ORGANIZED SEWAGE COLLECTION SYSTEM

VALOR LEANDER 168 KAUFFMAN LOOP LEANDER, WILLIAMSON COUNTY, TEXAS

Prepared For:

VALOR TEXAS EDUCATION FOUNDATION

220 Foremost Drive Austin, TX 78745 214-514-3356

Prepared By: KIMLEY-HORN AND ASSOCIATES, INC.

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Firm No. 928 KHA Project No. 067783129

December 1st, 2023

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Kimley *Whorn*

SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

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10814 Jollyville Road, Avallon IV, Suite 200, Austin, TX 78759

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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 <u>30 TAC 213</u>.

Administrative Review

1. <u>Edwards Aquifer applications</u> 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: <u>http://www.tceq.texas.gov/field/eapp</u>.

- 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

1. Regulated Entity Nam	ne: Valor	Leand	er			2. Re	egulat	ed Entity No.	: N/A
3. Customer Name: W	alor Texa	s Edu	cation Fo	ounda	tion	4. Cu	istom	er No.: 60608	9696
5. Project Type: (Please circle/check one)	<u>New</u>		Modific	ation		Exter	nsion	Exception	
6. Plan Type: (Please circle/check one)	WPAP	CZP	<u>SCS</u>	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Resident	tial	Non-re	eside	<u>ntial</u>		8. Sit	e (acres):	13.80
9. Application Fee:	\$2,294		10. Pe	rman	ent BN	AP(s)	:	Vegetative Fil Detention Po	ter Strips, Batch nd
11. SCS (Linear Ft.):	3,433		12. AS'	T/US'	Т (No.	Tank	s):	N/A	
13. County:	Williams	son	14. Wa	tersh	ned:			North and So River	uth Fork San Gabriel

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

Application Distribution

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

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

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

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

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Allison Kennaugh, P.E.

Print Name of Customer/Authorized Agent

Allisan Kennaugh

12/01/2023

Signature of Customer/Authorized Agent

Date

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

SECTION 2: GENERAL INFORMATION

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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: <u>Allison Kennaugh, P.E.</u>

Date: December 1st, 2023

Signature of Customer/Agent:

Allisan Kennaugh

Project Information

- 1. Regulated Entity Name: Valor Leander
- 2. County: Williamson
- 3. Stream Basin: North and South Fork San Gabriel River
- 4. Groundwater Conservation District (If applicable): N/A
- 5. Edwards Aquifer Zone:

Recharge Zone

6. Plan Type:

WPAP	AST
\boxtimes scs	UST
Modification	Exception Request

7. Customer (Applicant):

Contact Person: <u>Jesse Bates</u> Entity: <u>Valor Texas Education Foundation</u> Mailing Address: <u>220 Foremost Drive</u> City, State: <u>Austin, TX</u> Telephone: <u>214-514-3356</u> Email Address: <u>jbates@valoreducation.org</u>

Zip: <u>78745</u> Fax: <u>N/A</u>

8. Agent/Representative (If any):

Contact Person:Allison Kennaugh, P.E.Entity:Kimley-HornMailing Address:10814 Jollyville Road; Bldg. IV, Suite 200City, State:Austin, TexasTelephone:512-782-0614Fax:N/AEmail Address:allison.kennaugh@kimley-horn.com

9. Project Location:

 \boxtimes The project site is located inside the city limits of <u>Leander</u>.

The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.

- The project site is not located within any city's limits or ETJ.
- 10. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

<u>168 Kauffman Loop – Located along the North boundary of Co Rd 267 and the west</u> <u>boundary of Kauffman Loop</u>

- 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. \boxtimes Survey staking will be completed by this date: <u>12/1/2023</u>

- 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)
igee	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



DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

SCALE: N.T.S.

- 1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
- 2. TAKE US-183 HWY N TO 183A FRONTAGE ROAD
- 3. TAKE CRYSTAL FALLS PKWY EXIT
- 4. TURN RIGHT ONTO E CRYSTAL FALLS PKWY
- 5. TURN LEFT ONTO RONALD REAGAN BLVD
- 6. TURN LEFT ONTO KAUFFMAN LOOP
- 7. CONTINUE ON KAUFFMAN LOOP FOR APPROXIMATELY 0.42 MILES.
- 8. SITE IS LOCATED ON THE LEFT

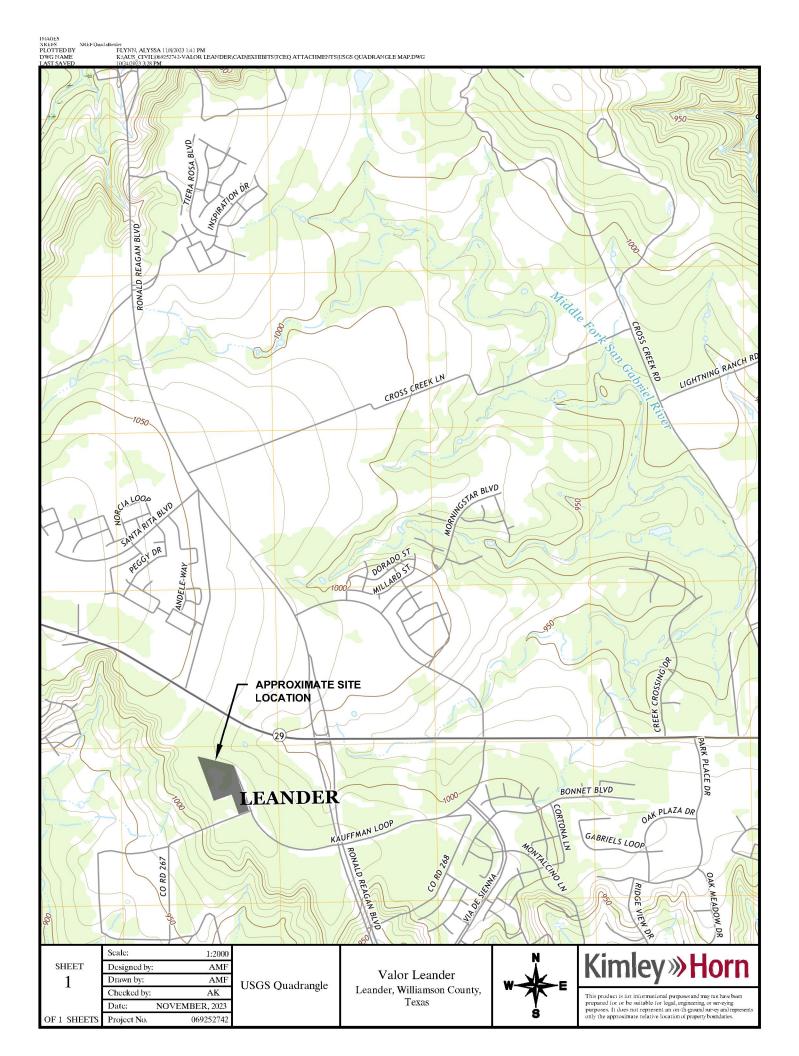
SHEET	Scale:	1"=1000'
	Designed by:	AMF
	Drawn by:	AMF
EX A	Checked by:	AK
	Date:	NOVEMBER, 2023
	Project No.	069252742

VALOR LEANDER LEANDER, TEXAS





ATTACHMENT B - USGS/Edwards Recharge Zone Map



ATTACHMENT C – Project Description

Introduction

The subject site is a largely undeveloped 13.80 acre lot located on 168 Kauffman Loop and within the Full Purpose city limits of the City of Leander. The subject property will be comprised of a charter school and all necessary infrastructure for the school.

The site is not located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48491C0275E. The site is located within the Edwards Aquifer Recharge Zone according to TCEQ Edwards Aquifer Map.

Current Tract Conditions

Legal Description

The legal description is described as 13.80 acres of land out of the William H. Monroe Survey, Abstract No. 453, Williamson County, Texas, as described in Doc. #2015015610 of the deed records of Williamson County, Texas. The deed can be found by document No. 2023051200 of the Official Public Records of Williamson County, Texas.

Land Use

The lot is zoned for Single-Family Rural (SFR) but will be zoned as Activity Center for this development. The site resides within the Full Purpose city limits of the City of Leander in Williamson County, Texas.

Existing Drainage Conditions

Under existing conditions, the site has one ridge to the southwest, sending flow to one point at the western property boundary and one point on the eastern property boundary.

Proposed Development

The proposed Valor Leander project includes the construction of a charter school and infrastructure for the school. Public Water and wastewater lines will be designed according to City of Leander specifications and connect to City of Leander utility services. Access to the site will be via Kauffman Loop, which intersects Ronald Reagan Blvd. The project proposes 6.74 acres of total impervious cover. There will be 5.91 acres of impervious cover from on site, draining to a proposed batch detention pond. There will be an additional 0.83 acres of impervious cover from Kauffman Loop draining to proposed VFS. Please note that the proposed improvements within Kauffman loop are only adding 0.12 acres of impervious cover. There is already an existing 0.71 acres of impervious cover within the drainage area that will be draining to the proposed VFS. the addition of a turn lane in Kauffman Loop. Water will be treated according to TCEQ requirements through one on site Batch Detention Pond and offsite vegetative filter strips. The flow will be discharged to the Northeast of the site. Proposed flow conditions will not exceed existing conditions.

Drainage and Water Quality Analysis

Floodplain Information

According to the FEMA Flood Insurance Rate Map Panel No. 48491C0275E for Williamson County, effective September 28, 2008, no portion of the development lies within the 100-yr floodplain (Zone A).

On-Site Drainage

The proposed site will convey runoff through an underground storm pipe system into one on site Batch detention pond. A portion of offsite and onsite flow will overland flow over vegetative filter strips. The detention pond will release the runoff at or below existing condition flow rates onto rock riprap which will then be conveyed northeast. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, drainage from Kauffman Loop drains into an existing ditch along the west side of Kauffman Loop. The off-site drainage from this area, along with the proposed additional pavement will overland flow over proposed Vegetative Filter Strips.

In proposed conditions, once runoff is released from the detention pond it will travel northeast of the project site.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Valor Leander will address the water quality requirements for the ultimate area disturbed within this proposed development. Pond A-1 will be treated by a batch detention. VFS-1 will be treated by permanent vegetative filter strips. There is a small area in the southwest corner of the property that will have no impervious cover proposed and therefore no treatment will be provided for this area. These drainage areas are to meet all water quality requirements per TCEQ requirements. See Permanent Stormwater Section – Attachment C for a breakdown on TSS calculations.

The detention pond requirements used for the purpose of this report are assumed to be based on the requirements outlined by the City of Austin Drainage Criteria Manual. To reduce the flow to predeveloped conditions, a detention pond will be constructed as a part of this development to reduce flows to existing conditions.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include: silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed detention and water quality pond located on-site. The detention pond will discharge onto proposed rock rip rap into an proposed drainage culvert that cuts along the north of Kauffman Loop.

Sewage Collection System

The sewage collection system that is within the Edward's Aquifer Recharge Zone will consist of approximately 3,296 LF of 8" SDR 26 ASTM D3034 PVC, and 137 LF of 4" SDR 26 ASTM D3034 PVC for the wastewater service. All wastewater for Valor Leander shall be gravity line that ties to a 15" wastewater line located in Kauffman Loop, south of the project site.

SECTION 3: GEOLOGIC ASSESSMENT

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10814 Jollyville Road, Avallon IV, Suite 200, Austin, TX 78759

512 418 1771

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: Henry	<u>y E. Stultz III, P.G.</u>	Telephone	: <u>210-375-9000</u>
Date: April 4, 2023		Fax:	210-375-9090
Representing: Pape-Dawson	Engineers, Inc., TBPG reg	sistration num	iber 50351
Signature of Geologist:			TE OF TEL
155	ei		HENRY STULTZ III BO GEOLOGY 12121
Regulated Entity Name: <u>VAI</u>	OR SCHOOLS		
Project Information	n		
1. Date(s) Geologic Assessme	nt was performed: Feb r	uary 17, 2023	
2. Type of Project:			
WPAP SCS 3. Location of Project:		AST UST	
Recharge Zone Transition Zone Contributing Zone withi	in 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.

Soil Name	Group*	Thickness(feet)
Fairlie clay, 1 to 2 percent slopes (FaB)	D	1-4
Georgetown stony clay loam, 1 to 3 percent slopes (GsB)	D	1-3

Table 1 - Soil Units, Infiltration Characteristics and Thickness

* 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" = <u>50'</u> Site Geologic Map Scale: 1" = <u>50'</u> Site Soils Map Scale (if more than 1 soil type): 1" = <u>200'</u>

9. Method of collecting positional data:

Global Positioning System (GPS) technology.

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

- 10. The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
- 11. Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

- 13. The Recharge Zone boundary is shown and labeled, if appropriate.
- 14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
 - There are _____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
 -] The wells are not in use and have been properly abandoned.
 -] The wells are not in use and will be properly abandoned.
 - The wells are in use and comply with 16 TAC Chapter 76.
 - \square 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

GEOLO	GIC ASSES	SMENT T	ABLE		- Herital			Ρ	ROJECT	NAM	E: VAL	OR SCH	OOLS							
	LOCATION						FE	ATURI	CHARA	CTERI	STICS				EV	ALUA	TION	PH	YSICAL	SETTING
1A	1B *	1C*	2A	2B	3	64	4		5	5A	6	7	8A	8B	9		10	1	1	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIME	NSIONS (FEET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL		BITIVITY	(ACI	ENT AREA RES)	TOPOGRAPHY
	A CONTRACTOR OF					Х	Y	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
S-1	30.63499	-97.83571	MB	30	Kep	7	7	10					Х	5	35	35		X		Hillside
											*									
-																				

** DATUM: NAD 83

SONAL CENSE

2A TYPE	TYPE	2B POINTS	8A INFILLING
C SC SF F O MB SW	Cave Solution cavity Solution-enlarged fracture(s) Fault Other natural bedrock features Manmade feature in bedrock Swallow hole	30 20 20 5 30 30	 None, exposed bedrock Coarse - cobbles, breakdown, sand, gravel Loose or soft mud or soil, organics, leaves, sticks, dark colors Fines, compacted clay-rich sediment, soil profile, gray or red colors V Vegetation. Give details in narrative description FIowstone, cements, cave deposits X Other materials
SH CD Z	Sinkhole Non-karst closed depression Zone, clustered or aligned features	20 5 30	12 TOPOGRAPHY Cliff, 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.

133

Date April 4, 2023

ATTACHMENT B Stratigraphic Column

VALOR SCHOOLS Geologic Assessment (TCEQ-0585)

Period	Epoch	Group	Formation	Member	Maximum Thickness	Lithology	Hydrologic Unit	
	Early Cretaceous	Early Cretaceous Trinity Fredericksburg	Edwards	1		Gray to tan, hard, dense, thick-to thin-bedded, fine-grained limestone with soft dolomitic limestone zone near middle		
				2	80–90	Gray to tan, soft, nodular-weathering marly limestone		
				3		Light gray to tan, fine-to-medium-grained, hard, thin-to thick-bedded limestone; chert nodules in lower third	Edwards Aquifer	
				4		Gray-brown, thin-to medium-bedded, porous dolomite, dolomitic limestone, and limestone; chert common; solution collapse zone at top		
sn			Comanche Peak		60-64	White, irregularly bedded nodular limestone interbedded with marl to gray fine-grained, nodular limestone, marly limestone, and marl. Large gastropods and pelecypods occur in abundance throughout the limestone.		
Cretaceous			Walnut	Keys Valley	70-120	Gray to tan, soft marl and nodular limestone with abundant fossils		
Cre				Whitestone		Gray to tan, hard, fine-to medium-grained, thin-to thick- bedded fossiliferous limestone		
				Cedar Park		Gray to tan, thin-to thick-bedded, fine-to medium-grained, hard limestone		
				Bee Cave		Gray to tan, soft, nodular-weathering, fine-grained limestone, marly limestone, and marl with abundant fossil shells		
				Bull Creek		Gray to tan, hard, fine-to medium-grained, thin to thick- bedded limestone; shell fragments common		
			Glen Rose	Upper Glen Rose	450	Alternating resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone; gray to yellowish gray; stair-step topography; contains two distinct evaporite zones; distinct <i>Corbula</i> sp. bed marks the contact with the underlying lower member of the Glen Rose Limestone; <i>Orbitulina texana</i>	Upper Trinity	

Attachment B – Stratigraphic Column

ATTACHMENT C Site Geology

VALOR SCHOOLS Geologic Assessment

Attachment C – Site Geology

SUMMARY

The Valor Schools site is located north of the intersection of FM 267 and Kauffman Loop in Williamson County, Texas.

Based on the results of the field survey conducted in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions),* no naturally occurring sensitive features were identified on site. No springs or streams were identified on site. The overall potential for fluid migration to the Edwards Aquifer for the site is low.

SITE GEOLOGY

As observed through field evidence, the geologic formation which outcrops at the surface within the subject site is the Edwards Formation, undivided (Ked). The Ked north of the Colorado river is characterized as having highly variable properties, but is generally thick bedded, fine grained, light gray to off white, thick bedded intervals of limestone and dolostone. Other textual properties include nodular chert, marly horizons, and burrowed intervals, and is generally resistant to erosion. Dissolution and recalcification are common and may result in highly cavernous zones throughout the formation.

The predominant trend of faults in the vicinity of the site is approximately N32°E, based on faults identified during the previous mapping of the area.

FEATURE DESCRIPTIONS:

A description of the features observed onsite is provided below:

Feature S-1

Feature S-1 is a man-made feature consisting of a septic tank. Due to the non-karst nature of the feature, the probability for rapid infiltration is low.

VALOR SCHOOLS Geologic Assessment

REFERENCES

Collins, E.W., 1998, Leander NE Quadrangle, University of Texas at Austin, Bureau of Economic Geology, Series unknown, 1:24,000.

Nationwide Environmental Title Research, LLC. Historical Aerials, HistoricAerials.com. https://www.historicaerials.com/viewer, May 10, 2021.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/, May 10, 2021.

Stein, W.G., and Ozuna, G.B., 1995, Geologic framework and hydrogeologic characteristics of the Edwards Aquifer recharge zone, Bexar County, Texas: U.S. Geological Survey Water-Resources Investigations Report 95–4030, 8 p.

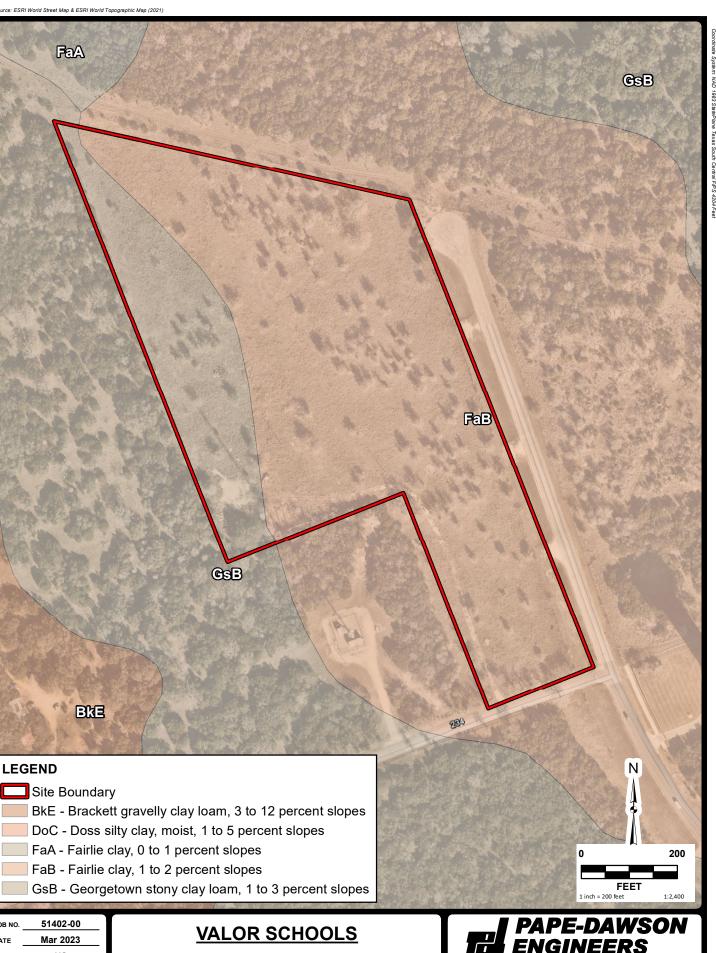
Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer, May 10, 2021.

U.S. Geological Survey, National Water Information System: Mapper, https://maps.waterdata.usgs.gov/mapper/index.html, May 10, 2021. April 4, 2023.



ATTACHMENT D Site Geologic Map(s)





JOB NO.

HS

HDJ

SHEET ATTACHMENT D

DATE

DRAWN

CHECKE

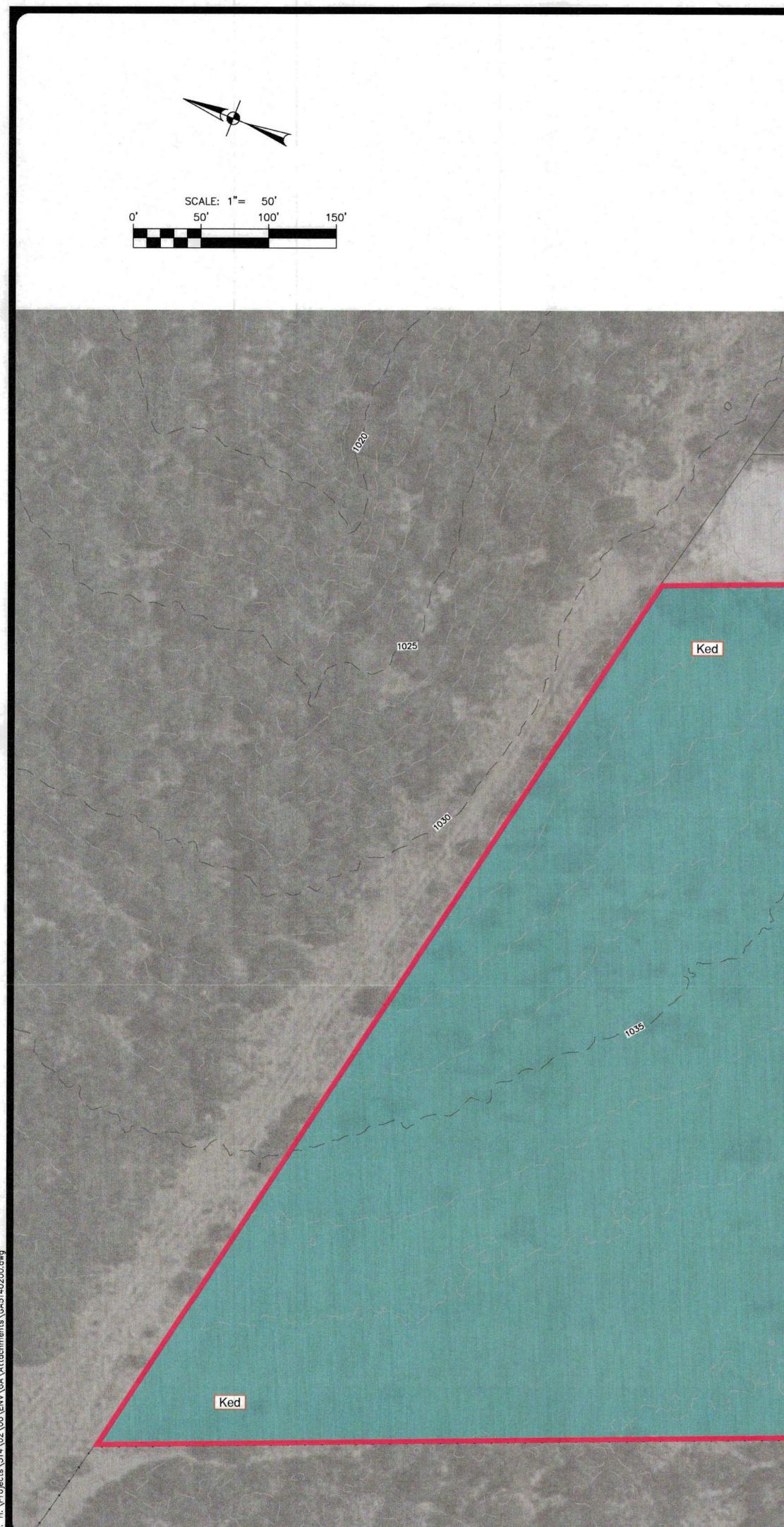
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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800 TBPG FIRM REGISTRATION #50351

SITE SOILS MAP

WILLIAMSON COUNTY, TEXAS



THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL AERIAL IMAGERY PROVIDED BY GOOGLE@ UNLESS OTHERWISE NOTED. Imagery @ 2016,CAPCOG,Digital Globe,Texas Orthormagery Program, USDA Farm Service Agency.

: Mar 23, 2023, 9:11am User ID: hstultz H: \Proiects\514\02\00\ENV\GA\Attachments\G45140200.dwg NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

NOTE: THE RECHARGE ZONE BOUNDARY IS NOT WITHIN THE AREA SHOWN ON THIS SHEET. THE SITE IS LOCATED ENTIRELY WITHIN THE RECHARGE ZONE.

	LEC	GEND	-
PROJECT	LIMITS	GEOLOGIC	FORMATIONS
100 YEAR	FLOODPLAIN	Kef	EAGLE FORD
STREAM	· · · · · · · · · · · · · · · · · · ·	Kbu	BUDA
SYMBOLS	AND LINES	Kdr	DEL RIO
S-1	POTENTIAL RECHARGE FEATURE	Kgt	GEORGETOWN
-	CONTACT, LOCATED APPROXIMATELY	А	SOLUTION ENLAR
	CONTACT, INFERRED	28	
UD	FAULT, LOCATED APPROXIMATELY (D, DOWNTHROWN SIDE; U, UPTHROWN SIDE)	â	SWALLOW HOLE NON-KARST CLO
	FAULT, EXTRAPOLATED		ZONE
	FAULT, INFERRED	8333	OTHER NATURAL
<u>110</u>	STRIKE AND DIP OF BEDDING	0	SPRING/SEEP
	STRIKE AND DIP OF JOINTS	3	WETLAND
	STRIKE OF VERTICAL JOINTS	(MB)	MAN-MADE FEAT
C	CAVE	8	WATER WELL
0	SOLUTION CAVITY	G	SS SANITAI
0	SINKHOLE	0	SS-STORM

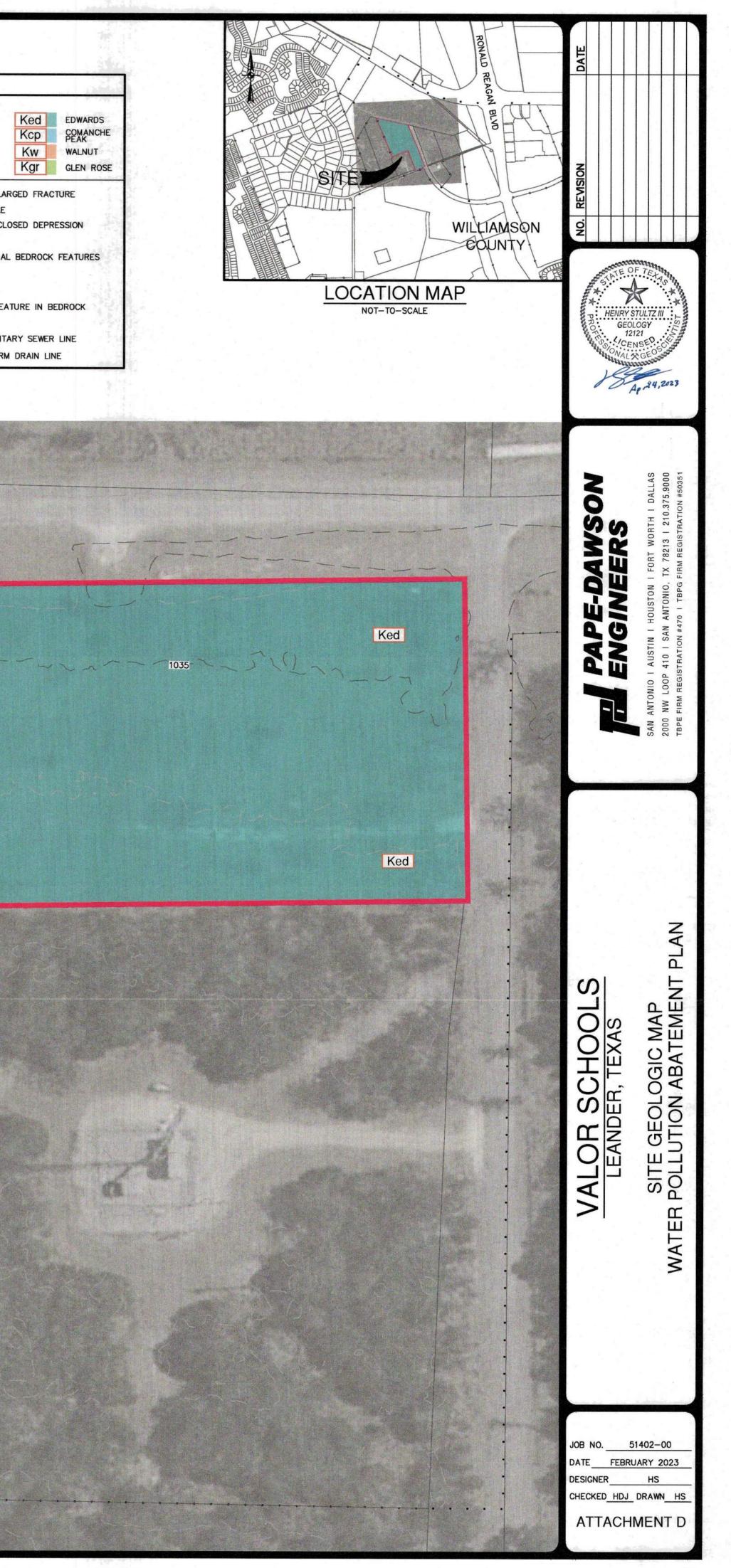
_1035____

Ked



S-1

Ked



SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM

kimley-horn.com

10814 Jollyville Road, Avallon IV, Suite 200, Austin, TX 78759

512 418 1771

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: Valor Leander

 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

 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: Jesse Bates Entity: Valor Texas Education Foundation Mailing Address: 220 Foremost Drive City, State: Austin, TX Zip: 78745 Telephone: 214-514-3356 Fax: N/A Email Address: jbates@valoreducation.org 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: <u>Allison Kennaugh, P.E.</u> Texas Licensed Professional Engineer's Number: <u>114356</u> Entity: <u>Kimley-Horn</u> Mailing Address: <u>10814 Jollyville Road; Bldg. IV, Suite 200</u> City, State: <u>Austin, Texas</u> Zip: <u>78759</u> Telephone: <u>(512) 782-0614</u> Fax: <u>N/A</u> Email Address: <u>allison.kennaugh@kimley-horn.com</u>

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: Multi-family: Number of residential units: Commercial Industrial Off-site system (not associated with any development) Other: <u>Charter School</u>
The character and volume of wastewater is shown below:
% Domesticgallons/day% Industrialgallons/day100% Commingled26,730 gallons/dayTotal gallons/day: 26,73026,730 gallons/day
Existing and anticipated infiltration/inflow is <u>0</u> gallons/day. This will be addressed by: n/a .
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 . A copy of the approval letter is attached.

- The WPAP application for this development was submitted to the TCEQ on December 1st 2023, 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:

5.

6.

7.

Table 1 - Pipe Description

Pipe Diameter(Inches)	Linear Feet (1)	Pipe Material (2)	Specifications (3)
8	2189	PVC SDR-26	ASTM D-3034
4	137	PVC SDR-26	ASTM D-3034

Total Linear Feet: 3,433

- (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 <u>Brushy Creek Wastewater</u> (name) Treatment Plant. The treatment facility is:

\times	Existing
	Proposed

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

The City of <u>Leander</u> 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)

Line	Shown on Sheet	Station	Manhole or Clean- out?
A - PICP	19 of 27	1+00.00	Manhole
A - PICP	19 of 27	3+70.43	Manhole
A - PICP	19 of 27	6+16.94	Manhole
A - PICP	19 of 27	9+20.62	Manhole
A - PICP	20 of 27	13+00.13	Manhole
A - PICP	20 of 27	17+79.36	Manhole
A - PICP	20 of 27	20+27.67	Manhole
A - PICP	21 of 27	22+35.48	Manhole
A - PICP	21 of 27	22+85.48	Manhole
A – Site Plan	28 of 35	4+59.53	Manhole

Table 2 - Manholes and Cleanouts

Line	Shown on Sheet	Station	Manhole or Clean- out?
A – Site Plan	28 of 35	6+24.75	Cleanout
A – Site Plan	28 of 35	8+41.92	Manhole
A – Site Plan	28 of 35	9+07.39	Cleanout
A – Site Plan	28 of 35	9+46.47	Cleanout
A – Site Plan	28 of 35	9+85.55	Cleanout
A – Site Plan	28 of 35	12+07.38	Cleanout

- 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. \square The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = <u>60</u>'.

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:

 \boxtimes 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

Line	Sheet	Station
n/a	n/a	n/a

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

Line	Sheet	Station
n/a	n/a	n/a

24. \boxtimes 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 each sheet.

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.

Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
A - PICP	7+76.55	CROSSING	N/A	Unknown
A - PICP	21+49.86	CROSSING	N/A	Unknown
A - PICP	21+76.35	CROSSING	N/A	Unknown
A – Site Plan	8+57.42	CROSSING	N/A	2'
A – Site Plan	8+60.42	CROSSING	N/A	2'

Table 5 - Water Line Crossings

27. Vented Manholes:

- 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

Line	Manhole	Station	Sheet
n/a	n/a	n/a	n/a

28. 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

Line	Manhole	Station	Sheet
n/a	n/a	n/a	n/a

29. 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.

30. 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.
- 31. 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.
- 32. 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

Line	Profile Sheet	Station to Station	FPS	% Slope	Erosion/Shock Protection
n/a	n/a	n/a	n/a	n/a	n/a

- 33. 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(I)(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

34. 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.

35. 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	l 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]	27 of 27
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	n/a
Typical trench cross-sections [Required]	27 of 27
Bolted manholes [Required]	n/a
Sewer Service lateral standard details [Required]	n/a
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]	27 of 27
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	n/a
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	n/a

36. All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

- 37. 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: <u>12/01/2023</u>
- 38. 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.
- 39. 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: Allison Kennaugh, P.E.

Date: December 1st 2023

Place engineer's seal here:

Signature of Licensed Professional Engineer:

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.

Pipe Diameter(Inches)	% Slope required for minimum flow velocity of 2.0 fps	% Slope which produces flow velocity of 10.0 fps
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

Table 10 - Slope Velocity

Pipe Diameter(Inches)	% Slope required for minimum flow velocity of 2.0 fps	% Slope which produces flow velocity of 10.0 fps
>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.

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

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)

- n = Manning's roughness coefficient (0.013)
- Rh = hydraulic radius (ft)

S = slope (ft/ft)

ATTACHMENT A - Engineer's Design Report

This Engineering Design Report has been prepared to comply with the Texas Commission on Environmental Quality Design Criteria for Domestic Wastewater Systems, 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable. Please note that throughout this application, the more stringent of AWU or TCEQ regulations shall apply.

Project Description

Introduction

Valor Leander is an undeveloped 13.79 acre property located northwest of the intersection of Kauffman Loop and Co Rd 267 and within the city limits of the Leander, Texas. The proposed Valor Leander project includes the construction of a charter school with associated paving, water, wastewater, and drainage improvements to support the project. This project proposes 6.74 acres (44%) of impervious cover.

This project is located within the North and South Fork San Gabriel River Watershed. The site is not located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48491C0275E. The site is located within the Edwards Aquifer Recharge Zone according to the Edward's Aquifer GIS databases. There are no critical water quality zones and or critical environmental features located on-site. The site consists of 13.79 acres of undeveloped land.

On-site infrastructure is comprised of water, electric, wastewater, and storm sewer lines. The wastewater service outlined in this report will consist of four (4) lines that will convey wastewater to a manhole proposed for an offsite tie in within Kauffman Loop built with this development. The offsite line will gravity flow and be deposited at the Brushy Creek Regional Wastewater Treatment Plant to be treated. A Development Agreement between Valor Texas Education Foundation and the City of Leander recognizes the proposed flow from the Valor Leander development and that the city will accept to treat it through the Brushy Creek Regional Wastewater Treatment Plant. All proposed wastewater lines will be installed within the Edwards Aquifer Recharge Zone (EARZ).

Pipe Design

Flow Design Basis

Service for the build-out of the 13.79 ac charter school site, located at Kauffman Loop and Co Rd 267 will be served by this wastewater system. The City of Austin Utility Criteria Manual (UCM) was used to determine the parameters for the design of the wastewater line system. See Appendix B for the map illustrating the property to be served by this wastewater line system and Appendix C for the calculations (as approved by the City of Austin).

Gravity Pipe and Joint Materials

The proposed pipe to be used for the 4" and 8" wastewater line will be ASTM D3034 SDR-26 PVC pipe. The joints for this pipe shall meet the requirements of ASTM D3212. The pipe joints shall have an integral bell and rubber gasket seal with the locked-in type gasket.

Separation Distances for Water and Wastewater

A 26-foot minimum horizontal separation is maintained between all proposed wastewater infrastructure and proposed water lines.. See Table 5 – Water Crossings for all water line crossings. It is not feasible to

provide nine-feet of vertical separation at waterline crossings due to depth limitations. In most cases, the crossing water line would need to be above the finished grade, or approximately twenty-feet below grade in order to meet the nine-foot separation requirement.

Service Connections

Service connections have been included for the charter school site.

Boring and Tunneling of Crossings

Two bore locations are proposed as part of the PICP.

Corrosion Potential

PVC pipe will be utilized for or all proposed wastewater lines. No deterioration of the proposed pipe or its associated components is anticipated in this application.

Odor Control

All flows contributing to the proposed wastewater lines are from the charter school development, generating sewage. There are no significant generators of sulfide or other odorous compounds (such as lift stations) upstream of the proposed wastewater lines. Therefore, no odor control measures are proposed for this project.

Active Geologic Faults

Per the Geologic Assessment, no active geologic faults were located within the area of the project.

Capacity Analysis

The capacity of each proposed wastewater segment is calculated below based on Manning's Equation. The calculation for each segment is based on the minimum proposed slope.

$$Q = \frac{1.49}{n} * A * R^{0.67} * S^{0.5}$$

Where:

Qfull = flow rate of fluid in pipe at full flow (ft³/s) (cfs)

Q90%= flow rate of fluid in pipe at 90% full flow (ft³/s) (cfs)

A = area of pipe (ft^2) =
$$\frac{\pi * d^2}{4}$$

- d = internal pipe diameter (ft) = Do 2t
- Do = outside diameter (in)
- t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

- Rfull = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)
- R90% = hydraulic radius of pipe (90% full flow) = 0.9*A/P = 0.9*D/4 (ft)
- P = wetted perimeter of pipe = π *D (ft)
- S = slope of energy line

Pipes	Length	Slope	Slope	Diam	neter	Pipe	Manning's	Р	Α	Rfull	R90%	Qfull	Q90%	Vfull	V90%
	ft	%	ft/ft	in	ft	Material	iviarii iii ig s	ft	sf	ft	ft	cfs	cfs	fps	fps
A-1 (PICP)	270	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-2 (PICP)	247	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-3 (PICP)	304	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-4 (PICP)	280	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-5 (PICP)	309	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-6 (PICP)	170	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-7 (PICP)	248	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-8 (PICP)	208	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-9 (PICP)	50	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-1 (Site Plan)	360	0.55	0.006	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.89	0.80	2.56	2.30
A-2 (Site Plan)	382	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-3 (Site Plan)	277	0.97	0.010	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.19	1.07	3.40	3.06
A-4 (Site Plan)	138	1.00	0.010	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.20	1.08	3.45	3.11
B-1 (Site Plan)	101	1.00	0.010	4.00	0.33	PVC	0.013	1.05	0.09	0.08	0.08	0.19	0.17	2.17	1.95
C-1 (Site Plan)	6	2.00	0.020	4.00	0.33	PVC	0.013	1.05	0.09	0.08	0.08	0.27	0.24	3.07	2.76

Pipe	Minimum Velocity	Maximum Velocity		
Туре	fps	fps		
8" PVC	2.44	3.45		
4" PVC	2.17	3.07		

The proposed wastewater line installed at the slope specified provides capacity in excess of the calculated peak wet weather design flows at full flow and 90% full flow conditions.

Structural Analysis

Flexible pipe is proposed on this project. Structural calculations are provided for the flexible pipe to be installed. The proposed collection system piping is designed to have a minimum structural life of 50 years. As previously mentioned, all proposed PVC pipe shall be cell class 12454 with a tensile strength of 7,000 psi.

Live Load Calculations - no significant live loads are anticipated on any segment of this project.

Buckling Pressure - the following equations utilized for the calculation of buckling pressure are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$\Pr = \frac{2 * E}{(1 - v^2) * (DR - 1)}$	$\overline{)^3}$ (Equation 7.14)
$Pb = 1.15*\sqrt{Pcr*E}$	(Equation 7.18)
H = (Pb*144)/w	(Equation 6.7)

Where:

- Pcr = critical buckling pressure (psi)
- E = modulus of elasticity (psi) = 400,000 psi for PVC

v = Poisson's Ratio = 0.38 for PVC

- DR = dimension ratio
- Pb = buckling pressure in soil (psi)
- E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock compacted to greater than 95% relative density
- H = maximum allowable cover height of soil (ft)

w = weight of soil (lbs/ft³) = 120 lbs/ft³

8" ASTM D3034 SDR-26

$$\mathsf{Pcr} = \frac{2*400,000}{(1-0.38^2)*(26-1)^3}$$

Pcr = 59.84 psi

Pb = $1.15 * \sqrt{59.84 * 2,000}$

Pb = 397.84 psi

H = (397.84*144) / 120

H = 477.41 ft height of soil to cause pipe buckling

8" ASTM D3034 SDR-26

P = 20 * 120 P = 2,400 lbs/ft² or 16.67 psi

8" ASTM D3034 SDR-26

 $\Delta Y/D = \frac{1.0*0.096*16.67 + 0.096*0}{[2(400,000)/(3(26-1)^3)] + 0.061*2,000} * 100$ $\Delta Y/D = 1.15\%$

Wall Crushing Calculations - the following equations utilized for the calculation of wall crushing are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

 $Py = \frac{\Theta c * 2 * A}{D}$ (Equation 7.20) H = Py / w (Equation 6.7)

Where:

Py = pressure due to soil weight (p	si)
-------------------------------------	-----

- Θc = compressive stress (psi) = 4,000 psi for PVC pipe
- A= surface area of the pipe wall (in²/in)
- D = mean pipe diameter (in) = Do t
- t = pipe wall thickness (in)
- H = maximum allowable height of cover (ft)
- w = soil density (lbs/ft³) = 120 lbs/ft³

8" ASTM D3034 SDR-26

Do = 8.4- 0.323 = 8.077 in, A = 3.88 in²/ft (0.323 in * 12 in/ft)

$$Py = \frac{4,000 * 2 * (3.88/12)}{8.077}$$
$$Py = 320.25 \text{ psi}$$

H = (320.25*144) / 120

H = 384.30 ft height of soil to cause wall crushing

Strain Calculations - the following equations utilized for the calculation of strain are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\epsilon h = \frac{P * D}{2 * t * E}$$
(Equation 7.22)
$$\epsilon f = \frac{t}{D} * \frac{[3 * \Delta Y / D]}{[1 - 2 * \Delta Y / D]}$$
(Equation 7.24)

 $\varepsilon = \varepsilon h + \varepsilon f$ (Equation 7.25)

Where:

- εh = maximum strain in the pipe wall due to hoop stress (in/in)
- P = prism load pressure due to soil weight (psi)
- D = mean pipe diameter (in) = Do t
- t = pipe wall thickness (in)
- E = modulus of elasticity (psi) = 400,000 psi for PVC
- εf = maximum strain in the pipe due to ring deflection or flexure (in/in)
- $\Delta Y/D$ = long term deflection
- ε = maximum combined strain in pipe wall (in/in)

8" ASTM D3034 SDR-26

 $\epsilon h = \frac{16.67 * 8.077}{2 * 0.323 * 400,000}$

 $\epsilon f = \frac{0.323}{8.077} * \frac{[3*0.0115]}{[1-2*0.0115]}$ $\epsilon f = 0.0014 \text{ in/in}$ $\epsilon = 0.00035 + 0.0014$ $\epsilon = 0.00175 \text{ in/in}$

Per the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001), deflection test samples have experienced a pipe wall strain of up to 0.025 in/in and have not "showed any failures or cracks". The calculated strains for this project are significantly below this level, so no failure due to strain is anticipated.

Pipe Stiffness Calculation - the following equations utilized for the calculation of pipe stiffness are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

Ps =
$$4.47 * \frac{E}{(DR-1)^3}$$
 (Equation 7.3)

Where:

Ps =pipe stiffness (psi)DR =Dimensional Ration = Do / tDo =Outside diameter (in)t =pipe wall thickness (in)E =modulus of elasticity (psi) = 400,000 psi for PVC

8" ASTM D3034 SDR-26

DR = 26

$$Ps = 4.47 * \frac{400,000}{(26-1)^3}$$

Ps = 115 psi

Criteria for Laying Pipe

Pipe Embedment

Bedding and initial backfill material selection and installation will be carried out in accordance with applicable governing procedures contained within the *City of Austin Standard Specifications for Pipes and Appurtenances, TCEQ Chapter 217.54(a),* and in accordance with the City of Leander Detail 104-1 on sheet 27 of 27. Bedding material shall be in accordance with City of Austin Standard Specification Item 510, Section 510.3(14). Compacted backfill, from a point one (1) foot above the pipe to the finished surface, will be comprised of suitable material removed during excavation, as described in Item 510, Section 510.2(6). Brush, debris, and junk shall not be utilized as a backfilling material.

Compaction

Trench compaction will be carried out in accordance with the *City of Austin Standard Specifications for Pipes and Appurtenances* and *TCEQ Chapter 217.54(b)*. Proper placement of the backfill and compaction per City of Austin requirements will not negatively impact the structural integrity of the pipe.

Envelope Size

Envelope size will be in accordance with *City of Austin Standard Specifications for Pipes and Appurtenances* and *TCEQ Chapter 217.54(c)*. Per the City of Leander Detail 104-1 on sheet 27 of 27, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. The embedment and initial backfill must be installed to a minimum depth of 12 inches above the crown of the pipe.

Trench Width

Trench width will be in accordance with the City of Leander Detail 104-1 on sheet 27 of 27 and *TCEQ Chapter 217.54(d)*. Per the City of Leander Detail 104-1 on sheet 27 of 27, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. These limits shall be maintained to protect the structural integrity of the pipe and will be sufficient for the placement of materials and use of compaction equipment in the pipe zone.

Manholes and Related Structures

Manhole and Appurtenance Placement

Manholes are located at all points of change in alignment or grade and at the intersection of all pipes for this project.

Manhole Stub Outs

No manholes are being placed at the end of a line that may be extended in the future, so no stub outs are included on this project.

Cleanouts

There are cleanouts proposed as part of the Site Plan. The cleanouts are proposed according to the City of Leander standards.

Manhole Material

Monolithic or precast manholes are acceptable for the contractor to utilize and are included in the City of Austin Detail 506S-10 on sheet 27 of 27. The use of bricks is not acceptable for the manhole or for cover adjustments.

Manhole Spacing

Manhole spacing meets the requirements of Table C.2 in TCEQ Chapter 217.55.

Manholes within Waterways

No manholes will be located within flow paths of waterways or in areas where water ponding is probable.

Manhole Covers, Inlets, and Bases

Per the COA detail 506S-10 sheet 27 of 27, the manhole covers shall have a 30-inch diameter clear opening. Manhole covers shall be constructed of cast iron and have no openings for water to infiltrate. No proposed manholes are located within the 100-year flood plain. All manholes shall be watertight, with watertight rings and covers, as shown per the City of Leander detail 107-3 on sheet 27 of 27. As shown in the project details, the bottom of the manhole shall have a U-shaped channel to provide smooth continuation between the inlet and outlet pipes. For the proposed pipe, the manhole channel depth shall be equal to at least half the largest pipe diameter. Manholes with different pipe sizes shall have the tops of the pipes at the same elevation and flow channels in the invert sloped evenly from pipe to pipe. A bench will be provided above each manhole channel to slope at a minimum of 0.5 inches per foot.

Manhole Steps

No steps shall be allowed in any proposed manholes.

Manhole Connections

Manhole-pipe connections shall be watertight per City of Austin pipe to manhole connector SPL WW-146D. See detail 506S-10 on sheet 27 of 27.

Manhole Venting

The proposed manholes are spaced at less than 1,500 foot intervals and none are located within the 100year flood plain. Therefore, no vented manholes are proposed on this project.

Trenchless Pipe Installation

There will be two sections of boring for wastewater pipe installation under existing roadway. The remaining pipe will be installed via trenching. See sheet 16 of 27 for location of bore.

Testing Requirements for Gravity Pipes

Infiltration/Exfiltration and Low Pressure Air Test

All testing will be in compliance with Texas Administrative Code title 30 Part 1 Chapter 217 Subchapter C 217.57 and 217.58. See TCEQ note on Sheet 4 of 27.

Infiltration and exfiltration or low pressure air testing in accordance with ASTM C828, C924 or F1417 are required for all proposed gravity wastewater pipe as specified in the project notes, sheet 4 of 27. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Deflection Testing

For the proposed 8-inch and 4-inch wastewater line, deflection shall be measured with a rigid mandrel per the project detail on sheet 4 of 27. The requirements specified are in accordance with *TCEQ Chapter* 217.57.

Owner Inspection

The Owner shall have an inspector onsite during construction of the project. A professional engineer registered in the state of Texas (Allison Kennaugh, P.E.) shall be present to witness the testing of the wastewater lines.

Testing Requirements for Manholes

Manhole testing in accordance with *TCEQ Chapter 217.58* is specified in the project notes, sheet 4 of 27. Manholes will be tested after assembly and backfilling for leakage by either a hydrostatic test and/or a vacuum test.

For the vacuum test, all lift holes and exterior joints shall be plugged with an approved non-shrink grout and no grout shall be placed in horizontal joints before testing. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole. Stubouts, manhole boots and pipe plugs shall be secured to prevent movement while the vacuum is drawn. A minimum 60inch/lb torque wrench shall be used to tighten the external clamps that secure the test cover to the top of the manhole. The test head shall be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time is greater than 2 minutes. If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. If the manhole fails a second time, repairs should again be made and the manhole shall be tested by means of a hydrostatic test. If any manhole fails the hydrostatic test, after failing the vacuum test twice, the contractor should consider replacing that manhole. If the contractor chooses to attempt to repair that manhole, the manhole must be retested by means of the hydrostatic test until it passes.

Inspection will be provided during critical phases of construction by a qualified inspector under the direction of a P.E. (Allison Kennaugh, P.E.). Critical phases of construction are deemed at a minimum to include testing of pipe and manholes for leakage, and testing of flexible pipe for installed deflection. TCEQ approval letters for plans and specifications review contain the requirement that once the project is completed, a P.E. registered in the state of Texas (Allison Kennaugh, P.E.) much certify that the construction was performed substantially in accordance with the approved plans and specifications.

Notification and Inspection

TCEQ Chapter 213 requires that the applicant must provide written notification to the Austin regional office at least 48 hours prior to commencing construction on the regulated activity. If any sensitive feature is discovered during construction then the work shall be suspended immediately and the Austin regional office shall be notified to then determine the appropriate course of action. All other notification and inspection requirements identified in *TCEQ Chapter 213.5(c)* shall be met.

SECTION 5: TEMPORARY STORMWATER SECTION

kimley-horn.com

10814 Jollyville Road, Avallon IV, Suite 200, Austin, TX 78759

512 418 1771

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: Allison Kennaugh, P.E.

Date: December 1st, 2023

Signature of Customer/Agent:

Allisan Kennaugh

Regulated Entity Name: Valor Leander

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. \square 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: <u>N/A</u>

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

🛛 N/A

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

Soil Stabilization Practices

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

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

Administrative Information

- 20. \square 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

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 2.4.16.

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 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

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 (<u>0.05</u> Acres)
- 2. Installation of Temporary BMPs (<u>13.80</u> Acres)
- 3. Initiate Grubbing and Topsoil Stripping of Site (<u>13.80</u> Acres)
- 4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (<u>13.80</u> Acres)
- 5. Wet and Dry Utility Construction (<u>6</u> Acres)
- 6. Final Subgrade Preparation (<u>3</u> Acres)
- 7. Installation of Base Materials (<u>3</u> Acres)
- 8. Concrete (foundations, curbs, flatwork) (<u>5.5</u> Acres)
- 9. Building Construction (<u>5</u> Acres)
- 10. Paving Activities (<u>2.5</u> Acres)
- 11. Topsoil, Irrigation and Landscaping (<u>13.80</u> Acres)
- 12. Site cleanup and Removal of Temporary BMPs (<u>13.80</u> Acres)

Maximum total construction time is not expected to exceed 36 months.

ATTACHMENT D - Temporary Best Management Practices and Measures

- A. No storm water originates up gradient that impacts 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 site 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. 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 during the geologic assessment. However, the BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally-occurring sensitive features that are discovered during construction.

ATTACHMENT E - Request To Temporarily Seal a Feature

Naturally-occurring features will not be sealed on the site.

ATTACHMENT F - Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the downgradient 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 were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

Inspection and Maintenance Guidelines:

(1)The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-ofway.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

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

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.

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

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.

Rock Berm

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

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Inlet Protection

Storm sewers that are made operational prior to stabilization of the associated drainage areas can convey large amounts of sediment to natural drainage ways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets. The following guidelines for inlet protection are based primarily on recommendations by the Virginia Dept. of Conservation and Recreation (1992) and the North Central Texas Council of Governments (NCTCOG, 1993b).

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

Care should be taken when choosing a specific type of inlet protection. Field experience has shown that inlet protection that causes excessive ponding in an area of high construction activity may become so inconvenient that it is removed or bypassed, thus transmitting sediment-laden flows unchecked. In such situations, a structure with an adequate overflow mechanism should be utilized.

It should also be noted that inlet protection devices are designed to be installed on construction sites and not on streets and roads open to the public. When used on public streets these devices will cause ponding of runoff, which can cause minor flooding and can present a traffic hazard. An example of appropriate siting would be a new subdivision where the storm drain system is installed before the area is stabilized and the streets open to the general public. When construction occurs adjacent to active streets, the sediment should be controlled on site and not on public thoroughfares. Occasionally, roadwork or utility installation will occur on public roads. In these cases, inlet protection is an appropriate temporary BMP.

The following inlet protection devices are for drainage areas of one acre or less. Runoff from larger disturbed areas should be routed to a temporary sediment trap or basin.

Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas.

Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas.

Wire mesh and gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain inlet. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. If this measure is implemented, the impoundment should be sized such that the volume of excavation is 3,600 cubic feet per acre (equivalent to 1 inch of runoff) of disturbed area entering the inlet.

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.

(2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.

(3) Check placement of device to prevent gaps between device and curb.

(4) Inspect filter fabric and patch or replace if torn or missing.

(5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

ATTACHMENT G - Drainage Area Map

An existing and proposed drainage area map are provided at the end of this report in Section 8.

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

A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time.

A sedimentation basin may be temporary or permanent and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin.

Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.

If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

Sites With Drainage Areas Less than Ten Acres

Sediment traps and sediment basins may be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres.

Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided.

Proposed Sedimentation Basin Calculations

For Valor Leander, the proposed onsite batch detention pond will serve as a storage for on-site and off-site drainage. The basins will be designed to contain the 3,600 cubic feet per acre of disturbed area draining to the pond.

Temporary Sedimentation:

A batch detention pond will serve as storage for drainage for Valor Leander (as shown on sheets 22 of the construction drawings) during the construction phase. The total drainage area includes 10.75 acres and generates a volume of 38,700 ft³. The proposed detention pond will contain a volume of 176,24 ft³, thus the constructed detention ponds will be adequality sized required for sedimentation purposes.

ATTACHMENT I - 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 functions.
 - **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 noncompliance 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.

ATTACHMENT J - 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. For this project the following stabilization practices will be implemented:

- 1. Hydraulic Mulch and Seeding: Disturbed areas subject to erosion shall be stabilized with hydraulic mulch and/or seeded and watered to provide interim stabilization. For areas that are not to be sodded as per the project landscaping plan, a minimum of 85% vegetative cover will be established to provide permanent stabilization.
- 2. Sodding and Wood Mulch: As per the project landscaping plan, Sodding and wood mulch will be applied to landscaped areas to provide permanent stabilization prior to project completion.

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 that 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.

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.
- BMP Maintenance (as applicable)
- Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Drainage swale will be inspected and repaired as necessary.

- Inlet control will be inspected and repaired as necessary.
- Check dam will be inspected and repaired as necessary.
- Straw bale dike will be inspected and repaired as necessary.
- Diversion dike will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes offsite impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.
- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

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.

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.

Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
	Description of the Amendment	Description of the AmendmentDate of AmendmentImage: Image: I

Amendment Log

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

Stormwater Control	Location On-Site	Installation Date	Removal Date

Stabilization Activities Log

Date Activity Initiated	Description of Activity	Description of Stabilization Measure and Location	Date Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated
~ 1 111 1				

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
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Date Frequency Schedule and Reason for Change					
Dute	Trequency Seneuale and Reason for enange				

Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading
Date		Gauge Keauling

	General Information							
Name of Project	Tracking No. Inspection Date							
Inspector Name, T Contact Informatio								
Present Phase of Co	onstruction							
Inspection Location inspections are require location where this inspection where the second	ed, specify							
- Once per n	iency : V uency : C ency : nonth (for stabi nonth and with	-	0.25" rain arid, or drought-stricken areas during seasonal	lly dry periods or during drought)				
If yes, how did	Was this inspection triggered by a 0.25" storm event? Yes No If yes, how did you determined whether a 0.25" storm event has occurred? Rain gauge on site Weather station representative of site. Specify weather station source: Total rainfall amount that triggered the inspection (in inches): It is the inspection of the inspection (in inches):							
Unsafe Conditions for Inspection Did you determine that any portion of your site was unsafe for inspection? Yes No If "yes", complete the following: - Describe the conditions that prevented you from conducting the inspection in this location:								
- 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.	□Yes □No	□Yes □No			
2.	□Yes □No	□Yes □No			
3.	□Yes □No	□Yes □No			
4.	□Yes □No	□Yes □No			
5.	□Yes □No	∐Yes ∏No			
6.	□Yes □No	□Yes □No			
7.	□Yes □No	□Yes □No			
8.	□Yes □No	□Yes □No			
9.	□Yes □No	□Yes □No			
10.	□Yes □No	□Yes □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.	□Yes □No	□Yes □No				
2.	□Yes □No	□Yes □No				
3.	□Yes □No	□Yes □No				
4.	□Yes □No	□Yes □No				
5.	□Yes □No	□Yes □No				
6.	□Yes □No	□Yes □No				
7.	□Yes □No	□Yes □No				
8.	□Yes □No	□Yes □No				
9.	□Yes □No	□Yes □No				
10.	□Yes □No	∐Yes ∏No				

Stabilization of Exposed Soil				
Stabilization Area	Stabilization Method	Have You Initiated Stabilization?	Notes	
1.		☐ YES ☐ NO If yes, provide date:		
2.		☐ YES ☐ NO If yes, provide date:		
3.		☐ YES ☐ NO If yes, provide date:		
4.		☐ YES ☐ NO If yes, provide date:		
5.		☐ YES ☐ NO If yes, provide date:		
	Description of	Discharges		
	er discharge occurring from any par nformation for each point of dischar	rt of your site at the time of the inspec rge:	tion? 🗌 Yes 🗌 No	
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? 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? 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? 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:			

Kimley *Whorn*

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:

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:	

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 N	Jo.		Today's Date		
Date Problem First Discov	rered		Time Problem Firs	t Discovered		
Name and Contact Inform Form	ation of Individual Completing this					
A required stormwater	What site conditions triggered the requirement to conduct corrective action: A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3 The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards A prohibited discharge has occurred or is occurring 					
Provide a description of th	e problem:					
	prrective action (Enter date that is eit rk within the first 7 days, enter the da				l the problem, or (2) if it is	
	ompletion falls after the 7-day deadlir for making the new or modified storm				n 7 days, and (2) why the	
	Section (Complete this section <u>no later than 7 c</u>		ctive Action Progr er discovering the cond			
Section B.1 – Why the	Problem Occurred					
Cause(s) of Problem (Add	Cause(s) of Problem (Add an additional sheet if necessary) How This Was Determined and the Date You Determined the Cause			mined the Cause		
1.	1. 1.					
2.	2. 2.					
3.	3.					
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem						
List of Stormwater Contro Problem (Add an addition	l Modification(s) Needed to Correct al sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes		
1.			□Yes □No Date:			
2.			□Yes □No Date:			
3.			□Yes □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 N	lo.		Today's Date		
Date Problem First Discov	vered		Time Problem Firs	t Discovered		
Name and Contact Inform Form	nation of Individual Completing this					
A required stormwate	What site conditions triggered the requirement to conduct corrective action: A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3 The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards A prohibited discharge has occurred or is occurring 					
Provide a description of the	ne problem:					
	corrective action (Enter date that is eith rk within the first 7 days, enter the da				d the problem, or (2) if it is	
	completion falls after the 7-day deadlin for making the new or modified storm				n 7 days, and (2) why the	
	Section (Complete this section <u>no later than 7 c</u>		ctive Action Progr er discovering the condi			
Section B.1 – Why the	Problem Occurred					
Cause(s) of Problem (Add	Cause(s) of Problem (Add an additional sheet if necessary) How This Was Determined and the Date You Determined the Cause			mined the Cause		
1.			1.			
2.	2. 2.					
3.	3. 3.					
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem						
List of Stormwater Contro Problem (Add an addition	ol Modification(s) Needed to Correct aal sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes		
1.			□Yes □No Date:			
2.			□Yes □No Date:			
3.			□Yes □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:

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:	

Date:

Kimley *W* Horn

SECTION 6: Additional Forms

kimley-horn.com

10814 Jollyville Road, Avallon IV, Suite 200, Austin, TX 78759

512 418 1771

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

Ι	Jesse Bates Print Name	,
	Chief Operating Officer Title - Owner/President/Other	,
of	Valor Texas Education Foundation Corporation/Partnership/Entity Name	,
have authorized	Allison Kennaugh, P.E. Print Name of Agent/Engineer	
of	Kimley-Horn and Associates Print Name of Firm	

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

I also understand that:

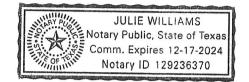
- 1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
- 2. For those submitting an application who are not the property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

n Batis Applicant's Signature

11/10 2023

THE STATE OF <u>TEXAS</u> §

County of <u>Williamson</u> §



BEFORE ME, the undersigned authority, on this day personally appeared <u>Jesse Bates</u> 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 10th day of November.

Printed Name of Notary or

MY COMMISSION EXPIRES: 12-11-24

Application Fee Form

Austin Regional Office (3373) Hays Travis Williamson San Antonio Regional Office (3362) 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 Maile dto: TCEQ - Cashier Overnight Delivery to: TCEQ - Cashier Revenues Section 12100 Park 35 Circle Mail Code 214 Building A, 3rd Floor P.O. Box 13088 Austin, TX 78753 Austin, TX 78711-3088 (512)239-0357 Site Location (Check All That Apply): Excentare Zone Recharge Zone Contributing Zone Transition Zone Plan: Mater Pollution Abatement Plan, Contributing Zone \$ Plan: Multiple 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 <th colspan="6">Texas Commission on Environmental QualityName of Proposed Regulated Entity: Valor LeanderRegulated Entity Location: 168 Kauffman LoopName of Customer: Valor Texas Education FoundationContact Person: Jesse BatesPhone: 214-514-3356Customer Reference Number (if issued): 604305250Regulated Entity Reference Number (if issued):N/A</th>	Texas Commission on Environmental QualityName of Proposed Regulated Entity: Valor LeanderRegulated Entity Location: 168 Kauffman LoopName of Customer: Valor Texas Education FoundationContact Person: Jesse BatesPhone: 214-514-3356Customer Reference Number (if issued): 604305250Regulated Entity Reference Number (if issued):N/A					
San Antonio Regional Office (3362)	Austin Regional Office (3373)					
Bexar Medina Uvalde Comal Kinney Application fees must be paid by check, certified check, or money order, payable to the Texas Commission on Environmental Quality. Your canceled check will serve as your receipt. This form must be submitted with your fee payment. This payment is being submitted to: △ Austin Regional Office △ Mailed to: TCEQ - Cashier Nailed to: TCEQ - Cashier Overnight Delivery to: TCEQ - Cashier Revenues Section 12100 Park 35 Circle Mail Code 214 Building A, 3rd Floor P.O. Box 13088 Austin, TX 78753 Austin, TX 78711-3088 (512)239-0357 Site Location (Check All That Apply): Transition 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 Sewage Collection System 3,433 LF \$1,716.50 Lift Stations without sewer lines Acres \$ Underground or Aboveground Storag			🔀 Wil	liamson		
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 12100 Park 35 Circle Mail Code 214 Building A, 3rd Floor P.O. Box 13088 Austin, TX 78753 Austin, TX 78711-3088 (512)239-0357 Site Location (Check All That Apply): Transition Zone Recharge Zone Contributing Zone Transition Zone Plan: One Single Family Residential Dwelling Acres \$ Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential Dwelling Acres Plan: Multiple Single Family Residential and Parks Acres \$ Water Pollution Abatement Plan, Contributing Zone \$ \$ Plan: Multiple Single Family Residential and Parks Acres \$ Sewage Collection System 3,433 LF \$1,716.50 \$ Lift Stations without sewer lines Acres \$ Underground or Aboveground Storage Tank Facility Tanks \$ Piping System(s)(only) Ea	Bexar	Medina	Uva	alde		
□Mailed to: TCEQ - Cashier□Overnight Delivery to: TCEQ - CashierRevenues Section12100 Park 35 CircleMail Code 214Building A, 3rd FloorP.O. Box 13088Austin, TX 78753Austin, TX 78711-3088(512)239-0357Site Location (Check All That Apply):☑Recharge Zone☑ Contributing ZoneType of PlanSizeFee DueWater Pollution Abatement Plan, Contributing Zone□Plan: One Single Family Residential DwellingAcresWater Pollution Abatement Plan, Contributing Zone□Plan: Multiple Single Family Residential and ParksAcresSewage Collection System3,433 LFStations without sewer linesAcresUnderground or Aboveground Storage Tank FacilityTanksPiping System(s)(only)EachExceptionEach	Commission on Environmenta	Quality. Your canceled ch	neck will serve as your	receipt. This		
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Plan: One Single Family Residential DwellingAcres\$Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and ParksAcres\$Water Pollution Abatement Plan, Contributing Zone Plan: Non-residentialAcresAcresSewage Collection System3,433 LF\$1,716.50Lift Stations without sewer linesAcres\$Underground or Aboveground Storage Tank FacilityTanks\$Piping System(s)(only)Each\$ExceptionEach\$	Type of	Plan	Size	Fee Due		
Plan: Multiple Single Family Residential and ParksAcres\$Water Pollution Abatement Plan, Contributing Zone Plan: Non-residentialAcresAcresSewage Collection System3,433 LF\$1,716.50Lift Stations without sewer linesAcres\$Underground or Aboveground Storage Tank FacilityTanks\$Piping System(s)(only)Each\$ExceptionEach\$		-	Acres	\$		
Plan: Non-residentialAcresSewage Collection System3,433 LFLift Stations without sewer linesAcresUnderground or Aboveground Storage Tank FacilityTanksPiping System(s)(only)EachExceptionEach		-	Acres	\$		
Lift Stations without sewer linesAcresUnderground or Aboveground Storage Tank FacilityTanksPiping System(s)(only)EachExceptionEach		lan, Contributing Zone	Acres			
Underground or Aboveground Storage Tank FacilityTanksPiping System(s)(only)EachExceptionEach	Sewage Collection System		3,433 LF	\$1,716.50		
Piping System(s)(only) Each Exception Each	Lift Stations without sewer lir	ies	Acres	\$		
Exception Each \$	Underground or Aboveground	d Storage Tank Facility	Tanks	\$		
	Piping System(s)(only)		Each	\$		
Extension of Time Each \$	Exception		Each	\$		
	Extension of Time		Each	\$		

Signature: Allisan Kennaugh

Date: December 1st, 2023

TCEQ-0574 (Rev. 02-24-15)

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	Fee
Exception Request	\$500

Extension of Time Requests

Project	Fee
Extension of Time Request	\$150

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 desc	cribe in space provided.)			
New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)				
Renewal (Core Data Form should be submitted with the renewal form) Other				
2. Customer Reference Number (if issued)	Follow this link to search	3. Regulated Entity Reference Number (if issued)		
	for CN or RN numbers in			
CN 606089696	<u>Central Registry**</u>	RN		

SECTION II: Customer Information

4. General Customer Inform	4. General Customer Information 5. Effective Date for Customer Information Updates (mm/dd/yyyy) 12/1/2023						12/1/2023				
New Customer Update to Customer Information Change in Regulated Entity Ownership Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)											
The Customer Name submi	-	-	tomaticall	y base	d on v	what is c	urrent	and active	with th	ne Texas Sec	retary of State
(SOS) or Texas Comptroller	of Public Accou	unts (CPA).									
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John) If new Customer, enter previous Customer below:											
Valor Texas Education Foundat	ion										
7. TX SOS/CPA Filing Numb	er	8. TX State Ta	ax ID (11 di	gits)			9. Fe	deral Tax I	D	10. DUNS	Number (if
0802370262		32059302235					(9 dig	its)		applicable)	
					81-11	45945					
11. Type of Customer:	11. Type of Customer: Corporation Individual Partnership: General Limited						ieral 🗌 Limited				
Government: 🗌 City 🔲 Count	ty 🗋 Federal 🗌	Local 🗌 State [Other			Sole Pr	roprieto	orship	🛛 Otl	ner: Foundatio	on
12. Number of Employees					10		13. lr	ndependen	tly Ow	ned and Ope	erated?
☑ 0-20	1-250 🗌 251-	500 🗌 501 ai	nd higher				🛛 Ye	es	□ No		
14. Customer Role (Proposed	d or Actual) – <i>as i</i>	it relates to the R	egulated Er	ntity list	ed on	this form.	Please (check one of	the follo	owing	
	Operator		er & Opera					Other:			
Occupational Licensee	Responsible Pa	rty 🗌 V	CP/BSA App	licant							
220 Foremost	Drive										
15. Mailing											
Address: City Au	stin		State	ТХ		ZIP	78745	5		ZIP + 4	
16. Country Mailing Information (if outside USA) 17. E-Mail A				E-Mail Ac	dress	(if applicable	e)				
18. Telephone Number		19). Extensio	n or Co	ode			20. Fax N	umber	(if applicable)	

512) 646-4170

SECTION III: Regulated Entity Information

21. General Regulated E	ntity Informa	tion (If 'New Regulate	ed Entity" is sele	cted, a new	permit appli	cation is also required.)		
New Regulated Entity	🛛 New Regulated Entity 🔲 Update to Regulated Entity Name 🔲 Update to Regulated Entity Information							
The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
Valor Texas								
23. Street Address of the Regulated Entity:	168 Kauffman Loop							
,								
<u>(No PO Boxes)</u>	City	Austin	State	ТХ	ZIP	78628	ZIP + 4	
24. County Williamson								
If no Street Address is provided, fields 25-28 are required.								
25. Description to	Northwest o	f the intersection of K	auffman Loop ar	nd Co Rd 26	7			
Physical Location:								

(

)

26. Nearest City			a the second second			State		Nea	rest ZIP Code	
Leander						ТХ		7862	28	
Latitude/Longitude are r used to supply coordinat					ata Standa	ırds. (Geoc	oding of th	e Physical	Address may be	
27. Latitude (N) In Decim	al:	30.635572		28. Lo	ongitude (V	V) In Decim	nal:	-97.8344	60	
Degrees	Minutes	S	econds	Degre	es	Mi	nutes		Seconds	
30		38	8.06		-97		50		16.85	
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)			31. Primar (5 or 6 digit	or 6 digits)			32. Secondary NAICS Code (5 or 6 digits)		
1542				611110						
33. What is the Primary I	Business of	this entity? (Do r	not repeat the SIC or	NAICS descri	iption.)					
Charter School										
	220 Foren	nost Drive								
34. Mailing										
Address:	City	Austin	State	тх	ZIP	78745		ZIP + 4		
35. E-Mail Address:	jba	tes@valoreducatior	n.org			-1				
36. Telephone Number 37. Extension or Code 38. Fax Number (if applicable)										
(214) 514-3356		2			() -				

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

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

SECTION IV: Preparer Information

40. Name:	Allison Kennau	gh, P.E.		41. Title:	Project Manager
42. Telephone	Number	43. Ext./Code	44. Fax Number	45. E-Mail /	Address
(512) 782-0614			() -	allison.kenna	ugh@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:	Valor Texas Education Foundation Job Title: Chief Open			rating Officer	
Name (In Print):	Jesse Bates			Phone:	(214) 514- 3356
Signature:	Jun Batu			Date:	11/10/2023
	0				

SECTION 7: EXHIBITS

IGBEN M. GREFER, ACR. EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES DATE MILLY IRVERAN, P.E. DATE MILLY IRVERANT, P.E. DATE MILL DATE, DATE PRESS MILLINGSON COMPTY THAN AD ADEQUARY OF THESE PLANS ADDURY SPECIFICATIONS WHETHER OR MILLINGSON COMPTY THAN AS DESCREPTION DATE JULIA DATE DATE JULIA DATE DATE MILLINGSON COMPTY THAN AS DESCREPTION DATE JULIA DATE	<pre>VA PU CO PI C</pre>
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REVISIONS/CORRECTIONS	
VISION # DESCRIPTION	
	DEVELOPER: JNDATION PMSI JASON ORIOL 1822 W BREAKER LANE, #81734 AUSTIN, TX 78708 JORIOL@PMSITX.COM
	DEVELOPER: JNDATION PMSI JASON ORIOL 1822 W BREAKER LANE, #81734 AUSTIN, TX 78708 JORIOL@PMSITX.COM

LOR LEANDER **BLIC IMPROVEMENT**

INTRUCTION PLANS DJECT #23-PICP-### **B KAUFFMAN LOOP** ITY OF LEANDER IAMSON COUNTY, TX

WILLIAMSON COUNTY **CITY OF LEANDER LIMITS** CITY OF LEANDER ETJ PROJECT LOCATION

VICINITY MAP SCALE: 1" = 2,000' NOVEMBER 2023

SHEET INDEX

21WASTEWATER PLAN & PROFILE - WWL-A STA 21+00 - END22OVERALL WATER QUALITY PLAN23TCEQ CALCS24PAVING DETAILS (SHEET 1 OF 2)25PAVING DETAILS (SHEET 2 OF 2)26WATER DETAILS	Sheet Number	Sheet Title
3KH GENERAL NOTES4TCEQ GENERAL NOTES5FINAL PLAT (SHEET 1 OF 2)6FINAL PLAT (SHEET 2 OF 2)7APPROVED PRELIMINARY PLAT8EXISTING CONDITIONS AND DEMOLITION PLAN9EROSION CONTROL PLAN10REVEGETATION PLAN11EROSION CONTROL AND REVEGETATION DETAILS12GRADING PLAN13EXISTING DRAINAGE AREA MAP14PROPOSED DRAINAGE AREA MAP15PAVING, SIGNAGE & STRIPING PLAN16OVERALL UTILITY PLAN17WATER PLAN & PROFILE - WL-A STA 1+00 - 10+5018WATER PLAN & PROFILE - WL-A STA 1+00 - 10+5020WASTEWATER PLAN & PROFILE - WWL-A STA 10+50 - 21+0021WASTEWATER PLAN & PROFILE - WWL-A STA 21+00 - 10+5022OVERALL WATER PLAN & PROFILE - WWL-A STA 21+00 - END23TCEQ CALCS24PAVING DETAILS (SHEET 1 OF 2)25PAVING DETAILS (SHEET 2 OF 2)26WATER DETAILS	1	COVER SHEET
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24PAVING DETAILS (SHEET 1 OF 2)25PAVING DETAILS (SHEET 2 OF 2)26WATER DETAILS	22	OVERALL WATER QUALITY PLAN
25 PAVING DETAILS (SHEET 2 OF 2) 26 WATER DETAILS	23	TCEQ CALCS
26 WATER DETAILS	24	PAVING DETAILS (SHEET 1 OF 2)
	25	PAVING DETAILS (SHEET 2 OF 2)
	26	WATER DETAILS
27 WASTEWATER DETAILS	27	WASTEWATER DETAILS

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT PRIOR TO CONSTRUCTION

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BENCHMARKS ARE BASED ON NAD83

BM #11: SET MAGNETIC NAIL (TRAVIS)

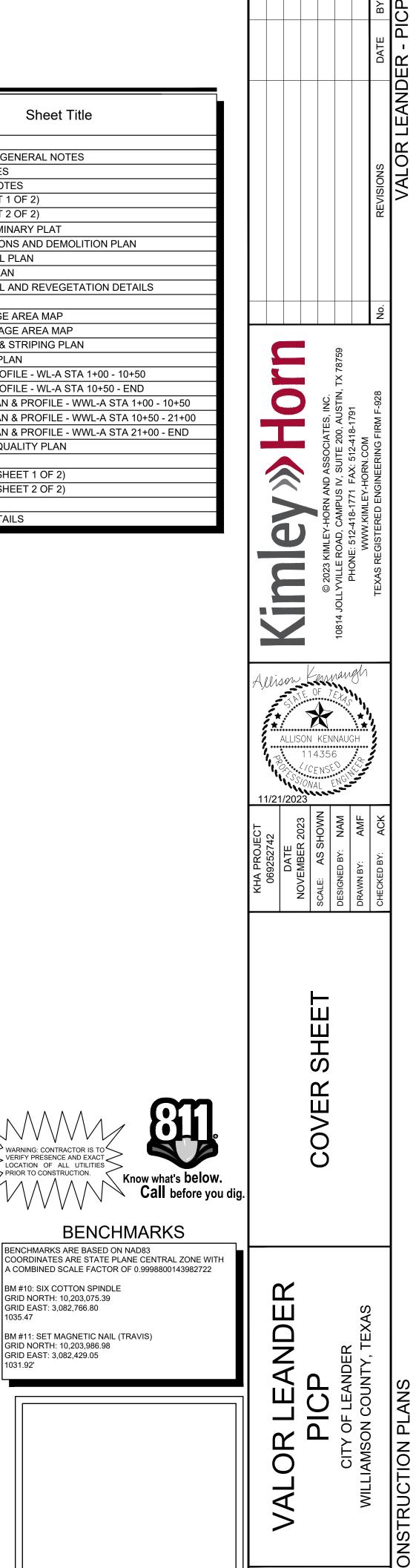
BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80

GRID NORTH: 10,203,986.98

GRID EAST: 3,082,429.05

1035.47

BENCHMARKS



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SHEET NUMBER

1 of 27

GENERAL NOTES FOR SUBDIVISIONS AND SITE DEVELOPMENT PLANS REVISED March 27, 2023 CITY CONTACTS: ENGINEERING MAIN LINE: 512-528-2721 PLANNING DEPARTMENT: 512-528-2750 PUBLIC WORKS MAIN LINE: 512-259-2640 STORMWATER INSPECTIONS: 512-285-0055 UTILITIES MAIN LINE: 512-259-1142 UTILITIES ON-CALL: 512-690-4760 GENERAL: 1. CONTRACTORS SHALL HAVE AN APPROVED SET OF PLANS WITH APPROVED REVISIONS ON SITE AT ALL TIMES. FAILURE TO HAVE APPROVED PLANS ON SITE MAY RESULT IN ISSUANCE OF WORK STOPPAGE 2. CONTACT 811 SYSTEM FOR EXISTING WATER AND WASTEWATER LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION a. **REFRESH ALL LOCATES BEFORE 14 DAYS** – LOCATE REFRESH REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET. TEXAS PIPELINE DAMAGE PREVENTION LAWS REQUIRE THAT A LOCATE REFRESH REQUEST BE SUBMITTED BEFORE 14 DAYS, OR IF LOCATION MARKERS ARE NO LONGER VISIBLE **b. REPORT PIPELINE DAMAGE IMMEDIATELY** – IF YOU WITNESS OR EXPERIENCE PIPELINE EXCAVATION DAMAGE, PLEASE CONTACT THE CITY OF LEANDER BY PHONE AT 512-259-2640. 3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR 48 HOURS BEFORE: a. BEGINNING EACH PHASE OF CONSTRUCTION. CONTACT ASSIGNED CITY INSPECTOR. b. ANY TESTING. CONTRACTOR SHALL PROVIDE QUALITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION c. PROOF ROLLING SUB-GRADE AND EVERY LIFT OF ROADWAY EMBANKMENT, IN-PLACE DENSITY TESTING OF EVERY BASE COURSE, AND ASPHALT CORES. ALL OF THIS TESTING MUST BE WITNESSED BY A CITY OF LEANDER REPRESENTATIVE. d. CONNECTING TO THE EXISTING WATER LINES. e. THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET ROW. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS. 4. ALL RESPONSIBILITILY FOR THE ACCURACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD. 5. EXCESS SOIL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. NOTIFY THE CITY OF LEANDER IF THE DISPOSAL SITE IS INSIDE THE CITY'S JURISDICTIONAL BOUNDARIES. 6. BURNING IS PROHIBITED. 7. NO WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. OR WEEKENDS. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT INSPECTION. 8. CONTACT THE CITY INSPECTOR 4 DAYS PRIOR TO WORK FOR APPROVAL TO SCHEDULE ANY INSPECTIONS ON WEEKENDS OR CITY HOLIDAYS. 9. NO BLASTING IS ALLOWED. 10. ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION OF THE REVISION. ALL CHANGES AND REVISIONS SHALL USE REVISION CLOUDS TO HIGHLIGHT ALL REVISIONS AND CHANGES WITH EACH SUBMITTAL. REVISION TRIANGLE MARKERS AND NUMBERS SHALL BE USED TO MARK REVISIONS. ALL CLOUDS AND TRIANGLE MARKERS FROM PREVIOUS REVISIONS MUST BE REMOVED. REVISION INFORMATION SHALL BE UPDATED ON COVER SHEET AND AFFECTED PLAN SHEET TITLE BLOCK. 11. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LEANDER ACCURATE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE. 12. THE CONTRACTOR WILL REIMBURSE THE CITY FOR ALL REPAIR AND/OR COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY PUBLIC INFRASTRUCTURE WITHIN CITY EASEMENT OR PUBLIC RIGHT-OF-WAY, REGARDLESS OF THESE PLANS. 13. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER OF RECORD AND CITY. 14. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO THE PROPERTY OWNER. 15. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 1033 LA POSADA DR. SUITE 375, AUSTIN, TEXAS 78752-3832. 16. ALL MANHOLE FRAMES/COVERS AND WATER VALVE/METER BOXES MUST BE ADJUSTED TO FINISHED GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR FOR CITY CONSTRUCTION INSPECTOR INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING. CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND VALVE BOXES WITH CLASS A CONCRETE. 17. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS. 18. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS. 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT. 20. THE CONTRACTOR MUST OBTAIN A CONSTRUCTION WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER. 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER. ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. THE CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE. THE CONTRACTOR SHALL KEEP THE SITE AREA CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF THE CITY. THE SUBDIVISION (OR SITE) WILL NOT BE ACCEPTED (OR CERTIFICATE OF OCCUPANCY ISSUED) UNTIL THE SITE HAS BEEN CLEANED TO THE SATISIFACTION OF THE CITY. 22. TREES IN EXISTING ROW SHOULD BE PROTECTED OR NOTED IN THE PLANS TO BE REMOVED.

CONSTRUCTION SEQUENCE NOTES NOTE: BELOW IS GENERAL SEQUENCE OF CONSTRUCTION. THE ENGINEER OF RECORD SHALL UPDATE

BELOW WITH NOTES SPECIFIC TO THE PROJECT.

- REACH OUT TO THE CITY FOR PRE-CONSTRUCTION MEETING AND CONSTRUCTION PERMIT.
 SET-UP E/S CONTROLS AND TREE PROTECTION AND REACH OUT TO CITY FOR INSPECTION.
- 3. SET UP TEMPORARY TRAFFIC CONTROLS.
- 4. CONSTRUCT THE DRAINAGE PONDS AND STORM WATER FEATURES.
- 5. START UTILITY, ROAD, GRADING, FRANCHISE UTILITY AND ALL NECESSARY INFRASTRUCTURE CONSTRUCTION. [NOTE: PLEASE UPDATE AS PER THE PROJECT]
- REQUEST FINAL WALKTHROUGH AND CONDUCT WALKTHROUGH WITH ENGINEER OF RECORD AND CITY DEPARTMENT.
- 7. ENGINEER OF RECORD IS RESPONSIBLE TO PREPARE AND SUBMIT CLOSEOUT DOCUMENTS FOR PROJECT CLOSEOUT.

EROSION CONTROL NOTES

- 1. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES AND SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT
- ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. 2. THE TEMPORARY SPOILS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP.
- 3. ANY ON-SITE SPOILS DISPOSAL SHALL BE REMOVED PRIOR TO ACCEPTANCE UNLESS SPECIFICALLY SHOWN ON THE PLANS. <u>THE DEPTH OF SPOIL SHALL NOT EXCEED 10 FEET IN ANY</u> AREA.
- ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL AND COMPOST BLEND. TOPSOIL ON SINGLE FAMILY LOTS MAY BE INSTALLED WITH HOME CONSTRUCTION. THE TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.
- 5. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GROW GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164--WC001
- SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERMUDA SHALL NOT BE USED.6. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION
- TRAFFIC IS EXITING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PROJECTS
 MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD.
 7. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRANCES WHERE A
- STOP CONDITION DOES NOT ALREADY EXIST.
 8. IN THE EVENT OF INCLEMENT WEATHER THAT MAY RESULT IN A FLOODING SITUATION, THE CONTRACTOR SHALL REMOVE INLET PROTECTION MEASURES UNTIL SUCH TIME AS THE WEATHER EVENT HAS PASSED.

WATER AND WASTEWATER NOTES

WATER AND WASTEWATER GENERAL NOTES

- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AND ORGANIZATION ACCREDITED BY ANSI.
- ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY STAMPED AS FOLLOWS:
 - WATER SERVICE "W" ON TOP OF CURB
 - WASTEWATER SERVICE "S" ON TOP OF CURB
 - VALVE "V" ON TOP OF CURB
- 3. OPEN UTILITIES SHALL NOT BE PERMITTED ACROSS THE EXISTING PAVED SURFACES. WATER AND WASTEWATER LINES ACROSS THE EXISTING PAVED SURFACES SHALL BE BORED AND INSTALLED IN STEEL ENCASEMENT PIPES. BELL RESTRAINTS SHALL BE PROVIDED AT JOINTS.
- 4. INTERIOR SURFACES OF ALL DUCTILE IRON POTABLE OR RECLAIMED WATER PIPE SHALL BE CEMENT-MORTAR LINED AND SEAL COATED AS REQUIRED BY AWWA C104.
- 5. SAND, AS DESCRIBED IN AUSTIN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE	PERCENT RETAINED BY WEIGHT
1/2"	0
3/8"	0-2
#4	40-85
#10	05 100

#10 95-1006. DENSITY TESTING FOR TRENCH BACKFILL SHALL BE DONE IN MAXIMUM 12" LIFTS.

WATER

- SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTORS' REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF LEANDER NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY.
- 2. CITY PERSONNEL WILL OPERATE OR AUTHORIZE THE CONTRACTOR TO OPERATE ALL WATER VALVES THAT WILL PASS THROUGH THE CITY'S POTABLE WATER. THE CONTRACTOR MAY BE FINED \$500 OR MORE, INCLUDING ADDITIONAL THEFT OF WATER FINES, IF A WATER VALVE IS OPERATED IN AN UNAUTHORIZED MANNER, REGARDLESS OF WHO OPERATED THE VALVE.
- 3. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 AM AND 6 AM AFTER COORDINATING WITH CITY CONSTRUCTION INSPECTORS AND INFORMING AFFECTED PROPERTIES.
- PRESSURE TAPS OR HOT TAPS SHALL BE IN ACCORDANCE WITH CITY OF LEANDER STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A CITY OF LEANDER INSPECTOR MUST BE PRESENT WHEN THE CONTRACTOR MAKES A TAP, AND/OR ASSOCIATED TESTS. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED. "SIZE ON SIZE" TAPS SHALL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. CONCRETE THRUST BLOCKS SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED INTO SERVICE. THRUST BLOCKS SHALL BE INSPECTED PRIOR TO BACKFILL.
- 5. FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A BLACK POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP SHALL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED INTO SERVICE.
- 6. THRUST BLOCKS OR RESTRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF LEANDER STANDARD SPECIFICATIONS AND REQUIRED AT ALL FITTINGS PER DETAIL OR MANUFACTURER'S RECOMMENDATION. ALL FITTINGS SHALL HAVE BOTH THRUST BLOCKS AND RESTRAINTS.
- 7. ALL DEAD END WATER MAINS SHALL HAVE "FIRE HYDRANT ASSEMBLY" OR "BLOW-OFF VALVE AND THRUST BLOCK" OR "BLOW-OFF VALVE AND THRUST RESTRAINTS". THRUST RESTRAINTS SHALL BE INSTALLED ON THE MINIMUM LAST THREE PIPE LENGTHS (STANDARD 20' LAYING LENGTH). ADDITIONALL THRUST RESTRAINTS MAY BE REQUIRED BASED UPON THE MANUFACTURERS RECOMMENDATION AND/OR ENGINEER'S DESIGN.
- PIPE MATERIAL FOR PUBLIC WATER MAINS SHALL BE PVC (AWWA C900-DR14 MIN. 305 PSI PRESSURE RATING). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200PSI, AND SDR-(9)). COPPER PIPES AND FITTINGS ARE NOT ALLOWED IN THE PUBLIC RIGHT OF WAY. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW).
- ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C151 PRESSURE CLASS 350).
- ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE.
 LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE COORDINATED
- WITH THE PUBLIC WORKS DEPARTMENT. 12. ALL WATER METER BOXES SHALL BE:
- a. SINGLE, 1" METER AND BELOW DFW37F-12-1CA, OR EQUAL
- b. DUAL, 1" METERS AND BELOW DFW39F-12-1CA, OR EQUAL
- c. 1.5" SINGLE METER DFW65C-14-1CA, OR EQUAL
- d. 2" SINGLE METER DFW1730F-12-1CA, OR EQUAL
- 13. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

WASTEWATER

- CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.
 MANDREL TESTING SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
- 3. MANHOLES SHALL BE COATED PER CITY OF AUSTIN SPL WW-511 (RAVEN 405 OR SPRAYWALL). PENETRATIONS TO EXISTING WASTEWATER MANHOLES REQUIRE THE CONTRACTOR TO RECOAT THE ENTIRE MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS SECTION NO. 506.5.
- 4. RECLAIMED AND RECYCLED WATER LINE SHALL BE CONSTRUCTED OF "PURPLE PIPE." ALL
- RECLAIMED AND RECYCLED WATER VALVE COVERS SHALL BE SQUARE AND PAINTED PURPLE.5. FORCE MAIN PIPES NEED TO HAVE SWEEPING WYES FOR JOINTS.

STREET AND DRAINAGE NOTES

- 1. THE CITY OF LEANDER HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISTATION RELATED TO ACCESSIBLITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND TEXAS ACCESSIBILITY STANDARS (TAS).
- 2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 6" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 6" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
- 3. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED BETWEEN THE CURB AND RIGHT-OF-WAY AND IN ALL DRAINAGE CHANNELS EXCEPT CHANNELS CUT IN STABLE ROCK.
- 4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT, INCLUDING GAS, ELECTRIC TELEPHONE, CABLE TV, ETC., SHALL BE A MINIMUM OF 36" BELOW SUBGRADE.
- 5. STREET RIGHT-OF-WAY SHALL BE GRADED AT A SLOPE OF ¼" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED.
- 6. ALL DRAINAGE PIPE IN PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE REINFORCED CONCRETE PIPE MINIMUM CLASS III OF TONGUE AND GROOVE OR O-RING JOINT DESIGN. CORRUGATED METAL PIPE IS NOT ALLOWED IN PUBLIC RIGHT OR WAY OR EASEMENTS.
- THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER TXDOT SPEC FOR PROOF ROLLING.
 ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE TYPE II (WATER BASED). STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I THERMOPLASTIC.
- 9. MANHOLE FRAMES, COVERS, VALVES, CLEAN-OUTS, ETC. SHALL BE RAISED TO GRADE PRIOR TO FINAL PAVEMENT CONSTRUCTION.
- 10. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS.
- 11. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISIONS OF THE APPROVED CONSTRUCTION PLANS.
- 12. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE
- PROVIDED BY PROFESSIONAL SERVICE INDUSTRIES, INC., PSI PROJECT NO. 03031748, DATED APRIL 10, 2023.
 13. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CITY OF AUSTIN TRANSPORATION CRITERIA MANUAL, CITY OF LEANDER STANDARD DETAILS AND TEXAS DEPARTMENT OF TRANSPORTATION CRITERIA, SHALL BE SUBMITTED TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS MUST BE SITE SPECIFIC AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- 14. ALL LANE CLOSURES SHALL OCCUR ONLY BETWEEN THE HOURS OF 9 AM AND 4 PM UNLESS OTHERWISE NOTED ON THE PLANS. ANY NIGHT TIME LANE CLOSURES REQUIRE APPROVAL OF THE CITY ENGINEER AND SHALL OCCUR BETWEEN THE HOURS OF 8 PM AND 6 AM. LANE CLOSURES OBSERVED BY THE CITY DURING PEAK HOURS OF 6 AM TO 9 AM OR 4 PM TO 8 PM WILL BE SUBJECT TO A FINE AND/OR SUBSEQUENT ISSUANCE OF WORK STOPPAGE.
- 15. TEMPORARY ROCK CRUSHING IS NOT ALLOWED. ALL SOURCES OF FLEXIBLE BASE MATERIAL ARE REQUIRED TO BE APPROVED BY THE CITY. PRIOR TO BASE PLACEMENT ALL CURRENT TRIAXIAL TEST REPORTS FOR PROPOSED STOCK PILES ARE TO BE SUBMITTED TO THE CITY CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL.
- 16. AT ROAD INTERSECTIONS THAT HAVE A VALLEY GUTTER, THE CROWN TO THE INTERSECTING ROAD WILL BE CULMINATED AT A DISTANCE OF 40 FEET FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
- 17. NO PONDING OF WATER SHALL BE ALLOWED TO COLLECT ON OR NEAR THE INTERSECTION OF PRIVATE DRIVEWAYS AND PUBLIC STREETS. RECONSTRUCTION OF THE DRIVEWAY APPROACH SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 18. ALL DRIVEWAY APPROACHES SHALL HAVE A UNIFORM TWO PERCENT SLOPE WITHIN THE PUBLIC RIGHT OF WAY UNLESS APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT
- 19. IMPROVEMENTS THAT INCLUDE RECONSTRUCTION OF AN EXISTING TYPE II DRIVEWAY SHALL BE DONE IN A MANNER WHICH RETAINS OPERATIONS OF NOT LESS THAN HALF OF THE DRVIEWAY TO REMAIN OPEN AT ALL TIMES. FULL CLOSURE OF SUCH DRIVEWAY CAN BE CONSIDERED WITH WRITTEN AUTHORIZATION OBTAINED BY THE CONTRACTOR FROM ALL PROPERTY OWNERS AND ACCESS EASEMENT RIGHT HOLDERS ALLOWING THE FULL CLOSURE OF THE DRIVEWAY.
- 20. CONTRACTOR MUST CLEAR FIVE (5) FEET BEYOND ALL PUBLIC RIGHT OF WAY TO PREVENT FUTURE VEGETATIVE GROWTH INTO THE SIDEWALK AREAS.
- 21. SLOPE OF NATURAL GROUND ADJACENT TO THE PUBLIC RIGHT OF WAY SHALL NOT EXCEED 3:1 SLOPE. IF A 3:1 SLOPE IS NOT POSSIBLE, SLOPE PROTECTION OR RETAINING WALL MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE.
- 22. THERE SHALL BE NO WATER, WASTEWATER OR DRAINAGE APPURTENANCES, INCLUDING BUT NOT LIMITED TO VALVES, FITTINGS, METERS, CLEAN-OUTS, MANHOLES, OR VAULTS IN ANY DRIVEWAY, SIDEWALK, TRAFFIC OR PEDESTRIAN AREA.
- 23. PUBLIC SIDEWALKS SHALL NOT USE CURB INLETS AS PARTIAL WALKING SURFACE. SIDEWALKS SHALL NOT USE TRAFFIC CONTROL BOXES, METERS, CHECK VALVE VAULTS, COMMUNICATION VAULTS, OR OTHER BURIED OR PARTIALLY BURIED INFRASTRUCTURE AS A VEHICULAR OR PEDESTRIAN SURFACE.
- 24. ALL WET UTILITIES SHALL BE INSTALLED AND ALL DENSITIES MUST HAVE PASSED INSPECTION(S) PRIOR TO THE INSTALLATION OF DRY UTILITIES.
- 25. DRY UTILITIES SHALL BE INSTALLED AFTER SUBGRADE IS CUT AND BEFORE THE FIRST COURSE OF BASE. NO TRENCHING COMPACTED BASE. IF NECESSARY DRY UTILITIES INSTALLED AFTER FIRST COURSE BASE SHALL BE BORED ACROSS THE FULL WIDTH OF THE PUBLIC RIGHT-OF-WAY.
- A MINIMUM OF SEVEN (7) DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF VEHICULAR TRAFFIC TO ALL STREETS.

TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 509S "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.

GRADING NOTES

- POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
- THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
- 3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER AREAS WILL NOT BE DISTURBED.

BENCHMARK NOTES: TBM #1: SQUARE CUT ON TOP OF CONCRETE HEAD WALL ON THE SOUTH SIDE OF SAN GABRIEL R.O.W., +- 280' EAST OF THE INTERSECTION OF SAN GABRIEL PARKWAY ROAD AND CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY RAILROAD, AND +-' WEST OF THE NORTHWESTERN MOST SUBJECT PROPERTY CORNER ELEVATION=970.96'. TBM #2: SQUARE CUT ON TOP OF CONCRETE CURB OF A CURC ISLAND IN THE SAN GABRIEL PARKWAY R.O.W., +-50' NORTH FROM A STORM SEWER MANHOLE ON A CURB INLET ON THE SOUTH SIDE OF SAN GABRIEL PARKWAY ROAD, AND +-1' FROM A TRAFFIC SIGNAL POLE ON A EASTING: 3076865.714, ELEVATION = 981.84'. (NOT SHOWN)	DATE BY
	REVISIONS
	Standay Horn © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 0.0011 VILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM F-928
THE CITY OF LEANDER STANDARD CONSTRUCTION NOTES SHALL APPLY AND TAKE PRECEDENCE. FOR INSTANCES WHERE THEY CONFLICT WITH KIMLEY-HORN GENERAL NOTES OR APPLICABLE TCEQ REQUIREMENTS, THEN THE MORE RESTRICTIVE SHALL APPLY.	KHA PROJECT KHA PROJECT 069252742 DATE DATE DATE NOVEMBER 2023 SCALE: AS SHOWN 11/51/5053 DESIGNED BY: NAM DESIGNED BY: NAM DESIGNED BY: NAM DESIGNED BY: ACK
WARNING: CONTRACTOR IS TO VORTHY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. BENCHMARKS	CITY OF LEANDER GENERAL NOTES
BENCHMARKS ARE BASED ON NADB3 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722 BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST; 3082,766.80 1035.47 BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92	VALOR LEANDER PICP CITY OF LEANDER WILLIAMSON COUNTY, TEXAS
	SHEET NUMBER



25. CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER 12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING. UNLESS NOTED OTHERWISE OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION. 26. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER. 27. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL 28.EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.

11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN 12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER

13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY. 14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT

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

RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE

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 BM 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 NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE. 1. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE. 22.CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE

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, 24.AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN

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 3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION.

ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) I. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF

CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP. 6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION. 7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEO BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

. 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 ACCURATELY. OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND . THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT, REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR. 4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND

b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER

5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO

6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL. STATE. AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY, 7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED. 8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT.

. 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

3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB 4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.

5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF . ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN. . CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL

CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE 8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALI PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER. 9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING

10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE 11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND 12.BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND

13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH 14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL

15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES. 16.NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED. 17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF. 18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS. 19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL

ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO 20.CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS

TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING 21.ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING 22.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK

CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS. 23. THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION

GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.

29.CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK 30. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE

APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT. 31.CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED. 32.NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED

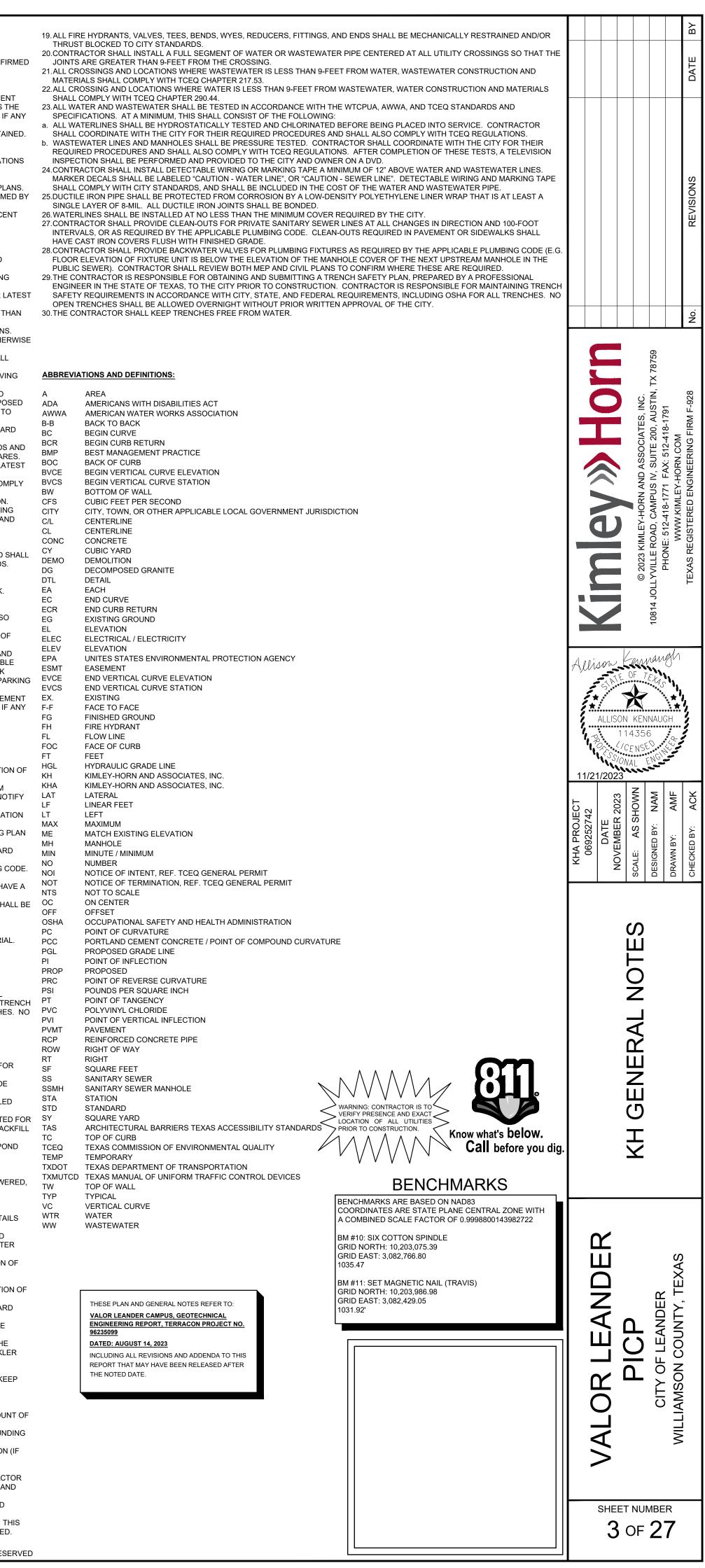
- IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S). 33.NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM 34.AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE, ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE
- INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED. 35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED. RETAINING WALLS:
- . RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL. 2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER. 3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS.
- STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET. 4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
- 5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.
- 1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS. THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA. AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS. THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
- ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL 2. ALL PRIVATE ON-SITE PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA. 3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
 - 4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS. 5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
 - 6 IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS 7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING. IF NONE IS CURRENTLY EXISTING.
 - 8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS. 9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP. NOT INCLUDING FLARES.
 - 10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST FDITION 11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
 - 12. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION. 13 CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
 - 14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT 15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT. 16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS. 17. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
 - 18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
 - 19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK. 20. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT 21.FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS 22.UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO
 - THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED. 23.CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT, ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED. 24 BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES, IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL, IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING EVCE
 - SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION. 25. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY F-F EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

- . ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS
- 2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER. 3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
- 4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER. 5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
- 6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS
- 7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A
- CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT. 9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL.
- 10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED. 11.IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT 12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
- 13 EMBEDMENT FOR ALL STORM SEWER LINES. PUBLIC OR PRIVATE. SHALL BE PER CITY STANDARD DETAILS. 14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
- 15. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET 16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN. PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO PVC OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
- ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT 2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR
- POND LINER SPECIFICATIONS 3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT
- 4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION.
- 5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR SY AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL TAS IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL. 6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND
- SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT 7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE
- AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES. WATER AND WASTEWATER
- AND SPECIFICATIONS 2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND CONSTRUCTION. AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED
- ALL UTILITY SERVICES ENTERING THE BUILDING. 4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE. 5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
- 6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO WTCPUA STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. . ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
- 8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES. 9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER WTCPUA STANDARD DETAILS.
- 10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY WTCPUA, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS 11.CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
- 13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT. 14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES
- 15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE WTCPUA AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. 16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR
- SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. 17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT
- 18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT. BUT NOT REMOVED. SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

- 17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
- - CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED,

. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH WTCPUA STANDARD CONSTRUCTION DETAILS

WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER 3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES: 1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE: -THE NAME OF THE APPROVED PROJECT; -THE ACTIVITY START DATE; AND -THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.	12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.	IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET <u>N/A</u> OF <u>N/A</u> . (FOR POTENTIAL FUTURE LATERALS).
3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IN MALES TO WATER OWNER.	THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET <u>N/A</u> OF <u>N/A</u> AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET <u>N/A</u> OF <u>N/A</u> .
 IMPACTS TO WATER QUALITY. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE. 	13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.
 PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT 	14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).
 ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MOST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY. 	 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
 8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE. 9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR 	 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:
 DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE. 10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE. 	 (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.
 THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND 	 (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 I COMPUTED FROM THE FOLLOWING EQUATION:
-THE DATES WHEN STABILIZATION MEASURES ARE INITIATED. 12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN	<u>EQUATION C.3</u> T = (0.085 * D * K) / Q
 A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, 	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
 B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH 	D = AVERAGE INSIDE PIPE DIAMETER IN INCHES L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.	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
TCEQ REGION 11 OFFICE	PIPE DIAMETER (IN) MINIMUM TIME (SEC) MAXIMUM LENGTH FOR MINIMUM TIME FOR LONGER LENGTH (SEC)FT) 0 340 398 0.8550 8 454 298 1.5500
12100 PARK 35 CIRCLE, BUILDING A, RM 179 AUSTIN, TEXAS 78753-3795	10 507 230 12 600 190 15 802 190 10 190
PHONE: (512) 339-2929 FAX: (512) 339-3795	18 1020 133 7880 21 1190 114 10471 24 1080 100 11870 27 1530 88 17306
TCEQ - SEWAGE COLLECTION SYSTEM PLAN NOTES	(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
 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. 	 (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.	 (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.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:	 (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.
-THE NAME OF THE APPROVED PROJECT; -THE ACTIVITY START DATE; AND -THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.	 (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
4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.	 (b) FOR OTHOR THE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH. (c) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION. (b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.	 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
6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE	 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
DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE	AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETEF FOR ID CONTROLLED PIPE. (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD. (B) MANDREL DESIGN.
IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.	 (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.
7. SEWER LINES LOCATED WITHIN OR CROSSING THE STEAR FLOODFLAIN OF A DRAINAGE WAT WILL BE FROTECTED FROM INOUDATION 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.	 (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.
8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.	 (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 DETEMBLE VERTION.
9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A	 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.
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.	 (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.
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 <u>109</u> OF <u>112</u> .	 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
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.	 COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR. (1) HYDROSTATIC TESTING. (4) THE MAXIMUM ENVIRONMENT OF FOR UNPROVED TO TESTING OF ANY ALTERNATIVE TEST METHODO IS A 201 ON OFF FOR UNPROVED FOR THE PERMIT.
10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).	 (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.
11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: <u>NONE</u>	 (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.
IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: <u>NO FLEXURE</u> <u>PROPOSED</u>	 (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 F.
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.	 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.

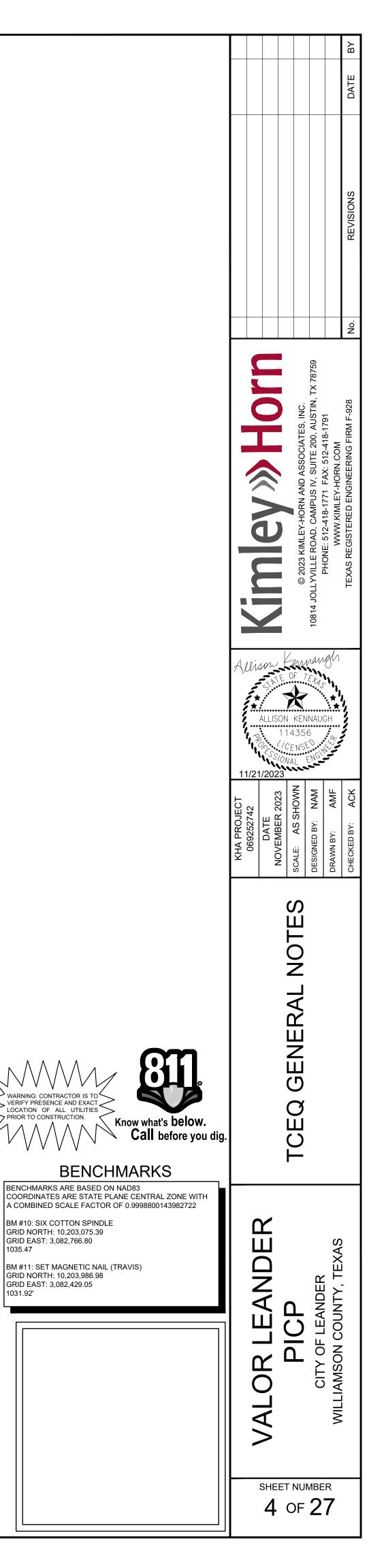
IPE DIAMETER (IN)	MINIMUM TIME (SEC)	MAXIMUM LENGTH FOR MINIMUM TIME (FT)	TIME FOR LONGER LENGTH (SEC/FT)
6	340	398	0.8550
8	454	298	1.5200
10	567	239	2.3740
12	680	199	3.4190
15	850	159	5.3420
18	1020	133	7.6930
21	1190	114	10.4710
24	1360	100	13.6760
27	1530	88	17.3090
30	1700	80	21.3690
33	1870	72	25.8560

(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.

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

BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

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



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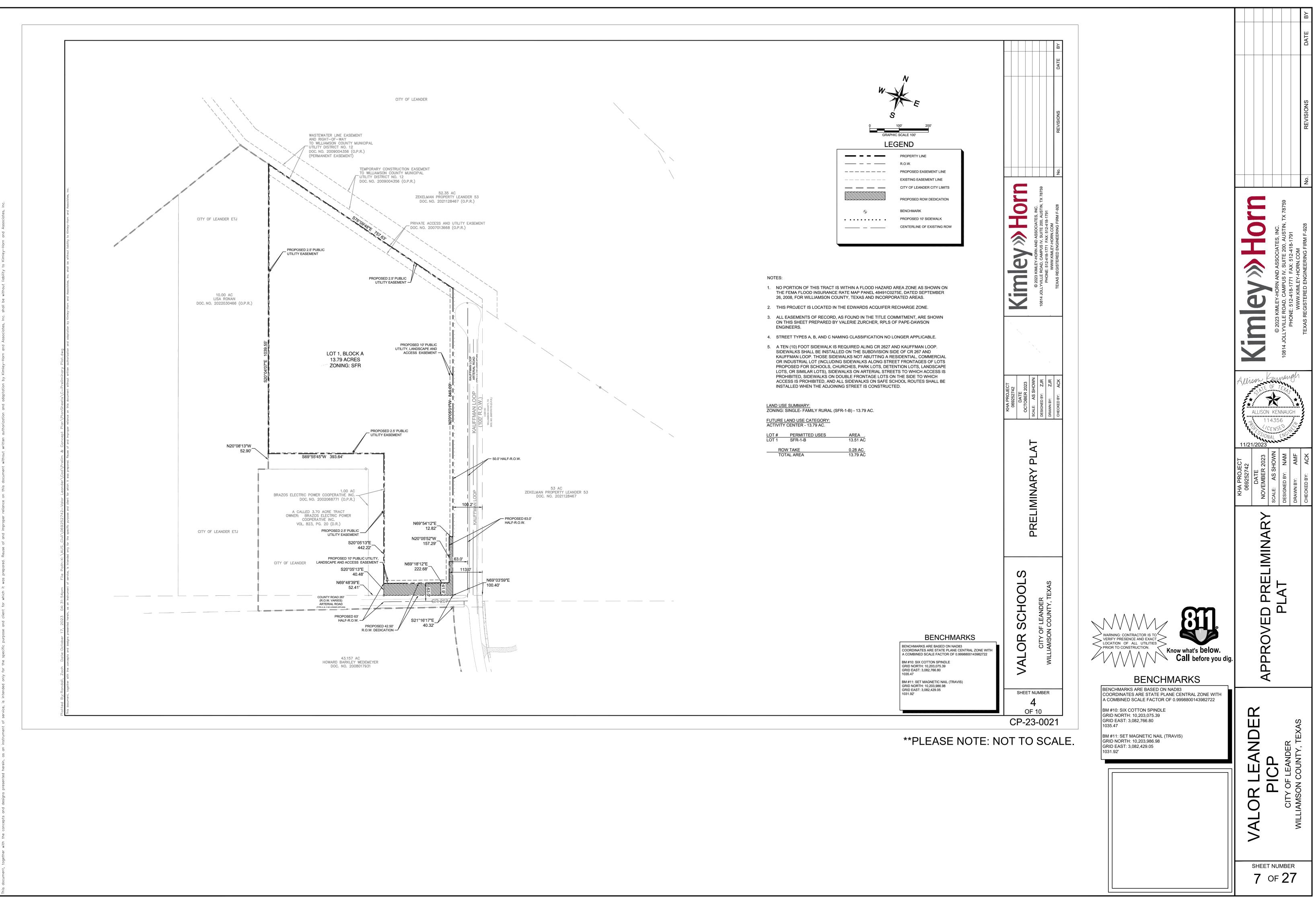
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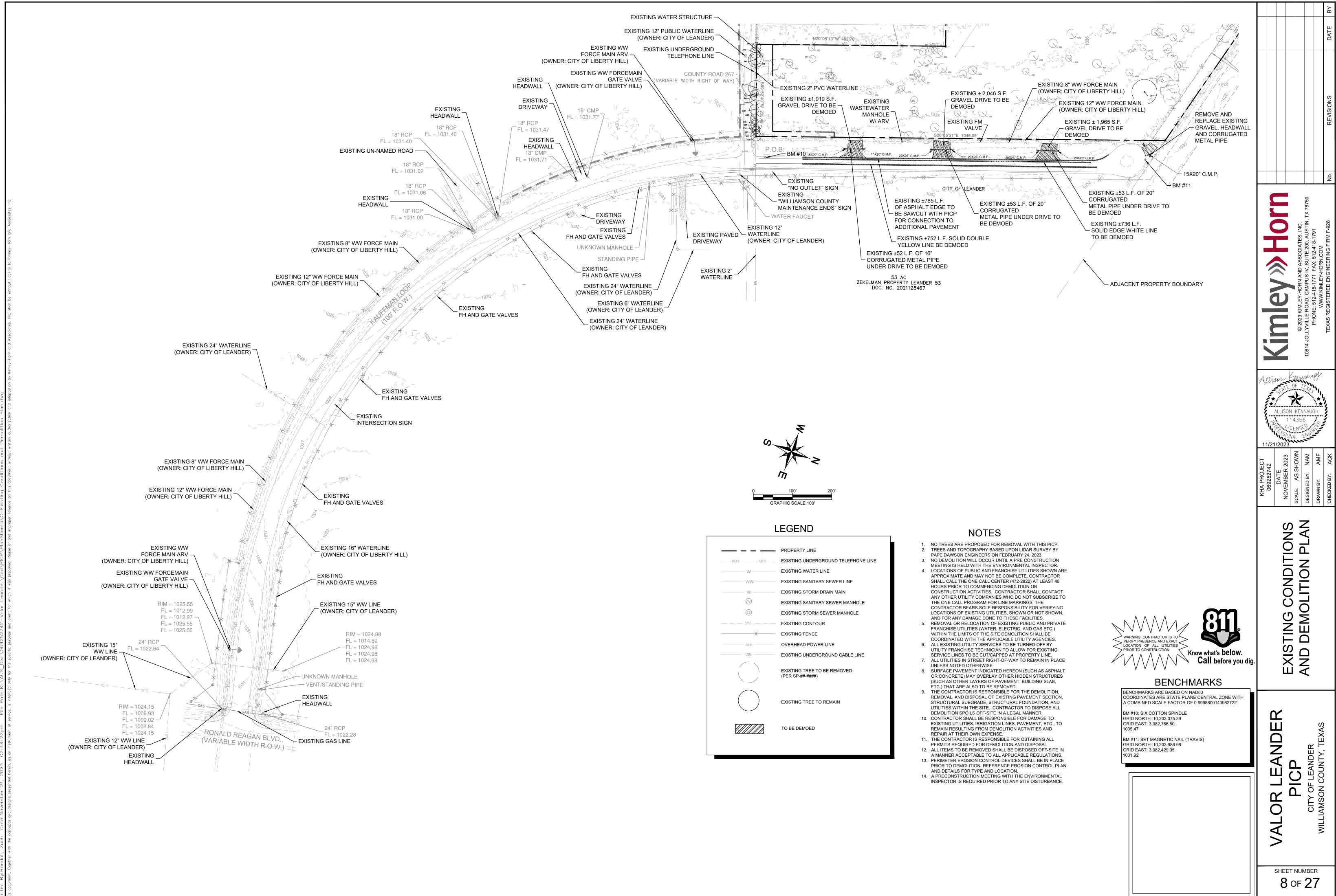
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	Construction Construction Construction Image: Struct or Struction Social Kimley-Horn and Associates, INC. Image: Struct or Struction Social Kimley-Horn and Associates, INC. Image: Struct or Struct or Struction Social Kimley-Horn. Com Image: Struct or Str
	KHA PROJECT 069252742 DATE DATE NOVEMBER 2023 SCALE: AS SHOWN DESIGNED BY: NAM DESIGNED BY: NAM DRAWN BY: AMF CHECKED BY: ACK
WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. WILL DEFORE YOU DE TO CONSTRUCTION. WILL DEFORE YOU DE TO CALL DEFORE YOU DE TO CALL DEFORE YOU DE TO	FINAL PLAT (SHEET 1 OF 2)
BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722 BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80 1035.47 BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92'	VALOR LEANDER PICP CITY OF LEANDER WILLIAMSON COUNTY, TEXAS
	SHEET NUMBER 5 OF 27

d By: Randall, Zach Date: November 21, 2023 02: 43: 55pm File Path: K: \AUS_Civil\069252742-Valor Leander\Cad\PICP\PIanSheets\C-Final PIat.dwg

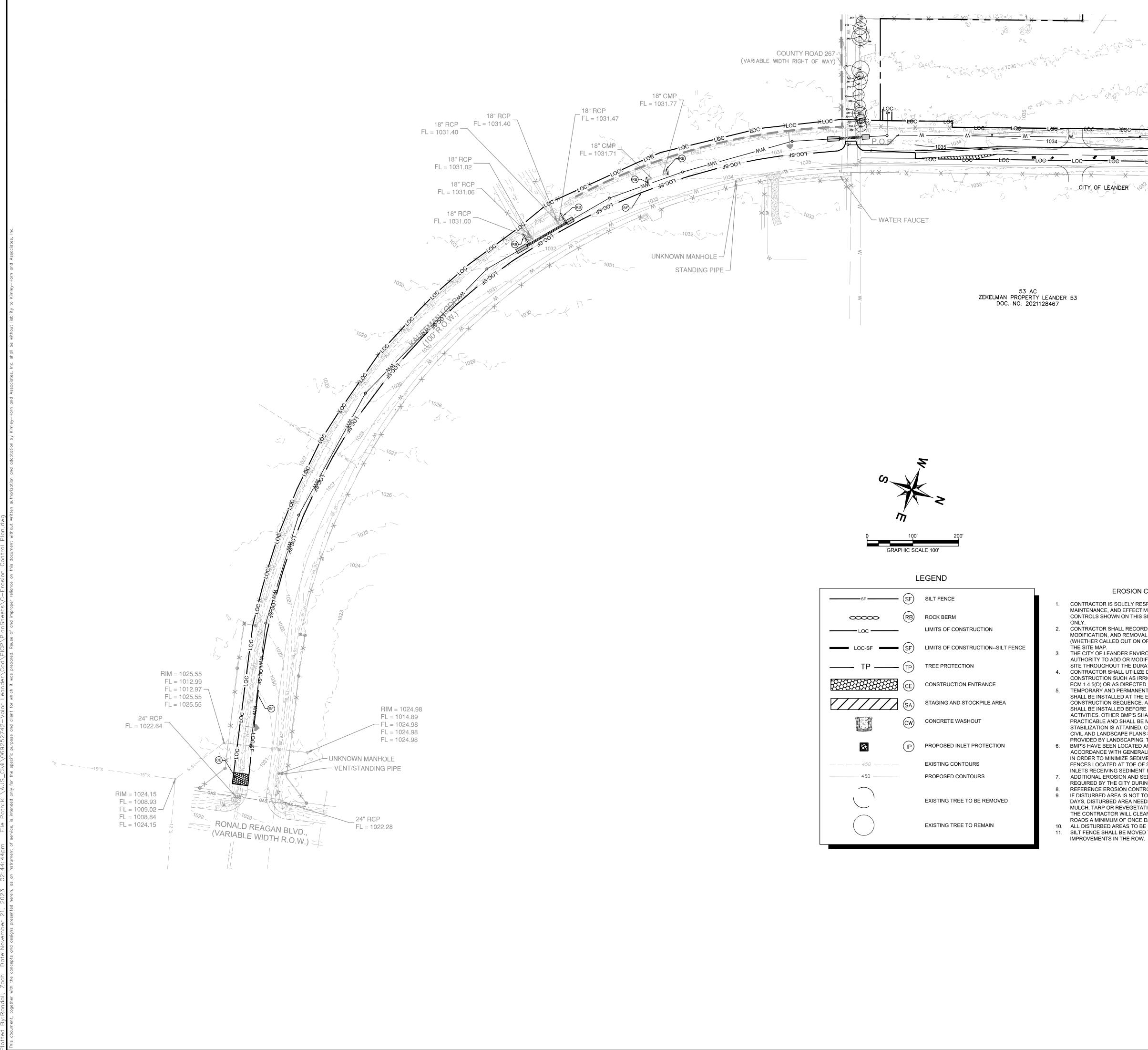
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	DATE BY
	REVISIONS
	Rimmer Hoin © 2023 KIMLEV-HORN AND ASSOCIATES, INC. © 2023 KIMLEV-HORN AND ASSOCIATES, INC. 10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 TEXAS REGISTERED ENGINEERING FIRM F-928 No.
	HA PROJECT 069252742 069252742 DATE NOVEMBER 2023 SCALE: AS SHOWN DESIGNED BY: NAM DRAWN BY: AMF CHECKED BY: ACK
WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT DOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.	ц т S)
	SHEET NUMBER 6 OF 27





	PROPERTY LINE
UFO UFO	EXISTING UNDERGROUND TELEPHONE LINE
W	EXISTING WATER LINE
WW	EXISTING SANITARY SEWER LINE
SD	EXISTING STORM DRAIN MAIN
	EXISTING SANITARY SEWER MANHOLE
SS	EXISTING STORM SEWER MANHOLE
555	EXISTING CONTOUR
——————————————————————————————————————	EXISTING FENCE
OHE	OVERHEAD POWER LINE
CBL	EXISTING UNDERGROUND CABLE LINE
	EXISTING TREE TO BE REMOVED (PER SP-##-####)
	EXISTING TREE TO REMAIN
	TO BE DEMOED



SF	SF	SILT FENCE	1.
~~~~~	RB	ROCK BERM	
LOC	_	LIMITS OF CONSTRUCTION	2.
LOC-SF	SF	LIMITS OF CONSTRUCTIONSILT FENCE	3.
TP	TP	TREE PROTECTION	4.
	CE	CONSTRUCTION ENTRANCE	5.
	SA	STAGING AND STOCKPILE AREA	
	CW	CONCRETE WASHOUT	
	IP	PROPOSED INLET PROTECTION	6.
— — — 450 — — —		EXISTING CONTOURS	
450		PROPOSED CONTOURS	7.
		EXISTING TREE TO BE REMOVED	8. 9.
		EXISTING TREE TO REMAIN	10. 11.



CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS -CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS

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 CITY OF LEANDER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENT CONTROLS ON SITE THROUGHOUT THE DURATION OF THE PROJECT. 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. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING. 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. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.

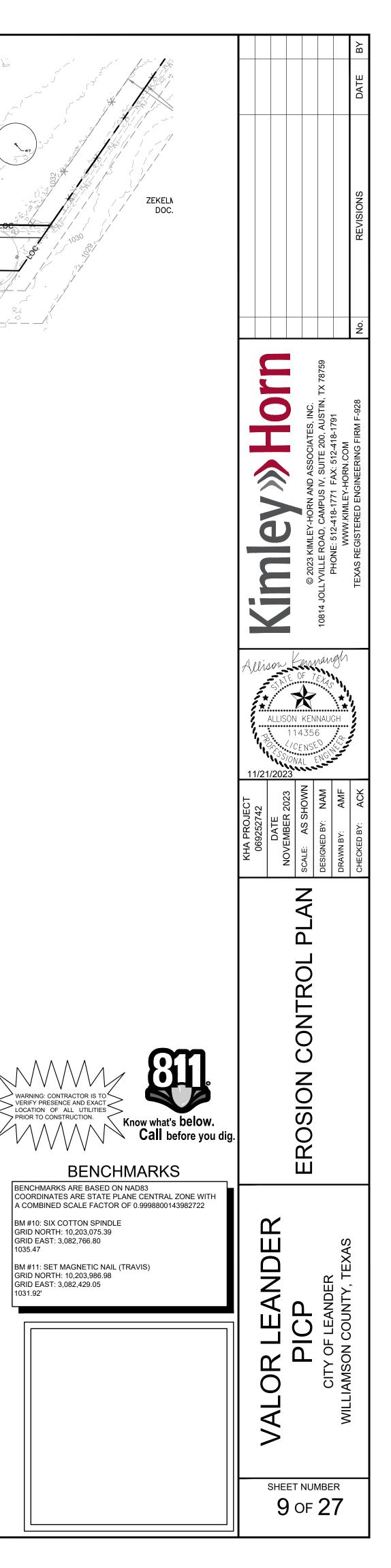
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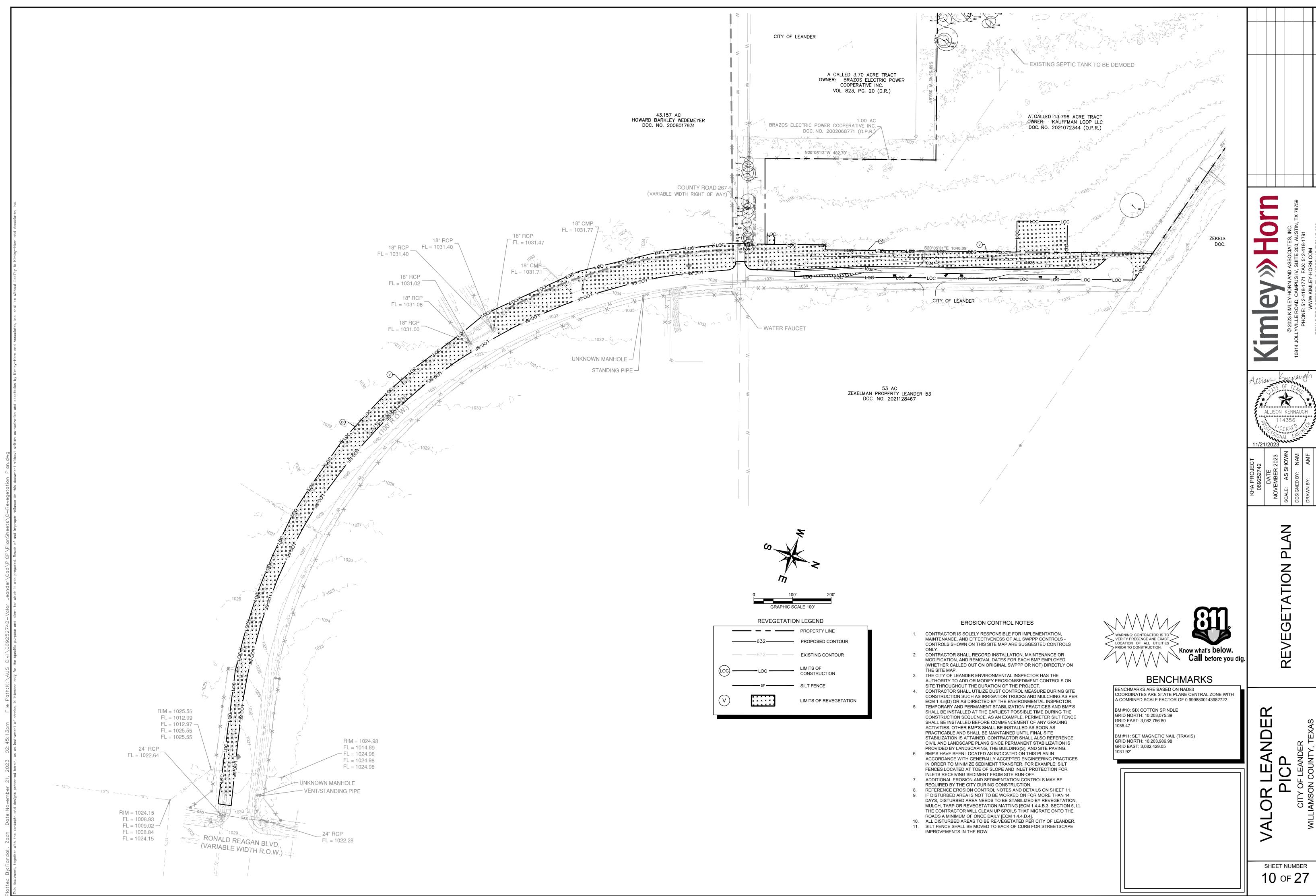
GRID EAST: 3,082,429.05

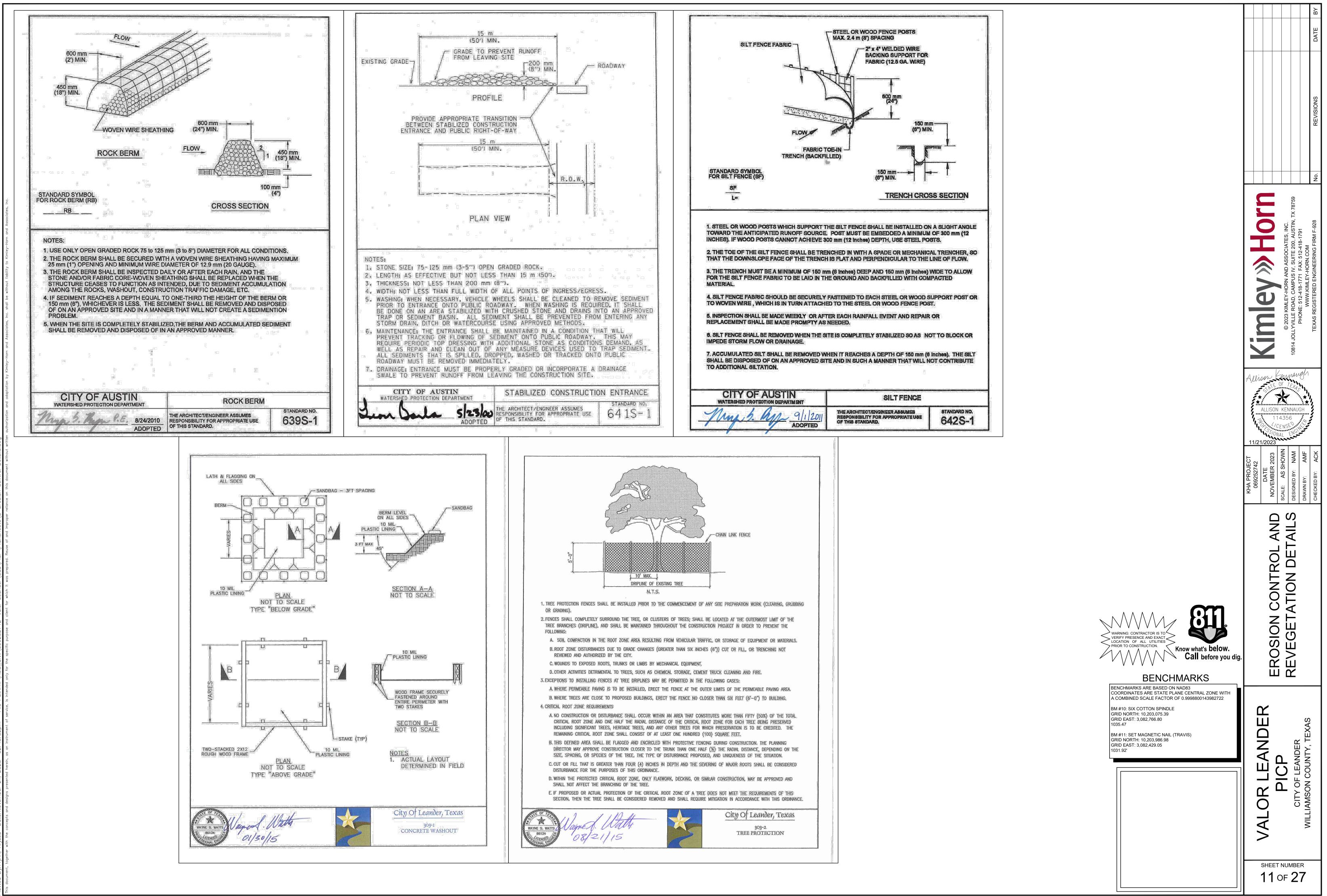
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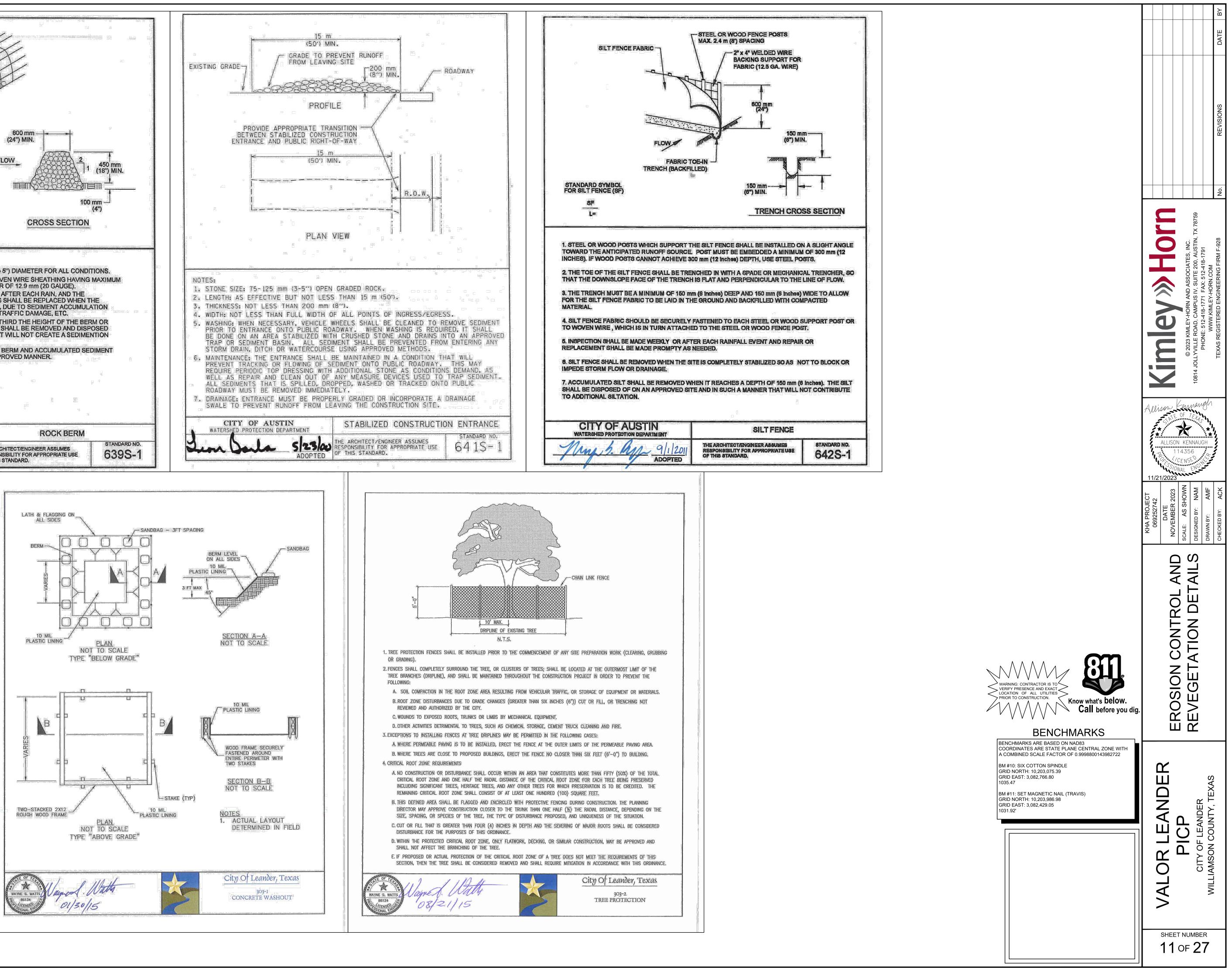
1031.92'

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 LEANDER. SILT FENCE SHALL BE MOVED TO BACK OF CURB FOR STREETSCAPE

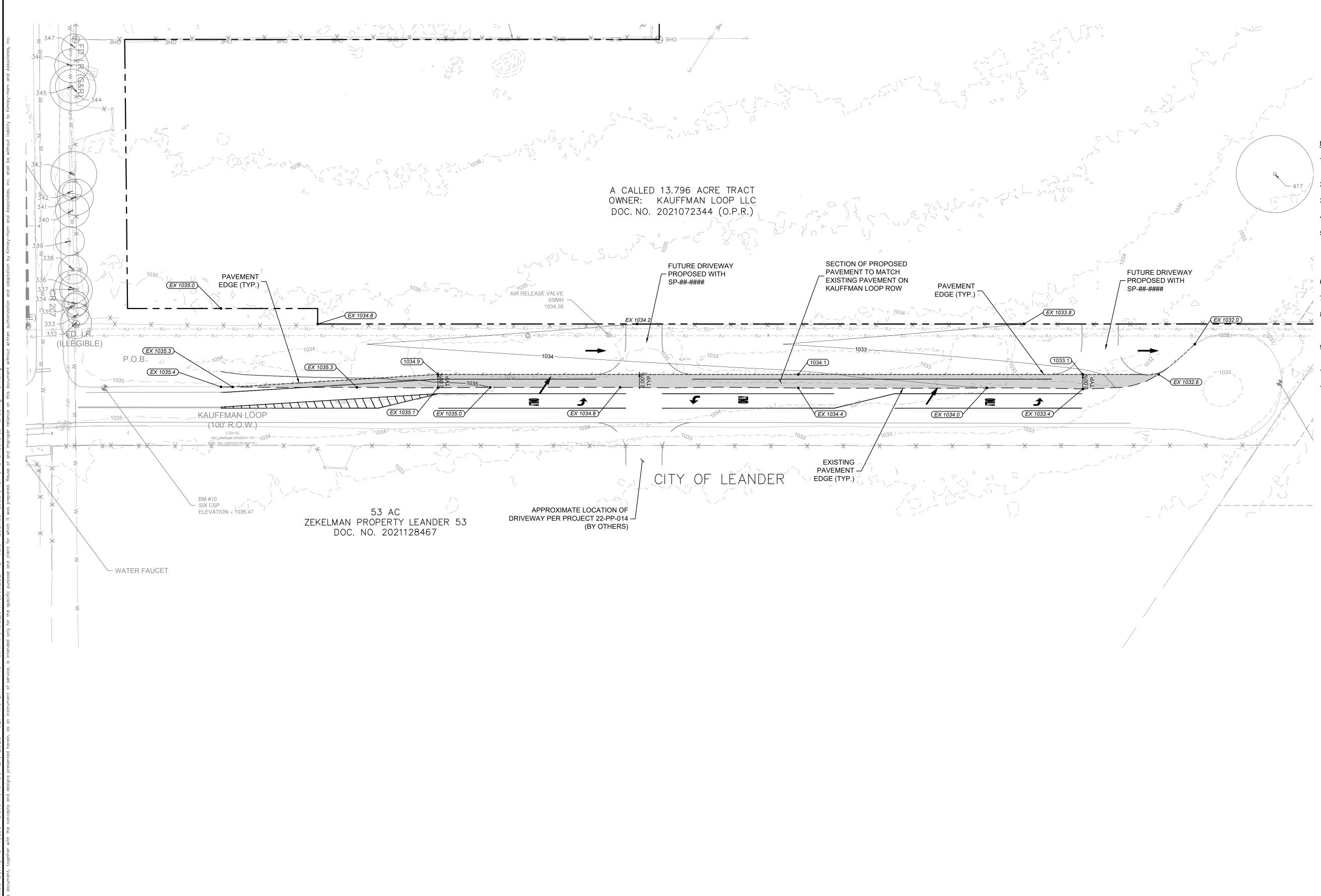


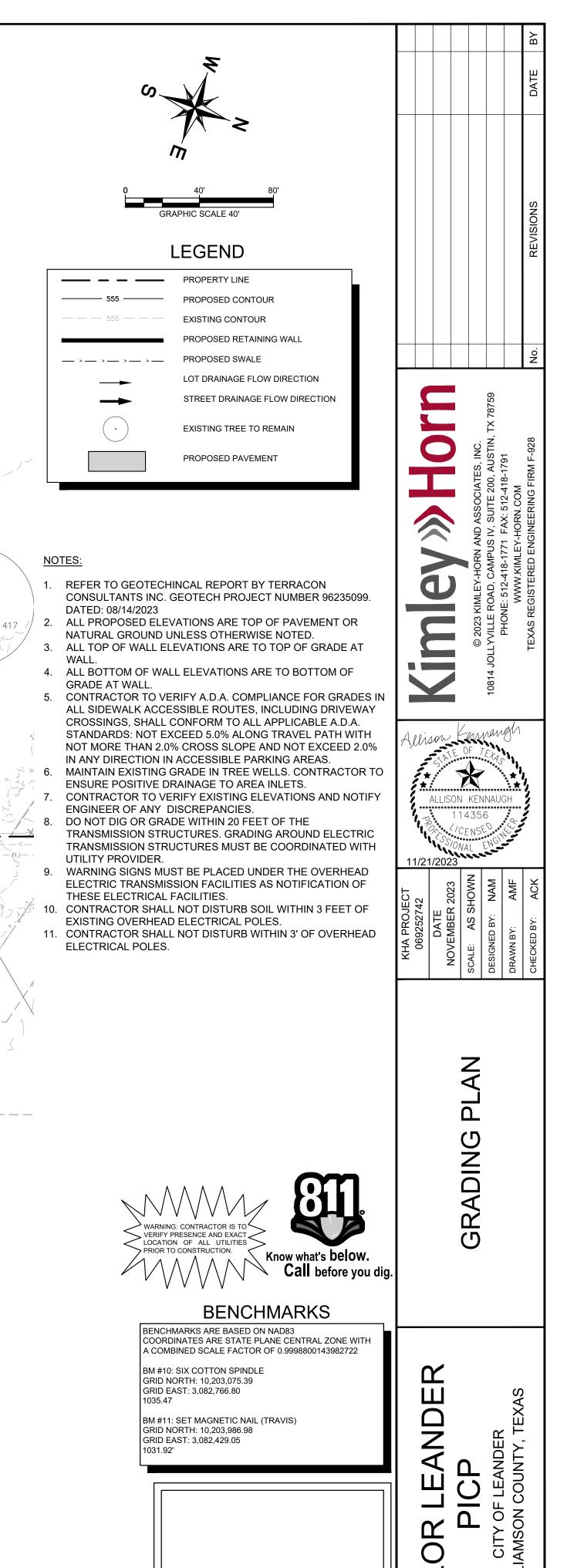










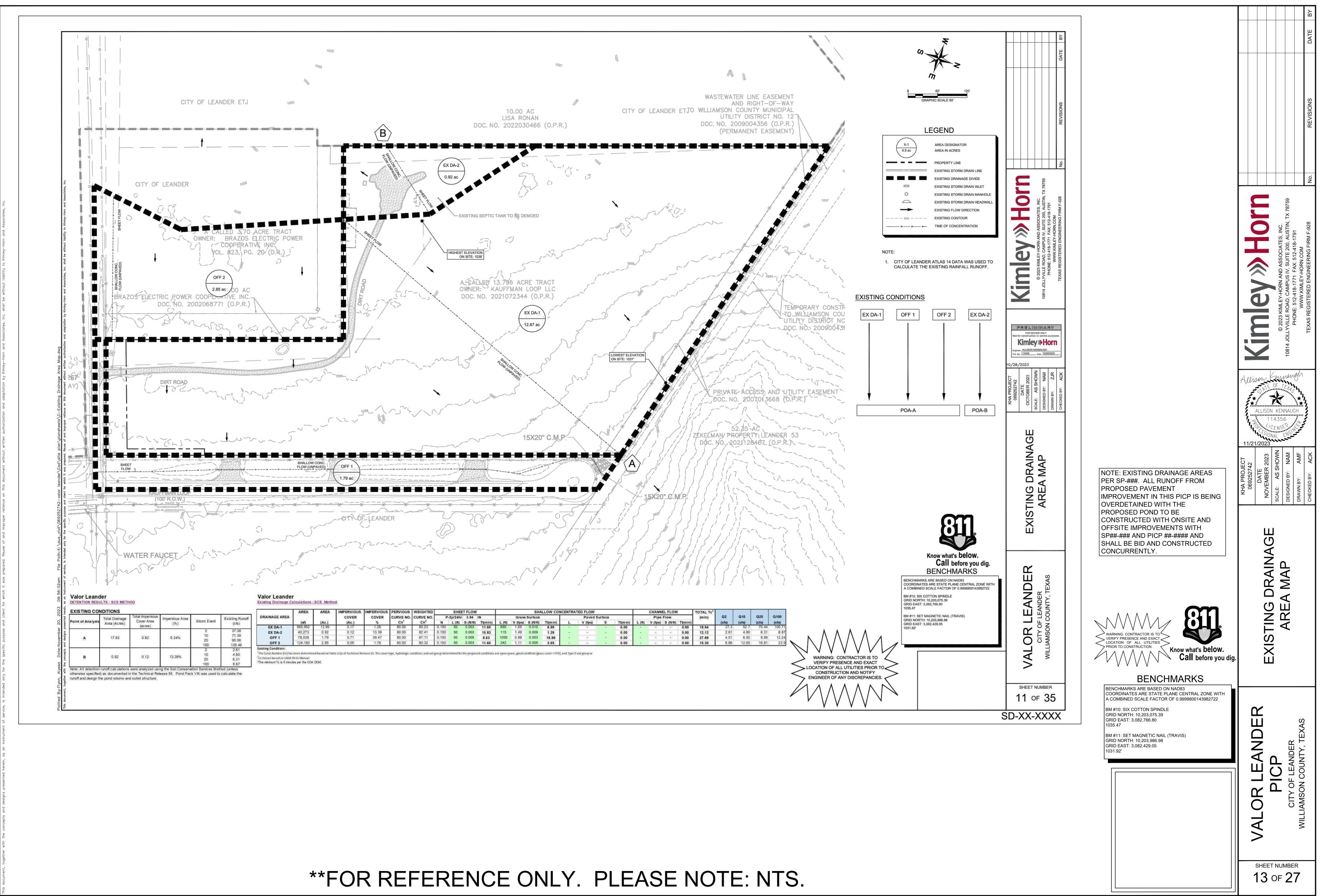


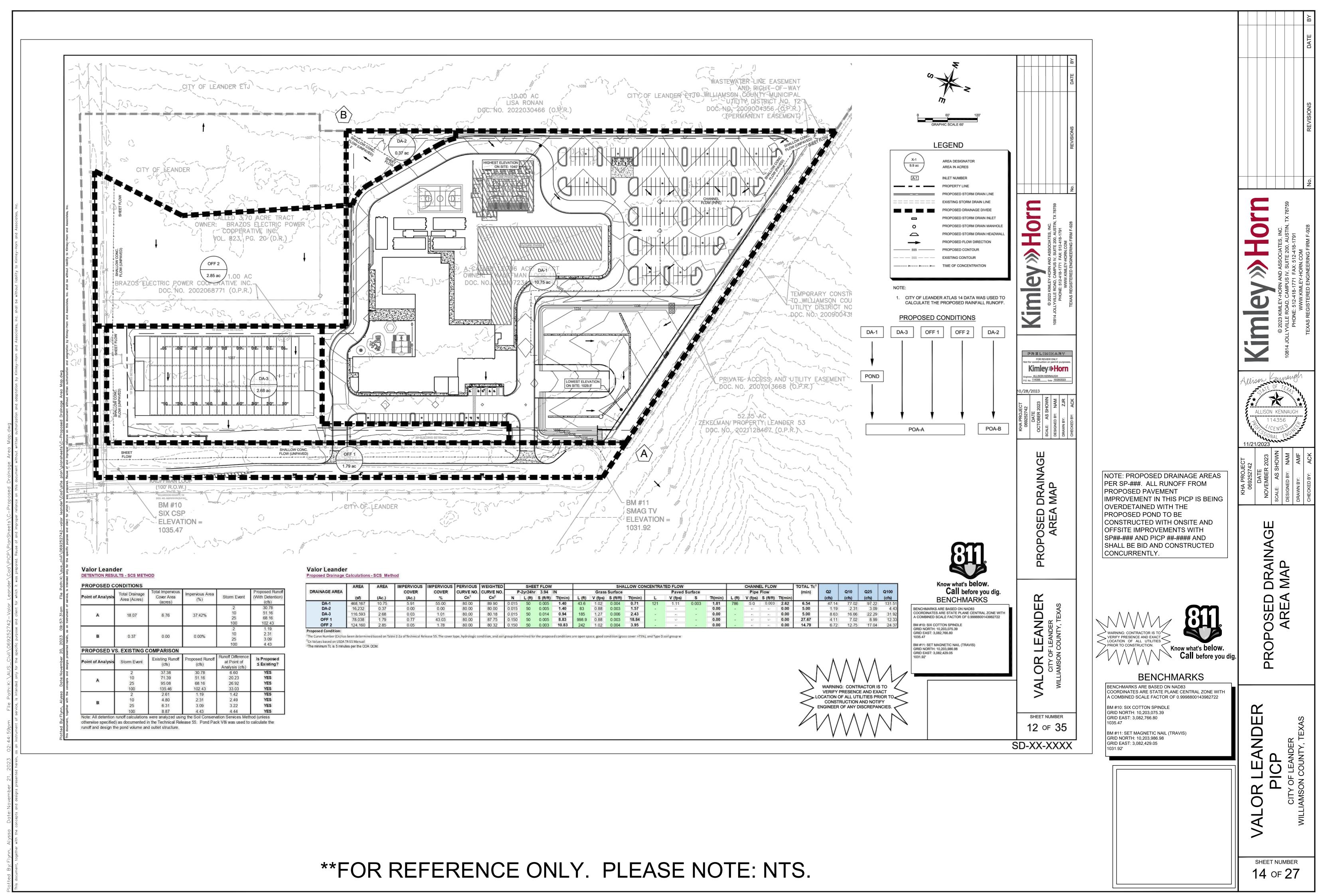
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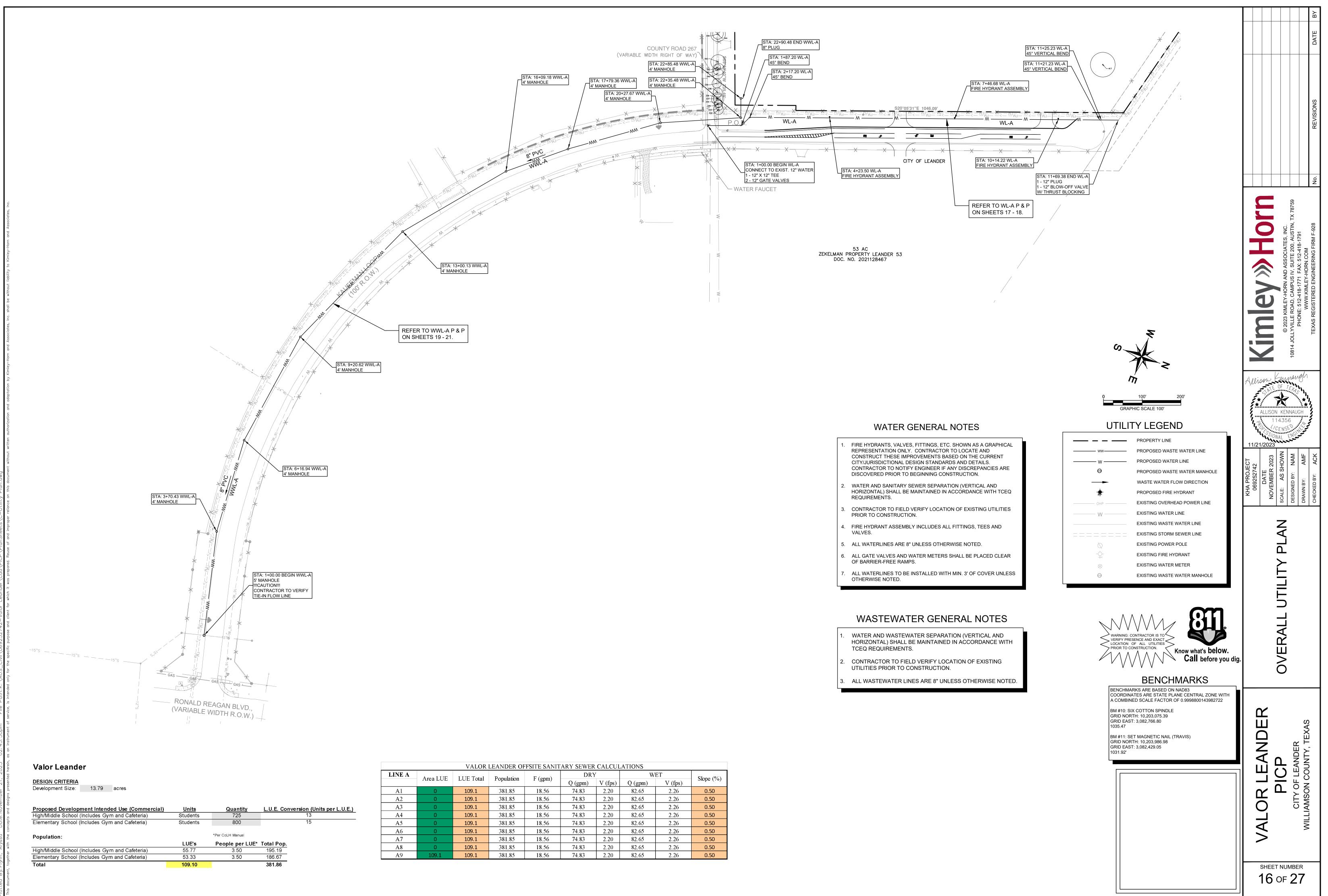
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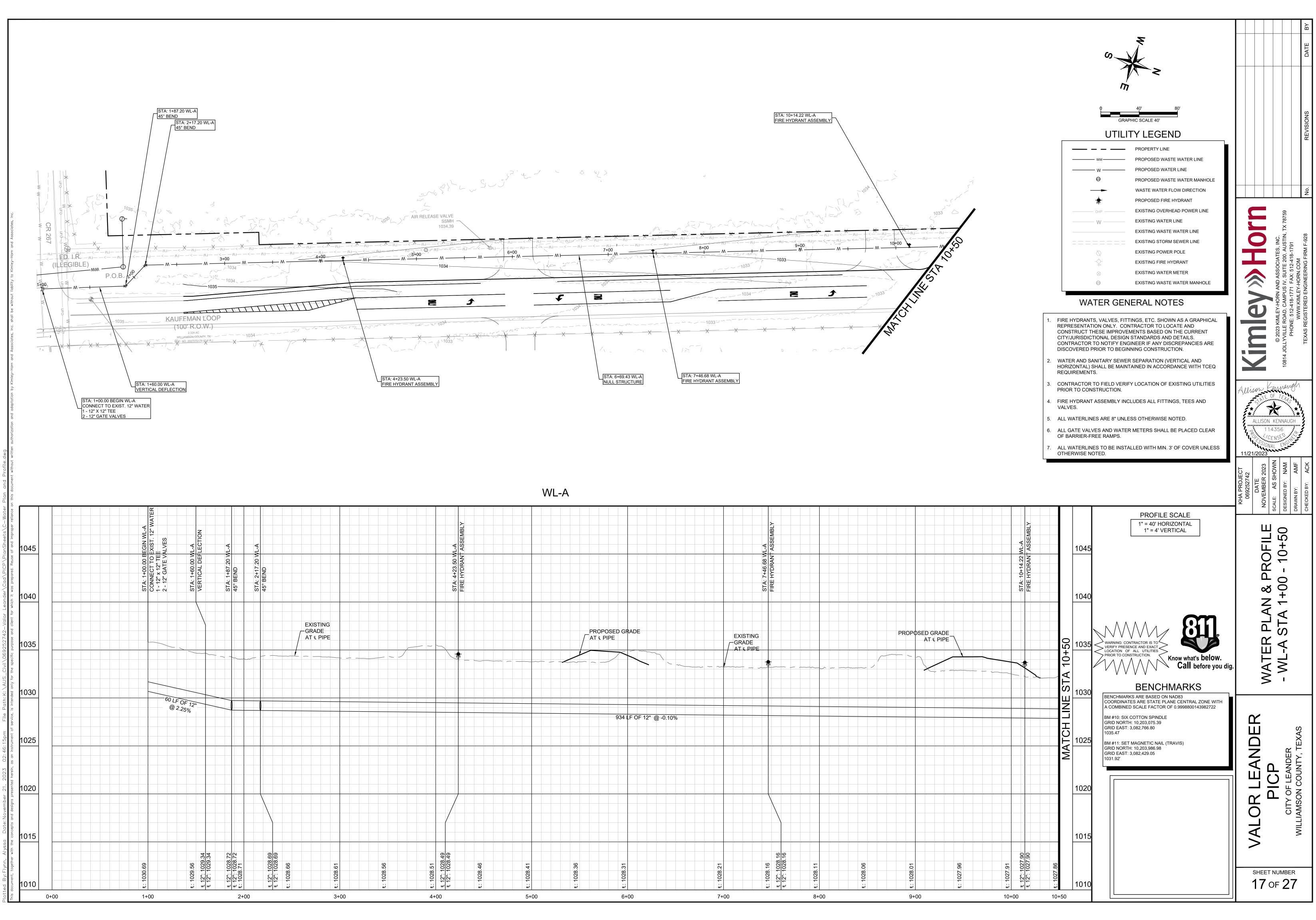
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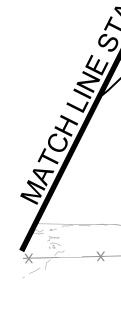


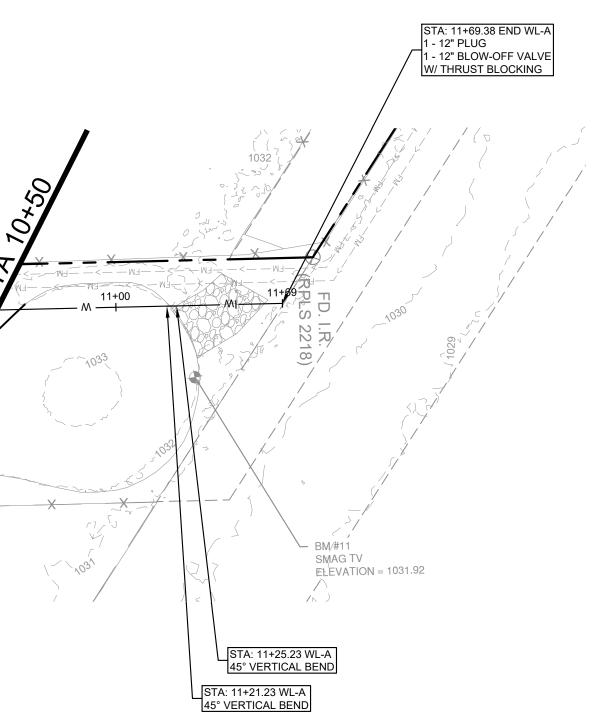


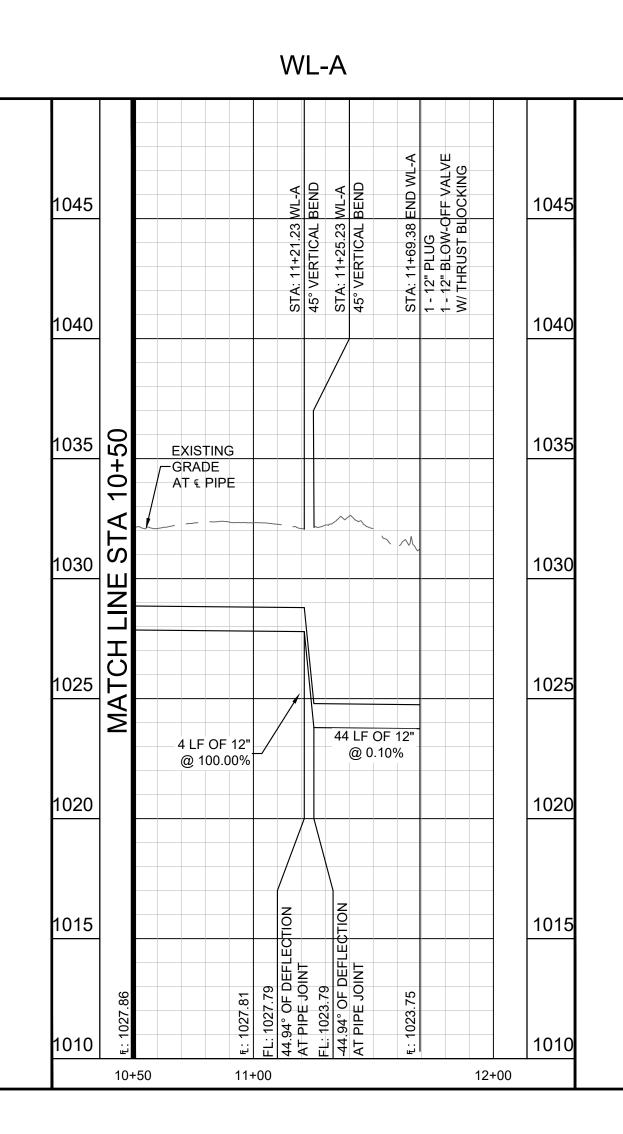
	VALOR	LEANDER OF	FSITE SANIT	ARY SEWER	CALCUL	ATIONS		
ea LUE	LUE Total	Population	F (gpm)	DRY	<b>,</b>	W	ЕТ	Slope (%)
		ropulation	r (gpiii)	Q (gpm)	V (fps)	Q (gpm)	V (fps)	Slope (76)
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
109.1	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50

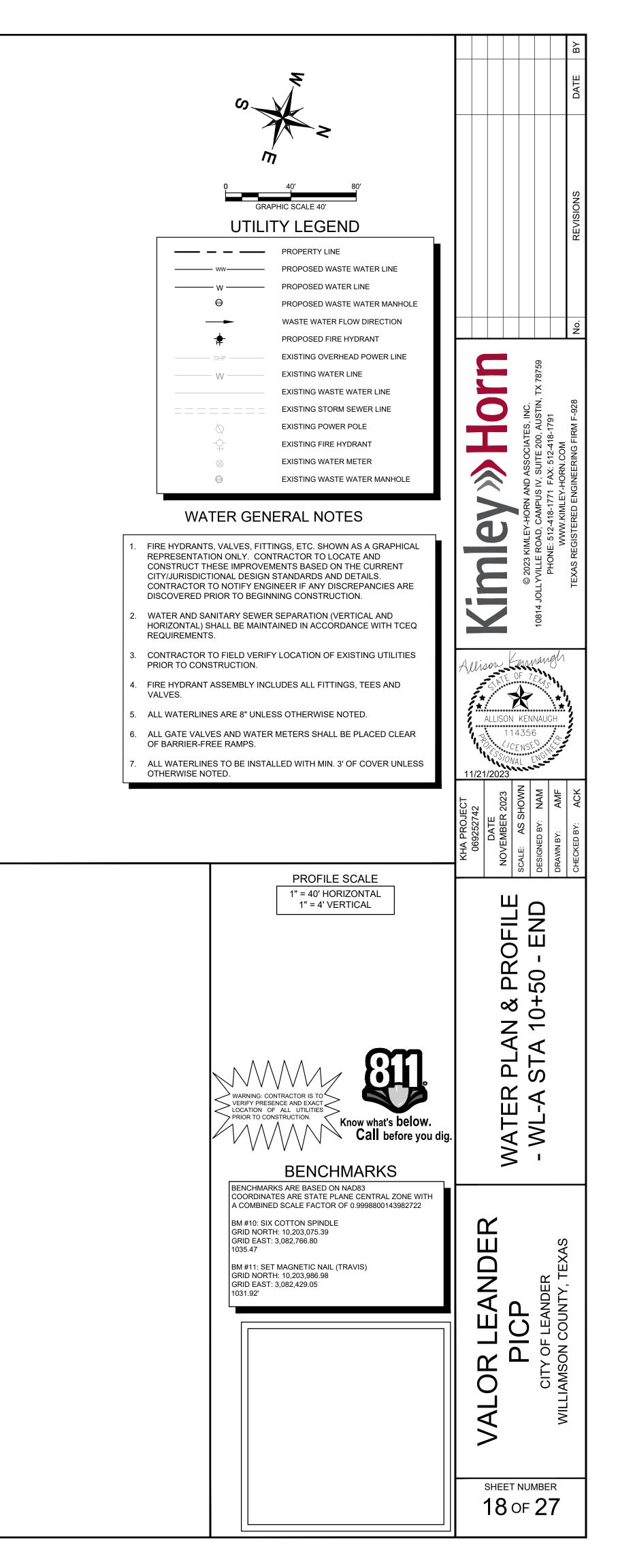


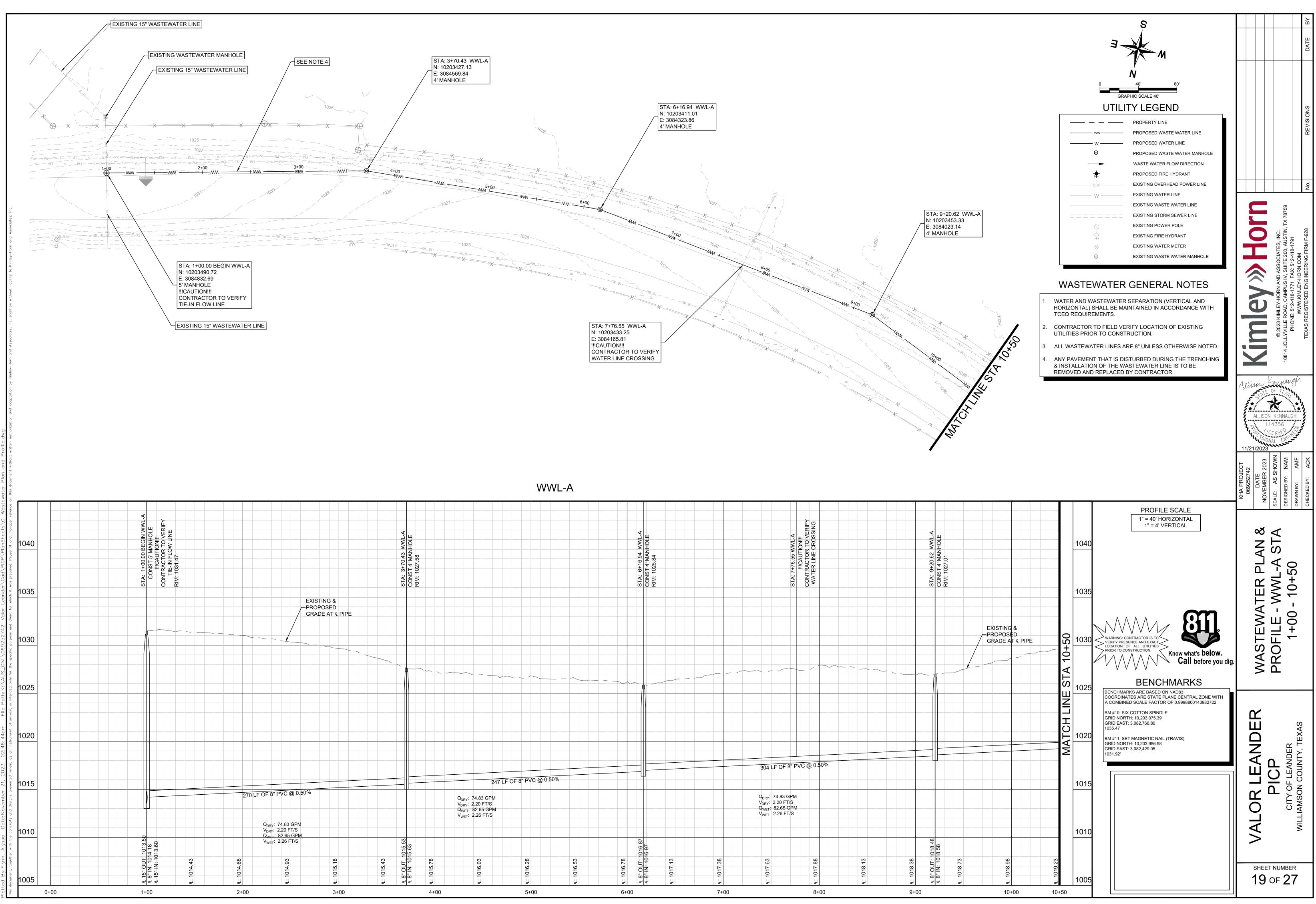
By:Flynn, Alyssa Date:November 21, 2023 02:46:20pm File Path:K:\AUS_Civil\069252742-Valor Leander\Cad\PICP\PlanSheets\C-Water Plan and Profile.dwg



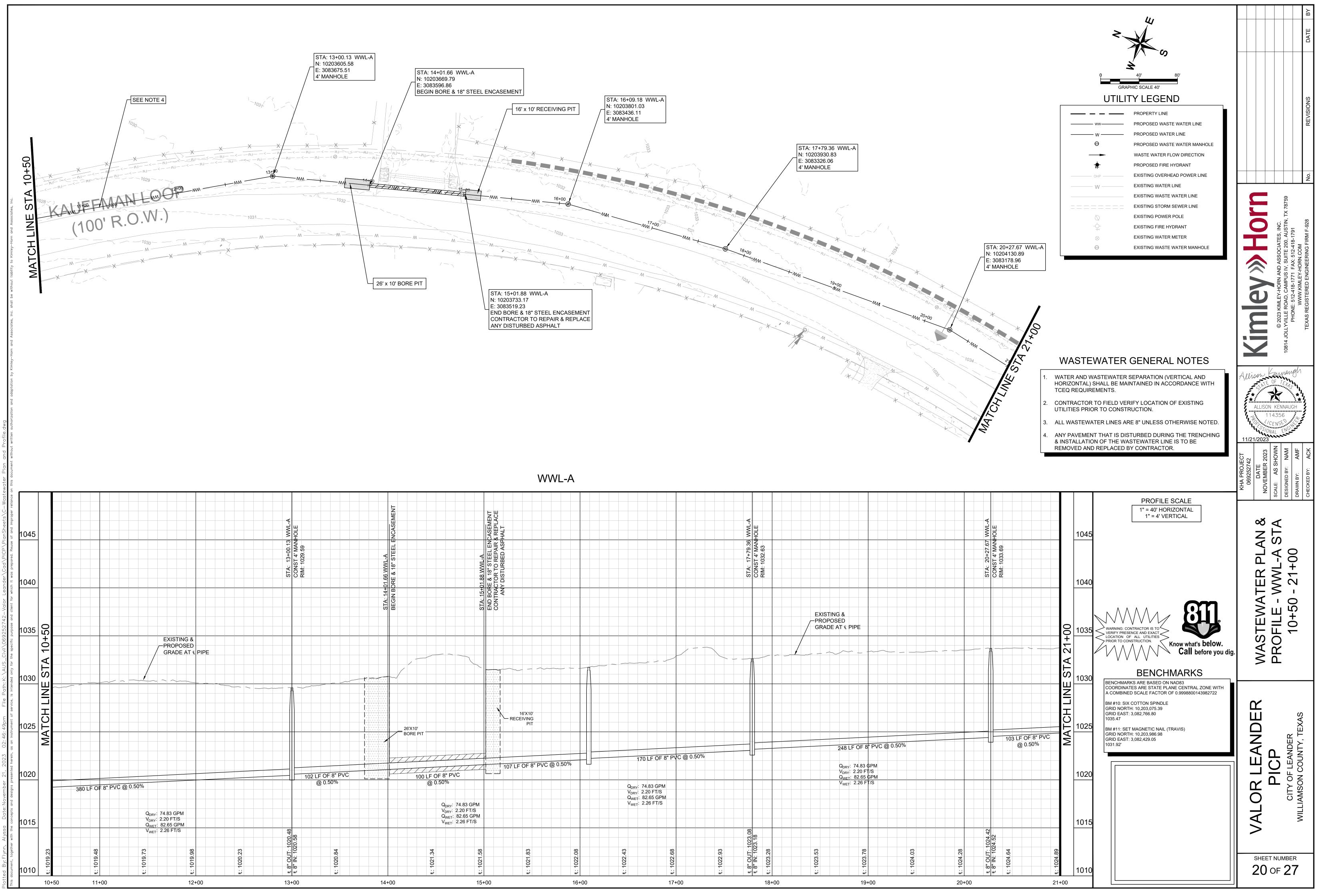


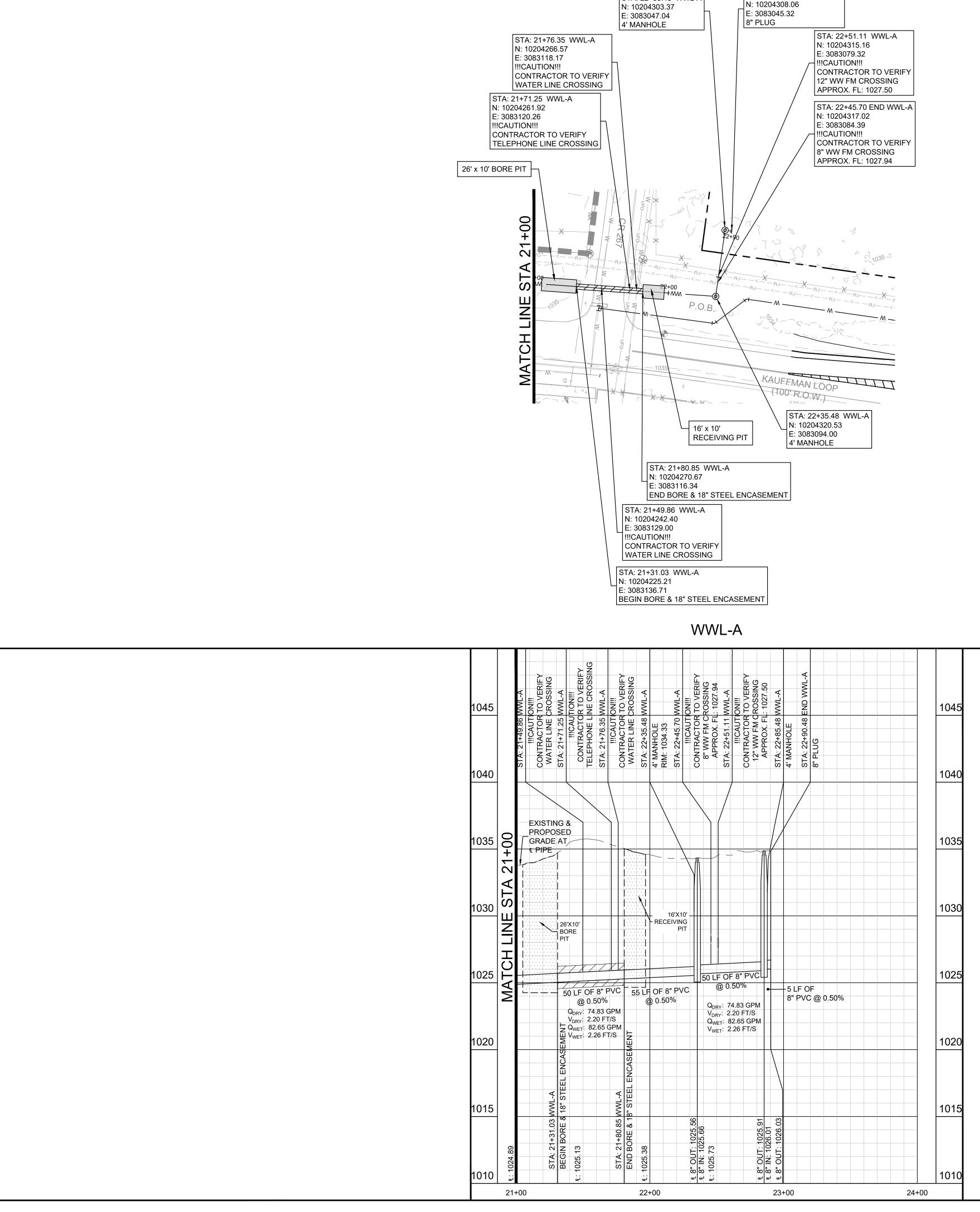


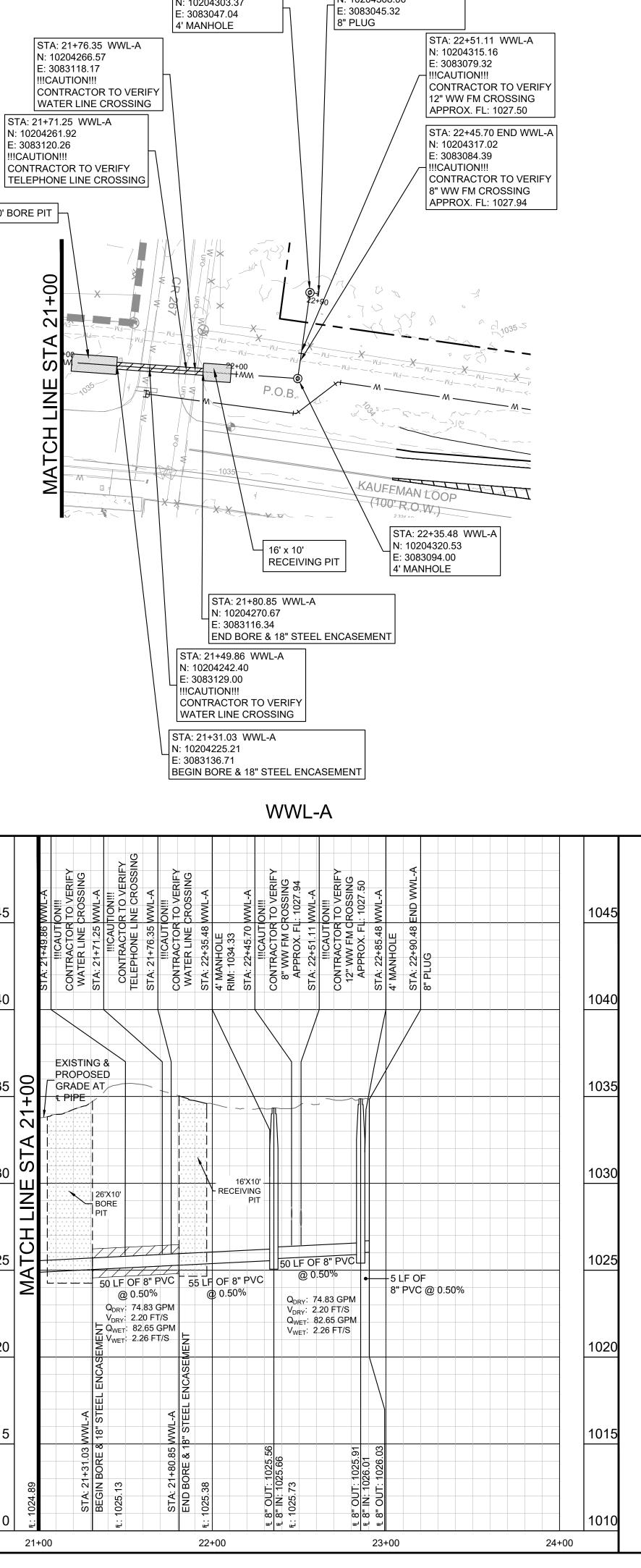




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	E: 1016.03	Q _{DRY} : 74.83 GPM V _{DRY} : 2.20 FT/S Q _{WET} : 82.65 GPM V _{WET} : 2.26 FT/S							
0	E: 1016.28	OF 8" PVC @ 0.5							
0	E: 1016.53		0%						
<u> </u>	Е: 1016.78				~				
	<u>ғ</u> 8" ОUT: 1016.87 ғ. 8" IN: 1016.97							STA: 6+16.94 WWL-A CONST 4' MANHOLE RIM: 1025.84	WWL-A
2	E: 1017.13								
2	E: 1017.38								
0	E: 1017.63	Q _{DRY} : 74.83 V _{DRY} : 2.20 F Q _{WET} : 82.65 V _{WET} : 2.26 F	304 LF OF						
0	E: 1017.88	GPM T/S GPM T/S	8" PVC @ 0.50%					STA: 7+76.55 WWL-A IIICAUTIONIII CONTRACTOR TO VERIEY WATER LINE CROSSING	WL-A DN!!! TO VERIFY ROSSING
0	۲۰۰۱ E					~ ~			
9	E: 1018.38								

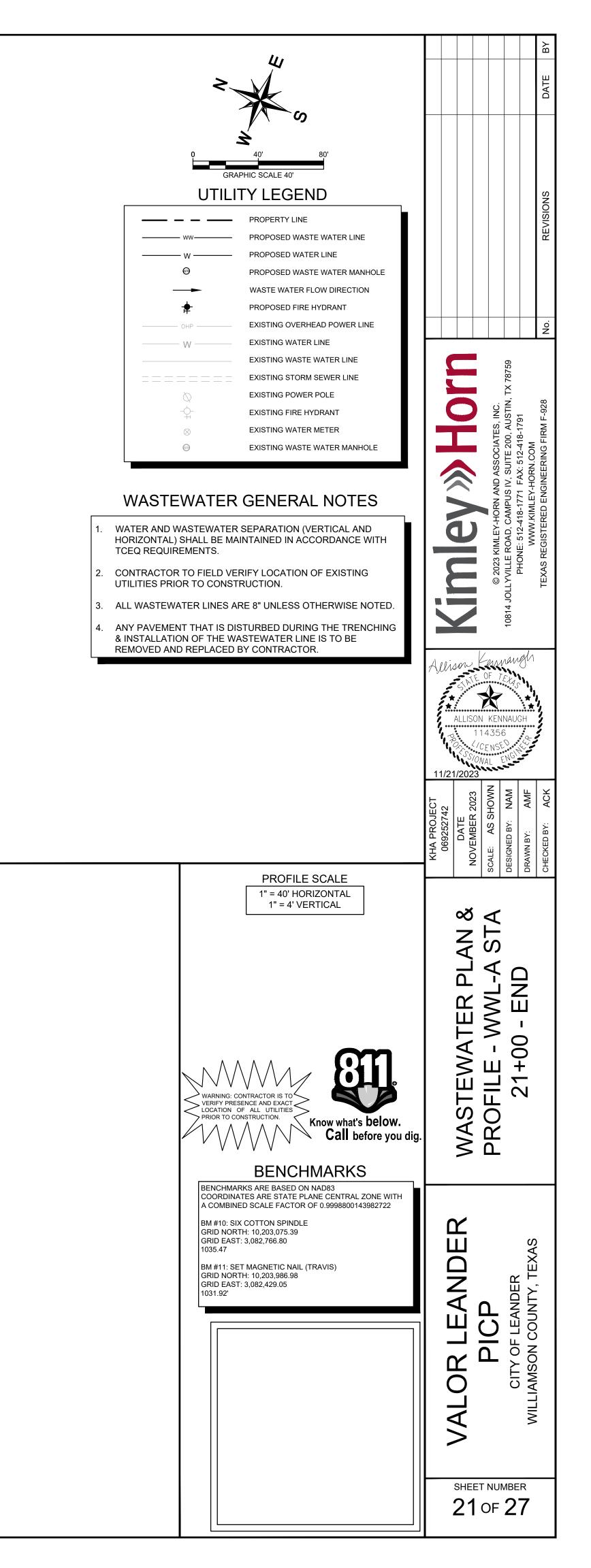


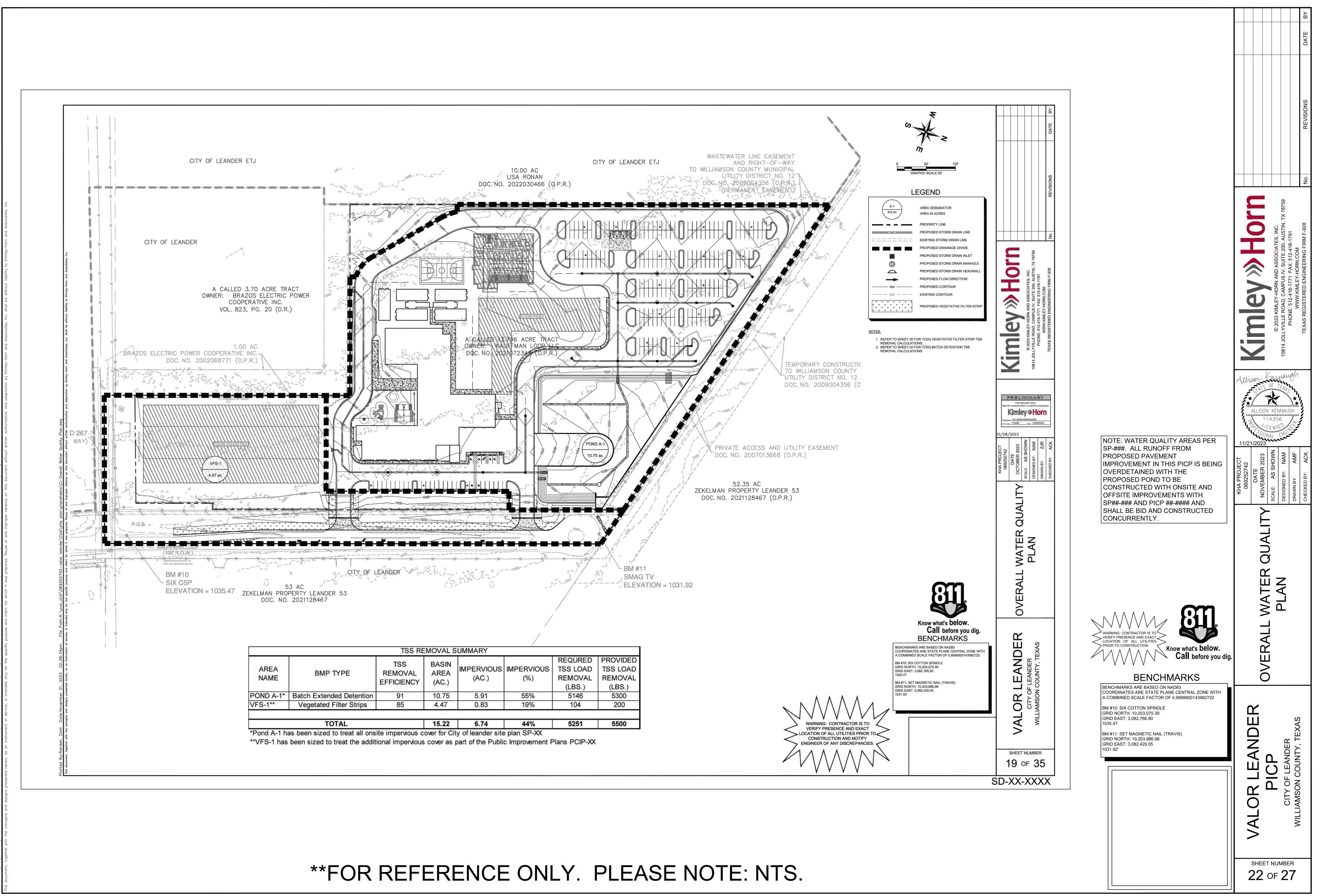




STA: 22+90.48 END WWL-A

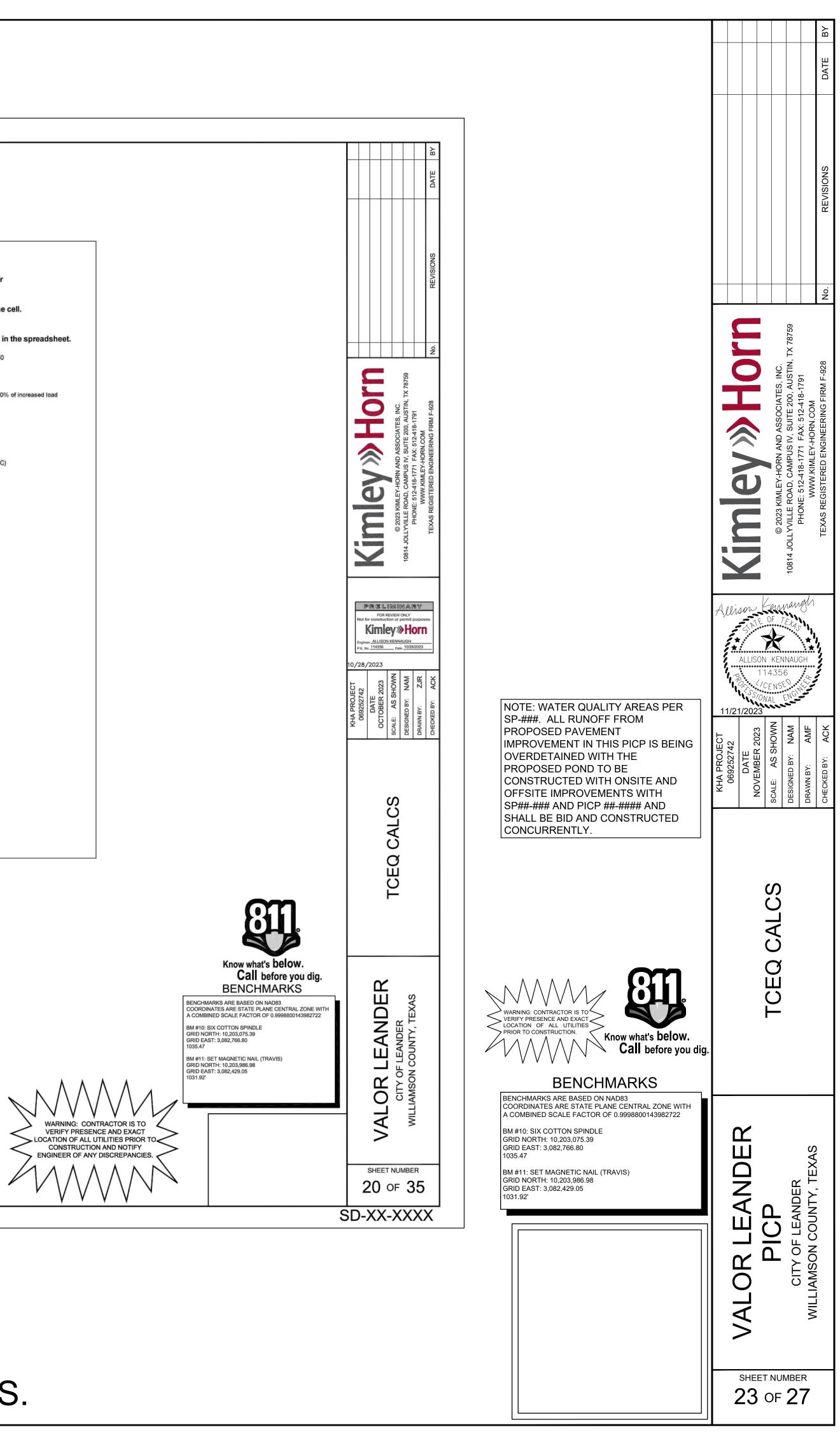
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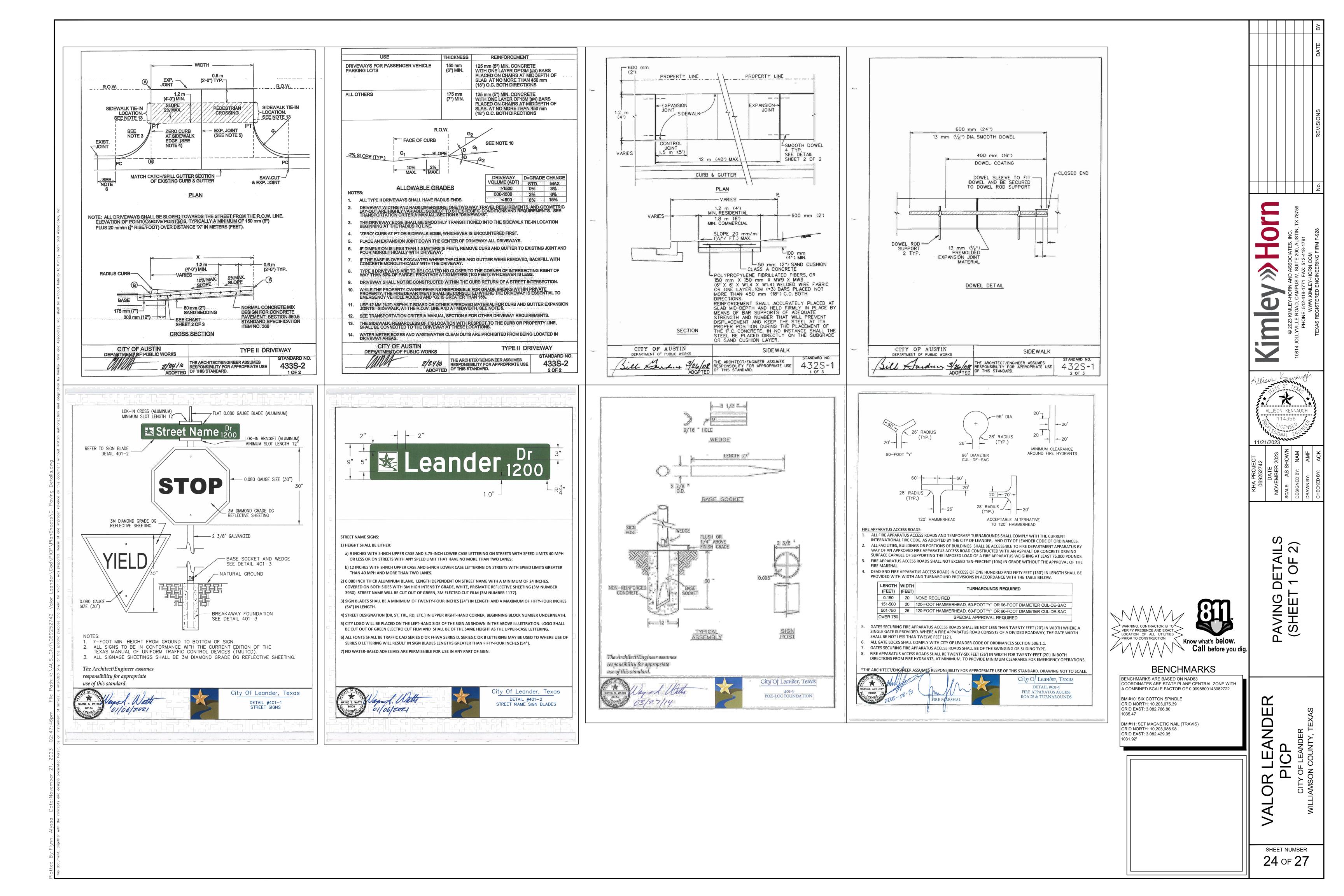


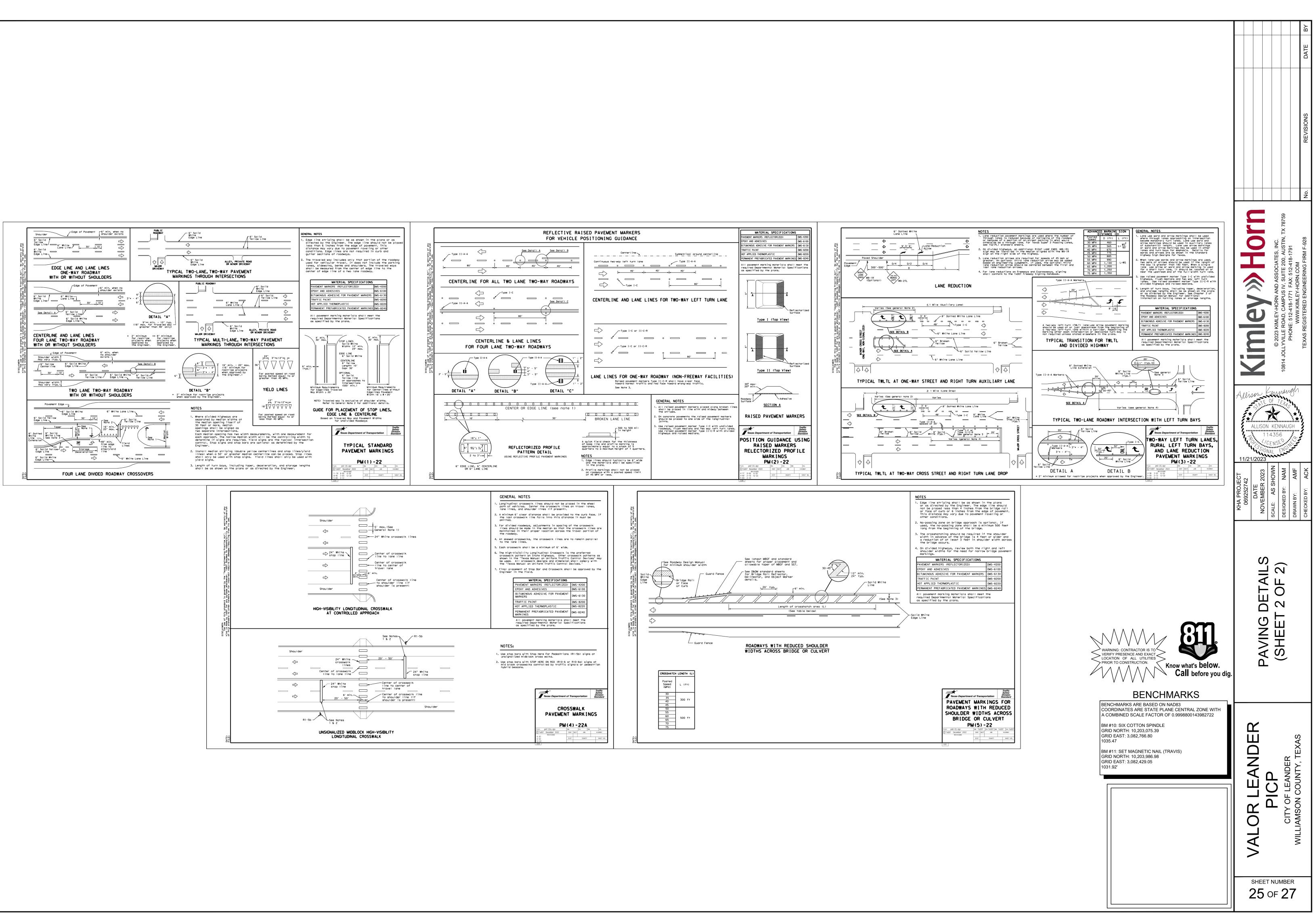
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$\label{eq:constraints} = \left( \begin{array}{c} \label{eq:constraints} = \left( \begin{array}{c$		Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields.	
<pre>bitm: Discretion of page of the set of</pre>		1. The Required Load Reduction for the total project:       Calculations from RG-348       Pages 3-27 t	to 3-30
A ₂ = Br Krossen in magnetizit. Write Since		Page 3-29 Equation 3.3: L _M = 27.2(A _N x P)	
Contract         Contract         Williams         DOUD 44 × PF3.1           Total productions improving a set within the first of the fi	Associates, inc	$A_{\rm N}$ = Net increase in impervious area for the project	nt = 80%
Perdedupting improving any share with the limit of the plan - 0.00 percents The production proving improving any share with the limit of the plan - 0.00 percents Percent proving any share with the limit of the plan - 0.00 percents Percent proving any share with the limit of the plan - 0.00 percents Percent proving any share with the limit of the plan - 0.00 percents Percent proving any share with the limit of the plan - 0.00 percents Percent proving any share with the limit of the plan and - 0.00 percents Percent proving any share with the limit of the plan and - 0.00 percents Percent proving any share with the limit of the plan and - 0.00 percents Percent proving any share with the limit of the provided for each heads Percent provided for any share with the limit of the provided for each heads Percent provided for any share with the limit of the provided for each heads Percent provided for any share with the limit of the provided for each heads Percent provided for the base in the DBC provided for each heads Percent provided for the base in the DBC provided for each heads Percent provided for the base in Percent provided for the base in the DBC protection or A = 0.00 percent provided for the base in the DBC protection or A = 0.00 percent provided for the base in the DBC protection or the provided for each heat is the DBC protection or the provided for each provided for each heat is the DBC protection or the provided for each heat is the DBC protection or the provided for each provided for each provided for each heat is the DBC protection or the provided for each heat is the DBC protection or	Horn and	County ⊨ Williamson [▼]	
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OPDIGOUNDED TO POUNDED T	id Associat	2. Drainage Basin Parameters (This information should be provided for each basin):	
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3. Indicate the proposed BMP Code for this basin.         Proposed BMP = Basin Extended Detention Permovel diversion of the Datainage Basin tyre selected BMP Type.         4. Calculate Maximum TBS Load Removed Luij for this Datainage Basin (the BMP extended BMP Type.         RG-849 Page 3-33 Equation 3.1: Lin = (BMP efficiency) x P x (A, x 34.6 + A, x 0.54)         where:       A ₀ = Total On-Site datainage area in the BMP catchment area A ₀ = Perious area periods in the BMP catchment area A ₀ = Perious area remaining in the BMP catchment area A ₀ = 0.176 across A ₀ = 0.176 across A ₀ = 0.176 across A ₀ = 4.84 across Lin = 0.033 *ine         5. Calculate Fraction of Annual Runoff to Treat the draininge basin / outfall area Lin = 0.080 *ino.       •         F = 0.88 *       •         6. Calculate Capture Volume required by the BMP Type for this draininge basin / outfall area Lin = 0.090 *ino.       •         Page 1000 Constrained area       0.000 *ino.         P = 0.88 *       •         Calculate Capture Volume required by the BMP Type for this draininge basin / outfall area Calculations from RG-248         Page 1000 Constrained Across acro	daptation by Kimie	Predevelopment impervious area within drainage basin/outfall area =       0.00       acres         Post-development impervious area within drainage basin/outfall area =       5.91       acres         Post-development impervious fraction within drainage basin/outfall area =       0.55	
Remove (L_h) for this Drainage Basis by the selected BMP Type.         A. Catculate Maximum TSS Load Removed (L_h) for this Drainage Basis by the selected BMP Type.         RG-348 Page 3-33 Equation 3.7: L_t = (BMP efficiency) x P x (A ₁ x 3.4 s + A ₁ x 0.54)         where:       A ₁ = Total On-Stile drainage drais in the BMP catchment area.         A ₁ = Topervisus area proposed in the BMP catchment area         L ₀ = TSS Load removed (from this catchment area         L ₀ = TSS Load removed from this catchment area         L ₀ = 4.84         acces         L ₀ = 6.61         S. Catculate Fraction of Annual Runoff to Treat the drainage basis / outfall area         L ₀ = 6.83         *         Desind L _{MTRIS} Basis         L ₀ = 8.800         *         Catculate Capture Volume required by the BMP Type for this drainage basis / outfall area         Catculations from RG-348         Relinful Depth       1,50         Post Development Runoff Coefficient       0,00         Catculations from RG-348         Catculation of Solid area       0         Off-site area draining to BMP       0,00         Catculations from RG-348       2.537         Catculations from RG-348       2.648.4         Catculations from RG-349       2.648.4         Catculations f	and action and action and action and action		
RG-348 Page 3-33 Equation 3.7: L _R = (BMP efficiency) × P × (A; × 34.6 + A _P × 0.54)         where:       A _c = Total On-Site drainage area in the BMP catchment area         A _r = Parkatus are remaining in the BMP catchment area       A _r = Parkatus area proposed in the BMP catchment area         A _r = Total Capture Volume required by the BMP Type for this drainage basin / outful area.       Calculations from RG-348         Statistic of drainage basin / outful area.       Calculations from RG-348         Statistic of drainage basin / outful area.       Calculations from RG-348         Statistic of draining to BMP       0.00         Statistic of draining to BMP       0.00         Officie area draining officie area draining to BMP       0.00         Consiste Water Quality Volume =       0.00         Officie area draining to BMP       0.00         Officie area draining to BMP<	1. dwg authorizat	Proposed BMP = Batch Extended Detention Removal efficiency = 91 percent	
Where:       A _c = Total On-Site drainage area in the BMP catchment area.         A _c = Total On-Site drainage area in the BMP catchment area.       A _c = Total On-Site drainage area in the BMP catchment area.         A _c = Portocus area remaining in the BMP catchment area.       A _c = Total On-Site drainage area in the BMP catchment area.         A _c = Total On-Site area remaining in the BMP catchment area.       A _c = Total On-Site drainage basin / outfall area.         A _c = 0.75       acres       Excloses 1.88 AGe ¹ and field area draining affaite.         A _c = 0.84       acres       La = 0.83         La = 0.83       Total Capture Volume required by the BMP Type for this drainage basin / outfall area.       Calculators from RG-348         Rainful Depth = 1.50       inches       cubic feet         Post Development Rundf Comfinient = 0.39       inches         Off-site ingenous core ordning to BMP = 0.00       acres         Impendue the required by the BMP Type for this drainage basin / outfall area.       Calculators from RG-348         Conside Water Quality Volume = 0.00       acres         Impendue the required water quality volume = 0.00       acres         Impendue the required water quality volume = 0.00       acres         Impendue the required water quality volume = 0.00       acres         Impendue the required water quality volume = 0.00       acres         Impendue the requ	ut written		
A _P = Pervises area remaining in the BMP catchment area L _R = TSS Load remove from this cathment area by the proposed BMP A _R = 6.91 acres A _R = 6.91 acres A _R = 6.91 acres A _R = 6.93 bits <b>5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area <b>5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area <b>6. Calculate Capture Volume required by the BMP Type for this frainage basin / outfall area.</b> Calculations from RG-348 <b>6. Calculate Capture Volume required by the BMP Type for this frainage basin / outfall area.</b> Calculations from RG-348 <b>6. Calculate Capture Volume required by the BMP Type for this frainage basin / outfall area.</b> Calculations from RG-348 <b>7. Calculations from RG-348</b> <b>7. Calculat</b></b></b>	+		
Ap =       10.73       action       Lookers into Fick is solved a solve	-Overall Wat	A _P = Pervious area remaining in the BMP catchment area	BMP
8       6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.       Calculations from RG-348         Rainfall Depth =       1.50       inches         Post Development Runoff Coefficient =       0.39       Inches         On-site Water Quality Volume =       22637       cubic feet         Calculations from RG-348       Pages 3-36 to 3-37       Inches         Calculation of off-site area a draining to BMP =       0.00       acres         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of Gristie Water Quality Volume =       0       cubic feet <tr< td=""><td></td><td>A_{ll} = <b>5.91</b> acres</td><td>ing offsite</td></tr<>		A _{ll} = <b>5.91</b> acres	ing offsite
8       6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.       Calculations from RG-348         Rainfall Depth =       1.50       inches         Post Development Runoff Coefficient =       0.39       Inches         On-site Water Quality Volume =       22637       cubic feet         Calculations from RG-348       Pages 3-36 to 3-37       Inches         Calculation of off-site area a draining to BMP =       0.00       acres         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of Gristie Water Quality Volume =       0       cubic feet <tr< td=""><td>an plansh se of and imp</td><td></td><td></td></tr<>	an plansh se of and imp		
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8       6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.       Calculations from RG-348         Rainfall Depth =       1.50       inches         Post Development Runoff Coefficient =       0.39       Inches         On-site Water Quality Volume =       22637       cubic feet         Calculations from RG-348       Pages 3-36 to 3-37       Inches         Calculation of off-site area a draining to BMP =       0.00       acres         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of off-site Runoff Coefficient =       0.00       Inches         Calculation of Gristie Water Quality Volume =       0       cubic feet <tr< td=""><td>t was pre</td><td>Desired $L_{M \text{ THIS BASIN}} = 5300$ Tibs.</td><td></td></tr<>	t was pre	Desired $L_{M \text{ THIS BASIN}} = 5300$ Tibs.	
Rainfall Depth = 1.50 inches Post Development Runoff Coefficient = 0.39 On-site Water Quality Volume = 22637 cubic feet Calculations from RG-348 Pages 3-36 to 3-37 Calculations from RG-348 Pages 3-36 to 3-37 Off-site area draining to BMP = 0.00 acres Off-site Impervious cover draining to BMP = 0.00 acres Impervious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00 Cofficient = 0.00 Cofficient = 0.00 Cofficient = 0.00 Cofficient = 0.00 Coff-site Water Quality Volume = 0 Cowing Coff-site Water Quality Volume = 0 Coming Coff-site Water		F = 0.88	
Post Development Runoff Coefficient = 0.39 On-site Water Quality Volume = 22637 cubic feet Calculations from RG-348 Pages 3-36 to 3-37 Calculations from RG-348 Pages 3-36 to 3-37 Calculations from RG-348 Pages 3-36 to 3-37 Off-site area draining to BMP = 0.00 acres Impensious cover draining to BMP = 0.00 acres Impensious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00 Off-site Runoff Coefficient = 0.00 Off-site Runoff Coefficient = 0.00 Off-site Runoff Coefficient = 0.00 Total Capture Volume (required water quality Volume) = 27165 cubic feet The following sections are used to calculate the required water quality volume(s) x 1.20) = 27165 cubic feet The values for BMP Types not selected in cell C45 will show NA.	nd allent		
Off-site area draining to BMP =       0.00       acres         Off-site Impenvious cover draining to BMP =       0.00       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 =       4527         Total Capture Volume (required water quality volume(s) x 1.20) =       27165       cubic feet         The following sections are used to calculate the required water quality volume(s) for the selected BMP.       The values for BMP Types not selected in cell C45 will show NA.	925274	Post Development Runoff Coefficient = 0.39	
Off-site area draining to BMP =       0.00       acres         Off-site Impenvious cover draining to BMP =       0.00       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 =       4527         Total Capture Volume (required water quality volume(s) x 1.20) =       27165       cubic feet         The following sections are used to calculate the required water quality volume(s) for the selected BMP.       The values for BMP Types not selected in cell C45 will show NA.	the specific the s	Calculations from RG-348 Pages 3-36 to 3-37	
Impervious fraction of off-site area = 0         Off-site Runoff Coefficient = 0.00         Off-site Runoff Coefficient = 0.00         Off-site Water Quality Volume = 0         Cubic feet         Storage for Sediment = 4527         Total Capture Volume (required water quality volume(s) x 1.20) = 27165         Cubic feet         The following sections are used to calculate the required water quality volume(s) for the selected BMP.         The values for BMP Types not selected in cell C45 will show NA.	only for 1	Off-site area draining to BMP = 0.00 acres	
Image: Storage for Sediment =       4527         Storage for Sediment =       4527         Total Capture Volume (required water quality volume(s) x 1.20) =       27165       cubic feet         The following sections are used to calculate the required water quality volume(s) for the selected BMP.         The values for BMP Types not selected in cell C45 will show NA.	http://www.intended	Impervious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00	
Total Capture Volume (required water quality volume(s) x 1.20) = 27165 cubic feet The following sections are used to calculate the required water quality volume(s) for the selected BMP. The values for BMP Types not selected in cell C45 will show NA.	<u></u>		
		Total Capture Volume (required water quality volume(s) x 1.20) = 27165 cubic feet The following sections are used to calculate the required water quality volume(s) for the selected BMP.	
	overmber 2 designs prese		
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Date: November and designs and designs preserved	I, Zach with the p		
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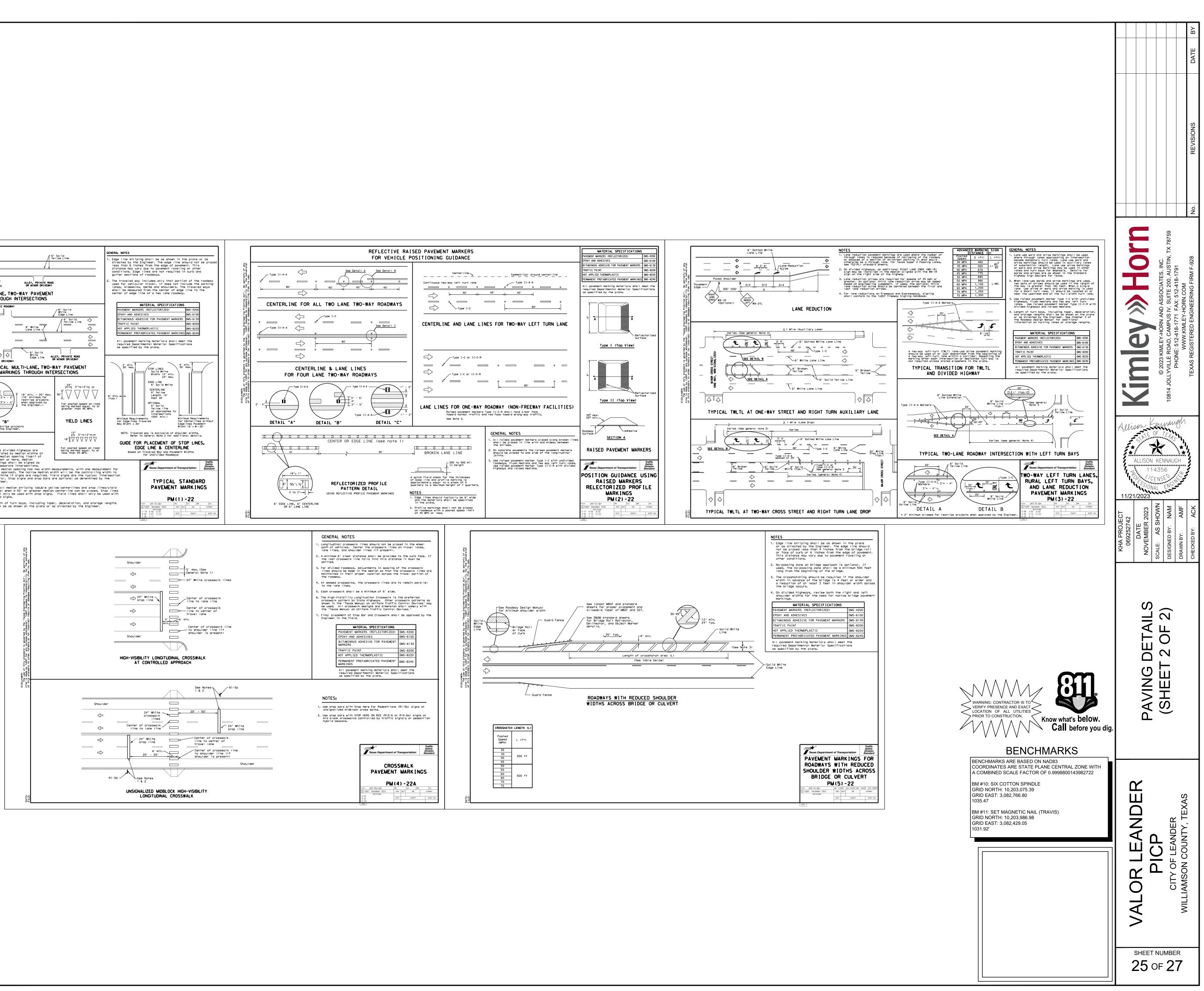
Texas Commission on Environmental Quality TSS Removal Calculations 04-20-2009 Project Name: Valor Leander Date Prepared: 11/21/2023 cell. Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. the spreadsheet. 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. Pages 3-27 to 3-30 1. The Required Load Reduction for the total project: Calculations from RG-348 Page 3-29 Equation 3.3: L_M = 27.2(A_N x P) % of increased load L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load where: 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 *= 13.80 acres POND A-1 + VFS-1 Predevelopment impervious area within the limits of the plan * = 0.00 acres Total post-development impervious area within the limits of the plan* = 6.04 acres IC of Pond A-1 & VFS-1 (PROPOSED IC) Total post-development impervious cover fraction * = 0.44 LM TOTAL PROJECT = 5257 * The values entered in these fields should be for the total project area. Number of drainage basins / outfalls areas leaving the plan area = 1 2. Drainage Basin Parameters (This information should be provided for each basin): Drainage Basin/Outfall Area No. = VFS-1 Total drainage basin/outfall area = 4.47 acres Predevelopment impervious area within drainage basin/outfall area = 0.71 acres Post-development impervious area within drainage basin/outfall area = 0.83 acres Post-development impervious fraction within drainage basin/outfall area = 0.19 L_{M THIS BASIN} = 104 Ibs. 3. Indicate the proposed BMP Code for this basin. Proposed BMP = Vegetated Filter Strips Removal efficiency = 85 percent 4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type. RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A₁ x 34.6 + A_P x 0.54) A_C = Total On-Site drainage area in the BMP catchment area where: 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 = 4.47 acres A1 = 0.83 acres Ap = 3.64 acres  $L_R =$ 835 Ibs 5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area Desired L_{M THIS BASIN} = 200 Ibs. F = 0.24 Pages 3-34 to 3-36



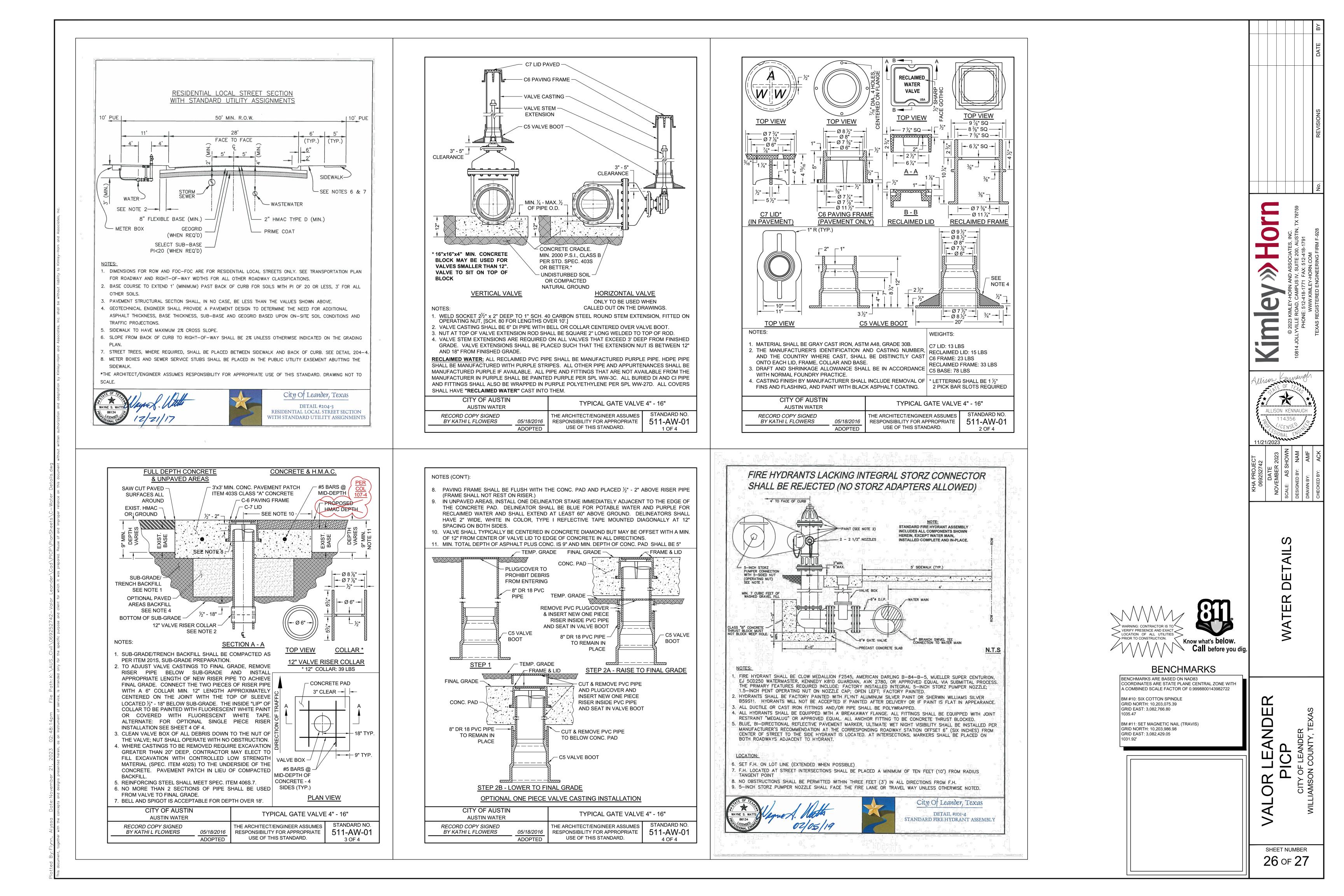
# **FOR REFERENCE ONLY. PLEASE NOTE: NTS.

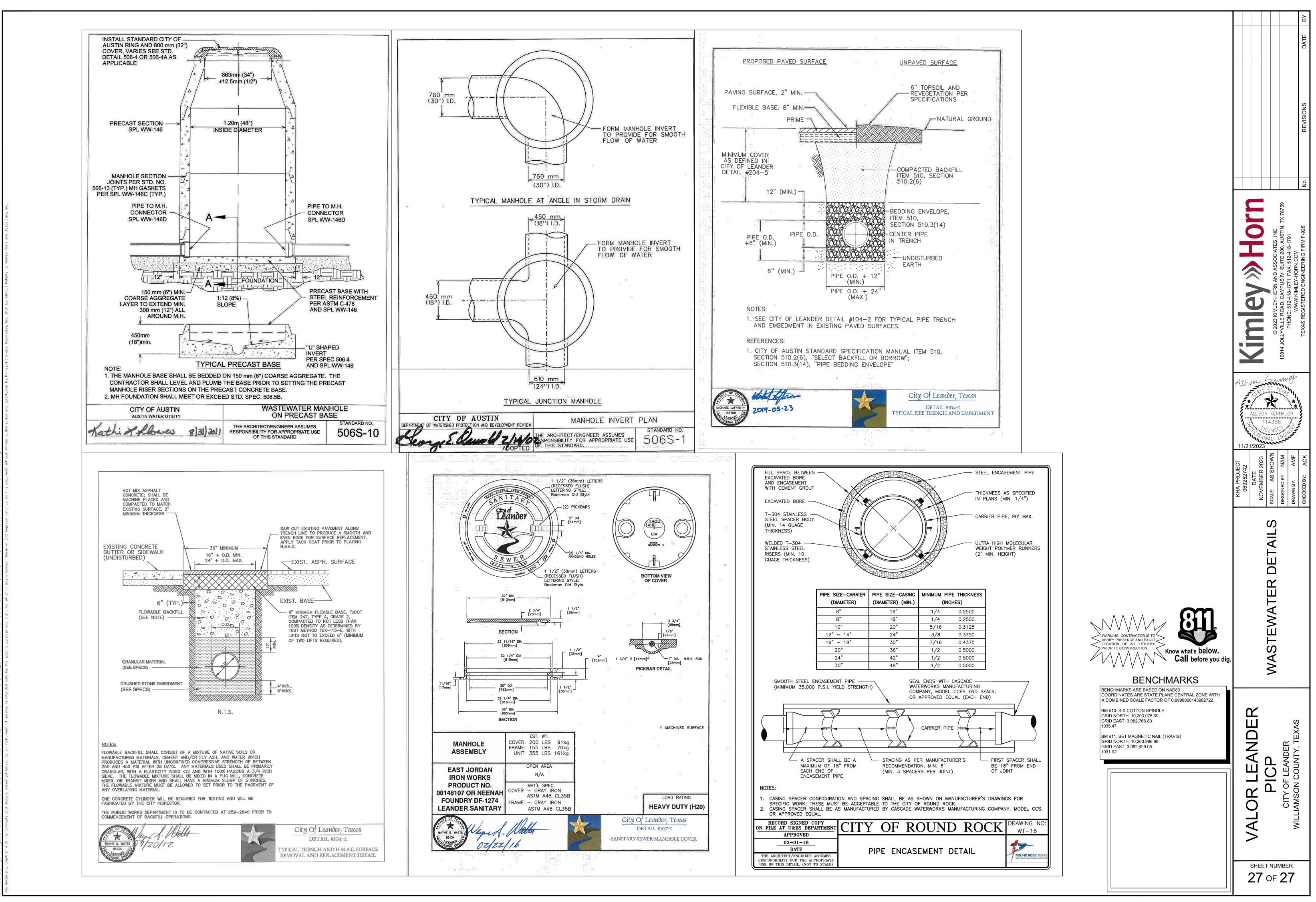




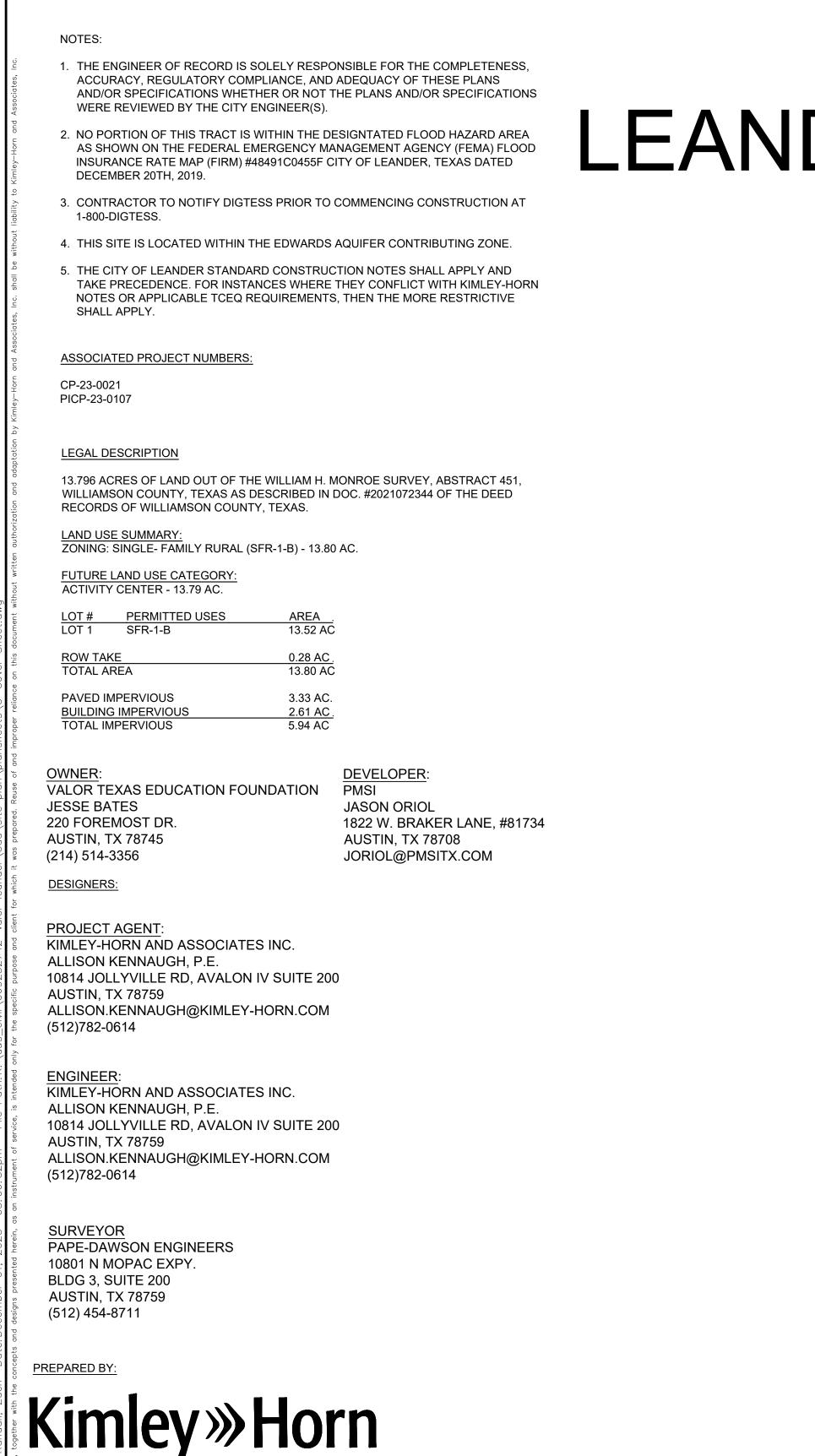








# CIVIL SITE DEVELOPMENT PLANS FOR VALOR LEANDER 168 KAUFFMAN LOOP, LEANDER, WILLIAMSON COUNTY, TEXAS SHEET INDEX PROJECT #

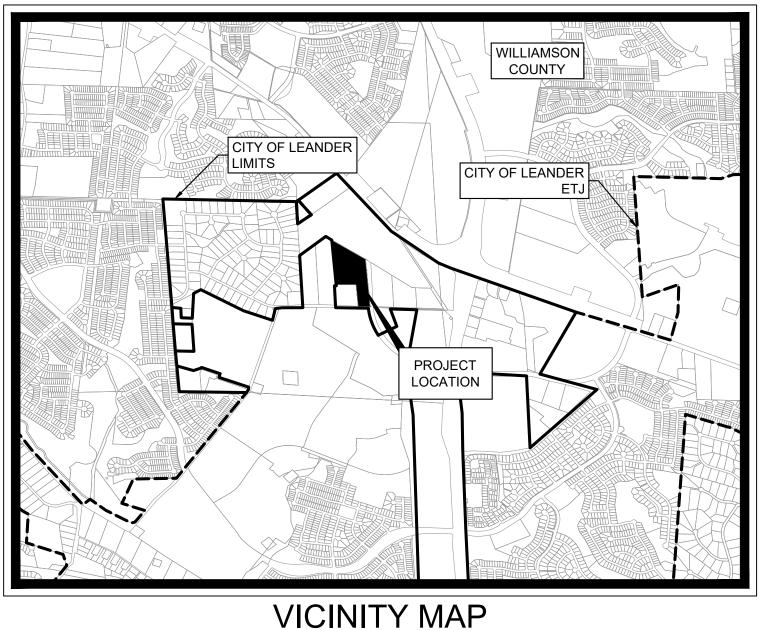


Tel. No. (512) 418-1771 Fax No. (512) 418-1791

10814 JOLLYVILLE ROAD AVALLON IV SUITE 300

CERTIFICATE OF REGISTRATION #928

AUSTIN, TEXAS 78759



# SCALE: 1" = 2,000'

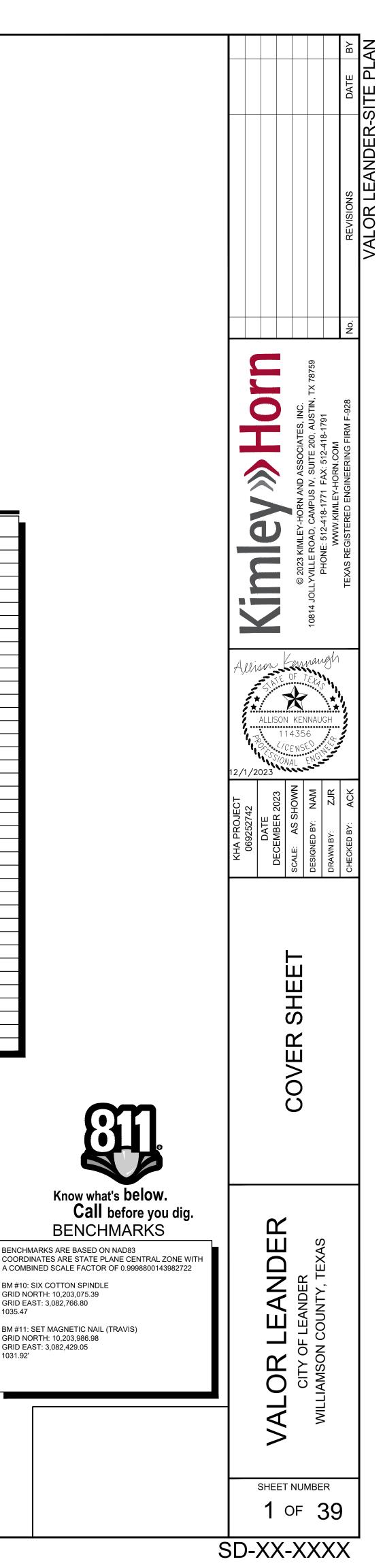
# DECEMBER 2023

|--|

ROBIN M. (	GRIFFIN, AICP, PLANNING DIRECTOR			DATE
EMILY TRU	IMAN, P.E., CFM, CITY ENGINEER			DATE
MARK TUN	IMONS, CPRP, DIRECTOR OF PARKS	AND RECREATION		DATE
CHIEF JOS	HUA DAVIS, FIRE MARSHAL			DATE
	REVISION #	DESCRIPTION	APPROVAL	

<b>REVISION #</b>	DESCRIPTION	APPROVAL

Sheet Number	Sheet Title
1	COVER SHEET
2	CITY OF LEANDER GENERAL NOTES
3	KH GENERAL NOTES
4	TCEQ NOTES
5	FINAL PLAT (SHEET 1 OF 2)
6	FINAL PLAT (SHEET 2 OF 2)
7	EXISTING CONDITIONS AND DEMOLITION PLAN
8	TREE LIST
9	EROSION CONTROL PLAN
10	EROSION CONTROL DETAILS
11	OVERALL SITE PLAN
12	DIMENSION CONTROL PLAN (SHEET 1 OF 2)
13	DIMENSION CONTROL PLAN (SHEET 2 OF 2)
14	GRADING PLAN (SHEET 1 OF 2)
15	PAVING, SIGNAGE & STRIPING PLAN
16	GRADING PLAN (SHEET 2 OF 2)
17	EXISTING DRAINAGE AREA MAP
18	PROPOSED DRAINAGE AREA MAP
19	INLET DRAINAGE AREA MAP
20	DRAINAGE AREA CALCULATIONS
21	OVERALL WATER QUALITY PLAN
22	TCEQ CALCS
23	WATER QUALITY & DETENTION POND PLAN
24	POND DETAILS (SHEET 1 OF 2)
25	POND DETAILS (SHEET 2 OF 2)
26	OVERALL STORM PLAN
27	OVERALL WATER PLAN
28	OVERALL WASTEWATER PLAN
29	FIRE PROTECTION PLAN
30	ADDRESS PLAN
31	PAVING AND SITE DETAILS (SHEET 1 OF 2)
32	PAVING AND SITE DETAILS (SHEET 2 OF 2)
33	STORM DETAILS
34	UTILITY DETAILS (SHEET 1 OF 2)
35	UTILITY DETAILS (SHEET 2 OF 2)
36	BUILDING ELEVATIONS
37	LANDSCAPE PLAN (SHEET 1 OF 3)
38	LANDSCAPE PLAN (SHEET 2 OF 3)
39	LANDSCAPE PLAN (SHEET 3 OF 3)



Know what's below.

BENCHMARKS

A COMBINED SCALE FACTOR OF 0.9998800143982722

BENCHMARKS ARE BASED ON NAD83

BM #11: SET MAGNETIC NAIL (TRAVIS)

BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80

GRID NORTH: 10,203,986.98

GRID EAST: 3,082,429.05

1035 47

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT OCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES

GENERAL NOTES FOR SUBDIVISIONS AND SITE DEVELOPMENT PLANS REVISED March 27, 2023 CITY CONTACTS: ENGINEERING MAIN LINE: 512-528-2721 PLANNING DEPARTMENT: 512-528-2750 PUBLIC WORKS MAIN LINE: 512-259-2640 STORMWATER INSPECTIONS: 512-285-0055 UTILITIES MAIN LINE: 512-259-1142 UTILITIES ON-CALL: 512-690-4760 GENERAL 1. CONTRACTORS SHALL HAVE AN APPROVED SET OF PLANS WITH APPROVED REVISIONS ON SITE AT ALL TIMES. FAILURE TO HAVE APPROVED PLANS ON SITE MAY RESULT IN ISSUANCE OF WORK STOPPAGE 2. CONTACT 811 SYSTEM FOR EXISTING WATER AND WASTEWATER LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION **REFRESH ALL LOCATES BEFORE 14 DAYS** – LOCATE REFRESH REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET. TEXAS PIPELINE DAMAGE PREVENTION LAWS REQUIRE THAT A LOCATE REFRESH REQUEST BE SUBMITTED BEFORE 14 DAYS, OR IF LOCATION MARKERS ARE NO LONGER VISIBLE **b. REPORT PIPELINE DAMAGE IMMEDIATELY** – IF YOU WITNESS OR EXPERIENCE PIPELINE EXCAVATION DAMAGE, PLEASE CONTACT THE CITY OF LEANDER BY PHONE AT 512-259-3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR 48 HOURS BEFORE: a. BEGINNING EACH PHASE OF CONSTRUCTION. CONTACT ASSIGNED CITY INSPECTOR. ANY TESTING. CONTRACTOR SHALL PROVIDE QUALITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION PROOF ROLLING SUB-GRADE AND EVERY LIFT OF ROADWAY EMBANKMENT, IN-PLACE DENSITY TESTING OF EVERY BASE COURSE, AND ASPHALT CORES. ALL OF THIS TESTING MUST BE WITNESSED BY A CITY OF LEANDER REPRESENTATIVE. CONNECTING TO THE EXISTING WATER LINES. e. THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET ROW. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS. ALL RESPONSIBILITILY FOR THE ACCURACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD EXCESS SOIL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. NOTIFY THE CITY OF LEANDER IF THE DISPOSAL SITE IS INSIDE THE CITY'S JURISDICTIONAL BOUNDARIES. 6. BURNING IS PROHIBITED NO WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. OR WEEKENDS. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT INSPECTION. 8. CONTACT THE CITY INSPECTOR 4 DAYS PRIOR TO WORK FOR APPROVAL TO SCHEDULE ANY INSPECTIONS ON WEEKENDS OR CITY HOLIDAYS 9. NO BLASTING IS ALLOWED 10. ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION OF THE REVISION. ALL CHANGES AND REVISIONS SHALL USE REVISION CLOUDS TO HIGHLIGHT ALL REVISIONS AND CHANGES WITH EACH SUBMITTAL. REVISION TRIANGLE MARKERS AND NUMBERS SHALL BE USED TO MARK REVISIONS. ALL CLOUDS AND TRIANGLE MARKERS FROM PREVIOUS REVISIONS MUST BE REMOVED. REVISION INFORMATION SHALL BE UPDATED ON COVER SHEET AND AFFECTED PLAN SHEET TITLE BLOCK. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LEANDER ACCURATE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE 12. THE CONTRACTOR WILL REIMBURSE THE CITY FOR ALL REPAIR AND/OR COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY PUBLIC INFRASTRUCTURE WITHIN CITY EASEMENT OR PUBLIC RIGHT-OF-WAY, REGARDLESS OF THESE PLANS 13. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER OF RECORD AND CITY 14. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO THE PROPERTY OWNER. 15. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 1033 LA POSADA DR. SUITE 375, AUSTIN, TEXAS 78752-3832. 16. ALL MANHOLE FRAMES/COVERS AND WATER VALVE/METER BOXES MUST BE ADJUSTED TO FINISHED GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR FOR CITY CONSTRUCTION INSPECTOR INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING. CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND VALVE BOXES WITH CLASS A CONCRETE. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS. 18. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT. 20. THE CONTRACTOR MUST OBTAIN A CONSTRUCTION WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER. 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. THE CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE. THE CONTRACTOR SHALL KEEP THE SITE AREA CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF THE CITY. THE SUBDIVISION (OR SITE) WILL NOT BE ACCEPTED (OR CERTIFICATE OF OCCUPANCY ISSUED) UNTIL THE SITE HAS BEEN CLEANED TO THE SATISIFACTION OF THE CITY. 22. TREES IN EXISTING ROW SHOULD BE PROTECTED OR NOTED IN THE PLANS TO BE REMOVED. CONSTRUCTION SEQUENCE NOTES NOTE: BELOW IS GENERAL SEQUENCE OF CONSTRUCTION. THE ENGINEER OF RECORD SHALL UPDATE BELOW WITH NOTES SPECIFIC TO THE PROJECT 1. REACH OUT TO THE CITY FOR PRE-CONSTRUCTION MEETING AND CONSTRUCTION PERMIT.

2. SET-UP E/S CONTROLS AND TREE PROTECTION AND REACH OUT TO CITY FOR INSPECTION.

5. START UTILITY, ROAD, GRADING, FRANCHISE UTILITY AND ALL NECESSARY INFRASTRUCTURE

CONSTRUCT THE DRAINAGE PONDS AND STORM WATER FEATURES

SET UP TEMPORARY TRAFFIC CONTROLS

CONSTRUCTION. [NOTE: PLEASE UPDATE AS PER THE PROJECT]

- 6. REQUEST FINAL WALKTHROUGH AND CONDUCT WALKTHROUGH WITH ENGINEER OF RECORD AND CITY DEPARTMENT
- 7. ENGINEER OF RECORD IS RESPONSIBLE TO PREPARE AND SUBMIT CLOSEOUT DOCUMENTS FOR PROJECT CLOSEOUT

## EROSION CONTROL NOTE

- 1. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES AND SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- 2. THE TEMPORARY SPOILS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP. 3. ANY ON-SITE SPOILS DISPOSAL SHALL BE REMOVED PRIOR TO ACCEPTANCE UNLESS
- SPECIFICALLY SHOWN ON THE PLANS. THE DEPTH OF SPOIL SHALL NOT EXCEED 10 FEET IN ANY
- 4. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL AND COMPOST BLEND. TOPSOIL ON SINGLE FAMILY LOTS MAY BE INSTALLED WITH HOME CONSTRUCTION. THE TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.
- 5. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GROW GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164--WC001 SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERMUDA SHALL NOT BE USED.
- 6. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION TRAFFIC IS EXITING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PROJECTS
- MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD. 7. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRANCES WHERE A STOP CONDITION DOES NOT ALREADY EXIST
- 8. IN THE EVENT OF INCLEMENT WEATHER THAT MAY RESULT IN A FLOODING SITUATION, THE CONTRACTOR SHALL REMOVE INLET PROTECTION MEASURES UNTIL SUCH TIME AS THE WEATHER EVENT HAS PASSED

### WATER AND WASTEWATER NOTES

WATER AND WASTEWATER GENERAL NOTES

- 1. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AND ORGANIZATION ACCREDITED BY ANSI.
- 2. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY STAMPED AS FOLLOWS:
  - WATER SERVICE "W" ON TOP OF CURB
  - WASTEWATER SERVICE "S" ON TOP OF CURB
- VALVE "V" ON TOP OF CURB 3. OPEN UTILITIES SHALL NOT BE PERMITTED ACROSS THE EXISTING PAVED SURFACES. WATER
- AND WASTEWATER LINES ACROSS THE EXISTING PAVED SURFACES SHALL BE BORED AND INSTALLED IN STEEL ENCASEMENT PIPES. BELL RESTRAINTS SHALL BE PROVIDED AT JOINTS.
- 4. INTERIOR SURFACES OF ALL DUCTILE IRON POTABLE OR RECLAIMED WATER PIPE SHALL BE CEMENT-MORTAR LINED AND SEAL COATED AS REQUIRED BY AWWA C104
- 5. SAND, AS DESCRIBED IN AUSTIN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND

MEETIN	IG THE FOLLOWING (	GRADATION SPECIFICATION:
	SIEVE SIZE	PERCENT RETAINED BY WEIGH
	1/2"	0
	3/8"	0-2
	#4	40-85

6. DENSITY TESTING FOR TRENCH BACKFILL SHALL BE DONE IN MAXIMUM 12" LIFTS.

- 1. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTORS' REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF LEANDER NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY
- CITY PERSONNEL WILL OPERATE OR AUTHORIZE THE CONTRACTOR TO OPERATE ALL WATER VALVES THAT WILL PASS THROUGH THE CITY'S POTABLE WATER. THE CONTRACTOR MAY BE FINED \$500 OR MORE, INCLUDING ADDITIONAL THEFT OF WATER FINES, IF A WATER VALVE IS
- OPERATED IN AN UNAUTHORIZED MANNER, REGARDLESS OF WHO OPERATED THE VALVE. 3. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 AM AND 6 AM AFTER COORDINATING WITH CITY CONSTRUCTION INSPECTORS AND INFORMING AFFECTED PROPERTIES
- PRESSURE TAPS OR HOT TAPS SHALL BE IN ACCORDANCE WITH CITY OF LEANDER STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A CITY OF LEANDER INSPECTOR MUST BE PRESENT WHEN THE CONTRACTOR MAKES A TAP, AND/OR ASSOCIATED TESTS. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED. "SIZE ON SIZE" TAPS SHALL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. CONCRETE THRUST BLOCKS SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED INTO SERVICE. THRUST BLOCKS SHALL BE INSPECTED PRIOR TO BACKFILL
- . FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A BLACK POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP SHALL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED INTO SERVICE.
- 6. THRUST BLOCKS OR RESTRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF LEANDER STANDARD SPECIFICATIONS AND REQUIRED AT ALL FITTINGS PER DETAIL OR MANUFACTURER'S RECOMMENDATION. ALL FITTINGS SHALL HAVE BOTH THRUST BLOCKS AND RESTRAINTS.
- ALL DEAD END WATER MAINS SHALL HAVE "FIRE HYDRANT ASSEMBLY" OR "BLOW-OFF VALVE AND THRUST BLOCK" OR "BLOW-OFF VALVE AND THRUST RESTRAINTS". THRUST RESTRAINTS SHALL BE INSTALLED ON THE MINIMUM LAST THREE PIPE LENGTHS (STANDARD 20' LAYING LENGTH). ADDITIONALL THRUST RESTRAINTS MAY BE REQUIRED BASED UPON THE MANUFACTURERS RECOMMENDATION AND/OR ENGINEER'S DESIGN.
- 8. PIPE MATERIAL FOR PUBLIC WATER MAINS SHALL BE PVC (AWWA C900-DR14 MIN. 305 PSI PRESSURE RATING). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200PSI, AND SDR-(9)). COPPER PIPES AND FITTINGS ARE NOT ALLOWED IN THE PUBLIC RIGHT OF WAY. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW)
- 9. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C151 PRESSURE CLASS 350).
- 10. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE. 11. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.
- 12. ALL WATER METER BOXES SHALL BE:
- a. SINGLE, 1" METER AND BELOW DFW37F-12-1CA, OR EQUAL
- b. DUAL, 1" METERS AND BELOW DFW39F-12-1CA, OR EQUAL
- c. 1.5" SINGLE METER DFW65C-14-1CA, OR EQUAL

- d. 2" SINGLE METER DFW1730F-12-1CA, OR EQUAL
- 13. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

### WASTEWATER

- 1. CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.
- 2. MANDREL TESTING SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS
- 3. MANHOLES SHALL BE COATED PER CITY OF AUSTIN SPL WW-511 (RAVEN 405 OR SPRAYWALL). PENETRATIONS TO EXISTING WASTEWATER MANHOLES REQUIRE THE CONTRACTOR TO RECOAT THE ENTIRE MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS SECTION NO. 506.5
- 4. RECLAIMED AND RECYCLED WATER LINE SHALL BE CONSTRUCTED OF "PURPLE PIPE." ALL RECLAIMED AND RECYCLED WATER VALVE COVERS SHALL BE SQUARE AND PAINTED PURPLE 5. FORCE MAIN PIPES NEED TO HAVE SWEEPING WYES FOR JOINTS.

### STREET AND DRAINAGE NOTES

THERMOPLASTIC

- 1. THE CITY OF LEANDER HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISTATION RELATED TO ACCESSIBLITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND TEXAS ACCESSIBILITY STANDARS (TAS)
- 2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 6" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 6" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
- 3. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED BETWEEN THE CURB AND RIGHT-OF-WAY AND IN ALL DRAINAGE CHANNELS EXCEPT CHANNELS CUT IN STABLE ROCH
- 4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT, INCLUDING GAS, ELECTRIC TELEPHONE, CABLE TV, ETC., SHALL BE A MINIMUM OF 36" BELOW SUBGRADE.
- 5. STREET RIGHT-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/2" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED
- 6. ALL DRAINAGE PIPE IN PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE REINFORCED CONCRETE PIPE MINIMUM CLASS III OF TONGUE AND GROOVE OR O-RING JOINT DESIGN. CORRUGATED METAL PIPE IS NOT ALLOWED IN PUBLIC RIGHT OR WAY OR EASEMENTS.
- 7. THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER TXDOT SPEC FOR PROOF ROLLING. 8. ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE TYPE II (WATER BASED). STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I
- 9. MANHOLE FRAMES, COVERS, VALVES, CLEAN-OUTS, ETC. SHALL BE RAISED TO GRADE PRIOR TO FINAL PAVEMENT CONSTRUCTION.
- 10. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS.
- 11. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISIONS OF THE APPROVED CONSTRUCTION PLANS
- 12. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE PROVIDED BY PROFESSIONAL SERVICE INDUSTRIES, INC., PSI PROJECT NO. 03031748, DATED APRIL 10, 2023.
- 13. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CITY OF AUSTIN TRANSPORATION CRITERIA MANUAL, CITY OF LEANDER STANDARD DETAILS AND TEXAS DEPARTMENT OF TRANSPORTATION CRITERIA, SHALL BE SUBMITTED TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS MUST BE SITE SPECIFIC AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER
- 14. ALL LANE CLOSURES SHALL OCCUR ONLY BETWEEN THE HOURS OF 9 AM AND 4 PM UNLESS OTHERWISE NOTED ON THE PLANS. ANY NIGHT TIME LANE CLOSURES REQUIRE APPROVAL O THE CITY ENGINEER AND SHALL OCCUR BETWEEN THE HOURS OF 8 PM AND 6 AM. LANE CLOSURES OBSERVED BY THE CITY DURING PEAK HOURS OF 6 AM TO 9 AM OR 4 PM TO 8 P WILL BE SUBJECT TO A FINE AND/OR SUBSEQUENT ISSUANCE OF WORK STOPPAGE.
- 15. TEMPORARY ROCK CRUSHING IS NOT ALLOWED. ALL SOURCES OF FLEXIBLE BASE MATERIAL ARE REQUIRED TO BE APPROVED BY THE CITY. PRIOR TO BASE PLACEMENT ALL CURRENT TRIAXIAL TEST REPORTS FOR PROPOSED STOCK PILES ARE TO BE SUBMITTED TO THE CITY CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVA
- 16. AT ROAD INTERSECTIONS THAT HAVE A VALLEY GUTTER, THE CROWN TO THE INTERSECTING ROAD WILL BE CULMINATED AT A DISTANCE OF 40 FEET FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
- 17. NO PONDING OF WATER SHALL BE ALLOWED TO COLLECT ON OR NEAR THE INTERSECTION OF PRIVATE DRIVEWAYS AND PUBLIC STREETS. RECONSTRUCTION OF THE DRIVEWAY APPROACH SHALL BE AT THE CONTRACTOR'S EXPENSE
- 18. ALL DRIVEWAY APPROACHES SHALL HAVE A UNIFORM TWO PERCENT SLOPE WITHIN THE PUBLIC RIGHT OF WAY UNLESS APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT.
- 19. IMPROVEMENTS THAT INCLUDE RECONSTRUCTION OF AN EXISTING TYPE II DRIVEWAY SHALL BE DONE IN A MANNER WHICH RETAINS OPERATIONS OF NOT LESS THAN HALF OF THE DRVIEWAY TO REMAIN OPEN AT ALL TIMES. FULL CLOSURE OF SUCH DRIVEWAY CAN BE CONSIDERED WITH WRITTEN AUTHORIZATION OBTAINED BY THE CONTRACTOR FROM ALL PROPERTY OWNERS AND ACCESS EASEMENT RIGHT HOLDERS ALLOWING THE FULL CLOSURE OF THE DRIVEWAY.
- 20. CONTRACTOR MUST CLEAR FIVE (5) FEET BEYOND ALL PUBLIC RIGHT OF WAY TO PREVENT FUTURE VEGETATIVE GROWTH INTO THE SIDEWALK AREAS.
- 21. SLOPE OF NATURAL GROUND ADJACENT TO THE PUBLIC RIGHT OF WAY SHALL NOT EXCEED 3:1 SLOPE. IF A 3:1 SLOPE IS NOT POSSIBLE, SLOPE PROTECTION OR RETAINING WALL MUST BE
- SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE 22. THERE SHALL BE NO WATER, WASTEWATER OR DRAINAGE APPURTENANCES, INCLUDING BUT NOT LIMITED TO VALVES, FITTINGS, METERS, CLEAN-OUTS, MANHOLES, OR VAULTS IN ANY
- DRIVEWAY, SIDEWALK, TRAFFIC OR PEDESTRIAN AREA. 23. PUBLIC SIDEWALKS SHALL NOT USE CURB INLETS AS PARTIAL WALKING SURFACE. SIDEWALKS SHALL NOT USE TRAFFIC CONTROL BOXES, METERS, CHECK VALVE VAULTS, COMMUNICATION VAULTS, OR OTHER BURIED OR PARTIALLY BURIED INFRASTRUCTURE AS A VEHICULAR OR
- PEDESTRIAN SURFACE 24. ALL WET UTILITIES SHALL BE INSTALLED AND ALL DENSITIES MUST HAVE PASSED INSPECTION(S)
- PRIOR TO THE INSTALLATION OF DRY UTILITIES. 25. DRY UTILITIES SHALL BE INSTALLED AFTER SUBGRADE IS CUT AND BEFORE THE FIRST COURSE OF BASE. NO TRENCHING COMPACTED BASE. IF NECESSARY DRY UTILITIES INSTALLED AFTER FIRST COURSE BASE SHALL BE BORED ACROSS THE FULL WIDTH OF THE PUBLIC RIGHT-OF-WAY.
- 26. A MINIMUM OF SEVEN (7) DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF VEHICULAR TRAFFIC TO ALL STREETS

# TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 509S "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS

# GRADING NOTES

- 1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF
- 2. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY

OF AUSTIN STANDARD SPECIFICATIONS.

3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER AREAS WILL NOT BE DISTURBED

BENCHMARK NOTES:

SQUARE CUT ON TOP OF CONCRETE HEAD WALL ON THE SOUTH SIDE OF SAN GABRIEL B O W +- 280' FAST OF THE INTERSECTION OF SAN GABRIEL PARKWAY ROAD AND CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY RAILROAD, AND +-' WEST OF THE NORTHWESTERN MOST SUBJECT PROPERTY CORNER ELEVATION=970.96'.

SQUARE CUT ON TOP OF CONCRETE CURB OF A CURC ISLAND IN THE SAN GABRIEL PARKWAY R.O.W., +-50' NORTH FROM A STORM SEWER MANHOLE ON A CURB INLET ON THE SOUTH SIDE OF SAN GABRIEL PARKWAY ROAD, AND +-14' FROM A TRAFFIC SIGNAL POLE ON A EASTING: 3076865.714, ELEVATION = 981.84'. (NOT SHOWN)

### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ONTRIBUTING ZONE PLAN **GENERAL CONSTRUCTION NOTES**

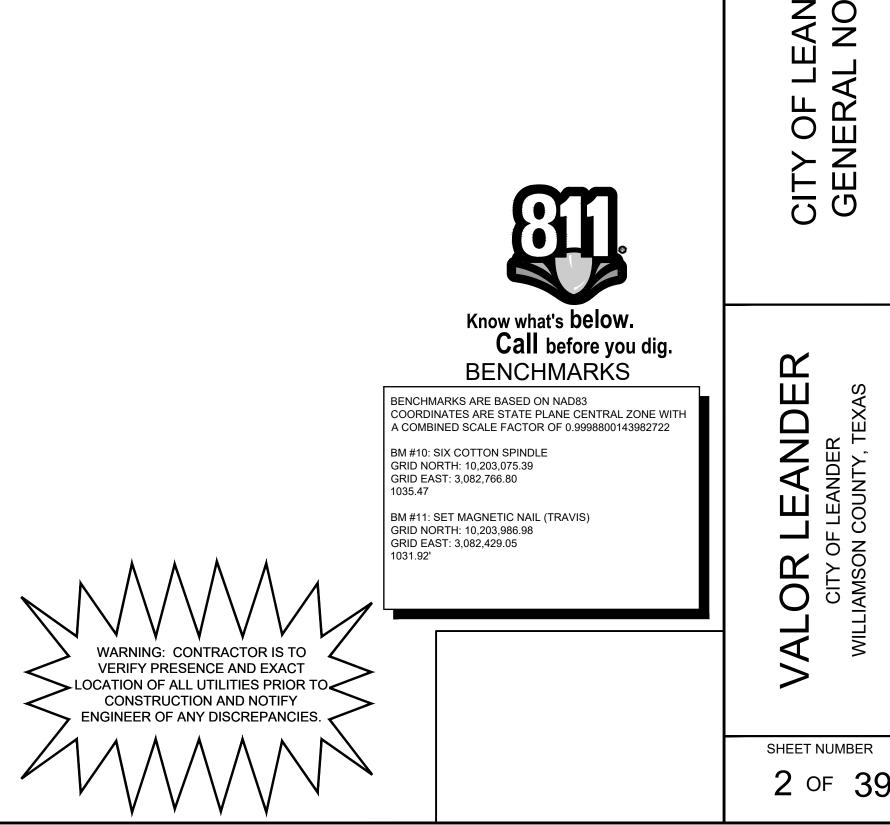
- WRITTEN CONSTRUCTION NOTIFICATION SHOULD BE PROVIDED TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY INFORMATION SHOULD INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR WITH THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN AND THE TCEQ ETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
- 3. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET IF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL
- 4. PRIOR TO COMMENCING CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED. INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE SWPPP SECTION OF THE APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
- 5. 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
- 6. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- 7. 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). 8. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE AND STORED ON-SITE MUST
- HAVE PROPER E&S CONTROLS INSTALLED. 9. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND CONSTRUCTION ACTIVITIES WILL NOT RESUME WITHIN 21 DAYS. WHEN THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE
- 10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- 11. THE HOLDER OF ANY APPROVED CONTRIBUTING ZONE PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
- A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES:
- B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED: C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE
- EDWARDS AQUIFER AND HYDROLOGICALLY CONNECTED SURFACE WATER; OR D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED IN A CONTRIBUTING ZONE PLAN AS

UNDEVELOPED. AUSTIN REGIONAL OFFICE 2800 S. IH 35, SUITE 100 AUSTIN, TEXAS 78704-5712 PHONE(512) 339-2929 FAX (512) 339-3795 SAN ANTONIO REGIONAL OFFICE

14250 JUDSON ROAI 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.

THE CITY OF LEANDER STANDARD CONSTRUCTION NOTES SHALL APPLY AND TAKE PRECEDENCE. FOR INSTANCES WHERE THEY CONFLICT WITH KIMLEY-HORN GENERAL NOTES OR APPLICABLE TCEQ REQUIREMENTS. THEN THE MORE RESTRICTIVE SHALL APPLY.



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11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN 12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER

13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER. AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY. 14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT

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

RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE

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 NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE. 21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA. UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE. 22.CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE

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, 24.AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN

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 3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION.

ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED

CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP. 6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION. 7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEO BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

. 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 ACCURATELY. OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND 3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT, REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR. 4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND

# b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER

### 5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO

6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY, 7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED. 8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT.

# . 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

3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB 4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE 5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF

ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN . CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE 8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALI

PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER. 9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING 10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL

WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE 11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND 12.BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND

13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH 14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR

SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL 15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING 16.NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED. 17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF

19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO

20.CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING 21.ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING

22.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS. 23. THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION

24.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING. 25.CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER

OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION. 26. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST B' SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER. 27.CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS

THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL 28.EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND

IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER. 29.CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK 30. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE

APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT. 31. CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.

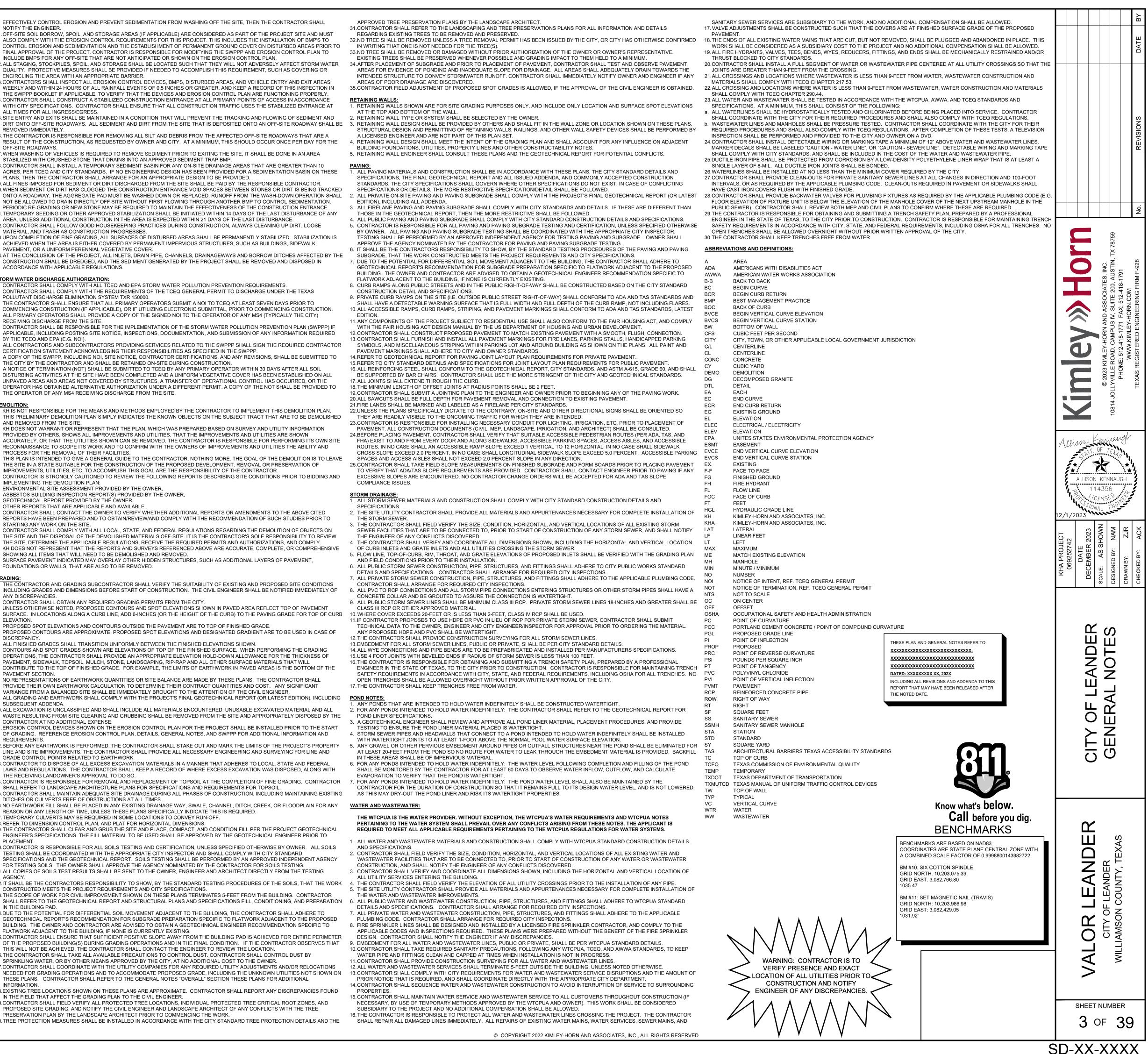
- IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S). 33.NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM 34.AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF, CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY
- AREAS OF POOR DRAINAGE ARE DISCOVERED. 35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED. RETAINING WALLS:
- . RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL. 2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER. 3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS.
- STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET. 4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
- 5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.
- 1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS. THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA. AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS. THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
- EDITION), INCLUDING ALL ADDENDA. 3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
- 4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS 5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
- 6 IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE. THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS 7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING. IF NONE IS CURRENTLY EXISTING.
- 8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS. 9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP. NOT INCLUDING FLARES.
- 10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST FDITION 11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- 12. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION. 13 CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
- 14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT 15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT. 16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS. 17. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
- 18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET. 19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK.
- 20. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT 21.FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS 22.UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
- 23.CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT, ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED. 24 BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES, IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL, IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING EVCE
- SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION. 25 CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY F-F EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

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

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

# WATER AND WASTEWATER:

- THE WTCPUA IS THE WATER PROVIDER. WITHOUT EXCEPTION. THE WTCPUA'S WATER REQUIREMENTS AND WTCPUA NOTES. PERTAINING TO THE WATER SYSTEM SHALL PREVAIL OVER ANY CONFLICTS ARISING FROM THESE NOTES. THE APPLICANT IS REQUIRED TO MEET ALL APPLICABLE REQUIREMENTS PERTAINING TO THE WTCPUA REGULATIONS FOR WATER SYSTEMS.
- 1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH WTCPUA STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS 2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER
- CONSTRUCTION. AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED 3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING. 4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE
- 5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS. 6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO WTCPUA STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS
- 7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER
- DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES. 9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER WTCPUA STANDARD DETAILS. 10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY WTCPUA, TCEQ, AND AWWA STANDARDS, TO KEEP
- WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS 11. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES. 12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE
- NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON 13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT. 14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES
  - 15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE WTCPUA AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. 16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND



	GE	AS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN NERAL CONSTRUCTION NOTES: A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE: -THE NAME OF THE APPROVED PROJECT;	12.	NEW SEWAGE COLLECTION THE LOCATION OF SUCH TIME OF CONNECTION OF MATERIAL WITH BOTH TH CONSTRUCTED SUFFICIE	STUB OUTS N THE EXTENS E SEWER LIN NTLY TO EXT	NUST BE MA BIONS. SUC E AND THE END BEYON	NRKED ON THE H STUB OUTS EXTENSION. A ND THE END O
		-THE ACTIVITY START DATE; AND -THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.		MANUFACTURED CAP TO ARE TO BE CONNECTED SADDLE AND IN ACCORD	TO AN EXISTI	NG SEWER	LINE NOT FUR
	2.	ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.		IF NO STUB-OUT IS PRESI POTENTIAL FUTURE LATE		RNATE MET	HOD OF JOINII
	3.	IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE		THE PRIVATE SERVICE I	_ATERAL STU	B-OUTS MU	IST BE INSTAL
	4.	IMPACTS TO WATER QUALITY.	13.	TRENCHING, BEDDING AN WITH THE STANDARDS O (ANSI A 106.2) CLASSES A	F ASTM D-232		
		DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A	14.	SEWER LINES MUST BE T			
		CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPRICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.		CLEAN-OUT, IT MUST BE PROPOSED SEWER LINE, UNLESS IT CAN BE CERTI	NO PRIVATE	SERVICE A	TTACHMENTS
	6.	ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.	15.	ALL SEWER LINES MUST			
-	, Inc.	SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.		LINES HAVE PASSED ALL USE OF THE NEW COLLEC	REQUIRED TH	ESTING TO M. TESTING	THE APPROPR METHOD WILI
	CIG	ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.	( )	FOR A COLLECTION SYS AND EXFILTRATION T LOW PRESSURE AIR TES A LOW PRESSURE AIR T	EST OR A LO ST.	W-PRESSU	RE AIR TEST. A
-	-	IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.	(B)	C-828, ASTM C-924, O REQUIRED IN TABLE FOR SECTIONS OF COLI UNLESS A PIPE IS TO	R ASTM F-14 C.3 IN SUBPA ECTION SYS BE TESTED	17 OR OTHE RAGRAPH ( TEM PIPE LI AS REQUIRE	R PROCEDUR C) OF THIS PA ESS THAN 36 II ED BY PARAGF
	of Atilia 11.	THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:	(i) (ii)	ONCE THE PRESSURE IS	E PIPE. S STABILIZED	, THE MINIM	IUM TIME ALLO
-	e without I	-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.			<u>.3</u>	5 * D * K) / 0	LOWING EQUA
-	a 12 	. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:	WH		R PRESSURE	, TO DROP 1	.0 POUND PER
-	sociates, Ir	A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;		D = AVERAG	X D X L, BUT E INSIDE PIPE OF LINE OF S	DIAMETER	
-	'n and As	B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;					EING TESTED
-	Kimley-Ho	C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.	(C)	SINCE A K VALUE OF LE TABLE C.3:	SS THAN 1.0 I	MAY NOT BE	E USED, THE N
-	ō	EQ REGION 11 OFFICE .00 PARK 35 CIRCLE,			PIPE DIAMETER (IN)	MINIMUM TIME (SEC)	MAXIMUM LENGTH FOR MINIMI TIME (FT)
-	B AU	LDING A, RM 179 STIN, TEXAS 78753-3795 DNE: (512) 339-2929			8 10 12	454 567 680	298 239 199
:	Iorization	(: (512) 339-3795			15 18 21 24	850 1020 1190 1380	159 133 114 100
	TC off				27 30 33	1530 1700 1870	88
- 6 -	thout write	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.	(D)	AN OWNER MAY STOP A	TEST IF NO I	PRESSURE	LOSS HAS OC
ral Notes.dv	nis document mi	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.	(E) (F) (G)	INSTEAD OF FOLLOW	IRATION AS C FION SYSTEM ING THE PRC	UTLINED A PIPES WIT CEDURE O	BOVE OR UNT H A 27 INCH OI UTLINED IN TH
- Gene	ance on <b>3</b> .	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:	(2) (A)		ON, AS DETER		
neets <(	proper rel	-THE NAME OF THE APPROVED PROJECT; -THE ACTIVITY START DATE; AND	(B) (C)	AN OWNER SHALL USE A LEVEL. THE TOTAL EXFILTRATION			
∖plansh ` · · `	m pup 10	-THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.	(C) (D)	OF PIPE PER 24 HOU TWO FEET ABOVE EX FOR CONSTRUCTION W	RS AT A MININ (ISTING GROU	IUM TEST H	IEAD OF TWO LEVEL, WHICH
te plan	ed. Keuse	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.	(E)	DIAMETER PER MILE IF THE QUANTITY OF INF REMEDIAL ACTION IN	ILTRATION O	R EXFILTRA	TION EXCEED
\Cad ∖si	az 5.	PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN	(B)	SHALL RETEST A PIP IF A GRAVITY COLLECTI MUST BE FOLLOWED	ON PIPE IS CO	OMPOSED (	OF FLEXIBLE P
ander/	* 11 Holdy 6.	PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.	(1) (A) (I)	FOR A COLLECTION PIP MANDREL SIZING. A RIGID MANDREL MUST			
valor le	lient for v	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	(  )	PIPE, AS SPECIFIED I NATIONAL STANDARI IF A MANDREL SIZING DI	N THE APPRO	PRIATE ST. , OR ANY R	ANDARD BÝ TH ELATED APPE
2742-	ose and c	STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE		THE ID OF A PIPE. IN AVERAGE OUTSIDE I FOR ID CONTROLLED	DIAMETER MIN PIPE.	IUS TWO M	INIMUM WALL
\06925 	ecific purp	IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.	(III) (B) (I)	A RIGID MANDREL MUST			
civil.	strees 2.	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	(II) (III)	DEFORMED. A MANDREL MUST HAVE A BARREL SECTION LEN			
K: \au	d only to	THICKNESS OF 6 INCHES.	(IV) (IV) (C)				
File Path:	rvice, is intende	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.	(I) (II) (III)	AN ADJUSTABLE OR FLE A TEST MAY NOT USE T IF REQUESTED, THE EXI RUNNERS ON A CASE FOR A GRAVITY COLLEC	ELEVISION IN ECUTIVE DIRE E-BY-CASE BA	SPECTION A CTOR MAY	AS A SUBSTITU APPROVE TH
9pm	ent of se	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	(2)	DETERMINE VERTICAL D A DEFLECTION TEST ME	EFLECTION.	BE ACCURA	TE TO WITHIN
)3: 06: 5	an instrum	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.	(4) (5) (6)	GRAVITY COLLECTION S	SYSTEM PIPE S A DEFLECTI	DEFLECTIC ON TEST, A	N MUST NOT E N OWNER SHA
2023	nerein, as	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 28 OF 39.	16.	BACKFILL HAS BEEN IN I			
er 01, ;	presented	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.	( )	ALL MANHOLES MUST P AN OWNER SHALL TEST COLLECTION SYSTEM	EACH MANH	OLE (AFTEF	
ecemb.	subise p 10.	WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION	(1) (A)		E FOR HYDRC		STING OR ANY
Date: L	ncepts an	MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).	(B)	FOOT OF MANHOLE E TO PERFORM A HYDROS INTERNAL PIPE PLUG	STATIC EXFIL	TRATION TE	TH WATER, AN
Zach	00 <b>11</b> .	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: <u>NONE</u>	(C) (2) (A)	VACUUM TESTING.			
andall, "	ogether wi	IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: <u>NO FLEXURE</u> <u>PROPOSED</u>	(A) (B) (C)	PIPES ENTERING A M	ANHOLE. ACED IN HOR	IZONTAL JC	INTS BEFORE
d By: R	cument, tk	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.	(C) (D)	AN OWNER SHALL USE A TOP OF A MANHOLE.	A MINIMUM 60	INCH/LB T	ORQUE WREN
Dotted	Inis doc		(E)	A TEST HEAD MUST BE MANUFACTURER'S R			T THE TOP OF

EM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. JTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND R LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE ) EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A IT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT XISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED TH ACCEPTED PLUMBING TECHNIQUES.

ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET <u>N/A</u> OF <u>N/A</u>. (FOR

STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS.

FILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY 0-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12

ROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE ATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

ED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH E EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER ED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO YSTEM. TESTING METHOD WILL BE:

PE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

ST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS JBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH. SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, TED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION. TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE

IZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS FROM THE FOLLOWING EQUATION:

SURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS

OF SAME SIZE BEING TESTED, IN FEET

OF SAME SIZE BEING TESTED, IN FEET 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

I 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING

R (IN)	MINIMUM TIME (SEC)	MAXIMUM LENGTH FOR MINIMUM TIME (FT)	TIME FOR LONGER LENGTH (SEC/FT)
	340	398	0.8550
	454	298	1.5200
	567	239	2.3740
	680	199	3.4190
	850	159	5.3420
	1020	133	7.6930
	1190	114	10.4710
	1360	100	13.6760
	1530	88	17.3090
	1700	80	21.3690
	1870	72	25.8560

NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. KAGE HAS OCCURRED DURING THE FIRST 25% OF TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR AS OUTLINED ABOVE OR UNTIL FAILURE

STEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT PROCEDURE OUTLINED IN THIS SECTION.

PE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR. ETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER

AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE. TRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER

ETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST GROUNDWATER LEVEL, WHICHEVER IS GREATER. 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH

PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH. ON OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER WING A REMEDIATION ACTION.

IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES ISIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

N OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A

PROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN TUTE, OR ANY RELATED APPENDIX. R IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF

SE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE R MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER

NSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING

R MORE ODD NUMBER OF RUNNERS OR LEGS. IST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

ON INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST. DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR SE BASIS.

'STEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO ON. UST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

CT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%). ECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL T LEAST 30 DAYS.

TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

ANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE

DROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER ER HOUR. EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN E MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

LES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL

HORIZONTAL JOINTS BEFORE TESTING. AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN. JM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE

AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE NDATIONS.

(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

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.

AT LEAST	9.0 INCH	IES OF N	MERCURY.	

					DATE BY
					REVISIONS
		© 2023 KIMLEY-HORN AND ASSOCIATES, INC.	10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759	PHONE: 512-418-1771_FAX: 512-418-1791 WWW.KIMLEY-HORN.COM	TEXAS REGISTERED ENGINEERING FIRM F-928 No.
AW 12/1/2	SOW STATE ALLISON 1 1 2023	OF OF N KEI 1435 CENS	NAU TETA NNAU 56 ENG	GH	Hune
KHA PROJECT 069252742	DATE DECEMBER 2023	SCALE: AS SHOWN	DESIGNED BY: NAM	DRAWN BY: ZJR	снескер ву: АСК
		TCEQ NOTES			
	VALOR LEANDER		WILLENGEN COLINEY TEXAS		
	SHEET	r NU OF		R 39	)

SD-YY-YYYY

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

COORDINATES ARE STATE PLANE CENTRAL ZONE WITH

A COMBINED SCALE FACTOR OF 0.9998800143982722

BENCHMARKS ARE BASED ON NAD83

BM #11: SET MAGNETIC NAIL (TRAVIS)

BM #10: SIX COTTON SPINDLE

GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80

GRID NORTH: 10,203,986.98

GRID EAST: 3,082,429.05

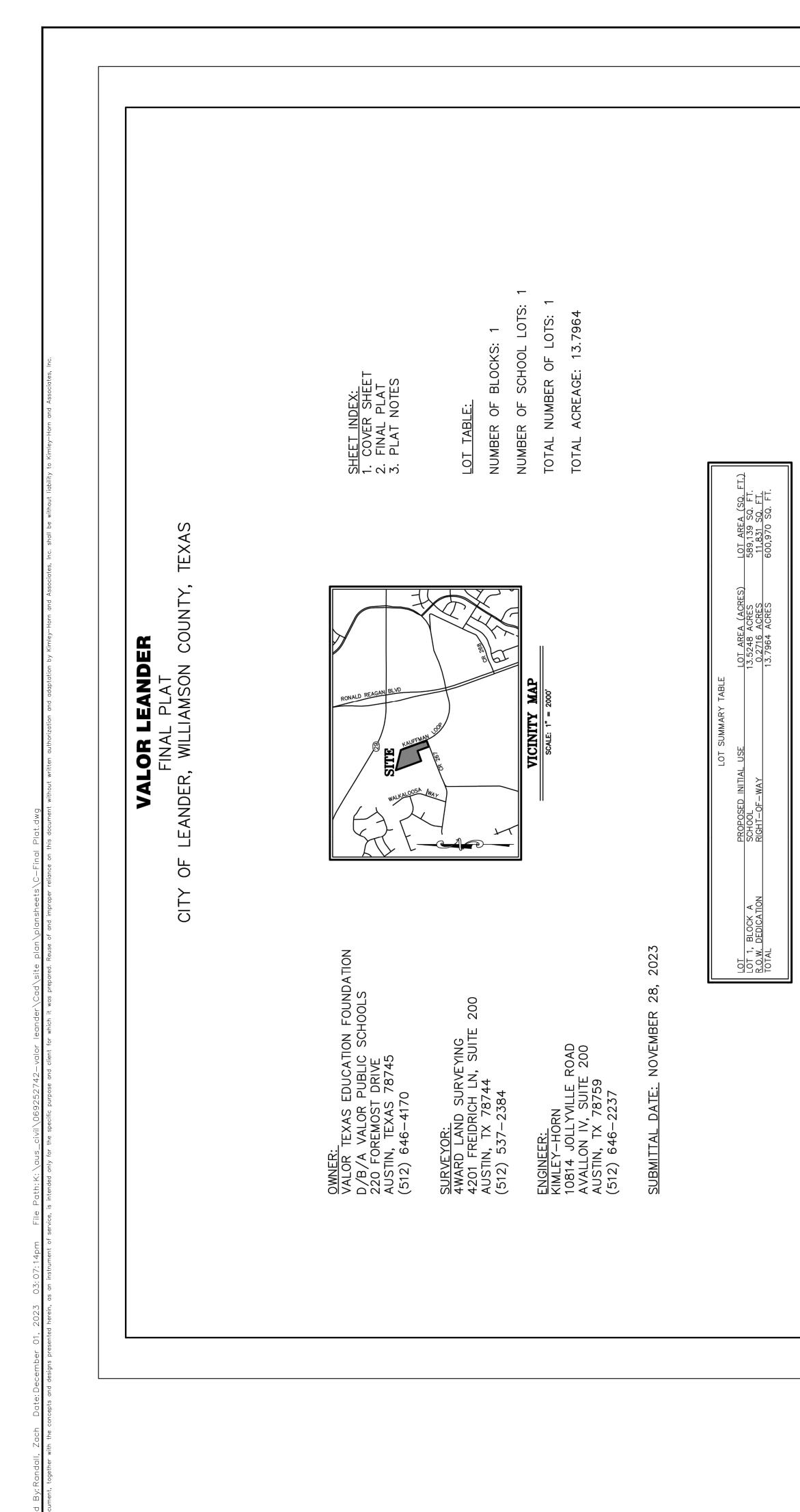
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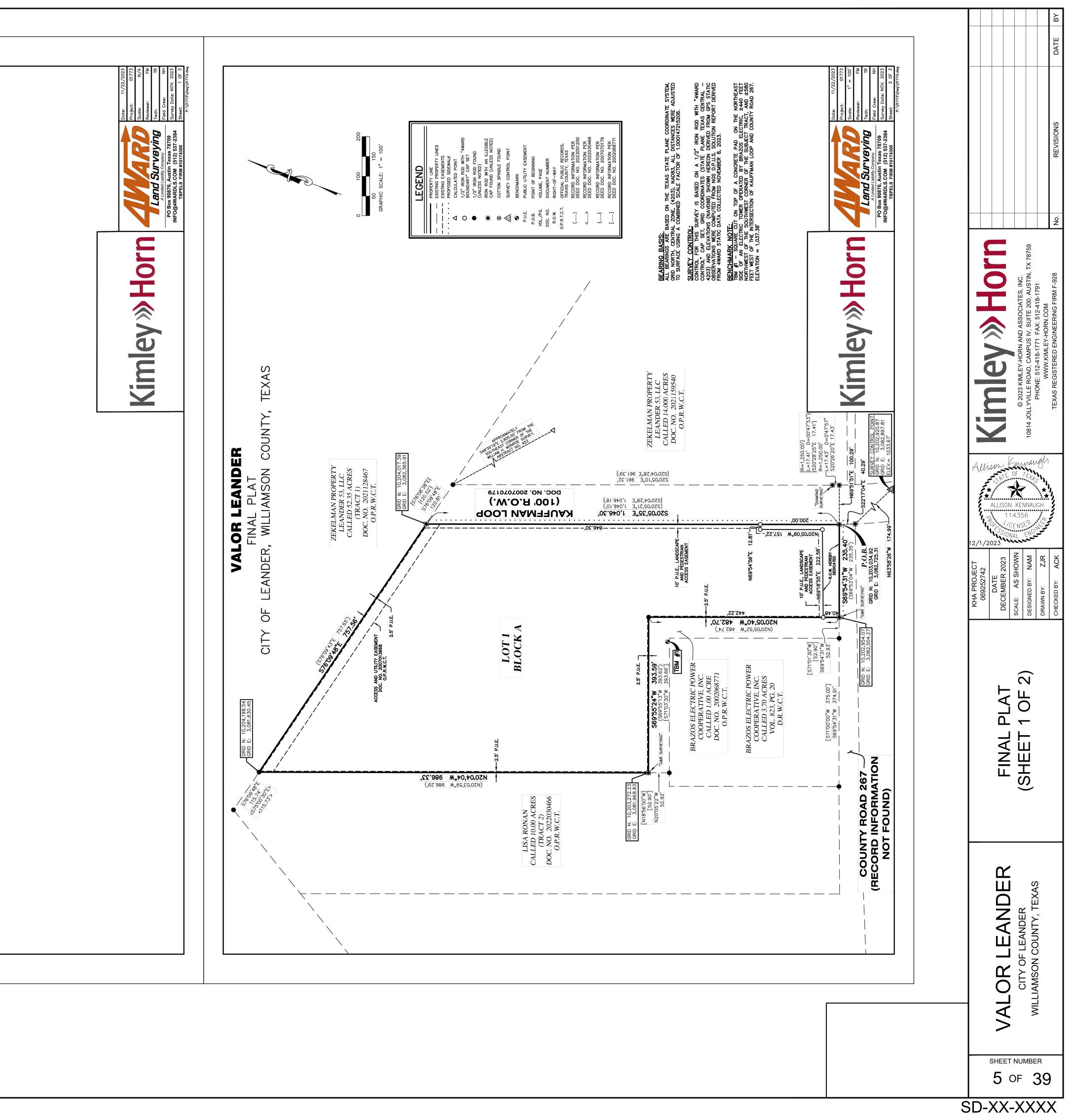
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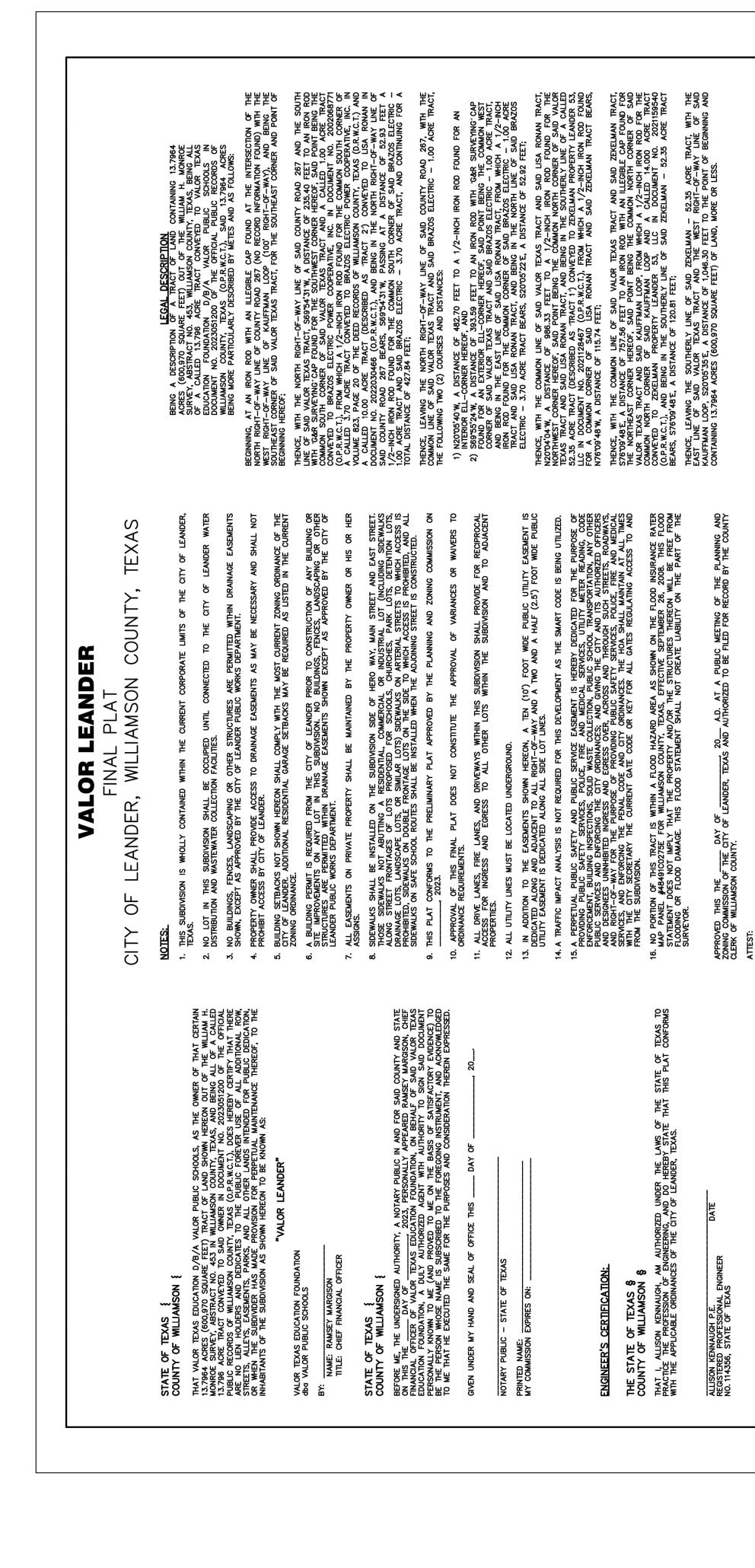
WARNING: CONTRACTOR IS TO

VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO  $\triangleleft$ 

CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

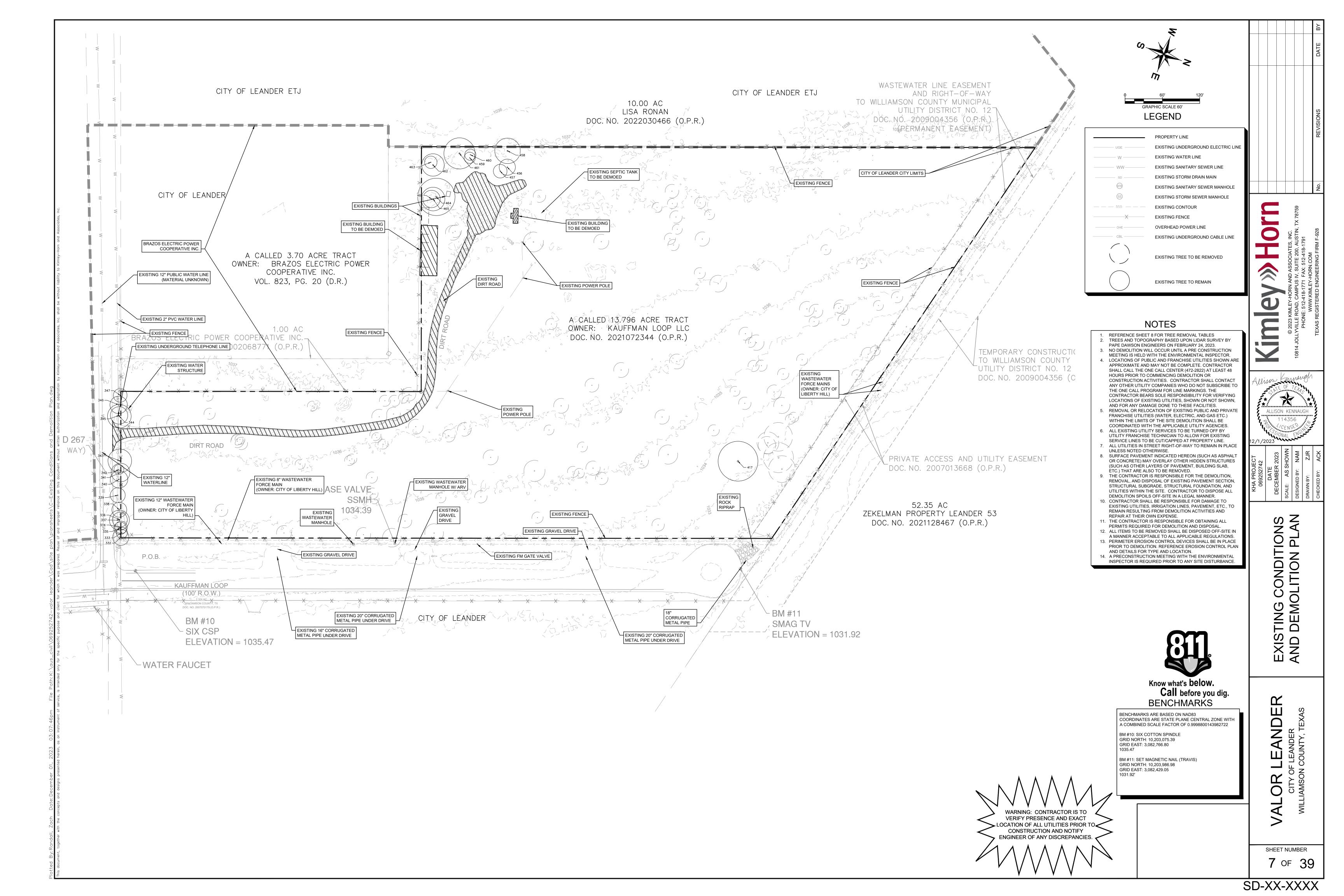


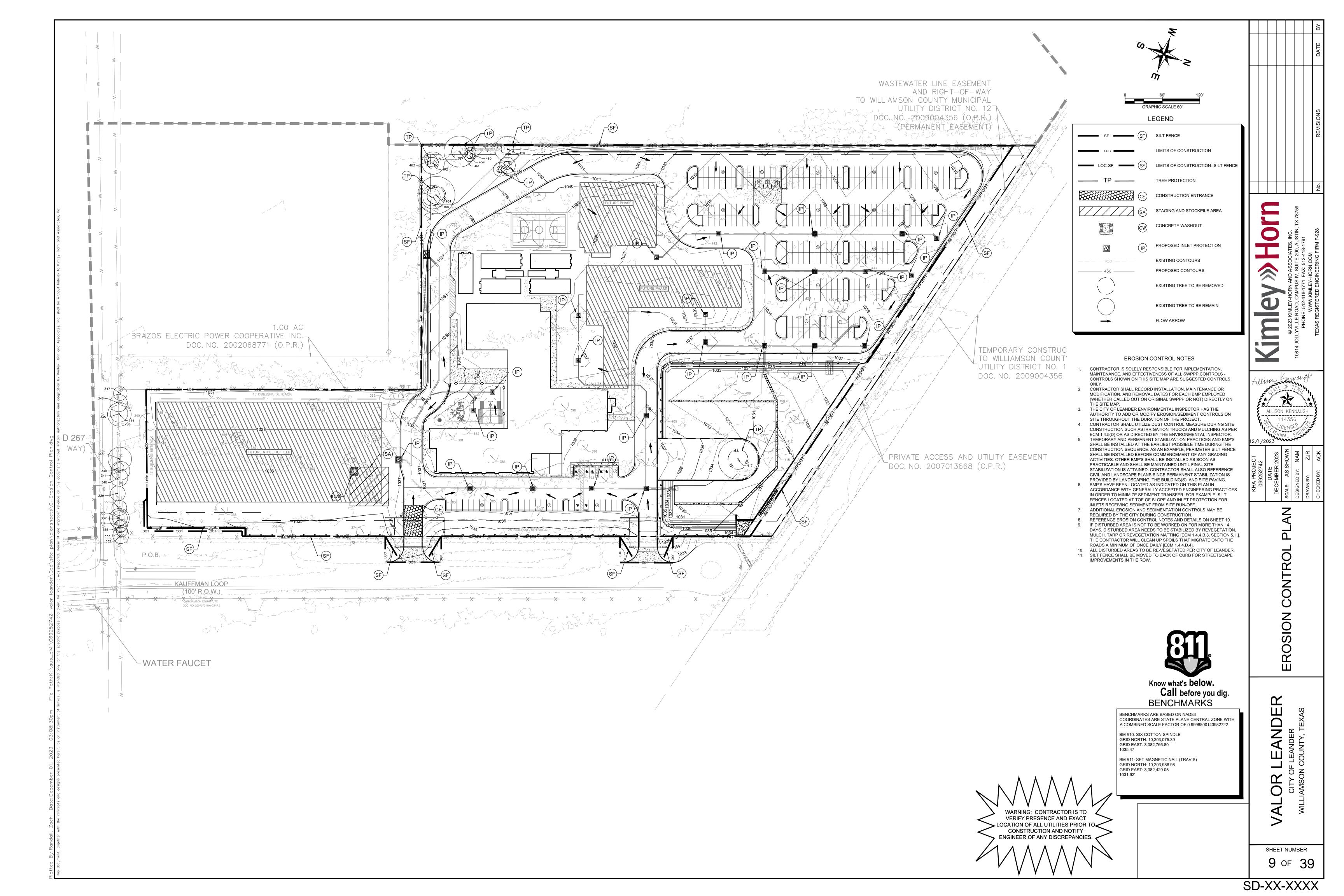


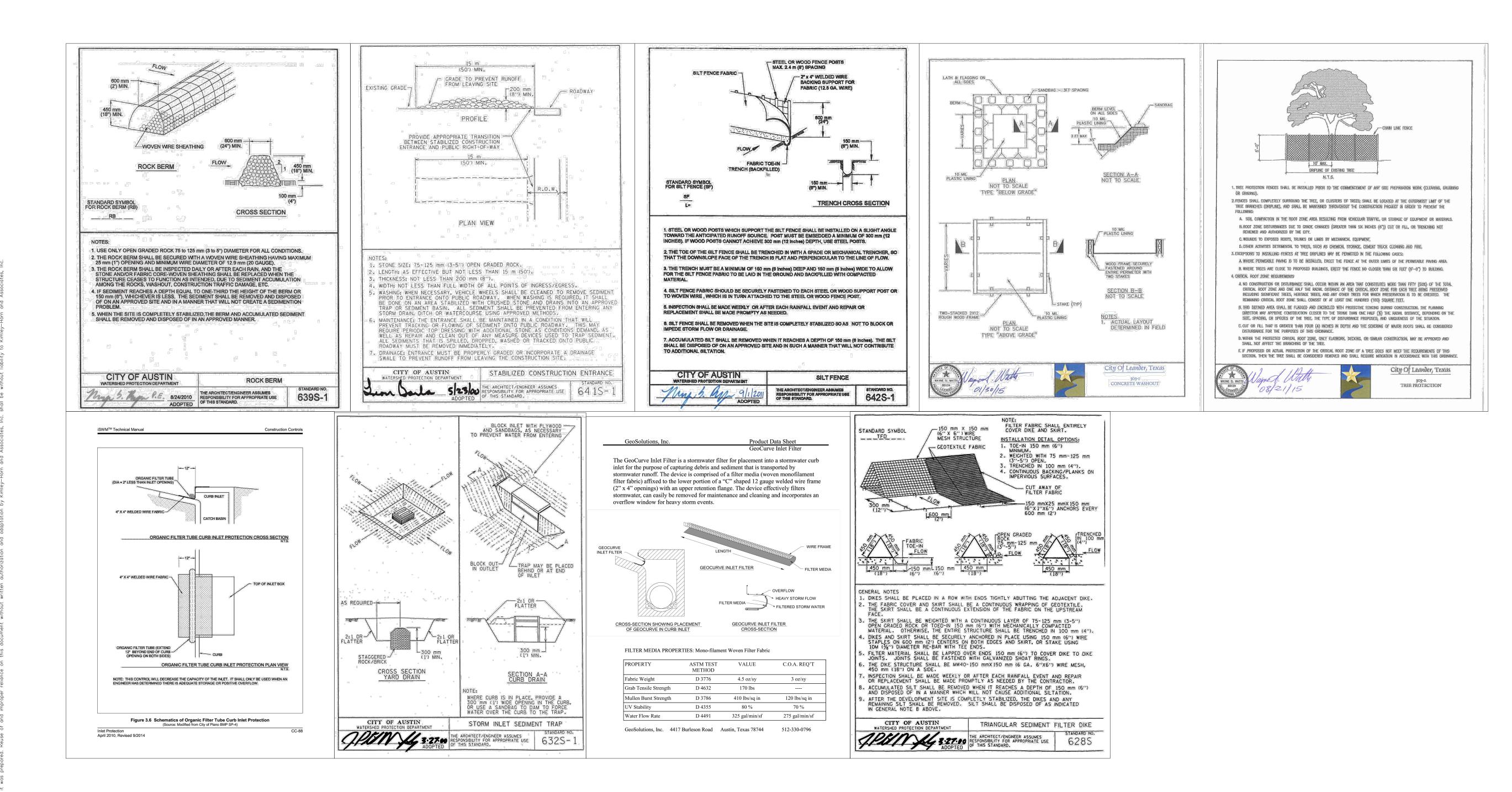


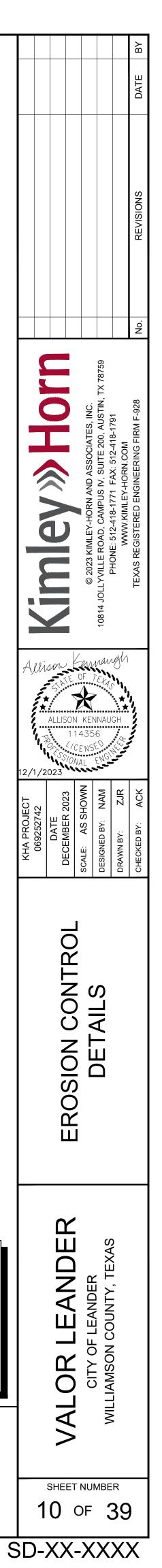
				Project:       11/22/2023         Project:       01773         Project:       01773         Reviewer:       FM         Atimited Liability Company       Reviewer:         Projecti       01773         Reviewer:       FM         Projecti:       01773         Reviewer:       FM         Project:       01773         Reviewer:       FM         Project:       N/A         Reviewer:       FM         Reviewer:       FM         Proge4wardDLS.COM       6121 537-2384         TBPELS FIRM #10174300       Sheet:       3 OF 3
	HAT THE FOREGOING MY OFFICE ON THE	HIS THE OF SAID	MY OFFICE IN	Kimley» Horn
ELLEN COUFAL, SECRETARY PLANNING AND ZONING COMMISSION CITY OF LEANDER, TEXAS	STATE OF TEXAS { COUNTY OF WILLIAMSON { I, NANCY E. RISTER, CLERK OF COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE	20 A.D., AT O'CLOCK,M. AND DULY RECORDED THIS THE 20 A.D., AT O'CLOCK,M. IN THE PLAT RECORDS OF SAID	COUNTY IN INSTRUMENT NO	DEPUTY
RON MAY, CHAIRMAN PLANNING AND ZONING COMMISSION CITY OF LEANDER, TEXAS	STATE OF TEXAS { COUNTY OF WILLIAMSON { I, NANCY E. RISTER, CLERK OF CC INSTRUMENT IN WRITING, WITH ITS CE		COUNTY IN INSTRUMENT NO	BY:
SURVEYOR'S CERTIFICATION: THE STATE OF TEXAS §	COUNTY OF WILLIAMSON \$ THAT I, FERNANDO PEREZ, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF LAND SURVEYING AND HEREBY STATE THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE ON-THE-GROUND SURVEY OF THE LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY PERSONAL SUPERVISION, IN	ACCORDANCE WITH ALL CITY OF LEANDER ORDINANCE AND CODES, AND THAT ALL EXISING EASEMENTS OF RECORD AS FOUND ON THE TITLE POLICY PROVIDED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT GF NO. 2859CM (EFFECTIVE 10/30/2022), WHICH AFFECT THIS SUBDIVISION IS SHOWN.	FERNANDO PEREZ, R.P.L.S. DATE TEXAS REGISTRATION NO. 7041	

							E BY
							DATE
							REVISIONS
							No.
				© 2023 KIMLEY-HORN AND ASSOCIATES, INC.	10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759	VWWW.KIMLEY-HORN.COM	TEXAS REGISTERED ENGINEERING FIRM F-928
A) 12/1	eli.		50N 114 70N	NF 7 KEN 135 ENSE	Eta INAU 6 ENG	GH	
KHA PROJECT	069252742	DATE		SCALE: AS SHOWN	DESIGNED BY: NAM	DRAWN BY: ZJR	снескер ву: АСК
				CITY OF LEANDER	WILLIAMSON COLINTY TEXAS		
		ыне 6 ХХ	C	)F		36	) X









Know what's **below.** 

BENCHMARKS

COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722

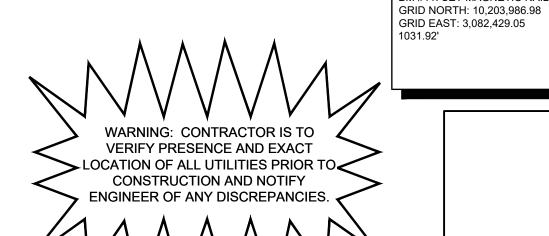
BENCHMARKS ARE BASED ON NAD83

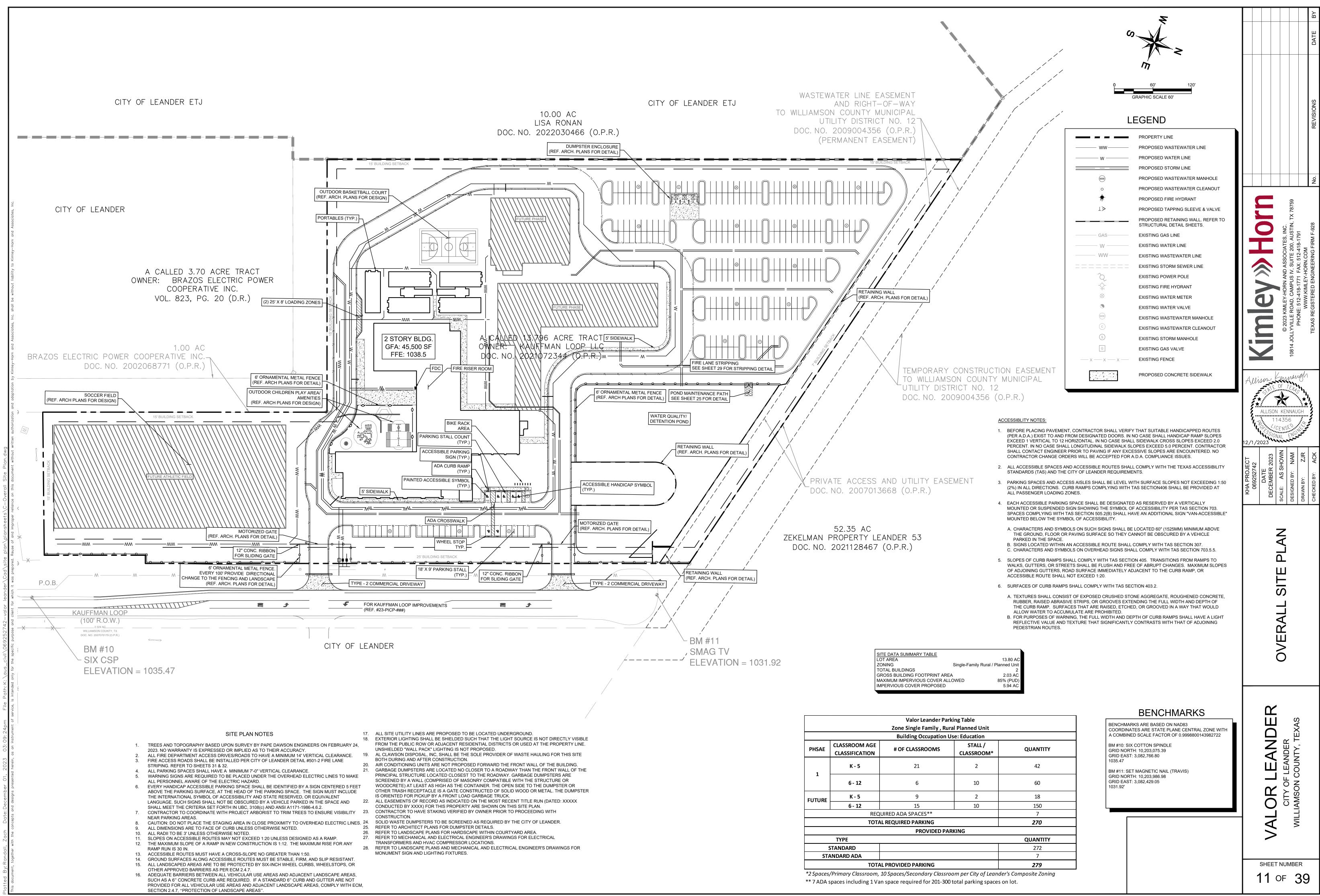
BM #11: SET MAGNETIC NAIL (TRAVIS)

BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80

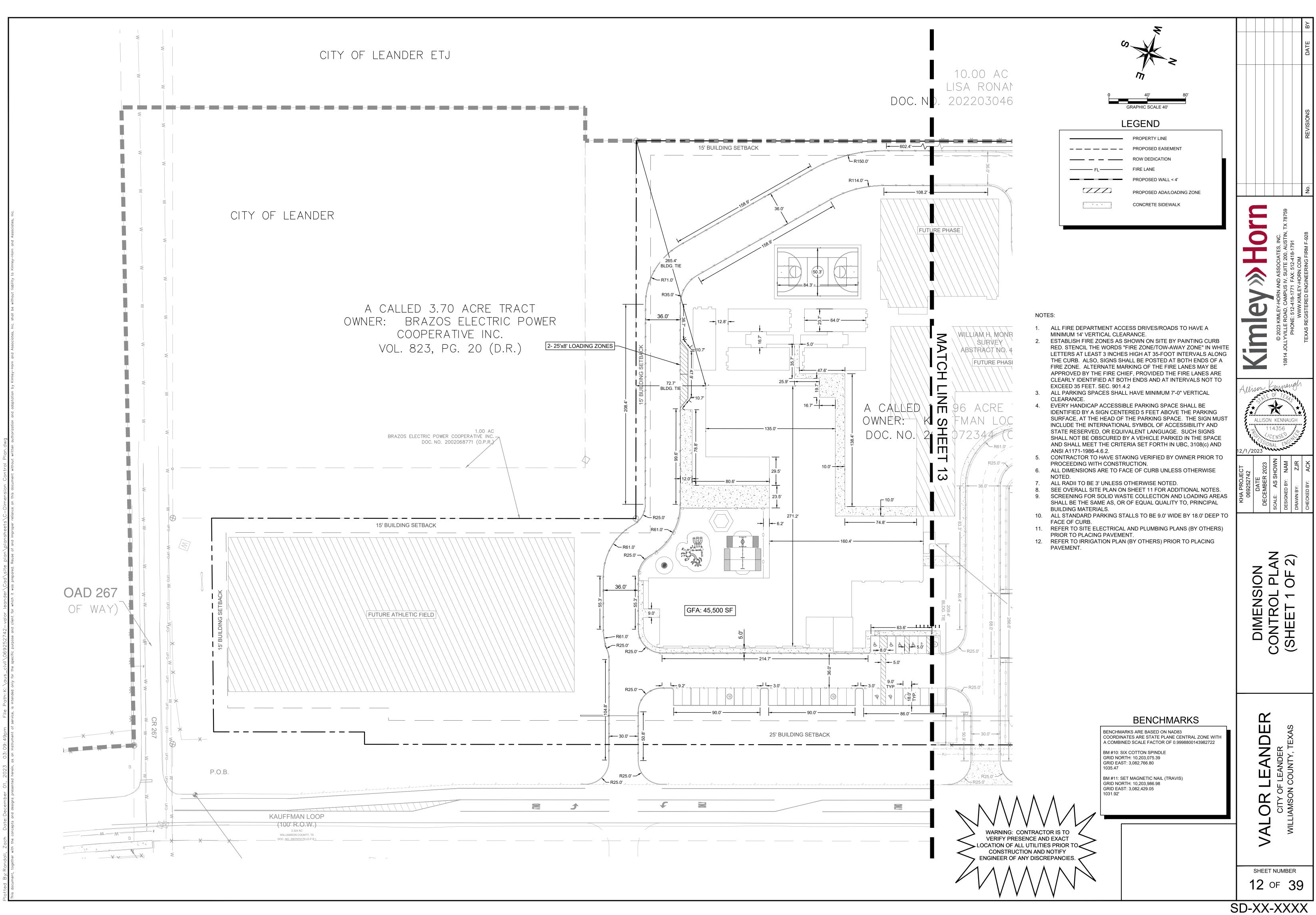
1035.47

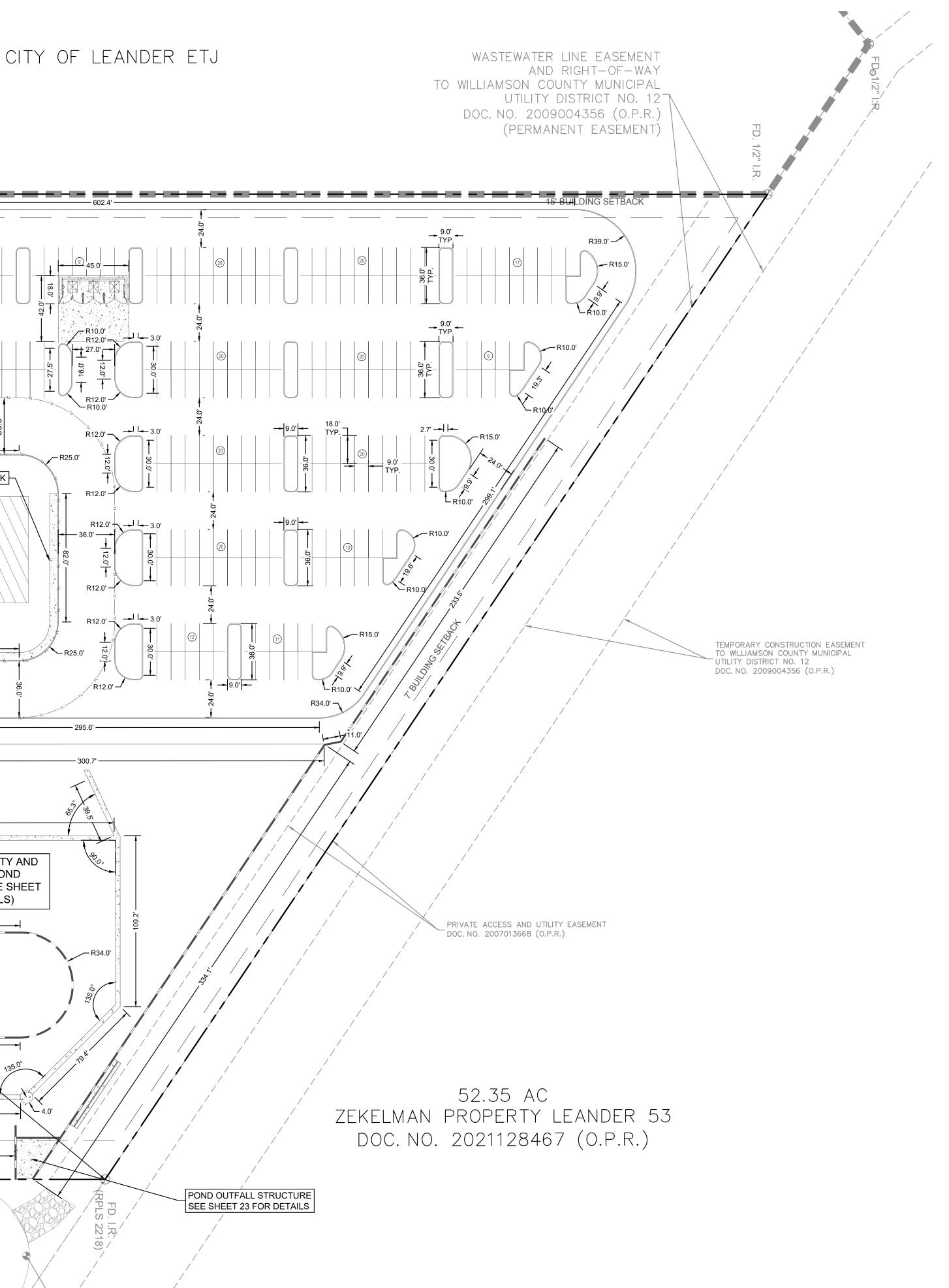
Call before you dig.

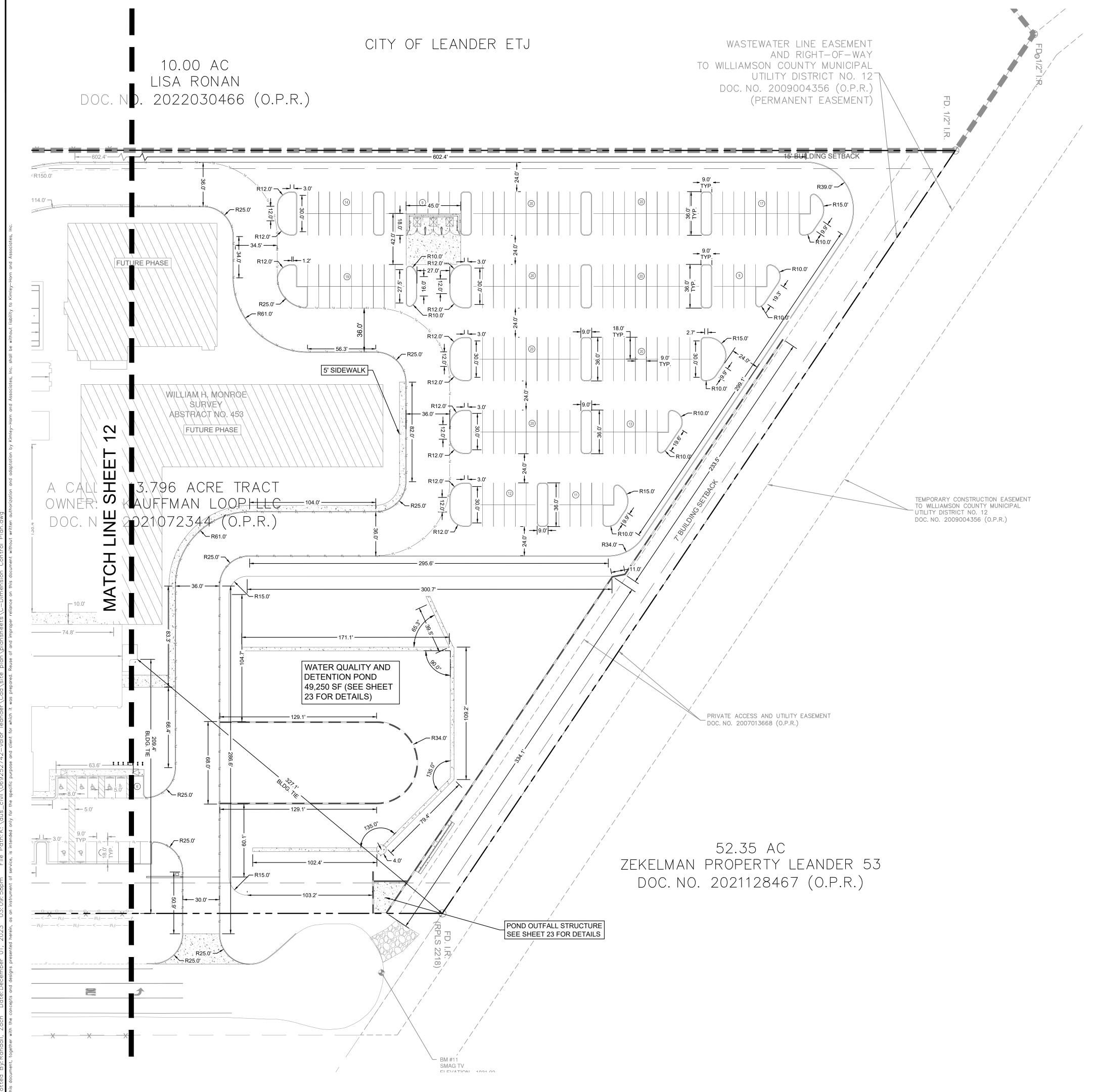


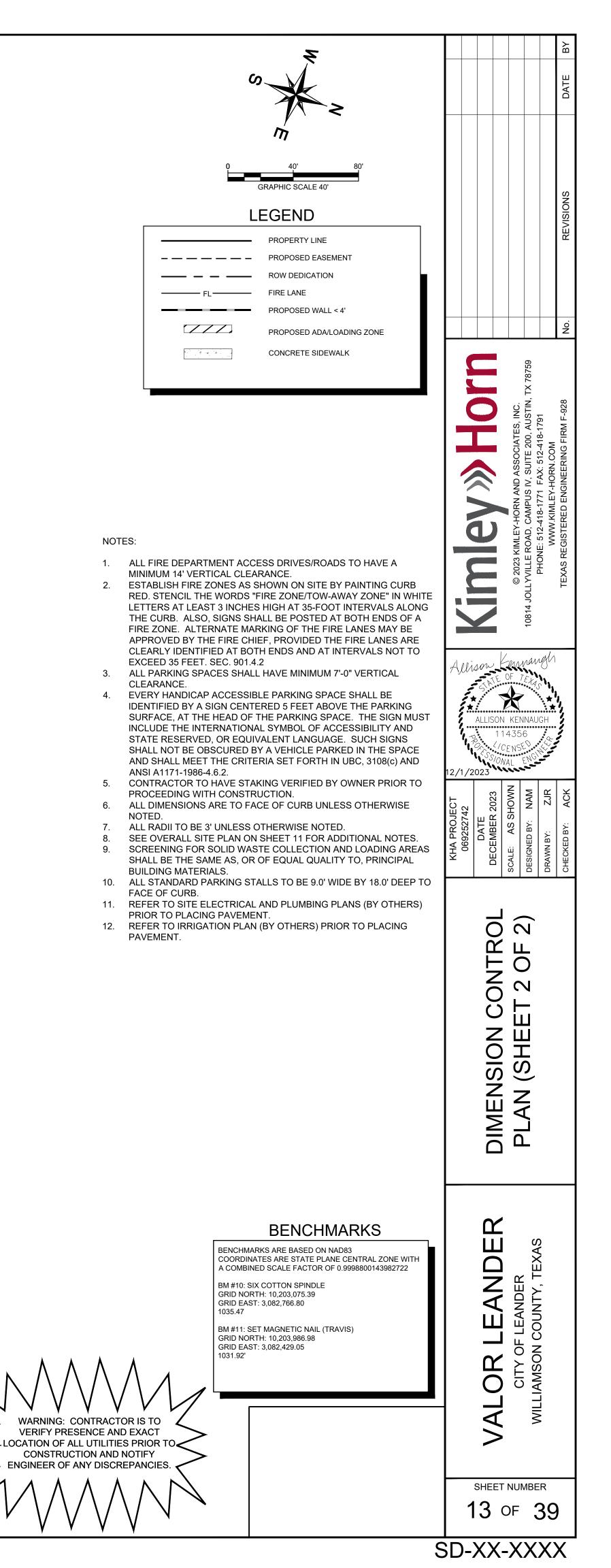


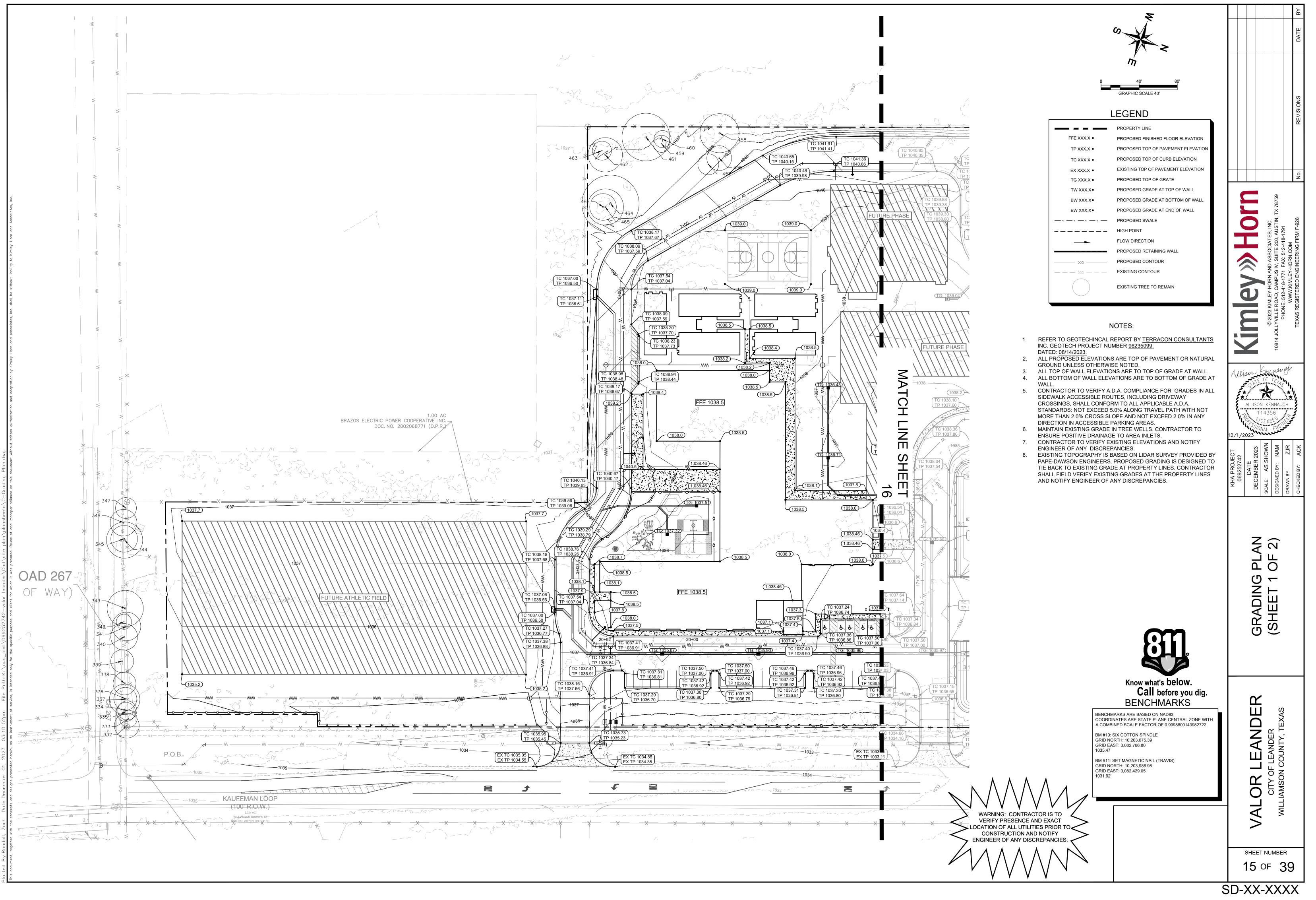
SD-XX-XXXX

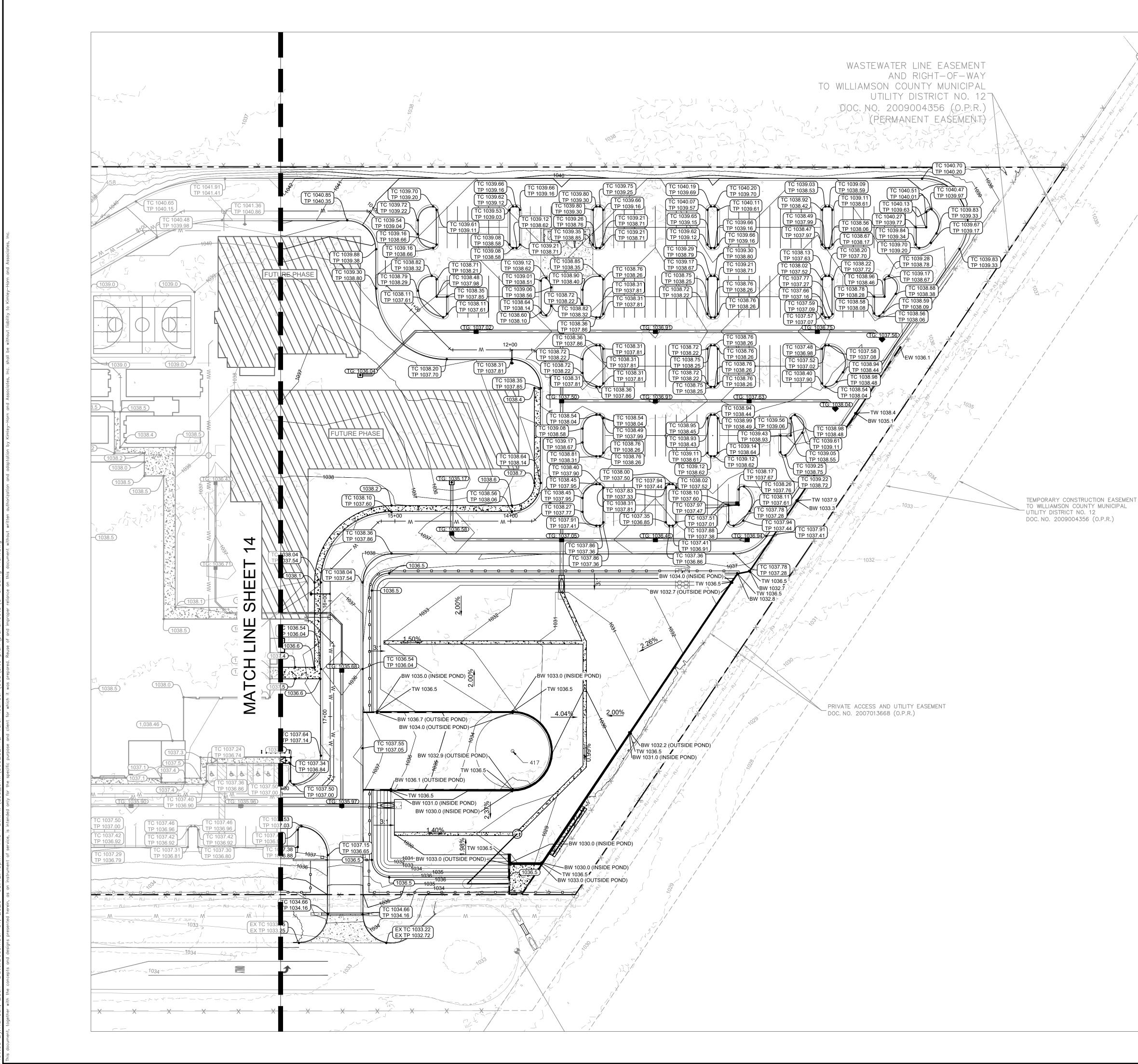


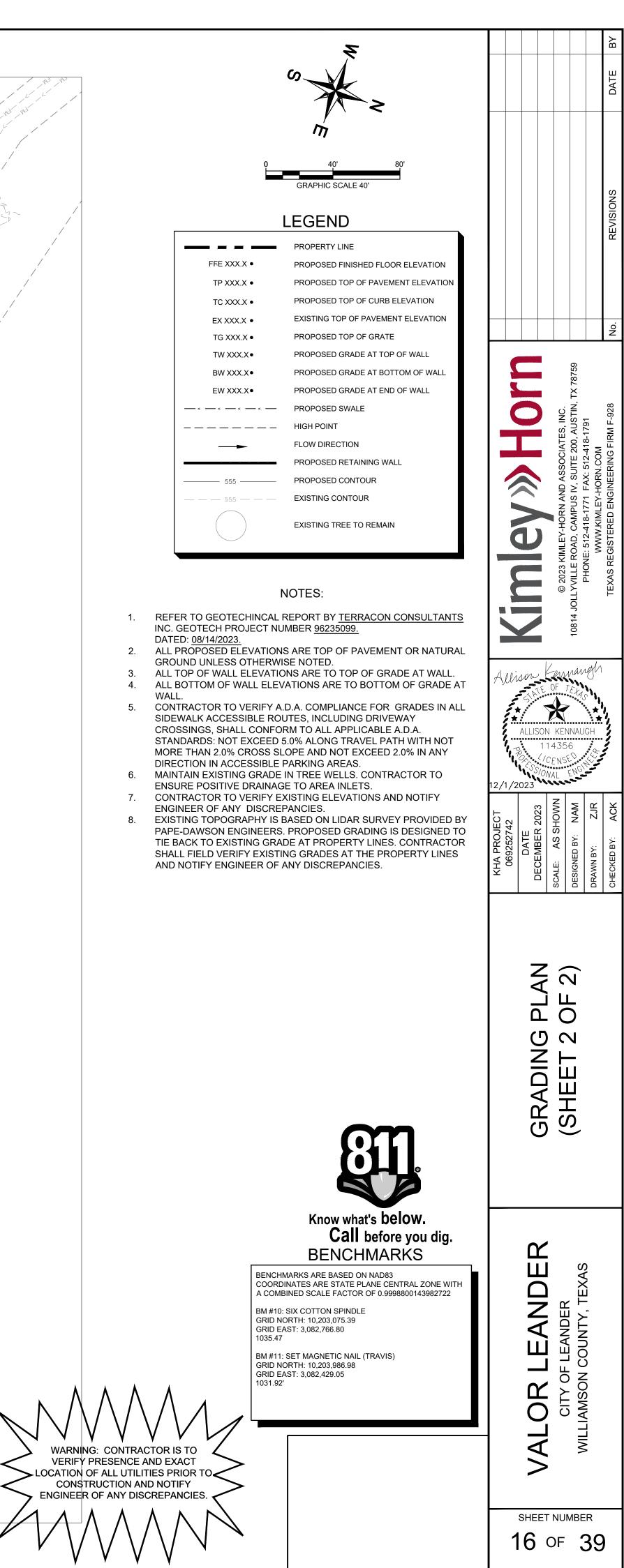




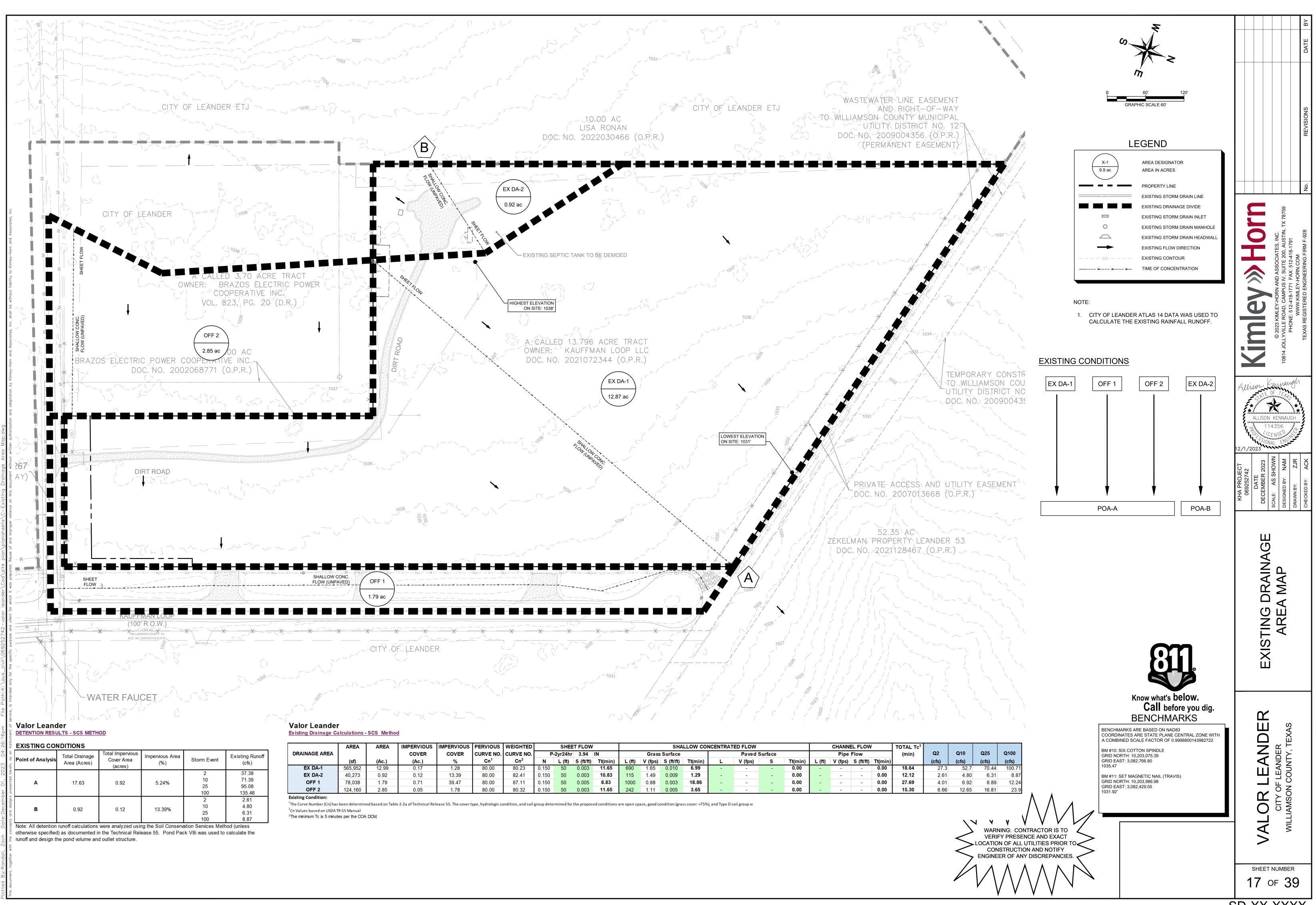




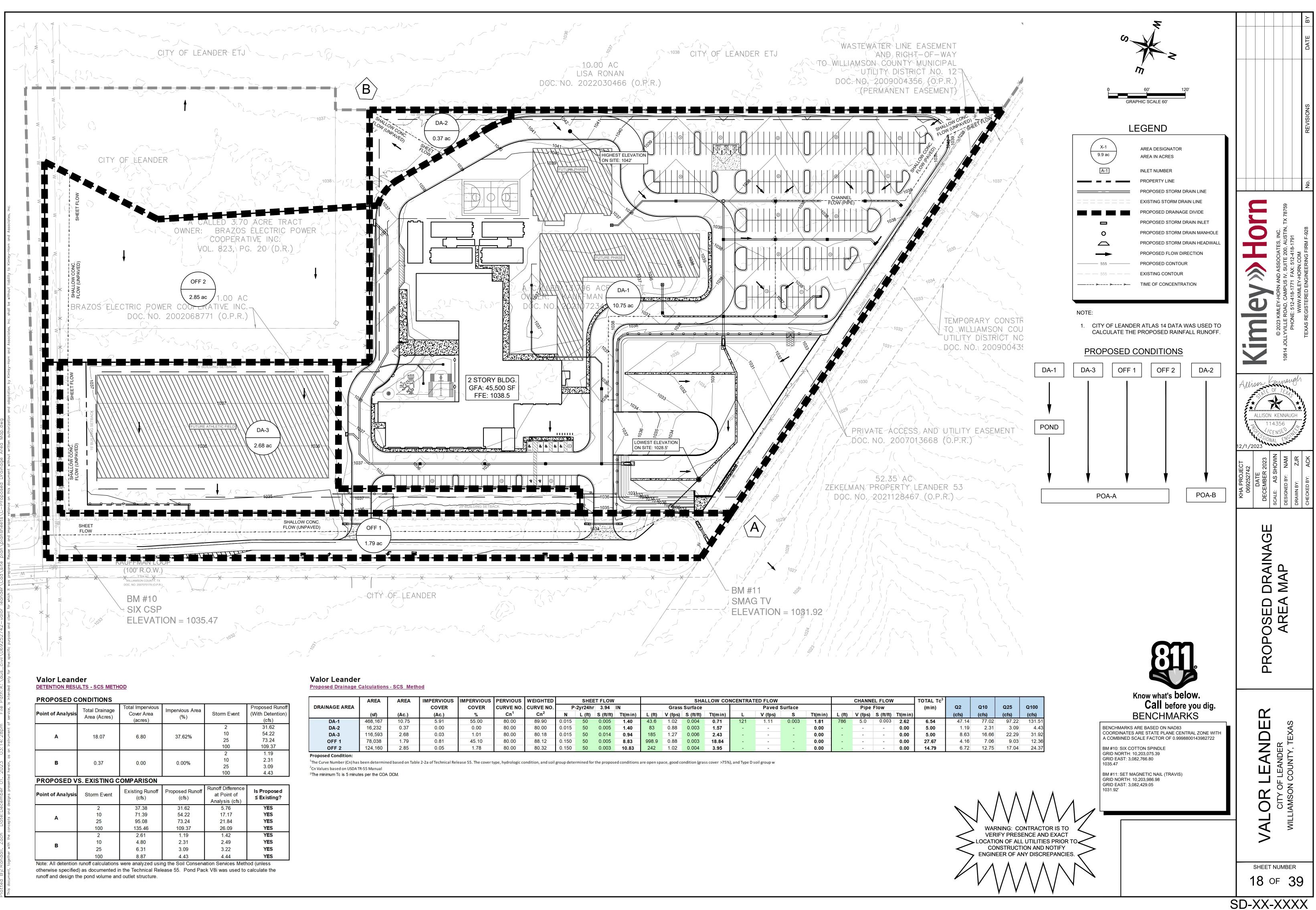




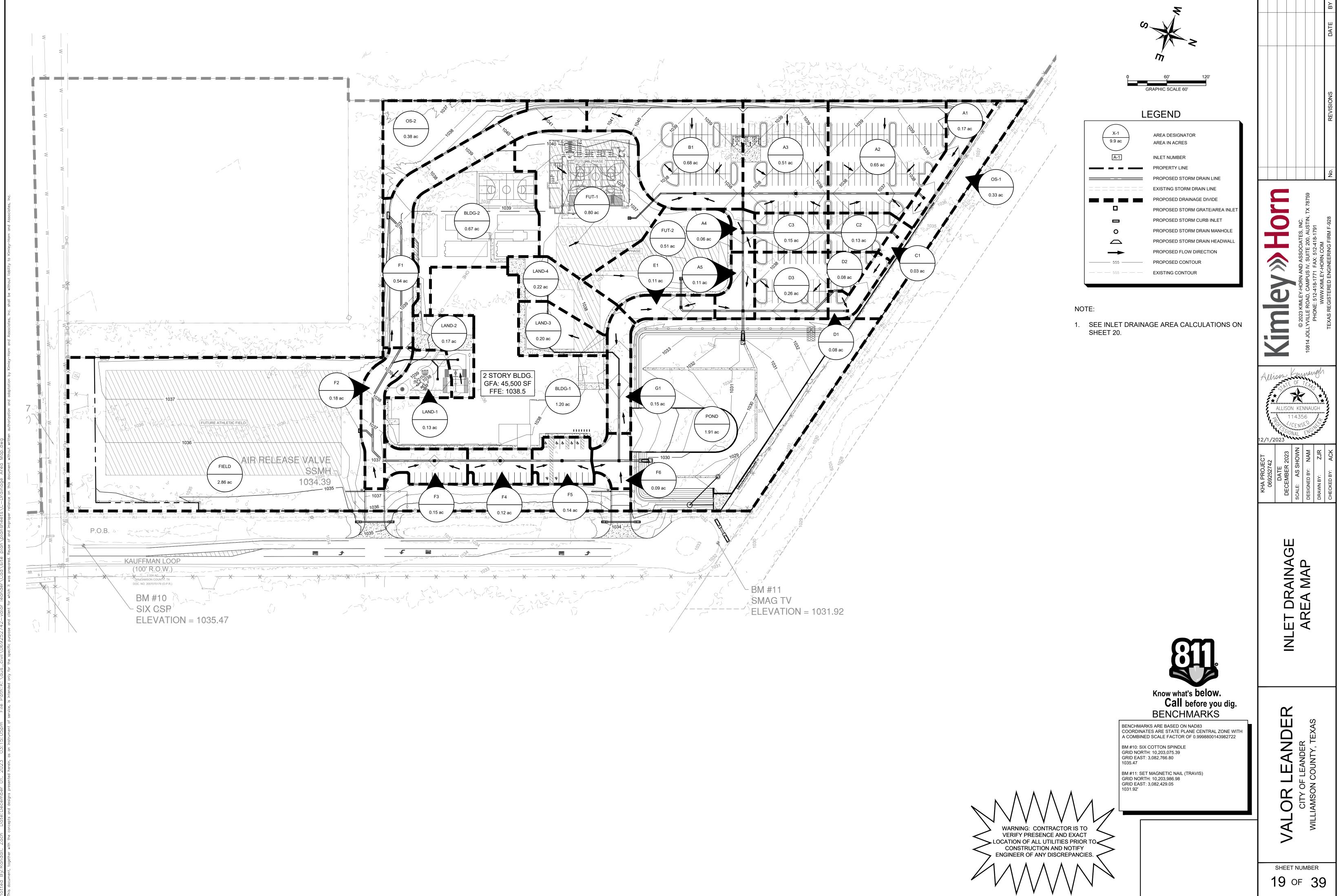
SD-XX-XXXX

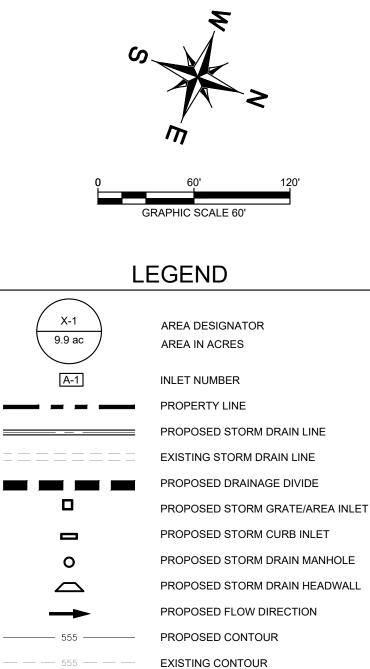


VIOUS PER\	RVIOUS	WEIGHTED		SHEE	T FLOW				SHA	LLOW CON	CENTRAT	ED FLOW				CHANNE	L FLOW		TOTAL
ER CUR	RVE NO.	CURVE NO.	P	-2yr24hr	3.94	IN		Grass	Surface			Paved S	Surface			Pipe	Flow		(min)
6 C	Cn ¹	Cn ²	Ν	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L	V (fps)	S	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	
28 80	30.00	80.23	0.150	50	0.003	11.65	690	1.65	0.010	6.99	-	-	-	0.00	-	-	-	0.00	18.64
39 80	30.00	82.41	0.150	50	0.003	10.83	115	1.49	0.009	1.29	-	-	-	0.00	-	-	-	0.00	12.12
47 80	30.00	87.11	0.1 <mark>5</mark> 0	50	0.005	8.83	1000	0.88	0.003	18.86	-	-	-	0.00	-	-	-	0.00	27.69
78 80	30.00	80.32	0.150	50	0.003	11.65	242	1.11	0.005	3.65	-	-	-	0.00	-	-	-	0.00	15.30
	/ER CUF 6 28 8 39 8 47 8	CURVE NO.           6         Cn ¹ 28         80.00           39         80.00           47         80.00	6         Cn ¹ Cn ² 28         80.00         80.23           39         80.00         82.41           47         80.00         87.11	CURVE NO.         CURVE NO.         P           6         Cn ¹ Cn ² N           28         80.00         80.23         0.150           39         80.00         82.41         0.150           47         80.00         87.11         0.150	CURVE NO.         CURVE NO.         P-2yr24hr           6         Cn ¹ Cn ² N         L (ft)           28         80.00         80.23         0.150         50           39         80.00         82.41         0.150         50           47         80.00         87.11         0.150         50	CURVE NO.         CURVE NO.         P-2yr24hr         3.94           6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)           28         80.00         80.23         0.150         50         0.003           39         80.00         82.41         0.150         50         0.003           47         80.00         87.11         0.150         50         0.005	CURVE NO.         CURVE NO.         P-2yr24hr         3.94         IN           6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)         Tt(min)           28         80.00         80.23         0.150         50         0.003         11.65           39         80.00         82.41         0.150         50         0.003         10.83           47         80.00         87.11         0.150         50         0.005         8.83	VER         CURVE NO. Cn ¹ CURVE NO. Cn ² P-2yr24hr         3.94         IN           28         80.00         80.23         0.150         S (ft/ft)         Tt(min)         L (ft)           39         80.00         82.41         0.150         50         0.003         11.65         690           47         80.00         87.11         0.150         50         0.005         8.83         1000	VER         CURVE NO.         CURVE NO.         P-2yr24hr         3.94         IN         Grass           6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         V (fps)           28         80.00         80.23         0.150         50         0.003         11.65         690         1.65           39         80.00         82.41         0.150         50         0.003         10.83         115         1.49           47         80.00         87.11         0.150         50         0.005         8.83         1000         0.88	VER         CURVE NO.         CURVE NO.         P-2yr24hr         3.94         IN         Grass Surface           6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         V (fps)         S (ft/ft)           28         80.00         80.23         0.150         50         0.003         11.65         690         1.65         0.010           39         80.00         82.41         0.150         50         0.003         10.83         115         1.49         0.009           47         80.00         87.11         0.150         50         0.005         8.83         1000         0.88         0.003	VER         CURVE NO.         CURVE NO.         P-2yr24hr         3.94         IN         Grass Surface           6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         V (fps)         S (ft/ft)         Tt(min)           28         80.00         80.23         0.150         50         0.003         11.65         690         1.65         0.010         6.99           39         80.00         82.41         0.150         50         0.003         10.83         115         1.49         0.009         1.29           47         80.00         87.11         0.150         50         0.005         8.83         1000         0.88         0.003         18.86	VER         CURVE NO.         CURVE NO.         P-2yr24hr         3.94         IN         Grass Surface         International Surface         Internate	VER         CURVE NO.         CURVE NO. $P-2yr24hr$ 3.94         IN $Grass Surface$ $Paved Stress Surface$ 6         Cn ¹ Cn ² N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         V (fps)         S (ft/ft)         S (ft/ft)         S (ft/ft)         S (ft/ft)         S (ft/ft)         S (ft/ft) <th< td=""><td>VER         CURVE NO.         CURVE NO.         $P-2yr24hr$         3.94         IN         Grass Surface         Paved Surface           6         Cn¹         Curve No.         Cn²         N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         <th< td=""><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94IN$record record recor$</td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94INGrassGrass$P - yr24hr$3.94IN$P - yr24hr$$P - yr24h$</td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94IN<math>Grassuractors<math>P - yractors$P - yractors$</math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></td></th<></td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$\overrightarrow{P}$-$\overrightarrow{V}$24hr3.94IN$\overrightarrow{G}$ Grassurface$\overrightarrow{P}$aved Surface$\overrightarrow{P}$aved Surface$\overrightarrow{P}$ipe Flow6Cn¹NL (ft)S (ft/ft)Tt(min)L (ft)V (fps)S (ft/ft)Tt(min)LV (fps)S (ft/ft)Tt(min)L (ft)V (fps)S (ft/ft)2880.0080.230.150500.00311.656901.650.0106.990.0003980.0082.410.150500.00310.831151.490.0091.290.0004780.0087.110.150500.0058.8310000.880.00318.860.00</td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$\mathbf{P}$-$\mathbf{y}$r24hr3.94IN$\mathbf{E}$-$\mathbf{G}$rass surface$\mathbf{P}$-$\mathbf{v}$rass surface$\mathbf{P}$-$\mathbf{V}$</td></th<>	VER         CURVE NO.         CURVE NO. $P-2yr24hr$ 3.94         IN         Grass Surface         Paved Surface           6         Cn ¹ Curve No.         Cn ² N         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         S (ft/ft)         Tt(min)         L (ft)         S (ft/ft)         S (ft/ft) <th< td=""><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94IN$record record recor$</td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94INGrassGrass$P - yr24hr$3.94IN$P - yr24hr$$P - yr24h$</td><td>VER 6CURVE NO. Cn¹CURVE NO. Cn²$P - yr24hr$3.94IN<math>Grassuractors<math>P - yractors$P - yractors$</math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></math></td></th<>	VER 6CURVE NO. Cn ¹ CURVE NO. Cn ² $P - yr24hr$ 3.94IN $record record recor$	VER 6CURVE NO. Cn ¹ CURVE NO. Cn ² $P - yr24hr$ 3.94INGrassGrass $P - yr24hr$ 3.94IN $P - yr24hr$ $P - yr24h$	VER 6CURVE NO. Cn ¹ CURVE NO. Cn ² $P - yr24hr$ 3.94IN $GrassuractorsP - yractorsP - yractors$	VER 6CURVE NO. Cn ¹ CURVE NO. Cn ² $\overrightarrow{P}$ - $\overrightarrow{V}$ 24hr3.94IN $\overrightarrow{G}$ Grassurface $\overrightarrow{P}$ aved Surface $\overrightarrow{P}$ aved Surface $\overrightarrow{P}$ ipe Flow6Cn ¹ NL (ft)S (ft/ft)Tt(min)L (ft)V (fps)S (ft/ft)Tt(min)LV (fps)S (ft/ft)Tt(min)L (ft)V (fps)S (ft/ft)2880.0080.230.150500.00311.656901.650.0106.990.0003980.0082.410.150500.00310.831151.490.0091.290.0004780.0087.110.150500.0058.8310000.880.00318.860.00	VER 6CURVE NO. Cn ¹ CURVE NO. Cn ² $\mathbf{P}$ - $\mathbf{y}$ r24hr3.94IN $\mathbf{E}$ - $\mathbf{G}$ rass surface $\mathbf{P}$ - $\mathbf{v}$



<b>IPERVIOUS</b>	IMPERVIOUS	PERVIOUS	WEIGHTED		SHEE	T FLOW				SHA	LLOW CO	NCENTRAT	ED FLOW				CHANN	EL FLOW	
COVER	COVER	CURVE NO.	CURVE NO.	P·	-2yr24hr	3.94	IN		Grass	Surface			Paved	Surface			Pipe	Flow	
(Ac.)	%	Cn ¹	Cn ²	Ν	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L	V (fps)	S	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)
5.91	55.00	80.00	89.90	0.015	50	0.005	1.40	43.6	1.02	0.004	0.71	121	1.11	0.003	1.81	786	5.0	0.003	2.62
0.00	0.00	80.00	80.00	0.015	50	0.005	1.40	83	0.88	0.003	1.57	-	-	-	0.00	-	-	-	0.00
0.03	1.01	80.00	80.18	0.015	50	0.014	0.94	185	1.27	0.006	2.43	-	-	-	0.00	-	-	-	0.00
0.81	45.10	80.00	88.12	0.150	50	0.005	8.83	998.9	0.88	0.003	18.84	-	-	-	0.00	-	-	-	0.00
0.05	1.78	80.00	80.32	0.150	50	0.003	10.83	242	1.02	0.004	3.95	-	-	-	0.00	-	-	-	0.00





SD-XX-XXXX

eak Flow Calcula	tion - Rational Met	thod				RUN	IOFF COE	FFICIENT	(C)		R/	ANFALL IN	NTENSITY	( (I)		PEAK F	LOW (Q)	
RAINAGE AREA	Area (Sq. Feet)	Area (Acres)	Impervious Cover (SQ. Feet)	Impervious Cover (Acres)	% I.C.	C 2-Year	C 10-Year	C 25-Year	C 100-Year	Tc (min)	l 2-Year	l 10-Year	l 25-Year	l 100-Year	Q 2-Year	Q 10-Year	Q 25-Year	Q 100-Yea
A1	7405.20	0.17	7405.00	0.17	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.76	1.27	1.65	2.42
A2	28314.00	0.65	28314.00	0.65	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.91	4.84	6.32	9.26
A3	22215.60	0.51	22216.00	0.51	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.29	3.80	4.96	7.27
A4	2613.60	0.06	2614.00	0.06	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.27	0.45	0.58	0.86
A5	4791.60	0.11	4792.00	0.11	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.49	0.82	1.07	1.57
B1	29620.80	0.68	29621.00	0.68	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	3.05	5.06	6.61	9.69
C1	1306.80	0.03	1307.00	0.03	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.13	0.22	0.29	0.43
C2	5662.80	0.13	5663.00	0.13	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.58	0.97	1.26	1.85
C3	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
D1	3484.80	0.08	3485.00	0.08	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.36	0.60	0.78	1.14
D2	3484.80	0.08	3485.00	0.08	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.36	0.60	0.78	1.14
D3	11325.60	0.26	11326.00	0.26	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.17	1.94	2.53	3.70
E1	4791.60	0.11	4792.00	0.11	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.49	0.82	1.07	1.57
F1	23522.40	0.54	23522.00	0.54	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.42	4.02	5.25	7.69
F2	7840.80	0.18	7841.00	0.18	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.81	1.34	1.75	2.56
F3	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
F4	5227.20	0.12	5227.00	0.12	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.54	0.89	1.17	1.71
F5	6098.40	0.14	6098.00	0.14	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.63	1.04	1.36	1.99
F6	3920.40	0.09	3920.00	0.09	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.40	0.67	0.87	1.28
G1	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
LAND-1	5662.80	0.13	3963.96	0.09	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.47	0.78	1.03	1.54
LAND-2	7405.20	0.17	5183.64	0.12	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.61	1.03	1.35	2.01
LAND-3	8712.00	0.20	6098.40	0.14	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.72	1.21	1.59	2.36
LAND-4	9583.20	0.22	6708.24	0.15	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.79	1.33	1.75	2.60
FUT-1	34848.00	0.80	24393.60	0.56	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	2.88	4.83	6.37	9.46
FUT-2	22215.60	0.51	15550.92	0.36	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	1.84	3.08	4.06	6.03
POND	83199.60	1.91	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	2.93	5.27	7.34	11.75
FIELD	124581.60	2.86	2050.00	0.05	2%	0.26	0.31	0.35	0.42	5.00	6.14	9.19	11.30	15.00	4.53	8.11	11.27	17.97
OS-1	14374.80	0.33	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	0.51	0.91	1.27	2.03
OS-2	16552.80	0.38	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	0.58	1.05	1.46	2.34
BLDG-1	52272.00	1.20	36590.40	0.84	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	4.32	7.25	9.55	14.18
BLDG-2	29185.20	0.67	20429.64	0.47	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	2.41	4.05	5.33	7.92

			Gra	ate	Inlet	<b>Calculation</b> T	able		
Equations:	Weir (Ur	nsubmerged) Q = 3.0h1.5L				<b>Clogging Factor</b>	r = 10% (Grate inlet	s in Sump)	
Inlet # or	Q100	Required Q to Pass		NL	ET	Available Weir	Required Min. 'h'	Provided 'h'	Provided Capacity
Area #	(cfs)	(w/ 10 % clogging factor)		(ft	)	Length (ft.)	(ft.)	(ft.)	(cfs)
A1	2.42	2.69	3.0	Х	3.0	12.00'	0.18'	0.50'	11.5 cfs
A2	9.26	10.29	4.0	Х	4.0	16.00'	0.36'	0.50'	15.3 cfs
A3	7.27	8.07	3.0	Х	3.0	12.00'	0.37'	0.50'	11.5 cfs
A4	0.86	0.95	3.0	Х	3.0	12.00'	0.09'	0.50'	11.5 cfs
A5	1.57	1.74	3.0	Х	3.0	12.00'	0.13'	0.50'	11.5 cfs
B1	9.69	10.77	4.0	Х	4.0	16.00'	0.37'	0.50'	15.3 cfs
C1	0.43	0.48	3.0	Х	3.0	12.00'	0.06'	0.50'	11.5 cfs
C2	1.85	2.06	3.0	Х	3.0	12.00'	0.15'	0.50'	11.5 cfs
C3	2.14	2.37	3.0	Х	3.0	12.00'	0.16'	0.50'	11.5 cfs
D1	1.14	1.27	3.0	Х	3.0	12.00'	0.11'	0.50'	11.5 cfs
D2	1.14	1.27	2.0	Х	2.0	8.00'	0.14'	0.50'	7.6 cfs
D3	3.70	4.12	3.0	Х	3.0	12.00'	0.24'	0.50'	11.5 cfs
E1	1.57	1.74	3.0	Х	3.0	12.00'	0.13'	0.50'	11.5 cfs
F3	2.14	2.37	3.0	Х	3.0	12.00'	0.16'	0.50'	11.5 cfs
F4	1.71	1.90	3.0	Х	3.0	12.00'	0.14'	0.50'	11.5 cfs
F5	1.99	2.22	3.0	Х	3.0	12.00'	0.16'	0.50'	11.5 cfs
F6	1.28	1.42	3.0	Х	3.0	12.00'	0.12'	0.50'	11.5 cfs
G1	2.14	2.37	3.0	Х	3.0	12.00'	0.16'	0.50'	11.5 cfs
LAND-1	1.54	1.71	2.0	Х	2.0	8.00'	0.17'	0.50'	7.6 cfs
LAND-2	2.01	2.23	2.0	Х	2.0	8.00'	0.21'	0.50'	7.6 cfs
LAND-3	2.36	2.63	2.0	Х	2.0	8.00'	0.23'	0.50'	7.6 cfs
LAND-4	2.60	2.89	2.0	Х	2.0	8.00'	0.24'	0.50'	7.6 cfs
FUT-1	9.46	10.51	4.0	Х	4.0	16.00'	0.36'	0.50'	15.3 cfs
FUT-2	6.03	6.70	3.0	Х	3.0	12.00'	0.33'	0.50'	11.5 cfs

'h' measured from weir elevation: if required min. 'h' greater than 0.42 ft (5 in.) check using orifice equation below

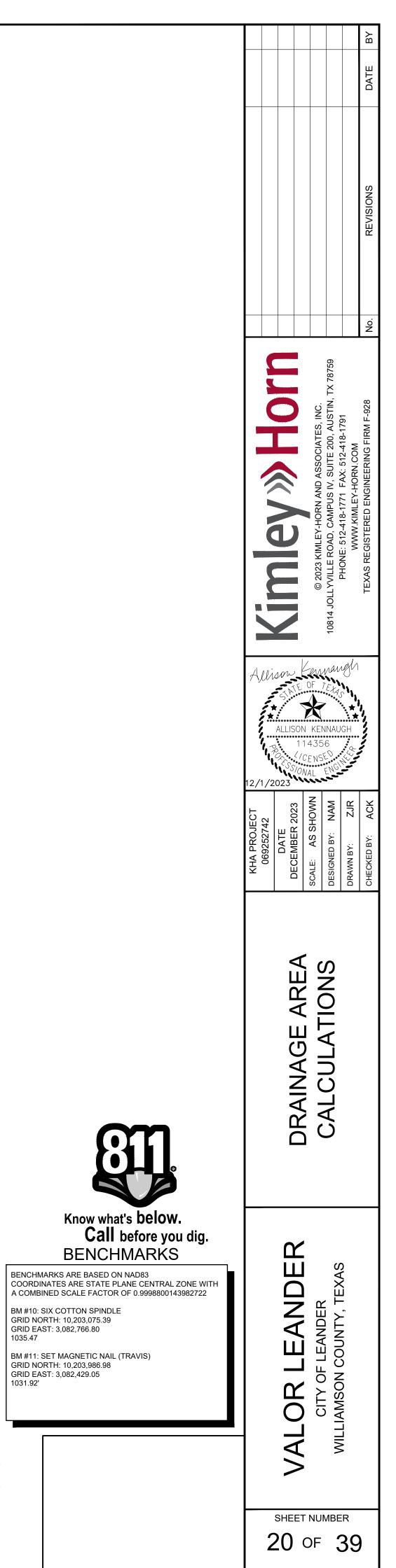
nlet # or	Q100	Required Q to Pass	INL	.ET	Available Area	Required Min. 'h'	Provided 'h'	Provided Capacity
Area #	(cfs)	(w/ 50 % clogging factor)		t.)	(sq. ft.)	(ft.)	(ft.)	(cfs)
A1	2.42	4.84	3.0 X	3.0	9.00	0.04'	0.50'	15.3 cfs
A2	9.26	18.52	4.0 X	4.0	16.00	0.12'	0.50'	27.3 cfs
A3	7.27	14.53	3.0 X	3.0	9.00	0.19'	0.50'	15.3 cfs
A4	0.86	1.71	3.0 X	3.0	9.00	0.01'	0.50'	15.3 cfs
A5	1.57	3.13	3.0 X	3.0	9.00	0.02'	0.50'	15.3 cfs
B1	9.69	19.38	4.0 X	4.0	16.00	0.13'	0.50'	27.3 cfs
C1	0.43	0.86	3.0 X	3.0	9.00	0.00'	0.50'	15.3 cfs
C2	1.85	3.70	3.0 X	3.0	9.00	0.02'	0.50'	15.3 cfs
C3	2.14	4.27	3.0 X	3.0	9.00	0.03'	0.50'	15.3 cfs
D1	1.14	2.28	3.0 X	3.0	9.00	0.01'	0.50'	15.3 cfs
D2	1.14	2.28	2.0 X	2.0	4.00	0.04'	0.50'	6.8 cfs
D3	3.70	7.41	3.0 X	3.0	9.00	0.07'	0.50'	15.3 cfs
E1	1.57	3.13	3.0 X	3.0	9.00	0.02'	0.50'	15.3 cfs
F3	2.14	4.27	3.0 X	3.0	9.00	0.03'	0.50'	15.3 cfs
F4	1.71	3.42	3.0 X	3.0	9.00	0.02'	0.50'	15.3 cfs
F5	1.99	3.99	3.0 X	3.0	9.00	0.03'	0.50'	15.3 cfs
F6	1.28	2.56	3.0 X	3.0	9.00	0.01'	0.50'	15.3 cfs
G1	2.14	4.27	3.0 X	3.0	9.00	0.03'	0.50'	15.3 cfs
LAND-1	1.54	3.07	2.0 X	2.0	4.00	0.06'	0.50'	6.8 cfs
LAND-2	2.01	4.02	2.0 X	2.0	4.00	0.10'	0.50'	6.8 cfs
LAND-3	2.36	4.73	2.0 X	2.0	4.00	0.12'	0.50'	6.8 cfs
LAND-4	2.60	5.20	2.0 X	2.0	4.00	0.14'	0.50'	6.8 cfs
FUT-1	9.46	18.91	4.0 X	4.0	16.00	0.12'	0.50'	27.3 cfs
FUT-2	6.03	12.06	3.0 X	3.0	9.00	0.15'	0.50'	15.3 cfs

					Hydrologic Runoff	Coefficients:	Austin, TX	
					2 yr	10 yr	25 yr	100 yr
		Impe	ervious C (	(Asphalt)	0.73	0.81	0.86	0.95
F	Pervious C	(Fair Cond	dition, Gras	s 0-2%)	0.25	0.3	0.34	0.41
					_			
	IDF Coeffici	ents: Leand	,					
	IDF Coeffici 2 yr	ents: Leand 10 yr	ler, TX 25 yr	100 yr	]			
а			,	100 yr 106				
a b	2 yr	10 yr	25 yr		-			

									Valo	or Lean	der									
							INLET	FLOW	CALCUL	ATION	TABLE	E (25-Yr F	Flows)							
Straight Cro	own																			
Inlet	Inlet	Drainage	Street Width	Crown Slope	Q	Q Pass	Q Total	Slope	a	уо	Ponded	R.F.	Qa/La	La	Length	L/La	a/yo	Q/Qa	Q	Q Pass
No.	Туре	Area No.	(FOC - FOC)	(%)	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	Width (ft)	(%)		(ft)	(ft)				(cfs)	(cfs)
F1	Sump	F1	36'	1.50	5.25	0.0	5.2	1.50%	7.2	0.223	14.89		•		SEE SUMP (	CALCULATIO	NS BELOW	•		
F2	Sump	F2	36'	1.50	1.75	0.0	1.7	1.50%	7.2	0.148	9.86				SEE SUMP (	CALCULATIO	NS BELOW			
Sump Inlet	S																			
Inlet	Inlet	Drainage	Street Width		Q	Q Pass	Q Total	Cw	L	W	d	Inlet Capacity	PASS/FAIL	R.F.	Length	RFx L	Q/L	yo + a		
No.	Туре	Area No.	(FOC - FOC)		(cfs)	(cfs)	(Qa) (cfs)		(ft)	(ft)	(ft)	(cfs)		(%)	(ft)	(Ft.)	(cfs/ft)	(ft.)		
F1	Sump	F1	36'		5.25	0.0	5.2	2.3	3 10	1.5	0.50	10.33	PASS	10%	10.0	9.0	0.58	0.34		
F2	Sump	F2	36'		1.75	0.0	1.7	2.3	5 5	1.5	0.50	6.26	PASS	10%	5.0	4.5	0.39	0.26		1
'All Sump Equa	tions Assume \	Weir flow per C	ity of Austin Draina	age Criteria Manual	I Section 4.3.1	•	•	•	· · · · ·						•		•	•		<u>.</u>

									Valo	or Lean	der									
							NLET F	LOW C	ALCUL	ATION	TABLE	(100-Yr	Flows)							
Straight Cro	own																			
Inlet	Inlet	Drainage	Street Width	Crown Slope	Q	Q Pass	Q Total	Slope	a	уо	Ponded	R.F.	Qa/La	La	Length	L/La	a/yo	Q/Qa	Q	Q Pass
No.	Туре	Area No.	(FOC - FOC)	(%)	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	Width (ft)	(%)		(ft)	(ft)				(cfs)	(cfs)
F1	Sump	F1	36'	1.50	7.69	0.0	7.7	1.50%	7.2	0.258	17.19		· · · · ·		SEE SUMP (	CALCULATIO	NS BELOW	•		<u> </u>
F2	Sump	F2	36'	1.50	2.56	0.0	2.6	1.50%	7.2	0.171	11.38				SEE SUMP (	CALCULATIO	NS BELOW			
• • • • •																				
Sump Inlet																				
Inlet	Inlet	Drainage	Street Width		Q	Q Pass	Q Total	Cw	L	W	d	Inlet Capacity	PASS/FAIL	R.F.	Length	RFx L	Q/L	yo + a		
No.	Туре	Area No.	(FOC - FOC)		(cfs)	(cfs)	(Qa) (cfs)		(ft)	(ft)	(ft)	(cfs)		(%)	(ft)	(Ft.)	(cfs/ft)	(ft.)		
F1	Sump	F1	36'		7.69	0.0	7.7	2.3	10	1.5	0.50	10.33	PASS	10%	10.0	9.0	0.85	0.43		
F2	Sump	F2	36'		2.56	0.0	2.6	2.3	5	1.5	0.50	6.26	PASS	10%	5.0	4.5	0.57	0.33		
		· · · · · · · · · · · · · · · · · · ·					•					•			•	•	•	•		

*All Sump Equations Assume Weir flow per City of Austin Drainage Criteria Manual Section 4.3.1

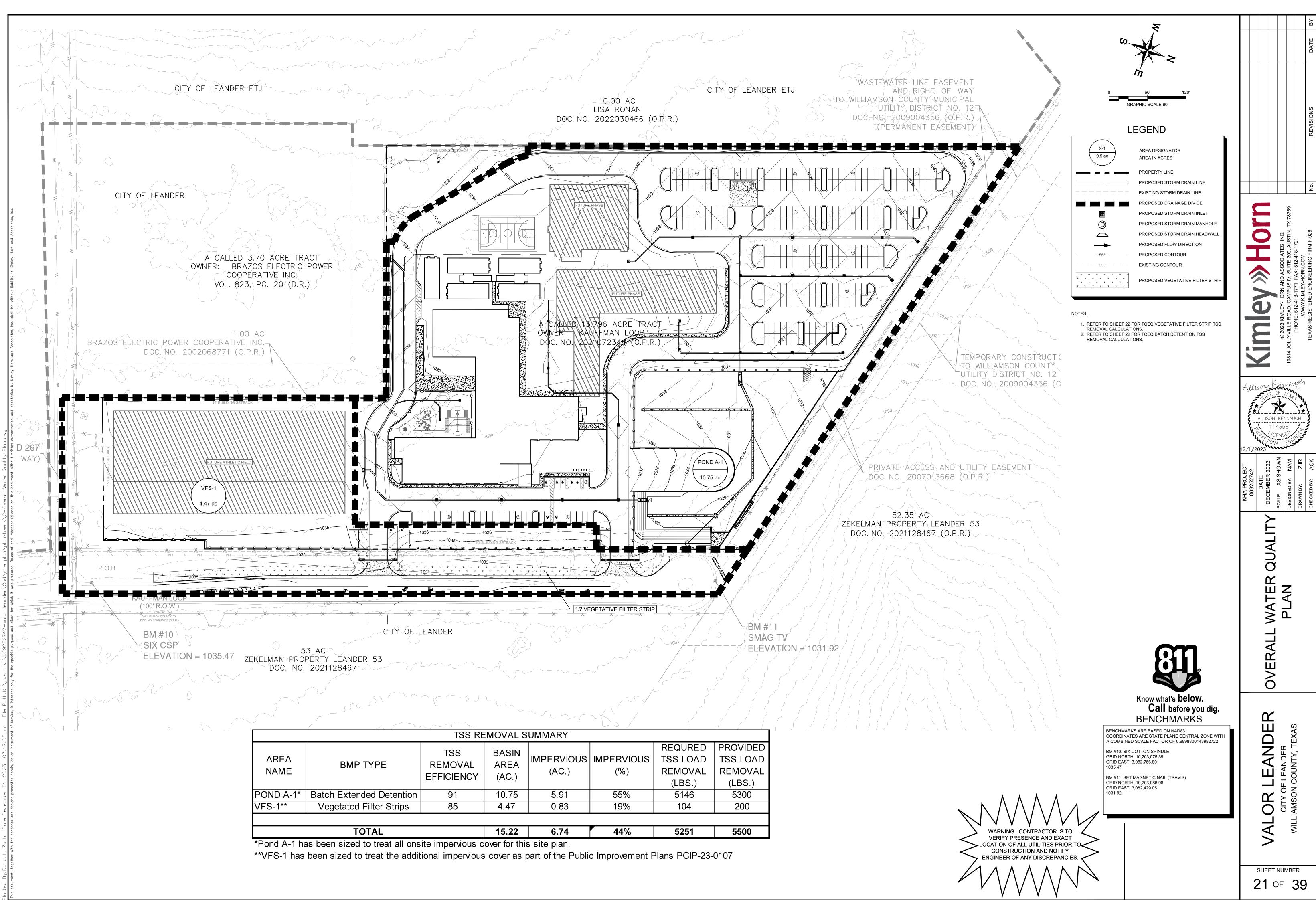


SD-XX-XXXX

BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80 1035.47

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

BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92'



				(	1
TSS RE	EMOVAL S	UMMARY			
TSS	BASIN			REQURED	PROVIDED
REMOVAL	AREA	IMPERVIOUS	IMPERVIOUS	TSS LOAD	TSS LOAD
FFICIENCY		(AC.)	(%)	REMOVAL	REMOVAL
	(AC.)			(LBS.)	(LBS.)
91	10.75	5.91	55%	5146	5300
85	4.47	0.83	19%	104	200
			4.40/		

Texas Commission on	Environmental Quality			
TSS Removal Calculation	as 04-20-2009			Project Nan Date Prepare
Text shown in blue indicate <b>Characters shown in red</b>	provided for cells with a red triang location of instructions in the Technica are data entry fields. ck (Bold) are calculated fields. Cha	al Guidanc	e Manual - F	RG-348.
1. The Required Load Reducti	on for the total project:	Calculation	s from RG-348	3
	Page 3-29 Equation 3.3: $L_{M}$ =	27 2(A., y F	DY	
		·		
where:	A _N =	Net increas		sulting from the propo s area for the project ion, inches
Site Data: Determine Requi	red Load Removal Based on the Entire Project	ct Williamso	~ <b>1</b>	
	Total project area included in plan * =		acres	POND A-1 + VFS
-	pervious area within the limits of the plan $* =$		acres	IC of Pond A-1 & '
	npervious area within the limits of the plan* = ost-development impervious cover fraction * =		acres	
	P =	32	inches	
* The values entered in these	L _{M TOTAL PROJECT} = fields should be for the total project area		∎lbs.	
Number of drainage t	pasins / outfalls areas leaving the plan area =	1	•	
2. Drainage Basin Parameters	(This information should be provided for	each basir	<u>ı):</u>	
	Drainage Basin/Outfall Area No. =	POND A-	-1	
	Total drainage basin/outfall area =	10.75	acres	
Predevelopment imperv	ious area within drainage basin/outfall area =		acres	
	ious area within drainage basin/outfall area =		acres	
Post-development imperviou	s fraction within drainage basin/outfall area = $L_{M THIS BASIN} =$		∎lbs.	
			100.	
3. Indicate the proposed BMP	<u>Code for this basin.</u>			
	Proposed BMP =	Batch Exte	ended Detent	ion
4. Calculate Maximum TSS Le	Removal efficiency = ad Removed ( $L_R$ ) for this Drainage Basin		percent	
	RG-348 Page 3-33 Equation 3.7: $L_R =$	(BMP efficie	ency) x P x (A	_N x 34.6 + A _P x 0.54)
where:			-	ea in the BMP catch
		-		l in the BMP catchm
			-	n the BMP catchmer his catchment area I
	-R			
	A _C =		acres	Excludes 1.88 AC of
	A ₁ =		acres	
	A _P = L _R =		acres [¶] Ibs	
	⊢R –	0000	100	
			•	
5. Calculate Fraction of Annua	I Runoff to Treat the drainage basin / out	tfall area	•	
	Desired $L_{M THIS BASIN}$ =	5300	Ibs.	
	F =	0.88	٦	
6. Calculate Capture Volume r	required by the BMP Type for this drainag	ge basin / o	outfall area.	Calculations from
	Rainfall Depth = Post Development Runoff Coefficient =	1.50 0.39	inches	
	On-site Water Quality Volume =		cubic feet	
		<b>.</b>	<b>.</b>	<b>_</b>
		Calculation	s from RG-348	B Pages 3-36 to 3-3
	Off-site area draining to BMP =		acres	
	Off-site Impervious cover draining to BMP = Impervious fraction of off-site area =		acres	
	Off-site Runoff Coefficient =	0.00	•	
	Off-site Water Quality Volume =	0	cubic feet	
	Storage for Sediment =	4527		
· · · ·	equired water quality volume(s) x 1.20) = ed to calculate the required water quality		cubic feet	ed BMP
-	selected in cell C45 will show NA.	•orume(5)		

		Texas Commission on Environmer	ital Quality			
me: Valor Leander red: 11/21/2023		TSS Removal Calculations 04-20-2009				Project Name: V
the cursor over the cell.						Date Prepared: 1
e equations used in the s	preadsheet.	Additional information is provided for on Text shown in blue indicate location of inst	ructions in the Technica	-	• •	
		Characters shown in red are data entry Characters shown in black (Bold) are d	•	inges to th	nese fields	will remove the equ
Pages 3-27 to 3-30		1. The Required Load Reduction for the total p		-	from RG-348	
		1. The Required Load Reduction for the total p	<u>Jojeci.</u>	Calculations	10111 KG-346	F c
posed development = 80% of incre	eased load	Pa	ge 3-29 Equation 3.3: $L_M =$	27.2(A _N x P)		
ct		where:	L _{M TOTAL PROJECT} =	Required TS	S removal res	ulting from the proposed c
					-	area for the project
				-	ual precipitation	on, inches
S-1		Site Data: Determine Required Load Removal		t Williamso	٦, ٩	
VFS-1 (PROPOSED IC)		Total projec Predevelopment impervious area with	ct area included in plan * =	13.80 0.00	acres acres	POND A-1 + VFS-1
		Total post-development impervious area wit	thin the limits of the plan* =	6.04	acres	IC of Pond A-1 & VFS-1
		Total post-development ir	mpervious cover fraction * = P =	0.44 32	 inches	
			·		_	
		* The values entered in these fields should be	$L_{M \text{ TOTAL PROJECT}} =$	5257	Ibs.	
			· · · · · · · · · · · · · · · · · · ·	-	•	
		Number of drainage basins / outfalls ar	reas leaving the plan area =	1	•	
		2. Drainage Basin Parameters (This informatio	on should be provided for	each basin)	<u>:</u>	
		Drainage	Basin/Outfall Area No. =	VFS-1	•	
		Total d Predevelopment impervious area within d	rainage basin/outfall area =	4.47 0.71	acres acres	
		Post-development impervious area within d	lrainage basin/outfall area =	0.83	acres	
		Post-development impervious fraction within d	lrainage basin/outfall area = L _{M THIS BASIN} =	0.19 104	■lbs.	
		3. Indicate the proposed BMP Code for this ba				
					- i <b>l</b> to r Otrino	
			Proposed BMP = Removal efficiency =	85	percent	
4)		<u>4. Calculate Maximum TSS Load Removed (L</u>	_R ) for this Drainage Basin	by the seled	ted BMP Typ	<u>oe.</u>
hment area nent area		RG-348 Pag	ge 3-33 Equation 3.7: $L_R$ =			
ent area		where:	-		-	a in the BMP catchment a in the BMP catchment are
a by the proposed BMP				-		the BMP catchment area
f sod field area draining offsite			L _R =	TSS Load re	moved from th	nis catchment area by the
			A _C =	4.47	acres	
			A ₁ =	0.83	acres	
			A _P = L _R =	3.64 835	acres [¶] Ibs	
		5. Calculate Fraction of Annual Runoff to Trea			•	
			Desired L _{M THIS BASIN} =	200	∎lbs.	
			F =	0.24	IDS.	
n RG-348 I	Pages 3-34 to 3-36		F =	0.24		

Valor Leander 11/21/2023

cursor over the cell.

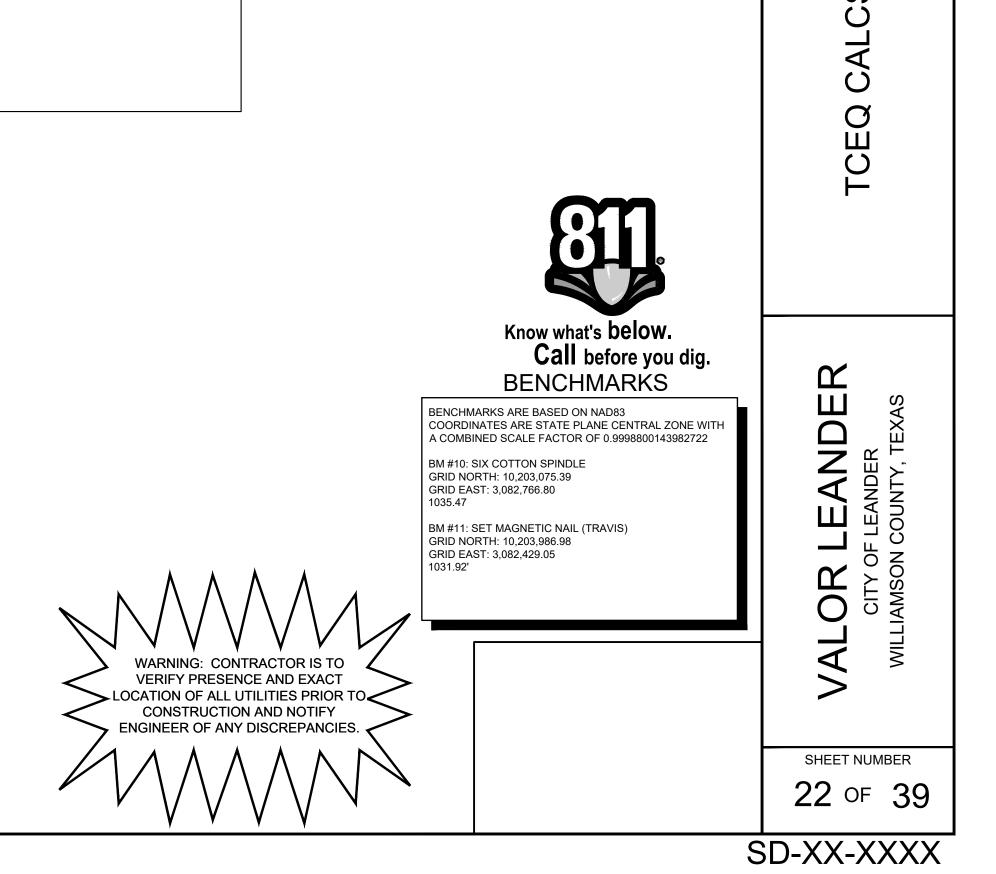
quations used in the spreadsheet.

Pages 3-27 to 3-30

d development = 80% of increased load

S-1 (PROPOSED IC)

nt area area rea ne proposed BMP



0

 $\Rightarrow$ 

0

llison

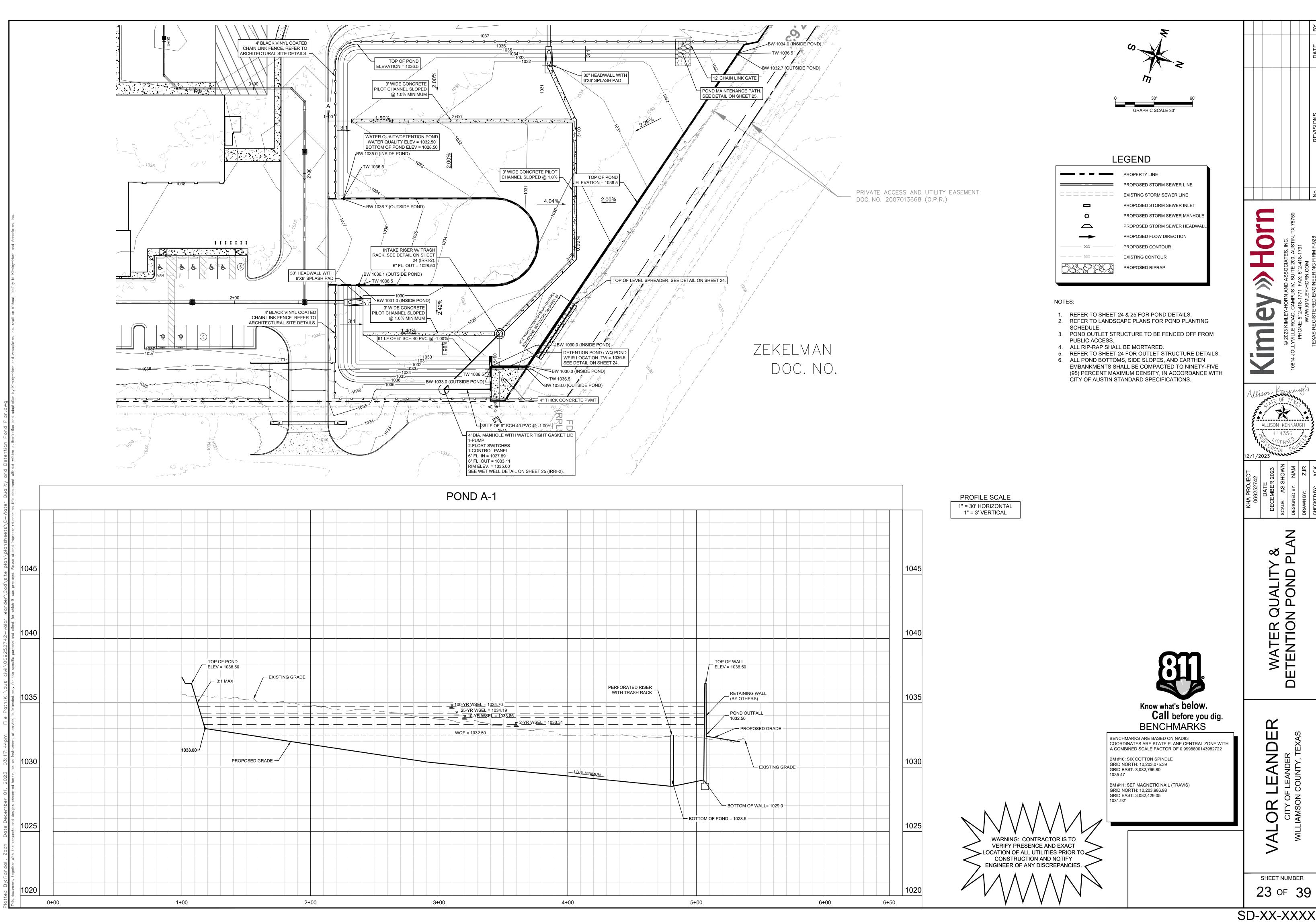
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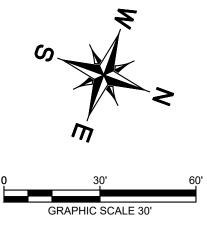
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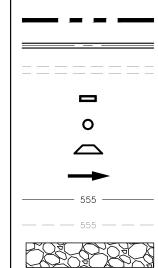
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DETENTION POND EMERGENCY WEIR				
POND OVERFLOW WE	IR DESIG	iN		
Provided Overflow Elevation	=	1035.50		
Top of Pond Elevation	=	1036.50		
Using the weir	r flow ea	quation:		
Q =	C*L*H^(	(3/2)		
Q = 100 year developed flow pond i	inflow (	cfs)	131.5	
C = Weir coefficient			3.00	
L = Width of weir (feet)			50.0	
H = Depth of flow (feet)			0.92	
Max. WSE ₁₀₀ OVER SPILLWAY (ft)	=	1036.42		
V ₁₀₀ OVER SPILLWAY (ft/s)	=	2.87		

Detention Pond Analysis							
	STAGE STOR	AGE TABLE					
Elevation	Area (SE)	Storage	Cummulative		Sconario	Computed Peak	
Elevation	Area (SF)	Volume (CF)	Storage (CF)		Scenario	Outflow (cfs)	
1032.50	33,965.27	0	0		2 YR	17.15	
1033.00	38,180.72	18,036	18,036		10 YR	28.58	
1034.00	44,234.30	41,208	59,244		25 YR	39.44	
1035.00	46,380.89	45,308	104,552		100 YR	60.51	
1036.00	48,260.99	47,321	151,873		Pond Pack V8i was used to ca		
1036.50 49,246.23 24,377 176,249 detention pond.			pond.				
Top of water guality pand alovation and bettom of detention							

# ROUTING TABLE Computed Peak Max Water Surface Outflow (cfs) Elevation (ft) 17.15 1033.31 28.58 1033.86 39.44 1034.19 1034.70 60.51 k V8i was used to calculate the computed peak outflow from the

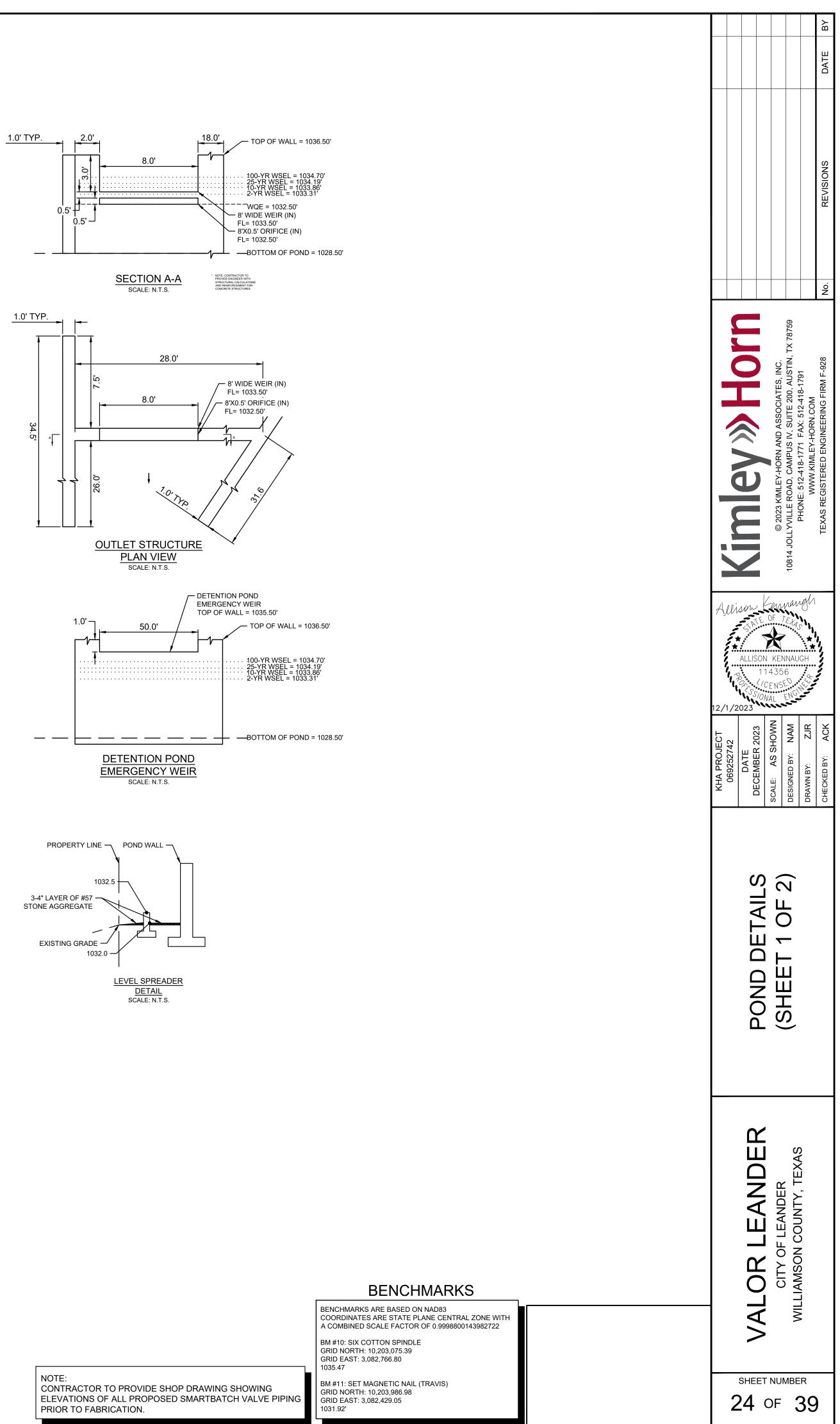
Top of water quality pond elevation and bottom of detention pond elevation is 1032.50 ft.

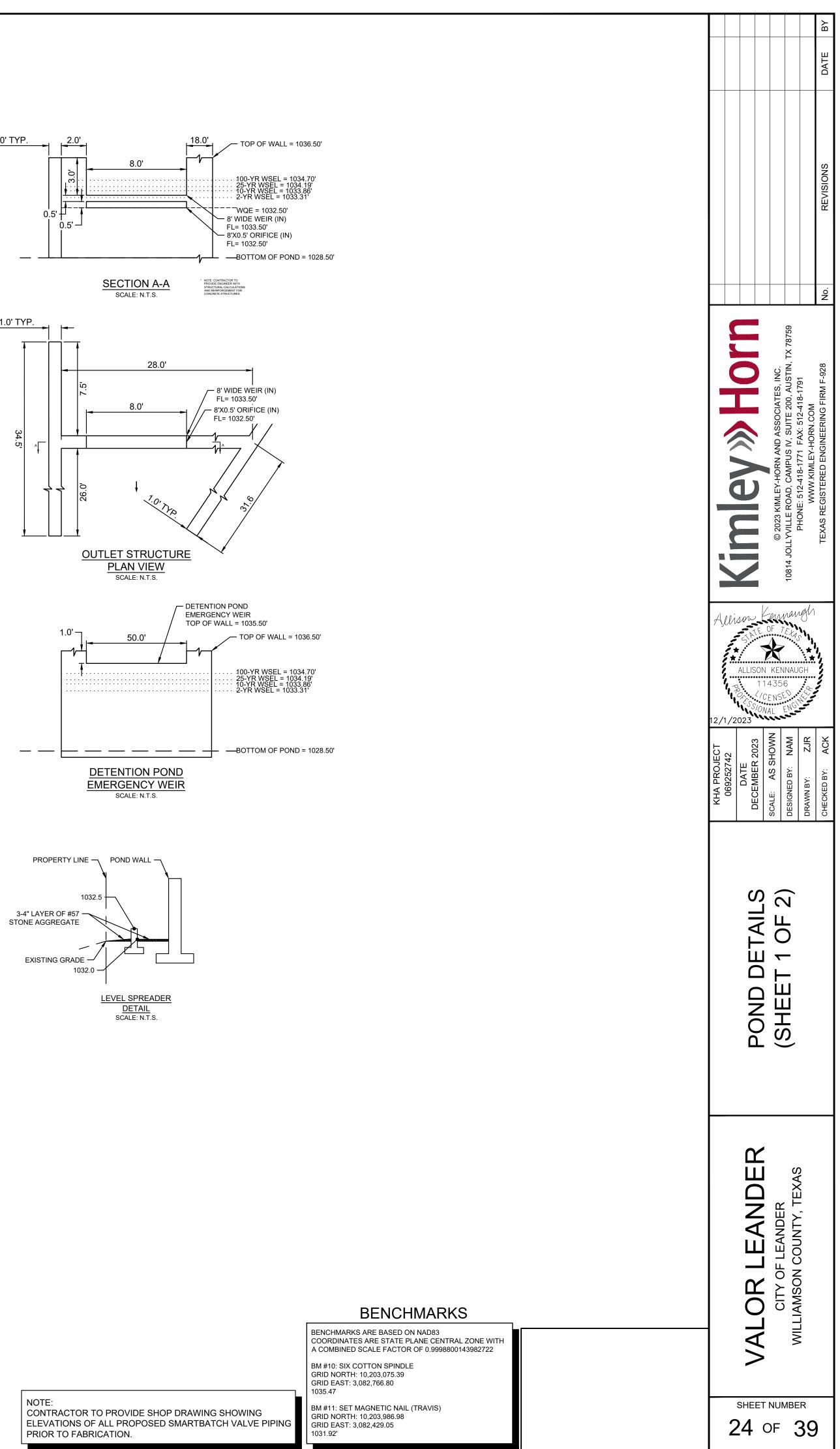
Water Quality Pond Storage Table

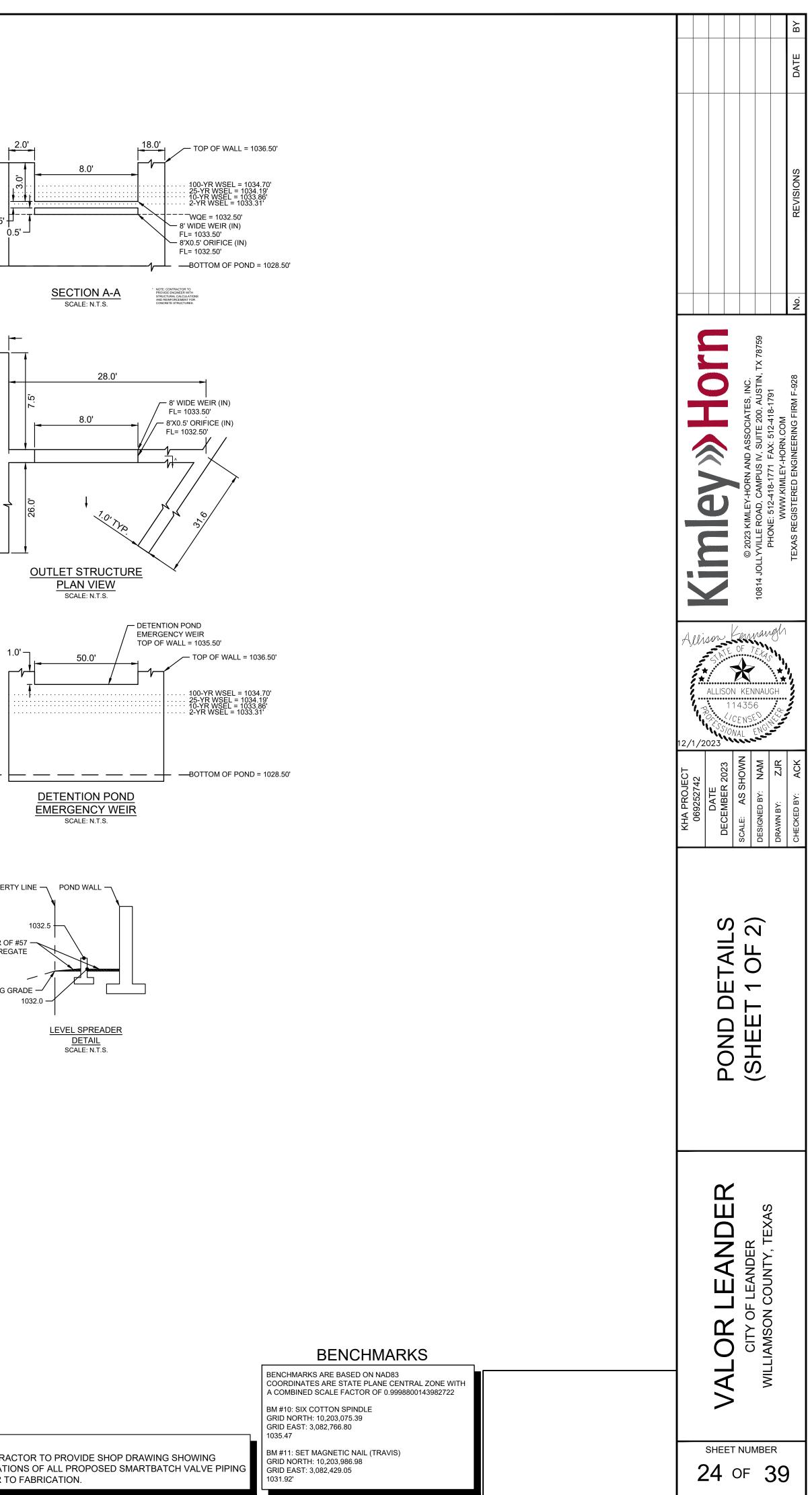
Trator Quanty 1 on	a eterage rabie				
Stage (ft msl)	Pond Depth	Cumulative Pond Depth	Area	Volume	Cumulative
(Elevation)	(ft)	(ft)	(sf)	(cf)	Volume (cf)
1032.50	0.00	0.00	33,965.27	0	0
1033.00	0.50	0.50	38,180.72	18,036	18,036
1034.00	1.00	1.50	44,234.30	41,208	59,244
1035.00	1.00	2.50	46,380.89	45,308	104,552
1036.00	1.00	3.50	48,260.99	47,321	151,873
1036.50	0.50	4.00	49,246.23	24,377	176,249

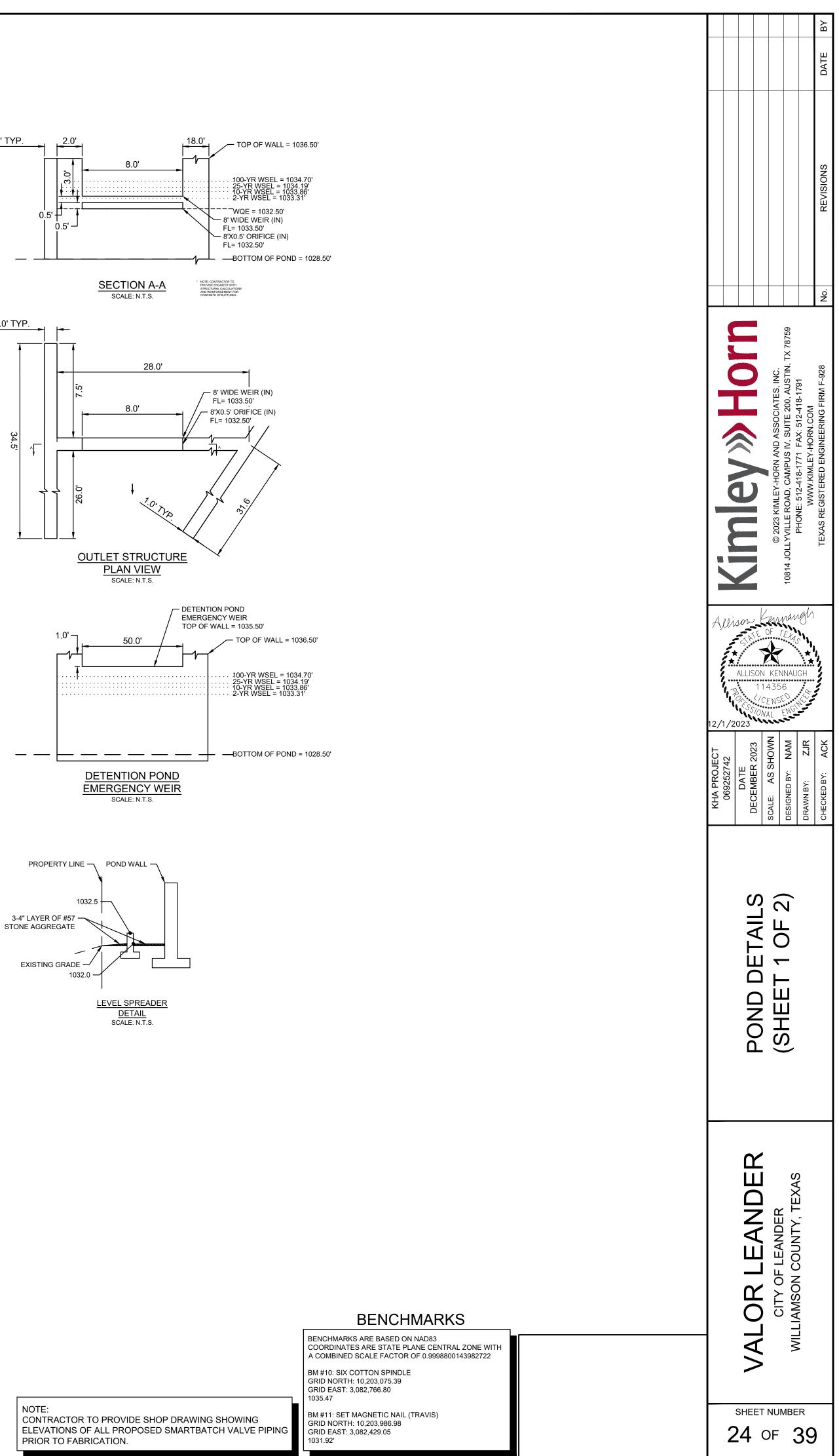
# Water Quality Pond Storage Table

water Quality I On	u otorage rable				
Stage (ft msl)	Pond Depth	Cumulative Pond Depth	Area	Volume	Cumulative
(Elevation)	(ft)	(ft)	(sf)	(cf)	Volume (cf)
1028.50	0.00	0.00	0.00	0	0
1029.00	0.50	0.50	2,190.27	548	548
1030.00	1.00	1.50	11,078.79	6,635	7,182
1031.00	1.00	2.50	19,821.07	15,450	22,632
1032.00	1.00	3.50	29,546.98	24,684	47,316
1032.50	0.50	4.00	33,965.27	15,878	63,194

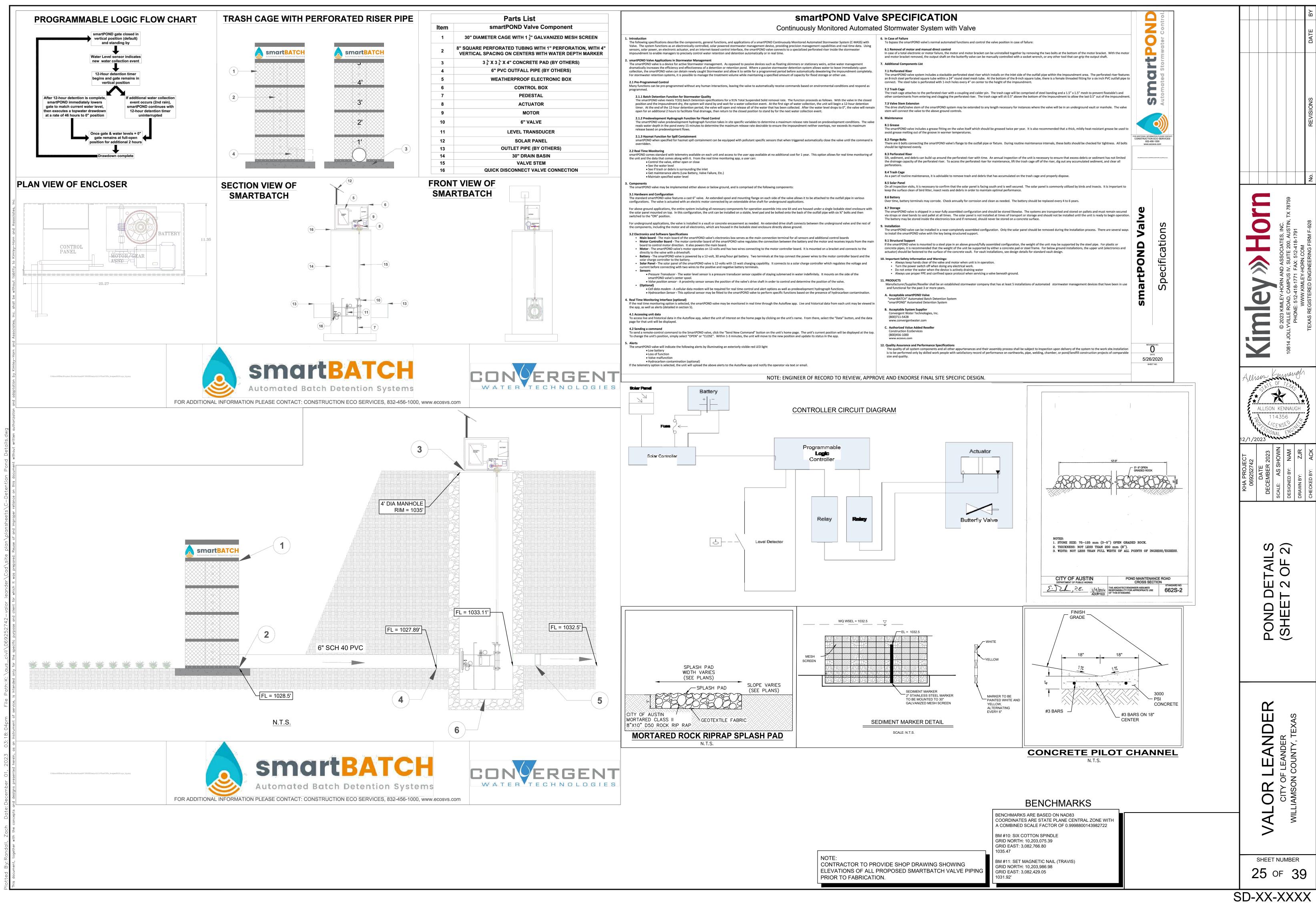


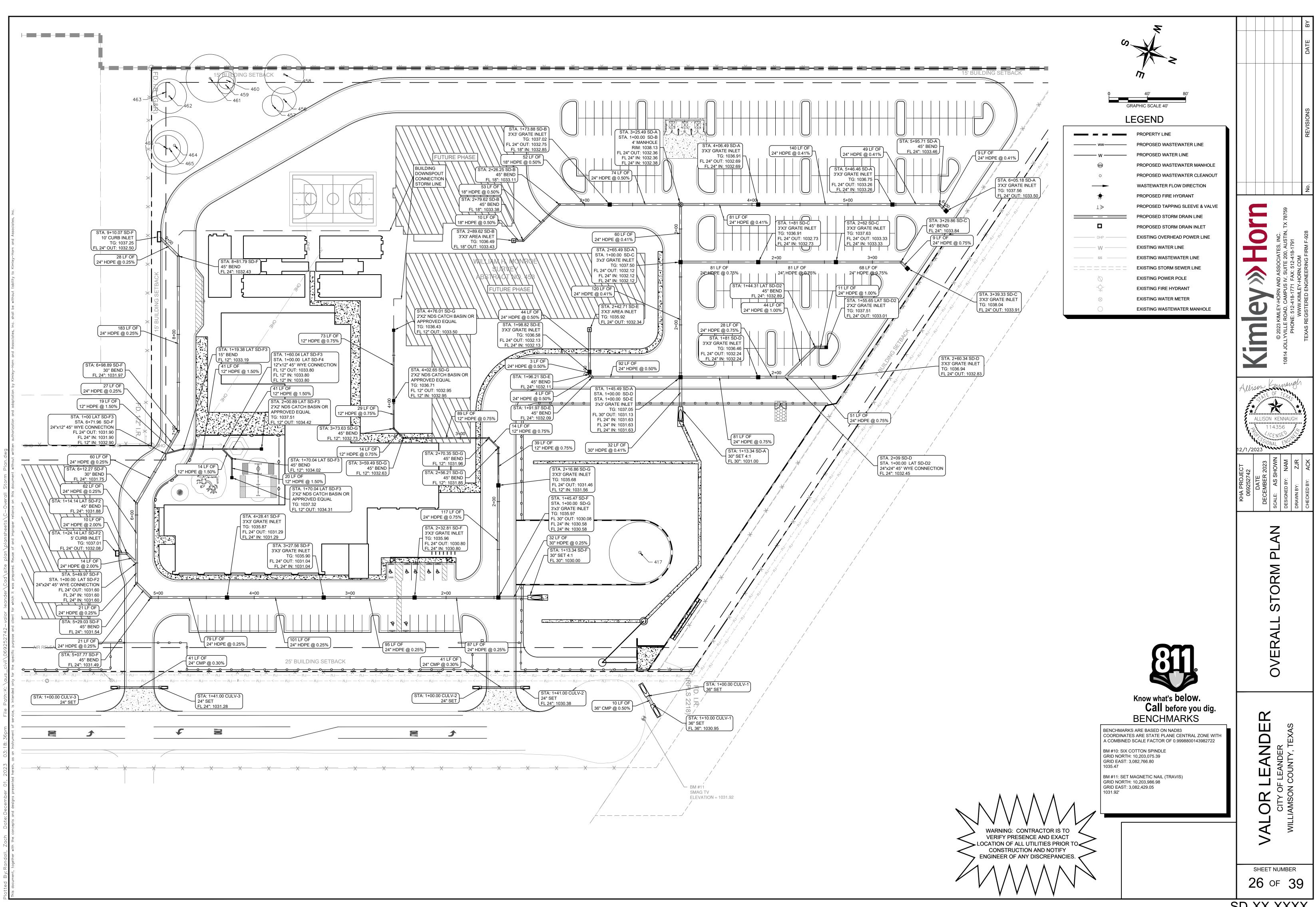




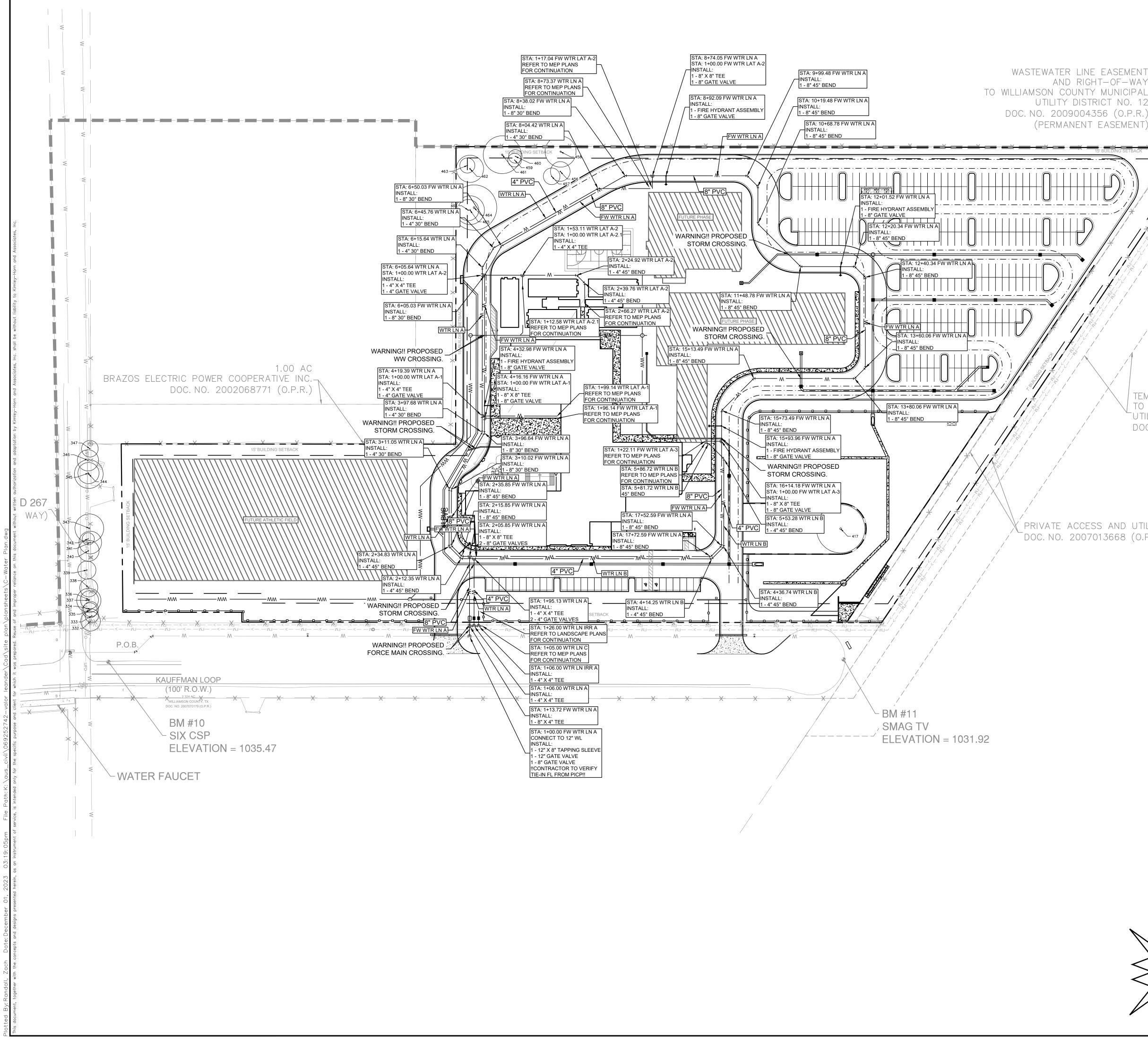


Maximum	Maximum
orage (ac-ft)	Storage (cf)
0.695	30,294
1.222	53,242
1.555	67,748
2.081	90,642
ak outflow fr	om tha





SD-XX-XXXX



WASTEWATER LINE EASEMENT AND RIGHT-OF-WAY UTILITY DISTRICT NO. 127

TEMPORARY CONSTRUCTI( TO WILLIAMSON COUNTY UTILITY DISTRICT NO. 12 DOC.NO. 2009004356 (C

PRIVATE ACCESS AND UTILITY EASEMENT DOC. NO. 2007013668 (O.P.R.)

	60' 120' GRAPHIC SCALE 60' LEGEND	-						
	PROPERTY LINE							
ww	- PROPOSED WASTEWATER LINE							
w	- PROPOSED WATER LINE							
· · · · · · · · · · · · · · · · · · ·	PROPOSED WASTEWATER MANHOLE							
0	PROPOSED WASTEWATER CLEANOUT							
	WASTEWATER FLOW DIRECTION							
<b>∳</b>	PROPOSED FIRE HYDRANT							
	PROPOSED TAPPING SLEEVE & VALVE							
	E PROPOSED STORM DRAIN LINE					0750	60101 V I	
	PROPOSED STORM DRAIN INLET		5			۲ > ا	< ×	
OHP	EXISTING OVERHEAD POWER LINE					N V V	UU, AUSTIN, 18-1791	
W	EXISTING WATER LINE					ATES, INC	AUS 1791	2
SS	EXISTING WASTEWATER LINE						∠00, / -418-1	_
=======	EXISTING STORM SEWER LINE					SSOC	IV, SULLE Z FAX: 512-4	<u>200</u>
Ø	EXISTING POWER POLE				Ň	D AS	і<, ч РАХ, ч	L L L L L L L L L L L L L L L L L L L
-\$	EXISTING FIRE HYDRANT					NAN		- - -
$\otimes$	EXISTING WATER METER					HOR	AIVIF 18-1.	
0	EXISTING WASTEWATER MANHOLE			D		MLEY-HORN AND ASSOCI	UAD, CAMPUS 512-418-1771	WWW.KIMLEY-HORN.COM
						$\geq$ (	. ر	: 5

NOTES:

1. UNDERGROUND MAINS FEEDING NFPA 13 SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.

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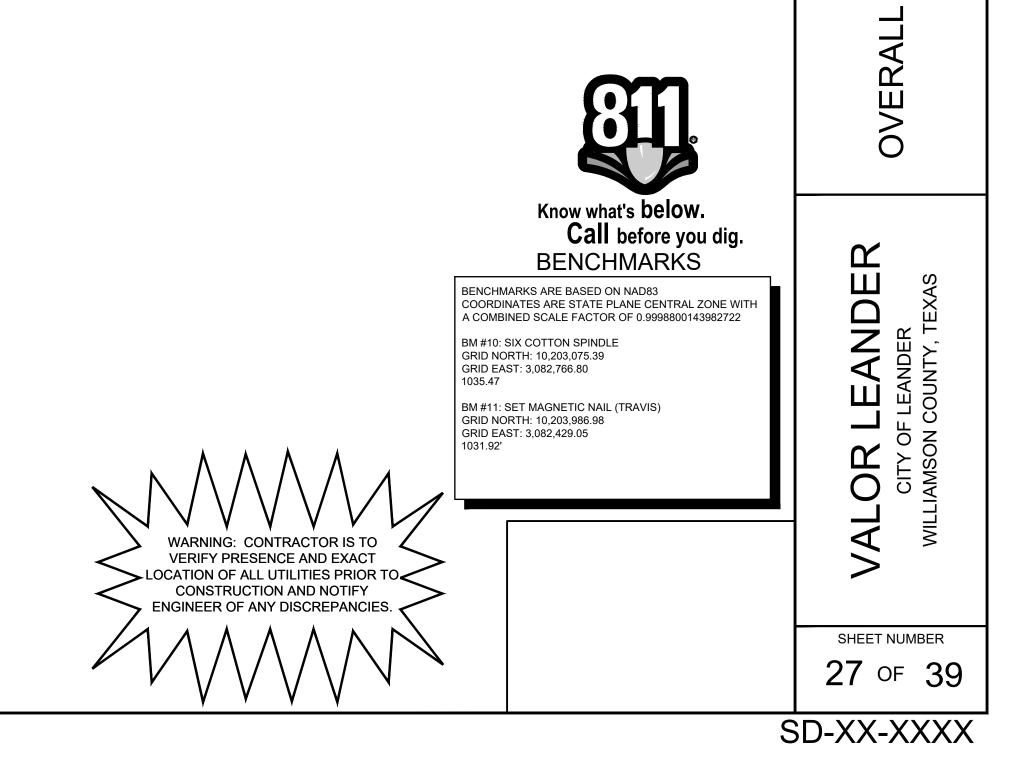
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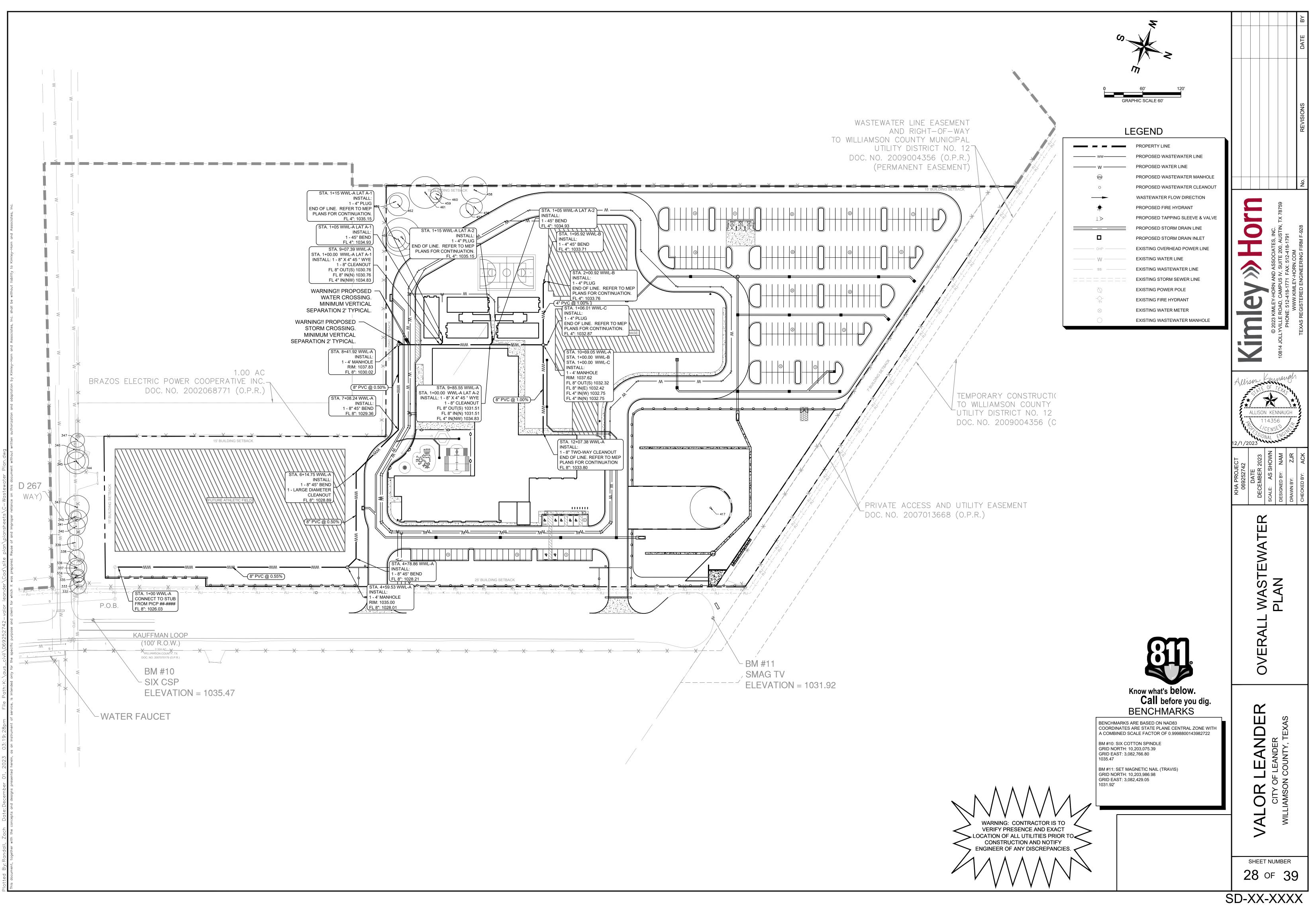
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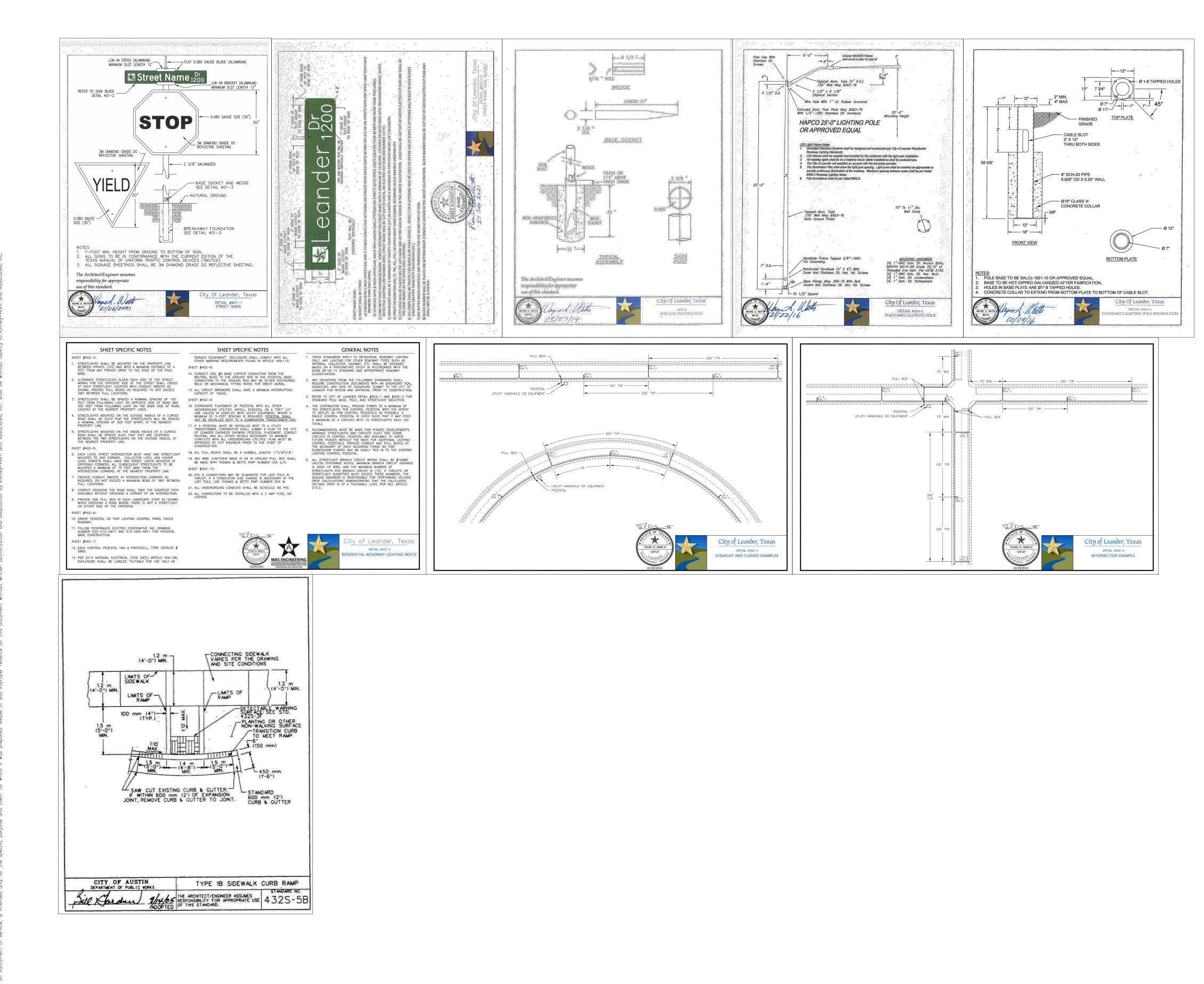
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- 2. UNDERGROUND MAINS FEEDING PRIVATE HYDRANTS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 24, AND THE FIRE CODE, BY A LICENSED CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
- 3. ALL PRIVATE HYDRANTS SHALL BE PAINTED RED. 4. ALL HYDRANT LEADS ARE REQUIRED TO BE CLASS 350 D.I. PIPE PER CITY OF AUSTIN HYDRANT DETAIL.
- 5. ALL PRIVATE 6" FIRE LINES TO BE C900 PRI 4. 6. ALL PRIVATE DOMESTIC LINES TO BE SDR 9 250 PSI POLYETHYLENE.
- 7. ALL PRIVATE IRRIGATION LINES TO BE SDR 9 250 PSI POLYETHYLENE.
- 8. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- 9. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING WASTEWATER LINE AND CONTACT ENGINEER IF IT IS NOT ACCURATE. 10. CONTRACTOR TO POTHOLE THE EXISTING GAS AND
- UNDERGROUND ELECTRIC LINES PRIOR TO CONSTRUCTION.

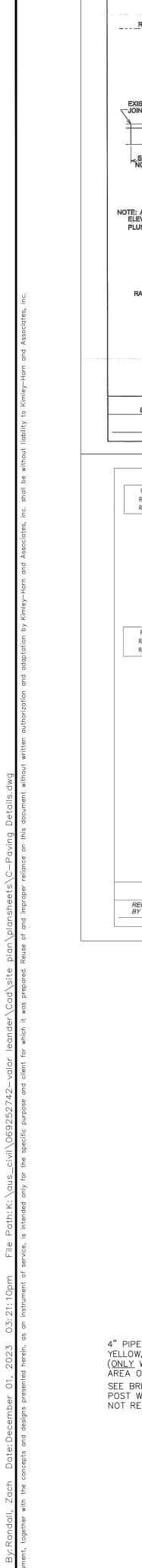


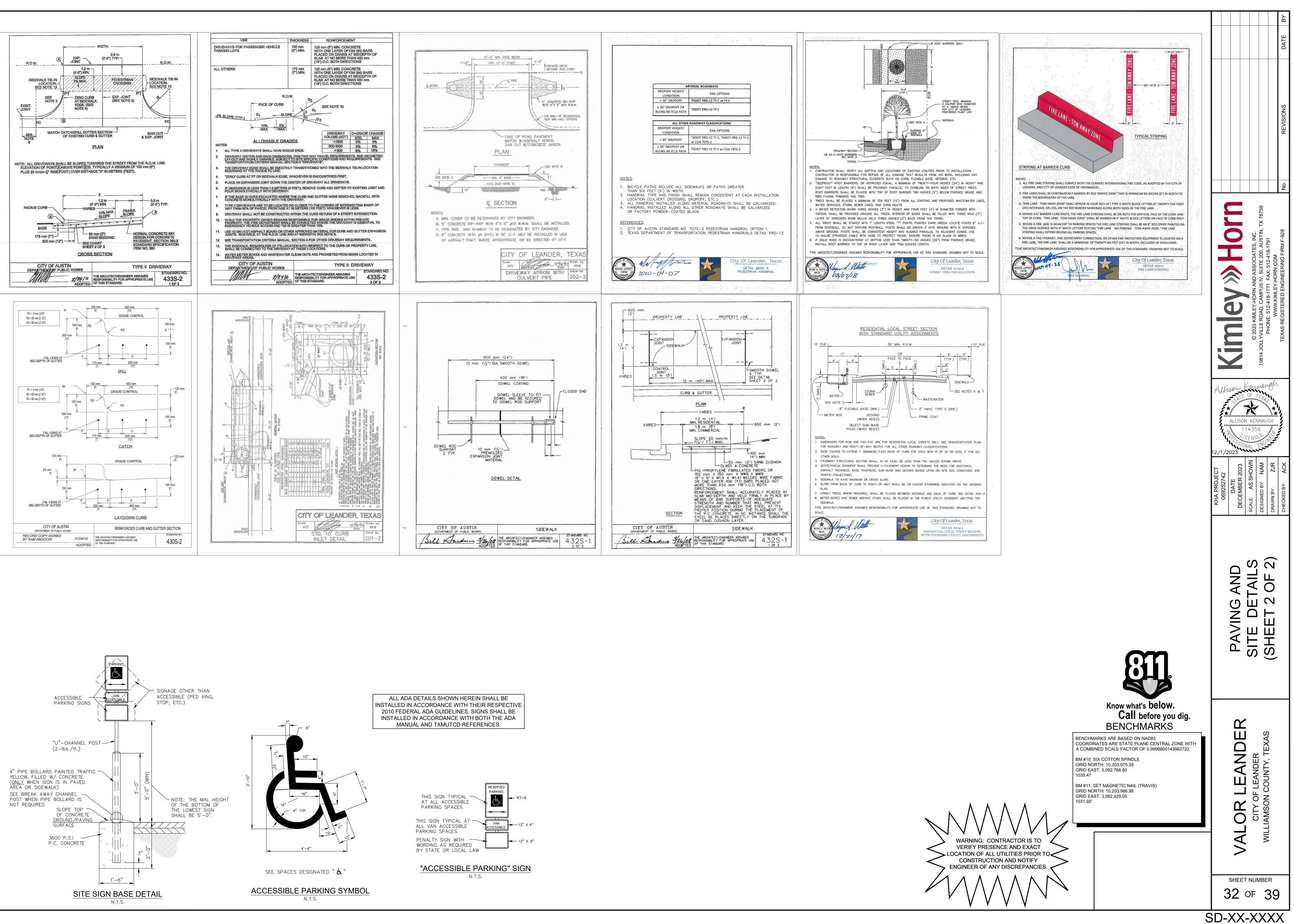


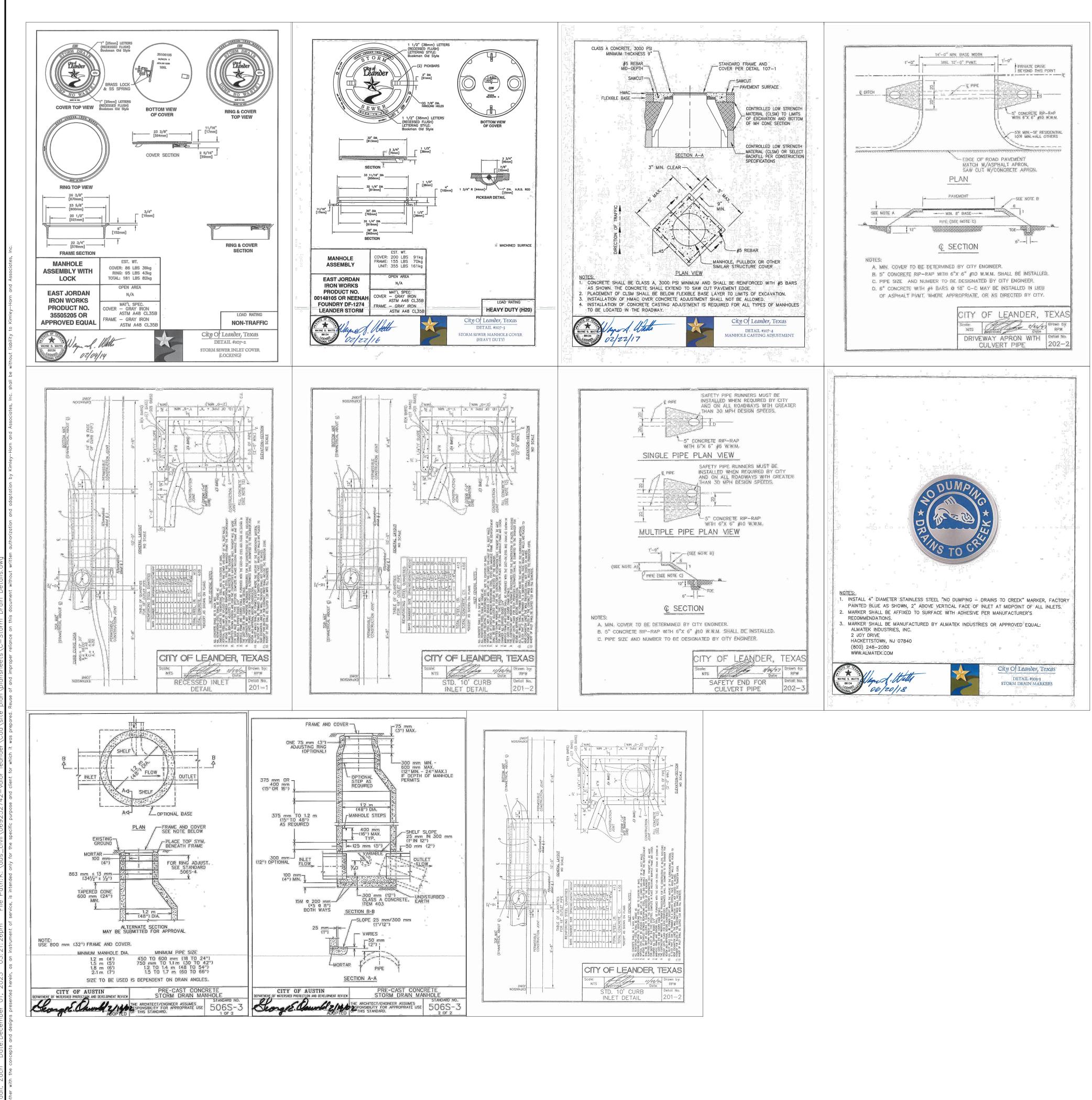


	BY
	DATE
	REVISIONS
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	Carter of the second
	Allison Kennaugh Allison Kennaugh Allison Kennaugh 114356 Solowal ENGINE
	KHA PROJECT 069252742 069252742 DECEMBER 2023 SCALE: AS SHOWN DESIGNED BY: NAM DRAWN BY: ZJR CHECKED BY: ACK
	PAVING AND SITE DETAILS (SHEET 1 OF 2)
Know what's below. Call before you dig. DENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722 BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80 1035.47 BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92'	VALOR LEANDER CITY OF LEANDER WILLIAMSON COUNTY, TEXAS
	SHEET NUMBER
S	D-XX-XXXX

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES

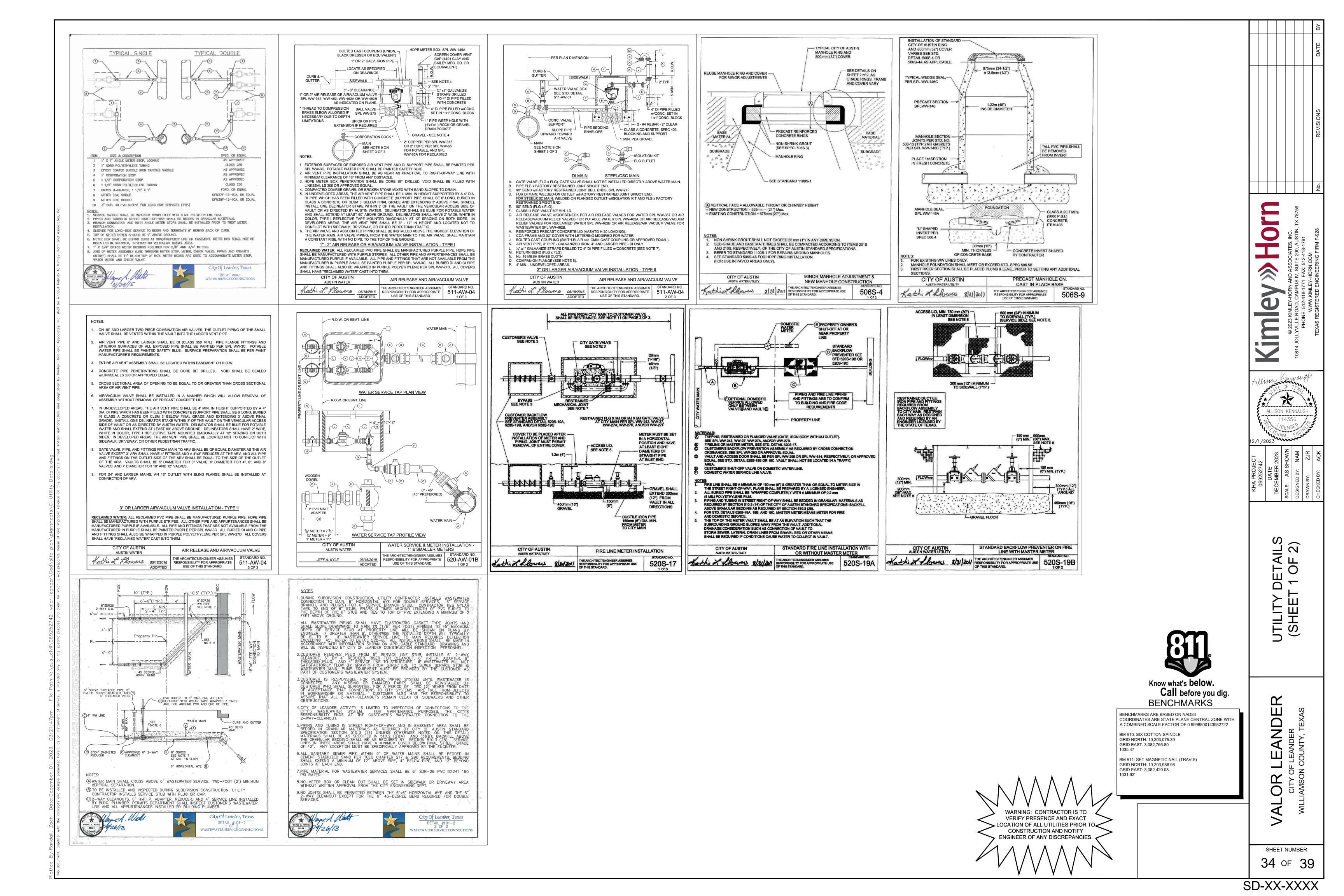




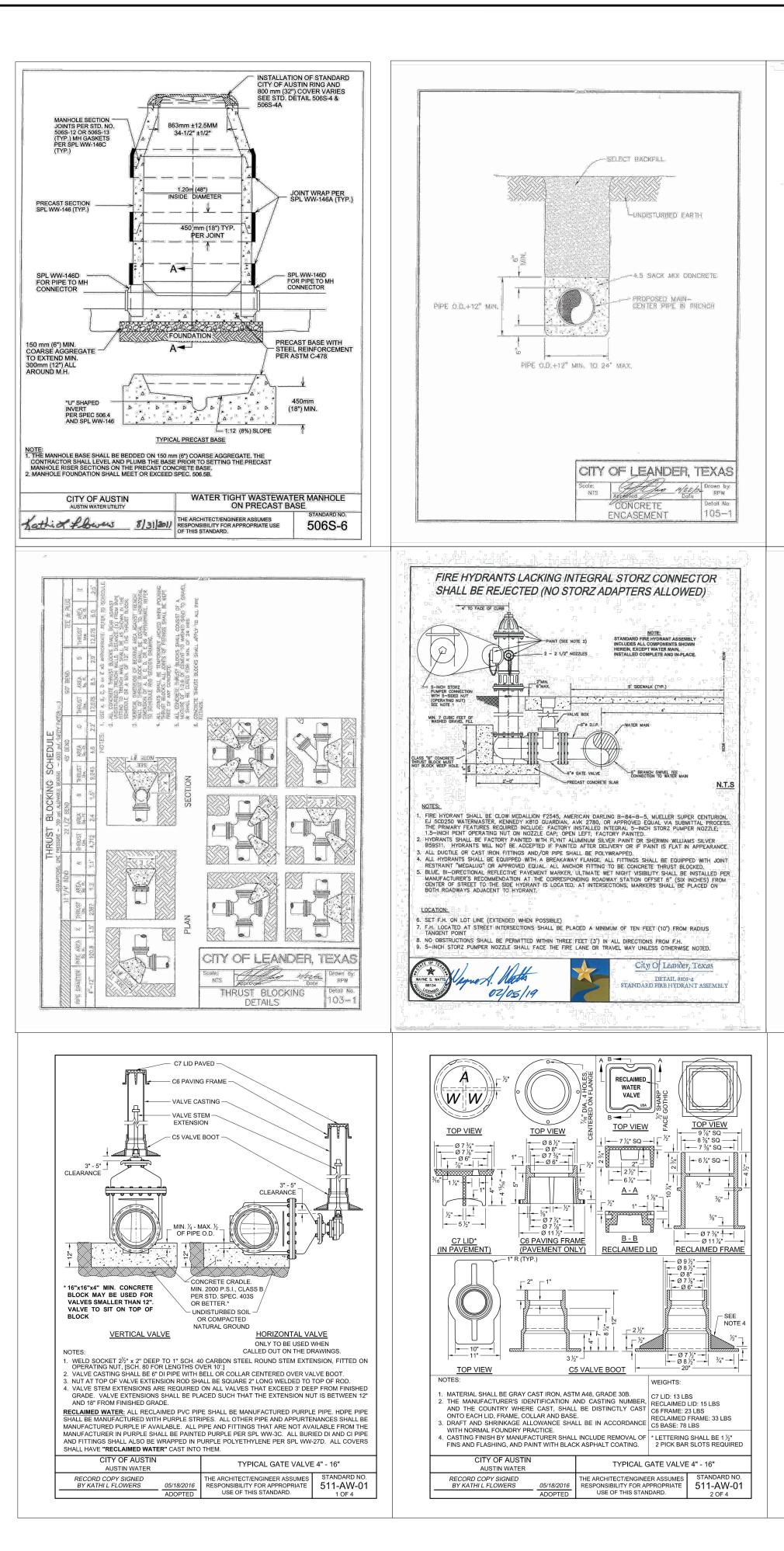


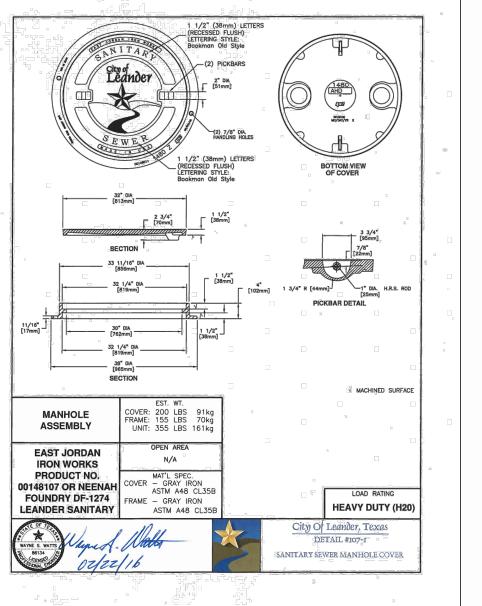
	DATE BY
	REVISIONS
	Standey       Horn         © 2023 KIMLEY-HORN AND ASSOCIATES, INC.         10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759         PHONE: 512-418-1771 FAX: 512-418-1791         WWW.KIMLEY-HORN.COM         TEXAS REGISTERED ENGINEERING FIRM F-928
	Allison Kennaugh ALLISON KENNAUGH 114356 CCENSE 12/1/2023
	KHA PROJECT       069252742       069252742       DECEMBER 2023       SCALE:     AS SHOWN       SCALE:     AS SHOWN       DESIGNED BY:     NAM       DRAWN BY:     ZJR       CHECKED BY:     ACK
	STORM DETAILS
Know what's below. Call before you dig. DENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722 BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80 1035.47 BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92	VALOR LEANDER CITY OF LEANDER WILLIAMSON COUNTY, TEXAS
S	SHEET NUMBER 33 OF 39 D-XX-XXXX

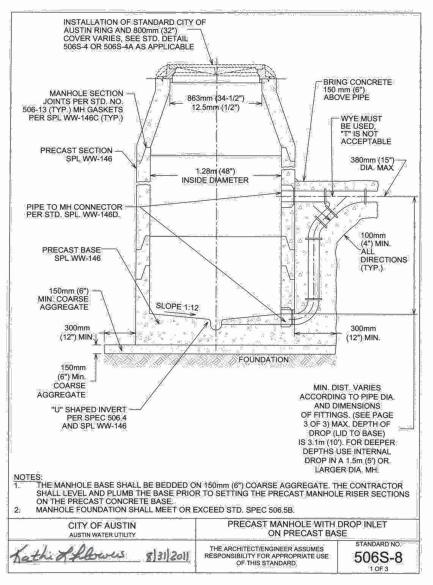
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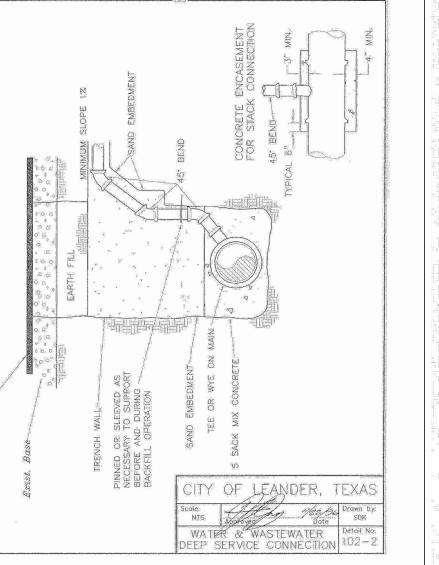


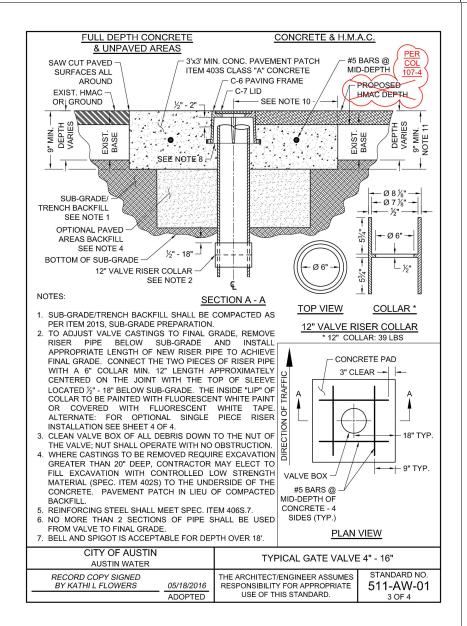


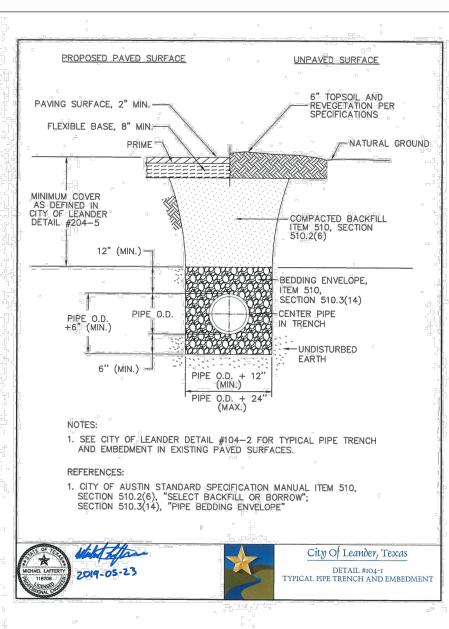


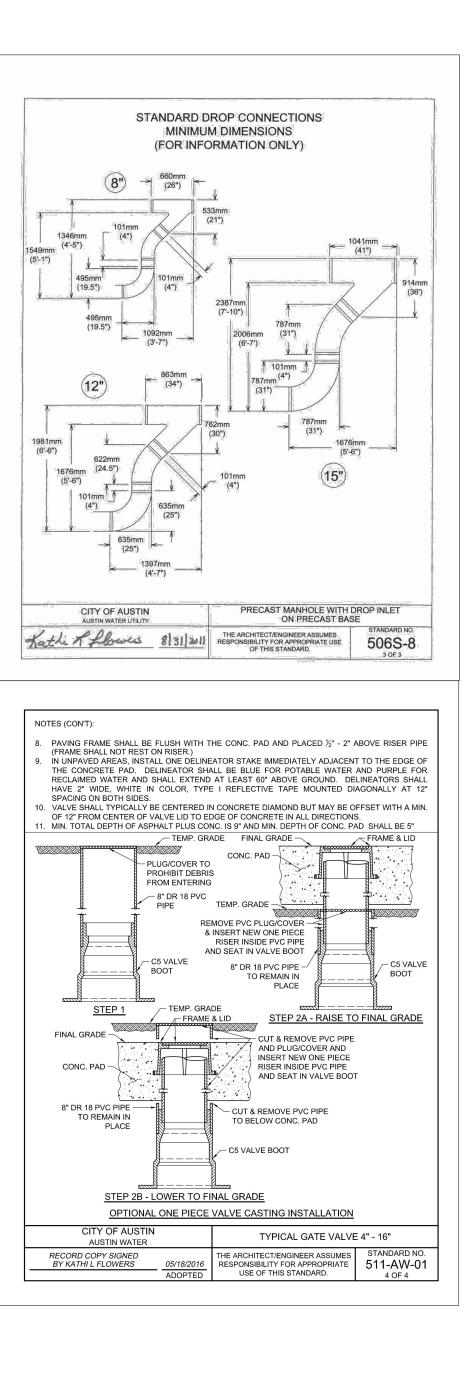


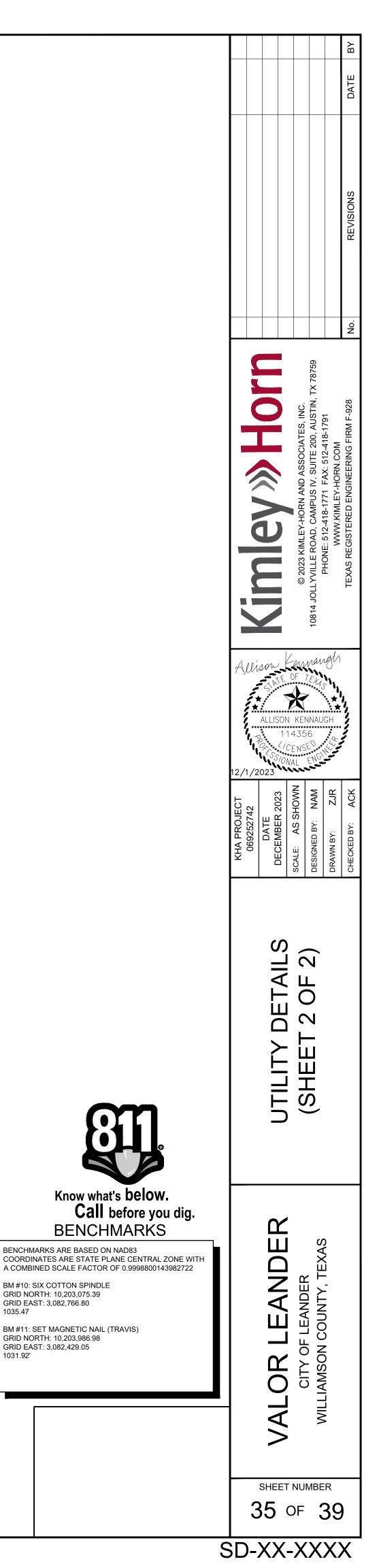












BENCHMARKS

BENCHMARKS ARE BASED ON NAD83

BM #11: SET MAGNETIC NAIL (TRAVIS)

BM #10: SIX COTTON SPINDLE

GRID NORTH: 10,203,075.39

GRID EAST: 3,082,766.80

GRID NORTH: 10,203,986.98

GRID EAST: 3,082,429.05

1035 47

1031.92'

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO  $\triangleleft$ CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.