REAGAN BLVD,
LIBERTY HILL, WILLIAMSON COUNTY, TX 78642
WILLIAMSON COUNTY MUD 37



VICINITY MAP

SCALE: 1" = 1,000'

DISTRICT ENGINEER, REVIEW OF PLANS BY DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

DATE _____

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

DATE _____

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021A)

FOR WILLIAMSON COUNTY
CERTIFICATE OF COMPLIANCE # CC-2021-21836

DATE _____

BASED ON THE DESIGN ENGINEER'S CERTIFICATE OF COMPLIANCE WITH ALL THE APPLICABLE CITY, STATE AND FEDERAL REGULATIONS, THE PLANS AND SPECIFICATIONS CONTAINED HEREIN HAVE BEEN REVIEWED AND ARE FOUND TO BE IN THE COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LIBERTY HILL.

WILLIAMSON COUNTY, ADAM BOATRIGHT P.E., COUNTY ENGINEER

DATE _____

CITY OF LIBERTY HILL, JENNIFER GLAESS P.E., CITY ENGINEER

DATE _____

CITY OF LIBERTY HILL, MCKENZI HICKS, INTERIM DIRECTOR OF PLANNING

DATE _____

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	TCEO NOTES
4	KIMLEY-HORN GENERAL NOTES
5	PRELIM PLAT (SHEET 1 OF 5)
6	PRELIM PLAT (SHEET 2 OF 5)
7	PRELIM PLAT (SHEET 3 OF 5)
8	PRELIM PLAT (SHEET 4 OF 5)
9	PRELIM PLAT (SHEET 5 OF 5)
10	EXISTING CONDITIONS AND DEMO PLAN
11	EROSION CONTROL PLAN (SHEET 1 OF 2)
12	EROSION CONTROL PLAN (SHEET 2 OF 2)
13	OVERALL STREET LAYOUT
14	PAVING P&P - ALTUVE LANE (1)
15	PAVING P&P - ALTUVE (2) & ALTUVE (1) TO ALTUVE (2) CDS
16	PAVING P&P - CORREA LOOP (2) & CORREA LOOP (1) TO (2) CDS
17	PAVING P&P - CORREA LOOP (3)
18	PAVING P&P - CORREA (2) TO (3) CDS & CORREA (3) TO (4) CDS
19	PAVING P&P - CORREA LOOP (4)
20	PAVING P&P - CORREA LOOP (1)
21	PAVING P&P - VERLANDER STREET
22	PAVING P&P - BLUM STREET AND VERLANDER CDS
23	GRADING PLAN (SHEET 1 OF 3)
24	GRADING PLAN (SHEET 2 OF 3)
25	GRADING PLAN (SHEET 3 OF 3)
26	EXISTING DRAINAGE AREA MAP
27	PROPOSED DRAINAGE AREA MAP
28	WATER QUALITY DRAINAGE AREA MAP
29	WATER QUALITY CALCULATIONS (SHEET 1 OF 3)
30	WATER QUALITY CALCULATIONS (SHEET 2 OF 3)
31	WATER QUALITY CALCULATIONS (SHEET 3 OF 3)
32	INLET DRAINAGE AREA MAP
33	INLET CALCS
34	POND PLAN
35	WATER QUALITY POND H (FUTURE PHASE)
36	POND H WATER QUALITY DETAIL
37	OVERALL STORM PLAN
38	STORM P&P - LINE A (SHEET 1 OF 2)
39	STORM P&P - LINES A (SHEET 2 OF 2) & A1
40	STORM P&P - LINES A2 A3
41	STORM P&P - LINE B (SHEET 1 OF 2)
42	STORM P&P - LINE B (SHEET 2 OF 2) & B1
43	STORM P&P - LINE C
44	STORM P&P - LINES C1 C2 C3
45	STORM P&P - LINES C4 & C5
46	STORM P&P - LINES C6 & C7
47	STORM P&P - LINE D
48	STORM P&P - LINES D2 D3
49	OVERALL WATER PLAN
50	WATER P&P - LINE A
51	WATER P&P - LINE B (SHEET 1 OF 2)
52	WATER P&P - LINE B (SHEET 2 OF 2)
53	WATER P&P - LINE C (SHEET 1 OF 2)
54	WATER P&P - LINE C (SHEET 2 OF 2)
55	WATER P&P - LINE D
56	OVERALL WASTEWATER PLAN
57	WASTEWATER P&P - LINE A (SHEET 1 OF 5)
58	WASTEWATER P&P - LINE A (SHEET 2 OF 5)
59	WASTEWATER P&P - LINE A (SHEET 3 OF 5)
60	WASTEWATER P&P - LINE A (SHEET 4 OF 5)
61	WASTEWATER P&P - LINE A (SHEET 5 OF 5)
62	WASTEWATER P&P - LINE B
63	WASTEWATER P&P - LINE C
64	WASTEWATER P&P - LINE D
65	WASTEWATER P&P - LINE E
66	WASTEWATER P&P - LINE F
67	SIDEWALK PLAN
68	STREET LIGHT, SIGN & SLEEVING PLAN
69	PAVING DETAILS
70	PAVING DETAILS
71	PAVING DETAILS
72	PAVING DETAILS
73	PAVING DETAILS
74	STORM DRAIN DETAILS
75	STORM DRAIN DETAILS
76	STORM DRAIN DETAILS
77	STORM DRAIN DETAILS
78	STORM DRAIN DETAILS
79	UTILITY DETAILS
80	UTILITY DETAILS
81	UTILITY DETAILS
82	UTILITY DETAILS
83	UTILITY DETAILS
84	EROSION CONTROL DETAILS
85	EROSION CONTROL DETAILS
86	EROSION CONTROL DETAILS

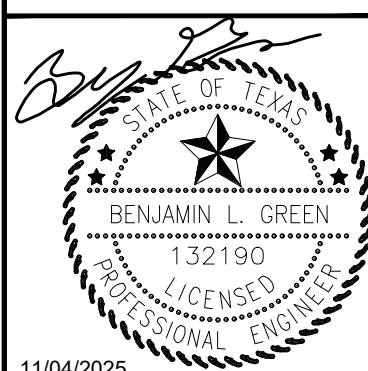
STUDIES/PERMIT'S STATE OF APPROVAL:

CITY OF GEORGETOWN WATER
CITY OF LIBERTY HILL
CITY OF LIBERTY HILL FIRE (WCESD NO.4)
WILLIAMSON COUNTY (FORMAL)
WILLIAMSON COUNTY (DRAINAGE)
WILLIAMSON COUNTY (FINAL PLAT)
TCEQ

APPROVED (4/10/25)
UNDER REVIEW
APPROVED (12/30/24)
UNDER REVIEW
UNDER REVIEW
NOT SUBMITTED
APPROVED (5/12/23)

Kimley»»Horn

11 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928



11/04/2025

KHA PROJECT PROJECT NUMBER	DATE MONTH YEAR	SCALE: AS SHOWN	DESIGNED BY: BLG	DRAWN BY: NS	CHECKED BY: RLG
-------------------------------	--------------------	-----------------	------------------	--------------	-----------------

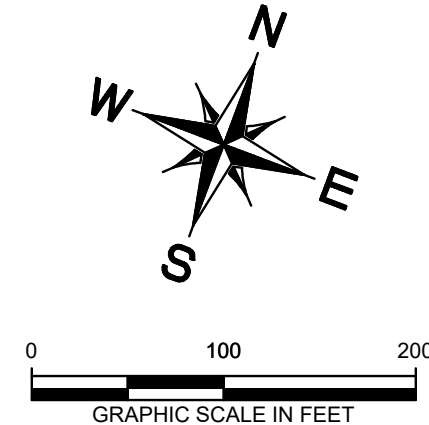
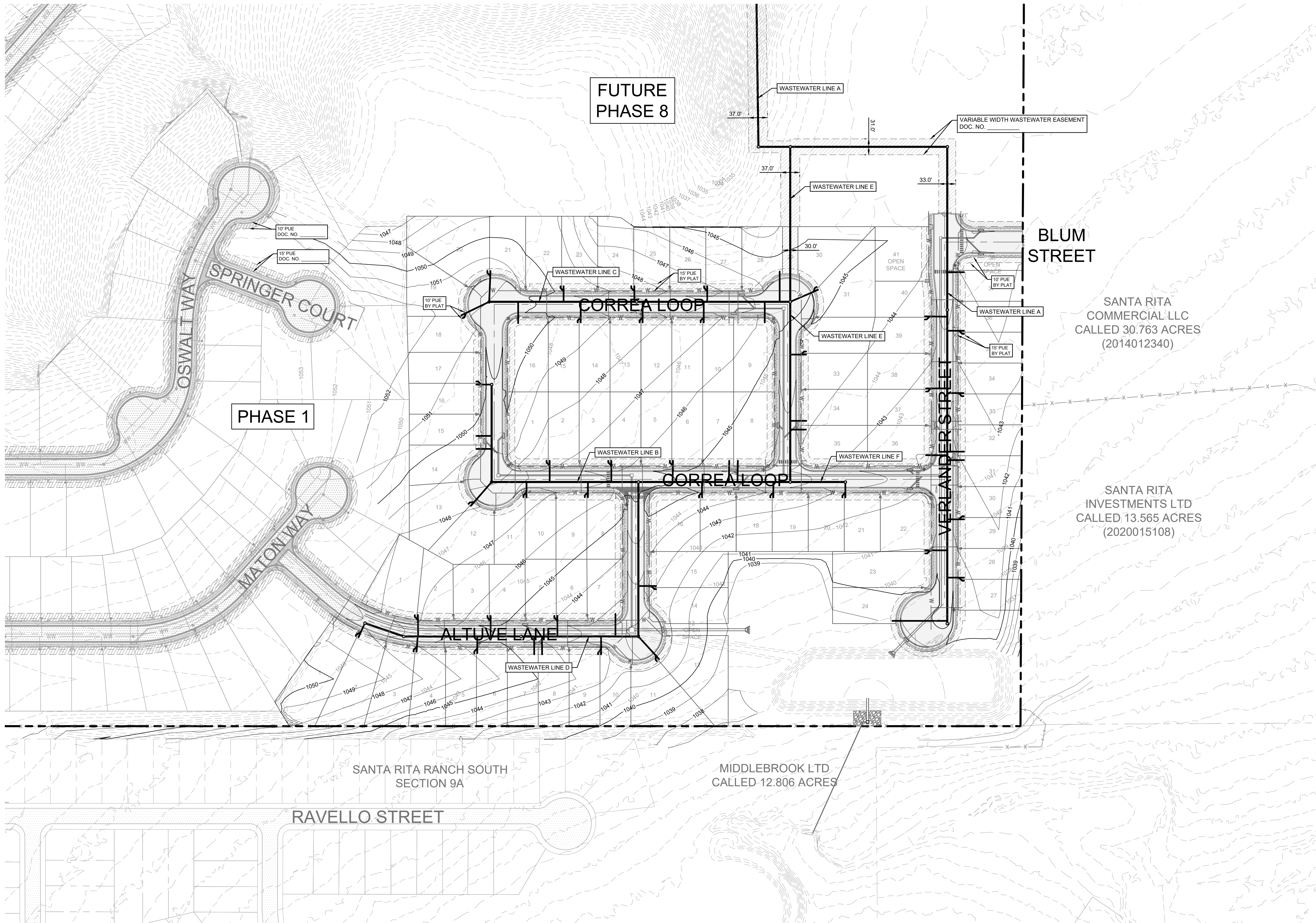
COVER SHEET

**ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS**

SHEET NUMBER

1 OF 86

Plotted By:Salas, Nathalie Date:November 04, 2025 05:01:27pm File Path:K:\SAU_Civil\069288000 Eldorado - Liberty Hill Single Family\069288000 Public Construction\PlanSheets\1 Overall Wastewater Plan.dwg
This document, together with the concepts and designs presented herein, is 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.



LEGEND	
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	PROPOSED FIRE HYDRANT
	PROPOSED STORM DRAIN LINE
	EXISTING 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

- NOTES:**
- REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR WATER AND SANITARY SEWER CROSSINGS.
 - UTILITY CONNECTIONS TERMINATE 5' FROM BUILDING ENVELOPE SEE MEP PLANS FOR CONTINUATION.
 - REFER TO IRRIGATION PLANS FOR EXACT LOCATION AND SIZE OF IRRIGATION SLEEVES.
 - CONTRACTOR TO ADJUST EXISTING SANITARY SEWER MANHOLES, ELECTRICAL MANHOLES, FIRE HYDRANTS, VALVE BOXES, WATER METERS, ETC. TO MATCH PROPOSED FINISHED GRADES IF NECESSARY.
 - 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.
 - FIRE SPRINKLER LINE SHALL BE SIZED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR.
 - ALL CONSTRUCTION SPECIFICATIONS WITHIN CITY R.O.W. AND EASEMENTS SHOULD COMPLY WITH CITY OF LIBERTY HILL STANDARDS. PRIOR APPROVAL TO USE ANY NON-STANDARD MATERIAL IS REQUIRED.
 - REFER TO SHEET 2 FOR GENERAL NOTES.



BENCHMARKS	
TBM:	
1. BM1 (#301)	ELEVATION=1004.244'
2. BM2 (#302)	ELEVATION=1045.526'
3. BM3 (#303)	ELEVATION=944.476'
4. BM4 (#300)	ELEVATION=954.147'

<p>5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100 AUSTIN, TEXAS 78746 PHONE: 512-446-2222 WWW.KIMLEY-HORN.COM © 2024 KIMLEY-HORN AND ASSOCIATES, INC. TPE Firm No. 928</p>		REVISIONS	DATE	BY
		No.		
<p>OVERALL WASTEWATER PLAN</p>		<p>11/04/2025</p>		
		<p>KHA PROJECT PROJECT NUMBER DATE MONTH YEAR SCALE: AS SHOWN DESIGNED BY: BLG DRAWN BY: NS CHECKED BY: BLG</p>		
<p>ELDORADO SUBDIVISION PHASE 7 CITY OF LIBERTY HILL WILLIAMSON COUNTY, TEXAS</p>		<p>SHEET NUMBER 56 OF 86</p>		
		<p>2025-5-CON</p>		

Plotted By: Soias, Nathalie Date: November 04, 2025 04:54:32pm File Path: K:\NSAU_Civil\069286000_Eldorado - Liberty Hill Single Family\A\PH7\PUBLIC CONSTRUCTION\PlanSheets\C - General Notes.dwg

This document, together with the concepts and designs presented herein, 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.

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

- This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.
- All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.
- A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
 - the name of the approved project;
 - the activity start date; and
 - the contact information of the prime contractor.
- Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
- Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.
- If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the

TCEQ-0596 (Rev. July 15, 2015)

Page 1 of 6

- L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface
- (C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter (inches)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

- (D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
- (E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
- (F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
- (G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
- (2) **Infiltration/Exfiltration Test.**
- (A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
- (B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
- (C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
- (D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
- (E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

TCEQ-0596 (Rev. July 15, 2015)

Page 4 of 6

executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

- Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.
- Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.
- All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.
- The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet ___ of ____.
- It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.
- Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
- Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.
- If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.
- Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.
- New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

TCEQ-0596 (Rev. July 15, 2015)

Page 2 of 6

- the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.
- (b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
- (1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
- (A) **Mandrel Sizing.**
- (i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
- (ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
- (iii) All dimensions must meet the appropriate standard.
- (B) **Mandrel Design.**
- (i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
- (ii) A mandrel must have nine or more odd number of runners or legs.
- (iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
- (iv) Each size mandrel must use a separate proving ring.
- (C) **Method Options.**
- (i) An adjustable or flexible mandrel is prohibited.
- (ii) A test may not use television inspection as a substitute for a deflection test.
- (iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
- (2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
- (3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
- (4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
- (5) Gravity collection system pipe deflection must not exceed five percent (5%).
- (6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.
16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
- (a) All manholes must pass a leakage test.
- (b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
- (1) Hydrostatic Testing.

TCEQ-0596 (Rev. July 15, 2015)

Page 5 of 6

If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet ___ of ____ (For potential future laterals).

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet ___ of ____ and marked after backfilling as shown in the detail on Plan Sheet ___ of ____.

- Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.
- Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).
- All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
 - For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
 - Low Pressure Air Test.**
 - A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
 - For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
 - A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
 - Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3

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

Where:

- T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches

TCEQ-0596 (Rev. July 15, 2015)

Page 3 of 6

- The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
 - To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
 - A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
- (2) **Vacuum Testing.**
- To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
 - No grout must be placed in horizontal joints before testing.
 - Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
 - An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
 - A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
 - There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
 - A test does not begin until after the vacuum pump is off.
 - A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329
--	---

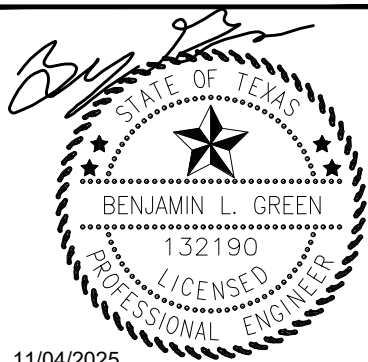
THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

TCEQ-0596 (Rev. July 15, 2015)

Page 6 of 6

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE 512-346-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 028



11/04/2025

KHA PROJECT PROJECT NUMBER	DATE MONTH YEAR	SCALE: AS SHOWN	DESIGNED BY: BLG	DRAWN BY: NS	CHECKED BY: BLG
-------------------------------	--------------------	-----------------	------------------	--------------	-----------------

TCEQ NOTES

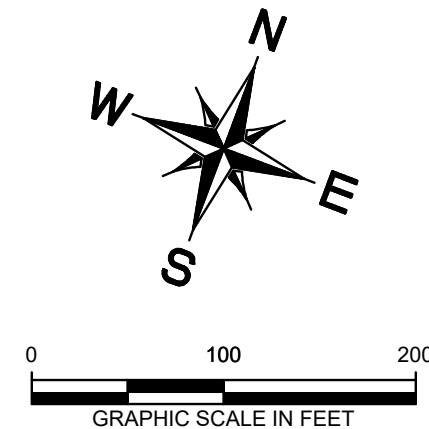
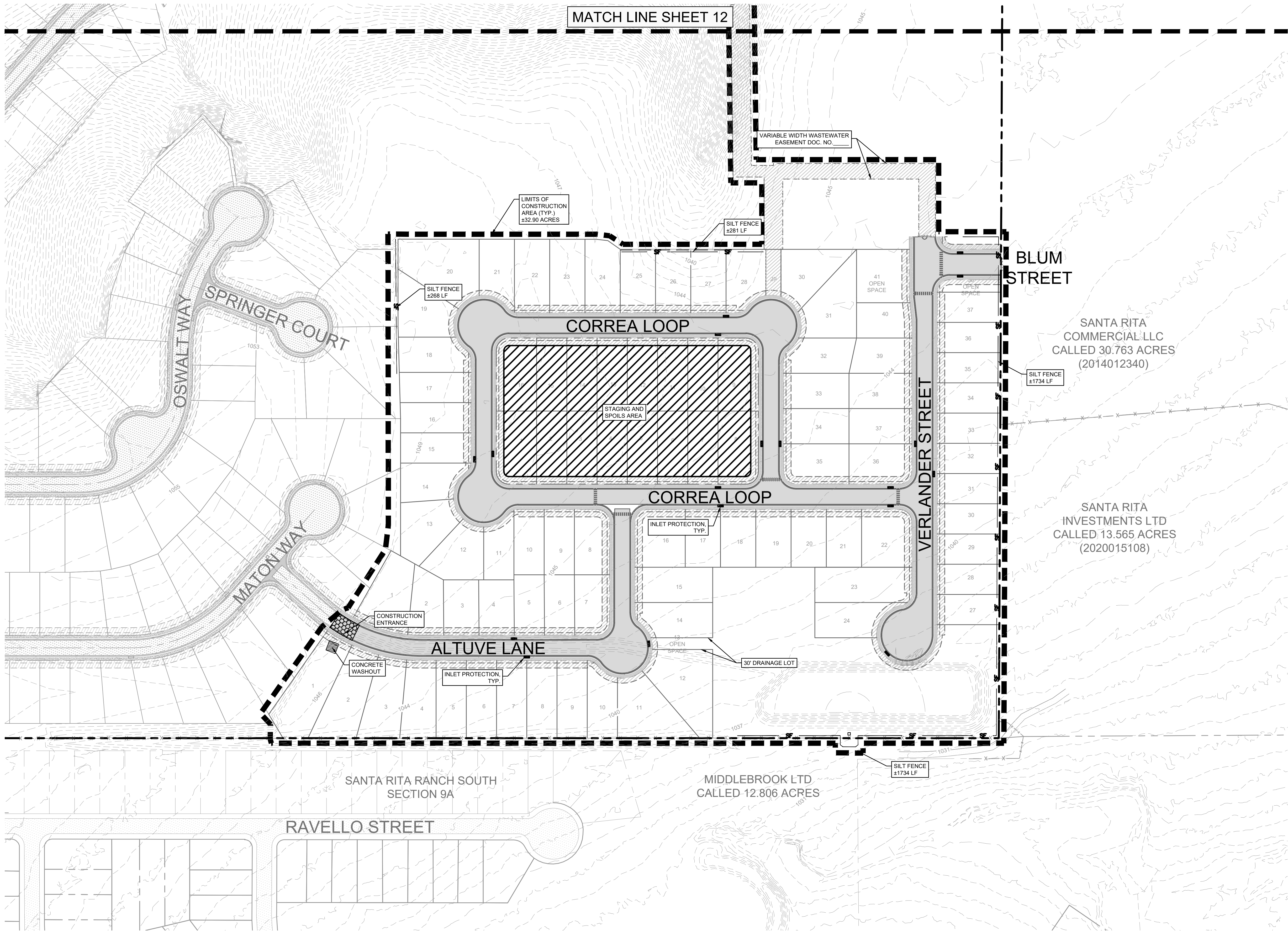
ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

3 OF 86

2025-5-CON

Plotted By: Soles, Nathalie Date: November 04, 2025 04:55:41pm File Path: K:\SAU_Civil\069288000_Eldorado - Liberty Hill Single Family\Gd\PH7\PUBLIC CONSTRUCTION\PlanSheets\10 - Erosion Control Plan.dwg
This document, together with the concepts and designs presented herein, is 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.



LEGEND	
	PROPERTY LINE
	SILT FENCE
	TREE PROTECTION
	PROPOSED INLET PROTECTION
	CONCRETE WASHOUT PIT
	CONSTRUCTION ENTRANCE
	ROCK BERM
	EXISTING CONTOURS
	PROPOSED CONTOURS
	LIMITS OF CONSTRUCTION AREA
	TREE TO REMAIN
	HERITAGE TREE TO REMAIN
	STAGING AND SPOILS AREA

- NOTES:
- THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF CEDAR PARK RULES AND REGULATIONS
 - 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. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
 - REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 11.
 - 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].
 - ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF LIBERTY HILL STANDARDS.
 - SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.

EROSION CONTROL NOTES:

- EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
- ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY ENGINEERING DIVISION.
- IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.
- OFF-SITE SOIL BORROW AND SPOIL AREAS 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 OFF-SITE SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT.
- INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO INSURE THAT THE DEVICES ARE FUNCTIONING PROPERLY. WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN STONES OR MUD IS BEING TRACKED ONTO A PUBLIC ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUN-OFF FROM THE WASHDOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL OFF SITE SEDIMENTATION. PERIODIC RE-GRADING OR THE ADDITION OF NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFICIENCY OF THE INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTAL OF N.O.I., N.O.T. AND ANY ADDITIONAL INFORMATION REQUIRED BY TCEQ & THE E.P.A. CONTRACTOR SHALL COMPLY WITH ALL TCEQ & E.P.A. STORMWATER POLLUTION PREVENTION REQUIREMENTS.

SITE MAP NOTES:

- CONTRACTOR IS SOLELY RESPONSIBLE FOR SELECTION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
- 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.
- DRAINAGE PATTERNS ARE SHOWN ON THIS PLAN BY PROPOSED AND EXISTING CONTOURS, FLOW ARROWS, AND SLOPES.
- 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 PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
- 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.
- SANITARY SEWER EFFLUENT IS DISPOSED OF VIA AN ONSITE SEWER SYSTEM CONNECTED TO A MUNICIPAL SEWER SYSTEM.

EROSION CONTROL SCHEDULE AND PHASING:

- THE PROJECT SHALL GENERALLY CONFORM TO THE FOLLOWING:
- PHASE 1 - GRADING
- CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE, SILT FENCE, AND TREE PROTECTION FENCE ACCORDING TO THE APPROXIMATE LOCATION AND SHOWN ON EROSION CONTROL PLAN, NOTES & DETAIL SHEET, AND LANDSCAPE PLANS
 - BEGIN CLEARING AND GRADING OF SITE.
 - SEED AND RE-VEGETATE SLOPES WHERE SHOWN.
- PHASE 2 - UTILITIES
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE.
 - INSTALL STORM DRAINS AND OTHER UTILITIES AS SPECIFIED ON PLAN SHEETS.
 - INSTALL INLET PROTECTION AS INLETS ARE INSTALLED.
- PHASE 3 - PAVING
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE. REMOVE AS NEEDED TO PAVE.
 - STABILIZE SUBGRADE.
 - PAVE PARKING LOT AND SIDEWALKS AS SPECIFIED ON PLAN SHEETS.
 - REMOVE TEMPORARY CONSTRUCTION ENTRANCE.
- PHASE 4 - LANDSCAPING AND SOIL STABILIZATION
- RE-VEGETATE LOT AND PARKWAYS.
 - LANDSCAPE CONTRACTOR SHALL RE-VEGETATE ALL AREAS RESERVED FOR LANDSCAPE VEGETATIVE COVERS.
 - REMOVE EROSION CONTROL DEVICES WHEN GROUND COVER ESTABLISHED.

BENCHMARKS

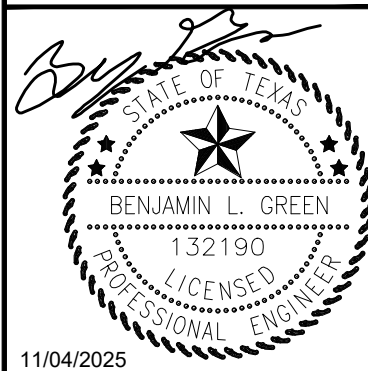
TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'



Know what's below.
Call before you dig.

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE 512-446-2222
WWW.KH-H.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	NS	BLG

EROSION CONTROL PLAN (SHEET 1 OF 2)

**ELDORADO
SUBDIVISION
PHASE 7**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

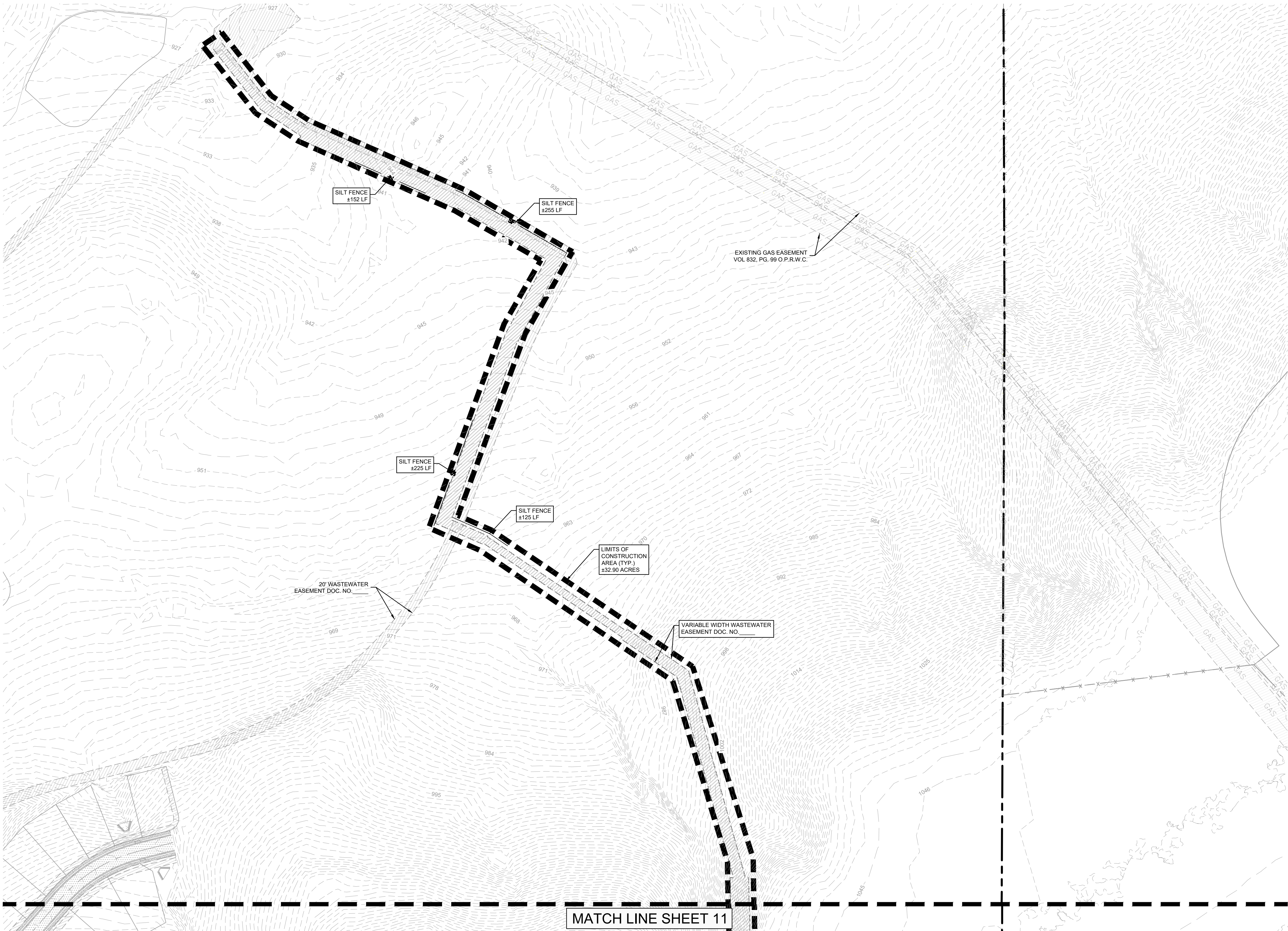
SHEET NUMBER

11 OF 86

2025-5-CON

Plotted By: Salas, Nathalie Date: November 04, 2025 04:55:48pm File Path: K:\SAU_Civil\069286000 Eldorado - Liberty Hill Single Family\069286000 Eldorado - Liberty Hill Single Family\PH7-PUBLIC CONSTRUCTION Plan\Sheets\0 - Erosion Control Plan.dwg

This document, together with the concepts and designs presented herein, is 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.



EROSION CONTROL NOTES:

- EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
- ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY ENGINEERING DIVISION.
- IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.
- OFF-SITE SOIL BORROW AND SPOIL AREAS 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 BMPs TO CONTROL OFFSITE SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT.
- INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO INSURE THAT THE DEVICES ARE FUNCTIONING PROPERLY. WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN STONES OR MUD IS BEING TRACKED ONTO A PUBLIC ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASHDOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL OFF SITE SEDIMENTATION. PERIODIC RE-GRADING OR THE ADDITION OF NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFICIENCY OF THE INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTAL OF N.O.I., N.O.T. AND ANY ADDITIONAL INFORMATION REQUIRED BY TCEQ & THE E.P.A. CONTRACTOR SHALL COMPLY WITH ALL TCEQ & E.P.A. STORMWATER POLLUTION PREVENTION REQUIREMENTS.

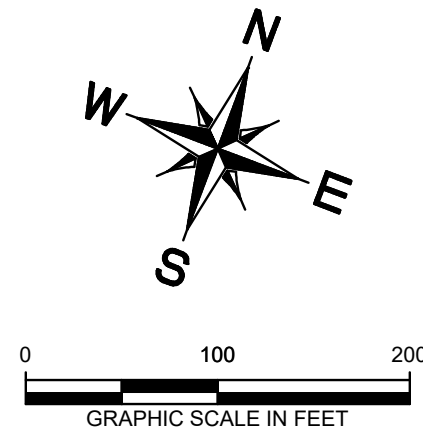
SITE MAP NOTES:

- CONTRACTOR IS SOLELY RESPONSIBLE FOR SELECTION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
- 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.
- DRAINAGE PATTERNS ARE SHOWN ON THIS PLAN BY PROPOSED AND EXISTING CONTOURS, FLOW ARROWS, AND SLOPES.
- TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMPs 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 BMPs SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
- BMPs 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.
- SANITARY SEWER EFFLUENT IS DISPOSED OF VIA AN ONSITE SEWER SYSTEM CONNECTED TO A MUNICIPAL SEWER SYSTEM.

EROSION CONTROL SCHEDULE AND PHASING:

THE PROJECT SHALL GENERALLY CONFORM TO THE FOLLOWING:

- PHASE 1 - GRADING
- CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE, SILT FENCE, AND TREE PROTECTION FENCE ACCORDING TO THE APPROXIMATE LOCATION AND SHOWN ON EROSION CONTROL PLAN, NOTES & DETAIL SHEET, AND LANDSCAPE PLANS
 - BEGIN CLEARING AND GRADING OF SITE.
 - SEED AND RE-VEGETATE SLOPES WHERE SHOWN.
- PHASE 2 - UTILITIES
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE.
 - INSTALL STORM DRAINS AND OTHER UTILITIES AS SPECIFIED ON PLAN SHEETS.
 - INSTALL INLET PROTECTION AS INLETS ARE INSTALLED.
- PHASE 3 - PAVING
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE. REMOVE AS NEEDED TO PAVE.
 - STABILIZE SUBGRADE.
 - PAVE PARKING LOT AND SIDEWALKS AS SPECIFIED ON PLAN SHEETS.
 - REMOVE TEMPORARY CONSTRUCTION ENTRANCE.
- PHASE 4 - LANDSCAPING AND SOIL STABILIZATION
- RE-VEGETATE LOT AND PARKWAYS.
 - LANDSCAPE CONTRACTOR SHALL RE-VEGETATE ALL AREAS RESERVED FOR LANDSCAPE VEGETATIVE COVERS.
 - REMOVE EROSION CONTROL DEVICES WHEN GROUND COVER ESTABLISHED.



LEGEND

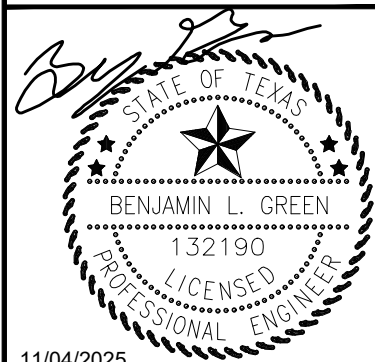
	PROPERTY LINE
	SILT FENCE
	TREE PROTECTION
	PROPOSED INLET PROTECTION
	CONCRETE WASHOUT PIT
	CONSTRUCTION ENTRANCE
	ROCK BERM
	EXISTING CONTOURS
	PROPOSED CONTOURS
	LIMITS OF CONSTRUCTION AREA
	TREE TO REMAIN
	HERITAGE TREE TO REMAIN
	STAGING AND SPOILS AREA

NOTES:

- THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF CEDAR PARK RULES AND REGULATIONS
- 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.
- ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
- REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 11.
- 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].
- ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF LIBERTY HILL STANDARDS.
- SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 737-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 028



KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG
-------------	----------------	------	-------	------	-------	----------	-------------	-----	----------	----	------------	-----

EROSION CONTROL
PLAN (SHEET 2 OF 2)

**ELDORADO
SUBDIVISION
PHASE 7**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

12 OF 86



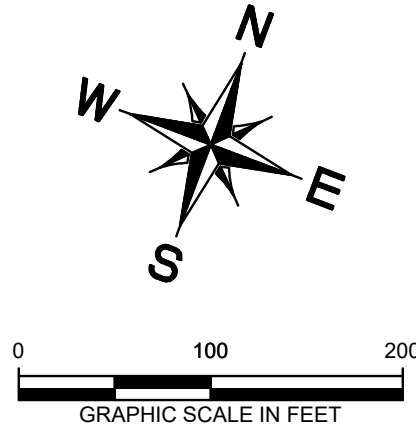
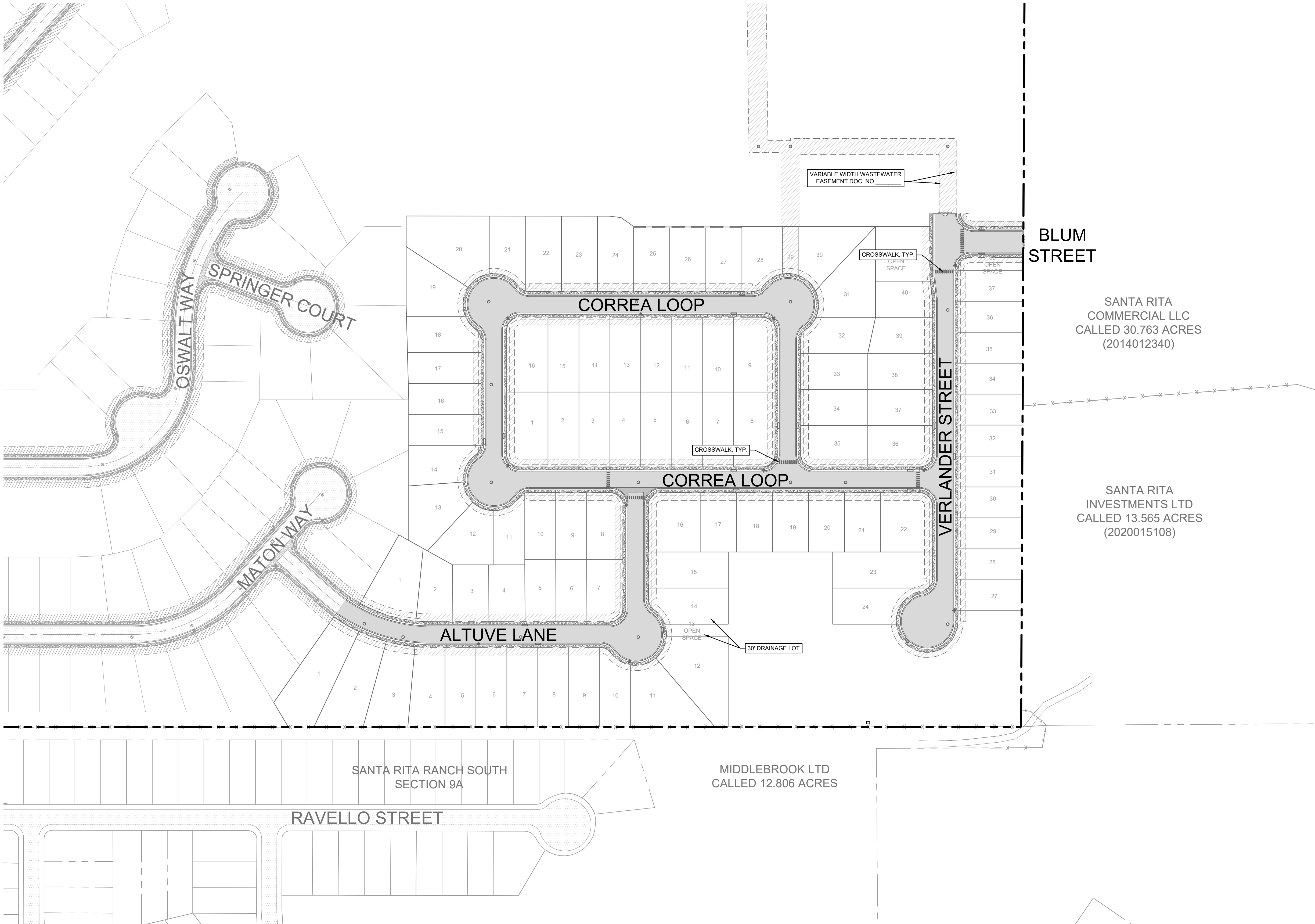
BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#502)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#500)
ELEVATION=954.147'

2025-5-CON

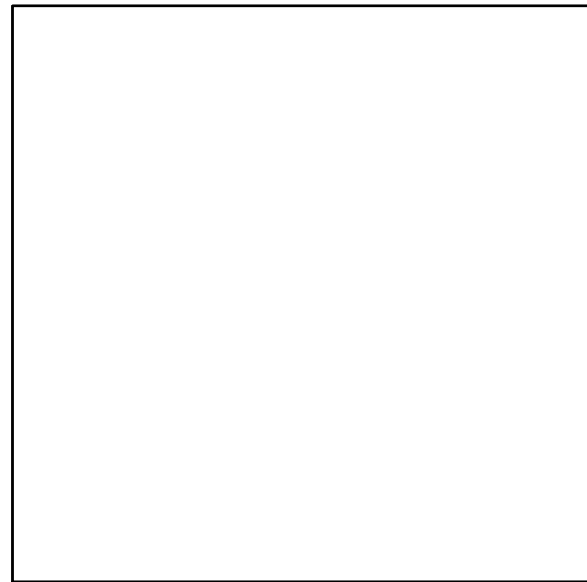
Plotted By: Salas, Nathalie - Date: November 04, 2025 - 04:56:07pm - File Path: K:\SAU-Civil\069286000 Eldorado - Liberty Hill Single Family\069286000 Eldorado - Overall Street Layout.dwg

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.



LEGEND	
	PROPERTY LINE
	PROPOSED FIRE LANE
	LIGHT DUTY CONCRETE PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	PROPOSED ADA STRIPING
	PROPOSED SIDEWALK
	PROPOSED WASTEWATER MANHOLE

STREET LIST		
STREET	R.O.W.	LENGTH
VERLANDER STREET	50' - 60'	640'
ALTUVE LANE	50'	882'
CORREA LOOP	50'	2125'
BLUM STREET	50'	151'



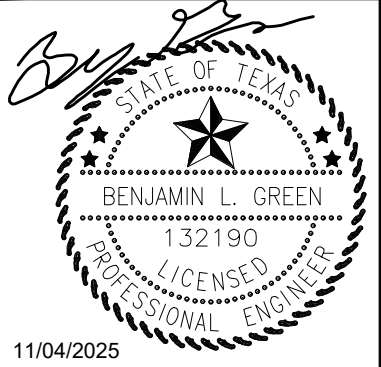
BENCHMARKS	
TBM: 1. BM1 (#301) ELEVATION=1004.244' 2. BM2 (#302) ELEVATION=1045.526' 3. BM3 (#303) ELEVATION=944.476' 4. BM4 (#300) ELEVATION=954.147'	



Know what's below.
Call before you dig.

REVISIONS		DATE	BY
No.			

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



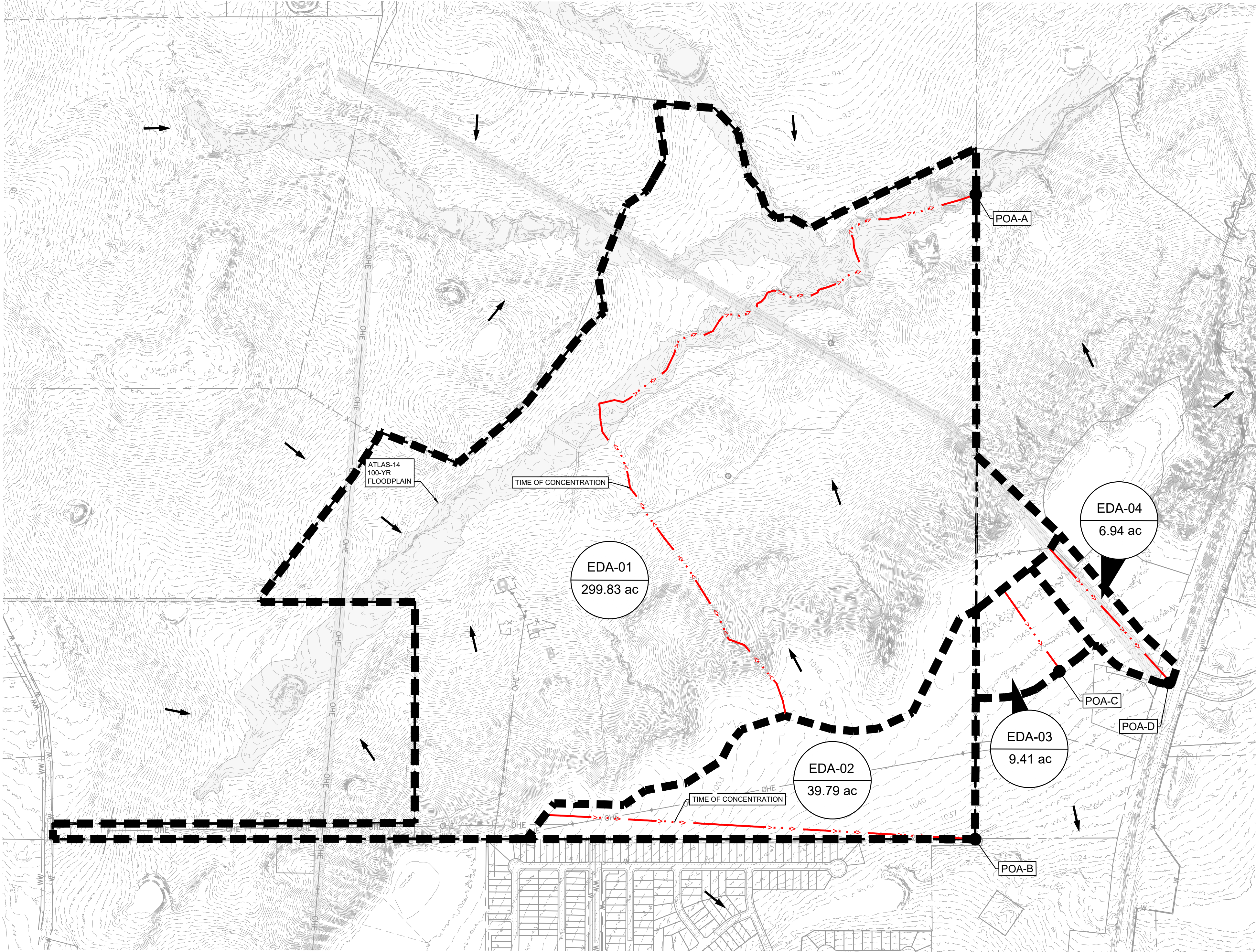
KHA PROJECT	PROJECT NUMBER	DATE	MONTH	YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	NS	BLG

OVERALL STREET LAYOUT

ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

Plotted By:Salas, Nathalie Date:November 04, 2025 04:56:34pm File Path:k:\NSAU-Civil\069286000 Eldorado - Liberty Hill Single Family\069286000 PH7-PUBLIC CONSTRUCTION\PlanSheets\0 - Existing Drainage Area Map.dwg

This document, together with the concepts and designs presented herein, 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.




EXISTING CONDITIONS									
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)	
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71	
POA-A					528.51	1019.13	1364.38	1938.71	
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64	
POA-B					67.46	131.50	175.86	249.64	
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31	
POA-C					18.48	35.96	48.03	68.31	
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74	
POA-D					13.30	25.70	34.36	48.74	
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES									

EXISTING TIME OF CONCENTRATION CALCULATIONS						
EDA-01						
Sheet Flow		Shallow		Channel Flow		
n=	0.15	paved?	no	v (fps)=		6
S (ft/ft)=	0.010	S (ft/ft)=	0.080	L (ft)=		3217
L (ft)=	100	L (ft)=	2316			
T ₁₁ =		12.5	T ₁₂ =	8.5	T ₁₃ =	8.9
Total TC =		29.9 mins				

EDA-02						
Sheet Flow		Shallow		Channel Flow		
n=	0.15	paved?	no	v (fps)=		6
S (ft/ft)=	0.010	S (ft/ft)=	0.010	L (ft)=		1175.0
L (ft)=	100	L (ft)=	1500			
T ₁₁ =		12.5	T ₁₂ =	15.5	T ₁₃ =	3.3
Total TC =		31.2 mins				

EDA-03						
Sheet Flow		Shallow		Channel Flow		
n=	0.15	paved?	no	v (fps)=		6
S (ft/ft)=	0.006	S (ft/ft)=	0.006	L (ft)=		0
L (ft)=	100	L (ft)=	546			
T ₁₁ =	15.3	T ₁₂ =	7.3	T ₁₃ =		0.0
Total TC =		22.6 mins				

EDA-04						
Sheet Flow		Shallow		Channel Flow		
n=	0.15	paved?	no	v (fps)=		6
S (ft/ft)=	0.010	S (ft/ft)=	0.008	L (ft)=		0
L (ft)=	100	L (ft)=	1063			
T ₁₁ =		12.5	T ₁₂ =	12.3	T ₁₃ =	0.0
Total TC =		24.7 mins				



Know what's below.
Call before you dig.

BENCHMARKS	
TBM:	
1. BM1 (#301)	ELEVATION=1004.244'
2. BM2 (#302)	ELEVATION=1045.526'
3. BM3 (#303)	ELEVATION=944.476'
4. BM4 (#300)	ELEVATION=954.147'

ELDERADO SUBDIVISION PHASE 7

CITY OF LIBERTY HILL WILLIAMSON COUNTY, TEXAS

26 OF 86

SHEET NUMBER

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 724-662-2220
WWW.KH.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628

Benjamin L. Green

STATE OF TEXAS
BENJAMIN L. GREEN
12/12/90
LICENSED PROFESSIONAL ENGINEER
11/04/2025

KHA PROJECT

PROJECT NUMBER

DATE

MONTH YEAR

SCALE: AS SHOWN

DESIGNED BY: BLG

DRAWN BY: NS

CHECKED BY: BLG

EXISTING DRAINAGE AREA MAP

REVISIONS

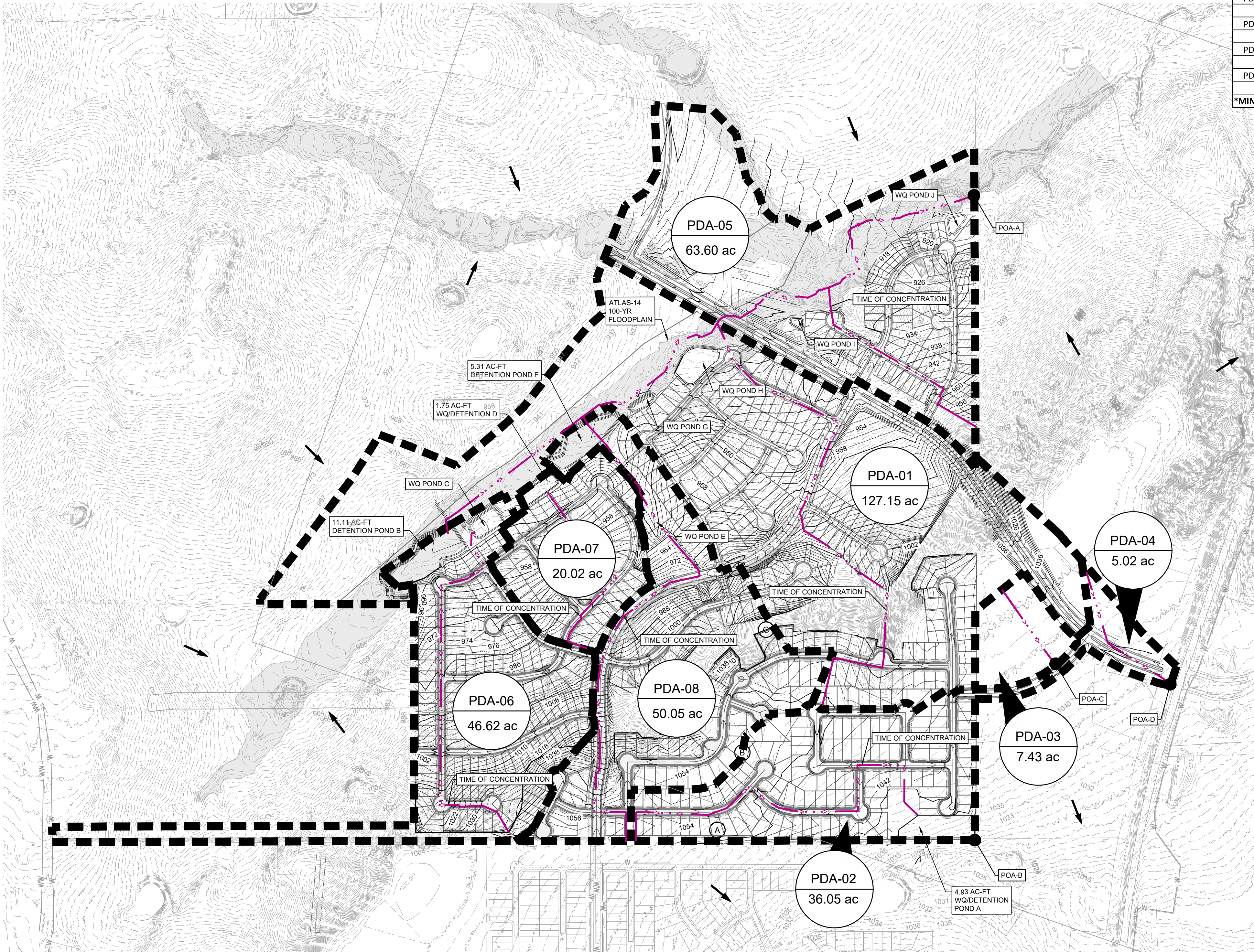
No.

DATE

BY

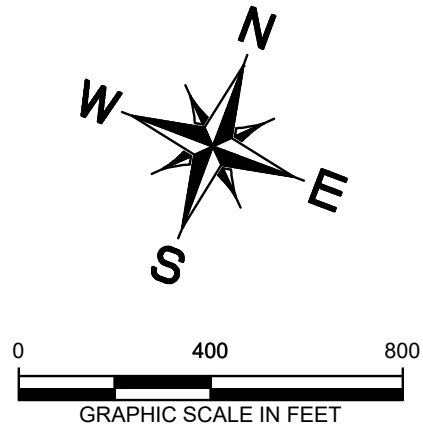
2025-5-CON

Plotted By: Salas, Nathalie Date: November 04, 2025 05:00:03pm File Path: K:\NSAU-Civil\069286000 Eldorado - Liberty Hill Single Family\PH7-PUBLIC CONSTRUCTION\PlanSheets\7-C - Proposed Drainage Area Map.dwg
This document, together with the concepts and designs presented herein, 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.



EXISTING CONDITIONS								
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71
POA-A					528.51	1019.13	1364.38	1938.71
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64
POA-B					67.46	131.50	175.86	249.64
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31
POA-C					18.48	35.96	48.03	68.31
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74
POA-D					13.30	25.70	34.36	48.74
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								

PROPOSED CONDITIONS								
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
PDA-01	127.15	48.31%	78	29.0	315.85	531.88	675.05	909.36
PDA-05	63.60	43.50%	78	19.3	182.82	311.01	395.85	534.71
PDA-06	46.62	39.13%	78	24.3	109.71	187.05	238.34	322.26
PDA-07	20.02	46.99%	78	21.6	56.09	95.05	120.82	162.99
PDA-08	50.05	37.34%	78	28.7	116.45	202.31	259.58	353.39
POA-A					526.28	1011.43	1361.15	1938.37
PDA-02	36.05	48.75%	78	26.0	94.15	158.76	201.52	271.49
POA-B					64.27	131.06	175.34	244.58
PDA-03	7.43	0.00%	78	21.9	14.72	28.56	38.18	54.43
POA-C					14.72	28.56	38.18	54.43
PDA-04	5.02	26.95%	78	19.0	13.02	23.23	30.08	41.30
POA-D					13.02	23.23	30.08	41.30
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								



LEGEND

	AREA DESIGNATOR
	AREA IN ACRES
	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
	PROPOSED CONTOUR
	EXISTING CONTOUR

PDA-01		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.027	L (ft)=	1251	L (ft)=	1727		
L (ft)=	100	L (ft)=	215	L (ft)=	320						
T ₁₁ =	18.2	T ₁₂ =	2.2	T ₁₂ =	1.6	T ₁₃ =	3.5	T ₁₃ =	3.6		
Total TC =		29.0 mins									

PDA-02		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2031		
L (ft)=	100	L (ft)=	86	L (ft)=	468						
T ₁₁ =	18.2	T ₁₂ =	0.9	T ₁₂ =	2.7	T ₁₃ =	0.0	T ₁₃ =	4.2		
Total TC =		26.0 mins									

PDA-03		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.006	S (ft/ft)=	0.006	S (ft/ft)=	0.006	L (ft)=	0	L (ft)=	0		
L (ft)=	100	L (ft)=	495	L (ft)=	0						
T ₁₁ =	15.3	T ₁₂ =	6.6	T ₁₂ =	0.0	T ₁₃ =	0.0	T ₁₃ =	0.0		
Total TC =		21.9 mins									

PDA-04		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.011	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	0		
L (ft)=	100	L (ft)=	374	L (ft)=	481						
T ₁₁ =	12.5	T ₁₂ =	3.7	T ₁₂ =	2.8	T ₁₃ =	0.0	T ₁₃ =	0.0		
Total TC =		19.0 mins									

PDA-05		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.030	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	1468.337	L (ft)=	1017.892		
L (ft)=	100	L (ft)=	195	L (ft)=	41						
T ₁₁ =	11.7	T ₁₂ =	1.2	T ₁₂ =	0.2	T ₁₃ =	4.1	T ₁₃ =	2.1		
Total TC =		19.3 mins									

PDA-06		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2127		
L (ft)=	100	L (ft)=	54	L (ft)=	247						
T ₁₁ =	18.2	T ₁₂ =	0.3	T ₁₂ =	1.4	T ₁₃ =	0.0	T ₁₃ =	4.4		
Total TC =		24.3 mins									

PDA-07		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	1069		
L (ft)=	100	L (ft)=	36	L (ft)=	167						
T ₁₁ =	18.2	T ₁₂ =	0.2	T ₁₂ =	1.0	T ₁₃ =	0.0	T ₁₃ =	2.2		
Total TC =		21.6 mins									

PDA-08		Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8		
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	1248.22	L (ft)=	1666.15		
L (ft)=	100	L (ft)=	92	L (ft)=	454						
T ₁₁ =	18.2	T ₁₂ =	1.0	T ₁₂ =	2.7	T ₁₃ =	3.5	T ₁₃ =	3.5		
Total TC =		28.7 mins									

BENCHMARKS

- TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#502)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-466-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	DATE	SCALE	AS SHOWN	BLG	NS	BLG
PROJECT NUMBER	MONTH YEAR	DESIGNED BY	DRAWN BY	CHECKED BY		

PROPOSED DRAINAGE
AREA MAP

**ELDORADO
SUBDIVISION
PHASE 7**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

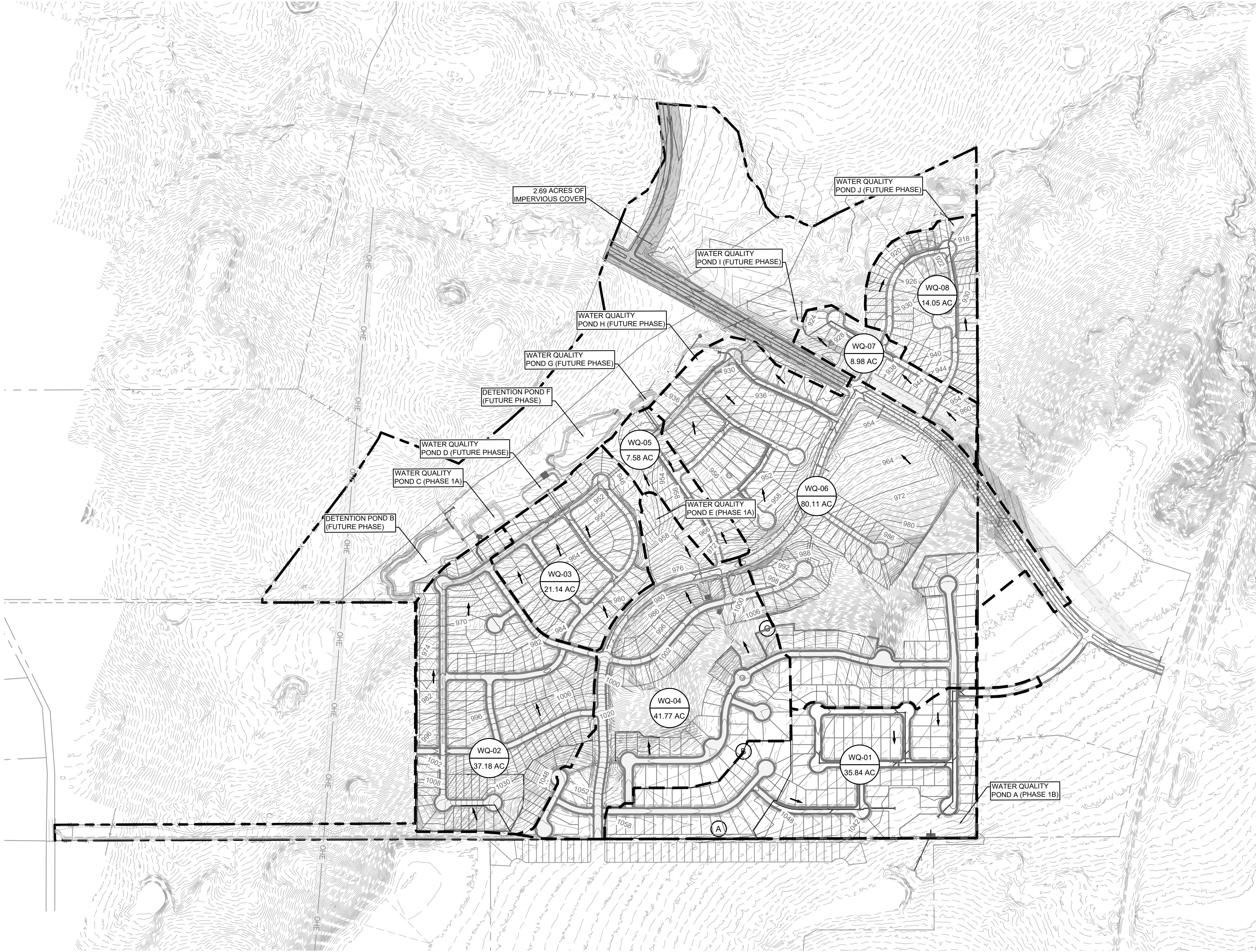
SHEET NUMBER

27 OF 86

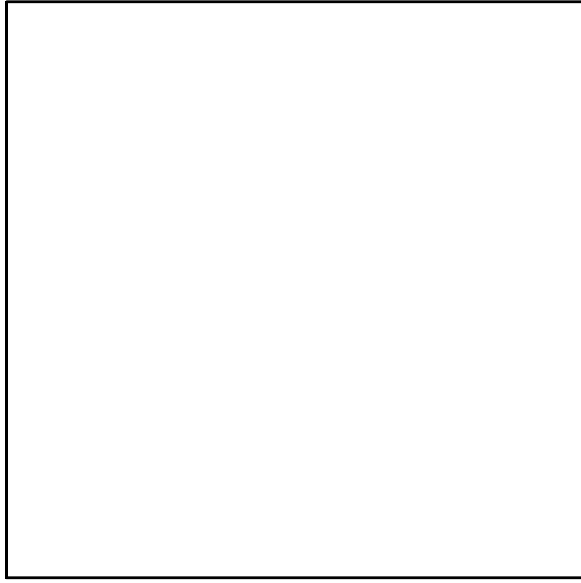
2025-5-CON

Plotted By: Salas, Nathalie - Date: November 04, 2025 05:00:47pm - File Path: K:\SAU - Civil\069286000 Eldorado - Liberty Hill Single Family\A\PH7-PUBLIC CONSTRUCTION\PlanSheets\7 - Water Quality Drainage Area Map.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.



Water Quality Load Table											
Drainage Area	Acerage	Impervious Cover (Acres)	Impervious Cover (%)	Load Available (Lbs.)	Load Removed (Lbs.)	Load Removed (%)	Required Removal (Lbs.)	Remaining Removal (Lbs.)	Water Quality Volume Required (CF)	Water Quality Volume Provided (CF)	Water Quality Surface Elevation (Ft)
WQ-01	35.84	17.76	49.6%	18178.4	15460.0	85%	102951	87490.9	73168.8	74164.00	1033.00
WQ-02	37.90	18.19	48.0%	18637.3	16860.0	90%	102951	70630.9	97304.9	99624.36	945.00
WQ-03	19.13	10.00	52.3%	10218.6	8703.6	85%	102951	61927.3	40734.6	48686.00	941.50
WQ-04	41.77	17.75	42.5%	18262.3	16272.5	89%	102951	45654.8	92848.6	99321.18	951.00
WQ-05	7.58	3.53	46.6%	3617.0	3300.0	91%	102951	42354.8	20153.6	21756.35	935.00
WQ-06	80.11	38.10	47.6%	39043.9	32958.0	84%	102951	9396.8	151422.4	151802.00	925.00
WQ-07	8.98	3.28	36.6%	3397.2	2970.0	87%	102951	6426.8	16355.8	17012.69	922.00
WQ-08	14.05	6.98	49.7%	7143.3	6460.0	90%	102951	-33.2	37009.1	38039.34	915.00



ELDORADO SUBDIVISION PHASE 7 CITY OF LIBERTY HILL WILLIAMSON COUNTY, TEXAS

PROJECT NUMBER DATE MONTH YEAR SCALE: AS SHOWN DESIGNED BY: BLG DRAWN BY: NS CHECKED BY: BLG

WATER QUALITY DRAINAGE AREA MAP

11/04/2025

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 028

STATE OF TEXAS

BENJAMIN L. GREEN

12/12/90

PROFESSIONAL ENGINEER

SHEET NUMBER

28 OF 86

REVISIONS

No.

DATE

BY

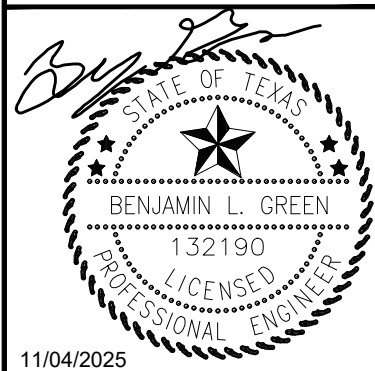
2025-5-CON

Plotted By: Soles, Nathalie Date: November 04, 2025 05:00:50pm File Path: K:\SAU\Civil\069286000 Eldorado - Liberty Hill Single Family\A-Cad\PH7-PUBLIC CONSTRUCTION\PlanSheets\C - Water Quality Drainage Area Map.dwg
This document, together with the concepts and designs presented herein, is 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.

Texas Commission on Environmental Quality			
TSS Removal Calculations 04-20-2009		Project Name: Eldorado SF Date Prepared: 10/4/2022	
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 = 332.00 acres			
Predevelopment impervious area within the limits of the plan = 0.00 acres			
Total post-development impervious area within the limits of the plan = 118.28 acres			
Total post-development impervious cover fraction = 0.36			
P = 32 inches			
L_M TOTAL PROJECT = 102951 lbs.			
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area = 7			
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. = 1			
Total drainage basin/outfall area = 35.84 acres			
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres			
Post-development impervious area within drainage basin/outfall area = 17.76 acres			
Post-development impervious fraction within drainage basin/outfall area = 0.50			
L_M THIS BASIN = 15458 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 = 35.84 acres			
A_i = 17.76 acres			
A_p = 18.08 acres			
L_R = 18178 lbs			
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
Desired L_M THIS BASIN = 15460 lbs.			
F = 0.85			
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 = 1.32 inches			
Post Development Runoff Coefficient = 0.36			
On-site Water Quality Volume = 60974 cubic feet			
Calculations from RG-348 Pages 3-36 to 3-37			
Off-site area draining to BMP = acres			
Off-site Impervious cover draining to BMP = acres			
Impervious fraction of off-site area = 0			
Off-site Runoff Coefficient = 0.00			
Off-site Water Quality Volume = 0 cubic feet			
Storage for Sediment = 12195			
Total Capture Volume (required water quality volume(s) x 1.20) = 73169 cubic feet			

Texas Commission on Environmental Quality			
TSS Removal Calculations 04-20-2009		Project Name: Eldorado SF Date Prepared: 10/4/2022	
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 = 332.00 acres			
Predevelopment impervious area within the limits of the plan = 0.00 acres			
Total post-development impervious area within the limits of the plan = 118.28 acres			
Total post-development impervious cover fraction = 0.36			
P = 32 inches			
L_M TOTAL PROJECT = 102951 lbs.			
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area = 8			
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. = 2			
Total drainage basin/outfall area = 37.90 acres			
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres			
Post-development impervious area within drainage basin/outfall area = 18.19 acres			
Post-development impervious fraction within drainage basin/outfall area = 0.48			
L_M THIS BASIN = 15833 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 = 37.90 acres			
A_i = 18.19 acres			
A_p = 19.71 acres			
L_R = 18637 lbs			
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
Desired L_M THIS BASIN = 16860 lbs.			
F = 0.90			
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 = 1.70 inches			
Post Development Runoff Coefficient = 0.35			
On-site Water Quality Volume = 81087 cubic feet			
Calculations from RG-348 Pages 3-36 to 3-37			
Off-site area draining to BMP = acres			
Off-site Impervious cover draining to BMP = acres			
Impervious fraction of off-site area = 0			
Off-site Runoff Coefficient = 0.00			
Off-site Water Quality Volume = 0 cubic feet			
Storage for Sediment = 16217			
Total Capture Volume (required water quality volume(s) x 1.20) = 97305 cubic feet			

Texas Commission on Environmental Quality			
TSS Removal Calculations 04-20-2009		Project Name: Eldorado SF Date Prepared: 10/4/2022	
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 = 332.00 acres			
Predevelopment impervious area within the limits of the plan = 0.00 acres			
Total post-development impervious area within the limits of the plan = 118.28 acres			
Total post-development impervious cover fraction = 0.36			
P = 32 inches			
L_M TOTAL PROJECT = 102951 lbs.			
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area = 8			
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. = 3			
Total drainage basin/outfall area = 19.13 acres			
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres			
Post-development impervious area within drainage basin/outfall area = 10.00 acres			
Post-development impervious fraction within drainage basin/outfall area = 0.52			
L_M THIS BASIN = 8704 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 = 19.13 acres			
A_i = 10.00 acres			
A_p = 9.13 acres			
L_R = 10219 lbs			
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
Desired L_M THIS BASIN = 8704 lbs.			
F = 0.85			
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 = 1.32 inches			
Post Development Runoff Coefficient = 0.37			
On-site Water Quality Volume = 33945 cubic feet			
Calculations from RG-348 Pages 3-36 to 3-37			
Off-site area draining to BMP = acres			
Off-site Impervious cover draining to BMP = acres			
Impervious fraction of off-site area = 0			
Off-site Runoff Coefficient = 0.00			
Off-site Water Quality Volume = 0 cubic feet			
Storage for Sediment = 6789			
Total Capture Volume (required water quality volume(s) x 1.20) = 40735 cubic feet			



KHA PROJECT	PROJECT NUMBER	DATE	MONTH YEAR	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG
-------------	----------------	------	------------	-------	----------	-------------	-----	----------	----	------------	-----

WATER QUALITY
CALCULATIONS
(SHEET 1 OF 3)

ELDORADO
SUBDIVISION
PHASE 7
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

Texas Commission on Environmental Quality		Project Name: Eldorado SF Date Prepared: 10/4/2022	
TSS Removal Calculations 04-20-2009			
<p>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.</p> <p>Characters shown in red are data entry fields.</p> <p>Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.</p>			
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 *	332.00	acres	
Predevelopment impervious area within the limits of the plan *	0.00	acres	
Total post-development impervious area within the limits of the plan *	118.28	acres	
Total post-development impervious cover fraction *	0.36		
P	32	inches	
L_M TOTAL PROJECT =	102951	lbs.	
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area =	8		
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. =	4		
Total drainage basin/outfall area =	41.77	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	17.75	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.42		
L_M THIS BASIN =	16273	lbs.	
3. Indicate the proposed BMP Code for this basin.			
Proposed BMP =	Batch Detention		
Removal efficiency =	91	percent	
			Aqualogic Cartridge Filter Bioretention Context 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 =	41.77	acres
	A_i =	17.75	acres
	A_p =	24.02	acres
	L_R =	18262	lbs
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
	Desired L_M THIS BASIN =	16273	lbs.
	F =	0.89	
6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.			
	Rainfall Depth =	1.60	inches
	Post Development Runoff Coefficient =	0.32	
	On-site Water Quality Volume =	77374	cubic feet
			Calculations from RG-348 Pages 3-36 to 3-37
	Off-site area draining to BMP =		acres
	Off-site Impervious cover draining to BMP =		acres
	Impervious fraction of off-site area =	0	
	Off-site Runoff Coefficient =	0.00	
	Off-site Water Quality Volume =	0	cubic feet
	Storage for Sediment =	15475	
	Total Capture Volume (required water quality volume(s) x 1.20) =	92849	cubic feet

Texas Commission on Environmental Quality		Project Name: Eldorado SF Date Prepared: 10/4/2022	
TSS Removal Calculations 04-20-2009			
<p>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.</p> <p>Characters shown in red are data entry fields.</p> <p>Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.</p>			
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 = 332.00 acres Predevelopment impervious area within the limits of the plan = 0.00 acres Total post-development impervious area within the limits of the plan = 118.28 acres Total post-development impervious cover fraction = 0.36 P = 32 inches			
L_M TOTAL PROJECT = 102951 lbs.			
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area = 8			
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. = 5			
Total drainage basin/outfall area = 7.58 acres Predevelopment impervious area within drainage basin/outfall area = 0.00 acres Post-development impervious area within drainage basin/outfall area = 3.53 acres Post-development impervious fraction within drainage basin/outfall area = 0.47 L_M THIS BASIN = 3069 lbs.			
3. Indicate the proposed BMP Code for this basin.			
Proposed BMP = Batch Detention Removal efficiency = 91 percent		Aqualogic Cartridge Filter Bioretention Cotech 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 = 7.58 acres A_i = 3.53 acres A_p = 4.06 acres L_R = 3617 lbs			
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
Desired L_M THIS BASIN = 3300 lbs.			
F = 0.91			
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 = 1.80 inches Post Development Runoff Coefficient = 0.34 On-site Water Quality Volume = 16795 cubic feet			
		Calculations from RG-348	Pages 3-36 to 3-37
Off-site area draining to BMP = _____ acres Off-site impervious cover draining to BMP = _____ acres Impervious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00 Off-site Water Quality Volume = 0 cubic feet			
Storage for Sediment = 3359 Total Capture Volume (required water quality volume(s) x 1.20) = 20154 cubic feet			



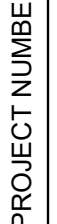
Texas Commission on Environmental Quality		Project Name: Eldorado SF Date Prepared: 10/4/2022	
TSS Removal Calculations 04-20-2009			
<p>Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.</p> <p>Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.</p> <p>Characters shown in red are data entry fields.</p> <p>Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.</p>			
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 =		332.00	acres
Predevelopment impervious area within the limits of the plan =		0.00	acres
Total post-development impervious area within the limits of the plan =		118.28	acres
Total post-development impervious cover fraction =		0.36	
P =		32	inches
L_M TOTAL PROJECT =		102951	lbs.
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area =		8	
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. =		6	
Total drainage basin/outfall area =		80.11	acres
Predevelopment impervious area within drainage basin/outfall area =		0.00	acres
Post-development impervious area within drainage basin/outfall area =		38.10	acres
Post-development impervious fraction within drainage basin/outfall area =		0.48	
L_M THIS BASIN =		33158	lbs.
3. Indicate the proposed BMP Code for this basin.			
Proposed BMP =		Batch Detention	
Removal efficiency =		91	percent
		Aqualogic Cartridge Filter Bioretention Context 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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$			
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 =	80.11	acres
	A_i =	38.10	acres
	A_p =	42.01	acres
	L_R =	39044	lbs
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
	Desired L_M THIS BASIN =	32958	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 =	0.34	
	On-site Water Quality Volume =	126185	cubic feet
		Calculations from RG-348	Pages 3-36 to 3-37
	Off-site area draining to BMP =		acres
	Off-site Impervious cover draining to BMP =		acres
	Impervious fraction of off-site area =	0	
	Off-site Runoff Coefficient =	0.00	
	Off-site Water Quality Volume =	0	cubic feet
	Storage for Sediment =	25237	
	Total Capture Volume (required water quality volume(s) x 1.20) =	151422	cubic feet

Texas Commission on Environmental Quality		Project Name: Eldorado SF Date Prepared: 10/4/2022	
TSS Removal Calculations 04-20-2009			
<p>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.</p>			
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 *	332.00 acres		
Predevelopment impervious area within the limits of the plan *	0.00 acres		
Total post-development impervious area within the limits of the plan *	118.28 acres		
Total post-development impervious cover fraction *	0.36		
P =	32 inches		
L_M TOTAL PROJECT =	102951 lbs.		
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area =	8		
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. =	7		
Total drainage basin/outfall area =	8.98 acres		
Predevelopment impervious area within drainage basin/outfall area =	0.00 acres		
Post-development impervious area within drainage basin/outfall area =	3.28 acres		
Post-development impervious fraction within drainage basin/outfall area =	0.37		
L_M THIS BASIN =	2857 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: $L_R = (\text{BMP efficiency}) \times P \times (A_C \times 34.6 + A_P \times 0.54)$			
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 = 8.98 acres A_I = 3.28 acres A_P = 5.69 acres L_R = 3397 lbs		
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
	Desired L_M THIS BASIN = 2970 lbs.		
	F = 0.87		
6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.			
	Rainfall Depth = 1.44 inches Post Development Runoff Coefficient = 0.29 On-site Water Quality Volume = 13630 cubic feet	Calculations from RG-348	Pages 3-34 to 3-36
		Calculations from RG-348	Pages 3-36 to 3-37
	Off-site area draining to BMP = acres Off-site Impervious cover draining to BMP = acres Impervious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00 Off-site Water Quality Volume = 0 cubic feet		
	Storage for Sediment = 2726 Total Capture Volume (required water quality volume(s) x 1.20) = 16356 cubic feet		

Texas Commission on Environmental Quality		Project Name: Eldorado SF Date Prepared: 10/4/2022	
TSS Removal Calculations 04-20-2009			
<div style="display: flex; justify-content: space-between;"> 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. </div>			
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 *	332.00	acres	
Predevelopment impervious area within the limits of the plan *	0.00	acres	
Total post-development impervious area within the limits of the plan *	118.28	acres	
Total post-development impervious cover fraction *	0.36		
P	32	inches	
L_M TOTAL PROJECT =	102951	lbs.	
* The values entered in these fields should be for the total project area.			
Number of drainage basins / outfalls areas leaving the plan area =	8		
2. Drainage Basin Parameters (This information should be provided for each basin):			
Drainage Basin/Outfall Area No. =	8		
Total drainage basin/outfall area =	14.05	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	6.98	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.50		
L_M THIS BASIN =	6075	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: $L_R = (\text{BMP efficiency}) \times P \times (A_N \times 34.6 + A_P \times 0.54)$			
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 = 14.05 A_I = 6.98 A_P = 7.07 L_R = 7143	acres acres acres lbs	
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area			
	Desired L_M THIS BASIN =	6460	lbs.
	F =	0.90	
6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.			
	Rainfall Depth =	1.70	inches
	Post Development Runoff Coefficient =	0.36	
	On-site Water Quality Volume =	30841	cubic feet
		Calculations from RG-348	Pages 3-36 to 3-37
	Off-site area draining to BMP =		acres
	Off-site Impervious cover draining to BMP =		acres
	Impervious fraction of off-site area =	0	
	Off-site Runoff Coefficient =	0.00	
	Off-site Water Quality Volume =	0	cubic feet
	Storage for Sediment =	6168	
	Total Capture Volume (required water quality volume(s) x 1.20) =	37009	cubic feet

STEP 1 OF THE TSS REMOVAL CALCULATIONS FOR PHASE 1									
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: $L_M = 27.2(A_{NI} \times P)$									
where:			L_M TOTAL PROJECT =		Required TSS removal resulting from the proposed development = 80% of increased load				
			A_{NI} =		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 *		45.12		acres		
			Predevelopment impervious area within the limits of the plan *		0.00		acres		
			Total post-development impervious area within the limits of the plan *		27.07		acres		
			Total post-development impervious cover fraction *		0.60				
			P =		32		inches		
			L_M TOTAL PROJECT =		23563		lbs.		

NOTE: AS SHOWN ABOVE, THE *REQUIRED* TSS REMOVAL FOR PHASE 1 IS 23,563 LBS. THE AMOUNT OF TSS REMOVED FROM THE THREE PROPOSED PONDS IN PHASE 1 (POND A, B AND D) IS 48592.5 LBS.

SHEET NUMBER		31 OF 86	
ELDORADO SUBDIVISION PHASE 7 CITY OF LIBERTY HILL WILLIAMSON COUNTY, TEXAS		WATER QUALITY CALCULATIONS (SHEET 3 OF 3)	
KHA PROJECT PROJECT NUMBER		SCALE: AS SHOWN	
DATE		DESIGNED BY: BLG	
MONTH YEAR		DRAWN BY: NS	
		CHECKED BY: BLG	
		11/04/2025	
			
			
			
		5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100 Austin, Texas 78748 Phone: 512.424.4400 WWW.KIMLEY-HORN.COM © 2024 KIMLEY-HORN AND ASSOCIATES, INC. TBP# Firm No. 928	
No.	REVISIONS	DATE	BY

AW0417 AW0417 - MANLOVE, B. SUR., ACRES 254.914
AW0417 MANLOVE, B. SUR., ACRES 72.0

- CONTRACTOR WILL FOLLOW WILLIAMSON COUNTY'S MOST CURRENT CONSTRUCTION SPECIFICATIONS.
2. ADEQUACY OF THESE PLANS FOR CONSTRUCTION IS THE RESPONSIBILITY OF THE SIGNING/SEALING ENGINEER. IN REVIEWING THESE PLANS WILLIAMSON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
3. IT IS THE RESPONSIBILITY OF THE SIGNING/SEALING ENGINEER TO PROVIDE DOCUMENTATION OF TDLR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
4. THE CITY OF LIBERTY HILL HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISLATION RELATED TO ACCESSIBILITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS.
5. BASED ON THE DESIGN ENGINEER'S CERTIFICATION OF COMPLIANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL REGULATIONS, THE WASTEWATER PORTION OF THE PLANS AND SPECIFICATIONS CONTAINED HEREIN HAVE BEEN REVIEWED AND ARE FOUND TO BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LIBERTY HILL.
6. NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100YR FLOOD PLAIN, AS DESCRIBED IN FEMA FIRM PANEL NO. 48491C0275E, DATED SEPTEMBER 26, 2008, WILLIAMSON COUNTY, TX.
7. NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
8. THIS PROJECT IS SUBJECT TO TCEQ'S TPDES SWPPP REGULATIONS PER TEXAS WATER CODE CHAPTER 26. IF NOT ALREADY DONE, HAVE A TX PE, CPESC, OR QPSWPPP **DEVELOP/AMEND A PROJECT-SPECIFIC SWPPP AND SEEK APPLICABLE TPDES PERMIT TXR150000 COVERAGE IMMEDIATELY PER TXR150000 PARTS I-III AND CITY CODE SECTION 86.529(B)(2) OR 86.529(C)(3). A HARD-COPY OF THE SWPPP, INCLUDING FULL-SIZE MAP, MUST BE AVAILABLE AT THE PRE-CON MEETING, KEPT ONSITE, AND UPDATED TO MATCH SITE CONDITIONS DURING THE PROJECT.**
9. THESE PLANS WERE DESIGNED USING AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS"
10. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN. AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.
11. ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY
12. ASSOCIATED DETENTION PONDS MUST BE IN PLACE PRIOR TO CONSTRUCTION OF THIS PHASE.
13. ANY IMPROVEMENTS ON A COUNTY MAINTAINED ROADWAY PROPOSED WITHIN THE RIGHT-OF-WAY INCLUDING, BUT NOT LIMITED TO, IRRIGATION, LANDSCAPING, SIDEWALKS, SUBDIVISION IDENTIFICATION SIGNS, ETC. SHALL BE MAINTAINED IN ACCORDANCE WITH AN EXECUTED LICENSE AGREEMENT BETWEEN THE COUNTY AND THE OWNER.

STREET SUMMARY							
STREET	TYPE	ROW	STREET LENGTH	SPEED DESIGN	PAVEMENT WIDTH	URBAN/RURAL	PUBLIC/PRIVATE
OSWALT WAY	LOCAL	50'	1410'	25 MPH	30'	URBAN	PUBLIC
VERLANDER STREET	LOCAL	50'	421'	25 MPH	30'	URBAN	PUBLIC
VERLANDER STREET	MINOR COLLECTOR	60'	221'	25 MPH	40'	URBAN	PUBLIC

TRAFFIC CONTROL NOTES:
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 SUBMITTED TO THE RIGHT OF WAY MANAGEMENT DIVISION AND TYPED AND SIGNED AS APPLICABLE. 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.

OWNER:
PERRY HOMES
(PH): (512) 484-7469
ATTN: NICK MCLNTYRE

SANTA RITA COMMERCIAL LLC
8200 N MOPAC, SUITE 300
AUSTIN, TX 78759

SANTA RITA INVESTMENTS LTD
8300 N MOPAC, SUITE 300
AUSTIN, TX 78759

ENGINEER
KIMLEY-HORN
5301 SOUTHWEST PARKWAY,
BUILDING 2, SUITE 100
AUSTIN, TX 78735
PH: (512) 646-2243
ATTN: BENJAMIN GREEN
PREPARED BY:

WATER:
CITY OF GEORGETOWN
300-1 INDUSTRIAL AVE.
PO BOX 409
GEORGETOWN, TEXAS 78627
PH: (512) 930-3558

WASTEWATER:
CITY OF LIBERTY HILL
926 LOOP 332
PO BOX 1920
LIBERTY HILL, TX 7864
PH: (512) 745-1222

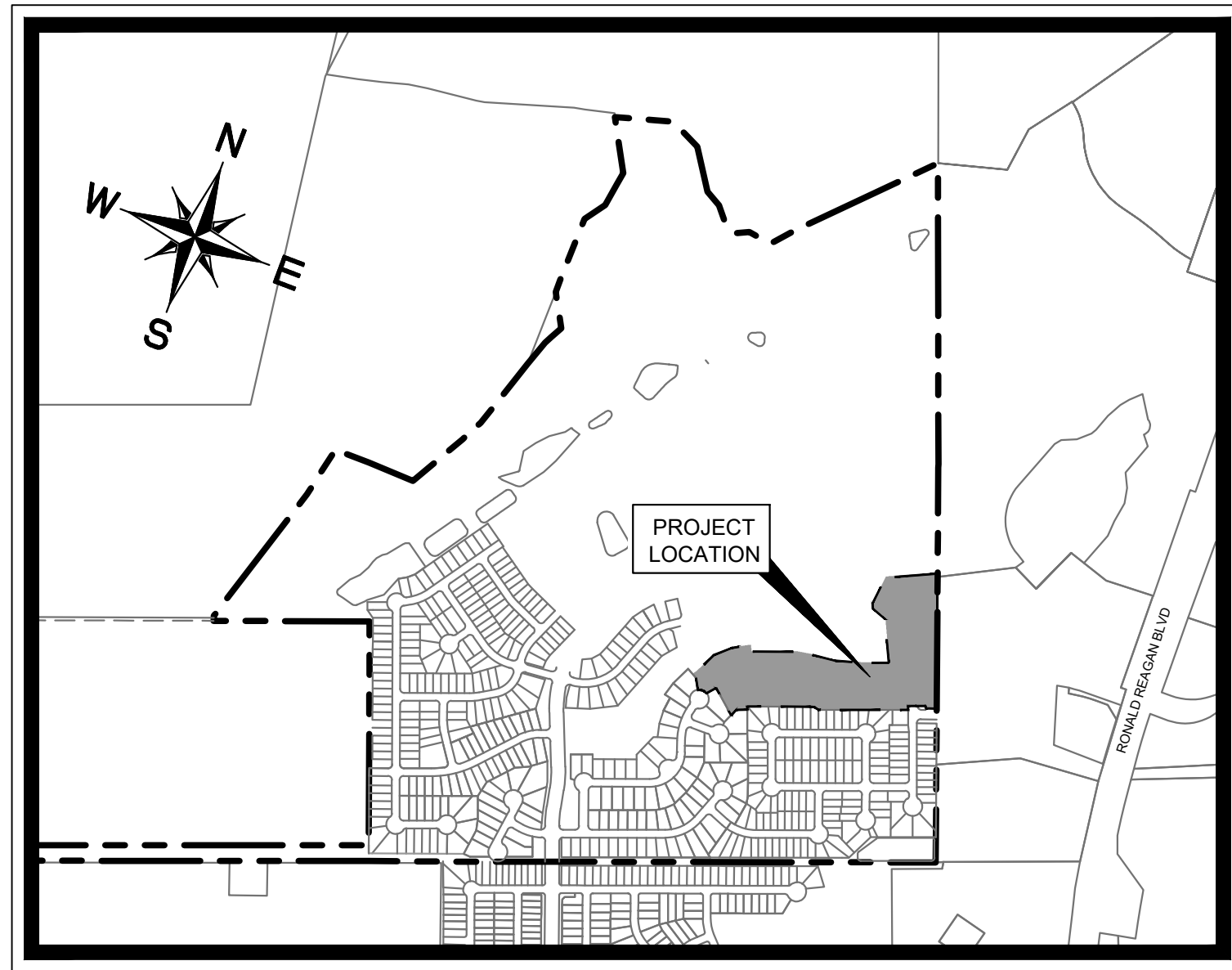
ELECTRIC PROVIDER:
PEDERNALES ELECTRIC COOP, INC.
PO BOX 1
JOHNSON CITY, TEXAS 78636
PH: (800) 868-4791

Kimley»»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
CERTIFICATE OF REGISTRATION #928

ELDORADO - PHASE 8

RONALD REAGAN BLVD,
LIBERTY HILL, WILLIAMSON COUNTY, TX 78642
WILLIAMSON COUNTY MUD 37



SCALE: 1" = 1,000'

DISTRICT ENGINEER, REVIEW OF PLANS BY DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021A)

FOR WILLIAMSON COUNTY
CERTIFICATE OF COMPLIANCE # CC-2021-21836

BASED ON THE DESIGN ENGINEER'S CERTIFICATE OF COMPLIANCE WITH ALL THE APPLICABLE CITY, STATE AND FEDERAL REGULATIONS, THE PLANS AND SPECIFICATIONS CONTAINED HEREIN HAVE BEEN REVIEWED AND ARE FOUND TO BE IN THE COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LIBERTY HILL.

WILLIAMSON COUNTY, ADAM BOATRIGHT P.E., COUNTY ENGINEER

CITY OF LIBERTY HILL, JENNIFER GLAESS, CITY ENGINEER

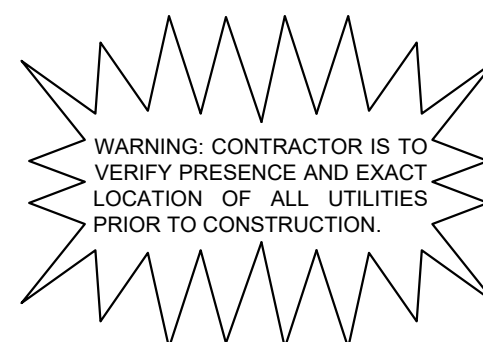
CITY OF LIBERTY HILL, MCKENZI HICKS, INTERIM DIRECTOR OF PLANNING

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	TCEQ NOTES
4	PRELIM PLAT (SHEET 1 OF 5)
5	PRELIM PLAT (SHEET 2 OF 5)
6	PRELIM PLAT (SHEET 3 OF 5)
7	PRELIM PLAT (SHEET 4 OF 5)
8	PRELIM PLAT (SHEET 5 OF 5)
9	KIMLEY-HORN GENERAL NOTES
10	EXISTING CONDITIONS AND DEMO PLAN
11	EROSION CONTROL PLAN
12	OVERALL STREET LAYOUT
13	PAVING P&P - BIGGIO WAY (SHEET 1 OF 2)
14	PAVING P&P - BIGGIO WAY (SHEET 2 OF 2)
15	PAVING P&P - VERLANDER STREET
16	PAVING P&P - BIGGIO KNUCKLE AND VERLANDER CULDESAC
17	FIRE ACCESS P&P
18	GRADING PLAN
19	EXISTING DRAINAGE AREA MAP
20	PROPOSED DRAINAGE AREA MAP
21	INTERIM WATER QUALITY MAP
22	INLET DRAINAGE AREA MAP
23	INLET CALC
24	DETENTION POND F (PHASE 8)
25	WATER QUALITY POND G
26	POND E WATER QUALITY DETAIL
27	WATER QUALITY POND H
28	POND F WATER QUALITY DETAIL
29	OVERALL STORM PLAN
30	STORM P&P - LINE B
31	STORM P&P - LINE C
32	OVERALL WATER PLAN
33	WATER P&P - LINE A
34	WATER P&P - LINE B (SHEET 1 OF 2)
35	WATER P&P - LINE B (SHEET 2 OF 2)
36	OVERALL WASTEWATER PLAN
37	WASTEWATER P&P - LINE A
38	WASTEWATER P&P - LINE B
39	SIDEWALK PLAN
40	STREET LIGHT, SIGN & SLEEVING PLAN
41	PAVING DETAILS (SHEET 1 OF 5)
42	PAVING DETAILS (SHEET 2 OF 5)
43	PAVING DETAILS (SHEET 3 OF 5)
44	PAVING DETAILS (SHEET 4 OF 5)
45	PAVING DETAILS (SHEET 5 OF 5)
46	STORM DRAIN DETAILS (SHEET 1 OF 5)
47	STORM DRAIN DETAILS (SHEET 2 OF 5)
48	STORM DRAIN DETAILS (SHEET 3 OF 5)
49	STORM DRAIN DETAILS (SHEET 4 OF 5)
50	STORM DRAIN DETAILS (SHEET 5 OF 5)
51	UTILITY DETAILS (SHEET 1 OF 5)
52	UTILITY DETAILS (SHEET 2 OF 5)
53	UTILITY DETAILS (SHEET 3 OF 5)
54	UTILITY DETAILS (SHEET 4 OF 5)
55	UTILITY DETAILS (SHEET 5 OF 5)
56	EROSION CONTROL DETAILS (SHEET 1 OF 3)
57	EROSION CONTROL DETAILS (SHEET 2 OF 3)
58	EROSION CONTROL DETAILS (SHEET 3 OF 3)

STUDIES/PERMIT'S STATE OF REVIEW/APPROVAL:

CITY OF GEORGETOWN WATER
CITY OF LIBERTY HILL
CITY OF LIBERTY HILL FIRE (WCESD NO.4)
WILLIAMSON COUNTY (FORMAL)
WILLIAMSON COUNTY (DRAINAGE)
WILLIAMSON COUNTY (FINAL PLAT)
TCEQ

UNDER REVIEW
UNDER REVIEW
UNDER REVIEW
UNDER REVIEW
UNDER REVIEW
NOT SUBMITTED
APPROVED (5/12/23)



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

**ELDORADO
SUBDIVISION
PHASE 8
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS**

SHEET NUMBER

1 OF 58

Plotted By: Grace, korn Date: November 04, 2025 04:59:43pm File Path: K:\NSAU_Civil\069288000_Eldorado - Liberty Hill Single Family\Gd\PH8\PUBLIC CONSTRUCTION\PlanSheets\TCEQ - General Notes.dwg
This document, together with the concepts and designs presented herein, 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.

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

- This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.
- All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.
- A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
 - the name of the approved project;
 - the activity start date; and
 - the contact information of the prime contractor.
- Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
- Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.
- If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the

TCEQ-0596 (Rev. July 15, 2015)

Page 1 of 6

- L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface
- (C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter (inches)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

- (D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
- (E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
- (F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
- (G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
- (2) **Infiltration/Exfiltration Test.**
- (A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
- (B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
- (C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
- (D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
- (E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

TCEQ-0596 (Rev. July 15, 2015)

Page 4 of 6

executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

- Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.
- Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.
- All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet ___ of ___.

It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

- Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
- Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

- New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

TCEQ-0596 (Rev. July 15, 2015)

Page 2 of 6

the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

- (b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
- (1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
- (A) **Mandrel Sizing.**
- (i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
- (ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
- (iii) All dimensions must meet the appropriate standard.
- (B) **Mandrel Design.**
- (i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
- (ii) A mandrel must have nine or more odd number of runners or legs.
- (iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
- (iv) Each size mandrel must use a separate proving ring.
- (C) **Method Options.**
- (i) An adjustable or flexible mandrel is prohibited.
- (ii) A test may not use television inspection as a substitute for a deflection test.
- (iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
- (2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
- (3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
- (4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
- (5) Gravity collection system pipe deflection must not exceed five percent (5%).
- (6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

- All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
 - All manholes must pass a leakage test.
 - An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

(1) Hydrostatic Testing.

TCEQ-0596 (Rev. July 15, 2015)

Page 5 of 6

If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet ___ of ___. (For potential future laterals).

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet ___ of ___ and marked after backfilling as shown in the detail on Plan Sheet ___ of ___.

- Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.
- Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

- All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:

- (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
- (1) **Low Pressure Air Test.**
- (A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
- (B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
- (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
- (ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

$$\text{Equation C.3} \quad T = \frac{0.085 \times D \times K}{Q}$$

Where:

- T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches

TCEQ-0596 (Rev. July 15, 2015)

Page 3 of 6

- (A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
- (B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
- (C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
- (2) **Vacuum Testing.**
- (A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
- (B) No grout must be placed in horizontal joints before testing.
- (C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
- (D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
- (E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
- (F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
- (G) A test does not begin until after the vacuum pump is off.
- (H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

- All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329
--	---

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

TCEQ-0596 (Rev. July 15, 2015)

Page 6 of 6

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE (512) 446-2222
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



11/04/2025

KHA PROJECT 069288000	DATE November 25	SCALE: AS SHOWN	DESIGNED BY: BLG	DRAWN BY: NS	CHECKED BY: BLG
--------------------------	---------------------	-----------------	------------------	--------------	-----------------

TCEQ NOTES

ELDORADO
SUBDIVISION
PHASE 8
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

3 OF 58

2025-8-CON

Plotted By: cecilia.kimley-horn.com Date: November 04, 2023 File Path: K:\SAU-Civil\069288000_Eldorado_Liberty Hill Single Family\069288000_PUBLIC_CONSTRUCTION_Plans\Sheets\06 - General Notes.dwg This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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 PRACTICES. 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. AREA INSTANCES WHERE THE CITY SPECIFICATIONS OR DETAILS DO NOT EXIST, THE MORE RESTRICTIVE SPECIFICATION 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 ORDER SURVEY AT THEIR OWN RISK AND 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 WORK.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES 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 COULD CONTAIN VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. 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 CONTRACTOR'S RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES. 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.
15. 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.
16. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
17. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
18. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTOR'S 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.
19. 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.
20. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER TO WORK SETBACKS FROM POWER LINES.
21. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
22. 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.
23. 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.
24. 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.
25. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
26. CONTRACTOR SHALL PROVIDE ALL INSPECTION FEES.
27. 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.
28. THE SCOPE OF WORK TERMINATES SHOWN ON THESE PLANS WITHIN 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.
29. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
30. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PREPARED 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 ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR. JOBSHALL BE RAISED ON-SITE DURING CONSTRUCTION.
31. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO THE CITY 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 EXPOSED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
32. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.
33. THE CONTRACTOR IS RESPONSIBLE TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
34. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORTS 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.
35. THE CONTRACTOR SHALL PROTECT THEIR ACTIVITIES TO THE WORK AREA, NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASSES, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
36. 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.
37. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC., THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
38. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
39. 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 REGULATIONS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
40. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER AND DEBRIS.
41. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
42. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
43. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
46. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
47. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
48. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
49. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
50. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
51. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
52. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
53. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
54. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
55. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
56. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
57. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
58. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
59. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
60. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
61. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
62. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
63. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
64. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
65. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
66. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
67. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
68. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
69. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
70. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
71. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
72. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
73. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
74. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
75. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
76. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
77. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
78. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
79. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
80. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
81. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
82. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
83. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
84. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
85. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
86. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
87. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
88. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
89. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
90. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
91. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
92. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
93. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
94. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
95. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
96. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
97. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
98. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
99. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
100. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

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 AND DISTURBANCE.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TWR 15000".
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. THE 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. THE 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 BMPs TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO CONSTRUCTION. OFF-SITE AREAS WHERE EROSION CONTROL DEVICES DO NOT EXIST, IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
12. INCLUDE BMPs FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
13. ALL STAGING STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER FLOW. AREA INSTANCES WHERE THE CITY SPECIFICATIONS OR DETAILS DO NOT EXIST, THE MORE RESTRICTIVE SPECIFICATION SHALL APPLY.
14. THE 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.
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 FROM THE PROJECT, AND NOT LEFT ON THE ROADWAY.
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 THE ROADWAY, THE CONTRACTOR SHALL STOP ALL CONSTRUCTION OPERATIONS UNTIL THE VOID SPACES ARE CLEARED.
21. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
22. CONSTRUCTION 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL SPOIL, DEBRIS, AND EXCESS EROSION CONTROL DEVICES FROM 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 TWR 15000.
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.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
5. THE 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.
6. 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.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO THE CITY 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 EXPOSED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED PERMITS AND AUTHORIZATIONS, AND 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.

DEMOLITION:

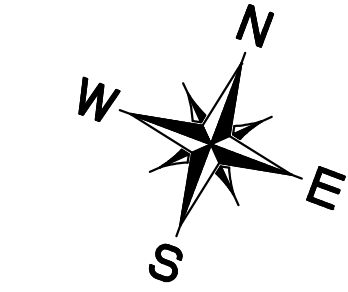
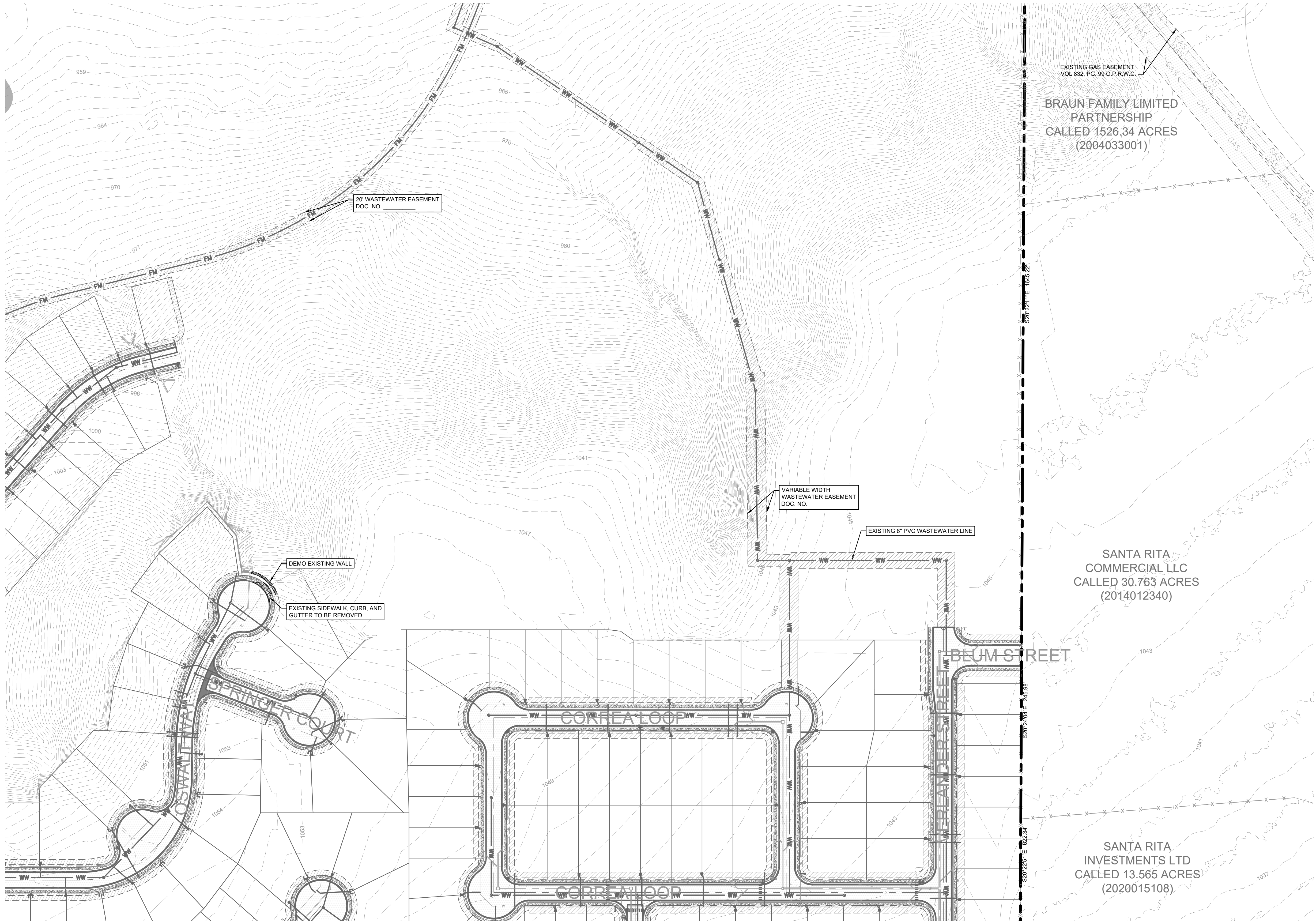
1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED.
2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN EXISTING ON THE SITE, OR THAT THE DEMOLITION WORK WILL BE COMPLETED WITHIN THE TIME FRAME SHOWN ON THE SITE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE DEMOLITION PLAN, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ.
4. 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.
5. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO THE CITY 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 EXPOSED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
6. 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. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
4. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
5. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
6. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
7. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
8. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
9. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
10. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
11. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
12. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
13. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
14. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
15. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
16. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
17. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
18. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
19. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
20. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
21. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
22. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
23. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
24. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
25. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
26. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
27. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
28. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
29. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
30. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
31. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
32. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
33. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
34. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
35. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
36. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
37. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
38. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
39. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
40. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
41. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
42. THE 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 SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
44. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
45. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
46. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
47. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
48. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
49. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
50. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
51. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
52. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
53. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
54. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
55. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
56. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
57. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
58. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
59. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
60. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
61. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
62. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
63. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
64. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
65. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
66. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
67. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
68. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
69. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
70. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
71. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
72. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
73. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
74. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
75. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
76. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
77. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
78. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
79. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
80. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
81. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
82. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
83. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
84. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
85. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
86. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
87. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
88. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
89. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
90. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
91. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
92. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
93. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
94. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
95. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
96. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
97. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
98. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF

Plotted By: Grace, korn. Date: November 04, 2025. 05:00:16pm. File Path: K:\SAU-Civil\069288000 Eldorado - Liberty Hill Single Family\069288000 Public Construction Plan\Sheets\C - Existing Conditions and Demo Plan.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.



LEGEND

---	PROPERTY LINE
---OHE---	EXISTING OVERHEAD POWER LINE
---	EXISTING WATER LINE
---	EXISTING WASTEWATER LINE
---	EXISTING STORM SEWER LINE
⊙	EXISTING POWER POLE
⊙	EXISTING FIRE HYDRANT
⊙	EXISTING WATER VALVE
⊙	EXISTING WATER METER
⊙	EXISTING WASTEWATER MANHOLE
---X---X---X---	EXISTING FENCE
▨	DEMOLITION AREA: ITEMS TO BE REMOVED
○	TREE TO REMAIN
○	TREE TO BE REMOVED
⊙	HERITAGE TREE

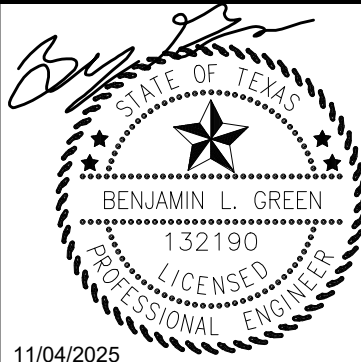
NOTES:

- CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR DEMOLITION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL AND UTILITY AGENCIES AFFECTED BY DEMOLITION PRIOR TO STARTING DEMOLITION.
- ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA.
- PRIOR TO DEMOLITION, PROPER PHASING OF EROSION CONTROL DEVICES ARE TO BE INSTALLED.
- SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE FENCING, LIGHTING, STORM INLET STRUCTURES OR ANY OTHER APPURTENANCE, THEN THE CONTRACTOR SHALL PROVIDE NEW MATERIALS/STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ALL DEMOLITION AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
- ALL BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ARE GENERALLY LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES. DURING THE PROGRESS OF WORK, THE CONTRACTOR SHALL PROVIDE ACCESS FOR LOCAL TRAFFIC.
- CONTRACTOR MAY LIMIT SAW CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THE CONSTRUCTION PLANS, BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL, REPLACEMENT, AND/OR REPAIR.
- ALL PAVING AND CURB TO BE REMOVED ARE TO BE REMOVED USING FULL-DEPTH SAWCUT 2' OFF EXISTING BACK OF CURB.
- ANY ADDITIONAL CONCRETE PAVING, FOOTINGS OR STRUCTURES NOT IDENTIFIED ON THIS PLAN SHALL BE LOCATED BY CONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION AS SITE CONTAINS PRIVATE AND PUBLIC UTILITIES. CONTRACTOR SHALL CALL 811 "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO COMMENCING DEMOLITION OR CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONTACT ANY OTHER UTILITY COMPANIES WHO DO NOT SUBSCRIBE TO THE 811 "CALL BEFORE YOU DIG" PROGRAM FOR LINE MARKINGS. THE CONTRACTOR BEARS SOLE RESPONSIBILITY FOR VERIFYING LOCATIONS OF EXISTING UTILITIES, SHOWN OR NOT SHOWN, AND FOR REPAIRING ANY DAMAGE DONE TO THESE FACILITIES.
- ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE, AND GAS LINES REQUIRED TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN ROAD RIGHT OF WAYS DURING CONSTRUCTION.

BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2220
WWW.KH-H.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
069288000	November 25	AS SHOWN	BLG	NS	BLG

EXISTING CONDITIONS
AND DEMO PLAN

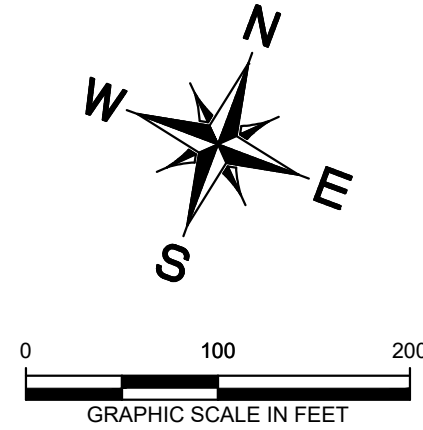
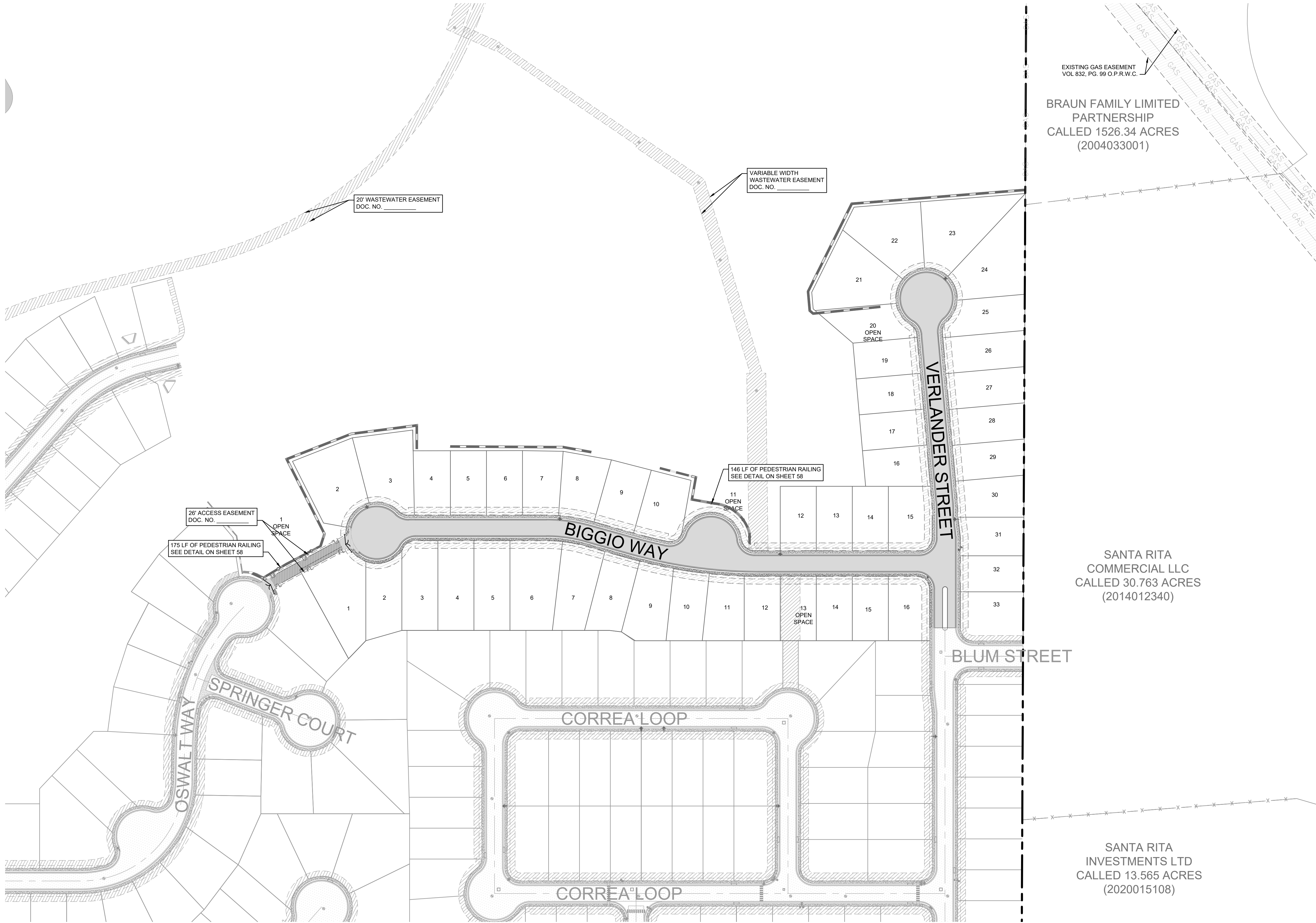
**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

10 OF 58

Plotted By: Grace, korn. Date: November 04, 2025. 05:01:14pm. File Path: K:\SAU-Civil\069288000_Eldorado - Liberty Hill Single Family\Doc\PH8\PUBLIC CONSTRUCTION\PlanSheets\VC - Overall Street Layout.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.



LEGEND

	PROPERTY LINE
	PROPOSED FIRE LANE
	LIGHT DUTY CONCRETE PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	PROPOSED ADA STRIPING
	PROPOSED SIDEWALK
	PROPOSED WASTEWATER MANHOLE

STREET LIST

STREET	R.O.W.	LENGTH
OSWALT WAY	50'	1410'
VERLANDER STREET	50' - 60'	642'

BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.528'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-446-2200
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



KHA PROJECT	DATE	SCALE	AS SHOWN	DESIGNED BY	BLG	DRAWN BY	NS	CHECKED BY	BLG
069288000	November 25								

OVERALL STREET LAYOUT

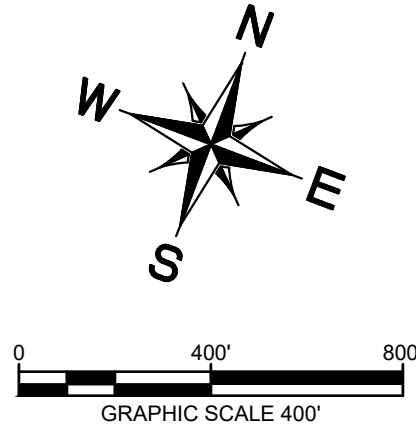
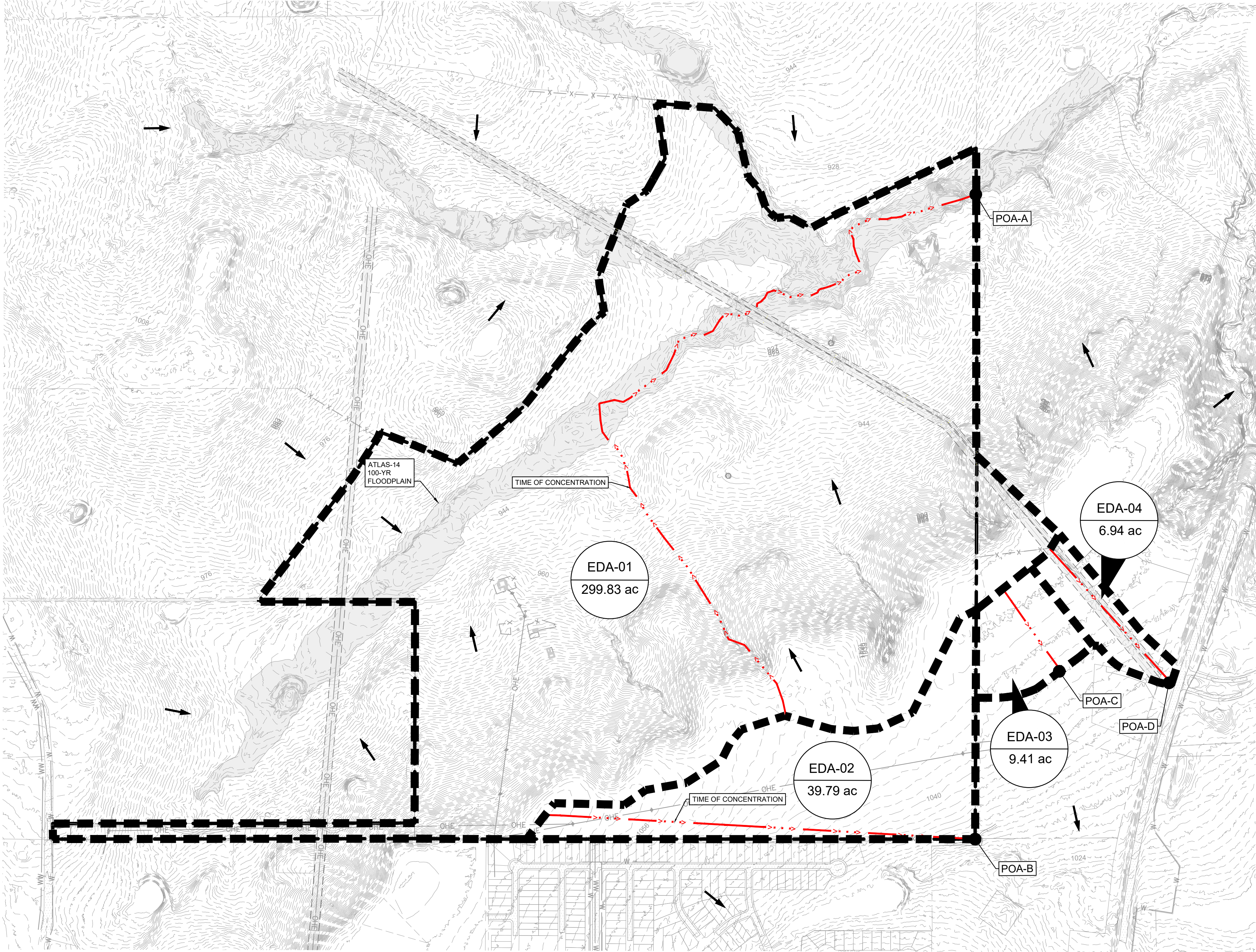
**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

12 OF 58

Plotted By: Grace, korn. Date: November 04, 2025. 05:03:07pm. File Path: K:\SAU-Civil\069288000 Eldorado - Liberty Hill Single Family\069288000 Ederado - Existing Drainage Area Map.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.



LEGEND

	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
	EXISTING CONTOUR
	TIME OF CONCENTRATION

EXISTING CONDITIONS									
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)	
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71	
POA-A					528.51	1019.13	1364.38	1938.71	
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64	
POA-B					67.46	131.50	175.86	249.64	
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31	
POA-C					18.48	35.96	48.03	68.31	
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74	
POA-D					13.30	25.70	34.36	48.74	

*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES

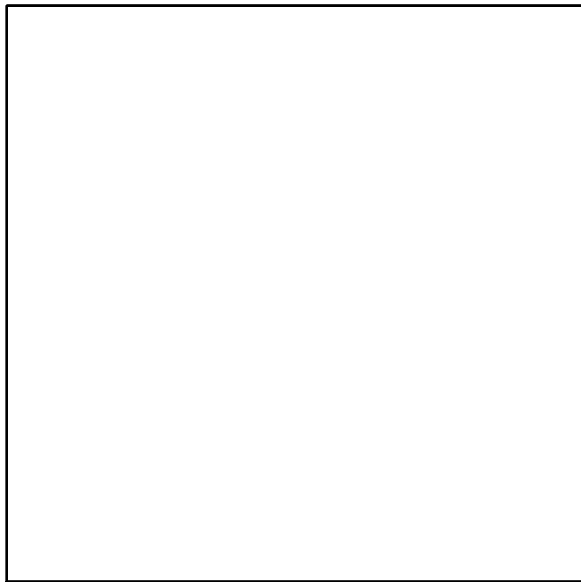
EXISTING TIME OF CONCENTRATION CALCULATIONS

EDA-01		
Sheet Flow	Shallow	Channel Flow
n= 0.15 paved?	no	v (fps)= 6
S (ft/ft)= 0.010	S (ft/ft)= 0.080	L (ft)= 3217
L (ft)= 100	L (ft)= 2316	
T ₁₁ = 12.5	T ₁₂ = 8.5	T ₁₃ = 8.9
Total TC = 29.9 mins		

EDA-02		
Sheet Flow	Shallow	Channel Flow
n= 0.15 paved?	no	v (fps)= 6
S (ft/ft)= 0.010	S (ft/ft)= 0.010	L (ft)= 1175.0
L (ft)= 100	L (ft)= 1500	
T ₁₁ = 12.5	T ₁₂ = 15.5	T ₁₃ = 3.3
Total TC = 31.2 mins		

EDA-03		
Sheet Flow	Shallow	Channel Flow
n= 0.15 paved?	no	v (fps)= 6
S (ft/ft)= 0.006	S (ft/ft)= 0.006	L (ft)= 0
L (ft)= 100	L (ft)= 546	
T ₁₁ = 15.3	T ₁₂ = 7.3	T ₁₃ = 0.0
Total TC = 22.6 mins		

EDA-04		
Sheet Flow	Shallow	Channel Flow
n= 0.15 paved?	no	v (fps)= 6
S (ft/ft)= 0.010	S (ft/ft)= 0.008	L (ft)= 0
L (ft)= 100	L (ft)= 1063	
T ₁₁ = 12.5	T ₁₂ = 12.3	T ₁₃ = 0.0
Total TC = 24.7 mins		

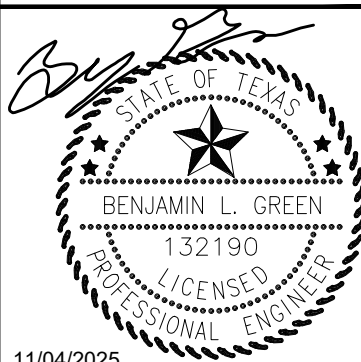


BENCHMARKS

TBM:
1. BM1 (#301)
ELEVATION=1004.244'
2. BM2 (#302)
ELEVATION=1045.526'
3. BM3 (#303)
ELEVATION=944.476'
4. BM4 (#300)
ELEVATION=954.147'

Kimley»Horn

5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78746
PHONE: 512-446-2220
WWW.KH-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TPE Firm No. 628



11/04/2025

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
069288000	November 25	AS SHOWN	BLG	NS	BLG

EXISTING DRAINAGE
AREA MAP

**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

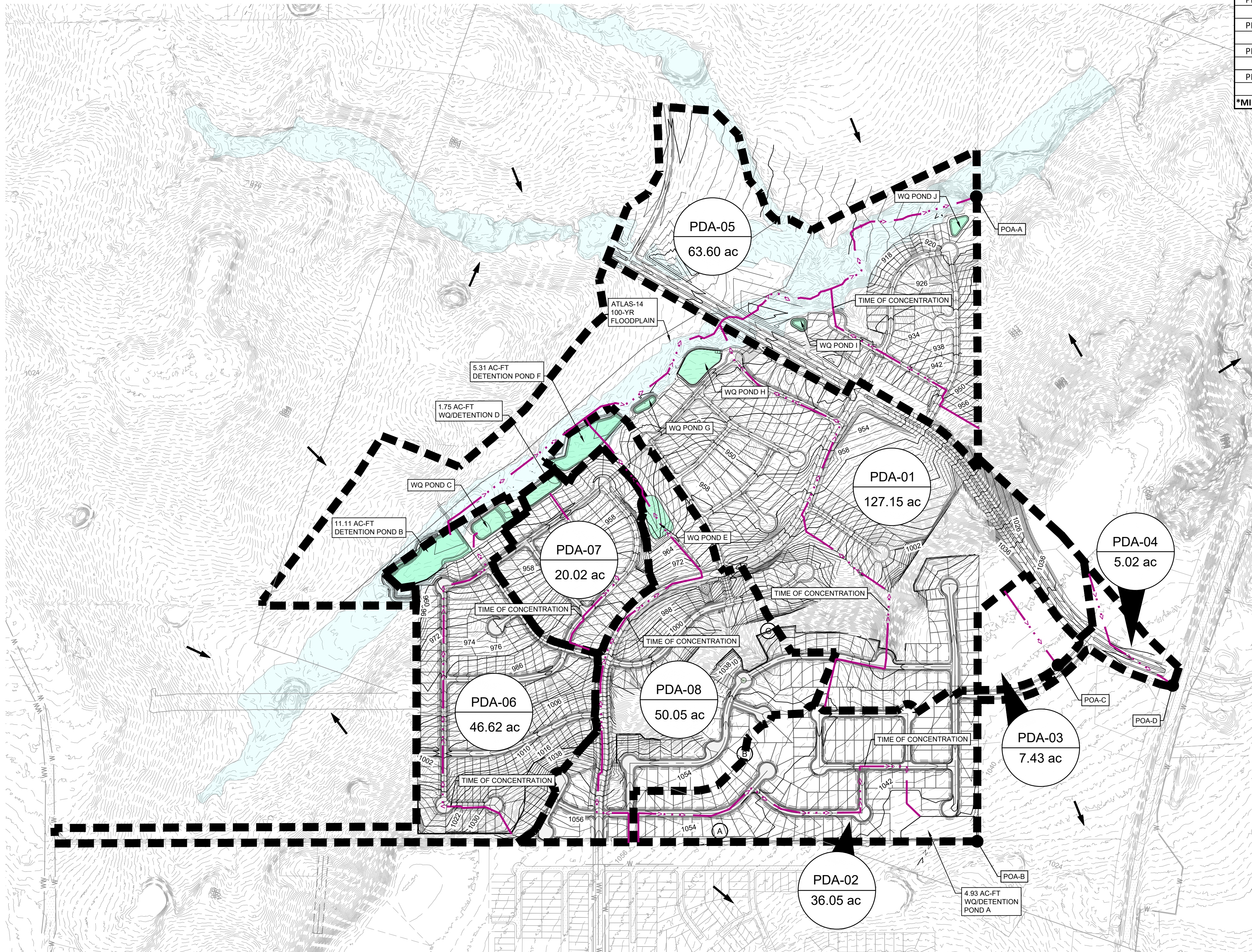
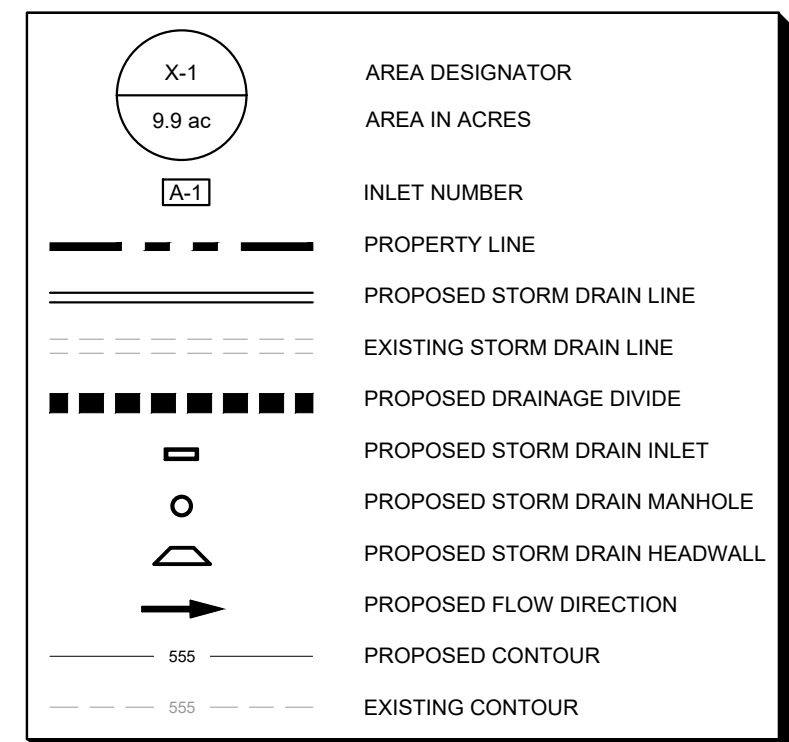
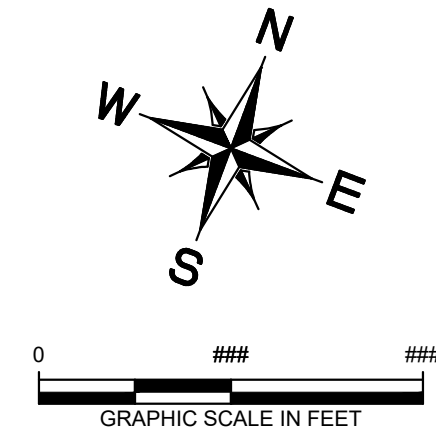
SHEET NUMBER

19 OF 58

2025-8-CON

EXISTING CONDITIONS								
DRAINAGE AREA	AREA (AC)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
EDA-01	299.83	2%	78	29.9	528.51	1019.13	1364.38	1938.71
POA-A					528.51	1019.13	1364.38	1938.71
EDA-02	39.79	0%	78	31.2	67.46	131.50	175.86	249.64
POA-B					67.46	131.50	175.86	249.64
EDA-03	9.41	0%	78	22.6	18.48	35.96	48.03	68.31
POA-C					18.48	35.96	48.03	68.31
EDA-04	6.94	2%	78	24.7	13.30	25.70	34.36	48.74
POA-D					13.30	25.70	34.36	48.74
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								

PROPOSED CONDITIONS								
DRAINAGE AREA	AREA (AC)	IMPERVIOUS COVER	BASE CN (COMPOSITE)	TC (MIN)*	Q ₂ (CFS)	Q ₁₀ (CFS)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
PDA-01	127.15	48.31%	78	29.0	315.85	531.88	675.05	909.36
PDA-05	63.60	43.50%	78	19.3	182.82	311.01	395.85	534.71
PDA-06	46.62	39.13%	78	24.3	109.71	187.05	238.34	322.26
PDA-07	20.02	46.99%	78	21.6	56.09	95.05	120.82	162.99
PDA-08	50.05	37.34%	78	28.7	116.45	201.31	259.58	353.39
POA-A					526.28	1011.43	1361.15	1938.37
PDA-02	36.05	48.75%	78	26.0	94.15	158.76	201.52	271.49
POA-B					64.27	131.06	175.34	244.58
PDA-03	7.43	0.00%	78	21.9	14.72	28.56	38.18	54.43
POA-C					14.72	28.56	38.18	54.43
PDA-04	5.02	26.95%	78	19.0	13.02	23.23	30.08	41.30
POA-D					13.02	23.23	30.08	41.30
*MINIMUM TIME OF CONCENTRATION USED FOR DESIGN = 5 MINUTES								



PDA-01									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.027	L (ft)=	1251	L (ft)=	1727
	100		215		320				
T ₁₂ =	18.2	T ₁₂ =	2.2	T ₁₂ =	1.6	T ₁₃ =	3.5	T ₁₃ =	3.6
Total TC =		29.0 mins							

PDA-02									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2031
L (ft)=	100	L (ft)=	86	L (ft)=	468				
T ₁₁ =	18.2	T ₁₂ =	0.9	T ₁₃ =	2.7	T ₁₃ =	0.0	T ₁₃ =	4.2
Total TC =		26.0 mins							

PDA-03							
Sheet Flow		Shallow		Shallow		Channel Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6 v (fps)=
S (ft/ft)=	0.006	S (ft/ft)=	0.006	S (ft/ft)=	0.006	L (ft)=	0 L (ft)=
L (ft)=	100	L (ft)=	496	L (ft)=	0		
T ₁₁ =	15.3	T ₁₂ =	6.6	T ₁₃ =	0.0	T ₁₃ =	0.0
Total TC =		21.9 mins					

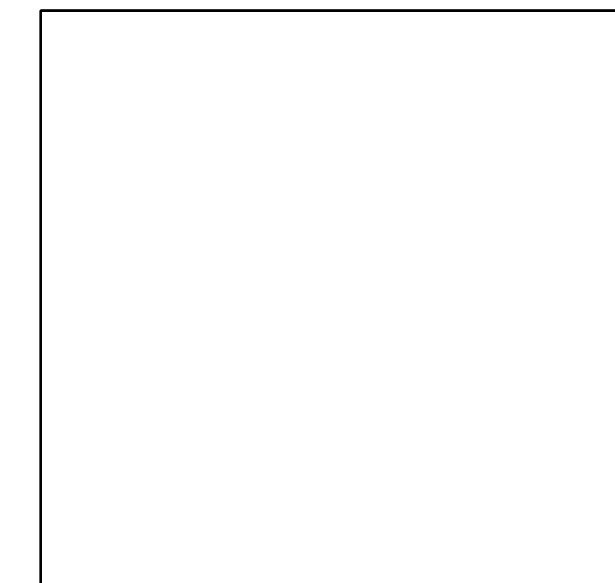
PDA-04									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.15	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.011	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	0
L (ft)=	100	L (ft)=	374	L (ft)=	481				
T ₁₁ =	12.5	T ₁₂ =	3.7	T ₁₂ =	2.8	T ₁₃ =	0.0	T ₁₃ =	0.0
Total TC =		19.0 mins							

PDA-05									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.030	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	1468.337	L (ft)=	1017.892
	100	L (ft)=	195	L (ft)=	41				
T ₁₁ =	11.7	T ₁₂ =	1.2	T ₁₂ =	0.2	T ₁₃ =	4.1	T ₁₃ =	2.1
Total TC =		19.3 mins							

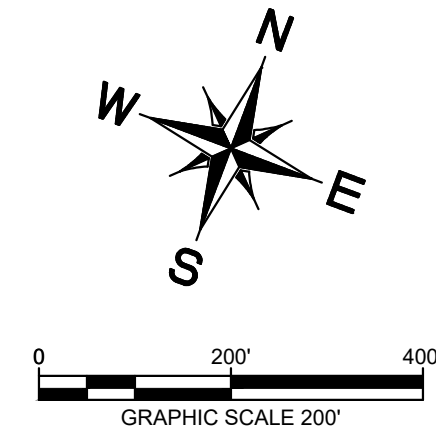
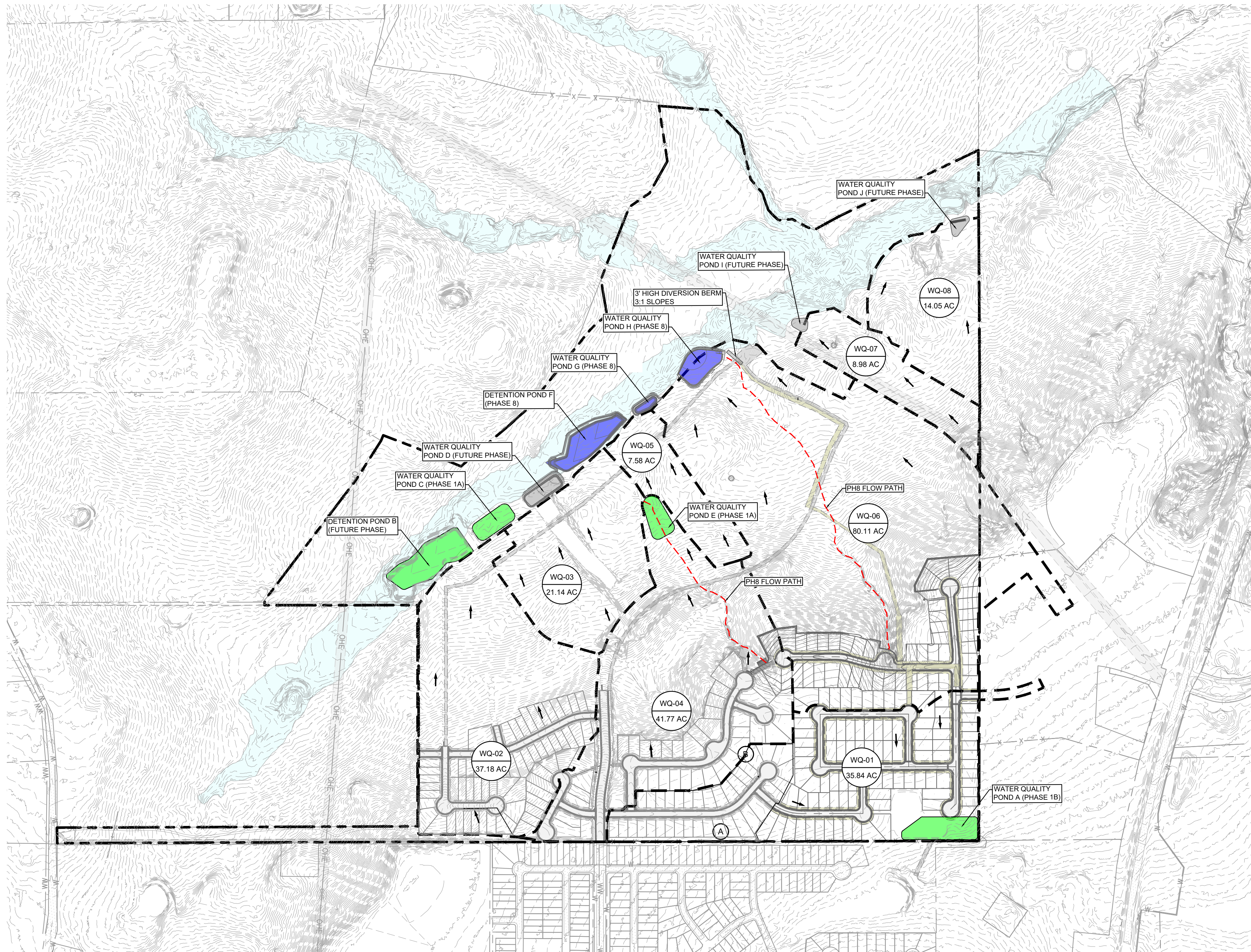
PDA-06									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	2127
L (ft)=	100	L (ft)=	54	L (ft)=	247				
T ₁ =	18.2	T ₂ =	0.3	T ₂ =	1.4	T ₃ =	0.0	T ₃ =	4.4
Total TC =		24.3 mins							

PDA-07									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.030	S (ft/ft)=	0.020	L (ft)=	0	L (ft)=	1069
L (ft)=	100	L (ft)=	36	L (ft)=	167				
T ₁₁ =	18.2	T ₁₂ =	0.2	T ₁₂ =	1.0	T ₁₃ =	0.0	T ₁₃ =	2.2
Total TC =		21.6 mins							

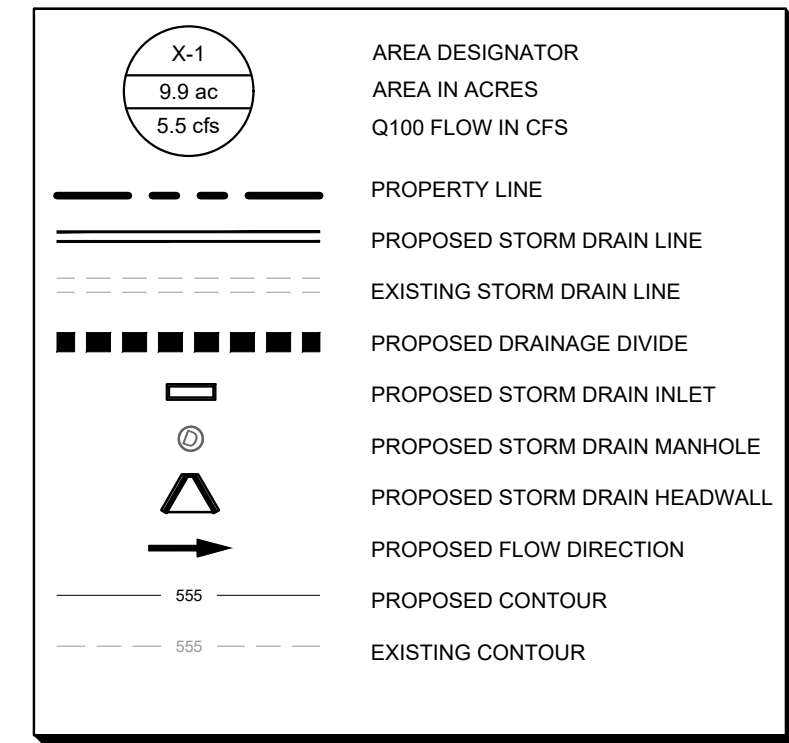
PDA-08									
Sheet Flow		Shallow		Shallow		Channel Flow		Pipe Flow	
n=	0.24	paved?	no	paved?	yes	v (fps)=	6	v (fps)=	8
S (ft/ft)=	0.010	S (ft/ft)=	0.010	S (ft/ft)=	0.020	L (ft)=	1248.22	L (ft)=	1666.15
	100		92		454				
T ₁ =	18.2	T ₂ =	1.0	T ₂ =	2.7	T ₃ =	3.5	T ₃ =	3.5
Total TC =		28.7 mins							



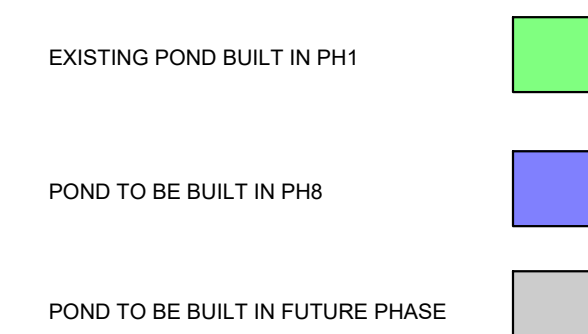
Plotted By: Grace, Kurn Date: November 04, 2025 05:12:59pm
 File Path: \\SAU_CIT\0692888000_Eldorado - Liberty Hill Single Family\CD\PH8\NUPUBLIC CONSTRUCTION\PlanSheets\NC - Water Quality_Drainage Area_Mat.dwg
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Krimley-Horn and Associates, Inc. shall be without liability to Krimley-Horn and Associates, Inc.



LEGEND



POND LEGEND:



Water Quality Load Table											
Drainage Area	Acreage	Impervious Cover (Acres)	Impervious Cover (%)	Load Available (Lbs.)	Load Removed (Lbs.)	Load Removed (%)	Required Removal (Lbs.)	Remaining Removal (Lbs.)	Water Quality Volume Required (CF)	Water Quality Volume Provided (CF)	Water Quality Surface Elevation (ft)
WQ-01	35.84	17.76	49.6%	18178.4	15460.0	85%	102951	87490.9	73168.8	74164.00	1033.00
WQ-02	37.19	18.48	48.0%	18637.3	16860.0	90%	102951	70630.9	97304.9	98624.36	945.00
WQ-03	19.13	10.00	52.3%	10218.6	8703.6	85%	102951	61927.3	40734.6	48686.00	941.50
WQ-04	41.77	17.75	42.5%	18262.3	16272.5	89%	102951	45654.8	92848.6	99321.18	952.00
WQ-05	7.58	3.53	46.6%	3617.0	3300.0	91%	102951	42354.8	20153.6	21756.35	925.00
WQ-06	80.11	38.10	47.6%	39043.9	32958.0	84%	102951	9396.8	151422.4	151802.60	935.00
WQ-07	8.98	3.28	36.6%	3397.2	2970.0	87%	102951	6426.8	16355.8	17012.69	922.00
WQ-08	14.05	6.98	49.7%	7143.3	6460.0	90%	102951	-33.2	37009.1	38039.34	915.00

**ELDORADO
SUBDIVISION
PHASE 8**
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

INTERIM WATER QUALITY MAP

KHA PROJECT 069288000	DATE November 25
SCALE: AS SHOWN	
DESIGNED BY: BLG	
DRAWN BY: NS	
CHECKED BY: BLG	



Kimley»»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
Austin, Texas 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
TBPB Firm No. 928

[illegible]