

ORGANIZED SEWAGE COLLECTION SYSTEM

KIDS ZONE CR307

APPROXIMATELY 325' NORTH OF THE INTERSECTION OF
CR 305 AND CR 307 ON THE WEST SIDE OF CR 307 IN
JERRELL, TX 76537
JARRELL, WILLIAMSON COUNTY, TEXAS

Prepared For:

DC BROWN, L.P.

PO BOX 292
Salado, TX 76571
254.718.7791

Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

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Firm No. 928
KHA Project No. 067783129

February 19, 2024

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SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Kids Zone CR307					2. Regulated Entity No.: N/A				
3. Customer Name: DC Brown, L.P.					4. Customer No.:				
5. Project Type: (Please circle/check one)	<u>New</u>		Modification			Extension		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)	Residential		<u>Non-residential</u>			8. Site (acres):		5.253	
9. Application Fee:	\$650		10. Permanent BMP(s):				Batch Detention Pond		
11. SCS (Linear Ft.):	69		12. AST/UST (No. Tanks):				N/A		
13. County:	Williamson		14. Watershed:				Salado Creek		

Application Distribution

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

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

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

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

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

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

Alejandro E. Granados Rico, P.E.

Print Name of Customer/Authorized Agent

Alejandro E. Granados Rico

2/19/2024

Signature of Customer/Authorized Agent

Date

****FOR TCEQ INTERNAL USE ONLY****

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

SECTION 2: GENERAL INFORMATION

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Alejandro E. Granados Rico, P.E.

Date: February 19, 2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Kids Zone CR307
2. County: Williamson
3. Stream Basin: Salado Creek
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

- ☒ Recharge Zone
☐ Transition Zone

6. Plan Type:

- ☐ WPAP
☒ SCS
☐ Modification

- ☐ AST
☐ UST
☐ Exception Request

7. Customer (Applicant):

Contact Person: Whitney Hicks

Entity: DC Brown, L.P.

Mailing Address: PO BOX 292

City, State: Salado, TX

Zip: 76571

Telephone: 254.718.7791

Fax: N/A

Email Address: whitneyhicks777@yahoo.com

8. Agent/Representative (If any):

Contact Person: Alejandro E. Granados Rico, P.E.

Entity: Kimley-Horn

Mailing Address: 501 S. Austin Avenue, Suite 1310

City, State: Georgetown, Texas

Zip: 78626

Telephone: 512-418-4522

Fax: N/A

Email Address: alex.granados@kimley-horn.com

9. Project Location:

- ☒ The project site is located inside the city limits of Jarrell.
- ☐ 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.

Approximately 325' North of the intersection of CR 305 and CR 307 on the west side of CR 307 in Jarrell, TX 76537

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

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

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

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☒ Survey staking will be completed by this date: 2/22/2024

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

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

- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

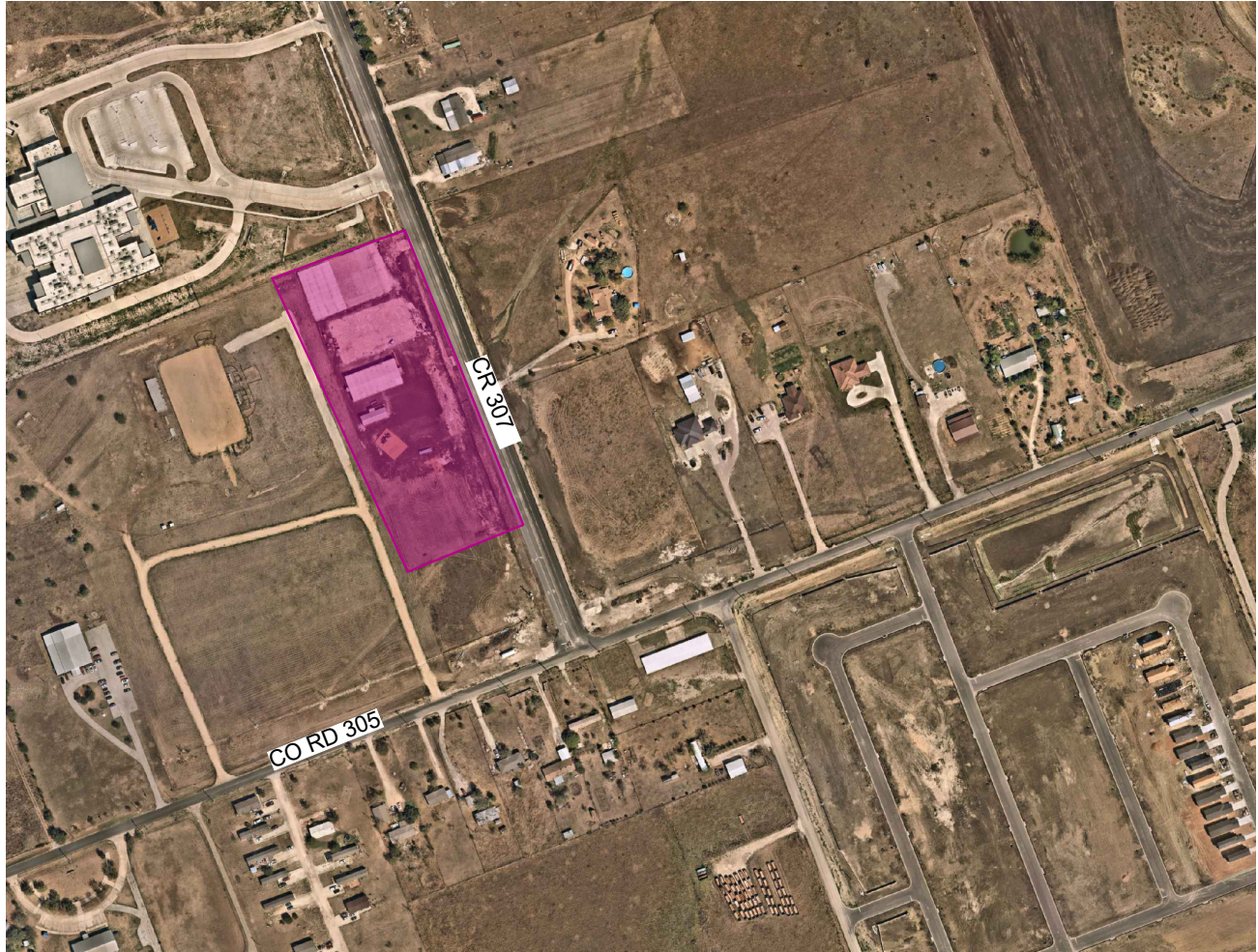
- ☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an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

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

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

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

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



SCALE: N.T.S.

DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. HEAD NORTH ON I-35 TOWARDS WACO
2. TAKE EXIT 279 HILL LANE
3. TURN LEFT ONTO COUNTY ROAD 305
4. TURN RIGHT ONTO COUNTY ROAD 307
5. THE PROJECT SITE WILL BE ON YOUR LEFT SOUTH OF JARRELL ELEMENTARY #3.

SHEET

EX A

Scale: NTS

Designed by: JDR

Drawn by: JDR

Checked by: JDR

Date: JANUARY 2024

Project No. 069427200

KIDS ZONE
JARRELL, TEXAS

Kimley»Horn

501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78626
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WWW.KIMLEY-HORN.COM

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TBPB Firm No. 928

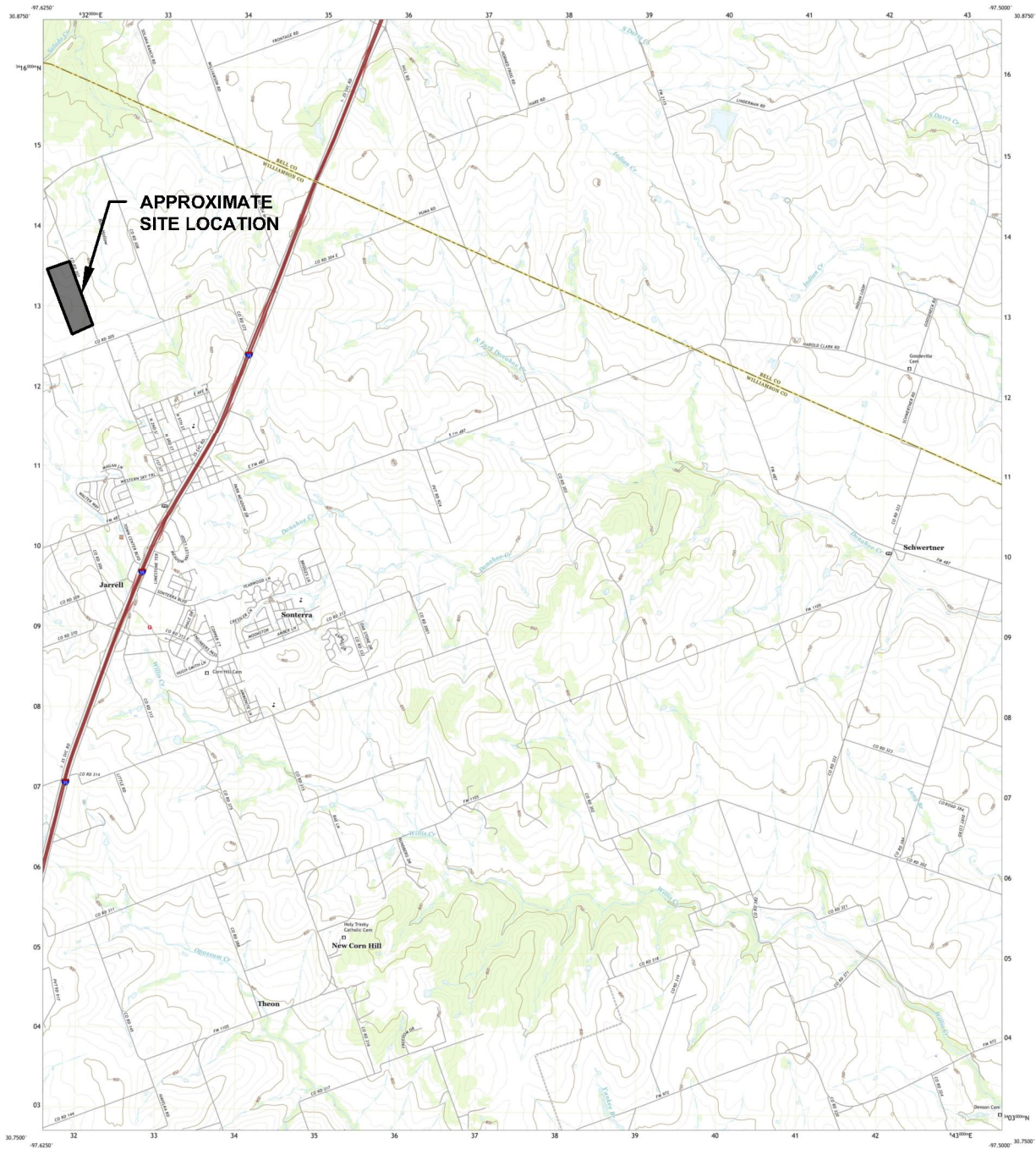
ATTACHMENT A - Road Map



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



JARRELL QUADRANGLE
TEXAS
7.5-MINUTE SERIES

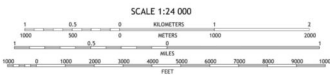


Produced by the United States Geological Survey

National Geographic Society of 180° (NAD83)
1000-meter grid Universal Transverse Mercator, Zone 14B
This map is not a legal document. Boundary lines for
governmental purposes are shown. Other boundaries shown
are for informational purposes only.

Images:

USGS	NAD83	August 2016	November 2016
USGS	U.S. Census Bureau	2010	2010
USGS	National Hydrography Dataset	2016	2016
USGS	National Wetlands Inventory	2016	2016
USGS	National Wetlands Inventory	2016	2016



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the
National Geographic Society US Topo Product Standard.

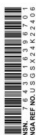


1	2	3
4	5	6
7	8	9

ADJACENT QUADRANGLES

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

JARRELL, TX
2022



ATTACHMENT B – USGS Map

ATTACHMENT C – Project Description

Introduction

The subject site is a largely undeveloped 5.253 acre lot located approximately 325' north of the intersection of CR 305 and CR 307 on the west side of CR 307 in Jarrell, TX 76537 and within the Full Purpose city limits of the City of Jarrell. The subject property will be comprised of a private 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: AW0172 AW0172-DAVIS, E. Sur., Acres 4.355 of the Official Public Records of Williamson County, Texas.

Land Use

The lot is zoned for commercial. The site resides within the Full Purpose city limits of the City of Jarrell in Williamson County, Texas.

Existing Drainage Conditions

Under existing conditions, the site has two ridges. One from the elementary school to the north, and the other from the county road 305 to the south. This flow travels to a low point on the site headed to the bar ditch along county road 307 into 5 existing 24" cmp pipes and off the property, eventually discharging into Salado Creek.

Proposed Development

The proposed Kids Zone project includes the construction of 3 Commercial Buildings and a playscape feature. Water and wastewater lines will be designed according to City of Jarrell specifications and connect to City of Jarrell utility services. Access to the site will be through two proposed driveways along CR 307. The project proposes 2.09 acres (40%) of total impervious cover. Water will be treated according to TCEQ requirements through one (1) on site Batch Detention Ponds. The flow will be discharged east of the site and then flow into Salado Creek. 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. 48491C0150F for Williamson County, effective December, 20, 2019, 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 (1) on site Batch detention ponds. The detention pond will release the runoff at or below existing condition flow rates onto rock riprap which will then be conveyed east via 5 existing 24" CMP's then conveyed into Salado Creek . Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, 5.57 acres of offsite water enters the site from the east. The off-site drainage will be conveyed into a proposed on-site batch detention pond.

In proposed conditions, once runoff is released from the detention ponds it will enter 5 existing 24" CMP's that will eventually outfall into Salado Creek.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Kids Zone will address the water quality requirements for the ultimate area disturbed within this phase. All water quality areas will be treated by a batch detention pond. 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 batch detention pond requirements used for the purpose of this report are assumed to be based on the requirements outlined by the City of Jarrell Drainage Criteria Manual. To reduce the flow to pre-developed conditions, a detention pond will be constructed as a part of this development phase 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 Jarrell 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 ponds located on-site. The detention ponds will discharge onto proposed rock rip rap into an existing drainage channel on the east side of the site.

SECTION 3: GEOLOGIC ASSESSMENT

GEOLOGIC ASSESSMENT FOR THE APPROXIMATELY 5.26-ACRE KIDS ZONE CR307 TRACT

Williamson County, Texas

February 2024

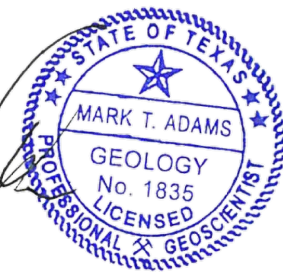
Submitted to:

Kimley-Horn
501 S Austin Avenue
Suite 1310
Georgetown, Texas 78626

Prepared by:

aci environmental consulting
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-24-016



2/16/2024

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: Mark T. Adams

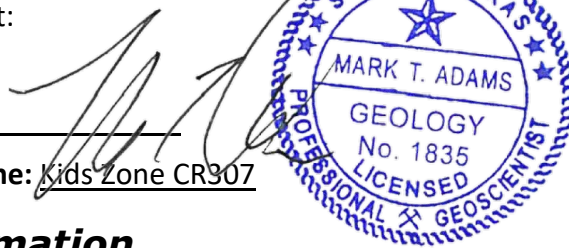
Telephone: (512) 347-9000

Date: 2/16/2024

Fax: (512) 306-0974

Representing: aci Group LLC TBPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Kids Zone CR307

Project Information

1. Date(s) Geologic Assessment was performed: 2/6/2024

2. Type of Project:

- ☒ WPAP
☒ SCS

- ☐ AST
☐ UST

3. Location of Project:

- ☒ Recharge Zone
☐ Transition Zone
☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
DnB	D	5
DoC	D	1.6

** 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" = 40'
 Site Geologic Map Scale: 1" = 40'
 Site Soils Map Scale (if more than 1 soil type): 1" = 100'
9. Method of collecting positional data:
 - ☒ Global Positioning System (GPS) technology.
 - ☐ Other method(s). Please describe method of data collection: _____
10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
- ☐ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
- ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- ☐ The wells are not in use and have been properly abandoned.
- ☐ The wells are not in use and will be properly abandoned.
- ☐ The wells are in use and comply with 16 TAC Chapter 76.
- ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

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February 2024

Geologic Assessment for the Kids Zone CR307 located in Williamson County, Texas

1.0 INTRODUCTION

The Texas Commission on the Environmental Quality (TCEQ) regulates activities that have the potential to pollute the Edwards Aquifer through the Edwards Aquifer Protection Program. Projects meeting a certain criterion over the Edwards Aquifer Recharge Zone must submit an Edwards Aquifer Protection Plan (EAPP).

The purpose of this report is to identify all potential pathways for contaminant movement to the Edwards Aquifer and provide sufficient geologic information so that the appropriate Best Management Practices (BMPs) can be proposed in the Edwards Aquifer Protection Plan (EAPP). This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards Aquifer Recharge Zone. Per the Rules, the Geologic Assessment must be completed by a Geologist licensed according to the Texas Geoscience Practice Act.

2.0 PROJECT INFORMATION

The Kids Zone CR307, hereafter referred to as the Site or site, is located at 787 County Road (CR) 307 in the City of Jarrell extraterritorial jurisdiction (ETJ), Williamson County, Texas (**Attachment A, Figure 1**). Pedestrian investigations of the 5.26-acre tract were performed on February 6, 2024, by Marcos Cardenas and Andrew Marlow, GIT, under the supervision of Mark Adams, P.G. with **aci environmental consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP). The site is approximately 5.35 acres in total. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone features. The ranking of the features will determine their viability as “sensitive” features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SOILS AND GEOLOGY

The following includes a site-specific description of the soils, geologic stratigraphy, geologic structure, and karstic characteristics as they relate to the Edwards aquifer. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock.

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2024), two soil units occur within the project alignment (**Attachment A, Figure 2**):

- DnB—Denton silty clay, 1 to 3 percent slopes

The Denton component makes up 88 percent of the map unit. Slopes are 1 to 3 percent. This component is on hillslopes on dissected plateaus. The parent material consists of silty and clayey slope alluvium over residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 22 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet the criteria for hydric soils. Hydrologic Soil Group: D.

- DoC—Doss silty clay, moist, 1 to 5 percent slopes

The Doss component makes up 85 percent of the map unit. Slopes are 1 to 5 percent. This component is on hillslopes on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, paralithic, is 11 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet the criteria for hydric soils. Hydrologic Soil Group: D.

Geologic Stratigraphy

According to the *Geologic Atlas of Texas, Austin Sheet*, one geologic unit occurs within the project alignment (**Attachment A, Figure 3**). This unit and a description by Barnes (1981) are as follows:

- Georgetown Formation (Kgt)
“limestone and marl; mostly limestone, fine grained argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft light gray to yellowish gray; marine megafossils include *Kingena wacoensis* and *Gryphaea washitaensis*; thickness 30-80 feet, thins southward”

Site-Specific Stratigraphic Column

Group	Formation	Thickness (Barnes, 1981)
Washita Group	Georgetown Formation	30-80 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingering with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the

southeast and are characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 25°, as evidenced by the mapped fault patterns (**Attachment A, Figure 4**). Thus, all features that have a trend ranging from 10° to 45° are considered “on trend” and were awarded the additional 10 points in the Geologic Assessment Table.

Karstic Characteristics

In limestone landscapes, karst is expressed by erratically developed cavernous porosity from dissolution of bedrock as water combined with weak acids moves through the subsurface. Karst terrains are typical of the Edwards Limestone, occurring across a vast region of Central Texas, including the Balcones Fault Escarpment. The features produced by karst processes include, but are not limited to, sinkholes, solution cavities, solution enlarged fractures, and caves. These features can eventually provide conduits for fluid movement such as surface water runoff, as “point recharge” to the Edwards Aquifer. Faults and manmade features within bedrock can also provide conduits for point recharge in many cases.

According to Edwards aquifer zone map produced by the TCEQ (2005), the entire subject area is within the northern segment of the Edwards aquifer Recharge Zone. Thus, all karst features identified as sensitive within the project limits have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the site, and it was determined that agricultural activities occurred on the site since the first aerial image dated 1985 (**Attachment C**). The subject area remains relatively unchanged until land grading for the on-site school buildings can be seen in the most recent aerial.

5.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci environmental consulting** personnel on February 6, 2024. Four manmade features in bedrock were noted on the site. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. It was determined that there are no sensitive karst features on the subject property, Four features were man-made features in bedrock.

6.0 REFERENCES

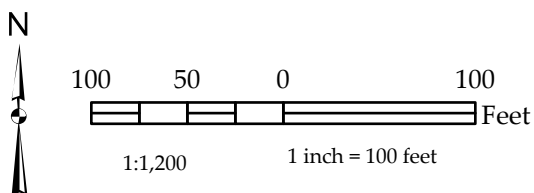
- Barnes, V.E. (project director) et. al., 1981. *Geologic Atlas of Texas, Austin Sheet*. The University of Texas at Austin, Bureau of Economic Geology. Scale 1:250,000
- (SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- (TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.
- (TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.
- (TWDB) Texas Water Development Board. 2024. Water Data Interactive Groundwater Data Viewer. Accessed on February 12, 2024. Available at:
<http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer>
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2024. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: February 14, 2024.

ATTACHMENT A

Site Maps

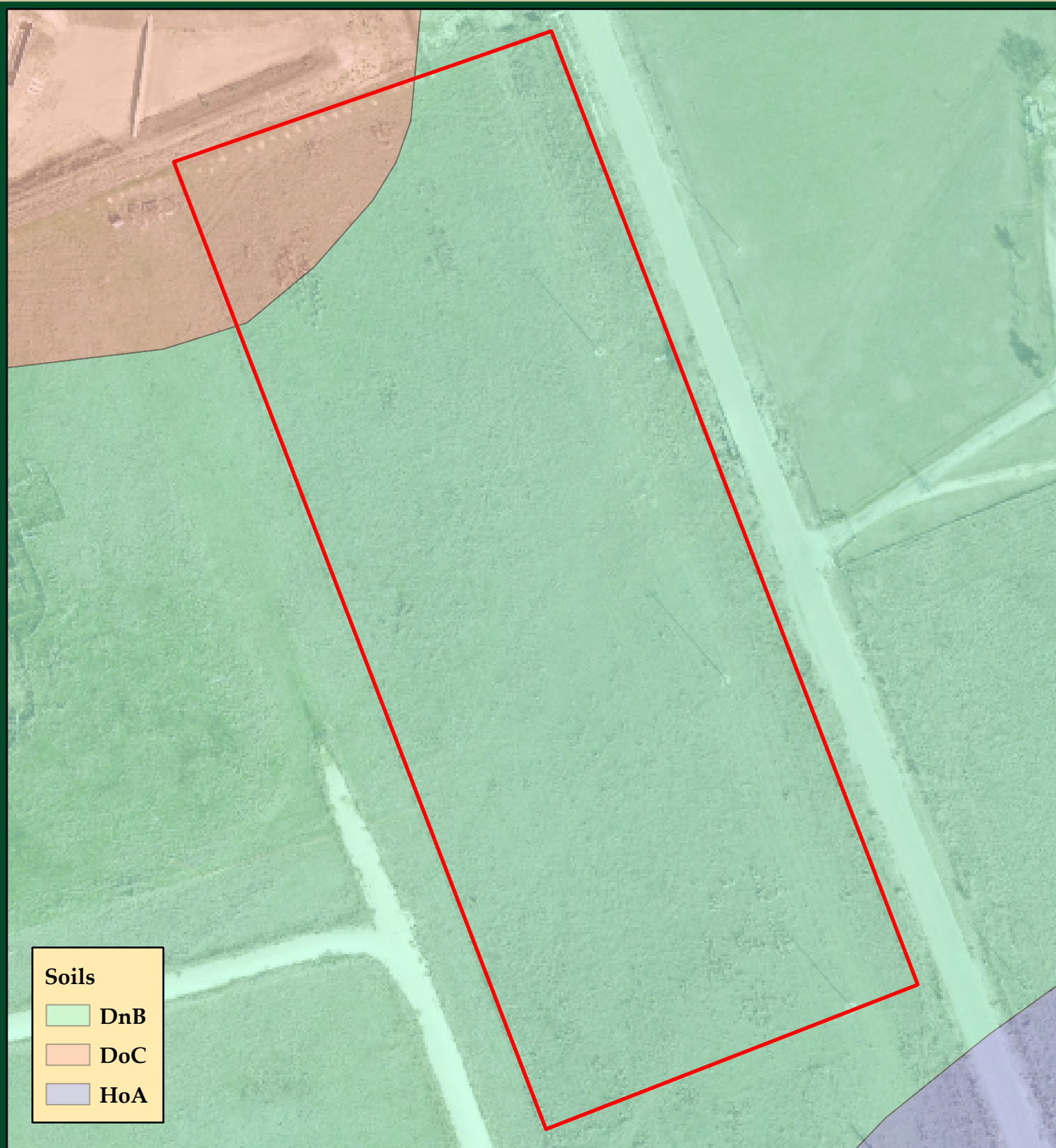


This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

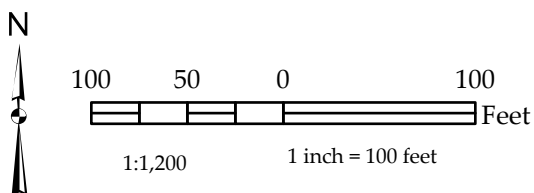



 Subject Area





This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.



 Subject Area





RockUnit

Kgt

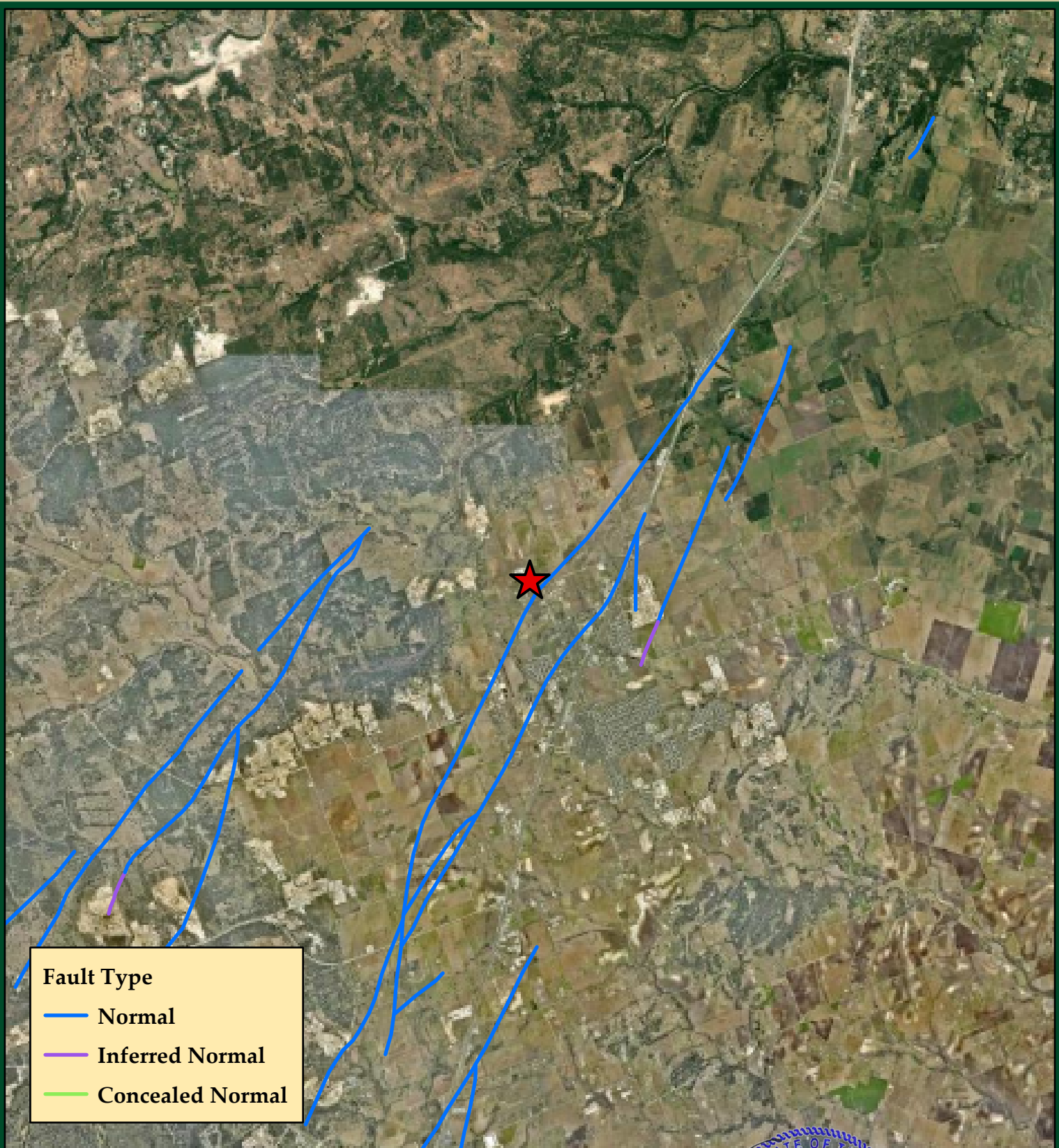
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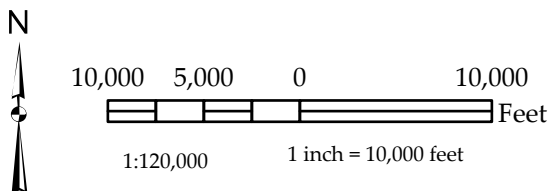
100 50 0 100
Feet
1:1,200 1 inch = 100 feet

Subject Area





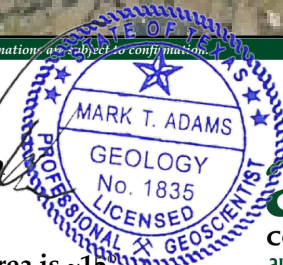
This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.



2/16/2024



Subject Area



The regional trend for the area is ~15°

ATTACHMENT B

Geologic Table Geologic and Manmade Feature Map (Figure 5) Feature Descriptions and Recommendations

GEOLOGIC ASSESSMENT TABLE						PROJECT NAME: Kids Zone CR307															
LOCATION			FEATURE CHARACTERISTICS											EVALUATION		PHYSICAL SETTING					
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12	
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY	
						X	Y	Z		10							<40	≥40	<1.6	≥1.6	
MB-01	30.84113	-97.619138	MB	30	Kgt	-	-	-	-	0	-	-	-	10	40	-	X	-	X	Drainage	
MB-02	30.840483	-97.619299	MB	30	Kgt	-	-	-	135	0	-	-	-	10	40	-	X	-	X	Hillside	
MB-03	30.840541	-97.618832	MB	30	Kgt	-	-	-	-	0	-	-	-	10	40	-	X	-	X	Drainage	
MB-04	30.840365	-97.618991	MB	30	Kgt	-	-	-	-	0	-	-	-	10	40	-	X	-	X	Hillside	
														</							

* DATUM: NAD 1983 State Plane 4203

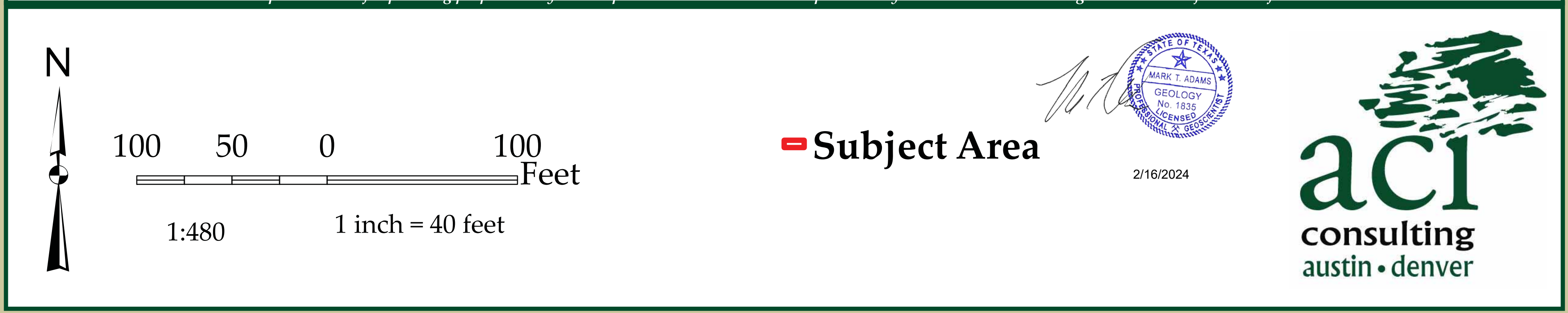
2A TYPE	TYPE	2B POINTS	8A INFILLING	
C	Cave	30	N	None, exposed bedrock
SC	Solution cavity	20	C	Coarse - cobbles, breakdown, sand, gravel
SF	Solution-enlarged fracture(s)	20	O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fault	20	F	Fines, compacted clay-rich sediment, soil profile,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

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

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

Date
2/16/2024

Sheet
1
of
1



Kids Zone CR307 Geologic Assessment
Figure 5: Geologic Feature Map

MB-01

GPS: 30.841130, -97.619138

This is a manmade feature in bedrock consisting of a linear set of utility features (electric, communication, sewer, water, and stormwater) running parallel to the northeast property boundary along CR 307. The feature is located in the Georgetown Formation and is positioned along a roadside drainage. Infill material and dimensions are unknown. The feature trends towards the southeast, and a drainage greater than 1.6 acres due to the constructed roadside drainage. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.



Photo of MB-01

MB-02

GPS: 30.840483, -97.619299

This is a manmade feature in bedrock consisting of two portable metal structures. The feature is located in the Georgetown Formation and is positioned along a drainage. Infill material and dimensions are unknown. The feature has no trend and a drainage less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.



Photo of MB-02

MB-03

GPS: 30.840541, -97.618832

This is a manmade feature in bedrock consisting of culvert under CR 307. The feature is located in the Georgetown Formation and is positioned along a drainage. Infill material and dimensions are unknown. The feature had no identified trend and a drainage greater than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.



Photo of MB-03

MB-04

GPS: 30.840365, -97.618991

This is a manmade feature in bedrock consisting of an unburied but *in situ* and connected belowground storage tank. The feature is located in the Georgetown Formation and is positioned along a hillside. Infill material and dimensions are unknown. The feature had no trend and a drainage greater than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.



Photo of MB-04

ATTACHMENT C

Historic Aerial Photographs



Image © 2024 Airbus
Image © 2024 Maxar Technologies

Imagery Date: 6/18

2023



2017



2010



2005



1995



Image Landsat / Copernicus

Imagery Date: 12/30/

1985

SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM

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: Kids Zone CR307

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

Customer Information

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

Contact Person: Whitney Hicks

Entity: DC Brown, L.P.

Mailing Address: PO BOX 292

City, State: Salado, Texas

Zip: 76571

Telephone: 254.718.7791

Fax: N/A

Email Address: whitneyhicks777@yahoo.com

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

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

Contact Person: Alejandro Granados.

Texas Licensed Professional Engineer's Number: 130084

Entity: Kimley-Horn

Mailing Address: 501 S. Austin Ave. Suite 1310

City, State: Georgetown, Texas

Zip: 78626

Telephone: (512) 782-0602

Fax: N/A

Email Address: alex.granados@kimley-horn.com

Project Information

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

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

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

100 % Domestic _____ gallons/day
_____% Industrial _____ gallons/day
_____% Commingled 2,850 gallons/day
Total gallons/day: 2,850

6. Existing and anticipated infiltration/inflow is 0 gallons/day. This will be addressed by: n/a.

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

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

8. Pipe description:

Table 1 - Pipe Description

<i>Pipe Diameter(Inches)</i>	<i>Linear Feet (1)</i>	<i>Pipe Material (2)</i>	<i>Specifications (3)</i>
2	69	PVC SDR-26	ASTM D-3034

Total Linear Feet: 69

(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 Donahoe Creek Wastewater (name) Treatment Plant. The treatment facility is:

- ☒ Existing
☐ Proposed

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

- ☒ The City of Jarrell standard specifications.
☐ Other. Specifications are attached.
11. ☐ No force main(s) and/or lift station(s) are associated with this sewage collection system.
☒ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.
13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.
☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes.** A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.
☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

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

Table 2 - Manholes and Cleanouts

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
A - PICP	15	1+68.70	Polyethylene Tank

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>

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

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

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

Site Plan Requirements

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

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 40'.
19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

- ☒ The location of all lateral stub-outs are shown and labeled.
- ☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

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

22. 100-year floodplain:

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

Table 3 - 100-Year Floodplain

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

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
n/a	n/a	n/a

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

Table 5 - Water Line Crossings

<i>Line</i>	<i>Station or Closest Point</i>	<i>Crossing or Parallel</i>	<i>Horizontal Separation Distance</i>	<i>Vertical Separation Distance</i>

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

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

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

<i>Line</i>	<i>Profile Sheet</i>	<i>Station to Station</i>	<i>FPS</i>	<i>% Slope</i>	<i>Erosion/Shock Protection</i>
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(l)(2)(B).

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

Administrative Information

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 Details

<i>Standard Details</i>	<i>Shown on Sheet</i>
Lateral stub-out marking [Required]	n/a
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) [Required]	n/a
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	n/a
Typical trench cross-sections [Required]	n/a
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]	n/a
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: 12/01/2023
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: Alejandro Granados, P.E.

Date: concurrently

Place engineer's seal here:



Signature of Licensed Professional Engineer: _____

Alejandro E. Granados Rico

Appendix A-Flow Velocity Table

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

Table 10 - Slope Velocity

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

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.*

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

Where:

v = velocity (ft/sec)

n = Manning's roughness coefficient
(0.013)

R_h = hydraulic radius (ft)

S = slope (ft/ft)

Figure 1 - Manning's Formula

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

Kids Zone CR307 is an undeveloped 5.253 acre property located northwest of the intersection of CR 305 and CR 307 and within the city limits of the Jerrell, Texas. The proposed Kids Zone CR307 project includes the construction of a charter school with associated paving, water, wastewater, and drainage improvements to support the project. This project proposes 2.09 acres (40%) of impervious cover.

This project is located within the Salado Creek Watershed. The site is not located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48491C0150F. The site is located within the Edwards Aquifer Recharge Zone according to the Edwards Aquifer GIS databases. There are no critical water quality zones and no critical environmental features located on-site. The site consists of 5.253 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 one (1) line that will convey wastewater from a grinder pump to a tie in location proposed to be built with this development in CR 307. 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 5.253 ac charter school site, located at CR 305 and CR 307 will be served by this wastewater system. The City of Jerrell Utility Criteria Manual 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 2" 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

No bore locations are proposed with this site.

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:

Q_{full} = flow rate of fluid in pipe at full flow (ft³/s) (cfs)

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

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

d = internal pipe diameter (ft) = D_o – 2t

D_o = outside diameter (in)

t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

R_{full} = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)

R_{90%} = 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 ft	Slope %	Slope ft/ft	Diameter		Pipe Material	Manning's	P ft	A sf	Rfull ft	R90% ft	Qfull cfs	Q90% cfs	Vfull fps	V90% fps
				in	ft										
A-1	69	0.50	0.005	2.00	0.17	PVC	0.013	0.52	0.02	0.04	0.04	0.02	0.02	0.96	0.87

Pipe	Minimum Velocity	Maximum Velocity
Type	<i>fps</i>	<i>fps</i>
2" PVC	0.96	0.96

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).

$$P_{cr} = \frac{2 * E}{(1 - \nu^2) * (DR - 1)^3} \quad (\text{Equation 7.14})$$

$$P_b = 1.15 * \sqrt{P_{cr} * E} \quad (\text{Equation 7.18})$$

$$H = (P_b * 144) / w \quad (\text{Equation 6.7})$$

Where:

- P_{cr} = critical buckling pressure (psi)
- E = modulus of elasticity (psi) = 400,000 psi for PVC
- ν = Poisson's Ratio = 0.38 for PVC
- DR = dimension ratio
- P_b = 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

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

$$P_{cr} = 59.84 \text{ psi}$$

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

$$P_b = 397.84 \text{ psi}$$

$$H = (397.84 * 144) / 120$$

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).

$$P_y = \frac{\Theta_c * 2 * A}{D} \quad (\text{Equation 7.20})$$

$$H = P_y / w \quad (\text{Equation 6.7})$$

Where:

P_y = pressure due to soil weight (psi)

Θ_c = compressive stress (psi) = 4,000 psi for PVC pipe

A = surface area of the pipe wall (in²/in)

D = mean pipe diameter (in) = $D_o - t$

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

$$D_o = 8.4 - 0.323 = 8.077 \text{ in}, A = 3.88 \text{ in}^2/\text{ft} (0.323 \text{ in} * 12 \text{ in/ft})$$

$$P_y = \frac{4,000 * 2 * (3.88/12)}{8.077}$$

$$P_y = 320.25 \text{ psi}$$

$$H = (320.25 * 144) / 120$$

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).

$$\epsilon_h = \frac{P * D}{2 * t * E} \quad (\text{Equation 7.22})$$

$$\epsilon_f = \frac{t}{D} * \frac{[3 * \Delta Y / D]}{[1 - 2 * \Delta Y / D]} \quad (\text{Equation 7.24})$$

$$\epsilon = \epsilon_h + \epsilon_f \quad (\text{Equation 7.25})$$

Where:

- ϵ_h = 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) = $D_o - t$
- t = pipe wall thickness (in)
- E = modulus of elasticity (psi) = 400,000 psi for PVC
- ϵ_f = 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

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

$$\epsilon_h = 0.00052 \text{ in/in}$$

$$\epsilon_f = \frac{0.323}{8.077} * \frac{[3 * 0.0115]}{[1 - 2 * 0.0115]}$$

$$\epsilon_f = 0.0014 \text{ in/in}$$

$$\epsilon = 0.00035 + 0.0014$$

$$\epsilon = \mathbf{0.00175 \text{ in/in}}$$

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).

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

Where:

- P_s = pipe stiffness (psi)
- DR = Dimensional Ratio = D_o / t
- D_o = 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

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

P_s = 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 Jerrell Detail. 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 Jerrell Detail, 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 Jerrell Detail and *TCEQ Chapter 217.54(d)*. Per the City of Jerrell Detail, 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 on site, but not as part of this SCS application.

Manhole Material

There are no proposed manholes.

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

No manholes are proposed as part of this SCS application.

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

There are no proposed manholes as part of this application.

Trenchless Pipe Installation

There will be no trenchless pipe installation.

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 2.

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 2. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Deflection Testing

For the proposed 2-inch wastewater line, deflection shall be measured with a rigid mandrel per the project detail on sheet 2. 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 (Alex Granados, 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 2. 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 60-inch/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. (Alex Granados, 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 (Alex Granados, P.E.) must 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

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: Alejandro E. Granados Rico, P.E.

Date: February 19, 2024

Signature of Customer/Agent:



Regulated Entity Name: Kids Zone CR307

Project Information

Potential Sources of Contamination

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

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

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

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

- ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
- ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- ☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- ☒ Fuels and hazardous substances will not be stored on the site.
- 2. ☒ **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. ☒ **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

- 5. ☒ **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: N/A

Temporary Best Management Practices (TBMPs)

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

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

- ☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

☒ N/A

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

Soil Stabilization Practices

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

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

- 18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

ATTACHMENT A - Spill Response Actions

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 (0.05 Acres)
2. Installation of Temporary BMPs (5.253 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (5.253 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (5.253 Acres)
5. Wet and Dry Utility Construction (.1 Acres)
6. Final Subgrade Preparation (Acres)
7. Installation of Base Materials (Acres)
8. Concrete (foundations, curbs, flatwork) (1.54 Acres)
9. Building Construction (.75 Acres)
10. Paving Activities (1.56 Acres)
11. Topsoil, Irrigation and Landscaping (5.253 Acres)
12. Site cleanup and Removal of Temporary BMPs (5.253 Acres)

Maximum total construction time is not expected to exceed 12 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 down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 8.

Description of Temporary BMPs

Temporary Construction Entrance/Exit

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

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

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-of-way.
- (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, 24-hour 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 Kid Zone, 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:

The batch detention ponds will serve as storage for on-site and off-site drainage for Kids Zone, Section 1 (as shown on sheets 19-20 of the construction drawings) during the construction phase. The total drainage area includes 8.87 acres and generates a volume of 31,392 ft³. The proposed detention ponds will contain a volume of 39,592 ft³, thus the constructed detention ponds will be adequality sized required for sedimentation purposes. Batch Detention Pond will be able to store a volume of 31,932 ft³.

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 inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of "dry" season and beginning of "wet" season).

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

Personnel provided by the permittee must inspect:

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

Reductions in Inspection Frequency

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

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

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any

areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

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

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

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

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

Corrective Action

Personnel Responsible for Corrective Actions

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

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

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 than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

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

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

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

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

- Inlet control will be inspected and repaired as necessary.
- Check dam will be inspected and repaired as necessary.
- Straw bale dike will be inspected and repaired as necessary.
- Diversion dike will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must 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.*

Amendment Log

[illegible]

Construction Activity Sequence Log

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

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

Stormwater Control Installation and Removal Log

[illegible]

Stabilization Activities Log

[illegible]

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

Inspection Frequency Log

[illegible]

Rain Gauge Log

[illegible]

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

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

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

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

Contractor or Subcontractor Certification and Signature

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

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

Printed Name and Affiliation: _____

Certification and Signature by Permittee

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

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

Printed Name and Affiliation: _____

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

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

Contractor or Subcontractor Certification and Signature

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

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

Printed Name and Affiliation: _____

Certification and Signature by Permittee

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

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

Printed Name and Affiliation: _____

SECTION 6: ADDITIONAL FORMS

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

I _____ Whitney Hicks _____
_____,
Print Name

_____,
Chief Operating Officer
Title - Owner/President/Other

of _____ Kids Zone Gym _____,
Corporation/Partnership/Entity Name

have authorized _____ Alejandro E. Granados Rico, 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.

SIGNATURE PAGE:


Applicant's Signature

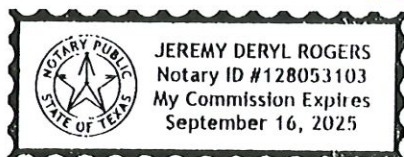
2-19-2024
Date

THE STATE OF TEXAS §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Whitney Hicks 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 19th day of February.




NOTARY PUBLIC

Jeremy Rogers
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9/16/2025

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Kids Zone CR307

Regulated Entity Location: approximately 325' north of the intersection of CR 305 and CR 307 on the west side of CR 307 in Jerrell, TX 76537

Name of Customer: DC Brown, L.P.

Contact Person: Whitney Hicks

Phone: 254.718.7791

Customer Reference Number (if issued): 604305250

Regulated Entity Reference Number (if issued): N/A

Austin Regional Office (3373)

☐ Hays

☐ Travis

☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone

☒ Contributing Zone

☐ Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System	69 LF	\$650
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: Alejandro E. Granada-Rivera

Date: February 19, 2024

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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



Check Payable to the "Texas Commission on Environmental Quality"



Core Data Form



TCEQ Core Data Form

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

SECTION I: General Information

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

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)		1/31/2024	
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership					
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
DC Brown, L.P.					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0800387015		3203554248			
11. Type of Customer:		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other: Foundation	
12. Number of Employees				13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
15. Mailing Address:	PO Box 292				
	City	Salado	State	TX	ZIP 76571 ZIP + 4
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				whitneyhicks777@yahoo.com	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

SECTION III: Regulated Entity Information

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

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

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

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

Kids Zone CR307

23. Street Address of the Regulated Entity:

(No PO Boxes)

City

Jerrell

State

TX

ZIP

76537

ZIP + 4

24. County

Williamson

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

25. Description to Physical Location:

Approximately 325' North of the intersection of CR 305 and CR 307 on the west side of CR 307 in Jerrell, TX 76537

26. Nearest City

State

Nearest ZIP Code

Jerrell

TX

76537

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

27. Latitude (N) In Decimal:

30.840455

28. Longitude (W) In Decimal:

-97.618949

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

30

50

25.638

-97

37

8.2164

29. Primary SIC Code

(4 digits)

30. Secondary SIC Code

(4 digits)

31. Primary NAICS Code

(5 or 6 digits)

32. Secondary NAICS Code

(5 or 6 digits)

8299

611710

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

Charter School

34. Mailing Address:

PO BOX 292

City

SALADO

State

TX

ZIP

76571

ZIP + 4

35. E-Mail Address:

WHITNEYHICKS777@YAHOO.COM

36. Telephone Number

37. Extension or Code

38. Fax Number (if applicable)

(254) 718-7791

() -

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


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

SECTION IV: Preparer Information

40. Name:	Alex Granados, P.E.	41. Title:	Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 418-4522		() -	alex.granados@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:	DCBROWN LP / KIDS' ZONE INC	Job Title:	OWNER
Name (In Print):	Whitney Hicks	Phone:	(254) 718- 7791 (979) 571- 1414
Signature:		Date:	2/19/2024

SECTION 7: EXHIBITS

GF#23001391

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

WARRANTY DEED

Date: September 6, 2023

Grantor: Steve D. Brown

Grantor's Mailing Address (including county):

P.O. BOX 292
SALADO, TX 76571
BELL County

Grantee: DC Brown, L.P.

Grantee's Mailing Address (including county):

P.O. BOX 292
SALADO, TX 76571
BELL County

Consideration:

For the sum of Ten and No/100 Dollars (\$10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt and sufficiency of which are hereby acknowledged.

Property (including any improvements):

5.253 acre tract, more or less, out of the ELISHA DAVIS Survey, Abstract No. 172, Williamson County, Texas, and being more particularly described by metes and bounds on Exhibit "A" attached hereto; SAVE AND EXCEPT an 0.898 acre tract of land out of the ELISHA DAVIS Survey, Abstract No. 172, being more particularly described on Exhibit "B" attached hereto.

Reservations from and Exceptions to Conveyance and Warranty:

Easements, rights-of-way, and prescriptive rights of record; all presently recorded restrictions, reservations, covenants, conditions, oil and gas leases, mineral severances, and other instruments, other than liens and conveyances, that affect the

23001391

property; rights of adjoining owners in any walls and fences situated on a common boundary; any discrepancies, conflicts, or shortages in area or boundary lines, any encroachments or overlapping of improvements; all rights, obligations, and other matters emanating from and existing by reason of the creation, establishment, maintenance, and operation of any applicable governmental district, agency, authority, etc. taxes for current year, the payment of which Grantee assumes.

Grantor for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in any wise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, or assigns forever. Grantor hereby binds Grantor and Grantor's heirs, executors, administrators, and successors to warrant and forever defend all and singular the property to Grantee and Grantee's heirs, executors, administrators, successors, and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to warranty.

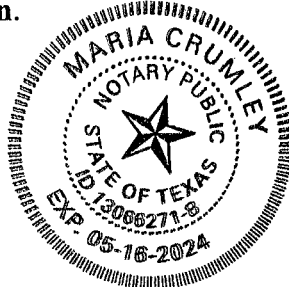
When the context requires, singular nouns and pronouns include the plural.


EXECUTED this 6 day of September, 2023.


 Steve D. Brown

STATE OF TEXAS
 COUNTY OF Bell

This instrument was acknowledged before me on the 6 day of September, 2023, by
 Steve D. Brown.




 Notary Public, State of Texas
 Notary's name (printed):
 Notary's commission expires:

AFTER RECORDING RETURN TO:

First Community Title
 40 N. Main Street, Suite C
 Salado, Texas 76571

Exhibit "A"



Land Surveying. Land Planning. Consulting.

Firm: 10194104 512-915-4950

1430 N. Robertson Road, Salado, Texas 76571

FIELD NOTES FOR A 5.253 ACRE TRACT OF LAND:

BEING A 5.253 ACRE TRACT OF LAND, LOCATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS, SAID 5.253 ACRE TRACT, BEING A PORTION OF THAT CALLED 446.1 ACRE TRACT OF LAND RECORDED IN VOLUME 365, PAGE 115, DEED RECORDS, WILLIAMSON COUNTY, TEXAS; SAID 5.253 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

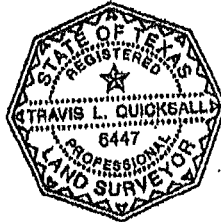
BEGINNING at a 1/2" iron rod located at an interior corner of the remainder of said 446.1 acre tract, the northernmost corner of that called 20.000 acre tract of land recorded in Document No. 2019034748, Official Public Records, Williamson County, Texas, said point being the westernmost corner of the herein described tract of land;

1. **Thence**, across the remainder of said 446.1 acre tract, **N 68° 54' 38" E**, a distance of **300.00'**, to a 1/2" iron rod with a blue "QUICK INC RPLS 6447" plastic cap set at an existing wire fence in the occupied southwest right-of-way line of County Road 307, said point being the northernmost corner of the herein described tract of land;
2. **Thence**, along said wire fence, with the occupied southwest right-of-way line of County Road 307, continuing across the remainder of said 446.1 acre tract, **S 21° 05' 22" E**, a distance of **762.12'**, to a 1/2" iron rod with a blue "QUICK INC RPLS 6447" plastic cap set at said wire fence in the occupied southwest right-of-way line of County Road 307, said point being the easternmost corner of the herein described tract of land which bears **N 21° 05' 22" W**, a distance of **300.00'** from a 1/2" iron rod located at the intersection of the occupied right-of-way of County Road 307 and County Road 305, said point also being in the southeast line of the remainder of said 446.1 acre tract;

Exhibit A pg 2

3. **Thence**, departing the occupied southwest right-of-way line of County Road 307, continuing across the remainder of said 446.1 acre tract, **S 68° 41' 35" W**, a distance of **300.00'**, to a 1/2" iron rod with a blue "QUICK INC RPLS 6447" plastic cap set in a southwest line of the remainder of said 446.1 acre tract, the northeast line of said 20.000 acre tract, said point being the southernmost corner of the herein described tract of land which bears **N 21° 05' 22" W**, a distance of **300.00'** from a 1/2" iron rod located in the northwest right-of-way line of County Road 305 for the easternmost corner of said 20.000 acre tract;
4. **Thence**, with a southwest line of the remainder of said 446.1 acre tract, the northeast line of said 20.000 acre tract, **N 21° 05' 22" W**, a distance of **763.26'** (Record per Doc. No. 2019034748: **N 21° 05' 22" W**, a distance of **1063.26'**), to the **POINT OF BEGINNING** containing **5.253 acres** of land.

Note: The basis of bearing was established using the Trimble VRS Network, NAD (83), Texas State Plane Coordinate System, Central Zone, 4203, US Survey Foot, Grid. A survey plat was prepared by a separate document.



Travis L. Quicksall
 Travis L. Quicksall RPLS #6447
 Date: 07/13/2021
 Job # 18-2292.1

Exhibit "B"

County: Williamson
 Parcel No.: 5-ROW
 Tax ID: R _____
 Highway: County Road 307 at County Road 305

METES AND BOUNDS DESCRIPTION FOR PARCEL 5-ROW

FOR A 0.898 ACRE (39,114 SQ. FT.) TRACT OF LAND SITUATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF THE CALLED 5.253 ACRE TRACT OF LAND CONVEYED TO STEVE D. BROWN, RECORDED IN DOCUMENT NO. 2021119336 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS. SAID 0.898 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND BY DIAMOND SURVEYING DURING THE MONTH OF NOVEMBER 2021, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2" Iron rod found (Surface Coordinates: N=10280574.56, E=3149124.85) monumenting the southeast corner of a remnant portion of the called 446.1 acre tract of land (Fourth Tract) conveyed to Solana Ranch Company, recorded in Volume 365, Page 115 of the Deed Records of Williamson County, Texas and an interior ell corner of the called 0.92 acre tract of land conveyed to County Judge John Doerfler, recorded in Document No. 9749963 of the Official Records of Williamson County, Texas, same being on the intersection of the north right-of-way line of County Road 305 and the west right-of-way line of County Road 307, from which a 1/2" Iron rod found (bent) monumenting the southwest corner of the remnant portion of the called 15.428 acre tract of land conveyed to Alicia Martinez, recorded in Document No. 2016103459 of the Official Public Records of Williamson County, Texas, and an interior ell corner of the called 0.62 acre tract of land conveyed to County Judge John Doerfler, recorded in Document No. 9749962 of the Official Records of Williamson County, Texas, same being on the intersection of said north right-of-way line of County Road 305 and the east right-of-way line of said County Road 307, bears N 70°04'08" E for a distance of 61.37 feet;

THENCE, N 21°05'39" W with the east boundary line of said remnant portion of the 446.1 acre Solana Ranch Company tract and said west right-of-way line of County Road 307 common with said 0.92 acre County Judge John Doerfler tract for a distance of 300.07 feet to a calculated point (Surface Coordinates: N=10280854.52, E=3149016.86) on the northeast corner of said remnant portion of the 446.1 acre Solana Ranch Company tract and the southeast corner of said 5.523 acre Brown tract, for the southeast corner and **POINT OF BEGINNING** hereof;

Exhibit B pg 2

County: Williamson
Parcel No.: 5-ROW
Tax ID: R _____
Highway: County Road 307 at County Road 305

THENCE, **S 68°40'44" W** with the north boundary line of said remnant portion of the 446.1 acre Solana Ranch Company tract and the south boundary line of said 5.253 acre Brown tract passing at a distance of 0.29 feet an iron rod found with cap marked "Quick Inc RPLS 6447", in all a total distance of **51.51 feet** to a 5/8" iron rod set with cap marked "Williamson County, for the southwest corner hereof, from which an iron rod found with cap marked "Quick Inc RPLS 6447" on the northwest corner of said remnant portion of the 446.1 acre Solana Ranch Company tract and the southwest corner of said 5.253 acre Brown tract, same being on a point in the east boundary line of the called 20.000 acre tract of land conveyed to Williamson County Sheriff's Posse Inc., recorded in Document No. 2019034748 bears S 68°40'44" W for a distance of 248.69 feet;

THENCE, **N 21°03'52" W** through the interior of said 5.253 acre Brown tract for a distance of **762.35 feet** to a 5/8" iron rod set with cap marked "Williamson County" on the north boundary line of said 5.253 acre Brown tract, same being on the south boundary line of the called 20.00 acre tract of land conveyed to Jarrell Independent School District, recorded in Document No. 2021107151 of the Official Public Records of Williamson County, Texas, for the northwest corner hereof, from which an iron rod found with cap marked "Quick Inc RPLS 6447" monumenting the northwest corner of said 5.253 acre Brown tract and the northeast corner of said 20.000 acre Williamson County Sheriff's Posse Inc., tract, same being on said south boundary line of the 20.00 acre Jarrell Independent School District tract, bears S 68°56'00" W for a distance of 248.96 feet;


THENCE, **N 68°56'00" E** with said north boundary line of the 5.253 acre Brown tract and said south boundary line of the 20.00 acre Jarrell Independent School District tract for a distance of **51.12 feet** to an iron rod found with cap marked "Quick Inc RPLS 6447" monumenting the northeast corner of said 5.253 acre Brown tract and the southeast corner of said 20.00 acre Jarrell Independent School District tract, same being on said west right-of-way line of County Road 307 common with said 0.92 acre County Judge John Doerfler tract, for the northeast corner hereof, from which an iron rod found with cap marked "Quick Inc RPLS 6447" monumenting the northeast corner of said 20.00 acre Jarrell Independent School District tract and the most easterly southeast corner of a remnant portion of said called 446.1 acre Solana Ranch Company tract, bears N 21°05'39" W for a distance of 658.97 feet;

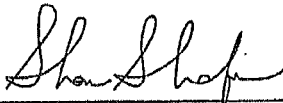
County: Williamson
Parcel No.: 5-ROW
Tax ID: R
Highway: County Road 307 at County Road 305

THENCE, **S 21°05'39" E** with the east boundary line of said 5.253 acre Brown tract and said west right-of-way line of County Road 307 common with said 0.92 acre County Judge John Doerfler tract for a distance of **762.12 feet** to the **POINT OF BEGINNING** hereof and containing 0.898 acre of land more or less.

Bearing Basis: NAD-83, Texas Central Zone (4203) State Plane System. Coordinates and Distances shown hereon are surface based on a combined surface adjustment factor of 1.00014.

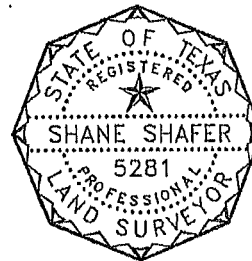
A drawing has been prepared to accompany this metes and bounds description.

 **DIAMOND SURVEYING, INC.**
116 SKYLINE ROAD, GEORGETOWN, TX 78628
(512) 931-3100
T.B.P.E.L.S. FIRM NUMBER 10006900



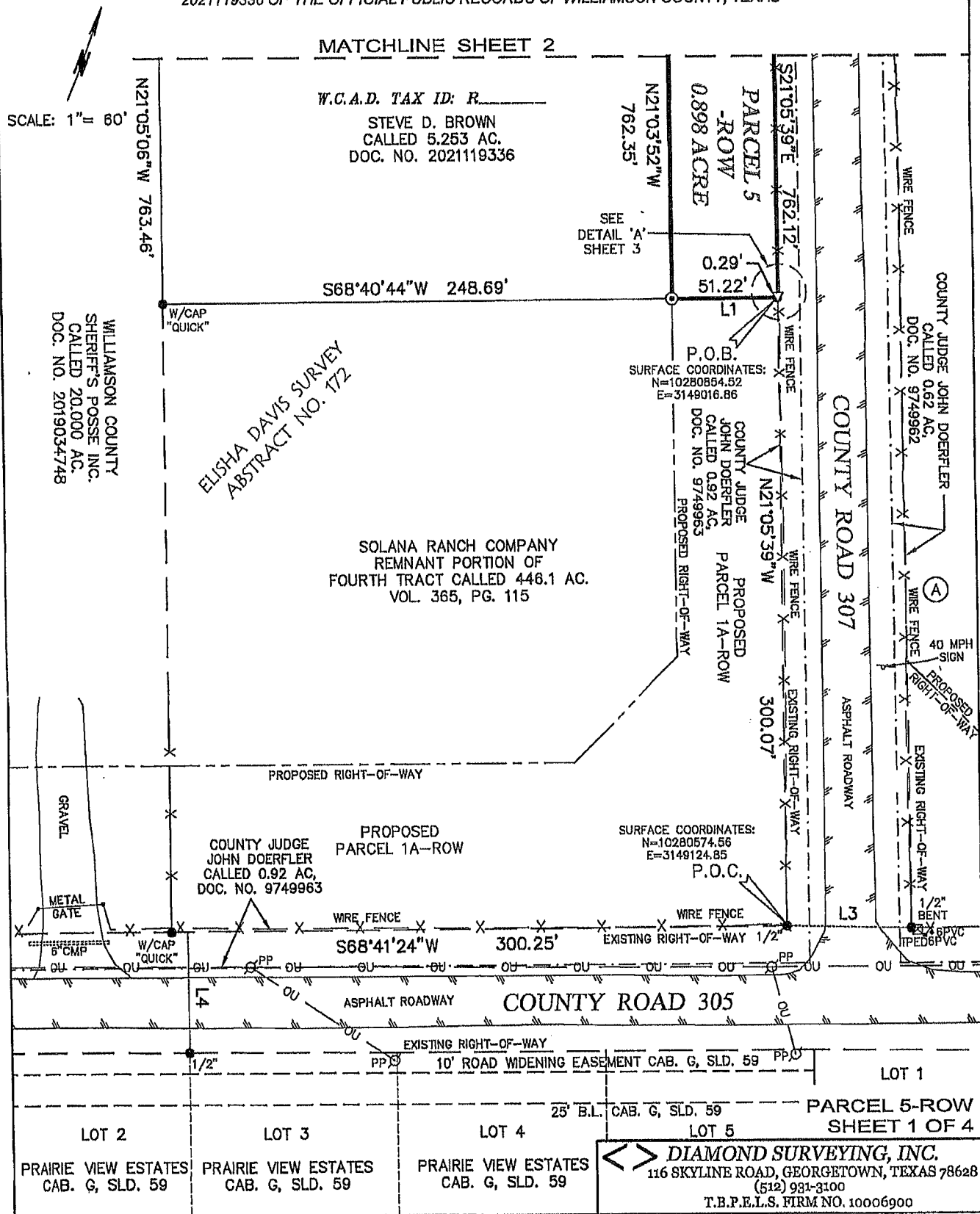
November 16, 2021

SHANE SHAFER, R.P.L.S. NO. 5281 DATE

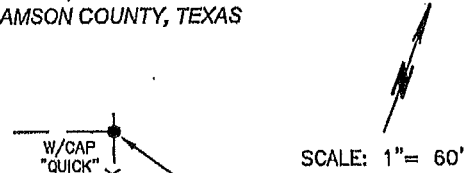
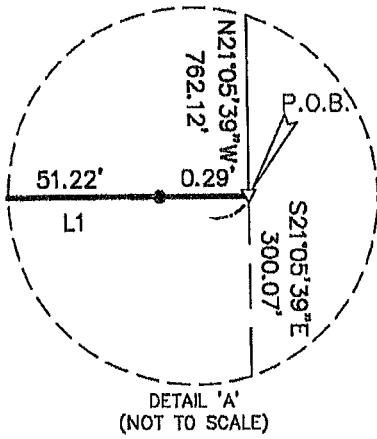


Z:\WCRB\ 2020 WA-5 CR 307 TOPO ROW 2021-63\ STANDARD LAND SURVEYS ROW PARCELS\PARCEL 5 ROW BROWNCR 307 PARCEL 5-ROW STANDARD LAND SURVEY M&B.doc

DRAWING TO ACCOMPANY METES AND BOUNDS DESCRIPTION FOR A 0.898 ACRE (39,114 SQ. FT.) TRACT OF LAND SITUATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF THE CALLED 5.253 ACRE TRACT OF LAND CONVEYED TO STEVE D. BROWN, RECORDED IN DOCUMENT NO. 2021119336 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS



DRAWING TO ACCOMPANY METES AND BOUNDS DESCRIPTION FOR A 0.898 ACRE (39,114 SQ. FT.) TRACT OF LAND SITUATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF THE CALLED 5.253 ACRE TRACT OF LAND CONVEYED TO STEVE D. BROWN, RECORDED IN DOCUMENT NO. 2021119336 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS



NORTHEAST CORNER 20.00 AC. DOC. NO. 2021107151 - MOST EASTERLY SOUTHEAST CORNER OF A REMNANT PORTION OF THE 446.1 AC. VOL. 365, PG. 115

JARRELL INDEPENDENT SCHOOL DISTRICT
 CALLED 20.00 AC.
 DOC. NO. 2021107151

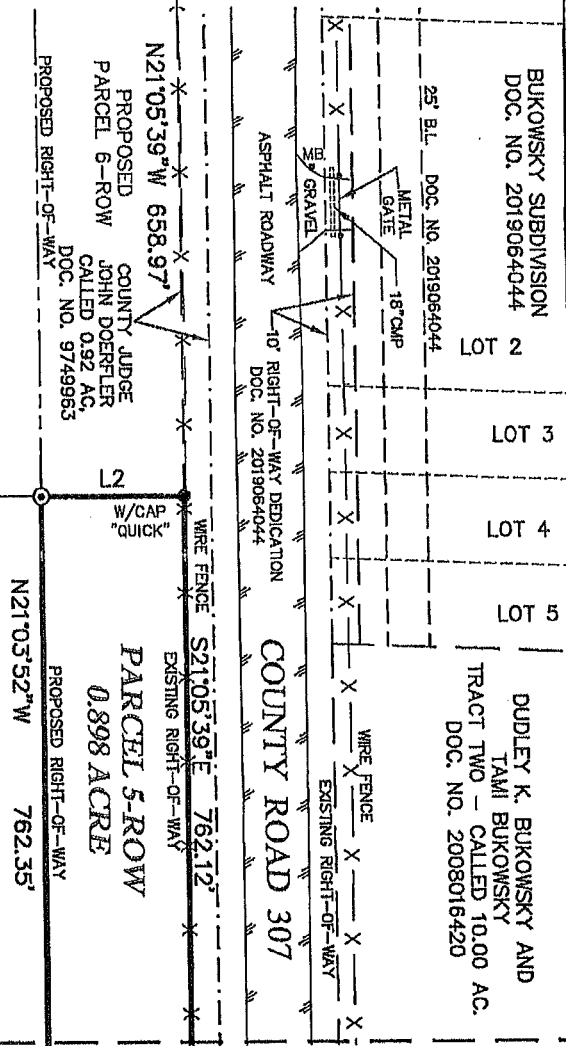
W/CAP "QUICK"
 N21°05'06"W
 763.46'

ELISHA DAVIS SURVEY
 ABSTRACT NO. 172

W.C.A.D. TAX ID: R _____

STEVE D. BROWN
 CALLED 5.253 AC.
 DOC. NO. 2021119336

WILLIAMSON COUNTY
 SHERIFF'S POSSE INC.
 CALLED 20.000 AC.
 DOC. NO. 2019034748



PARCEL 5-ROW
 SHEET 3 OF 4

>> DIAMOND SURVEYING, INC.
 116 SKYLINE ROAD, GEORGETOWN, TEXAS 78628
 (512) 931-3100
 T.B.P.E.L.S. FIRM NO. 10006900

DRAWING TO ACCOMPANY METES AND BOUNDS DESCRIPTION FOR A 0.898 ACRE (39,114 SQ. FT.) TRACT OF LAND SITUATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF THE CALLED 5.253 ACRE TRACT OF LAND CONVEYED TO STEVE D. BROWN, RECORDED IN DOCUMENT NO. 2021119336 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S68°40'44"W	51.51'
L2	N68°56'00"E	51.12'
L3	N70°04'08"E	61.37'
L4	S21°18'36"E	57.96'

RECORD DEED INFORMATION

- (A) ALICIA MARTINEZ
REMNANT PORTION OF
CALLED 15.428 AC.
DOC. NO. 2016103459
SEE SHEETS 1 AND 2
- (B) DUDLEY K. BUKOWSKY AND
TAMI BUKOWSKY
TRACT TWO — CALLED 10.00 AC.
DOC. NO. 2008016420
SEE SHEET 2

LEGEND

- IRON ROD FOUND
- ⊙ 5/8" IRON ROD SET WITH ALUMINUM
CAP MARKED "WILLIAMSON COUNTY"
- ▽ CALCULATED POINT
- ^{PP} POWER POLE
- ⊠^{TPED} TELEPHONE PEDESTAL
- ⊥^{UT} UNDERGROUND TELEPHONE MARKER
SIGN
- 6" PVC 6" PVC RISER
- MB MAIL BOX
- OU — OU — OVERHEAD UTILITY LINE
- X — X — WIRE FENCE
- — — — — EDGE OF PAVEMENT
- — — — — GUARD RAIL
- HDWL HEADWALL
- GR GUARD RAIL
- ASPH ASPHALT
- CDS CONCRETE DRAINAGE STRUCTURE
- CMP CORRUGATED METAL PIPE
- B.L. BUILDING SETBACK LINE
- "QUICK" QUICK INC RPLS 6447
- P.O.C. POINT OF COMMENCEMENT
- P.O.B. POINT OF BEGINNING
- W.C.A.D. WILLIAMSON CENTRAL APPRAISAL DISTRICT

NOTES:

- 1) BEARING BASIS: NAD-83, TEXAS CENTRAL
ZONE (4203) STATE PLANE SYSTEM.
COORDINATES AND DISTANCES SHOWN HEREON
ARE SURFACE BASED ON A COMBINED SURFACE
ADJUSTMENT FACTOR OF 1.00014.
- 2) ALL DOCUMENTS LISTED HEREON ARE
RECORDED IN THE OFFICE OF THE COUNTY
CLERK OF WILLIAMSON COUNTY, TEXAS.
- 3) PARCEL 5-ROW SHOWN HEREON LIE'S WITHIN
ZONE "X" (NO SCREEN), AREAS OF MINIMAL
FLOOD HAZARD ACCORDING TO THE FLOOD
INSURANCE RATE MAP NO. 48491C0150F, WITH AN
EFFECTIVE DATE OF DECEMBER 20, 2019.
- 5) THIS SURVEY WAS MADE WITHOUT THE
BENEFIT OF A TITLE COMMITMENT OR POLICY.
THERE MAY BE EASEMENTS AND/OR
RESTRICTIONS NOT SHOWN HEREON WHICH MAY
AFFECT THE SUBJECT TRACT.

To: Williamson County, Texas, exclusively.

I, Shane Shafer, Registered Professional Land Surveyor in the State of Texas, hereby certify that this drawing represents a survey made on the ground under my direct supervision completed on November 12, 2021. At the time of this survey there were no encroachments, conflicts or protrusions apparent on the ground, EXCEPT AS SHOWN. This survey substantially complies with the standards for a CATEGORY 1B, CONDITION III STANDARD LAND SURVEY per the current Manual of Practice for Land Surveying in the State of Texas, issued by the Texas Society of Professional Surveyors. USE OF THIS SURVEY BY OTHER PARTIES SHALL BE AT THEIR OWN RISK AND UNDERSIGNED SURVEYOR IS NOT RESPONSIBLE FOR ANY LOSS RESULTING THEREFROM.



PARCEL 5-ROW
SHEET 4 OF 4

Shane Shafer
SHANE SHAFER, R.P.L.S. NO. 5281

NOVEMBER 16, 2021
DATE

<> DIAMOND SURVEYING, INC.
116 SKYLINE ROAD, GEORGETOWN, TEXAS 78628
(512) 931-3100
T.B.P.E.L.S. FIRM NO. 10006900

**ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS**

2023075161

Pages: 12 Fee: \$66.00
09/07/2023 02:38 PM
JDISHER



Nancy E. Rister

Nancy E. Rister, County Clerk
Williamson County, Texas

ASSIGNMENT OF LIMITED PARTNERSHIP INTEREST
("Assignment")
DC BROWN, L.P.


Steve D. Brown ("Assignor"), for and in consideration of Ten Dollars and No Cents (\$10.00) cash and other valuable consideration paid to Assignor by Whitney Hicks ("Assignee"), the receipt and sufficiency of which are acknowledged and confessed, hereby TRANSFERS and ASSIGNS unto Assignee 49.5% limited partnership interest ("Assigned Interest") of DC BROWN, L.P., a Texas limited partnership (the "Partnership"), standing in Assignor's name on the books of said Partnership, and hereby irrevocably constitutes and appoints the appropriate authority of the Partnership to transfer the Assigned Interest on the books of the Partnership with full power of substitution in the premises.

Further, Assignor and Assignee acknowledge that BCSW has not established or determined the correctness of the value of the Assigned Interest, and Assignor and Assignee acknowledge that they have been advised by BCSW that they satisfy themselves by individual investigation and by consultation with consultants, appraisers, and other advisers as to the value of the Assigned Interest.

Further, Assignor and Assignee acknowledge that BCSW has not ordered or examined a UCC search upon the Assigned Interest, and accordingly BCSW makes no representation or warranty, express or implied, regarding the existence of UCC liens.

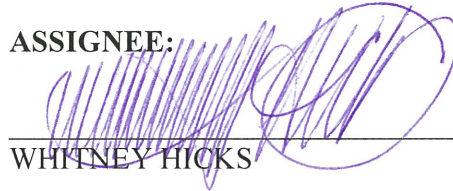
Executed to be effective March 4, 2020.

ASSIGNOR:



STEVE D. BROWN

ASSIGNEE:



WHITNEY HICKS

ASSIGNMENT OF LIMITED PARTNERSHIP INTEREST
("Assignment")
DC BROWN, L.P.

Steve D. Brown ("Assignor"), for and in consideration of Ten Dollars and No Cents (\$10.00) cash and other valuable consideration paid to Assignor by Matt Hicks ("Assignee"), the receipt and sufficiency of which are acknowledged and confessed, hereby TRANSFERS and ASSIGNS unto Assignee 49.5% limited partnership interest ("Assigned Interest") of DC BROWN, L.P., a Texas limited partnership (the "Partnership"), standing in Assignor's name on the books of said Partnership, and hereby irrevocably constitutes and appoints the appropriate authority of the Partnership to transfer the Assigned Interest on the books of the Partnership with full power of substitution in the premises.

Further, Assignor and Assignee acknowledge that BCSW has not established or determined the correctness of the value of the Assigned Interest, and Assignor and Assignee acknowledge that they have been advised by BCSW that they satisfy themselves by individual investigation and by consultation with consultants, appraisers, and other advisers as to the value of the Assigned Interest.

Further, Assignor and Assignee acknowledge that BCSW has not ordered or examined a UCC search upon the Assigned Interest, and accordingly BCSW makes no representation or warranty, express or implied, regarding the existence of UCC liens.

Executed to be effective March 4, 2020.

ASSIGNOR:



STEVE D. BROWN

ASSIGNEE:



MATT HICKS

Plotted By: Davis, Aaron Date: February 09, 2024 11:30:30am File Path: K:\GEO_Civil\069427200--Jarrell Kids Zone\Coord\PlanSheets\A-C-Cover Sheet.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

CIVIL CONSTRUCTION PLANS PAVING, GRADING & UTILITIES FOR KID ZONE ON CR307 CITY OF JARRELL, WILLIAMSON COUNTY, TEXAS

LEGAL DESCRIPTION

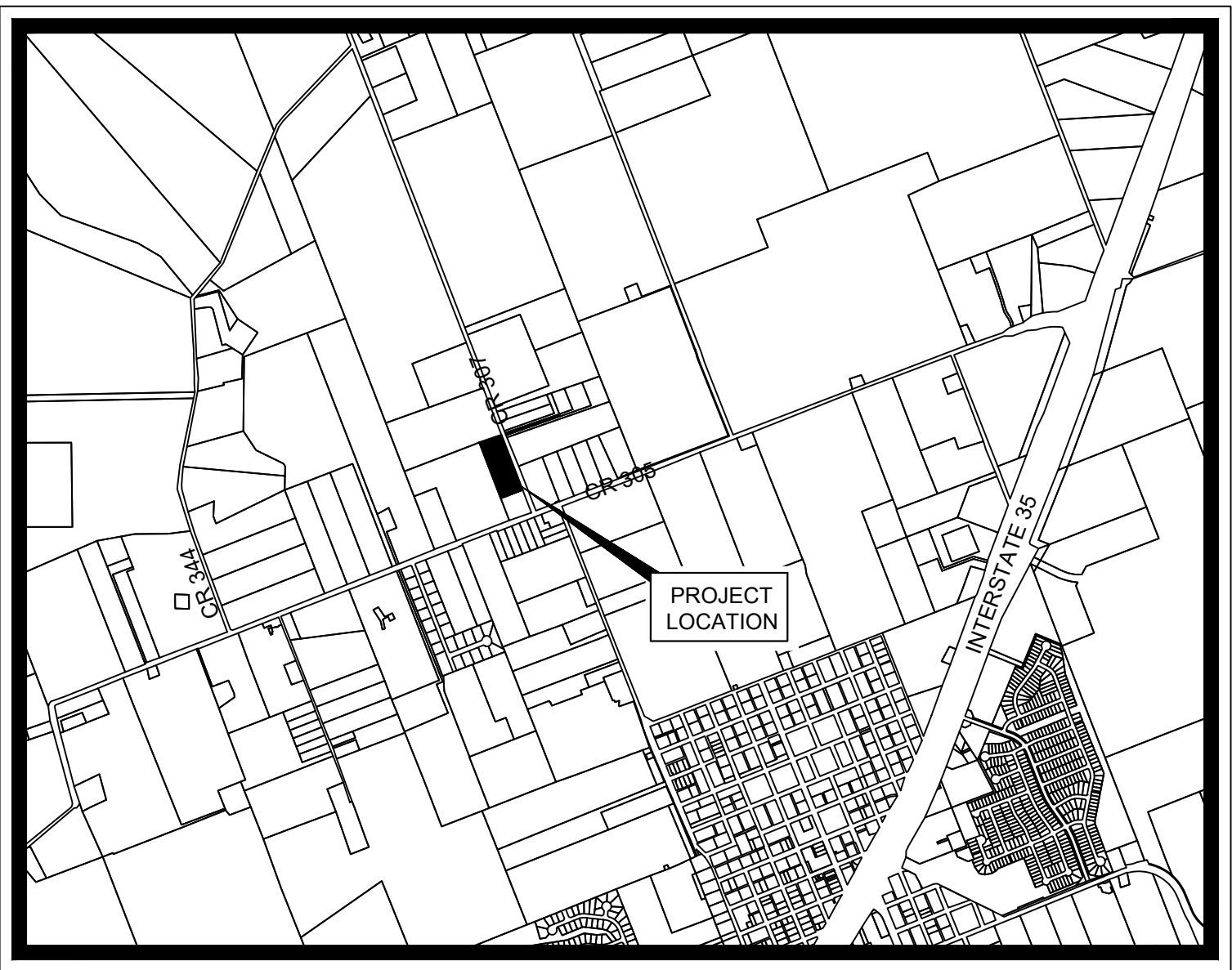
4.356 ACRE TRACT OF LAND, LOCATED IN THE ELISHA DAVIS SURVEY, ABSTRACT NO. 172, WILLIAMSON COUNTY, TEXAS, SAID 4.356 ACRE TRACT, BEING THE REMAINING PORTION OF THAT CERTAIN 5.253 ACRE TRACT OF LAND RECORDED IN DOCUMENT NO. 2021119336, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY.

LOT ACREAGE: 4.36 ACRES

CURRENT ZONING: SF1

UTILITY PROVIDERS

WATER: JARRELL SCHWERTNER DISTRICT
WASTEWATER: CITY OF JARRELL
ELECTRIC: BARTLETT ELECTRICAL COOPERATIVE



VICINITY MAP

SCALE: 1" = 2,000'

FEBRUARY 2024

THIS SITE DEVELOPMENT PLAN HAS BEEN REVIEWED AND APPROVED BY THE CITY OF JARRELL. ALL CONSTRUCTION ON THE SUBJECT SITE MUST BE CONSTRUCTED CONSISTENT WITH THESE PLANS.

JORDAN CANTU, DIRECTOR, PLANNING AND DEVELOPMENT

DATE

THE PLANS AND SPECIFICATIONS CONTAINED HEREIN HAVE BEEN REVIEWED AND ARE FOUND TO BE IN COMPLIANCE WITH THE STORMWATER MANAGEMENT REQUIREMENTS OF THE CITY OF JARRELL.

CITY ENGINEER

DATE

OWNER/DEVELOPER

KID ZONE GYM
PO BOX 292
SALADO, TEXAS 76571
TEL: (254) 718-7791
CONTACT: STEVE BROWN AND/OR WHITNEY HICKS

ENGINEER

Kimley»Horn

501 S. AUSTIN AVE
SUITE 1310
GEORGETOWN, TX 78626
PH. (512) 418-1771
CONTACT: ALEX E. GRANADOS RICO, P.E.

STATE OF TEXAS
REGISTRATION NO. F-928

BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV. =822.21
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

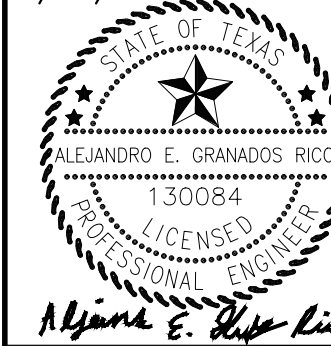
Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	KH GENERAL NOTES
4	EXISTING CONDITIONS & DEMOLITION PLAN
5	EROSION CONTROL PLAN
6	EROSION CONTROL DETAILS
7	OVERALL SITE PLAN
8	PHASING PLAN
9	DIMENSION CONTROL PLAN
10	FIRE PROTECTION PLAN
11	PAVING & STRIPING PLAN
12	GRADING PLAN
13	OVERALL WATER PLAN
14	OVERALL WASTEWATER PLAN
15	EXISTING DRAINAGE AREA MAP
16	PROPOSED DRAINAGE AREA MAP
17	OVERALL STORM PLAN
18	POND PLAN
19	POND CROSS SECTIONS
20	PAVING DETAILS
21	WATER DETAILS
22	WASTEWATER DETAILS
23	WASTEWATER DETAILS (GRINDER PUMP DETAIL)
24	STORM DRAIN DETAILS
25	ALARM DETAILS

Kimley»Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78626
PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

2/09/2024



KHA PROJECT
069427200
DATE
FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: JDR
DRAWN BY: JDR
CHECKED BY: AEC

COVER SHEET

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

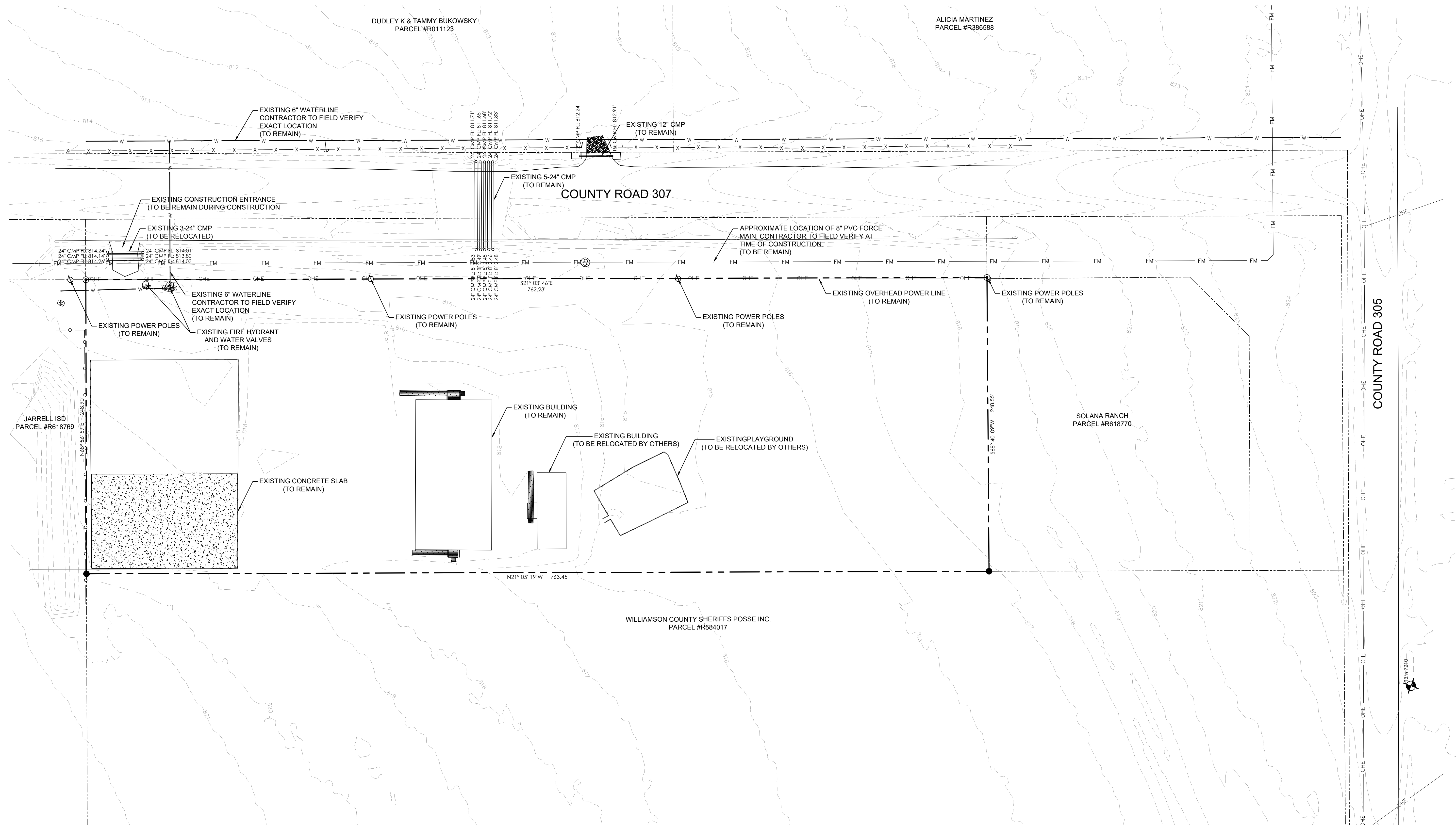
SHEET NUMBER
1



KHA PROJECT NO. 069427200

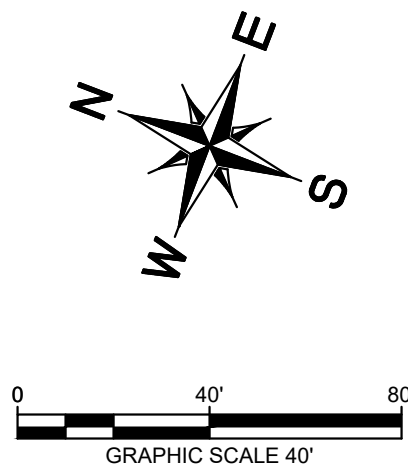
CIVIL CONSTRUCTION PLANS

KIDS ZONE ON CR307



LEGEND

- | | |
|--|------------------------------|
| | PROPERTY LINE |
| | EXISTING CONTOUR |
| | EXISTING OVERHEAD POWER LINE |
| | EXISTING WATER LINE |
| | EXISTING WASTEWATER LINE |
| | EXISTING FORCE MAIN |
| | EXISTING FENCE |
| | EXISTING POWER POLE |
| | EXISTING FIRE HYDRANT |
| | EXISTING WATER METER |
| | EXISTING WASTEWATER MANHOLE |



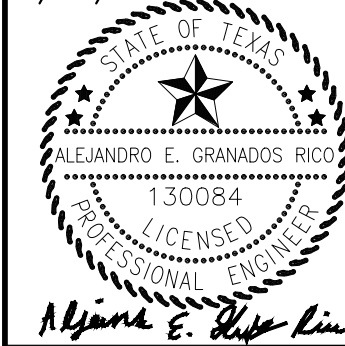
BENCHMARKS

- BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21
- BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

[illegible]

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TEXAS REGISTERED ENGINEERING FIRM F-928

2/09/2024



KHA PROJECT 069427200	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: JDR	DRAWN BY: JDR	CHECKED BY: AEG
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EXISTING CONDITIONS & DEMOLITION PLAN

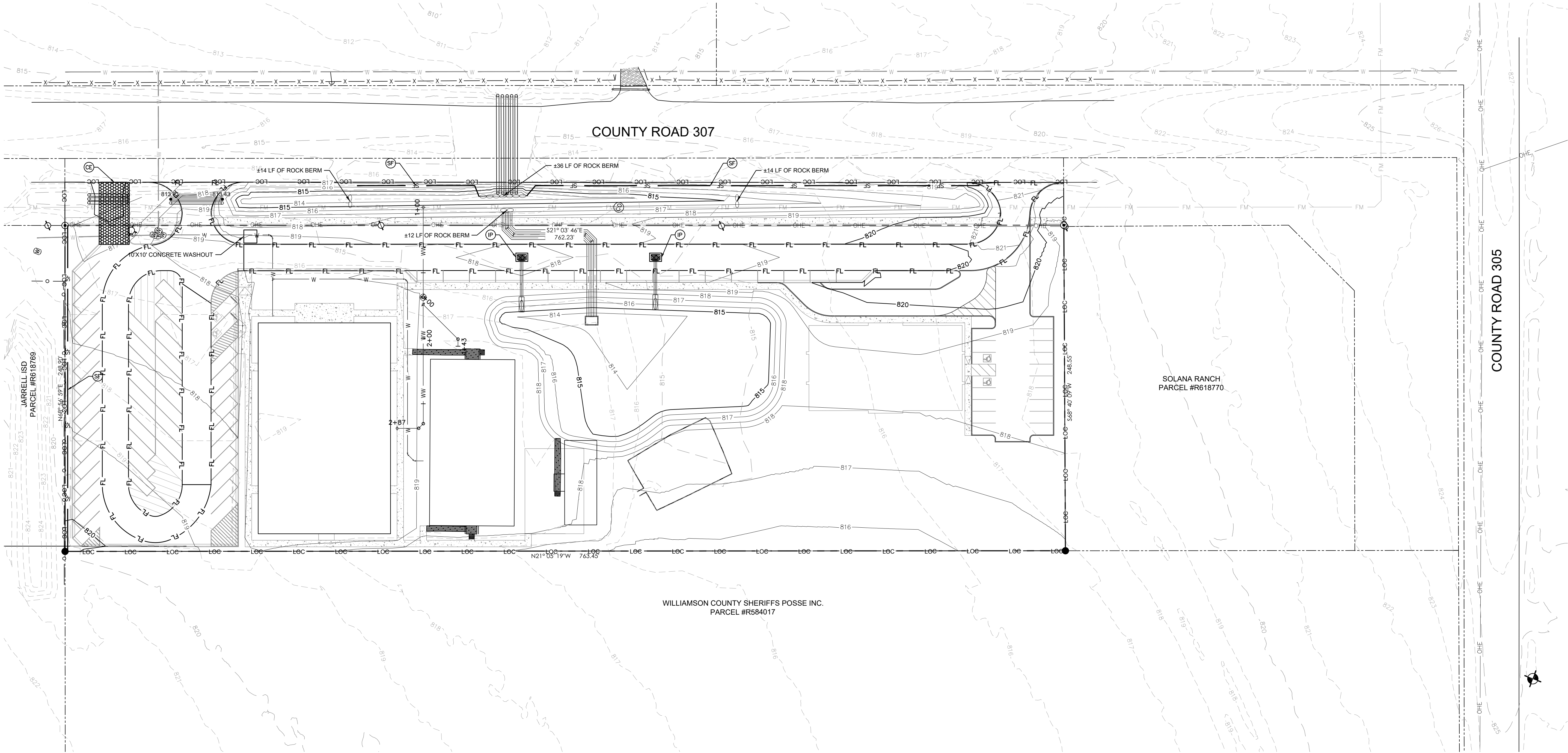
KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

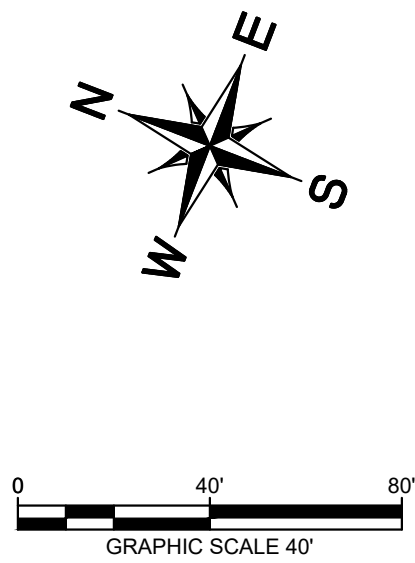
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Plotted By: Davis, Aaron Date: February 09, 2024 11:31:28am File Path: K:\BEO_Civil\069427200-Jarrell Kids Zone\PlanSheets\1C-Erosion Control Plan.dwg

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- NOTES:
- NO ENVIRONMENTALLY SENSITIVE AREAS ARE LOCATED ON OR DOWNSTREAM OF THIS PROJECT SITE.
 - THIS PROJECT WILL NOT REQUIRE ANY FORM OF PHASING OR SLOPE STABILIZATION.
 - REFER TO SHEET 6 FOR EROSION AND SEDIMENTATION CONTROL DETAILS.
 - ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.
 - ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
 - ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON WHICH THEY ARE APPLIED.



EROSION CONTROL LEGEND			
---	---	---	PROPERTY LINE
---	---	---	PROPOSED CONTOUR
---	---	---	EXISTING CONTOUR
(SF)	SF	---	SILT FENCE
(CE)	---	---	STABILIZED CONSTRUCTION ENTRANCE/EXIT
(IP)	---	---	INLET PROTECTION
(RB)	---	---	ROCK BERM
(LOC)	---	---	LIMITS OF CONSTRUCTION
(TP)	---	---	TREE PROTECTION
(V)	---	---	LIMITS OF REVEGETATION
(CX)	---	---	CURLEX MATTING

BENCHMARKS	
BM 7208 - MAG NAIL SET IN CONCRETE ELEV. -822.21	
BM 7210 - MAG NAIL SET IN CONCRETE ELEV. 823.90	

KID ZONE ON CR307

CITY OF JARRELL

WILLIAMSON COUNTY, TEXAS

EROSION CONTROL PLAN

2/09/2024

KHA PROJECT

069427200

DATE

FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: JDR

DRAWN BY: JDR

CHECKED BY: AEC

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TEXAS REGISTERED ENGINEERING FIRM F-928

2/09/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO

130084

PROFESSIONAL ENGINEER

Alejandro E. Granados Rico

Kimley»Horn

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TEXAS REGISTERED ENGINEERING FIRM F-928

SHEET NUMBER

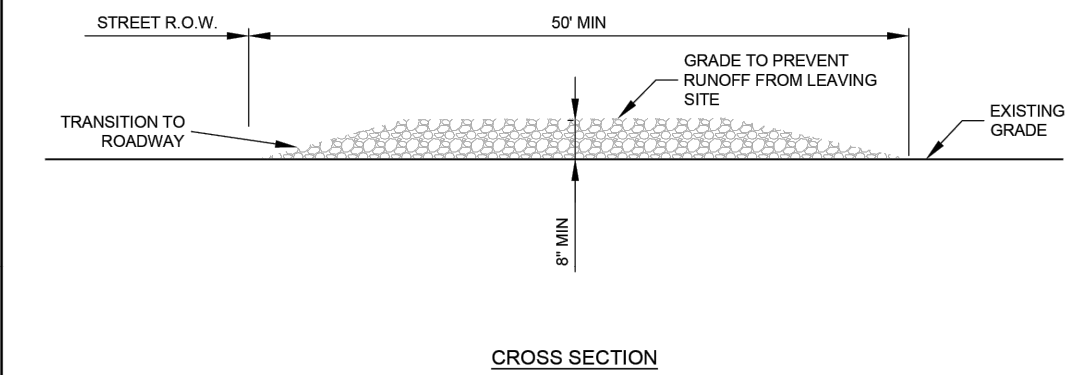
5

NO.

REVISIONS

DATE

BY



NOTES:

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



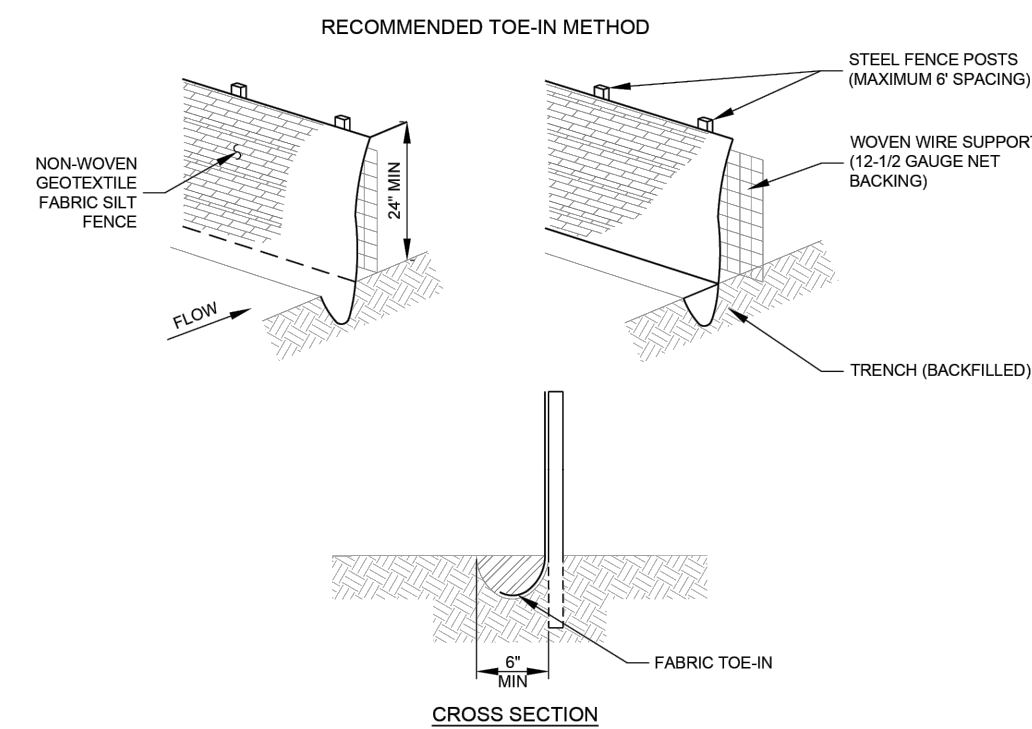
CITY OF JARRELL
Engineering and Capital Improvement

Engineering and Capital Improvements

STABILIZED CONSTRUCTION ENTRANCE DETAIL

THE ARCHITECT / ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE OF
THIS STANDARD

STANDARD No.
EC-09



NOTES:

- STEEL PILES WHICH SUPPORT THE SILT FENCE SHALT BE INSTALLED ON A SLOUGH ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE (1) FOOT INTO THE SOIL. IT IS FURTHER RECOMMENDED THAT THE SLOUGH ANGLE BE TOWARD THE SPACE OR MECHANICAL TRENCH, SO THAT THE DOWNDRAIN FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN E, THE TRENCH SHOULD BE A MINIMUM OF SIX INCHES DEEP AND SIX INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- WHEN THE SILT FENCE IS SET, IT MUST BE INSPECTED TO EACH RAINFALL EVENT. SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS SECURELY FASTENED TO THE SILT FENCE POSTS.
- INSPECTION SHALL BE MADE WEEKLY OR AS REQUIRED TO EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- INSPECTION SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF EIGHT INCHES. THE SILT SHALL BE DISPOSED OF IN AN UNPAVED STREET OR IN SUCH A MANNER AS TO PREVENT IT FROM BEING CARRIED OFF SITE.
- SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.



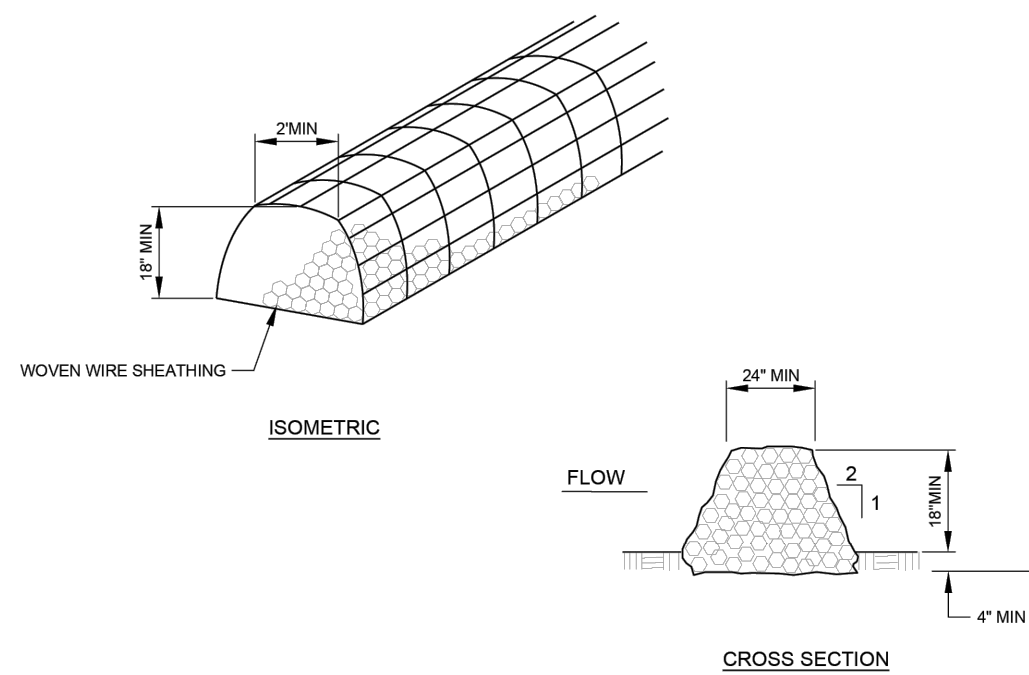
CITY OF JARRELL
Engineering and Capital Improvement

Engineering and Capital Improvements

SILT FENCE DETAIL

THE ARCHITECT / ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE OF
THIS STANDARD

STANDARD No.
EC-10
Revision Date: 03/16/20



NOTES

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



CITY OF JARRELL
Engineering and Capital Improvement

Engineering and Capital Improvements

ROCK BERM DETAIL

THE ARCHITECT / ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE OF
THIS STANDARD

STANDARD No.
EC-12
Revision Date: 03/15/05

BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21

BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

EROSION CONTROL DETAILS

KID ZONE ON CR307

CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

6

2/09/2024



KHA PROJECT 069427200	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: JDR	DRAWN BY: JDR	CHECKED BY: AEG
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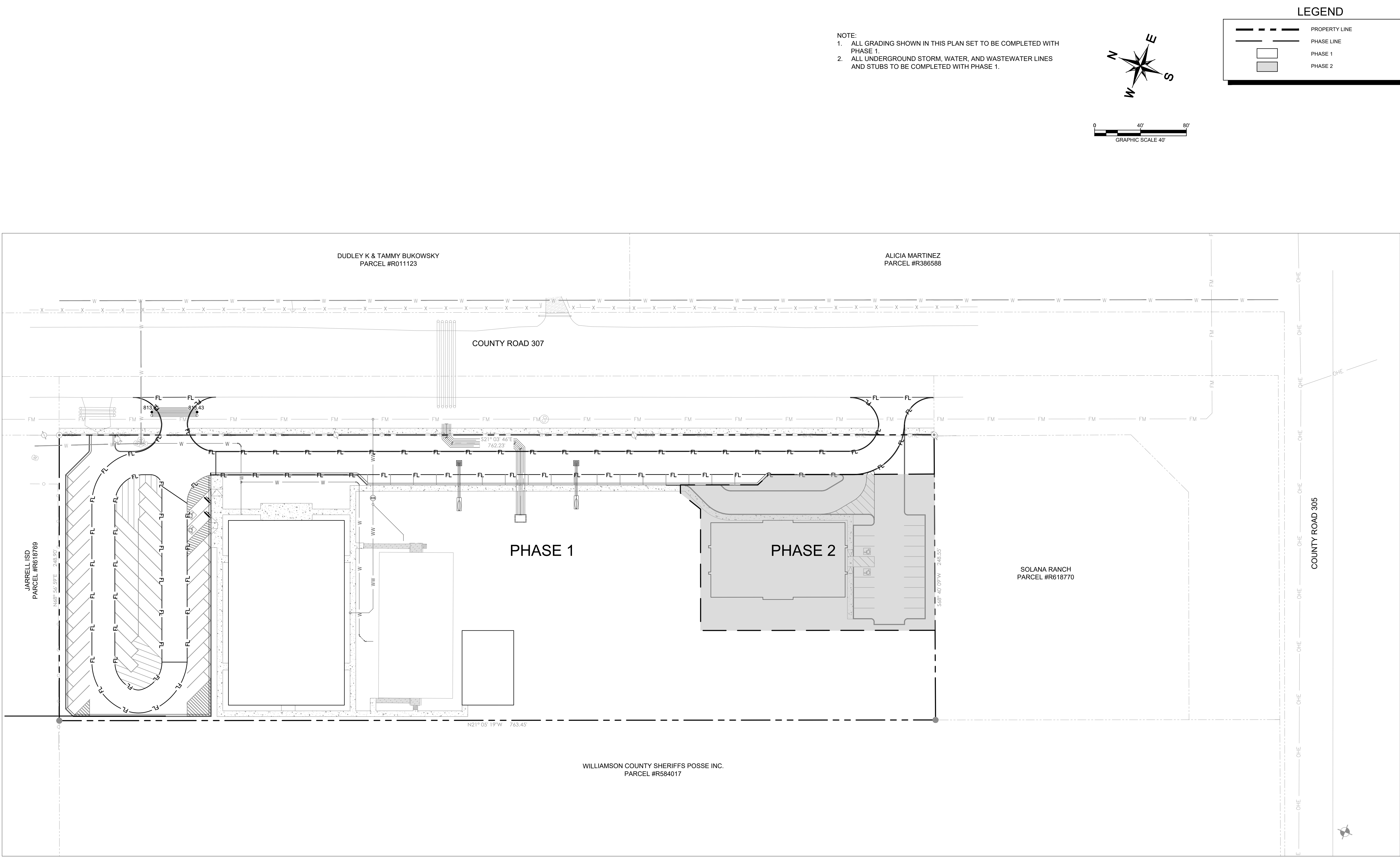
REVISIONS

2

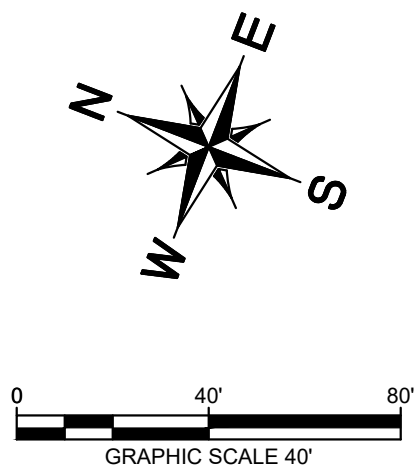
BY

BY

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- NOTE:
1. ALL GRADING SHOWN IN THIS PLAN SET TO BE COMPLETED WITH PHASE 1.
 2. ALL UNDERGROUND STORM, WATER, AND WASTEWATER LINES AND STUBS TO BE COMPLETED WITH PHASE 1.



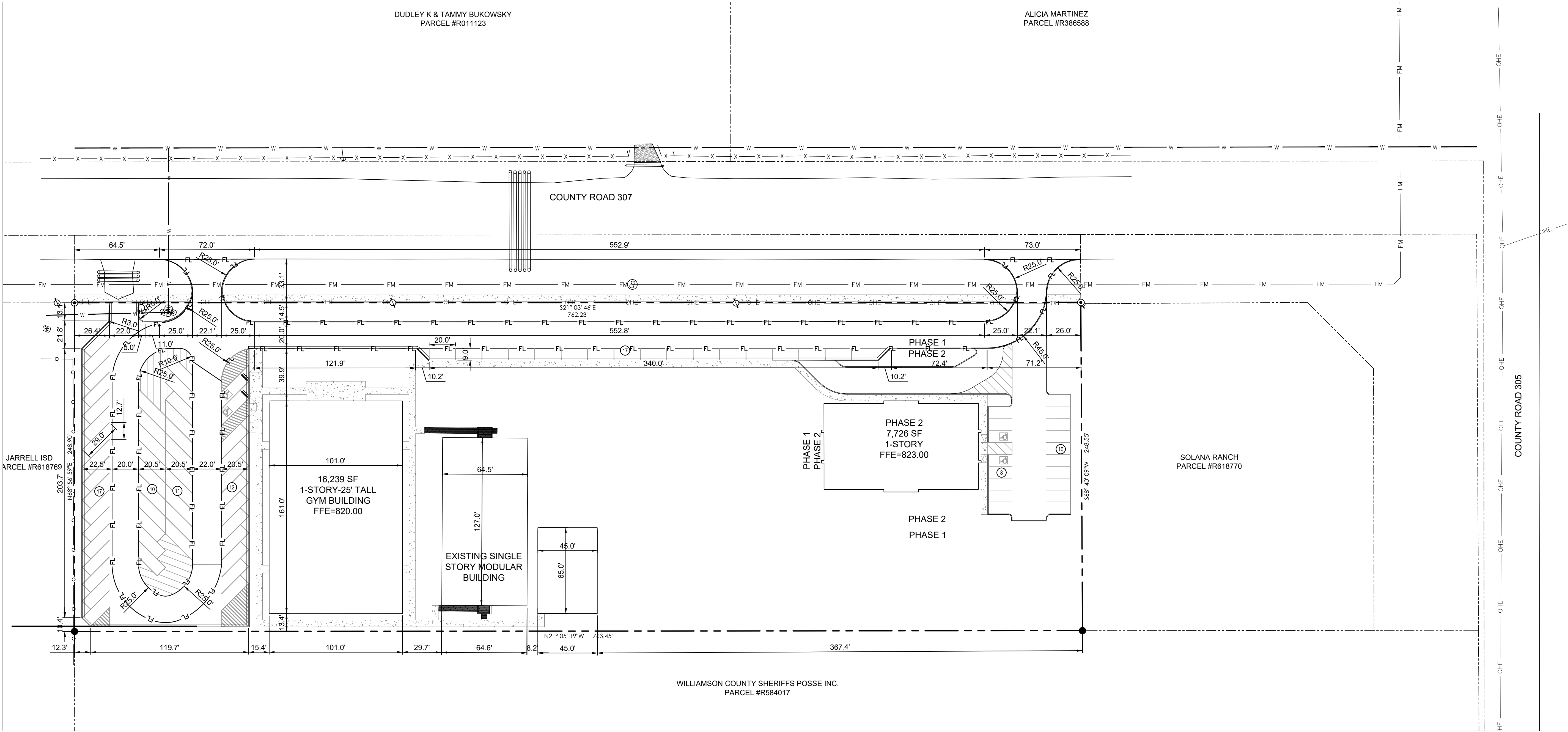
LEGEND	
	PROPERTY LINE
	PHASE LINE
	PHASE 1
	PHASE 2

BENCHMARKS

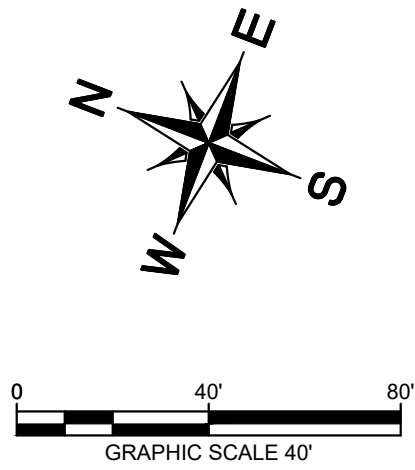
BM 7208 - MAG NAIL SET IN CONCRETE ELEV.=822.21
BM 7210 - MAG NAIL SET IN CONCRETE ELEV. 823.90

KID ZONE ON CR307 CITY OF JARRELL WILLIAMSON COUNTY, TEXAS	SHEET NUMBER		8				
	PHASING PLAN						
	KHA PROJECT 069427200 DATE FEBRUARY 2024 SCALE: AS SHOWN DESIGNED BY: JDR DRAWN BY: JDR CHECKED BY: AEG						
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2/09/2024		No.					
		REVISIONS					
		DATE					
		BY					

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- NOTES:
1. CONTRACTOR TO HAVE STAKING VERIFIED BY OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
 2. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 3. ALL RADII TO BE 3' UNLESS OTHERWISE NOTED.



LEGEND

--- PROPERTY LINE

— FL — FIRE LANE

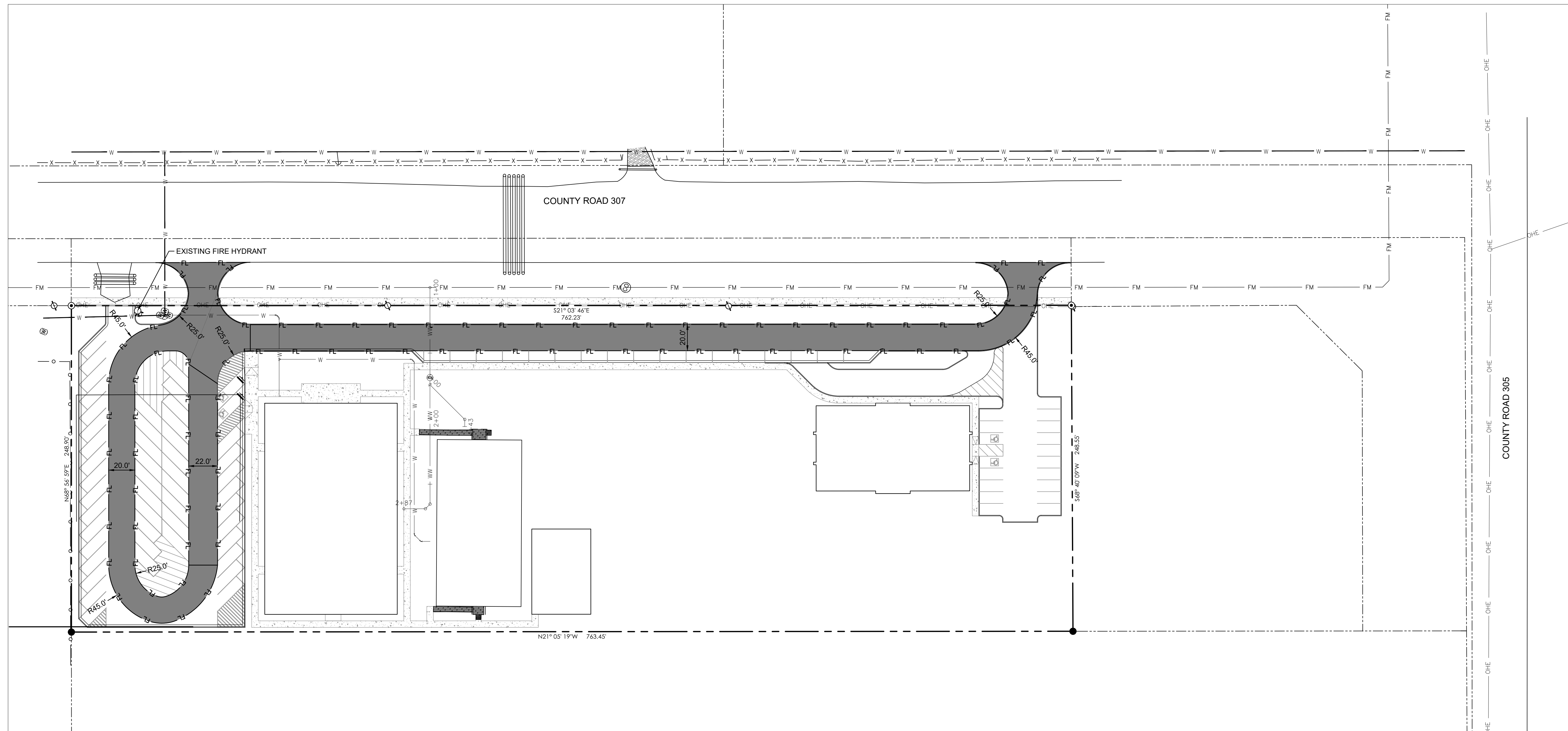
BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21

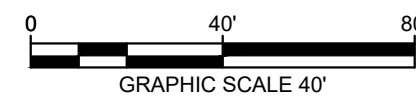
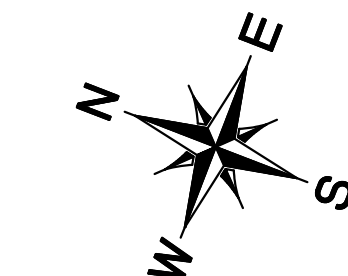
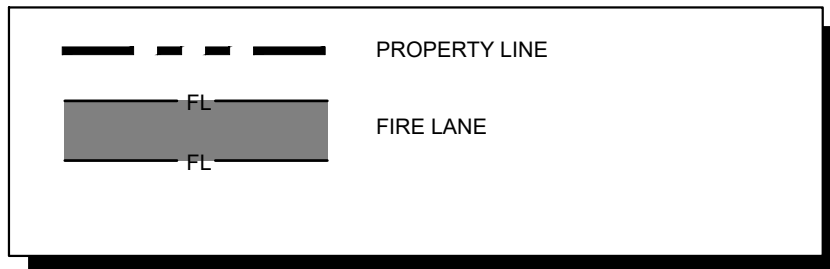
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

KID ZONE ON CR307 CITY OF JARRELL WILLIAMSON COUNTY, TEXAS		DIMENSION CONTROL PLAN		2/09/2024						© 2024 KIMLEY-HORN AND ASSOCIATES, INC. 501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78628 PHONE: 512-520-0768 FAX: 512-418-791 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM F-928		BY	
SHEET NUMBER		9		DESIGNED BY: JDR		DRAWN BY: JDR		CHECKED BY: AEG		REVISIONS		DATE	

Printed By: Davis, Aaron Date: February 09, 2024 11:32:22am File Path: K:\SEO_Civil\069427200-Jarrell Kids Zone\CadPlanSheets\C- Fire Protection_Plan.dwg
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LEGEND



BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21

BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

FIRE PROTECTION PLAN

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

10

2/09/2024



Aljona E. Kuznetsov

KHA PROJECT 069427200
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: JDR
DRAWN BY: JDR
CHECKED BY: AFG

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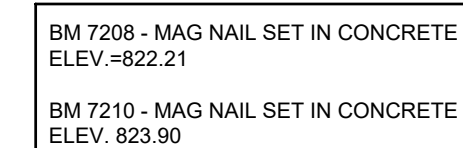
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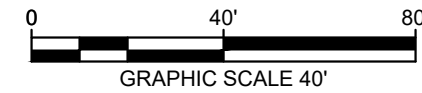
DATE	BY
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A graphic scale bar showing distances in feet. The bar is divided into segments, with markings at 0, 40', and 80'. Below the bar, the text "GRAPHIC SCALE 40'" is printed.

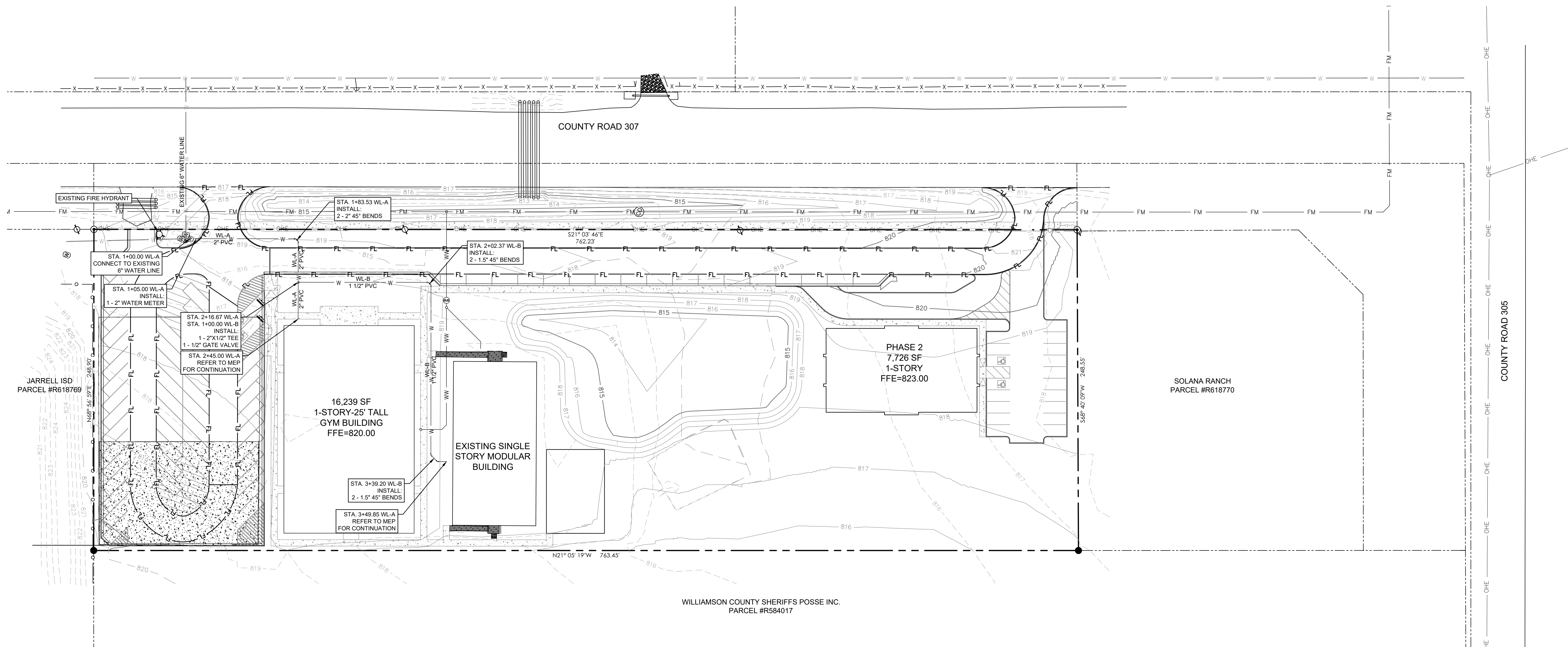
	PROPERTY LINE
	PHASE LINE
	PROPOSED FINISHED PAD ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	PROPOSED GRADE AT TOP OF WALL
	PROPOSED GRADE AT BOTTOM OF WALL
	PROPOSED GRADE AT END OF WALL
	PAD MOUNT TRANSFORMER
	LOT DRAINAGE FLOW DIRECTION
	STREET DRAINAGE FLOW DIRECTION
	PROPOSED RETAINING WALL
	EXPOSED FACE OF RETAINING WALL
	PROPOSED CONTOUR
	EXISTING CONTOUR
	STORM SEWER
	STORM INLET
	STORM MANHOLE
	WATER MAIN
	WASTEWATER MAIN
	5' SIDEWALK (INCLUDED IN CONTRACT)
	5' SIDEWALK (EXCLUDED FROM CONTRACT)

12

2. REFER TO SHEET 21 FOR DETAILS.
3. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. ALL EXISTING GROUND LEVEL APPURTENANCES ARE SUBJECT TO ELEVATION CHANGES AND SHALL BE ADJUSTED TO FINAL GRADE
5. ALL WASTEWATER MANHOLES SHALL BE COATED AND VACUUM-TESTED.
6. ALL NON-CITY INFRASTRUCTURE INCLUDING GAS, ELECTRIC CABLE, AND TELECOMMUNICATIONS SHALL TRAVERSE UNDERNEATH CITY MANUFACTURED SEWERS, BUT NOT LIMITED TO WATERLINE, WASTEWATER LINES, AND STORM SERVICES, WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18" WHERE NON-CITY INFRASTRUCTURE WOULD HAVE TO BE PLACED AT A DEPTH OF 8' OR GREATER TO MEET THE PRECEDING REQUIREMENT, TRAVERSING ABOVE CITY INFRASTRUCTURE MAY BE ALLOWED SUBJECT TO THE APPROVAL OF THE CITY ENGINEER, BUT ONLY IN CONFORMANCE WITH CROSS-SECTION, PROFILES, AND / OR OTHER DETAILED INFORMATION INCORPORATED IN THESE PLANS
6. CONTRACTOR TO STAKEOUT WATERLINE EASEMENT PRIOR TO THE INSTALLATION OF THE WATERLINE, FOR INSTALLATION ACCURACY FOR ALL POINTS WHERE A WASTEWATER GRAVITY OR FORCE MAIN LINE CROSSES UNDER A PUBLIC WATER SUPPLY OR WATER SERVICE:
- 7.1. VERTICAL SEPARATION MUST BE AT LEAST TWO FEET FROM OUTSIDE DIAMETERS OF PIPES.
- 7.2. WASTEWATER PIPE WITH A MINIMUM PRESSURE RATING OF 150 PSI.
- 7.3. ONE SEGMENT OF WATERLINE SHALL BE CENTERED ON CROSSING.
8. FOR ALL POINTS WHERE A WASTEWATER GRAVITY OR FORCE MAIN LINE CROSSES OVER A PUBLIC WATER SUPPLY OR WATER SERVICE:
- 8.1. VERTICAL SEPARATION MUST BE AT LEAST TWO FEET FROM OUTSIDE DIAMETERS OF PIPE.
- 8.2. WATER SHALL BE PLACED IN AN ENCASEMENT CENTERED ON THE CROSSING, SEALED AT BOTH ENDS WITH CEMENT GROUT OR MANUFACTURED SEAMANT, AT LEAST TWO NON-IMPREGATED, AND SUPPORTED BY SPACERS AT 5' INTERVALS.
- 8.3. ONE SEGMENT OF WATERLINE SHALL BE CENTERED ON CROSSING.
9. FOR WASTEWATER OR FORCE MAIN LINES THAT PARALLEL PUBLIC WATER OR WATER SERVICES:
- 9.1. SEPARATION MUST BE AT LEAST NINE FEET FROM OUTSIDE DIAMETERS OF PIPE IN ANY DIRECTION.
10. ALL WATER LINE FITTINGS SHALL BE RESTRAINED AND THRUST BLOCKED
11. PROVIDE 3' CLEAR AREA AROUND FIRE HYDRANTS.
12. ALL NON-CITY INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO GAS, ELECTRIC, CABLE AND TELECOMMUNICATION) SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE (INCLUDED BUT NOT LIMITED TO WATERLINES, WASTEWATER LINES, AND STORM MAIN LINES) WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18" WHERE NON-CITY INFRASTRUCTURE WOULD HAVE TO BE PLACED AT A DEPTH OF 8' OR GREATER TO MEET THE PRECEDING REQUIREMENT, TRAVERSING ABOVE THE CITY INFRASTRUCTURE MAY BE ALLOWED, SUBJECT TO THE APPROVAL OF THE PLANNING AND DEVELOPMENT SERVICES ENGINEERING REVIEWER, BUT ONLY IN CONFORMANCE WITH CROSS-SECTIONS, PROFILES, AND OR OTHER DETAILED INFORMATION INCORPORATED IN THESE PLANS.



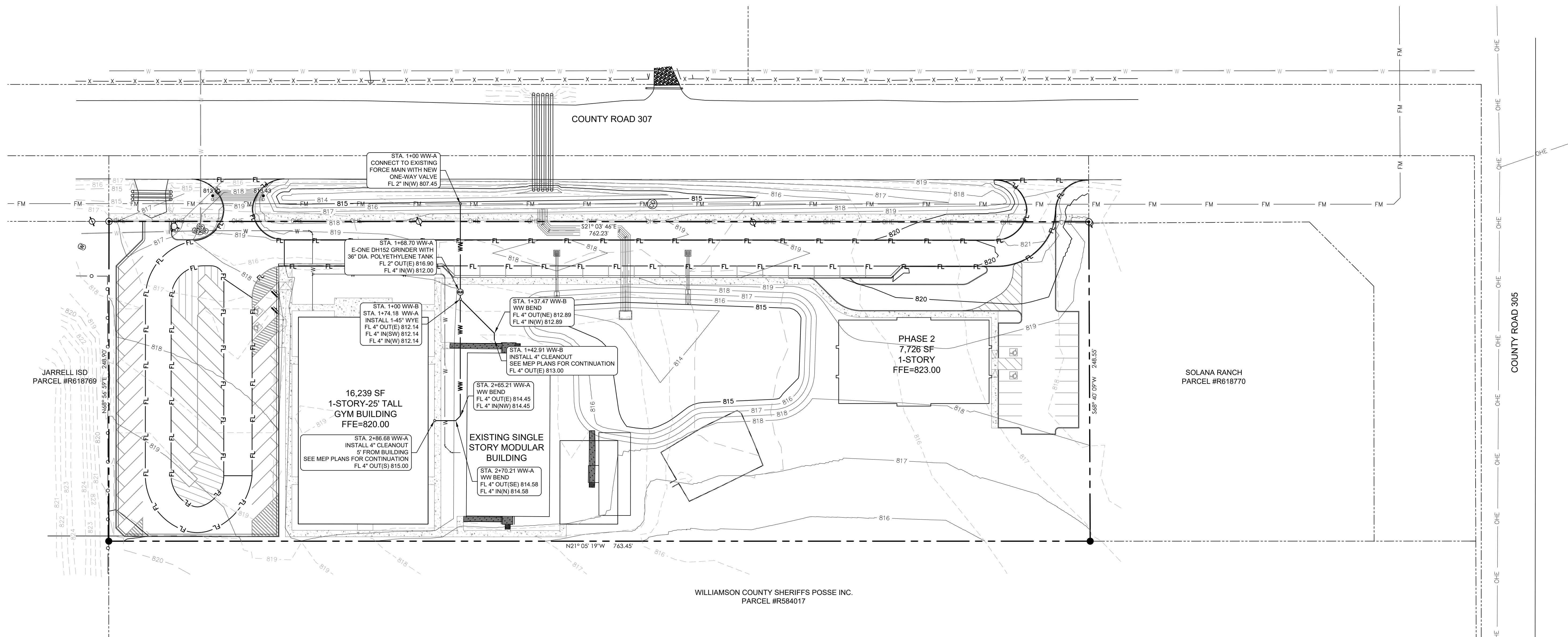
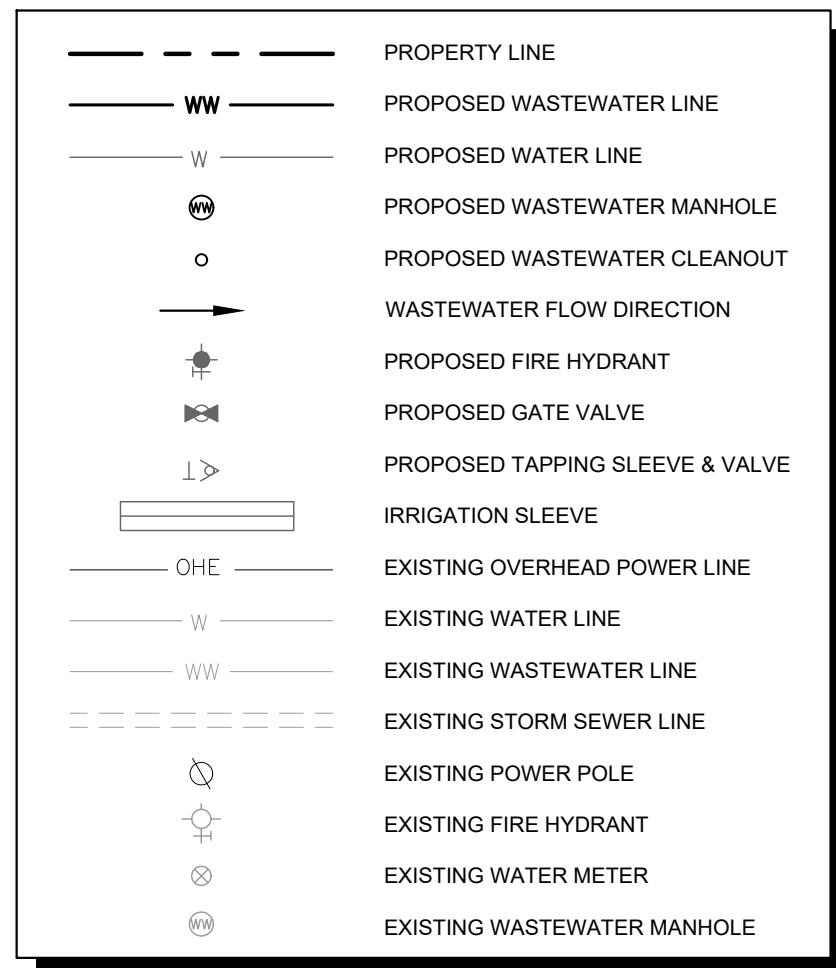
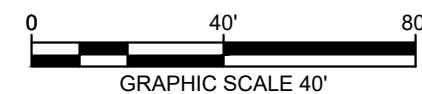
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	WASTEWATER FLOW DIRECTION
	PROPOSED FIRE HYDRANT
	PROPOSED GATE VALVE
	PROPOSED TAPPING SLEEVE & VALVE
	IRRIGATION SLEEVE
	EXISTING OVERHEAD POWER LINE
	EXISTING WATER LINE
	EXISTING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



BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE ELEV.=822.21
BM 7210 - MAG NAIL SET IN CONCRETE ELEV. 823.90

2. REFER TO SHEETS 22 AND 23 FOR DETAILS.
3. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. ALL EXISTING GROUND LEVEL APPURTENANCES ARE SUBJECT TO ELEVATION CHANGES AND SHALL BE ADJUSTED TO FINAL GRADE
5. ALL WASTEWATER MANHOLES SHALL BE COATED AND VACUUM-TESTED.
6. ALL NON-CITY INFRASTRUCTURE INCLUDING GAS, ELECTRIC CABLE, AND TELECOMMUNICATIONS SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO, WATERLINES, WASTEWATER LINES, AND STORM SEWERS, WITH A MINIMUM CLEARANCE OF 18" WHERE NON-CITY INFRASTRUCTURE WOULD HAVE TO BE PLACED AT A DEPTH OF 8' OR GREATER TO MEET THE PRECEDING REQUIREMENT. TRAVERSING ABOVE CITY INFRASTRUCTURE MAY BE ALLOWED SUBJECT TO THE APPROVAL OF THE CITY ENGINEER, BUT ONLY IN CONFORMANCE WITH CROSS-SECTION, PROFILES, AND / OR OTHER DETAILED INFORMATION INCORPORATED IN THESE PLANS
7. CONTRACTOR TO STAKEOUT WATERLINE EASEMENT PRIOR TO THE INSTALLATION OF THE WATERLINE, FOR INSTALLATION ACCURACY FOR ALL POINTS WHERE A WASTEWATER GRAVITY OR FORCE MAIN LINE CROSSES UNDER A PUBLIC WATER SUPPLY OR WATER SERVICE.
- 8.1. VERTICAL SEPARATION MUST BE AT LEAST TWO FEET FROM OUTSIDE DIAMETERS OF PIPES.
- 8.2. WASTEWATER PIPE WITH A MINIMUM PRESSURE RATING OF 150 PSI.
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9. FOR ALL POINTS WHERE A WASTEWATER GRAVITY OR FORCE MAIN LINE CROSSES OVER A PUBLIC WATER SUPPLY OR WATER SERVICE:
- 9.1. VERTICAL SEPARATION MUST BE AT LEAST TWO FEET FROM OUTSIDE DIAMETERS OF PIPE.
- 9.2. WATER SHALL BE PLACED IN AN ENCASEMENT CENTERED ON THE CROSSING, SEALED AT BOTH ENDS WITH CEMENT GROUT OR MANUFACTURED SEAL, AT LEAST TWO NOMINAL SIZES LARGER, AND SUPPORTED BY SPACERS AT 5' INTERVALS.
- 9.3. ONE SEGMENT OF WATERLINE SHALL BE CENTERED ON CROSSING.
10. FOR WASTEWATER OR FORCE MAIN LINES THAT PARALLEL PUBLIC WATER OR WATER SERVICES:
- 10.1. SEPARATION MUST BE AT LEAST NINE FEET FROM OUTSIDE DIAMETERS OF PIPE IN ANY DIRECTION.
11. ALL WATER LINE FITTINGS SHALL BE RESTRAINED AND THRUST BLOCKED
12. PROVIDE 3' CLEAR AREA AROUND FIRE HYDRANTS.
13. ALL NON-CITY INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO GAS, ELECTRIC, CABLE AND TELECOMMUNICATION) SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO WATERLINES, WASTEWATER LINES, AND STORM WATER LINES) WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18" WHERE NON-CITY INFRASTRUCTURE WOULD HAVE TO BE PLACED AT A DEPTH OF 8' OR GREATER TO MEET THE PRECEDING REQUIREMENT. TRAVERSING ABOVE THE CITY INFRASTRUCTURE MAY BE ALLOWED, SUBJECT TO THE APPROVAL OF THE PLANNING AND DEVELOPMENT SERVICES ENGINEERING REVIEWER, BUT ONLY IN CONFORMANCE WITH CROSS-SECTIONS, PROFILES, AND OR OTHER DETAILED INFORMATION INCORPORATED IN THESE PLANS.



BENCHMARKS

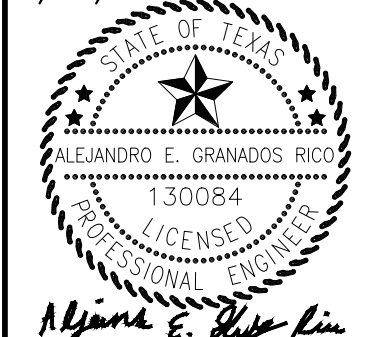
BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21

BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

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2/09/2024



KHA PROJECT 069427200	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: JDR	DRAWN BY: JDR	CHECKED BY: AEC
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OVERALL WASTEWATER PLAN

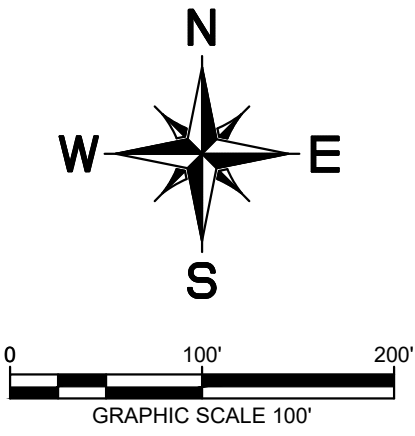
KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

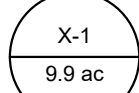












14

NO	REVISIONS	DATE	BY
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NO	REVISIONS	DATE	BY
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LEGEND

	AREA DESIGNATOR
	AREA IN ACRES
	POINT OF ANALYSIS
	PROPERTY LINE
	PROPOSED STORM SEWER LINE
	EXISTING STORM SEWER LINE
	PROPOSED DRAINAGE DIVIDE
	PROPOSED STORM SEWER INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED STORM SEWER HEADWALL
	PROPOSED FLOW DIRECTION
	PROPOSED CONTOUR
	EXISTING CONTOUR
	100-YR ATLAS-14 FLOODPLAIN

Kids Zone - Jarrell					
DETENTION RESULTS - SCS METHOD					
EXISTING CONDITIONS					
Point of Analysis	Total Drainage Area (Acres)	Total Impervious Cover Area (acres)	Impervious Area (%)	Storm Event	Existing Runoff (cfs)
A	13.61	0.00	0.00%	2	27.88
				10	54.25
				25	72.70
				100	102.95

[illegible]

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TEXAS REGISTERED ENGINEERING FIRM F-928

2/09/2024



A circular professional engineer seal for the State of Texas. The seal features a five-pointed star in the center. The text "STATE OF TEXAS" is at the top, and "ALEJANDRO E. GRANADOS RICO" is below the star. The license number "130084" is in the center, and "LICENSED PROFESSIONAL ENGINEER" is at the bottom. The seal is surrounded by a decorative wreath. Below the seal, the name "Alejandro E. Rico" is handwritten in cursive.

Alejandro E. Rico

KHA PROJECT 069427200	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: JDR	DRAWN BY: JDR	CHECKED BY: AEG
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EXISTING DRAINAGE AREA MAP

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
15

BENCHMARKS

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ELEV. 823.90

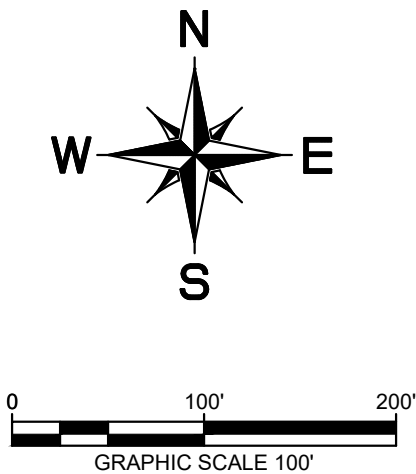
Kid Zone - Jarrell - Existing Time of Conc.

DRAINAGE AREA	AREA	AREA	IMPERVIOUS COVER	IMPERVIOUS COVER	PERVIOUS CURVE NO.	WEIGHTED CURVE NO.	SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNEL FLOW								TOTAL Tc** (min)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)		
	(sf)	(Ac.)	(Ac.)	%	Cn*	Cn*	P-2yr/24hr				Grass Surface				Channel Flow				Channel Flow 2										
							N	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	n	S (ft/ft)	Tt(min)	L (ft)	V (fps)	n						S (ft/ft)	Tt(min)
EX-A	592,852	13.61	0.00	0.00	78.00	78.00	0.15	100	0.021	8.68	670	1.72	0.011	6.48	498	6.0	0.035	0.0052	1.38	-	-	0.035	-	0.00	16.55	27.88	54.25	72.7	102.95

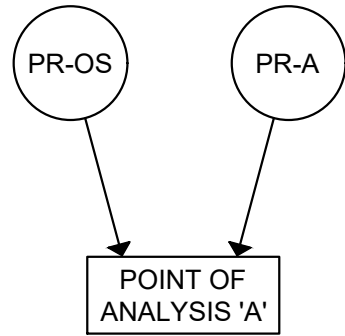
**The minimum Tc is 6 minutes per the TR-55.

100.02

Plotted By: Davis, Aaron Date: February 09, 2024 11:34:03am File Path: K:\GEO_Civil\069427200-Jarrell Kids Zone\CoordPlanSheets\C-Proposed Drainage Area Map.dwg
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LEGEND	
	AREA DESIGNATOR
	AREA IN ACRES
	INLET NUMBER
	PROPERTY LINE
	PROPOSED STORM SEWER LINE
	EXISTING STORM SEWER LINE
	PROPOSED DRAINAGE DIVIDE
	PROPOSED STORM SEWER INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED STORM SEWER HEADWALL
	PROPOSED FLOW DIRECTION
	PROPOSED CONTOUR
	EXISTING CONTOUR
	100-YR ATLAS-14 FLOODPLAIN



Kids Zone - Jarrell
DETENTION RESULTS - SCS METHOD

PROPOSED CONDITIONS					
Point of Analysis	Total Drainage Area (Acres)	Total Impervious Cover Area (acres)	Impervious Area (%)	Storm Event	Developed Runoff (With Detention) (cfs)
PR-A	13.61	2.09	15.36%	2	21.28
				10	37.52
				25	48.41
PR-OS	5.57	0.00	0.00%	100	65.81
				2	15.55
				10	23.47
				25	31.27
				100	43.96

PROPOSED VS. EXISTING COMPARISON

Point of Analysis	Storm Event	Existing Runoff (cfs)	Developed Runoff (cfs)	Runoff Difference at Point of Analysis (cfs)	Is Developed \leq Existing?
A	2	27.88	21.28	(6.60)	YES
	10	54.25	37.52	(16.73)	YES
	25	72.70	48.41	(24.29)	YES
	100	102.95	65.81	(37.14)	YES

Kid Zone - Jarrell - Proposed Time of Conc.
Drainage Calculations - SCS Method

DRAINAGE AREA	AREA	AREA	IMPERVIOUS COVER	IMPERVIOUS COVER	PERVIOUS CURVE NO.	WEIGHTED CURVE NO.	SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNEL FLOW								TOTAL Tc** (min)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)		
	(sf)	(Ac.)	(Ac.)	%	Cn*	Cn*	P-2yr24hr		3.92 IN		Grass Surface		Channel Flow				Pipe Flow												
							N	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	n	S (ft/ft)	Tt(min)	L (ft)	V (fps)	n						S (ft/ft)	Tt(min)
PR-A	592,852	13.61	2.09	15.36%	79.00	81.92	0.15	100	0.012	10.86	468.73	1.81	0.013	4.31	247	5.0	0.035	0.007	0.82	0	8.0	0.013	0.010	0.00	16.00	21.28	37.52	48.41	65.81
PR-OS	242,629	5.57	0.00	0.00%	70.00	70.00	0.15	100	0.021	8.68	670	1.72	0.011	6.48	117	5.1	0.035	0.004	0.38	-	-	-	-	-	15.55	12.28	23.47	31.27	43.96

**The minimum Tc is 6 minutes per the TR-55.

BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV. -822.21
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

REVISIONS		DATE	BY
No.			

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2/09/2024

KHA PROJECT 069427200
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: JDR
DRAWN BY: JDR
CHECKED BY: AEC

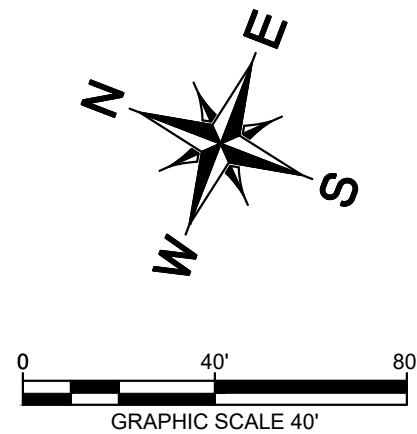
PROPOSED DRAINAGE
AREA MAP

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

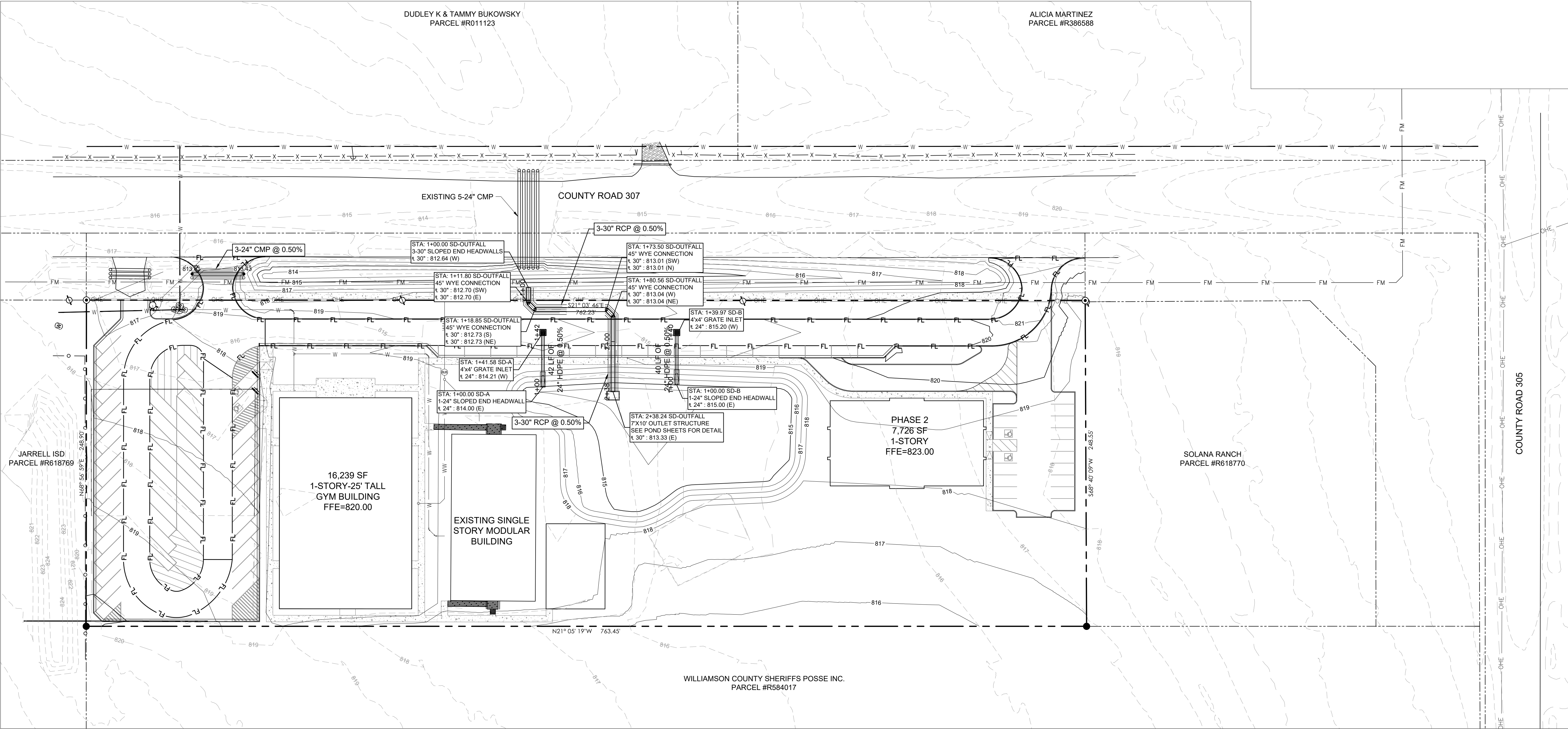
SHEET NUMBER

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NOTES:
1. ALL STORM PIPES ARE HDPE UNLESS OTHERWISE NOTED.



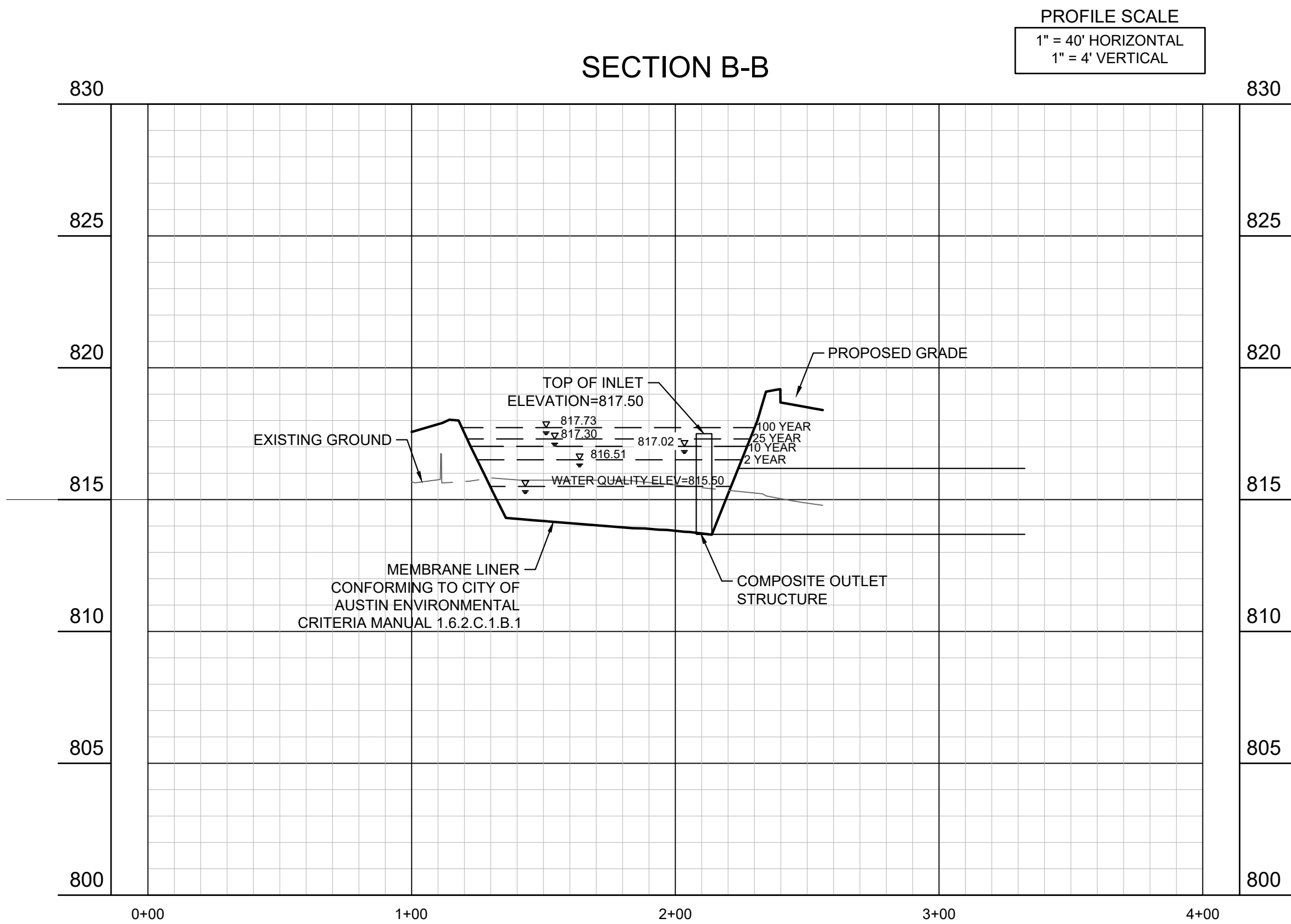
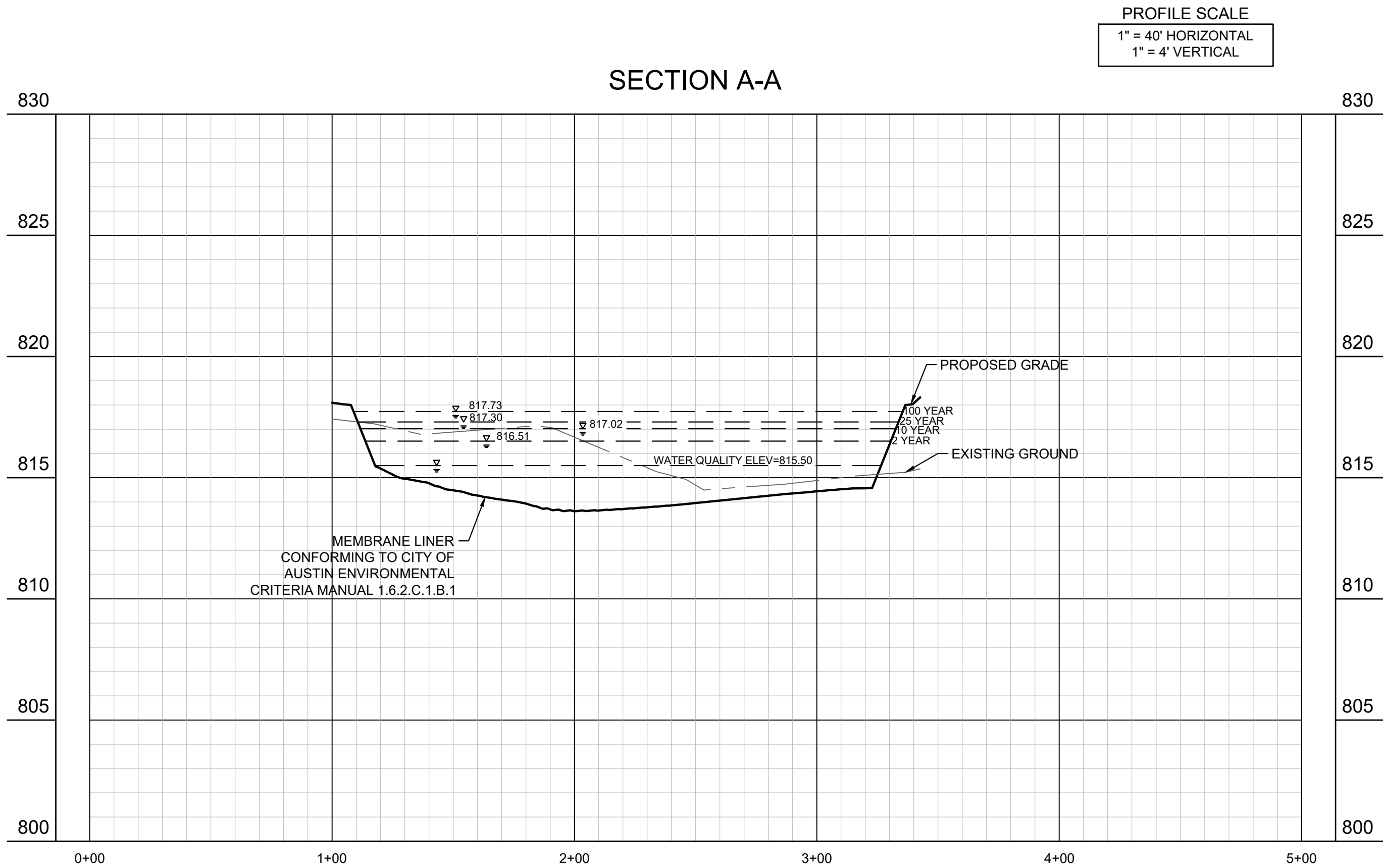
LEGEND	
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	WASTEWATER FLOW DIRECTION
	PROPOSED FIRE HYDRANT
	PROPOSED TAPPING SLEEVE & VALVE
	PROPOSED STORM DRAIN LINE
	PROPOSED STORM DRAIN INLET
	EXISTING OVERHEAD POWER LINE
	EXISTING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



BENCHMARKS	
BM 7208 - MAG NAIL SET IN CONCRETE ELEV.=822.21	
BM 7210 - MAG NAIL SET IN CONCRETE ELEV. 823.90	

KID ZONE ON CR307 CITY OF JARRELL WILLIAMSON COUNTY, TEXAS		SHEET NUMBER 17	
		OVERALL STORM PLAN	
KHA PROJECT 069427200		DATE FEBRUARY 2024	
SCALE: AS SHOWN		DESIGNED BY: JDR	
		DRAWN BY: JDR	
		CHECKED BY: AEG	
		2/09/2024	
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Kimley»Horn		REVISIONS	
		No.	DATE BY

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Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **Kid Zone - Jarrell**
Date Prepared: **1/30/2024**

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

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

Page 3-29 Equation 3.3: $L_{M\ TOTAL\ PROJECT} = 27.2(A_{I\ x\ P})$

where:
 $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
 A_I = 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 = **4.38** acres
Predevelopment impervious area within the limits of the plan = **0.00** acres
Total post-development impervious area within the limits of the plan = **2.46** acres
Total post-development impervious cover fraction = **0.56**
 P = **32** inches

$L_{M\ TOTAL\ PROJECT}$ = **2142** lbs.

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

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

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

Drainage Basin/Outfall Area No. = **WQP-A**

Total drainage basin/outfall area = **8.87** acres
Predevelopment impervious area within drainage basin/outfall area = **0.00** acres
Post-development impervious area within drainage basin/outfall area = **2.46** acres
Post-development impervious fraction within drainage basin/outfall area = **0.28**
 $L_{M\ THIS\ BASIN}$ = **2142** lbs. Trying to remove this much TSS

This includes the offsite drainage areas coming to pond

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Batch Extended Detention**
Removal efficiency = **91** 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: $L_R = (BMP\ efficiency) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

where:
 A_i = Total On-Site drainage area in the BMP catchment area
 A_p = 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_i = **8.87** acres
 A_p = **2.46** acres
 A_p = **6.41** acres
 L_R = **2580** lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **2350** lbs.
 F = **0.91**

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-36 to 3-37

Rainfall Depth = **1.80** inches
Post Development Runoff Coefficient = **0.25**
On-site Water Quality Volume = **14278** cubic feet

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

Off-site area draining to BMP = **5.92** acres
Off-site Impervious cover draining to BMP = **0.00** acres
Impervious fraction of off-site area = **0.00**
Off-site Runoff Coefficient = **0.02**
Off-site Water Quality Volume = **774** cubic feet

Storage for Sediment = **3010**

Total Capture Volume (required water quality volume(s) x 1.20) = 18062 cubic feet

STAGE STORAGE

Contour Elevation	Contour Area (sq. ft)	Depth (ft)	Incremental Volume Avg. End (cu. ft)	Cumulative Volume Avg. End (cu. ft)	Incremental Volume Conic (cu. ft)	Cumulative Volume Conic (cu. ft)
813.50	122.72	N/A	N/A	0.00	N/A	0.00
814.00	3,818.43	0.500	985.29	985.29	770.95	770.95
814.50	11,836.22	0.500	3913.66	4898.95	3729.57	4500.52
815.00	16,462.86	0.500	7074.77	11973.72	7043.04	11543.56
815.50	18,208.55	0.500	8667.85	20641.57	8664.19	20207.75
816.00	19,381.46	0.500	9397.50	30039.07	9395.98	29603.72
816.50	20,579.15	0.500	9990.15	40029.23	9988.65	39592.38
817.00	21,801.62	0.500	10595.19	50624.42	10593.72	50186.10
817.50	0.05	0.500	5450.42	56074.84	3639.35	53825.46

WATER QUALITY ELEVATION

BENCHMARKS

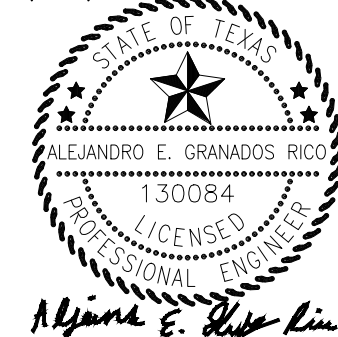
BM 7208 - MAG NAIL SET IN CONCRETE
ELEV.=822.21
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

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TEXAS REGISTERED ENGINEERING FIRM E-928

2/09/2024



Alejandro E. Grandos Rico

KHA PROJECT
069427200
DATE
FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: JDR
DRAWN BY: JDR
CHECKED BY: AEG

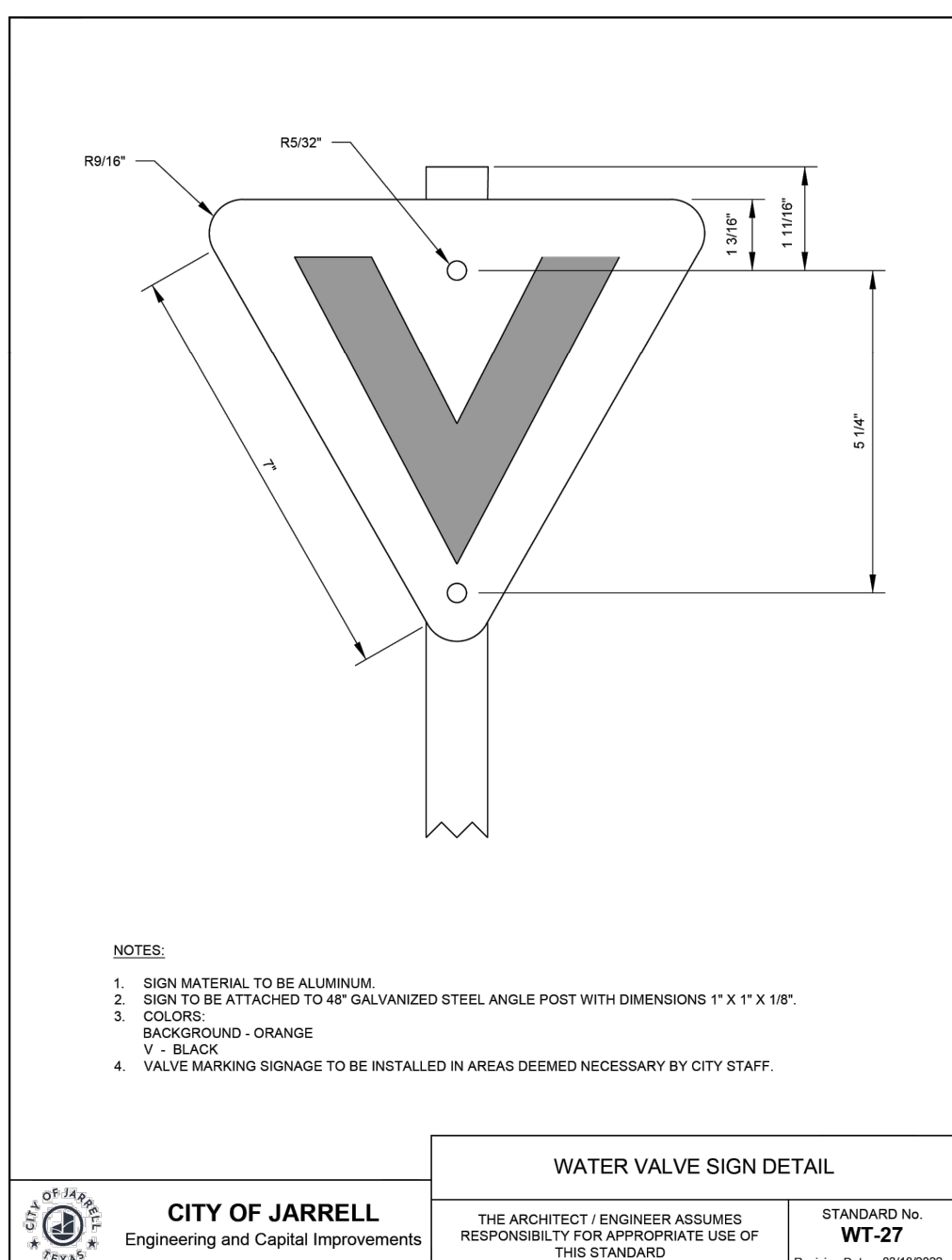
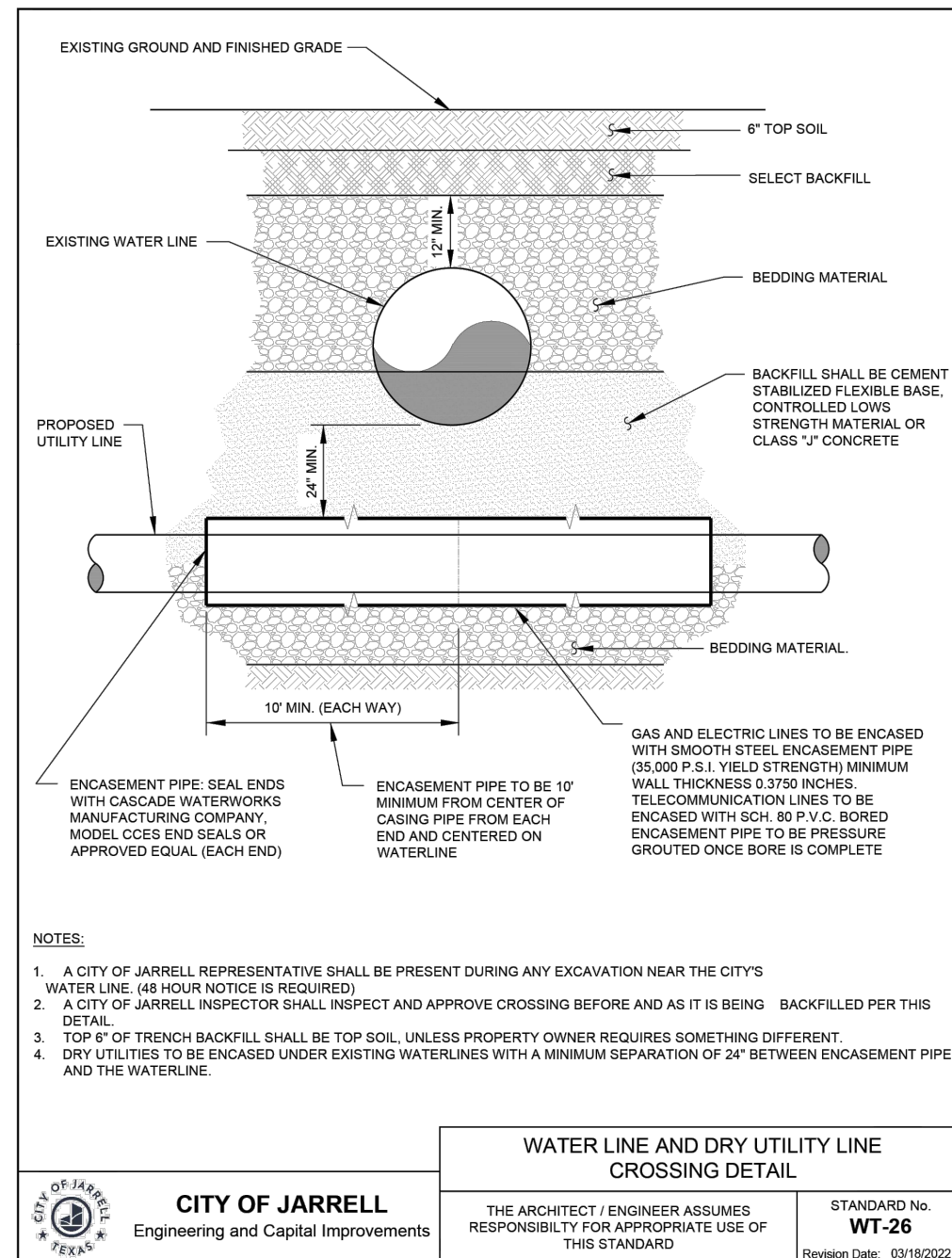
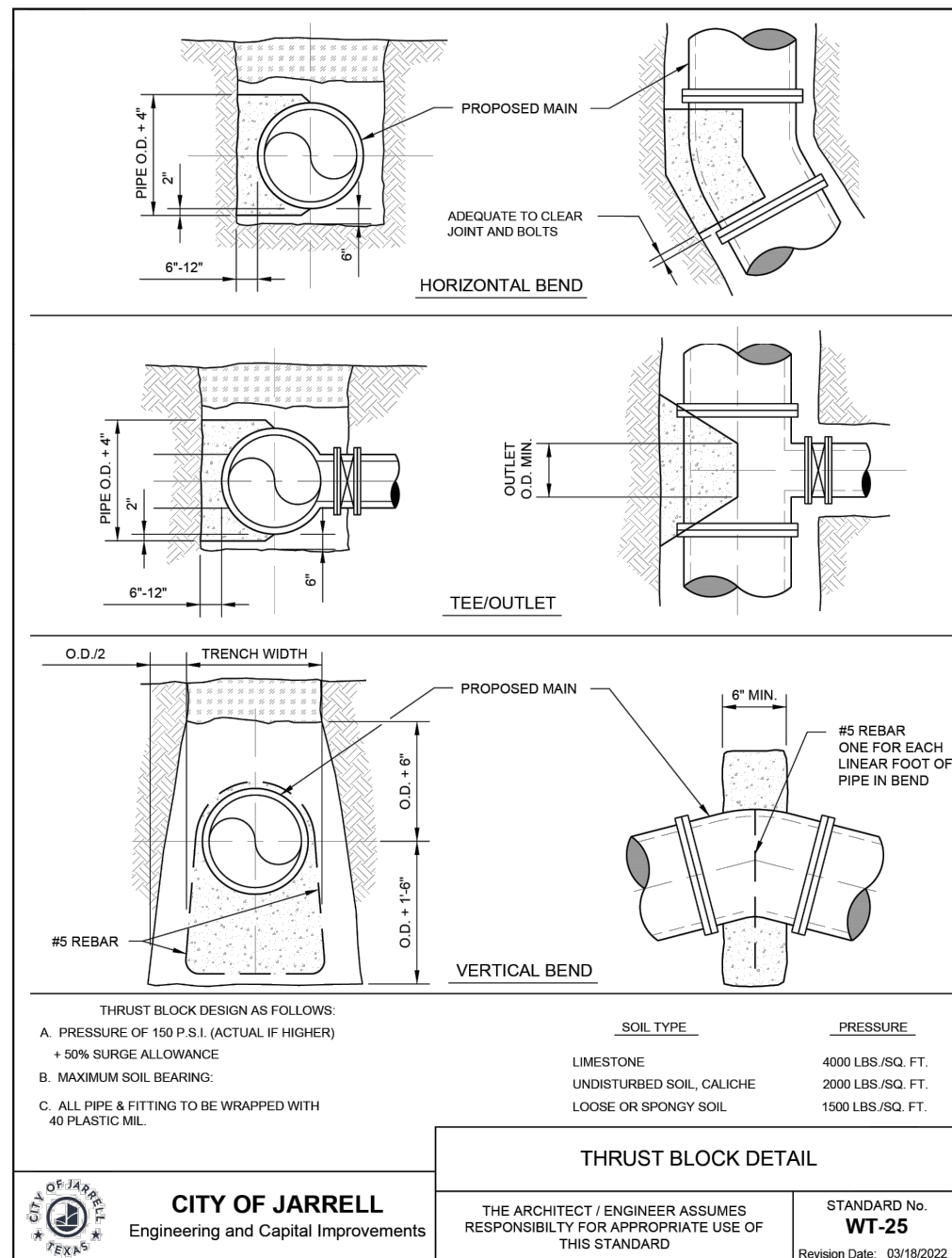
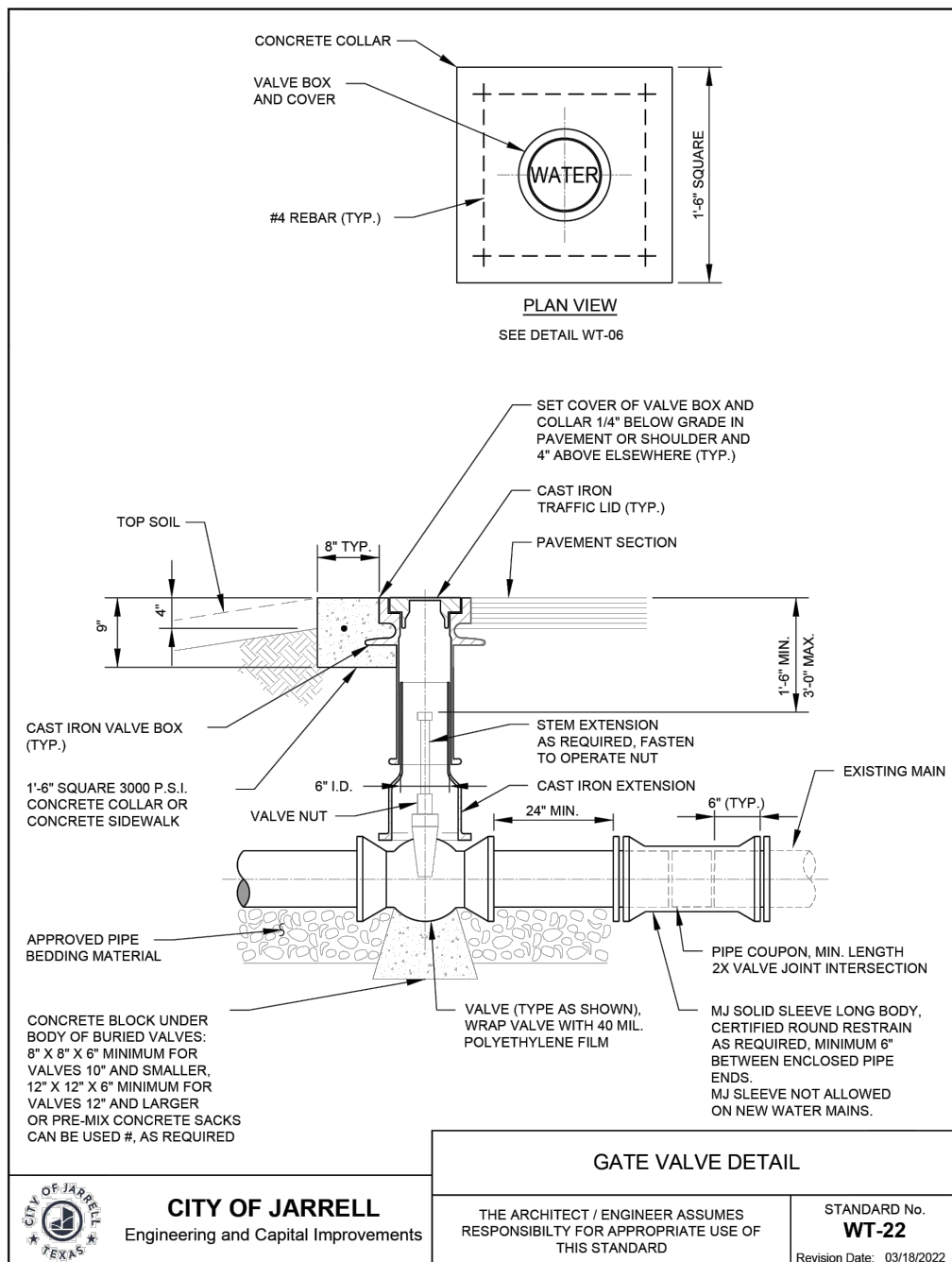
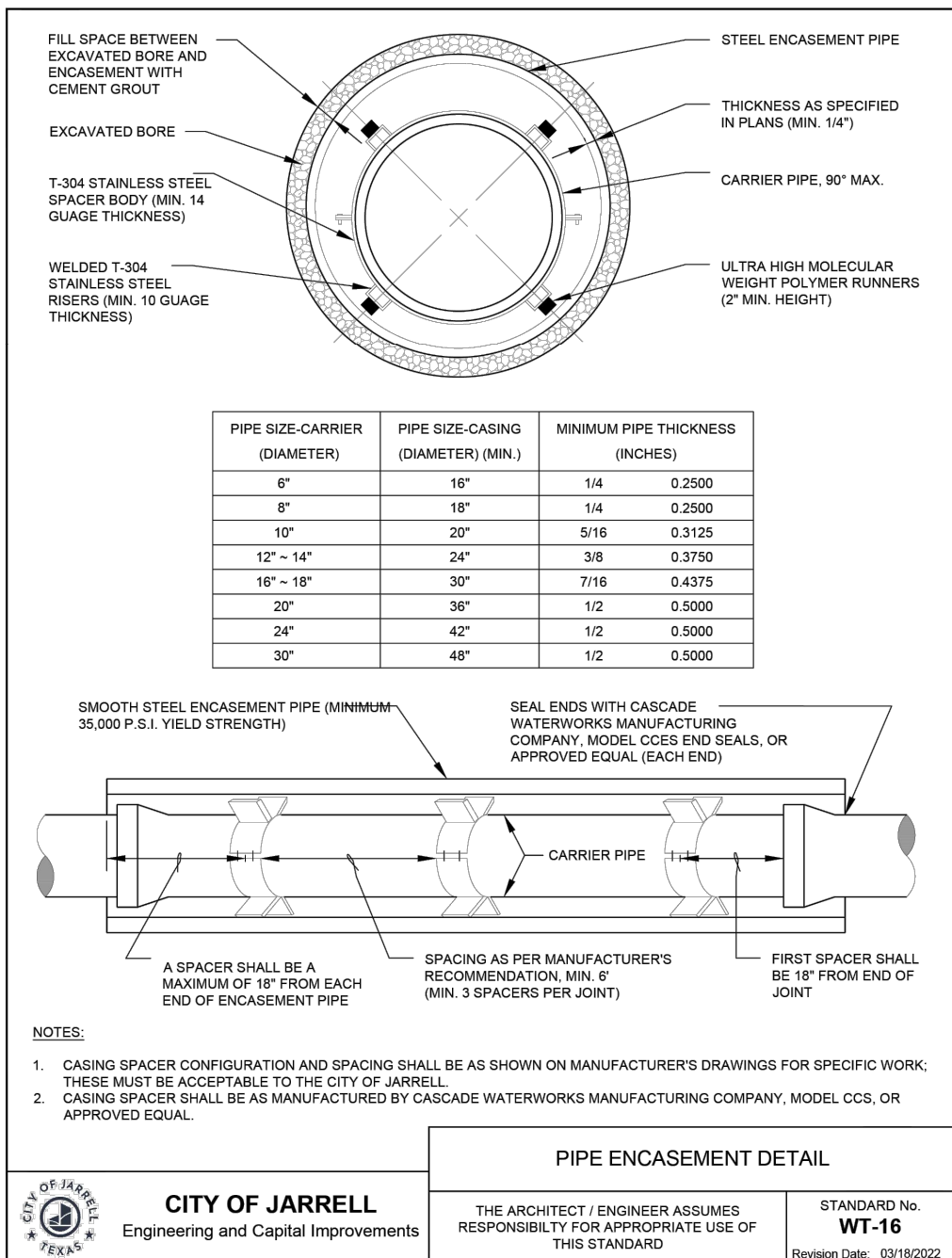
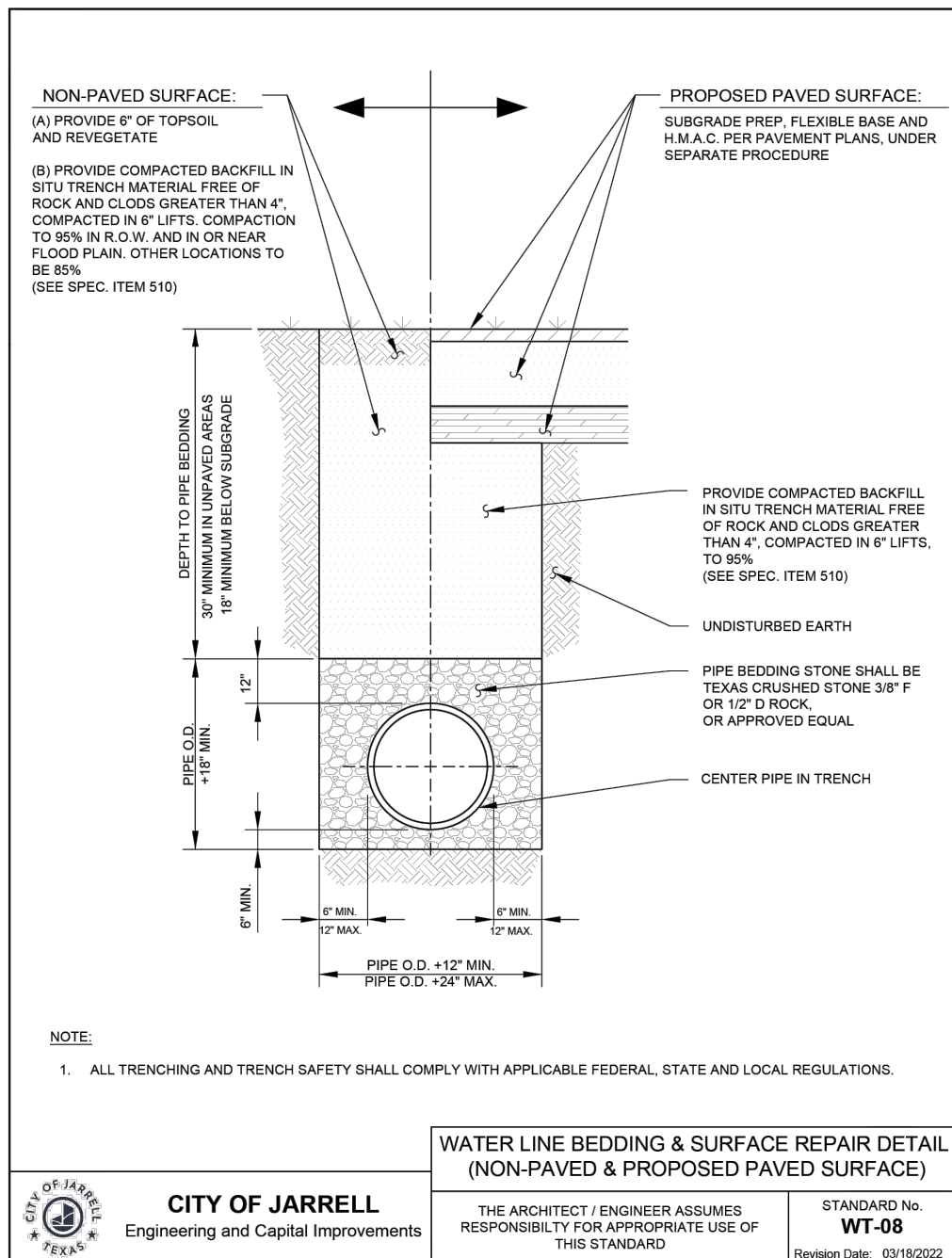
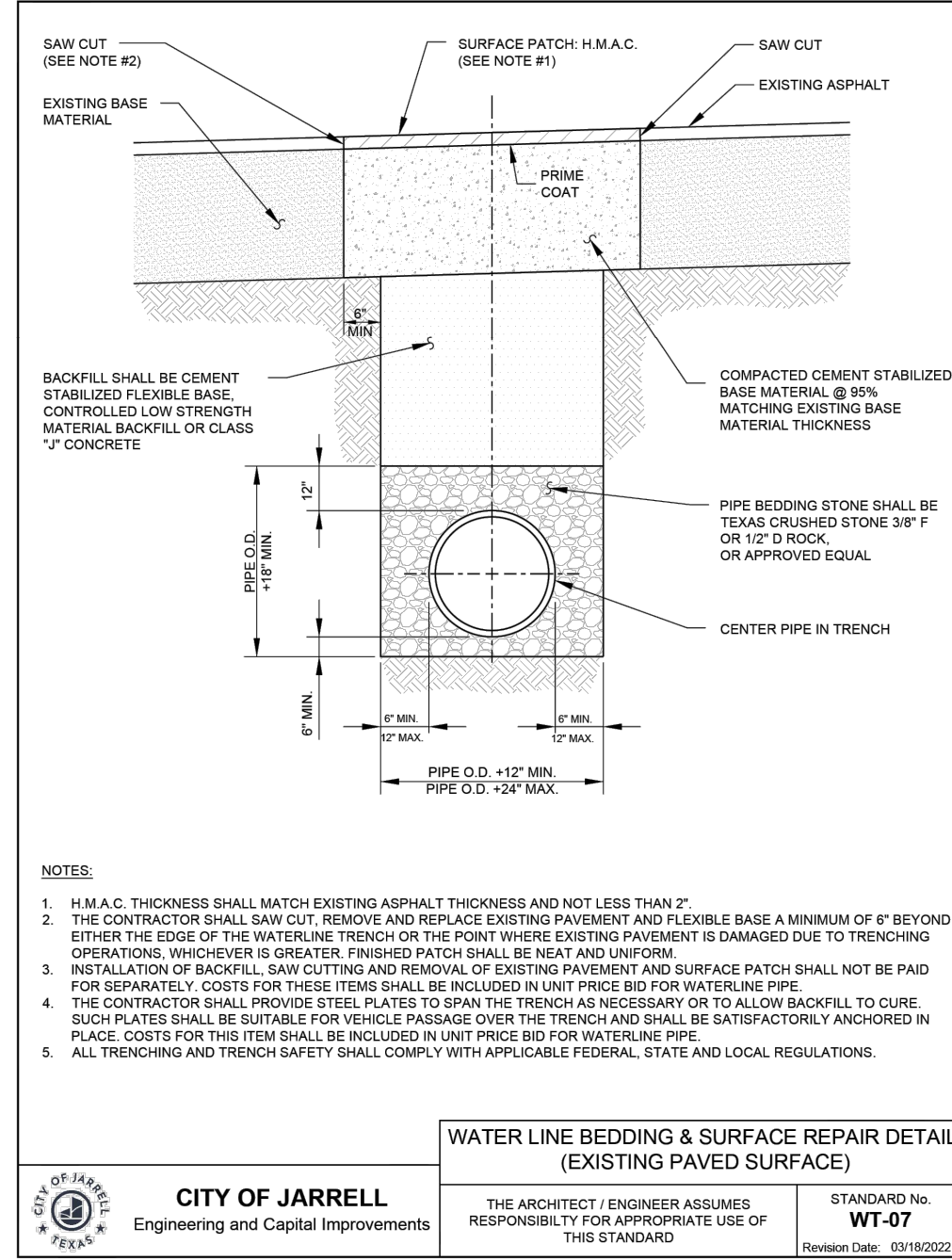
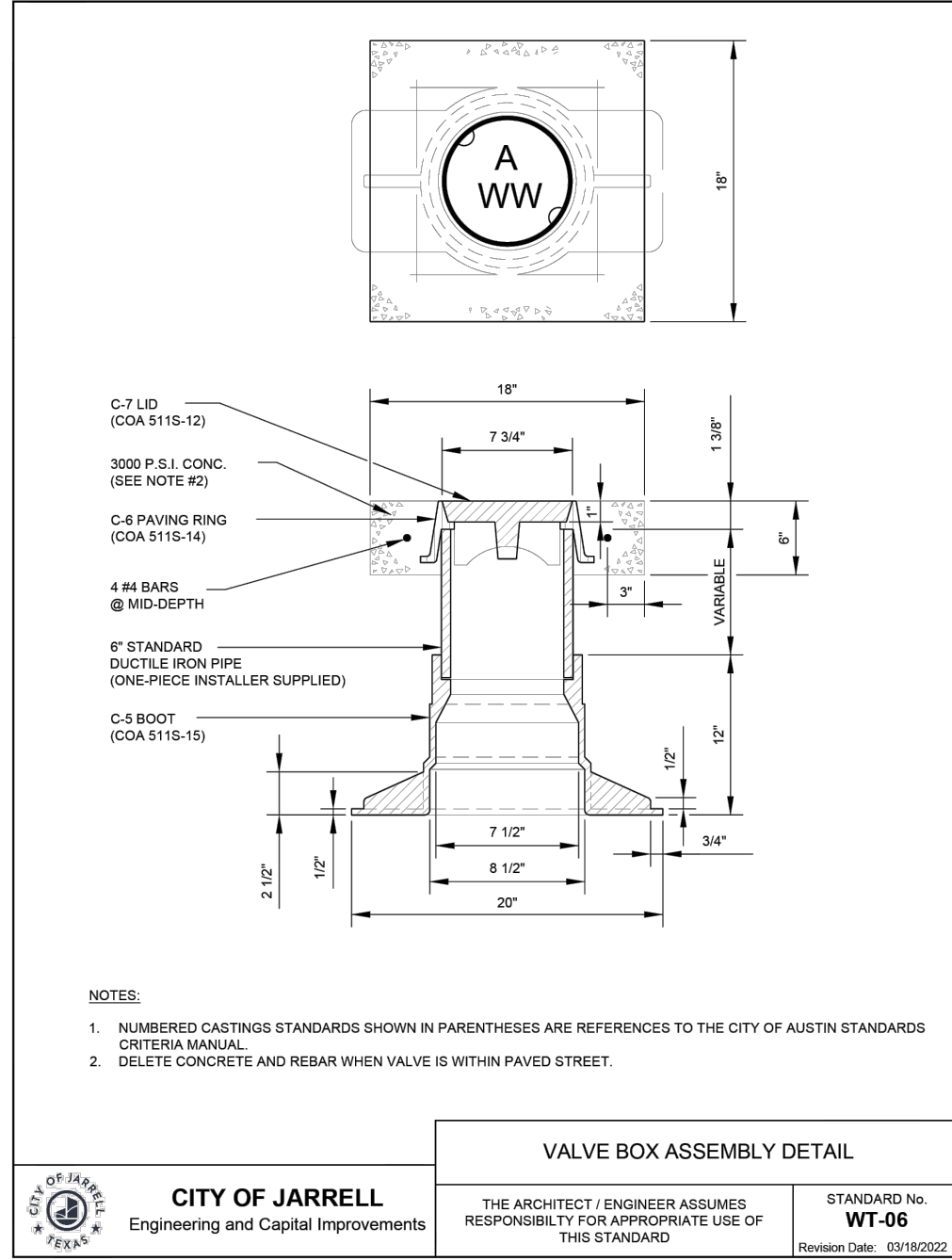
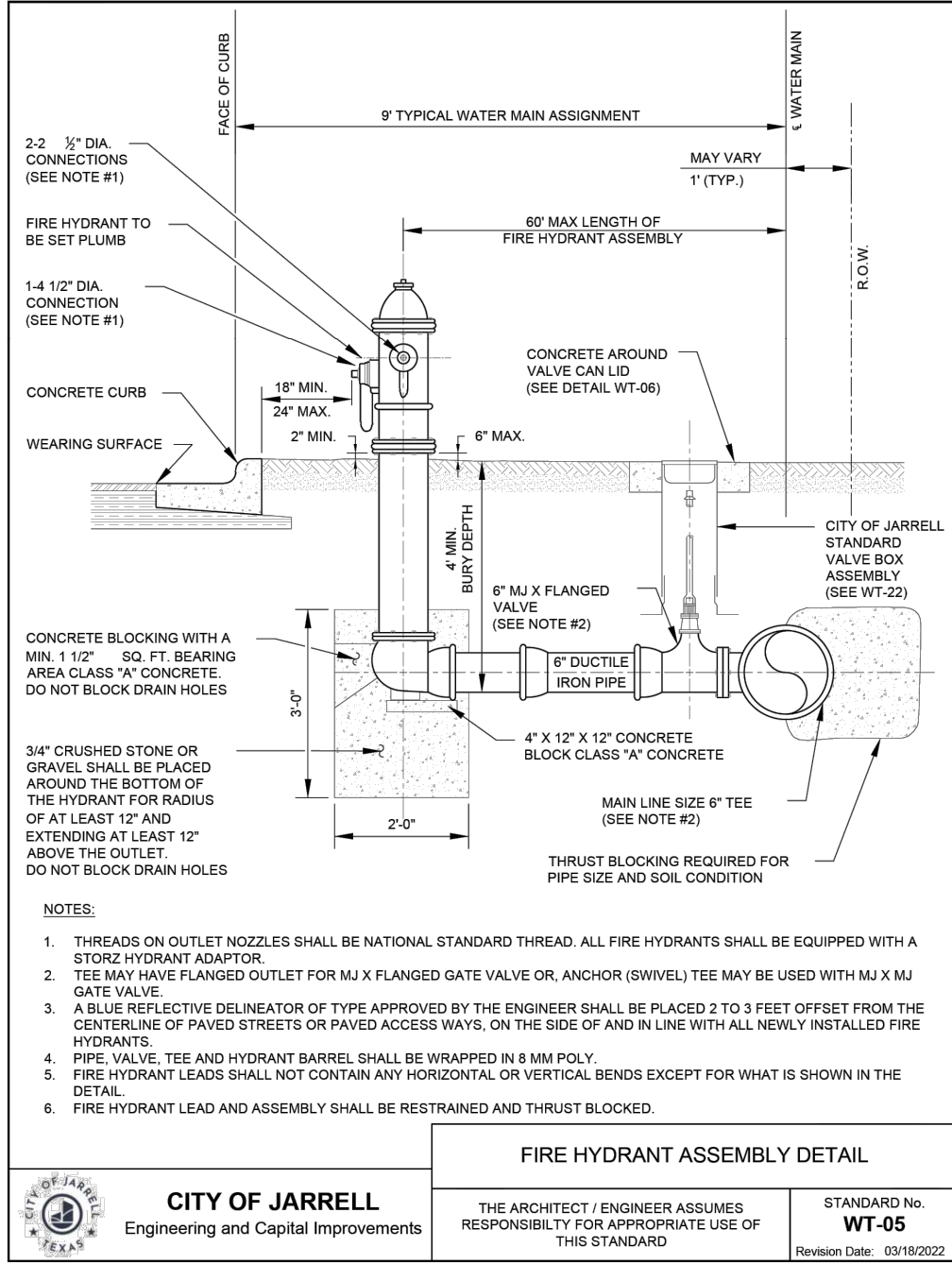
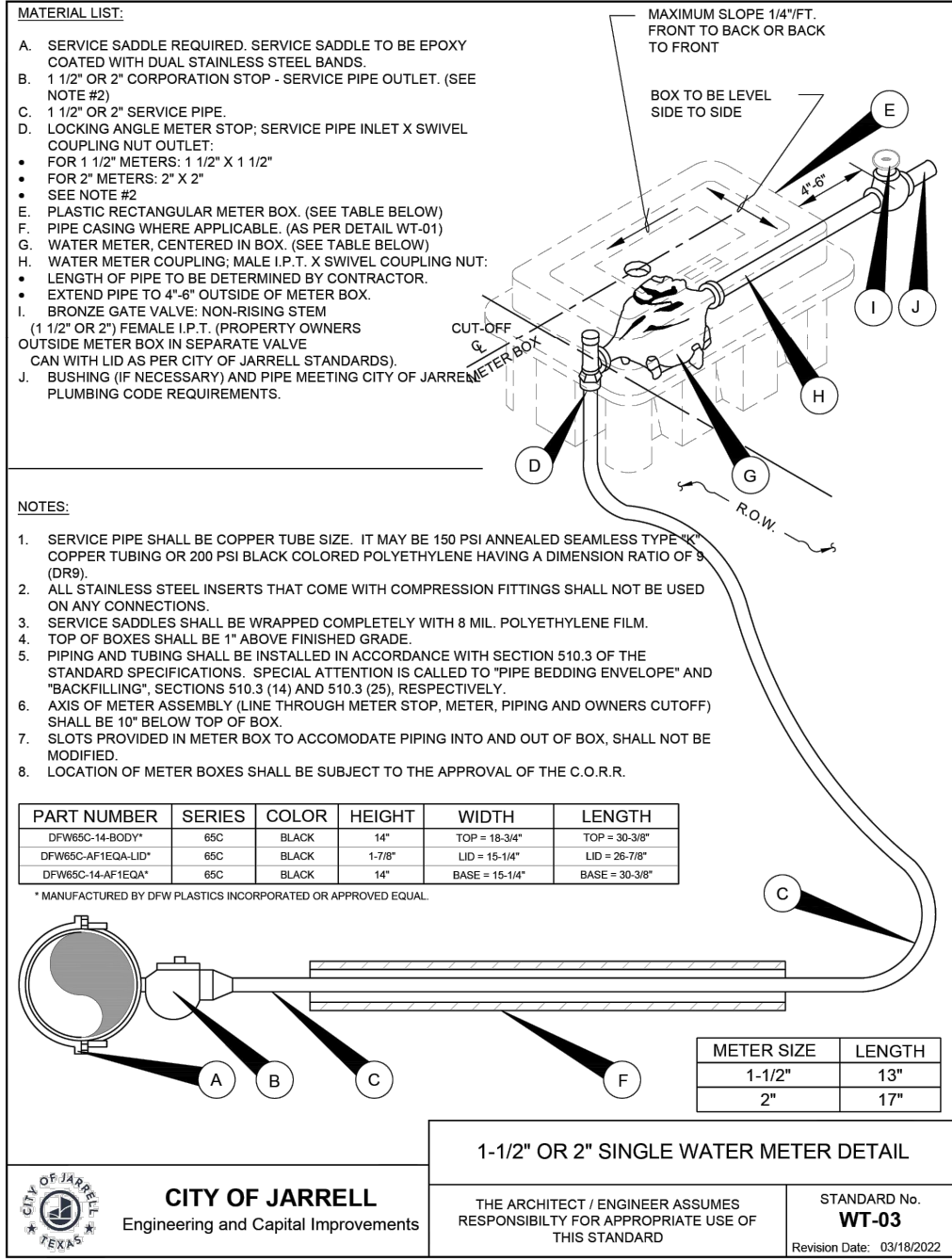
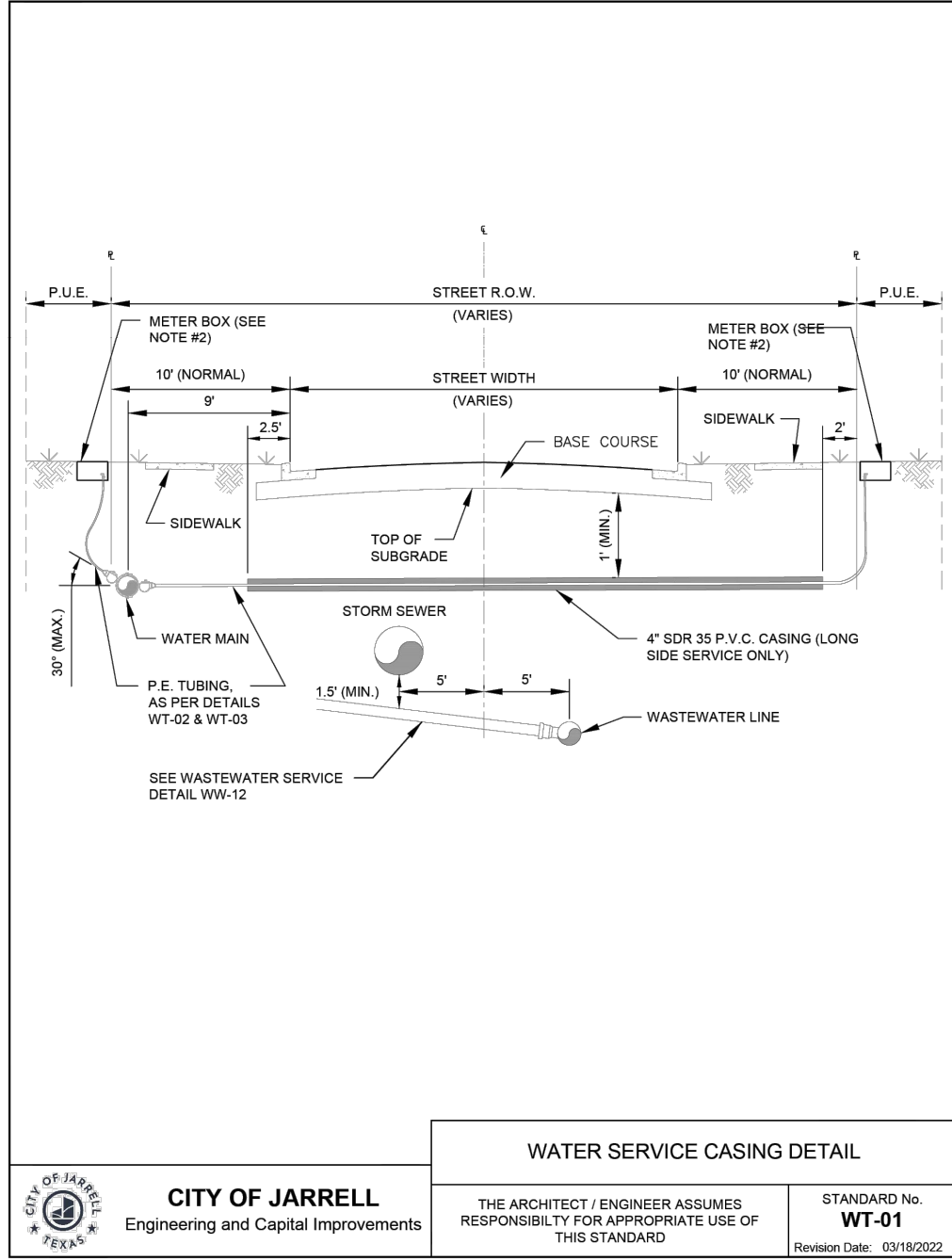
POND CROSS SECTIONS

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

19

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BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV. =822.21
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

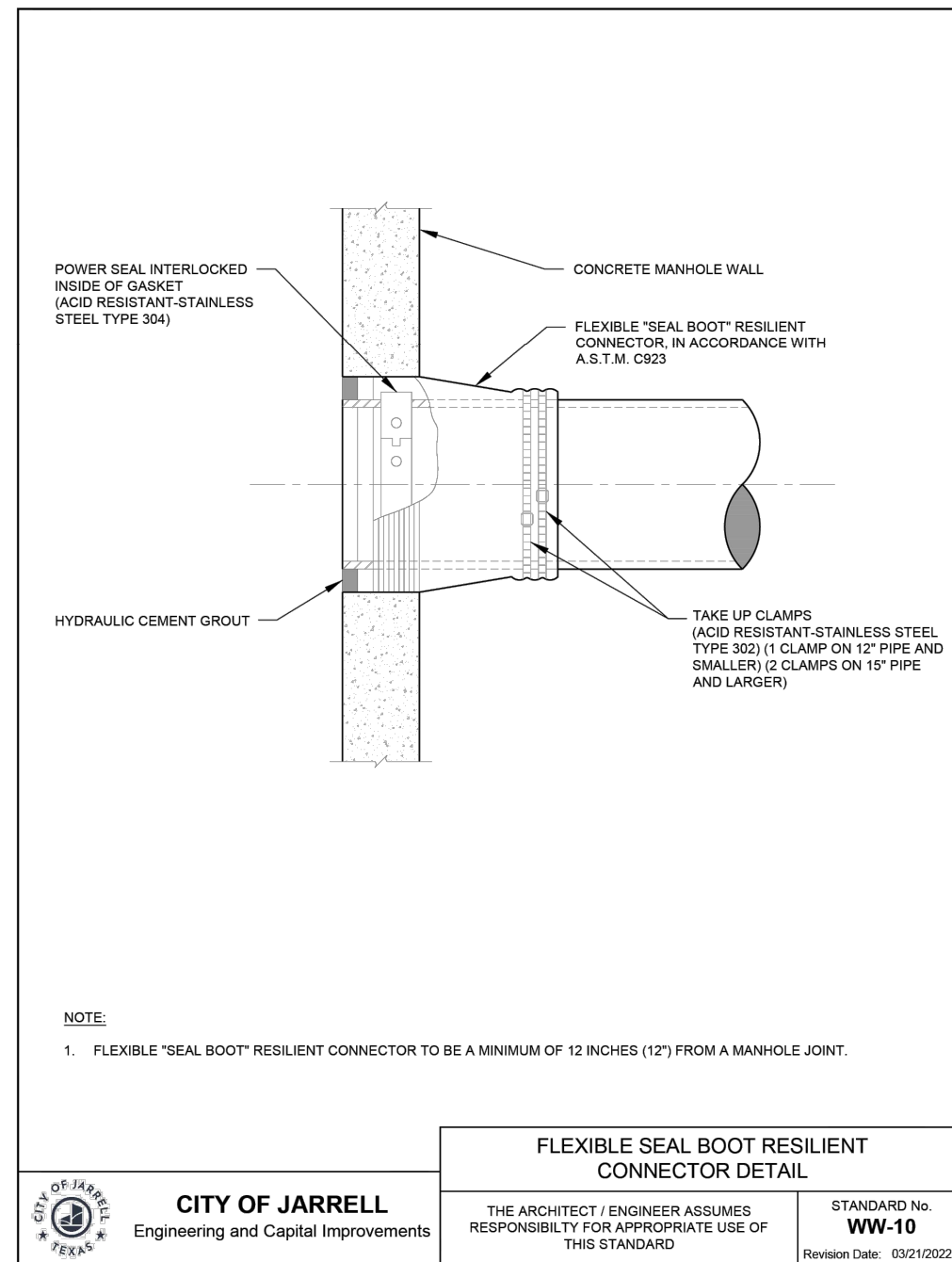
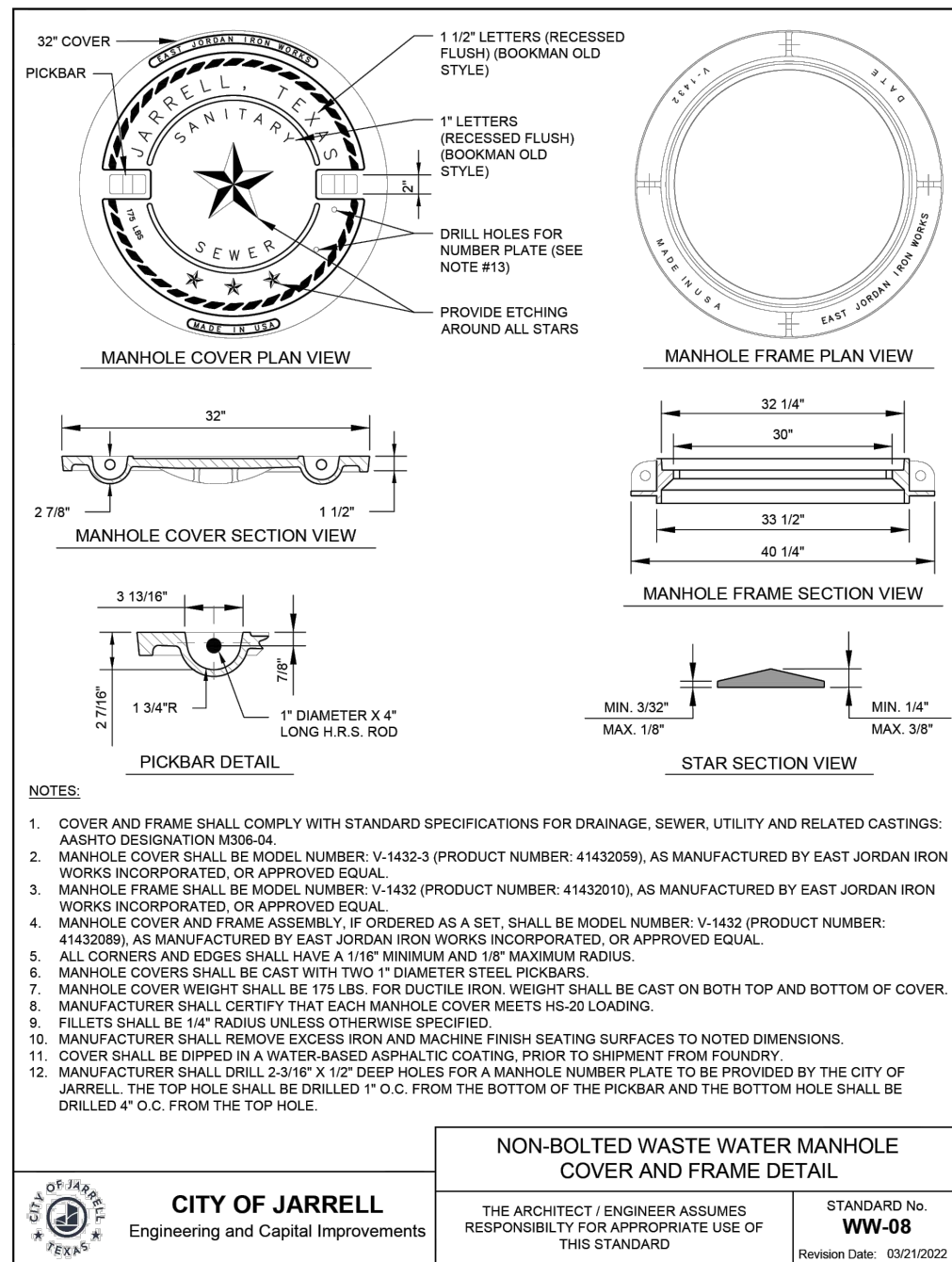
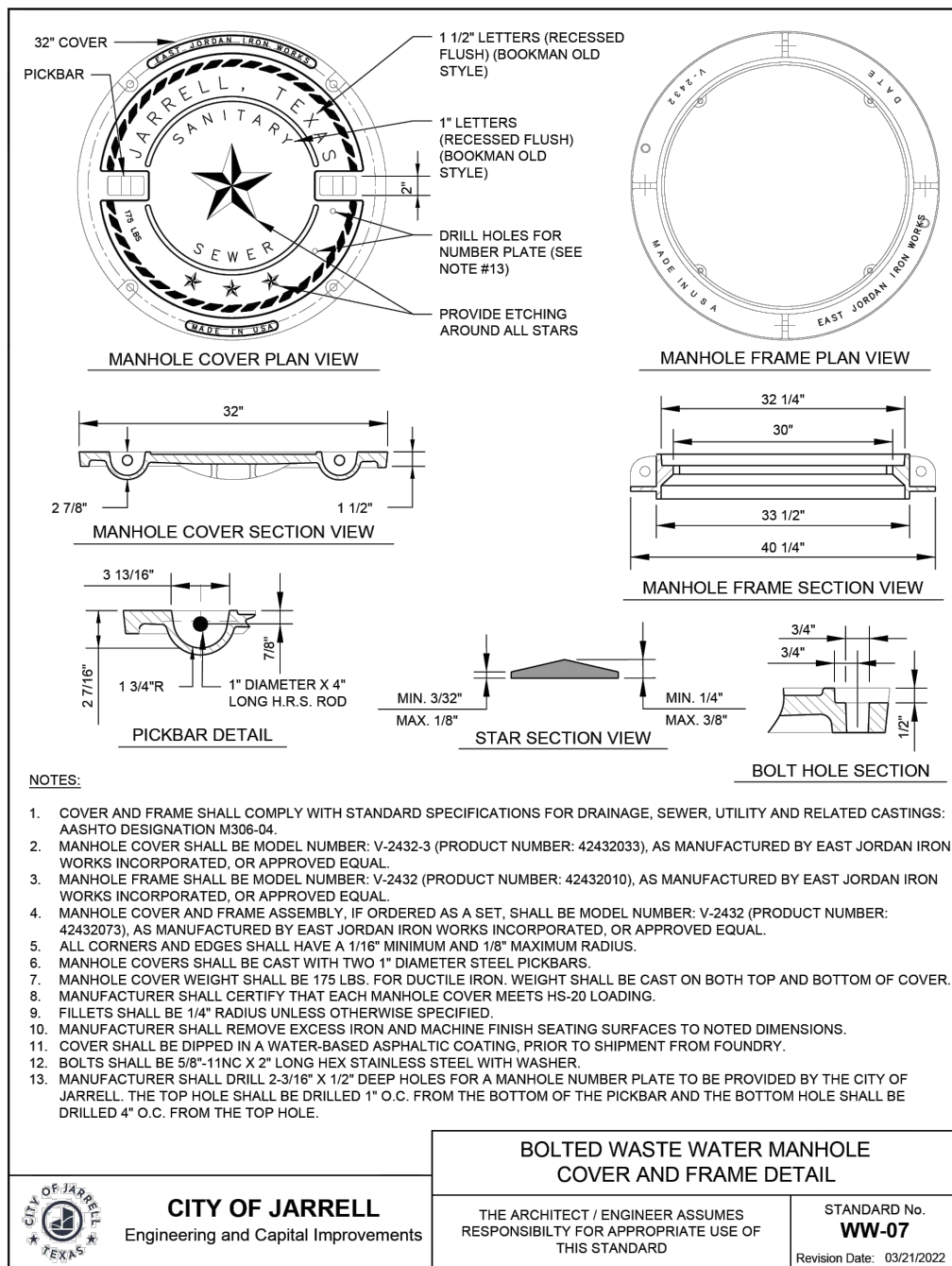
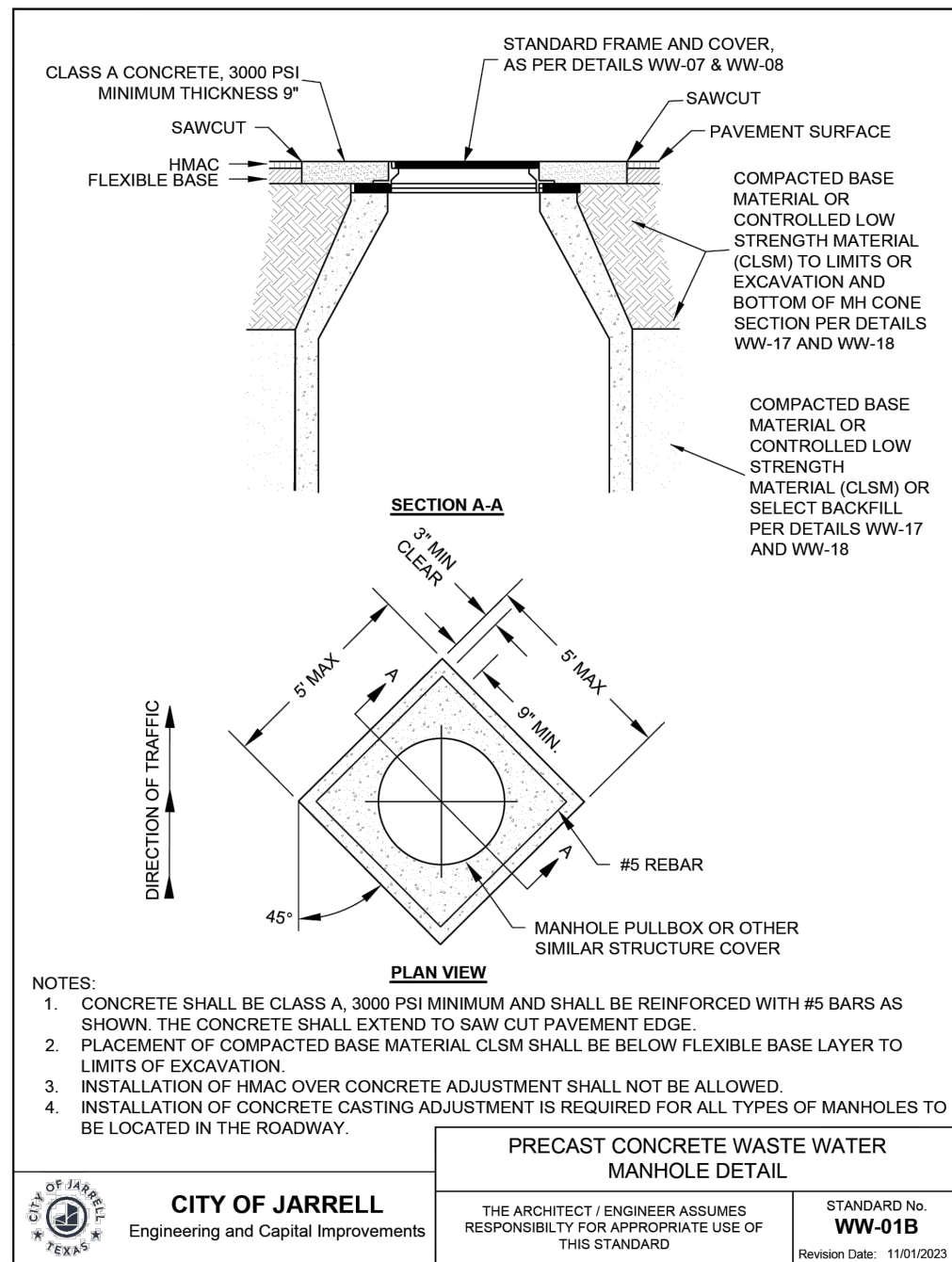
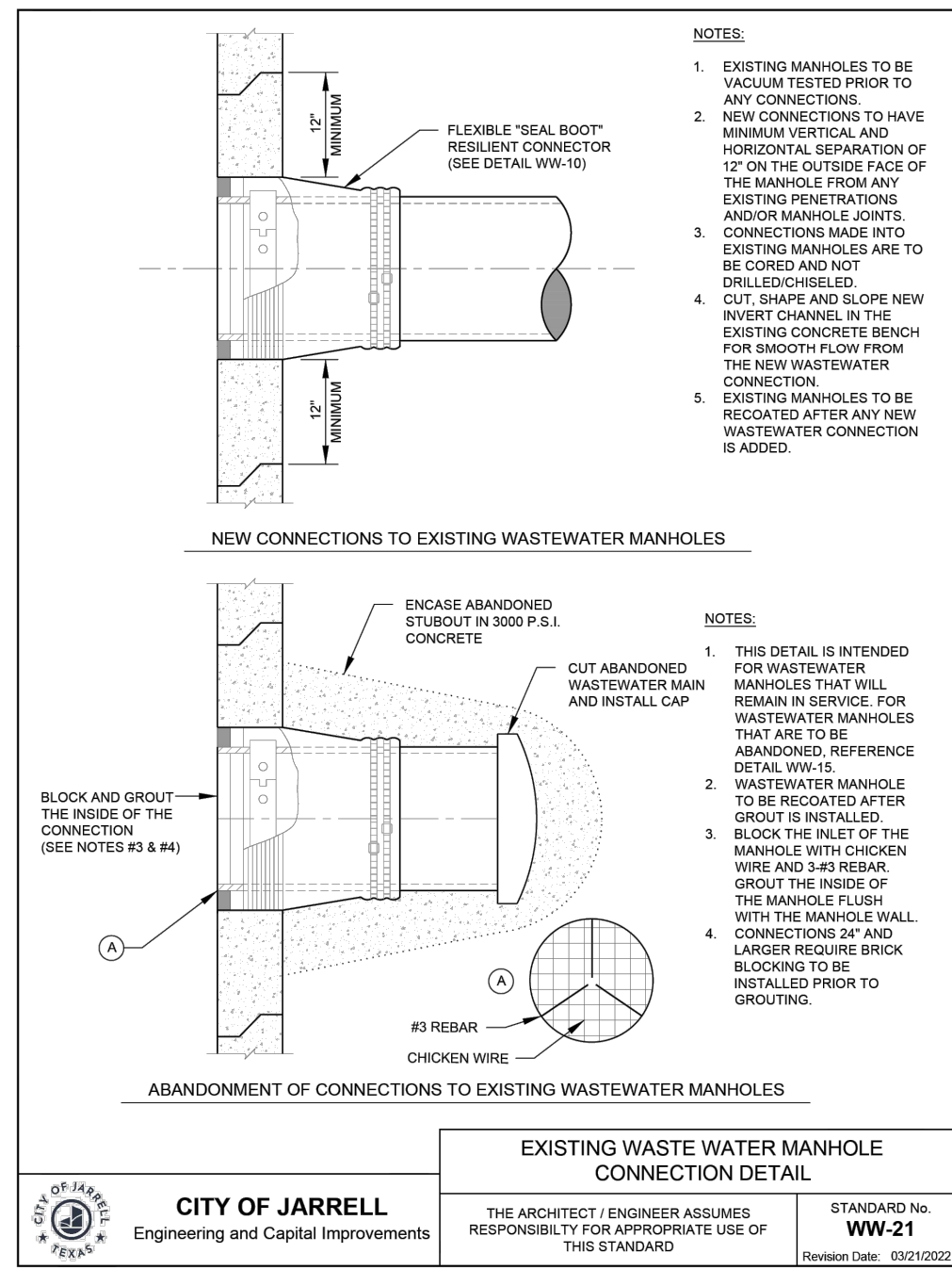
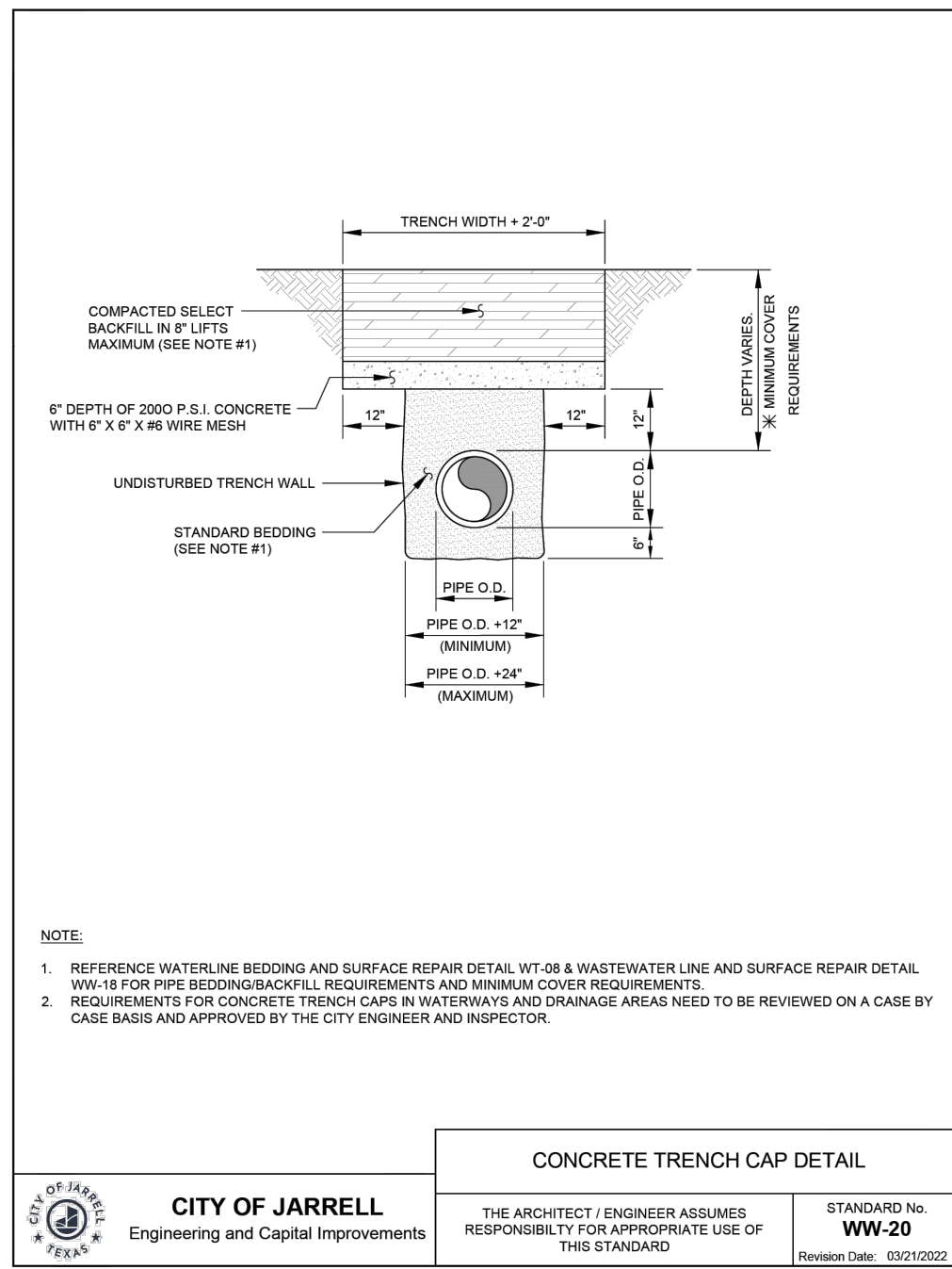
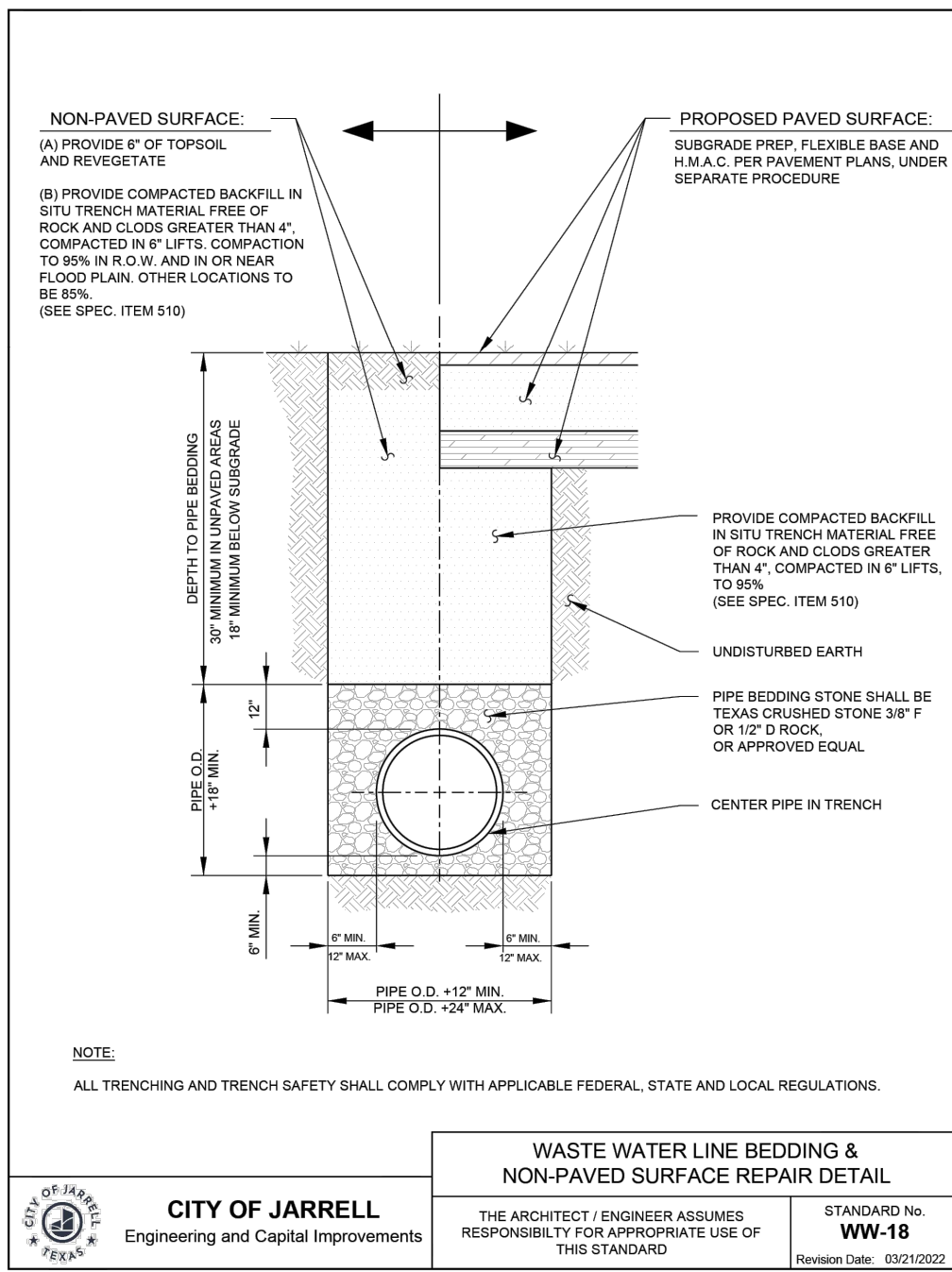
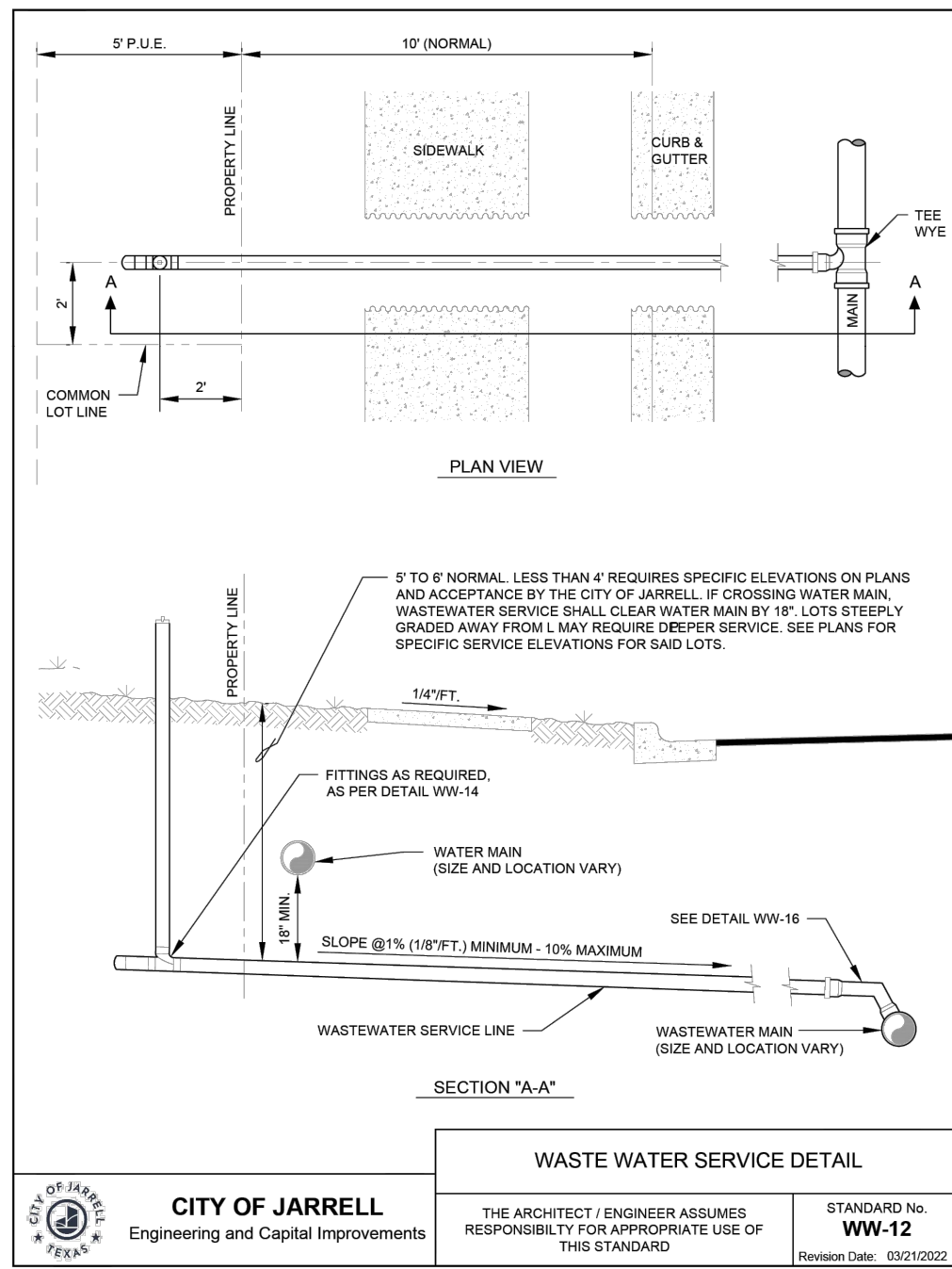
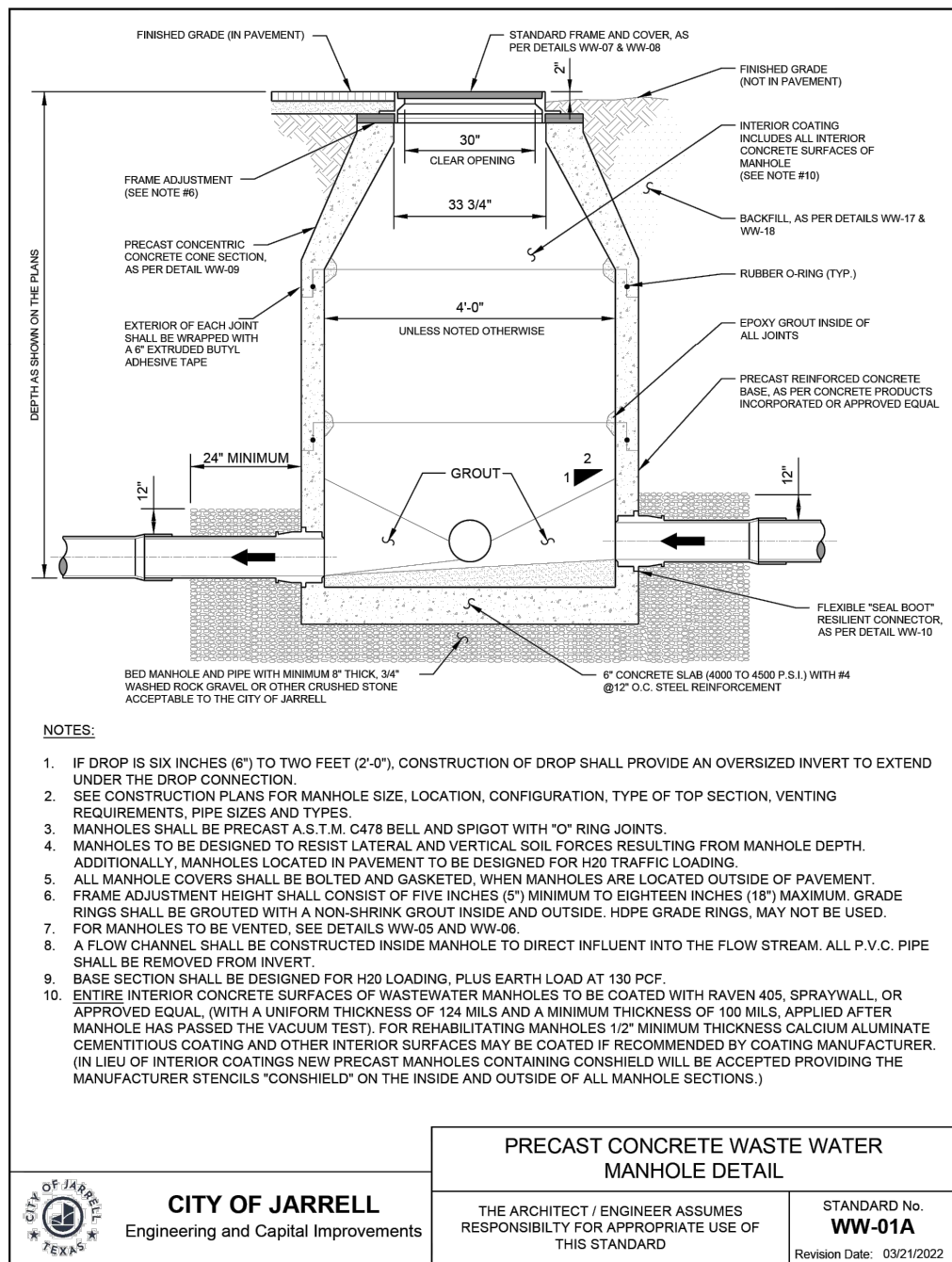
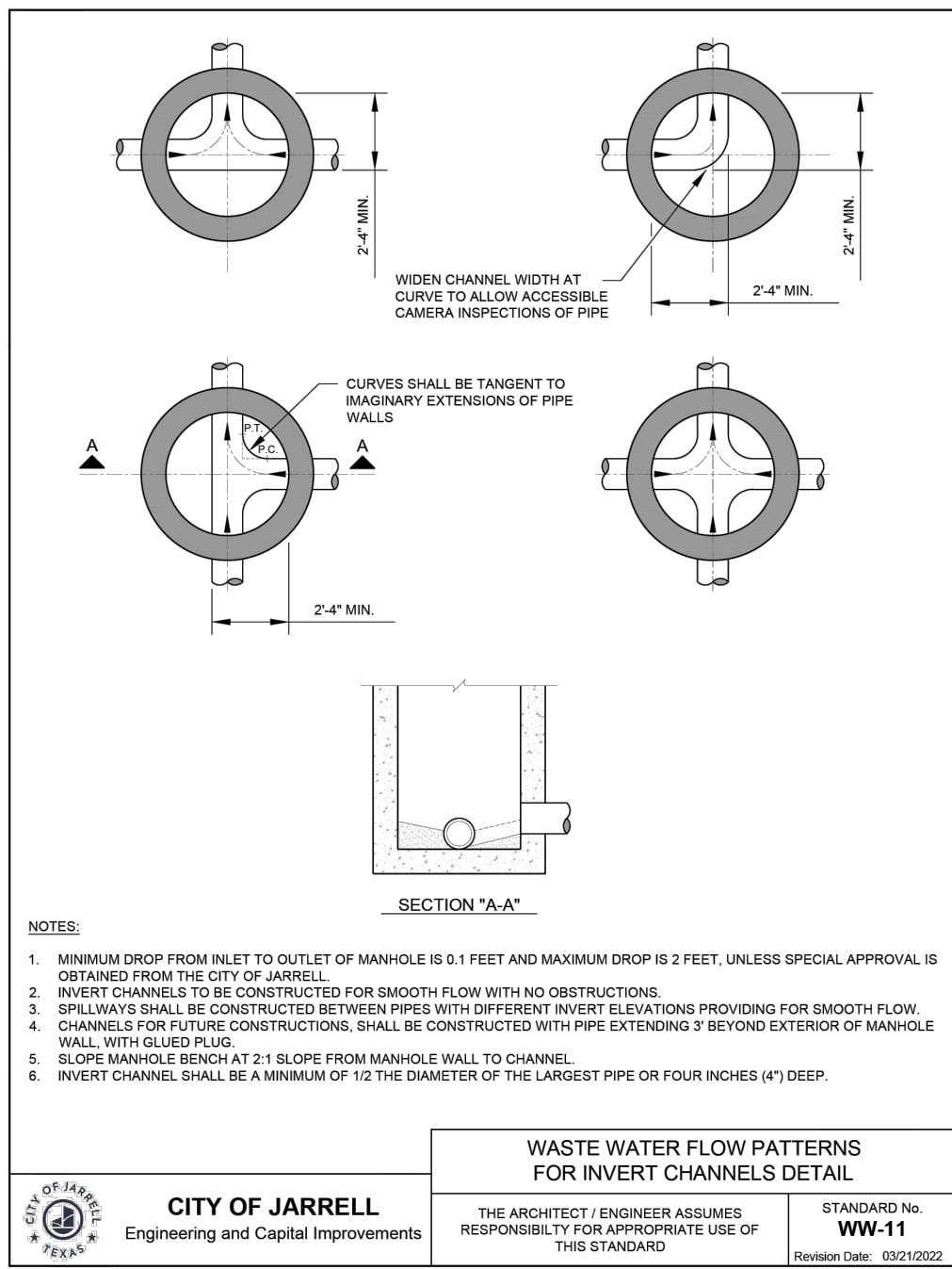
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TEXAS REGISTERED ENGINEERING FIRM F-928

2/09/2024
KHA PROJECT 069427200
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: JDR
DRAWN BY: JDR
CHECKED BY: AEC

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS
SHEET NUMBER
21

Plotted By: Davis, Aaron Date: February 09, 2024 11:35:07am File Path: K:\GEO_Civil\06427200-Jarrell Kids Zone\Coat\PlanSheets\C-Wastewater Details.dwg
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BENCHMARKS

BM 7208 - MAG NAIL SET IN CONCRETE
ELEV. =822.21
BM 7210 - MAG NAIL SET IN CONCRETE
ELEV. 823.90

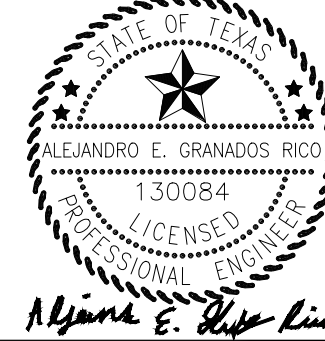
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DH152/DR152

General Features

The model DH152 or DR152 grinder pump station is a complete unit that includes: two grinder pumps, check valve, polyethylene tank, controls, and alarm panel. A single DH152 or DR152 is ideal for up to four, average single-family homes and can also be used for up to 12 average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 3000 gpd (11,356 lpd)
- 150 gallons (568 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 93 inches to 160 inches

The DH152 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrations.

The DR152 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.

Operational Information

Motor

1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections

4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

Discharge Connections

Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge

15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 2.8 m)
7.8 gpm at 80 psig (0.49 lps at 5.6 m)

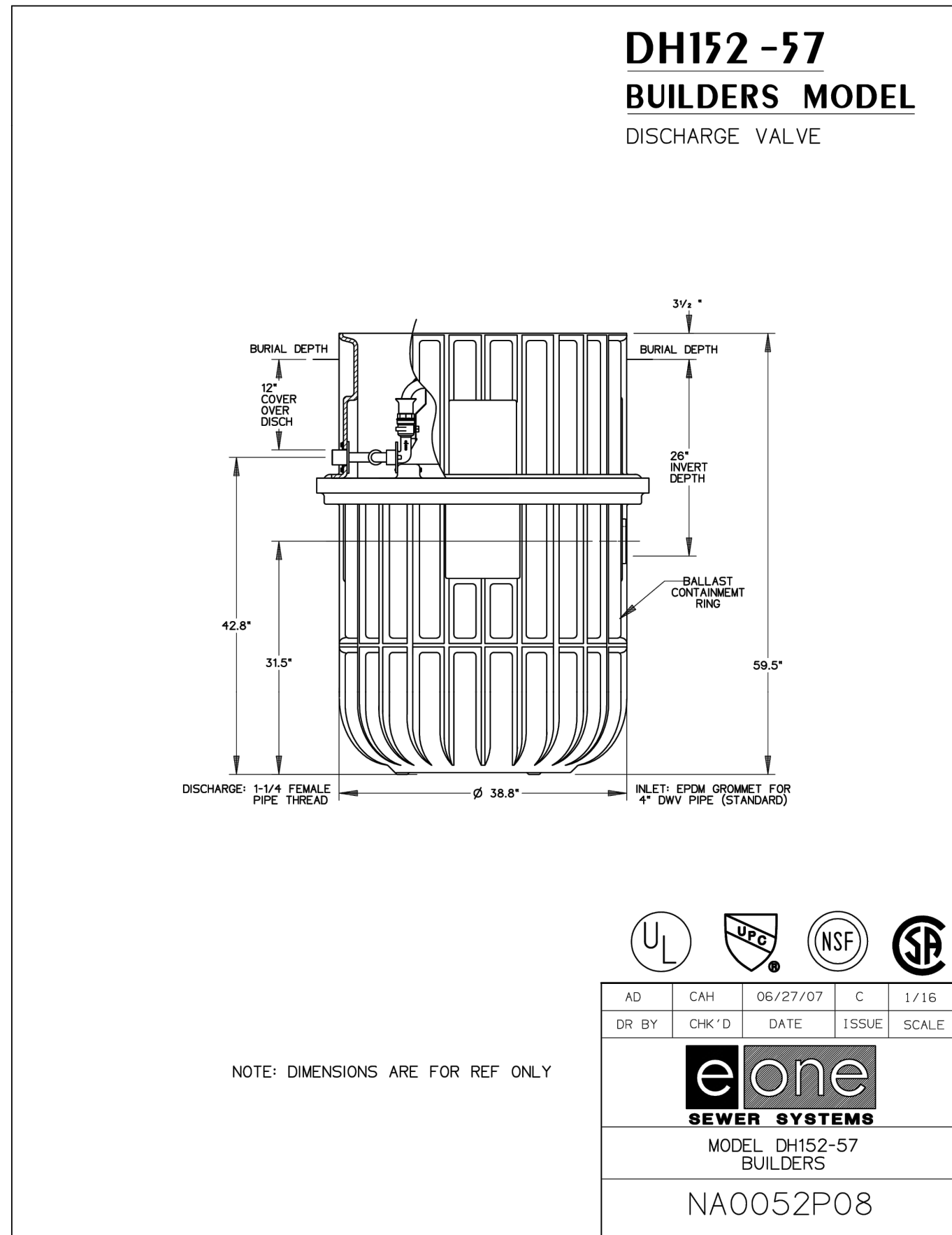
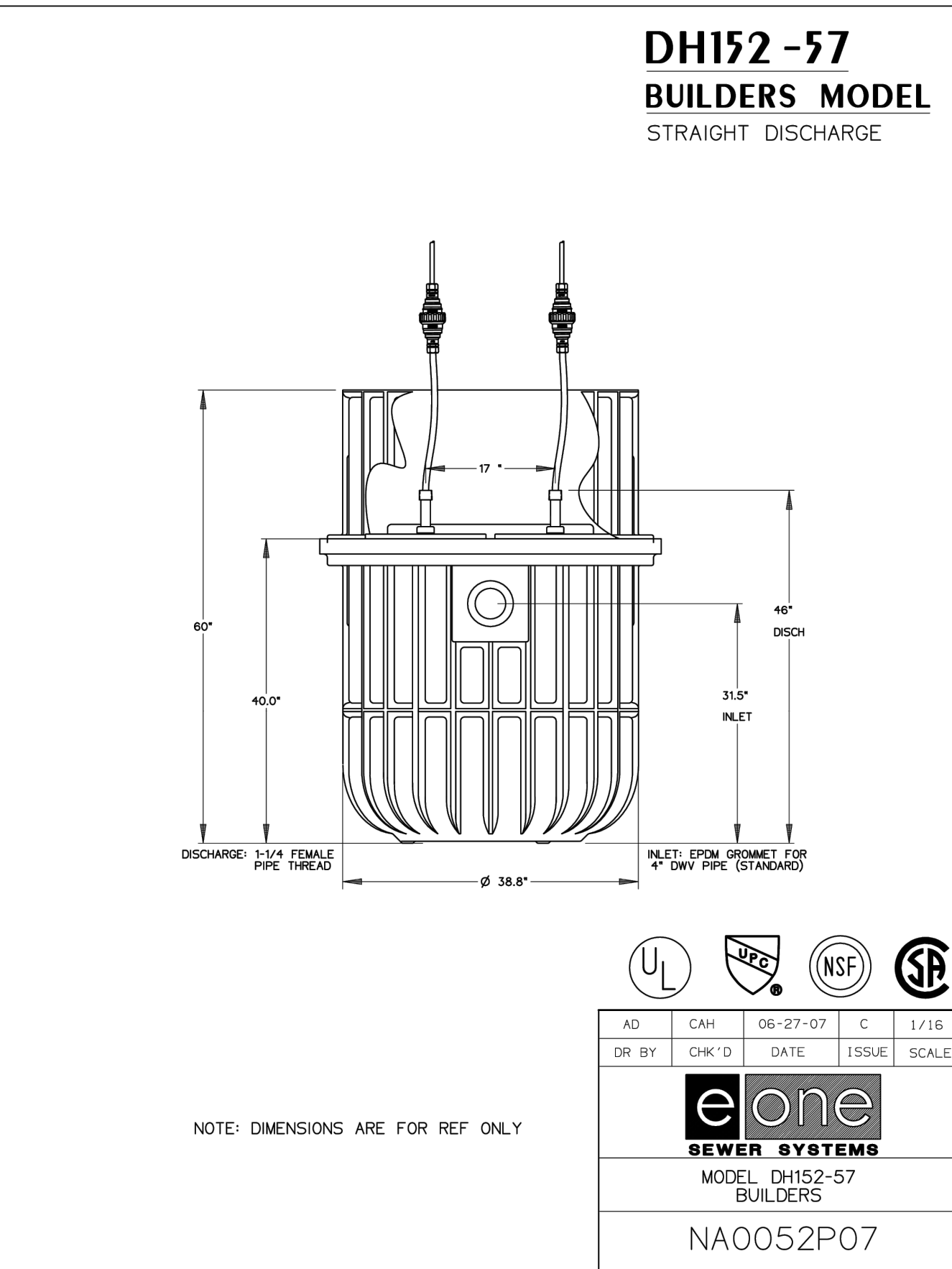
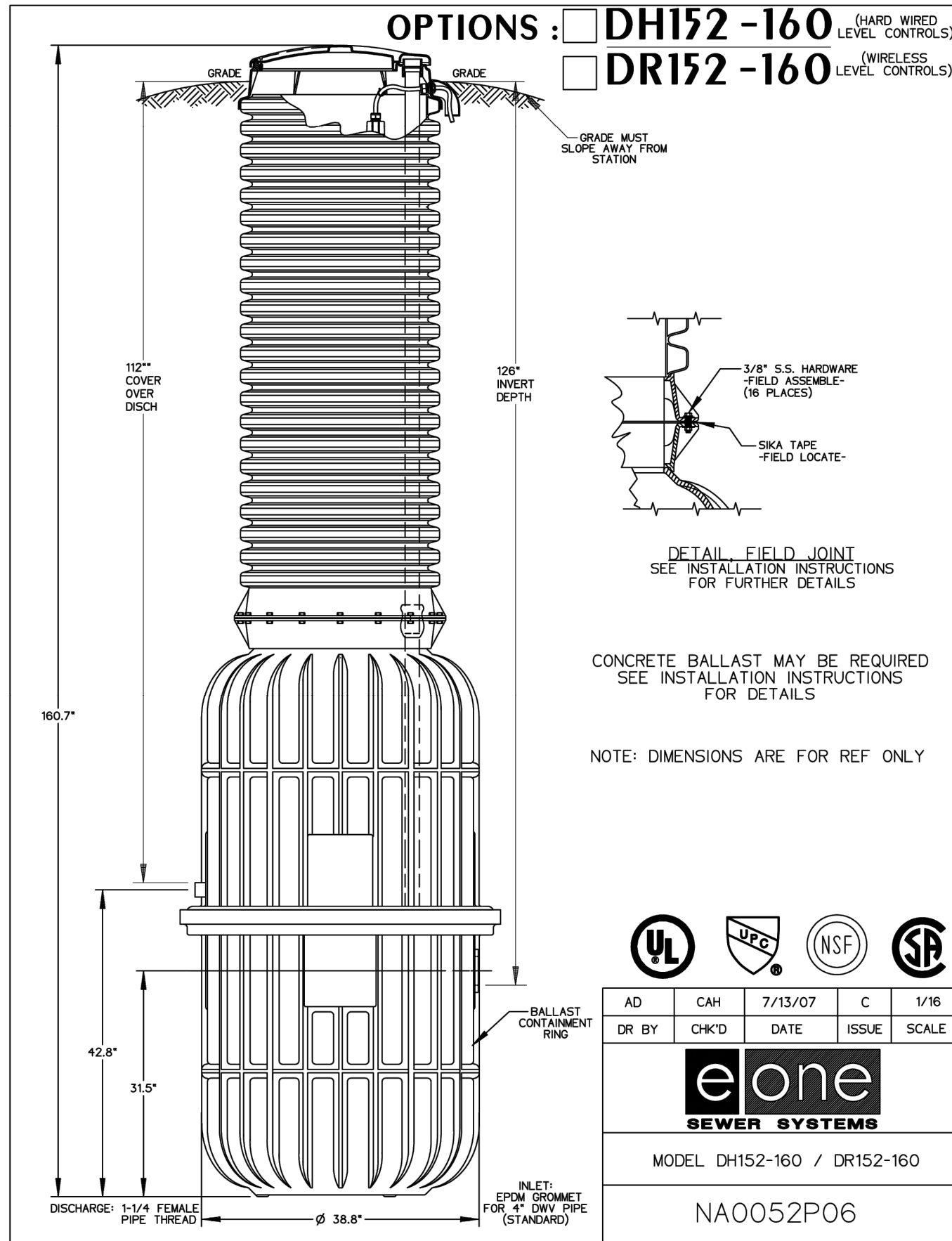
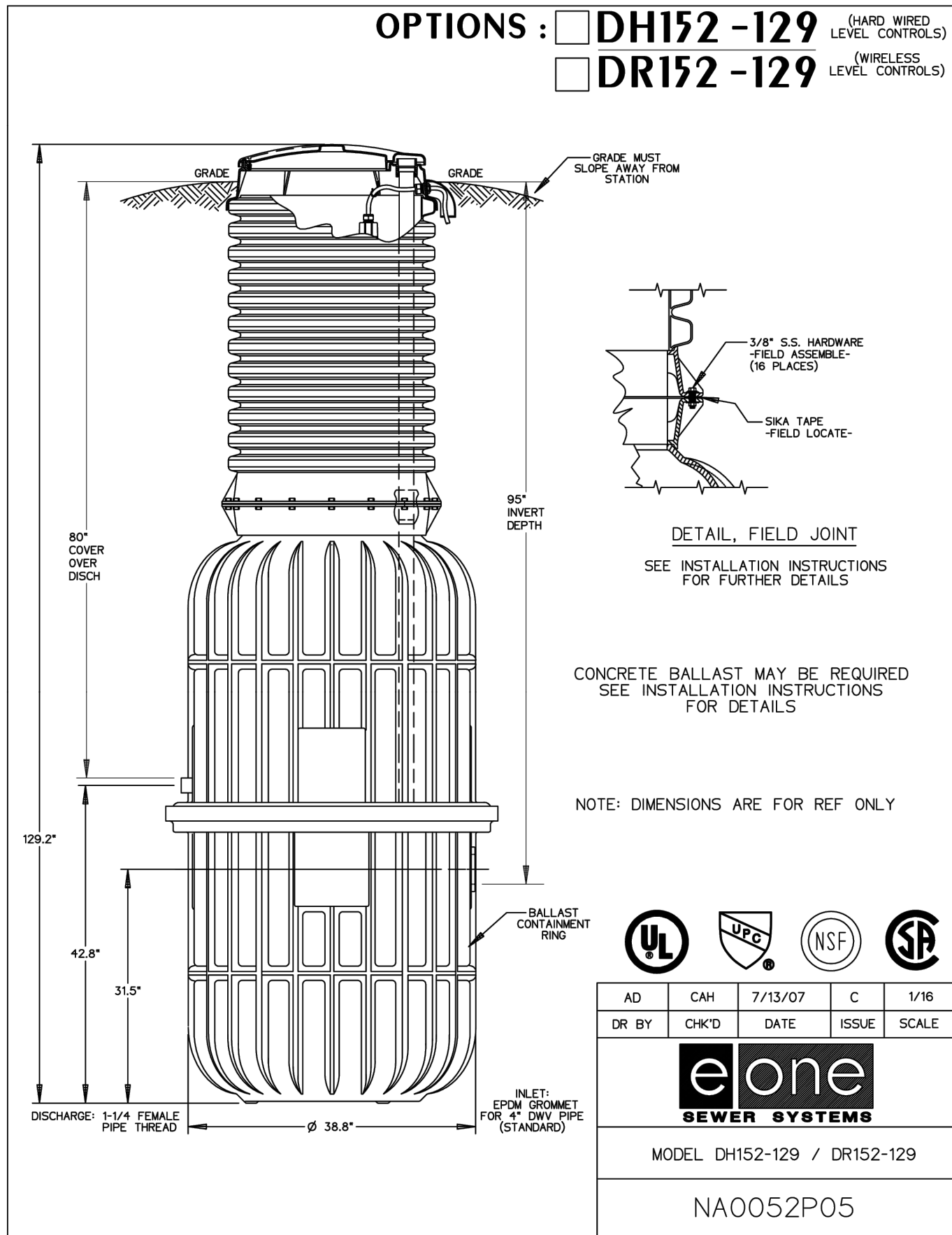
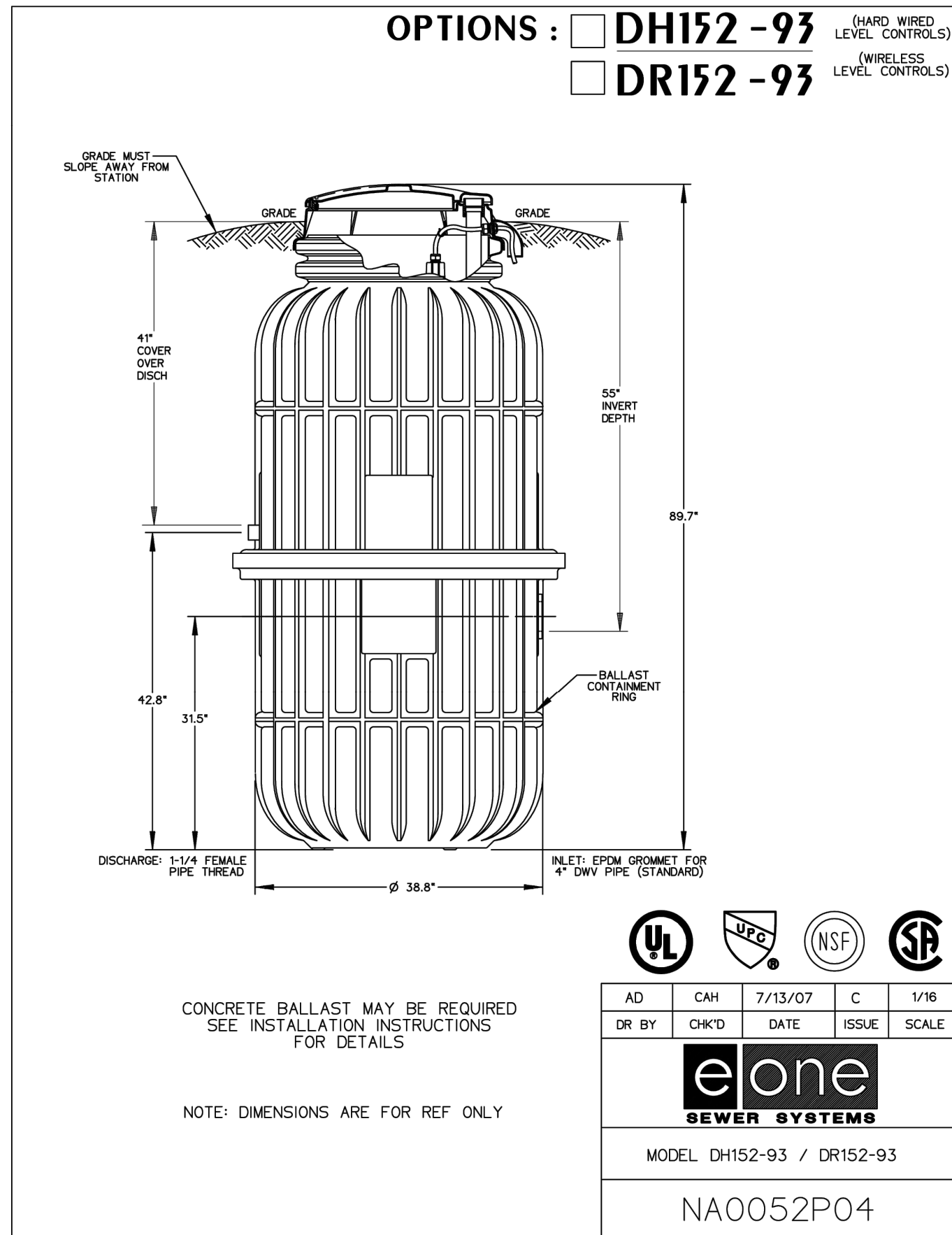
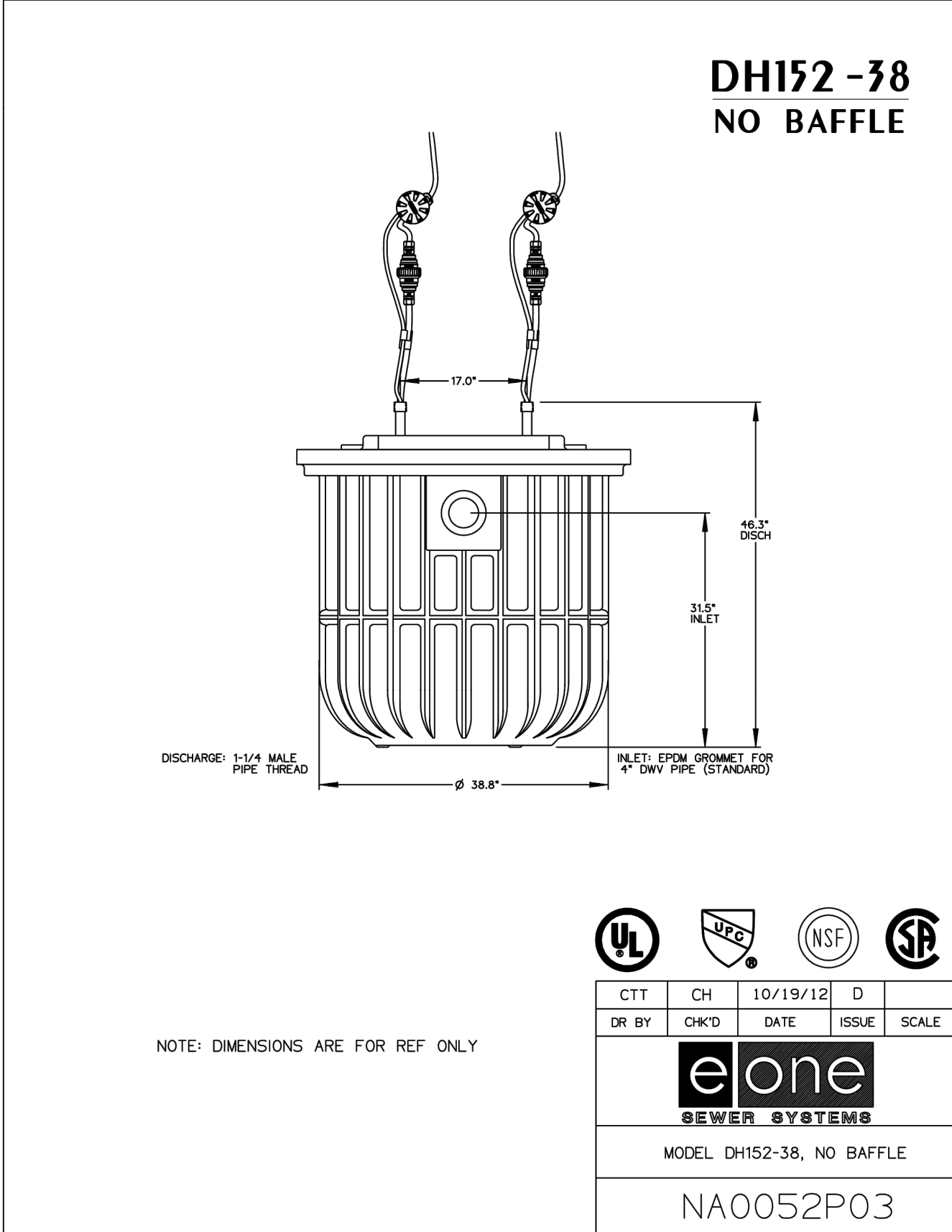
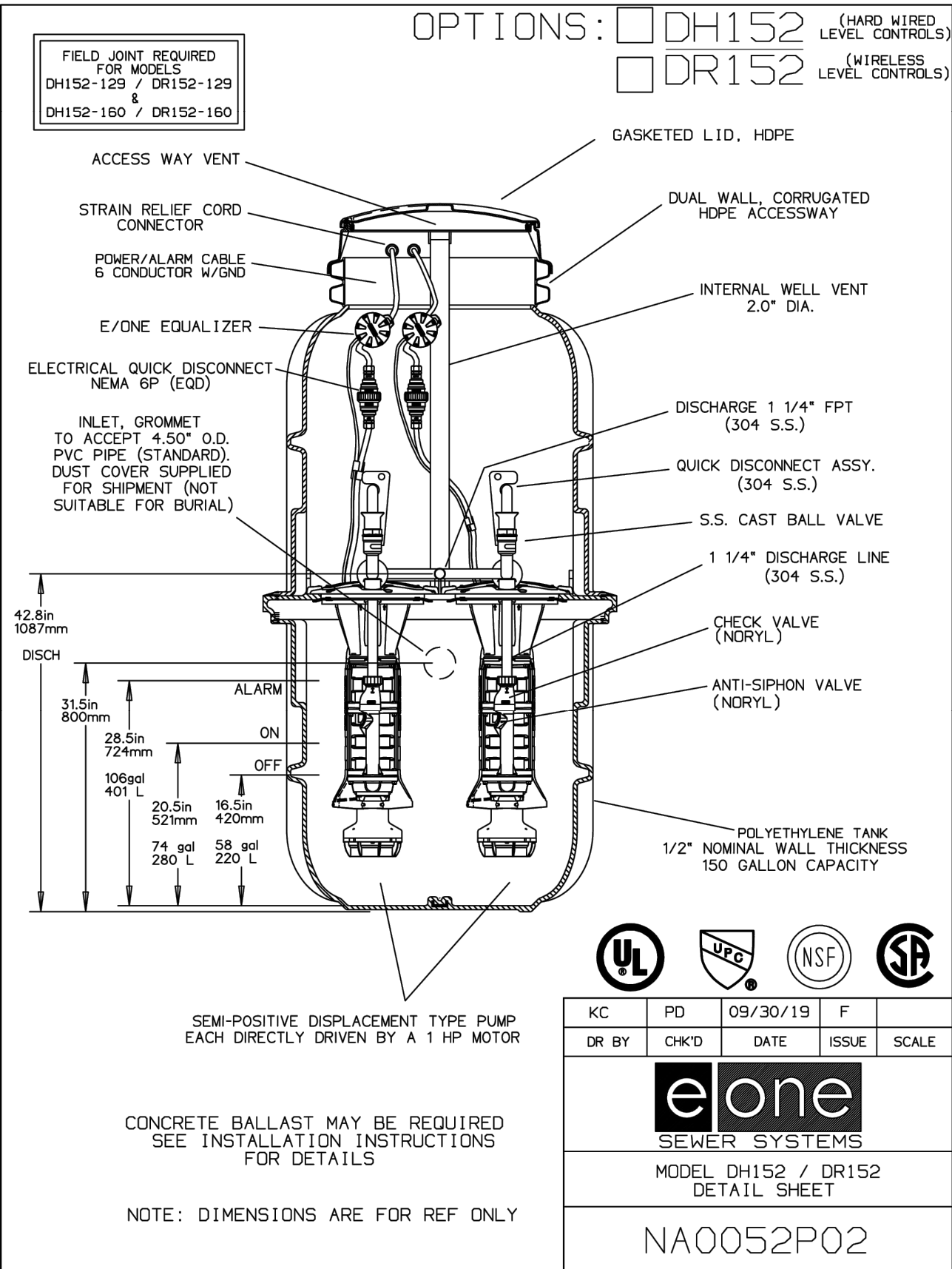
Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

NA0052P01 Rev E



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WASTEWATER DETAILS
(GRINDER PUMP DETAIL)

KID ZONE ON CR307
CITY OF JARRELL
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

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