

WATER POLLUTION ABATEMENT PLAN MODIFICATION

COLONY AT COLE SPRINGS PHASE 1 COLE SPRINGS RD AND OLD BLACK COLONY RD BUDA, HAYS COUNTY, TEXAS

Prepared For:

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Firm No. 928
KHA Project No. 067783115

June 11, 2024



Alejandro E. Granados Rico

06/11/2024

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with [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: Colony at Cole Springs Phase 1					2. Regulated Entity No.: 111401139				
3. Customer Name: M/I Homes of Austin, LLC Meritage Homes of Texas, LLC					4. Customer No.: 604305250, 603298068				
5. Project Type: (Please circle/check one)	New		<u>Modification</u>			Extension		Exception	
6. Plan Type: (Please circle/check one)	<u>WPAP</u>	CZP	SCS	UST	AST	EXP	EXT	Technical Clarificatio	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	<u>Residential</u>		Non-residential			8. Site (acres):		29.43	
9. Application Fee:	\$4,000		10. Permanent BMP(s):				Batch Detention Pond		
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):				N/A		
13. County:	Hays		14. Watershed:				Onion 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)	<u> X </u>	—	—
Groundwater Conservation District(s)	<u> </u> Edwards Aquifer Authority <u> X </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> X </u> Buda <u> </u> Dripping Springs <u> </u> Kyle <u> </u> Mountain City <u> </u> San Marcos <u> </u> Wimberley <u> </u> Woodcreek	<u> </u> Austin <u> </u> Bee Cave <u> </u> Pflugerville <u> </u> Rollingwood <u> </u> Round Rock <u> </u> Sunset Valley <u> </u> West Lake Hills	<u> </u> Austin <u> </u> Cedar Park <u> </u> Florence <u> </u> Georgetown <u> </u> Jerrell <u> </u> Leander <u> </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

6/11/2024

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 1: 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: June 11, 2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Colony at Cole Springs Phase 1

2. County: Hays

3. Stream Basin: Onion 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: Kyle Kriegel

Entity: M/I Homes of Austin, LLC

Mailing Address: 7600 N. Capital of Texas Hwy.; Bldg. C, Suite 250

City, State: Austin, TX

Zip: 78731

Telephone: 512-770-8524

Fax: N/A

Email Address: kkriegel@mihomes.com

Contact Person: Brandon Hammann

Entity: Meritage Homes of Texas, LLC

Mailing Address: 12301 Research Blvd, Suite 400

City, State: Austin, TX

Zip: 78759

Telephone: 512-610-4816

Fax: N/A

Email Address: brandon.hammann@meritagehomes.com

8. Agent/Representative (If any):

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

Entity: Kimley-Horn

Mailing Address: 501 S. Austin Ave, Suite 1310

City, State: Georgetown, Texas

Zip: 78626

Telephone: 512-520-0768

Fax: N/A

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

9. Project Location:

☒ The project site is located inside the city limits of Buda.

☐ 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. Intersection of Cole Springs Rd and Old Black Colony Rd

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: TBD

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.

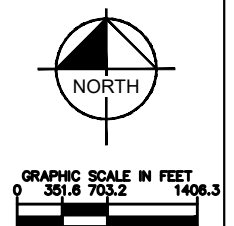


Road Map



DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
2. USE LEFT LANE TO TAKE RAMP ONTO IH-35 AND CONTINUE SOUTH
3. TAKE EXIT 221 TOWARD MAIN STREET AND CONTINUE SOUTH ON S IH-35 FRONTAGE ROAD
4. SLIGHT RIGHT TOWARD MAIN ST/OLD NORTH LOOP 4
5. TURN RIGHT ONTO FM 967/LIVE OAK ST
6. TURN LEFT ONTO COLE SPRINGS RD
7. TURN RIGHT ONTO OLD BLACK COLONY RD
8. CONTINUE PAST ANTIOCH COLONY PARK FOR 0.2 MILES
9. SITE IS LOCATED ON THE LEFT



SHEET

EX A

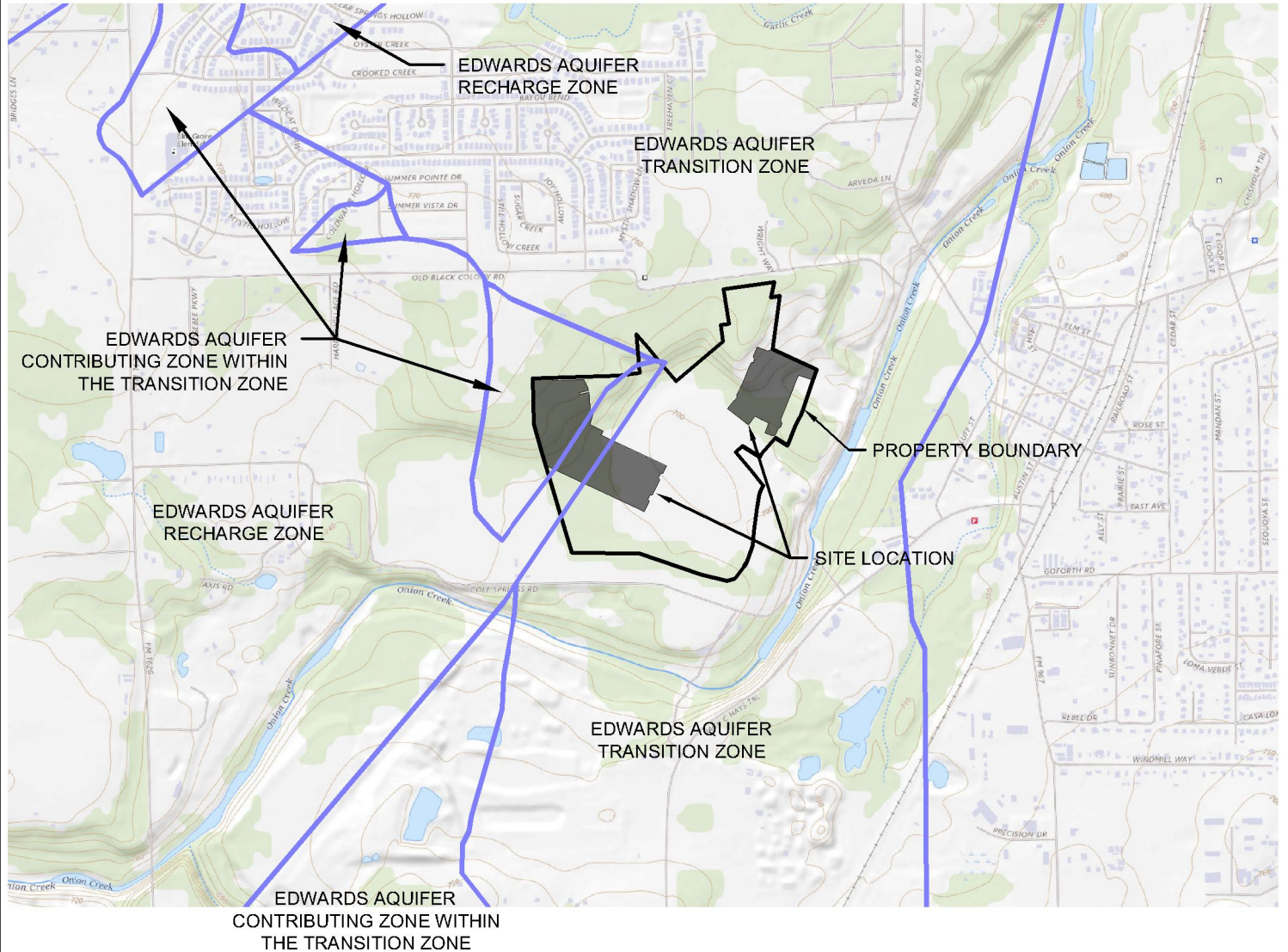
COLONY AT COLE SPRINGS PH 2

Buda, Texas
April 2024

Kimley»Horn

501 S. AUSTIN AVE, SUITE 1310
GEORGETOWN, TX 78626
PHONE: (512) 520-0768

USGS/Edwards Recharge Zone Map



SHEET

EX B

COLONY AT COLE SPRINGS PH 2

Buda, Texas
April 2024

Kimley»Horn

501 S. AUSTIN AVE, SUITE 1310
GEORGETOWN, TX 78626
PHONE: (512) 520-0768

Introduction

The subject site that is located in the Edwards aquifer recharge zone and contributing zone within the transition zone totals 29.43 acres and is a largely undeveloped lot located on Cole Springs Rd and Old Black Colony Rd and within the Full Purpose city limits of the City of Buda. The subject property is part of a larger development, Colony at Cole Springs, which encompasses ±178 acres and will comprise of residential single-family. This modification adds 18.62 acres from Phase 2 to the previously approved 10.81 acres from Phase 1 to total 29.43 acres of development in the Edward's aquifer recharge zone and contributing zone within the transition zone.

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. Note that no area in within the Recharge Zone or Contributing Zone within the Recharge Zone lies within the FEMA 100-year floodplain.

Current Tract Conditions

Legal Description

The legal description is described as 117.43 acres of land in the Hiram Cummings Survey, Phillips J. Allen Survey, A-1 & S.V.R. Eggleston Survey Abstract No. 5 City of Buda, Hays, County, Texas.

Land Use

The lot is zoned as a PUD following regulations for R-3 and F4 zonings, the site resides within the Full Purpose city limits of the City of Buda in Hays County, Texas.

Existing Drainage Conditions

Under existing conditions, the site generally flows from West to East. The site is part of two watersheds, with both discharging into onion creek along the eastern property boundary. This flow is then carried off the property to the North.

Proposed Development

The proposed Colony at Cole Springs Phase 2 includes construction of 179 lots of single-family residential development. Water and wastewater lines will be designed according to City of Buda specifications and connect to City of Buda utility services. Access to the site will be through two proposed driveways along FM 967 and Jack C. Hays Rd. The overall subdivision project encompasses 181.90 acres and proposes 68.61 acres (37.69%) of total impervious cover. Stormwater in Phase 2 will be treated according to TCEQ requirements through two (2) existing on site Batch Detention Ponds. The flow will be discharged east of the site and then into Onion Creek. A timing study was performed, and it was determined detention has a negative impact, therefore a detention waiver was approved.

For the purposes of this Water Pollution Abatement Plan, the project area will be defined by the 29.43 acres of the site located in Phases 1 and 2 that are within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone that flows to the Recharge Zone, with 12.26 acres of impervious cover [3.92 previously approved, and an additional 8.34 with this modification] (which includes a total of 100 single family lots, 1 water tower lot, and other associated impervious cover) within this project area.

Drainage and Water Quality Analysis

Floodplain Information

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209Co280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. No portion of the area within the Recharge and Contributing Zone within the Transition Zone lies within the 100-year floodplain.

On-Site Drainage

The proposed Phase 2 site will convey runoff through an underground storm pipe system into two (2) existing on site Batch detention ponds (Pond 2 and Pond 3). The water quality ponds were sized for treatment, but no detention ponds are being proposed with an approved Detention Waiver Request. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, 353.33 acres of offsite water enters the site from the West. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Colony at Cole Springs Phase 2 will address the water quality requirements for the ultimate area disturbed. Phase 2 will include drainage to two (2) Batch Detention Ponds: Pond 2 and Pond 3, that are existing and approved in Phase 1. Pond 1, another batch detention pond will be constructed in a later phase as part of overall water quality for the entire subdivision. All of the area in Phase 2 within the recharge and contributing zone within the transition zone will be routed to Pond 2. Offsite drainage has no impervious cover and is remaining in its natural state; therefore no treatment will be provided for these areas. 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, along with a map showing the designated area for this modification.

For the purpose of this Water Pollution Abatement Plan, water quality for the areas of the project within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone will be provided solely by existing Pond 2. There will be no area in Phase 2 within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone that will drain to existing Pond 3.

No detention ponds are proposed as it would negatively impact the timing. The detention waiver study has been provided for reference.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed water quality ponds located on-site. The water quality ponds will discharge onto proposed rock rip rap and eventually into Onion Creek.

SECTION 2: MODIFICATION OF A PREVIOUSLY APPROVED PLAN

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Alex Granados

Date: 6/11/2024

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Colony at Cole Springs Phase 1
Original Regulated Entity Name: Colony at Cole Springs Phase 1
Regulated Entity Number(s) (RN): RN111401139
Edwards Aquifer Protection Program ID Number(s): 11002864
☒ The applicant has not changed and the Customer Number (CN) is: 604305250
☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.
2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
- ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
 - ☐ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
 - ☒ Development of land previously identified as undeveloped in the original water pollution abatement plan;
 - ☐ Physical modification of the approved organized sewage collection system;
 - ☐ Physical modification of the approved underground storage tank system;
 - ☐ Physical modification of the approved aboveground storage tank system.
4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

<i>WPAP Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Acres	<u>10.81</u>	<u>29.43</u>
Type of Development	<u>Single Family Residential</u>	<u>Single Family Residential</u>
Number of Residential Lots	<u>32</u>	<u>100</u>
Impervious Cover (acres)	<u>3.92</u>	<u>12.26</u>
Impervious Cover (%)	<u>36.26%</u>	<u>41.66%</u>
Permanent BMPs	<u>Batch Detention Pond</u>	<u>Batch Detention Pond</u>
Other	<u>N/A</u>	<u>N/A</u>
<i>SCS Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Linear Feet	<u>N/A</u>	<u>N/A</u>
Pipe Diameter	<u>N/A</u>	<u>N/A</u>
Other	<u>N/A</u>	<u>N/A</u>

<i>AST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of ASTs	<u>N/A</u>	<u>N/A</u>
Volume of ASTs	<u>N/A</u>	<u>N/A</u>
Other	<u>N/A</u>	<u>N/A</u>

<i>UST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of USTs	<u>N/A</u>	<u>N/A</u>
Volume of USTs	<u>N/A</u>	<u>N/A</u>
Other	<u>N/A</u>	<u>N/A</u>

5. ☒ **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.
6. ☒ **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
 - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
 - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
 - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
 - ☒ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
 - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.
7. ☒ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
 - ☐ Acreage has not been added to or removed from the approved plan.
8. ☒ 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.

ORIGINAL APPROVAL LETTERS AND APPROVED MODIFICATION LETTERS

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 13, 2022

Mr. William Peckman
M/I Homes of Austin, LLC
7600 N. Capital of Texas Hwy, Suite 250
Austin, TX 78731-1245

Mr. Elliot Jones
Meritage Homes of Texas, LLC
8920 Business Park Drive, Suite 350
Austin, TX 78759

Re: Edwards Aquifer, Hays County

NAME OF PROJECT: Colony at Cole Springs Phase 1; Located 1.25 Miles from FM 1626 on Cole Springs Rd; Buda, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP) and an Organized Sewage Collection System (SCS); 30 Texas Administrative Code (TAC) Chapter 213 & 217 Edwards Aquifer

Edwards Aquifer Protection Program ID Nos. 11002864 (WPAP) and 11002865 (SCS); Regulated Entity No. RN111401139

Dear Mr. Peckman and Mr. Jones:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP and SCS applications for the above-referenced project submitted to the Austin Regional Office by Kimley-Horn and Associates, Inc. on behalf of M/I Homes of Austin, LLC and Meritage Homes of Texas, LLC on January 06, 2022. Final review of the WPAP and SCS applications was completed after additional material was received on April 8, 2022, April 28, 2022, and May 6, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed residential project will have an area of approximately 11.09 acres. It includes 33 single family residences, drives, utilities, and associated appurtenances. The impervious cover will be 4.06 acres (36.61 percent).

SCS DESCRIPTION

The proposed SCS will provide disposal service for single-family residences. The 2,088 linear feet gravity SCS system will consist of 1,518 linear feet of 8-inch diameter PVC SDR-26 pipe that meets ASTM-D3034 standards, 570 linear feet 6-inch diameter PVC SDR-26 pipe that meets ASTM-D3034 standards.

The system will be connected to an existing City of Buda wastewater line for conveyance to the existing City of Buda Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Buda and will conform to all applicable codes, ordinances, and requirements of the City of Buda.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, two (2) partial sedimentation filtration ponds (Pond 2 & Pond 3), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,644 pounds of TSS generated from the 4.06 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Pond 2 and Pond 3 are sized for future development and are designed to remove 10,053 pounds of TSS (Pond 2 treats 36,604 pounds, Pond 3 treats 15,493 pounds) to treat stormwater runoff from a maximum of 58.04 acres of impervious cover (Pond 2 treats 40.78 acres, Pond 3 treats 17.26 acres).

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by the Georgetown Limestone, Del Rio Clay, and Buda Limestone Formations. No sensitive features were identified on site. The site is located partially within Edwards Aquifer contributing zone within the transition zone, partially within Edwards Aquifer recharge zone and partially within Edwards Aquifer transition zone. The TCEQ site assessment conducted on March 17, 2022, revealed the site to be generally in accordance with the description included in the GA.

SPECIAL CONDITIONS

- I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- II. All sediment and/or media removed from the water quality basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

- III. All wastewater collection and conveyance infrastructure shall be operational prior to any occupancy of the houses and prior to any wastewater flow being introduced into the sewage collection system.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP, SCS and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP and SCS applications following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP and SCS, must be installed prior to construction and inspected, maintained, and repaired during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

19. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
20. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
21. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
22. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.

Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
23. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
24. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.
25. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

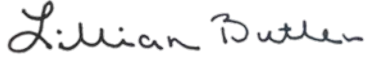
Mr. William Peckman & Mr. Elliot Jones

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May 13, 2022

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

A handwritten signature in cursive script that reads "Lillian Butler".

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/rbc

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

CC: Mr. William Buzzelli, P.E., Kimley-Horn and Associates, Inc.

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Kelly Keel, *Interim Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 4, 2023

Mr. William Peckman
M/I Homes of Austin, LLC
7600 N Capital of Texas HWY, Suite 250
Austin, Texas 78731

Re: Modification of an approved Water Pollution Abatement Plan (WPAP)
Colony At Cole Springs Phase 1; Located 1.25 Mi from FM 1626 on Cole Springs Rd.;
Buda, Hays County, Texas
Edwards Aquifer Protection Program ID: 11003702, Regulated Entity No. RN111401139

Dear Mr. Peckman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Kimley-Horn and Associates, Inc. on behalf of the applicant, M/I Homes of Austin, LLC, on September 5, 2023. Final review of the application was completed after additional material was received on November 30, 2023.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved**, subject to applicable state rules and the conditions in this letter.

This approval expires two years from the date of this letter, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The proposed Colony at Cole Springs subdivision project encompasses 182.02 acres and approximately 68.61 acres of impervious cover. A WPAP was approved for a portion of this site in a TCEQ letter dated May 13, 2023 (EAPP ID No. 11002864).

PROJECT DESCRIPTION

The proposed residential project will have a total area of approximately 10.81 acres located within the Edwards Aquifer recharge zone and contributing within the transition zone. The project will include 32 single family residential lots, realignment of Old Clack Colony Rd. realignment of bridge construction of Cole Springs Road. The modification will include the change of the approved PBMPs from partial sedimentation filtration basins to batch detention basins as well as a reduction of lots from the original approval. The impervious cover will be 3.92 acres (36 percent). Project wastewater will be disposed of by conveyance to the existing City of Buda Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, two batch detention basins (Pond 2 and Pond 3), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices*, will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,519 pounds of TSS generated from the 3.92 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMPs shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial units of the site are the Buda Limestone and Del Rio Clay. No sensitive geologic features were identified in the GA. The site assessment conducted on November 15, 2023, by TCEQ staff determined the site to be generally as described by the GA.

SPECIAL CONDITIONS

- I. This modification is subject to all the special and standard conditions listed in the approval letter(s) dated May 13, 2022.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.
2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the

property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.

4. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.
5. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.
6. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of five hundred gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.
9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.
10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.
11. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

13. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

15. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE must certify in writing that the **permanent** BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.
16. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 and is subject to administrative rule or orders and penalties as provided under §213.10 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved Edwards Aquifer protection plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact the Edwards Aquifer Protection Program at 512-339-2929.

Sincerely,



Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/bmy

cc: Mr. Alex Granados, P.E., Kimley-Horn and Associates, Inc.

NARRATIVE OF PROPOSED MODIFICATION

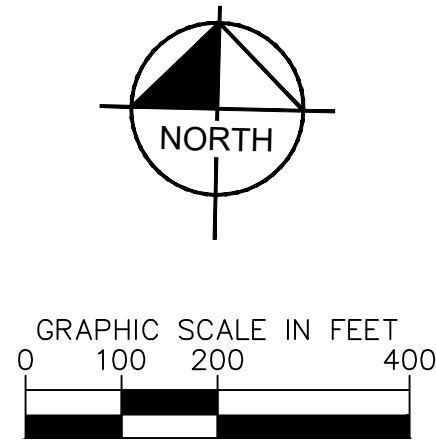
The Colony Phase 2 is a portion of a larger single-family development, The Colony at Cole Springs, which encompasses approximately 178 acres. The approved Phase 1 encompasses approximately 113 acres of onsite single-family residential development. The subject property is located near the intersection of Old Black Colony Road and Cole Springs Road, in the City of Buda, Texas and exists currently as undeveloped rangeland. The scope of the project consists of the following civil improvements: roadway, water, wastewater, drainage improvements and storm sewer. A portion of the site lies within Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone and within the 100-year floodplain as defined by Federal Emergency Management Agency Federal Insurance Rate Map # 48209C0280F, dated September 2, 2005.

A Water Pollution Abatement Plan (EAPP ID No. 11002864) was approved on May 13, 2022. The plan approved the construction of roadway improvements and associated infrastructure to construct 33 single-family lots, drives, streets, sidewalks, utilities, water quality facilities, and associated appurtenances on the 11.09-acre tract of land with a total of 4.06 acres of impervious cover.

A second Water Pollution Abatement Plan (EAPP ID No. 11003702) was approved on December 4, 2023. This modification was associated with the change of the PBMPs from partial sedimentation filtration basins to batch detention basins and the reduction of lots from the original. The plan approved the construction of roadway improvements and associated infrastructure to construct 32 single-family lots, drives, streets, sidewalks, utilities, water quality facilities, and associated appurtenances on the 10.81-acre tract of land with a total of 3.92 acres of impervious cover.

The current proposed modification to the previously approved Water Pollution Abatement Plan is the addition of the Colony Phase 2. Just as the previous WPAPs, the project area will be defined as the area within the Edward's Aquifer Recharge Zone and the area that drains from the area within the Edward's Aquifer Contributing Zone within the Transition Zone onto the Recharge Zone. Colony Phase 2 includes 68 single-family lots on a total area of 18.62 acres. The addition of these lots will increase the area from 10.81 acres to a total of 29.43 acres. The additional impervious cover associated with the Colony Phase 2 is 8.34 acres. The addition of these lots will increase the overall impervious cover area from 3.92 acres to 12.26 acres. This modification does not propose any additional offsite impervious cover.

CURRENT SITE PLAN OF THE APPROVED PROJECT



LEGEND

- OVERALL PROPERTY BOUNDARY
- EDWARDS AQUIFER BOUNDARIES
- FEMA 100-YEAR FP
- DRAINAGE AREA DIVIDE

TCEQ Overall Water Quality Drainage Basins					
Basin ID	Proposed Area (AC)	Proposed Impervious Cover (AC)	% Impervious Cover	REQUIRED TSS REMOVAL	PROPOSED TSS REMOVAL
WQP-2*	67.12	N/A	N/A	3519	5232
WQP-2 TCEQ	8.24	3.92	48%		
UNTREATED	2.57	0.00	0%	0	0
TOTAL ONSITE	10.81	3.92	36.26%	3519	5232

*WQP-2 AREA NOT WITHIN RECHARGE ZONE AND HAS NO TCEQ WQ REQUIREMENTS. NOT COUNTED IN TOTAL PROJECT AREA.

DRAINAGE AREA TABLE	
DRAINAGE AREA NO.	AREA (ac)
NT1-TCEQ	2.16
NT2-TCEQ	0.41
WQP-2	67.12
WQP-2 TCEQ	8.24



TCEQ WATER QUALITY COORDINATION
The Colony at Cole Springs
NOVEMBER 2023

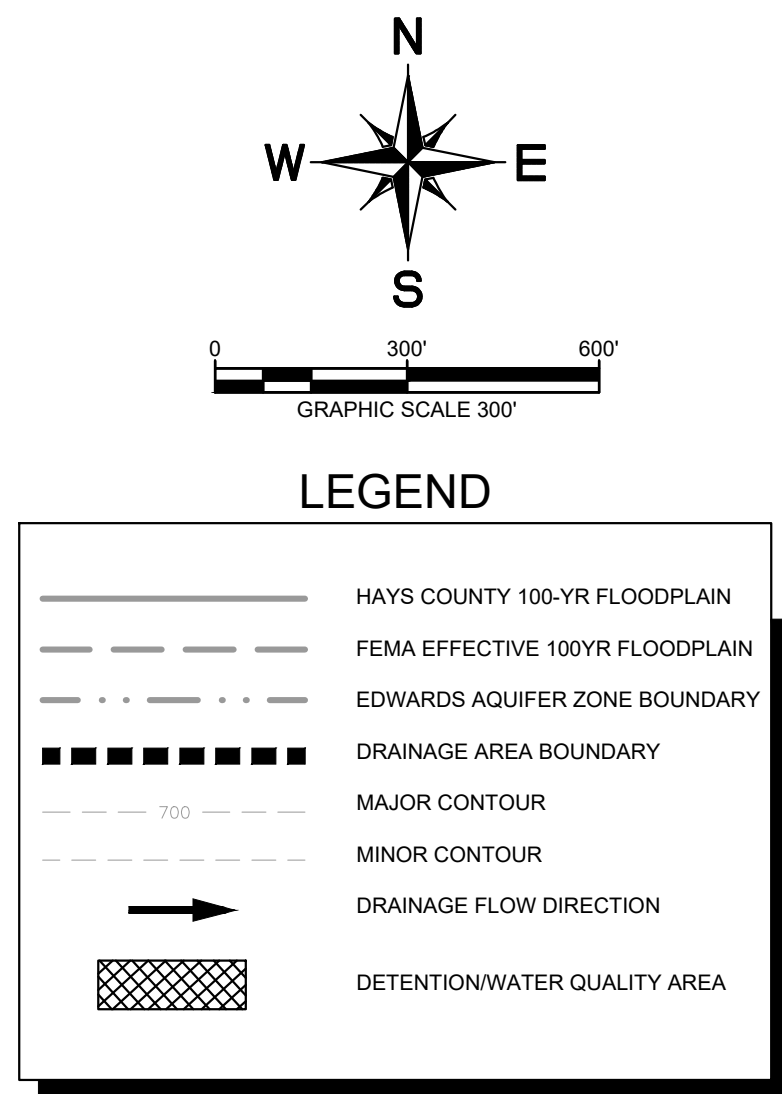
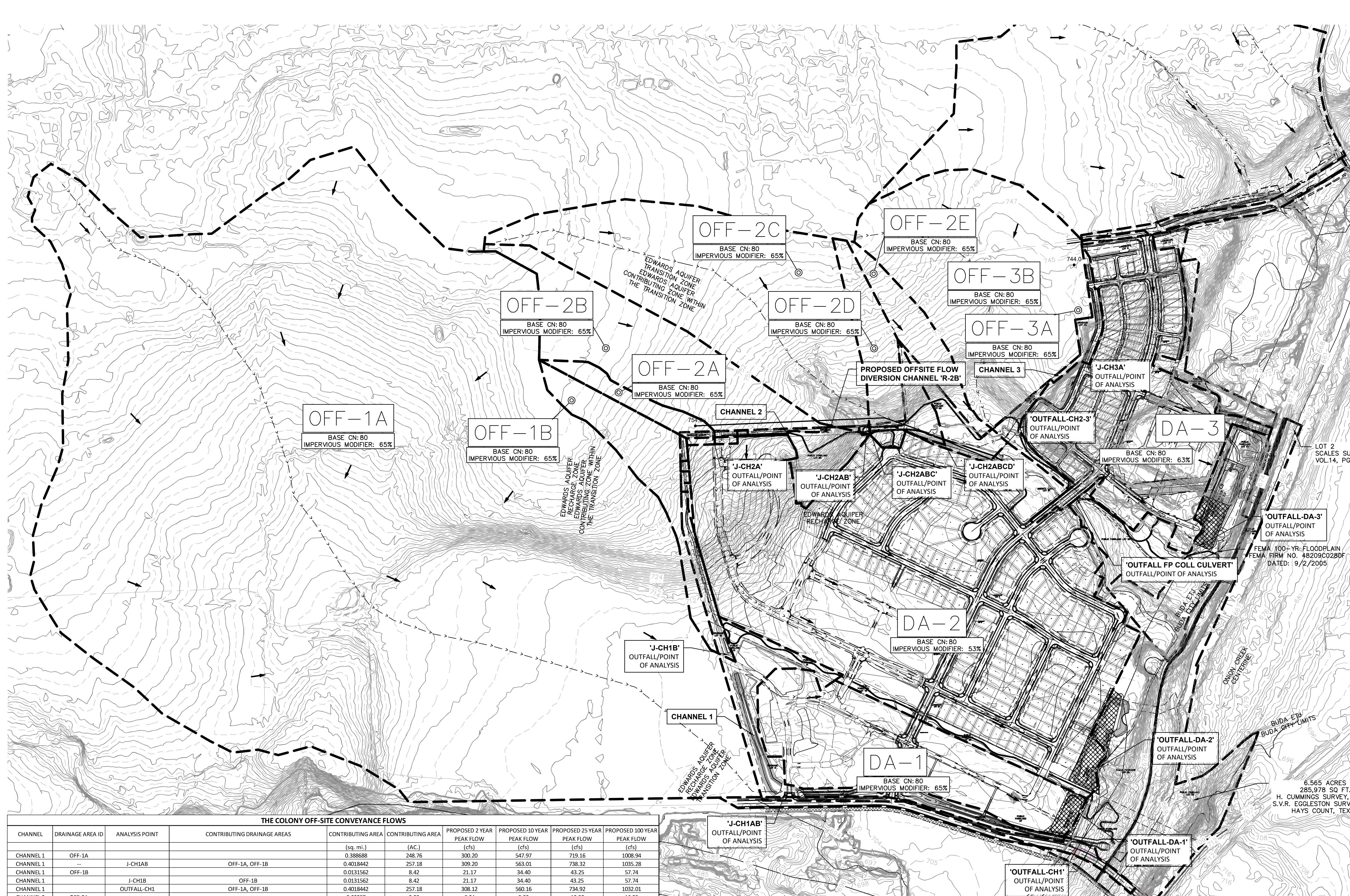
Kimley»Horn

NOTE: THIS PLAN IS CONCEPTUAL IN NATURE AND HAS BEEN PRODUCED WITHOUT THE BENEFIT OF A SURVEY. TOPOGRAPHY, UTILITIES, CONTACT WITH THE CITY, ETC.

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GENERAL PLAN NOTES:

- KHA PROJECT NO. 067783115



NOTES:

1. A DETENTION WAIVER REQUEST HAS BEEN SUBMITTED AND APPROVED FOR THIS DEVELOPMENT, PLEASE REFER TO THE MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020 FOR ADDITIONAL INFORMATION. AS STATED IN THE CONCLUSION OF THE DETENTION WAIVER REQUEST: "THE PROPOSED DEVELOPMENT DEVELOPED WITHOUT DETENTION, STORMWATER DETENTION, WILL INCREASE PEAK FLOW MINIMALLY IN ONION CREEK BY LESS THAN .02% IN ALL STORM EVENTS. IF DEVELOPED WITH DETENTION, RESULTING PEAK FLOWS WILL BE GREATER IN ONION CREEK THAN THE PROPOSED DEVELOPMENT WITHOUT DETENTION. FURTHERMORE, THE RISE IN WATER SURFACE ELEVATION IN ONION CREEK DUE TO THE PROPOSED DEVELOPMENT IS MINIMAL AND RESULTS IN THE SAME 0.01 FT CHANGE WITH OR WITHOUT DETENTION. AS SUCH, DEVELOPMENT OF THE SUBJECT TRACT WITHOUT DETENTION WILL NOT ADVERSELY AFFECT OFFSITE PROPERTIES."
2. FINAL PLAT AND CONSTRUCTION PLAN APPROVAL IS CONTINGENT UPON APPROVAL OF WATER QUALITY BMP'S BY TCEQ.
3. THIS SHEET HAS BEEN INCLUDED IN ORDER TO PROVIDE SCS FLOW CALCULATIONS FOR PRELIMINARY POND AND CHANNEL SIZING. REFER TO THE HEC-HMS MODEL PROVIDED WITH THIS STUDY FOR ADDITIONAL DETAIL...

DRAINAGE AREA NAME	DRAINAGE AREA SIZE	EXISTING IMPERVIOUS COVER	PHASE 1 IMPERVIOUS COVER	PHASE 2 IMPERVIOUS COVER	PHASE 3 IMPERVIOUS COVER	TOTAL IMPERVIOUS COVER
	(ACRES)	(ACRES)	(ACRES)	(ACRES)	(ACRES)	
POND 2	77.63	0	25.81	14.97	0	40.78
POND 3	27.41	0	9.77	7.49	0	17.26
TOTAL	105.04	0	35.58	22.46	0	58.04
POND 2 (RZ AND CZ WITHIN TZ)	23.05	0	4.06	7.90	0	11.96
POND 3 (RZ AND CZ WITHIN TZ)	0	0	0	0	0	0
TOTAL (RZ AND CZ WITHIN TZ)	23.05	0	4.06	7.90	0	11.96

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



Know what's below.
Call before you dig.

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

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'S NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
ELEV.=691.51' (NAVD '88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES
ELEV.=712.04' (NAVD '88)

BM #105 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE
ELEV.=732.56' (NAVD '88)

THE COLONY OFF-SITE CONVEYANCE FLOWS									
CHANNEL	DRAINAGE AREA ID	ANALYSIS POINT	CONTRIBUTING DRAINAGE AREAS	CONTRIBUTING AREA (sq. mi.)	CONTRIBUTING AREA (AC.)	PROPOSED 2 YEAR PEAK FLOW (cfs)	PROPOSED 10 YEAR PEAK FLOW (cfs)	PROPOSED 25 YEAR PEAK FLOW (cfs)	PROPOSED 100 YEAR PEAK FLOW (cfs)
CHANNEL 1	OFF-1A	J-CH1AB	OFF-1A, OFF-1B	0.386888	248.76	300.20	547.97	719.16	1008.94
CHANNEL 1	OFF-1B			0.401842	257.18	309.20	563.01	738.32	1035.28
CHANNEL 1		J-CH1B	OFF-1B	0.0131562	8.42	21.17	34.40	43.25	57.74
CHANNEL 1		OUTFALL-CH1	OFF-1A, OFF-1B	0.4018442	257.18	308.12	560.16	734.92	1032.01
CHANNEL 2	OFF-2A	J-CH2A	OFF-2A	0.00357	2.28	6.04	9.80	12.30	16.39
CHANNEL 2				0.00357	2.28	6.04	9.80	12.30	16.39
CHANNEL 2	OFF-2B			0.02392	15.31	36.06	58.57	73.59	98.24
CHANNEL 2		J-CH2AB	OFF-2A, OFF-2B	0.02749	17.59	41.89	68.01	85.44	114.03
CHANNEL 2	OFF-2C			0.04958	31.73	91.07	147.65	185.47	247.16
CHANNEL 2		J-CH2ABC	OFF-2A, OFF-2B, OFF-2C	0.07707	49.32	124.58	202.09	253.81	338.50
CHANNEL 2	OFF-2D			0.0092	5.89	15.58	25.25	31.70	42.94
CHANNEL 2		J-CH2ABCD	OFF-2A, OFF-2B, OFF-2C, OFF-2D	0.08627	55.21	138.33	227.34	285.51	377.80
CHANNEL 2	OFF-2E			0.00856	5.48	15.57	25.81	33.64	44.77
CHANNEL 3	OFF-3A		OFF-3A	0.00317	2.03	6.39	10.33	12.98	17.30
CHANNEL 3		J-CH3A	OFF-3A	0.00317	2.03	6.39	10.33	12.98	17.30
CHANNEL 3	OFF-3B			0.04195	26.85	67.09	109.06	137.11	183.09
CHANNEL 3		OUTFALL-CH2-3	OFF-2A, OFF-2B, OFF-2C, OFF-2D, OFF-2E, OFF-3A, OFF-3B	0.13995	89.57	217.86	353.38	445.26	595.27
FLOODPLAIN	OFF-FPA			0.00488	3.12	7.07	13.48	17.81	24.82
FLOODPLAIN		OUTFALL COLL CULVERT	OFF-2A, OFF-2B, OFF-2C, OFF-2D, OFF-3A, OFF-3B, OFF-FPA	0.14483	92.69	222.06	362.06	455.54	608.87

THE COLONY WQ POND FLOWS							
DRAINAGE AREA ID	ANALYSIS POINT	CONTRIBUTING AREA	CONTRIBUTING AREA	PROPOSED 2 YEAR PEAK FLOW	PROPOSED 10 YEAR PEAK FLOW	PROPOSED 25 YEAR PEAK FLOW	PROPOSED 100 YEAR PEAK FLOW
		(sq. mi.)	(Ac.)	(cfs)	(cfs)	(cfs)	(cfs)
DA-1	POND 1	0.02598	16.63	54.35	88.05	110.6	147.33
DA-2	POND 2	0.12130	77.63	223.48	360.71	452.32	601.25
DA-3	POND 3	0.04283	27.41	93.09	150.85	189.49	252.45

THE COLONY OFF-SITE CONVEYANCE														
"Tc" Value Calculations														
	Sheet Flow				Shallow Flow				Channel Flow				Total	Total
Drainage	Length	Slope	n	Tt	Length	Slope	PAVED?	Tt	Length	V	Tt	Tc	Tc LAG	
Area	ft	ft/ft		min	ft	ft/ft	y/n	min	ft	ft/s	min	min	min	
OFF-1A	100	0.005	0.24	21.84 min	5584	0.01	n	55.00	0	6.32	0.00	76.8 min	46.1 min	
OFF-1B	100	0.006	0.24	20.31 min	1061	0.02	n	7.07	989	6.32	2.61	30.0 min	18.0 min	
OFF-2A	100	0.006	0.24	20.31 min	886	0.02	n	15.91	0	0.00		26.2 min	15.7 min	
OFF-2B	100	0.014	0.24	14.47 min	2269	0.02	n	17.00	0	4.50	0.00	31.5 min	18.9 min	
OFF-2C	100	0.015	0.24	14.08 min	2345	0.03	n	14.48	0	5.00	0.00	28.6 min	17.1 min	
OFF-2D	100	0.010	0.24	16.55 min	941	0.02	n	7.94	0	2.45	0.00	24.6 min	14.7 min	
OFF-2E	100	0.015	0.24	14.08 min	1187	0.03	n	7.33	0	5.00	0.00	21.4 min	12.8 min	
OFF-3A	100	0.015	0.24	14.08 min	1269	0.02	n	10.38	0	5.00	0.00	24.4 min	14.7 min	
OFF-3B	100	0.015	0.24	14.08 min	1691	0.02	n	13.81	0	5.00	0.00	27.9 min	16.7 min	
OFF-FP1	100	0.010	0.24	16.55 min	0	0.00	N	0.00	1550	5.00	0.50	17.1 min	10.2 min	
DA-1	100	0.020	0.2	10.84 min		0.02	n	0.00	2355	8.00	4.91	15.7 min	9.4 min	
DA-2	100	0.020	0.2	10.84 min	51	0.02	n	0.37	3086	8.00	6.43	17.6 min	10.6 min	
DA-3	100	0.020	0.2	10.84 min	37	0.02	n	0.31	2281	8.00	4.75	15.9 min	9.5 min	

CONSTRUCTION PLAN APPROVAL SHEET **NO. 226**

FILE NUMBER 2021-7374 APPLICATION DATE

APPROVED BY COMMISSION ON **N/A** UNDER THE CITY OF BUENA
UNITED DEVELOPMENT CODE

EXPIRATION DATE **3/12/2026** CASE MANAGER **A. KENNEDY**

Blair Murkin

City Engineer, City of Buena

RELEASED FOR GENERAL COMPLIANCE: _____ ZONING **N/A**

Rev. 1	Correction 1
Rev. 2	Correction 2
Rev. 3	Correction 3

Final plot must be recorded by the expiration date, if applicable. Subsequent Site Plan which do not comply with the Code current at the time of filing, and all required Building Permits or other construction (i.e. building permit is not required), must also be approved prior to the Project Expiration Date.

PERMIT NUMBER 2021-7374

Plotted by: Duffy, Daniel Date: March 11, 2024 09:49:44am File Path: K:\SAU_Civil\067783115 Meritage Buda Assembly\Map\PlanSheets\0-Existing Drainage Area Map.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

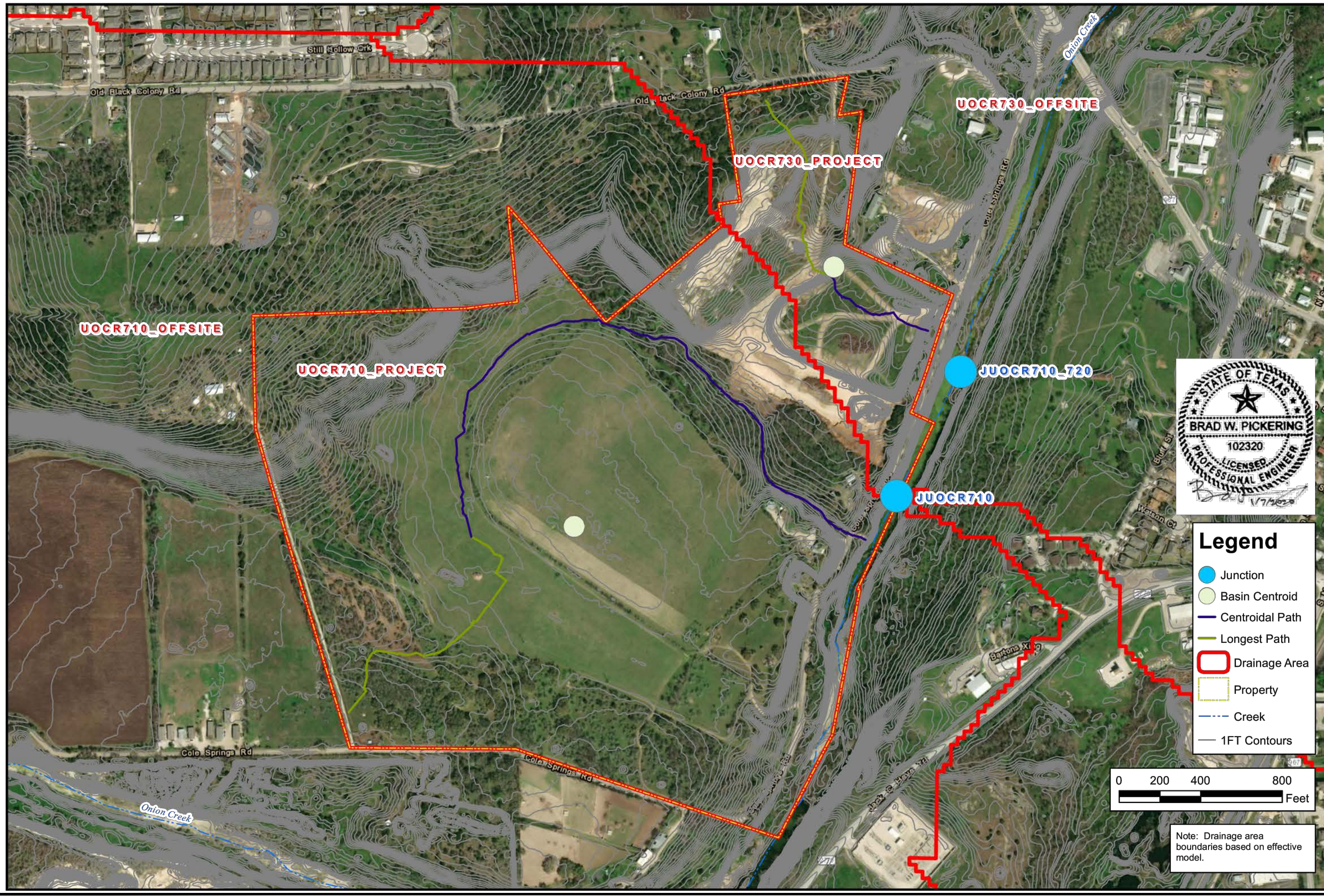
HMS BASIN PARAMETERS													
SUBBASIN			LOSSES			TRANSFORM							
			SCS CURVE NUMBER			SNYDER UNIT HYDROGRAPH							
						Standard Lag (hr) = L _e							
						L _e = C ₁ (L _{CA}) ^{0.77}							
						Peaking Coefficient = C _p							
						C _p = Basin Characteristic							
Basin	Subbasin	Area	Initial Abstractions (in)				CN	Impervious %	C ₁	L	L _{CA}	L _e	C _p
		(mi ²)	(ac)	2YR	10YR	25YR	100YR			(mi)	(mi)	(hr)	
OnionBasin	UOOCR70	2.528	1618	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07
REVEK	UOOCR70_PROJECT	0.028	148	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.86	0.53
REVEK	UOOCR70_OFFSITE	2.500	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07
PROP	UOOCR70_PROJECT	0.235	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44
PROP	UOOCR70_OFFSITE	2.300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07
OnionBasin	UOOCR70	3.414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27	1.20
REVEK	UOOCR70_PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24
REVEK	UOOCR70_OFFSITE	3.376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20
PROP	UOOCR70_PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20
PROP	UOOCR70_OFFSITE	3.376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20

*Note: C₁ and C_p values for subbasins UOOCR70 and UOOCR70 are from effective model

LAG TIME CALCULATIONS

Lag Time (Onion Creek Effective Hydraulic Model)													
xSta Station	Dist (ft)	2 YR Velocity			10 YR Velocity			25 YR Velocity			100YR Velocity		
		RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)
168897	—	2.90	—	—	5.07	—	—	6.23	—	—	8.11	—	—
167934	983	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total Lag (sec)		324			170			141			110		
Total Lag (min)		5.4			2.8			2.3			1.8		
Reach "R-730"													
167494	—	2.97	—	—	6.39	—	—	7.62	—	—	9.91	—	—
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	9.8	99
166007	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	69	7.8	7.5	63
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	84	7.22	6.5	27	9.34	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.05	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163604	867	3.68	3.4	257	6.95	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161597	682	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160304	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20
159660	584	2.87	2.6	206	4.65	4.9	112	5.87	6.2	89	7.31	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	289	5.35	5.8	160	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	66
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34
155001	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total Lag (sec)		4124			2085			1701			1454		
Total Lag (min)		68.7			34.4			28.3			24.2		

LOCAL DRAINAGE AREA MAP



Kimley-Horn

Buda, Texas

MERITAGE TIMING STUDY

LOCAL EXISTING DRAINAGE AREA MAP

1

DATE: JANUARY 2024

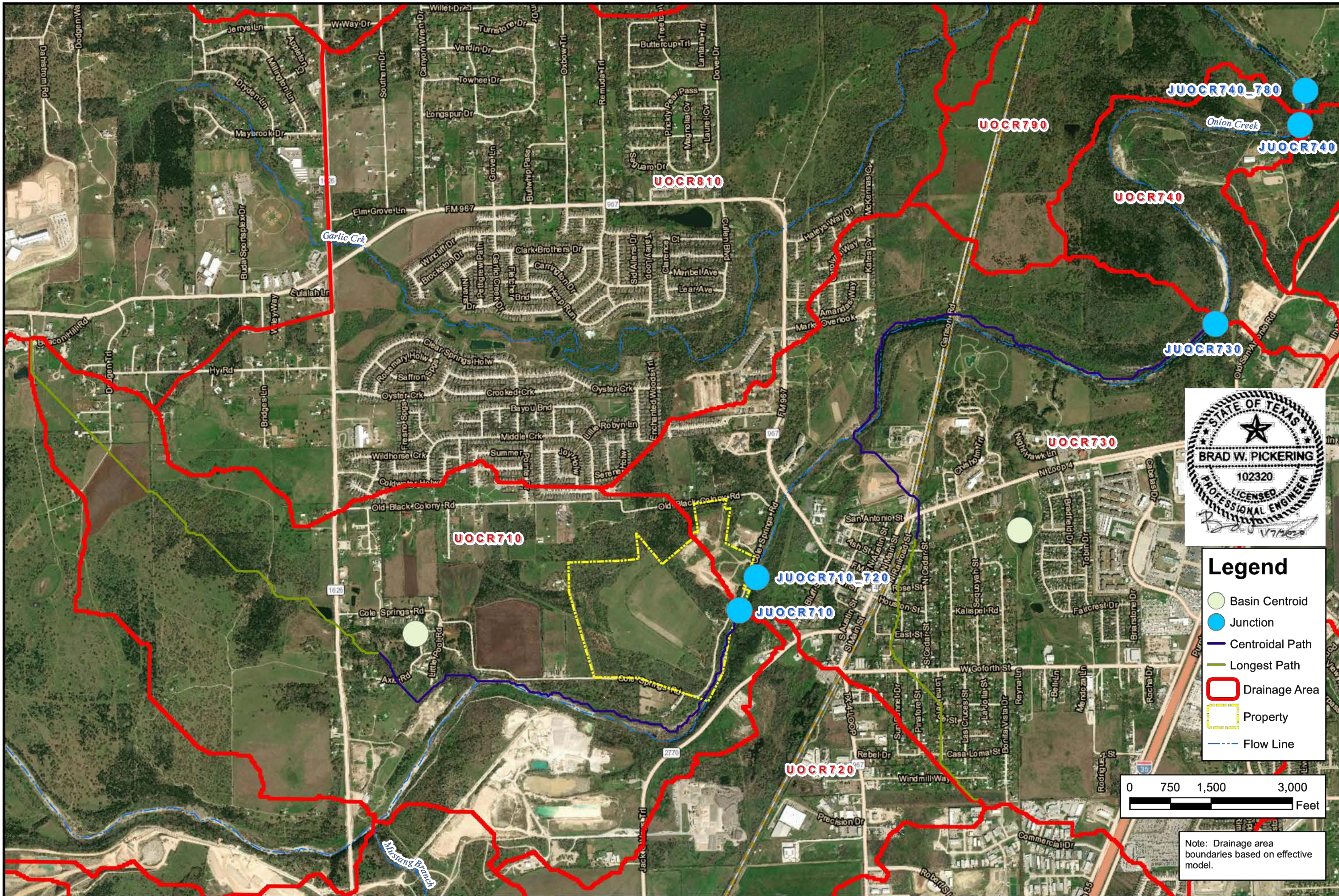
DESIGN: HOS

DRAWN: HOS

CHECKED: HOS

BY: HOS

REGIONAL DRAINAGE AREA MAP



Kimley-Horn

Buda, Texas

MERITAGE TIMING STUDY

REGIONAL DRAINAGE AREA MAP

3

DATE: JANUARY 2024

DESIGN: HOS

DRAWN: HOS

CHECKED: HOS

BY: HOS

PEAK FLOW RESULTS

Junction	2YR				10YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK
UOOCR70_PROJECT	13	134	134	122	233	379	379	145
730 DETENTION	—	—	12	—	—	223	223	—
JUOOCR70	2542	2542	2542	0	2220	2220	2220	—
JUOOCR70_PROJECT	2539	2539	2539	0	2220	2220	2220	—
730 DETENTION	3	27	27	24	62	83	83	31
JUOOCR70	2531	2531	2539	0	22462	22464	22464	2
JUOOCR70	2525	2525	2533	0	22479	22481	22482	2
JUOOCR70_200	2525	2525	2533	0	22563	22565	22566	2
JUOOCR70	2516	2516	2524	0	22635	22637	22637	2
JUOOCR70_520	2540	2541	2549	1	22958	22960	22960	2
JUOOCR70_330	2540	2540	2548	0	22961	22962	22963	1
JUOOCR70	2537	2537	2545	0	23004	23005	23006	1
UNION CREEK	3116	3116	3124	0	26065	26066	26067	1

Junction	25YR				100YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK
UOOCR70_PROJECT	411	545	545	135	659	794	794	135
730 DETENTION	—	—	409	—	—	658	—	—
JUOOCR70	41812	41813	41814	1	80017	80019	80018	2
JUOOCR70_PROJECT	41808	41809	41810	1	80018	80019	80019	1
730 DETENTION	108	107	107	1	165	152	152	-13
JUOOCR70	42112	42113	42113	1	80255	80256	80255	1
JUOOCR70	42128	42129	42129	1	80266	80267	80266	1
JUOOCR70_200	42238	42239	42239	1	80497	80499	80497	2
JUOOCR70	42349	42350	42350	1	80563	80564	80563	1
JUOOCR70_520	42817	42818	42819	1	81198	81199	81198	1
JUOOCR70_330	42852	42853	42853	1	81246	81247	81246	1
JUOOCR70	42888	42888	42888	2	81285	81285	81285	1
UNION CREEK	47282	47283	47284	1	87646	87647	87646	1

NOTES:
1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.

811

Know what's below.
Call before you dig.

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

BENCHMARKS

BM #103 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 870 N. NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.01 (NAVD 83)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHWEST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 83)

BM #105 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.56 (NAVD 83)

CONSTRUCTION PLAN APPROVAL SHEET 226

FILE NUMBER 2021-737A APPLICATION DATE

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE 3/12/2026 CASE MANAGER A. KENNEDY

Blair Murski

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE, ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER: 2021-737A

IPC

Kimley-Horn

5301 SOUTHWEST PARKWAY, BLDG. 3, SUITE 100
AUSTIN, TX 78745
PH: 512.454.4437
WWW.KIMLEY-HORN.COM
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TBPE Firm No. 928

03/08/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO

REGISTERED PROFESSIONAL ENGINEER

102320

ALM E. Granados Rico

KHA PROJECT 067783115

DATE JANUARY 2024

SCALE AS SHOWN

DESIGNED BY: WB/DM

DRAWN: WB/DM, JH/DM

CHECKED BY: AEC

THE COLONY - PHASE 1
CITY OF BUDA
HAYS COUNTY, TEXAS

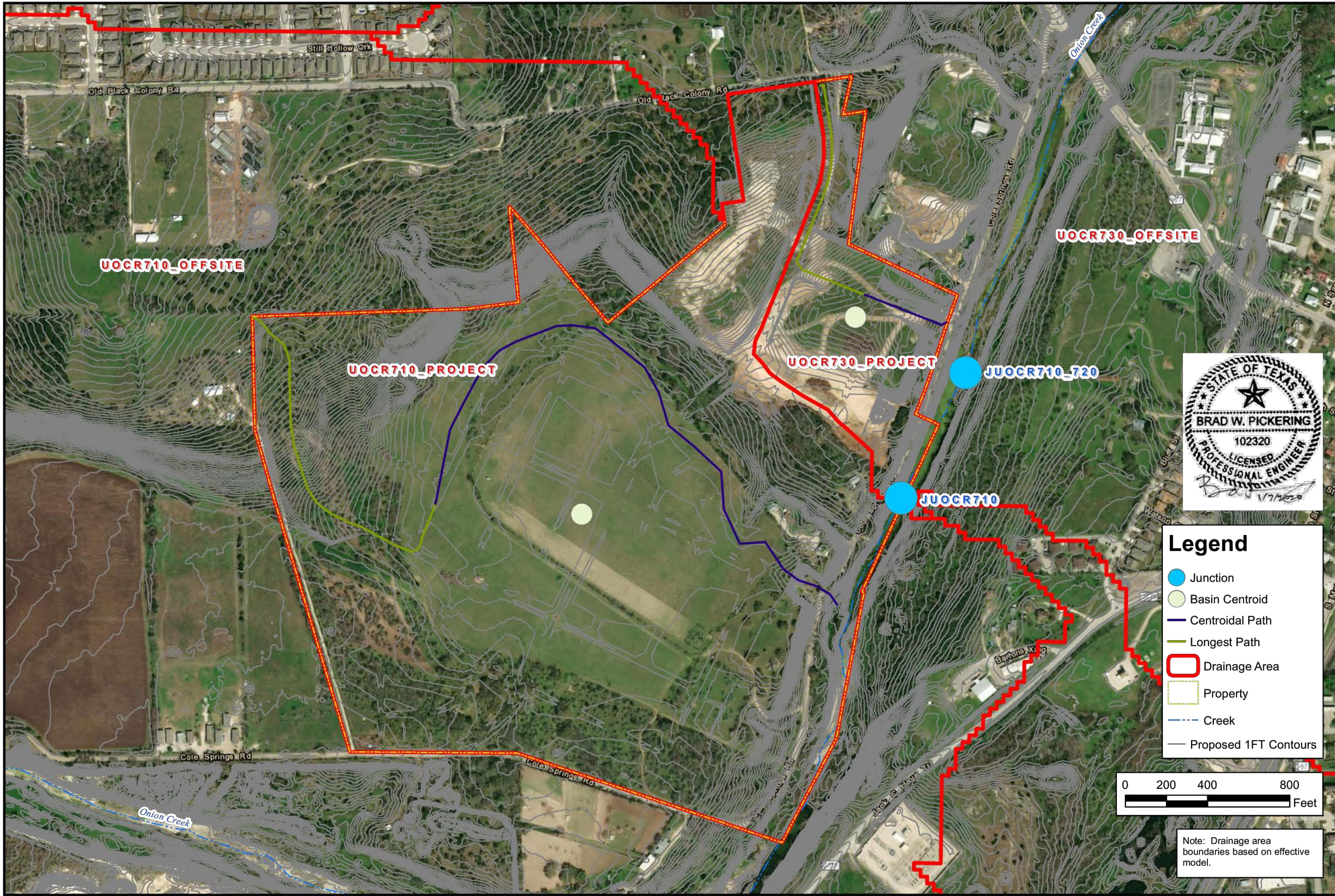
SHEET NUMBER 91 OF 226

REGIONAL DRAINAGE AREA MAP

DATE

REVISIONS

BY



Kimley > Horn

1400 Woodmont Forest Dr., Suite 225
Austin, TX 78728
(512) 472-2222
www.kimley-horn.com

U

Meritage Timing Study

LOCAL PROPOSED DRAINAGE AREA MAP

DATE: JANUARY 2020
DESIGN: HRS
DRAWN: HRS
CHECKED: BWB
BY: HRS

SHEET 2

HMS BASIN PARAMETERS													
SUBBASIN		LOSSES						TRANSFORM					
		SCS CURVE NUMBER						SNYDER UNIT HYDROGRAPH					
								Standard Lag (hr) = t_p					
								$t_p = C_t(L^{0.77})^{0.38}$					
								Peakling Coefficient = C_p					
								C_p = Basin Characteristic					
Basin	Subbasin	Area	Initial Abstractions (in)				CN	Imperious	C_t	L	L_{CA}	t_p	C_p
		(ac)	2YR	10YR	25YR	100YR		%	(hr)	(hr)	(hr)		
OnionBasin	UOCR710	2,523	1616	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	0.75
REVEK	UOCR710_PROJECT	0.228	146	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.66	0.75
REVEK	UOCR710_OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07
PROP	UOCR710_PROJECT	0.225	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44
PROP	UOCR710_OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07
OnionBasin	UOCR730	3,414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27	1.20
REVEK	UOCR730_PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24
REVEK	UOCR730_OFFSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20
PROP	UOCR730_PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20
PROP	UOCR730_OFFSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20

*Note: C_t and C_p values for subbasins UOCR710 and UOCR730 are from effective model

LAG TIME CALCULATIONS

Lag Time (Onion Creek Effective Hydraulic Model)													
x-Station	Dist (ft)	2 YR Velocity			Reach "R-730"			25 YR Velocity			100YR Velocity		
		RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)
168897	---	2.90	---	---	5.07	---	---	6.23	---	---	8.11	---	---
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total Lag (sec)		324			170			141			110		
Total Lag (min)		5.4			2.8			2.3			1.8		
Reach "R-730"													
167494	---	2.97	---	---	6.39	---	---	7.62	---	---	9.91	---	---
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	99
166507	473	2.93	2.8	188	5.44	5.8	82	6.64	7.0	68	7.48	7.5	83
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.8	72	7.38	7.4	83
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	78	4.89	6.1	38	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163904	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	897	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.31	8.1	105
162189	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	87
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160730	787	2.89	3.0	267	7.57	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	28	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1
160495	8	2.21	2.1	4	5.43	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20
159860	544	2.87	2.6	145	4.65	4.9	112	5.87	6.2	88	7.51	7.9	68
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	283	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.8	105	9.85	8.8	98
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	68
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.85	6.9	16	7.19	8.4	13	8.52	9.8	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total Lag (sec)		4124			2065			1701			1454		
Total Lag (min)		68.7			34.4			28.3			24.2		

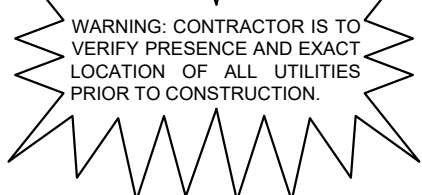
PEAK FLOW RESULTS

Junction	2YR				10YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	DET/PROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	DET/PROP - REVEK
UOCR710_PROJECT	13	134	134	122	223	379	379	145
710 DETENTION	---	12	---	---	---	223	---	145
JUOCR710	2542	2542	2549	0	22230	22242	22242	2
JUOCR710_730	2549	2549	2550	0	22296	22297	22298	1
UOCR730_PROJECT	3	27	27	24	62	83	83	31
730 DETENTION	---	3	---	---	---	60	---	---
JUOCR730	2531	2531	2539	0	22462	22464	22464	2
JUOCR740	2525	2525	2533	0	22479	22481	22482	2
JUOCR740_730	2525	2525	2533	0	22593	22595	22596	2
JUOCR740_820	2516	2516	2524	0	22635	22637	22637	2
JUOCR730_820	2540	2541	2549	1	22958	22960	22960	2
JUOCR730_830	2540	2540	2548	0	22961	22962	22963	1
JUOCR740	2537	2537	2545	0	23004	23005	23006	1
UNION CREEK	3116	3116	3124	0	28065	28066	28067	1

Junction	25YR				100YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	DET/PROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	DET/PROP - REVEK
UOCR710_PROJECT	411	546	546	135	659	794	794	135
710 DETENTION	---	409	---	---	---	659	---	135
JUOCR710	21812	21813	21814	1	80017	80019	80018	2
JUOCR710_730	4198	4198	4199	1	80138	80140	80139	2
UOCR730_PROJECT	106	107	107	1	185	182	182	-13
730 DETENTION	---	101	---	---	---	152	---	---
JUOCR730	42112	42113	42119	1	80255	80256	80256	1
JUOCR740	42128	42129	42129	1	80266	80267	80266	0
JUOCR740_730	42288	42289	42289	1	80497	80499	80497	2
JUOCR740_820	42349	42350	42350	1	80563	80564	80563	1
JUOCR730_820	42817	42818	42819	1	81198	81199	81198	1
JUOCR730_830	42852	42853	42853	1	81246	81247	81246	1
JUOCR740	42886	42888	42888	2	81285	81285	81285	0
UNION CREEK	47282	47283	47284	1	87646	87647	87646	1

NOTES:

- 1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



BENCHMARKS	
BM #102	PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 TO THE NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV = 981.07 (NAVD 88)
BM #104	PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 977 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV = 712.54 (NAVD 88)
BM #106	PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV = 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET OF 226

FILE NUMBER: 2021-737A APPLICATION DATE: N/A

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE: CASE MANAGER: A. KENNEDY

EXPIRATION DATE: 3/12/2026

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING: N/A

Rev. 1: Correction 1

Rev. 2: Correction 2

Rev. 3: Correction 3

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PERMIT NUMBER: 2021-737A

PROPOSED OVERALL DRAINAGE MAP

THE COLONY - PHASE 1
CITY OF BUDA
HAYS COUNTY, TEXAS

03/08/2024



KHA PROJECT 067783115

DATE JANUARY 2024

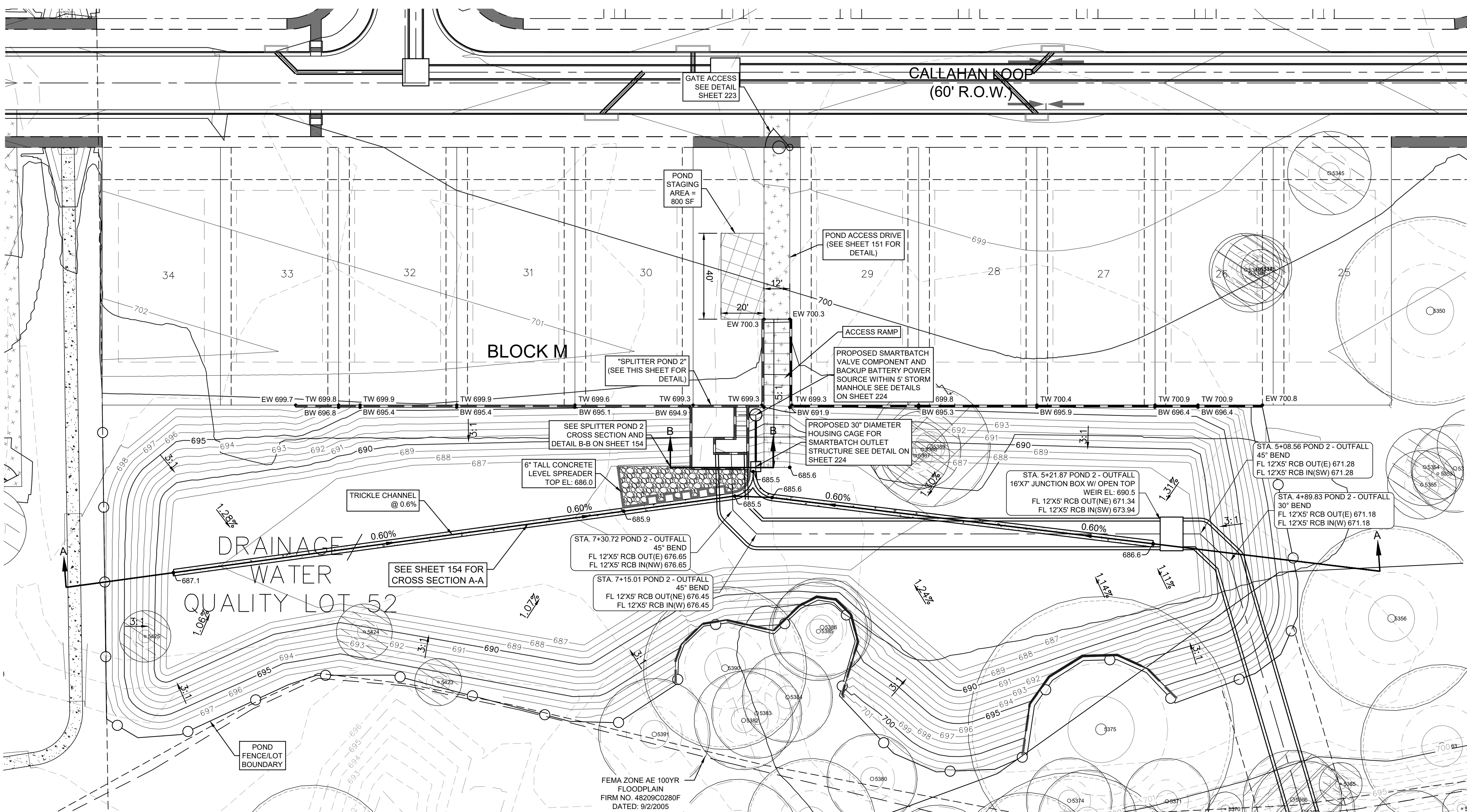
SCALE AS SHOWN

DESIGNED BY: WB/DM

DRAWN BY: WB/HM/ML/DM

CHECKED BY: AEG

Plotted by: Duffy, Daniel Date: March 11, 2024 01:06:25pm File Path: K:\SAU_Civil\067783115 Meritloga Buda Assemblage\Cad\PlanSheets\C-Pond Plan.dwg
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BATCH DETENTION POND REVEGETATION PLAN

1. IMMEDIATELY FOLLOWING COMPLETION OF CONSTRUCTION, EXCESS SPOIL AND DEBRIS SHALL BE REMOVED AND THE CONSTRUCTION AREA SHALL BE GRADED TO THE CONTOURS AS SHOWN ON THE PLANS. THE SURFACE OF THE GROUND SHOULD BE SMOOTH WITH NO LARGE ROCKS, STUMPS, OR OTHER DEBRIS. TOPSOIL OF SANDY LOAM, LOAM, CLAY LOAM OR EQUIVALENT AND FREE OF TREE ROOTS, ROCKS GREATER THAN 2 INCHES IN DIAMETER AND OTHER DEBRIS SHALL THEN BE UNIFORMLY SPREAD OVER ALL DISTURBED AREAS TO A MINIMUM DEPTH OF 6 INCHES. THE TOPSOIL SHOULD BE COMPACTED BY TRACKING A BULLDOZER WITH CLEATED TREADS VERTICALLY ON THE SLOPES TO CREATE HORIZONTAL EROSION CHECKS IN THE SURFACE.
2. RE-SEEDING SHALL IMMEDIATELY FOLLOW TOPSOILING WITH THE FOLLOWING MIXTURE OF GRASSES.
BROADCAST SEEDING:
A. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED TYPE 7 (SPECIAL PROVISION 164-WC 001).
STANDARD SHORT NATIVE GRASS SEED MIX AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 80% GERMINATION.
B. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED TYPE 7 (SPECIAL PROVISION 164-WC 001) - STANDARD SHORT NATIVE GRASS SEED MIX AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
C. FERTILIZER SHALL BE A PELLETTED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
3. THE SEEDED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS FOLLOWING PLANTING AT A RATE SUFFICIENT TO THOROUGHLY SOAK THE SOIL TO A DEPTH OF 6 INCHES. RAINFALL OCCURRENCES OF ONE-HALF INCH OR GREATER SHALL POSTPONE THE WATERING SCHEDULE 10 DAYS. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE AND NO BARE SPOT LARGER THAN 16 SQUARE FEET EXIST.

NOTES:

1. BOTTOM OF WATER QUALITY PONDS SHALL BE GRASS LINED.
2. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY PER GEOTECH REPORT.
3. EXPANSION JOINTS ON FREE STANDING WALLS SHALL HAVE WATER TIGHT SEALS AS NEEDED.
4. CONTRACTOR TO PROVIDE STRUCTURAL DRAWINGS FOR SPLITTER BOX AND OUTFALL STRUCTURES.
5. SMARTBATCH SYSTEM IS PRE-PROGRAMMED TO HOLD WATER FOR 12 HOURS AND THEN ROTATES SLOWLY OVER A 48-HOUR PERIOD TO DRAIN THE BATCH DETENTION POND COMPLETELY.
6. POND TO BE SURROUNDED BY A 6-FOOT HIGH PEDESTRIAN FENCE WITH GATES.

LEGEND

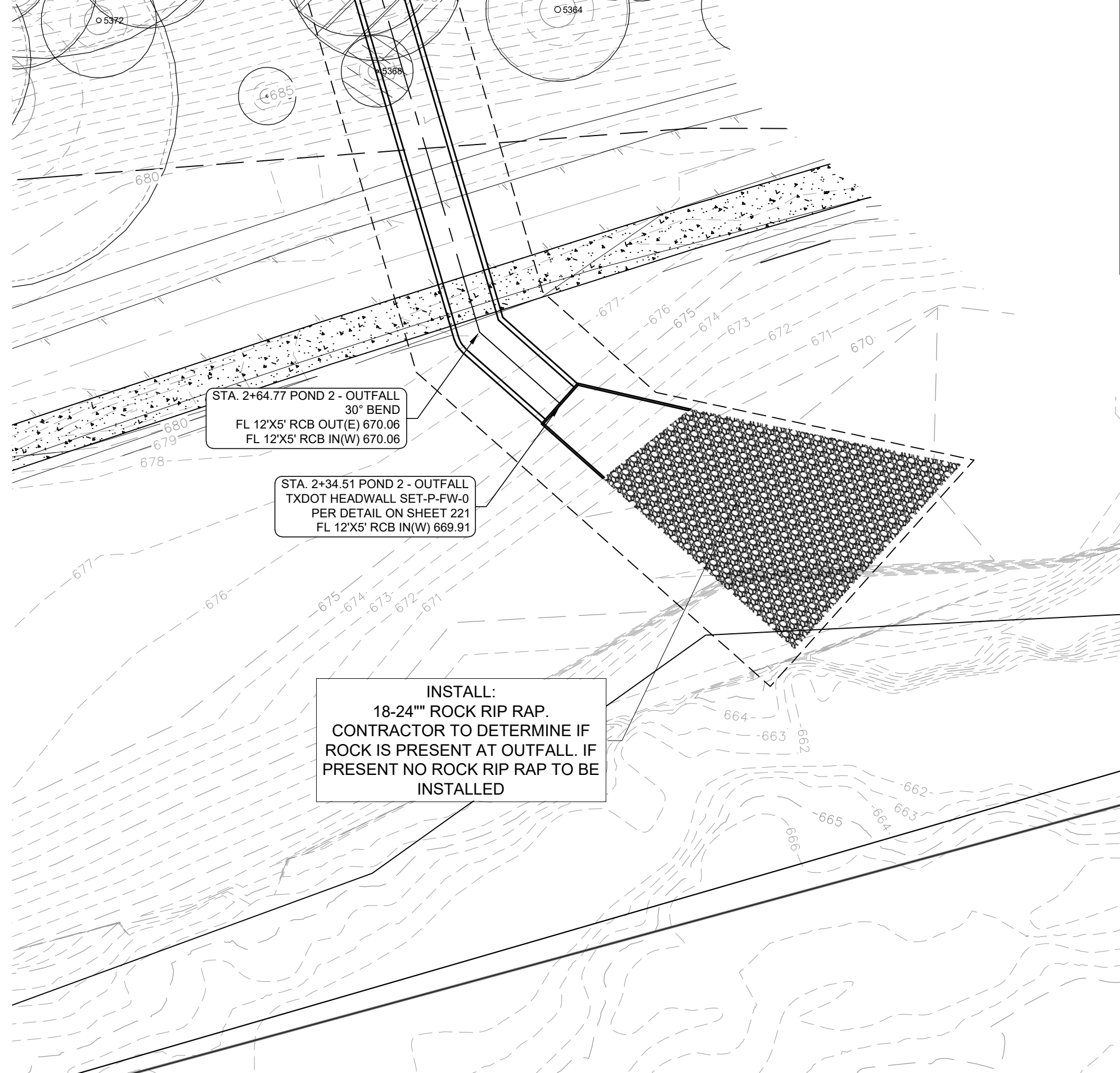
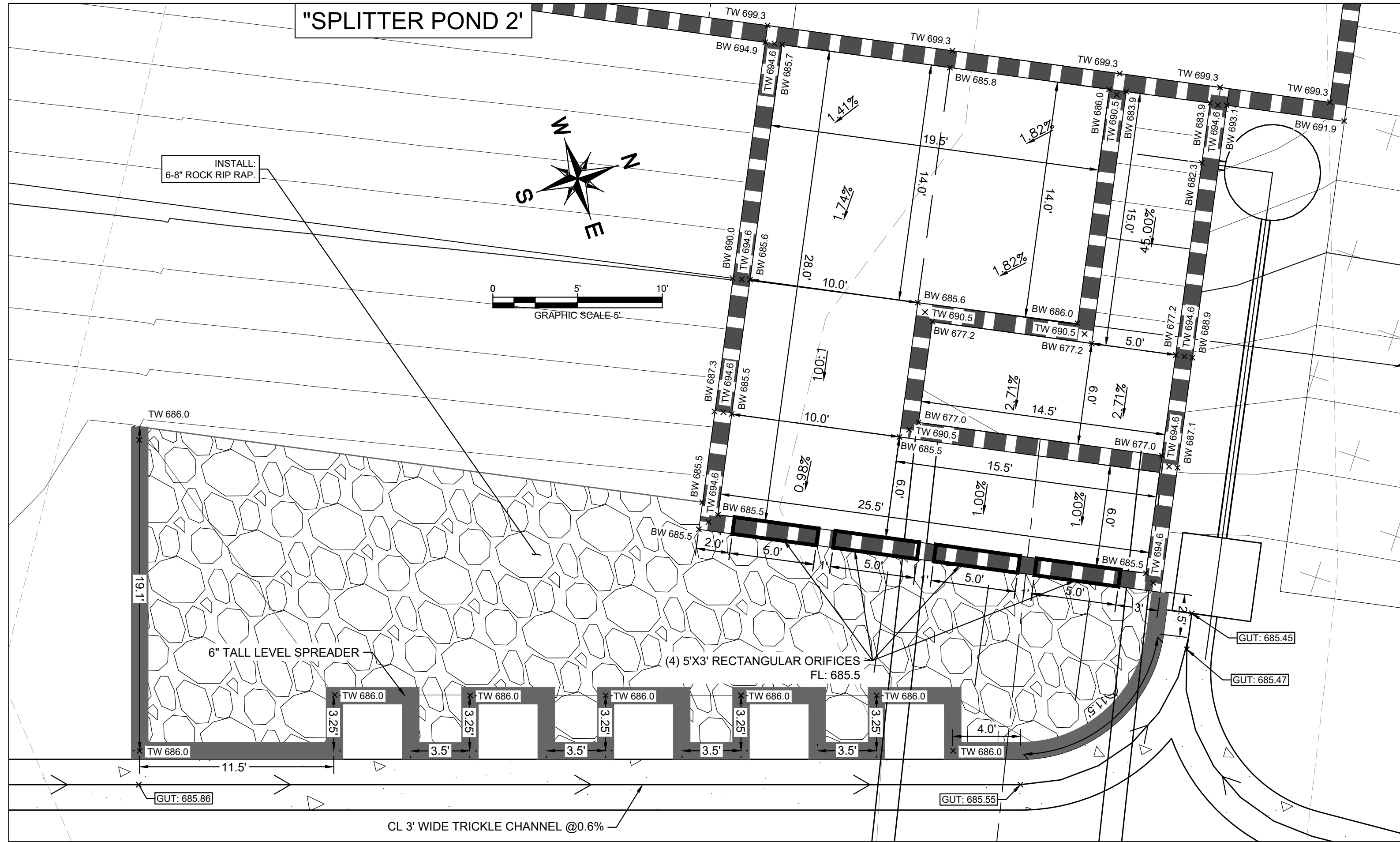
—	PROPERTY LINE
---	PHASE LINE
FP 675.00	PROPOSED FINISHED PAD ELEVATION
55.5 •	PROPOSED SPOT ELEVATION
EX 55.5 •	EXISTING SPOT ELEVATION
TW 55.5 •	PROPOSED GRADE AT TOP OF WALL
BW 55.5 •	PROPOSED GRADE AT BOTTOM OF WALL
EW 55.5 •	PROPOSED GRADE AT END OF WALL
TM	PAD MOUNT TRANSFORMER
→	LOT DRAINAGE FLOW DIRECTION
→	STREET DRAINAGE FLOW DIRECTION
—▲—	PROPOSED RETAINING WALL
555	EXPOSED FACE OF RETAINING WALL
555	PROPOSED CONTOUR
---	EXISTING CONTOUR
—	STORM SEWER
—	STORM INLET
—	STORM MANHOLE
—	WATER MAIN
—	WASTEWATER MAIN
---	5' SIDEWALK (INCLUDED IN CONTRACT)
---	5' SIDEWALK (EXCLUDED FROM CONTRACT)
—○—	POND FENCE



Know what's below.
Call before you dig.

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

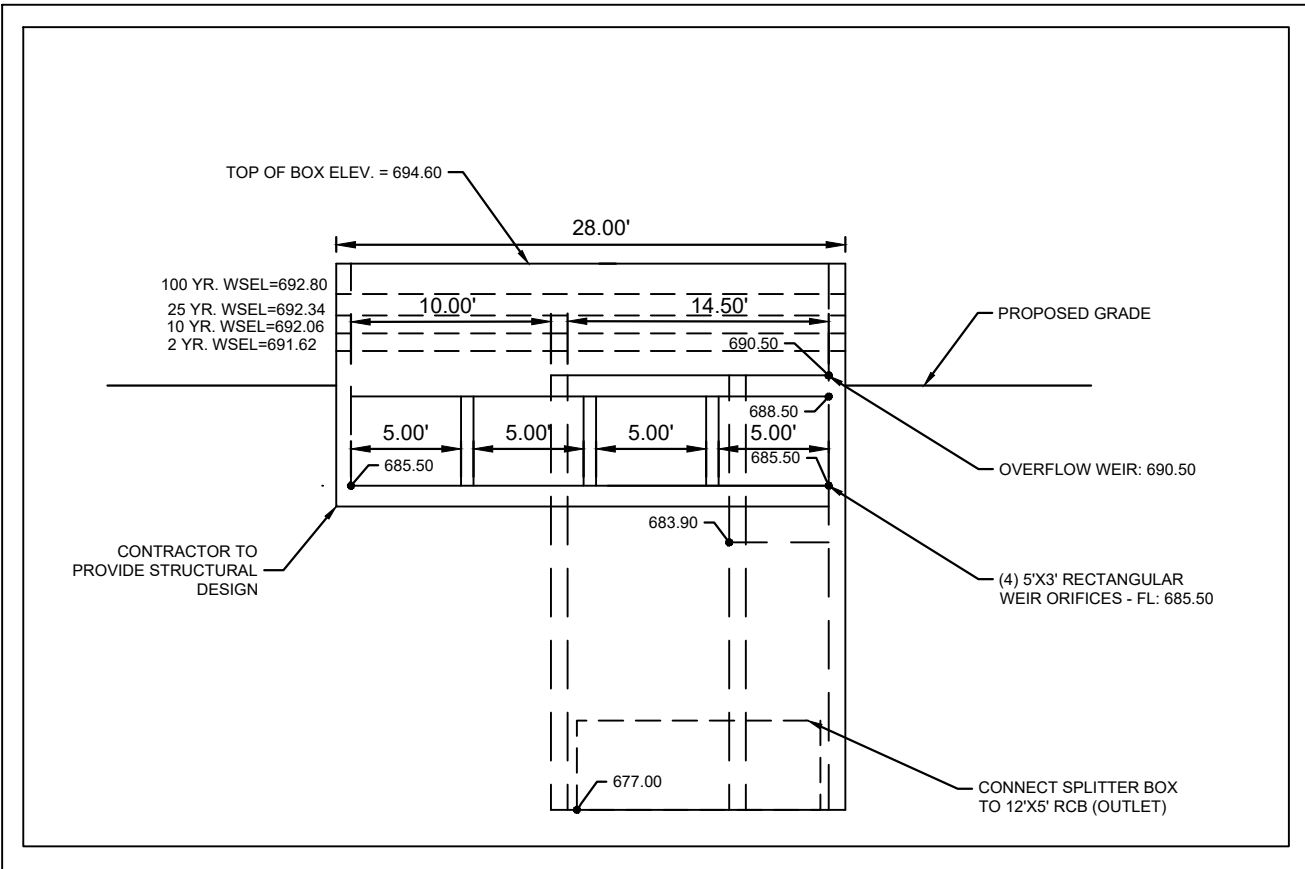
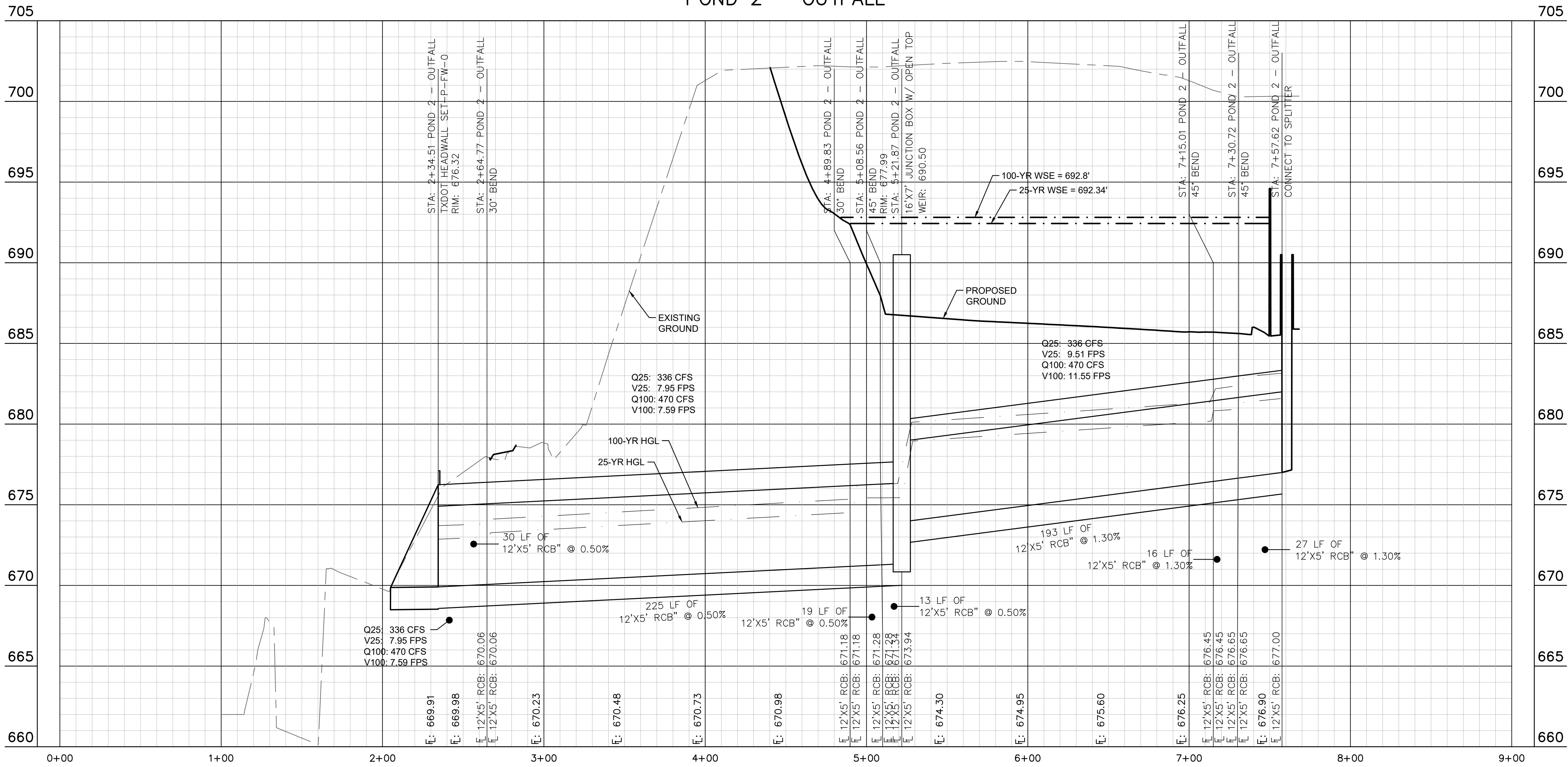
CONSTRUCTION PLAN APPROVAL	SHEET	226
FILE NUMBER	2021-737A	APPLICATION DATE
APPROVED BY COMMISSION ON	N/A	UNDER THE CITY OF BUDA
UNIFIED BY-ELLEMENT CODE		
EXPIRATION DATE	3/12/2026	CASE MANAGER
	A. KENNEDY	
<i>Blair Murski</i>		
City Engineer, City of Buda		
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A		
Rev. 1	Correction 1	
Rev. 2	Correction 2	
Rev. 3	Correction 3	
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PERMIT NUMBER: 2021-737A		



KHA PROJECT 06/783115		DATE JANUARY 2024		SCALE AS SHOWN		DESIGNED BY: WB,DM		DRAWN BY: WB,DM		CHECKED BY: AEG	
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3301 SOUTHWEST PARKWAY, BLDG. 3, SUITE 100		AUSTIN, TEXAS 78705		PH: 512.264.5577		WWW.KIMLEY-HORN.COM		© 2016 KIMLEY-HORN AND ASSOCIATES, INC.		TBPE Firm No. 928	
THE COLONY - PHASE 1		CITY OF BUDA		HAYS COUNTY, TEXAS		SHEET NUMBER		153		OF 226	

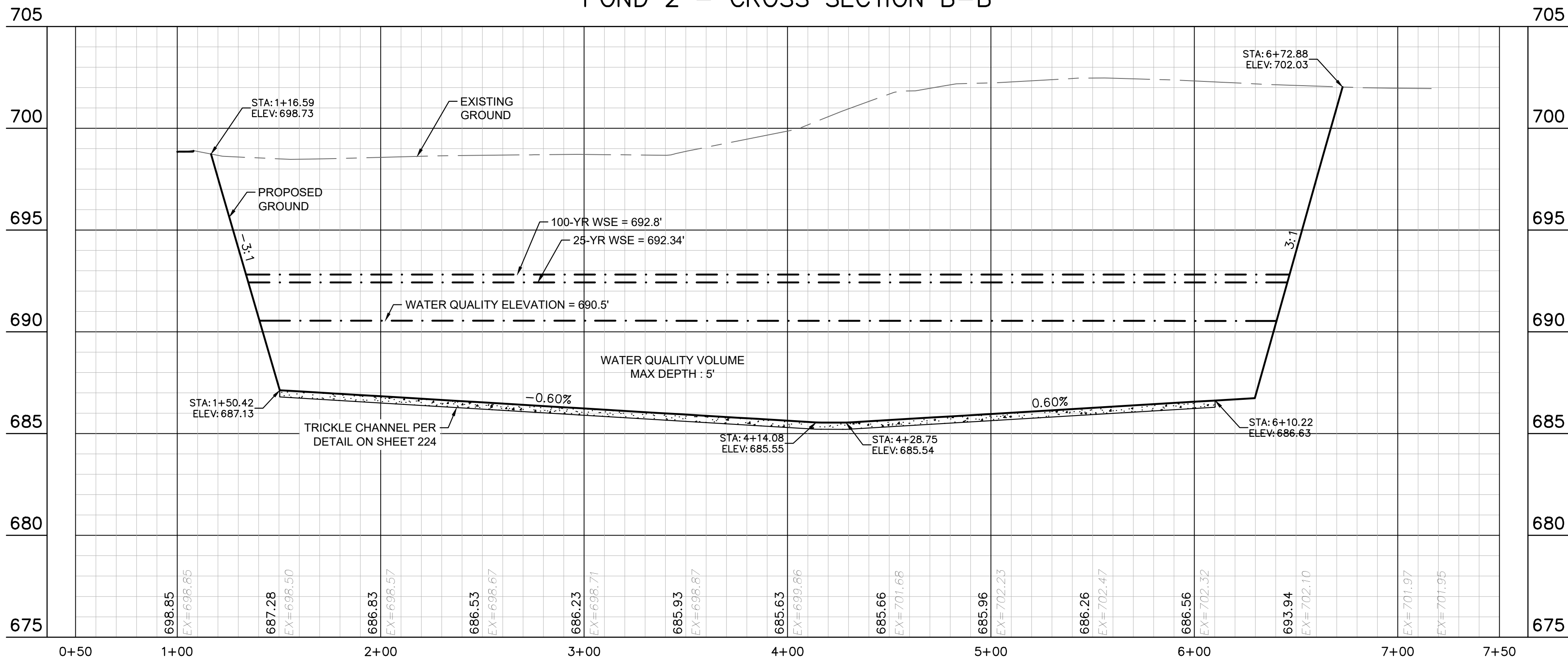
Plotted by: Duffy, Daniel Date: March 11, 2024 01:06:48pm File Path: K:\SAU_Civil\067783115 Meritloga Buda Assembly\Gad\PonSheets\C-Pond Plan.dwg
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POND 2 – OUTFALL

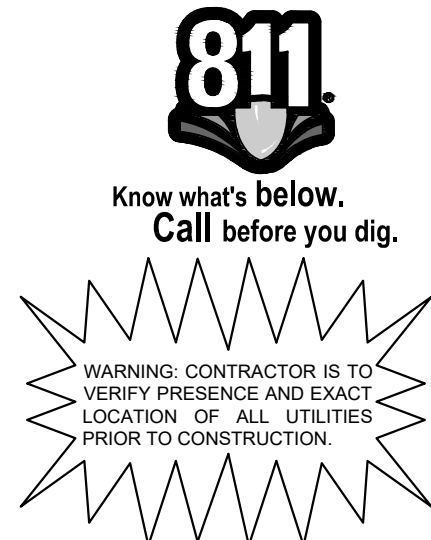
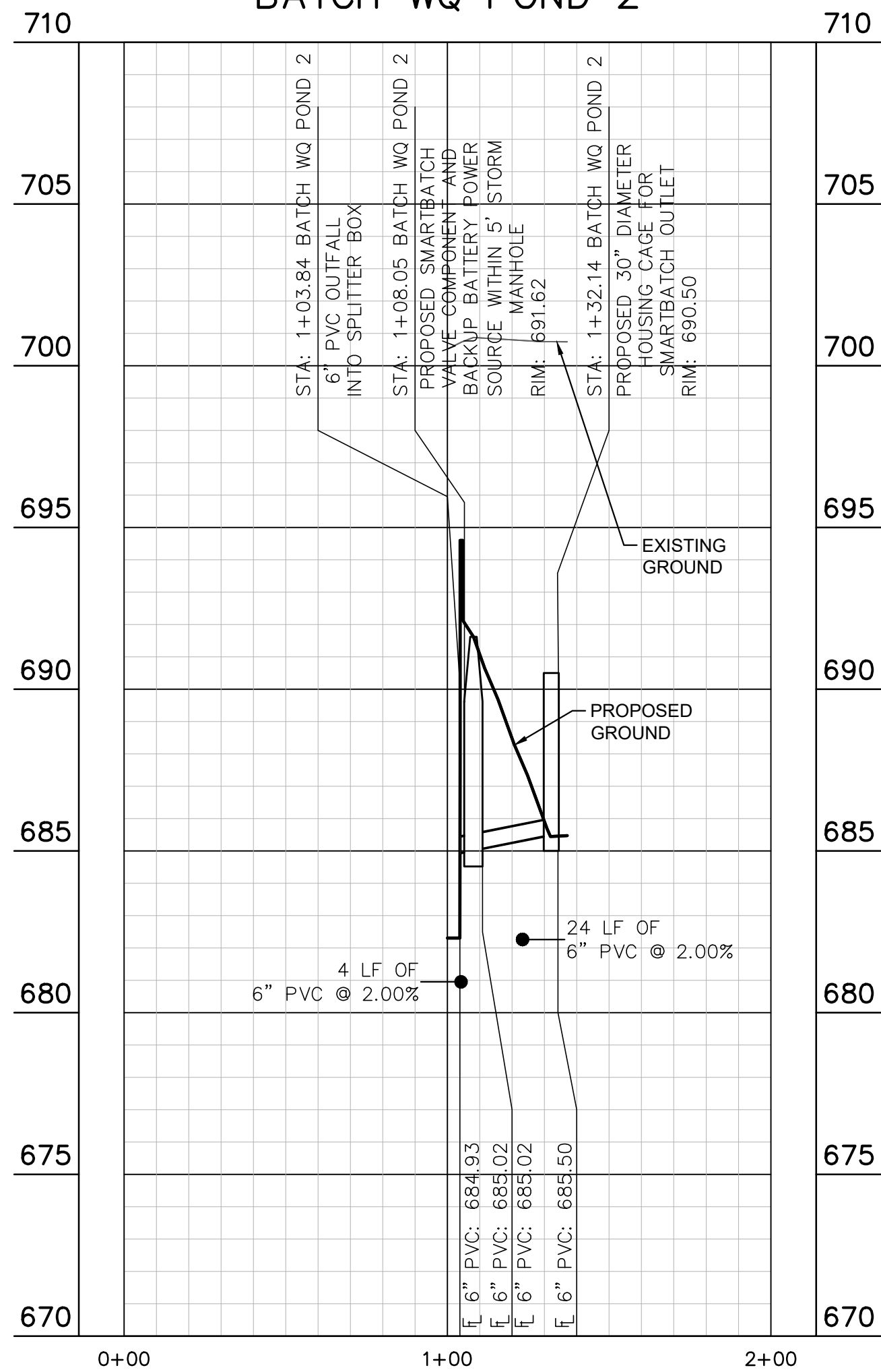


SPLITTER BOX DETAIL POND 2 (SECTION B-B)
N.T.S.

POND 2 – CROSS SECTION B-B



BATCH WQ POND 2



CONSTRUCTION PLAN APPROVAL SHEET ___ OF 226	
FILE NUMBER 2021-737A	APPLICATION DATE
APPROVED BY COMMISSION ON N/A	UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE	
EXPIRATION DATE 3/12/2026	CASE MANAGER A. KENNEDY
Blair Murski	
City Engineer, City of Buda	
RELEASED FOR GENERAL COMPLIANCE: ZONING N/A	
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POND 2 - OUTFALL
STRUCTURE &
PROFILES

THE COLONY - PHASE 1
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
154
OF 226

Kimley»Horn
5301 SOUTHWEST PARKWAY, BLDG. 3, SUITE 100
AUSTIN, TX 78745
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KHA PROJECT 067783115
DATE JANUARY 2024
SCALE AS SHOWN
DESIGNED BY: WB/DM
DRAWN: WB/HMBH/DM
CHECKED BY: AEG

Plotted by: Duffey, Daniel Date: March 11, 2024 01:07:00pm File Path: K:\SAU_Civil\067783115 Meritloga Buda Assemblage\Cad\PlanSheets\C-Pond Plan.dwg This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

TCEQ REQUIREMENTS

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: **Colony at Cole Springs PH 1**
Date Prepared: **11/29/2023**

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

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

Site Data: Determine Required Load Removal Based on the Entire Project
County = **Hays** acres
Total project area included in plan = **10.81** acres
Predevelopment impervious area within the limits of the plan = **0.00** acres
Total post-development impervious area within the limits of the plan = **3.92** acres (PHASE 1 WITHIN RZ AND CZ WITHIN TZ)
Total post-development impervious cover fraction = **0.36**
 P = **33** inches
 L_M TOTAL PROJECT = **3519** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **2**

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

Drainage Basin/Outfall Area No. = **WQP-2**
Total drainage basin/outfall area = **75.36** acres WQP-2 (67.12 AC) + WQP-2 TCEQ (8.24 AC)
Predevelopment impervious area within drainage basin/outfall area = **0.00** acres
Post-development impervious area within drainage basin/outfall area = **3.92** acres (PHASE 1 WITHIN RZ AND CZ WITHIN TZ)
Post-development impervious fraction within drainage basin/outfall area = **0.05**
 L_M THIS BASIN = **3519** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Extended Detention**
Removal efficiency = **91** percent
Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: $L_R = (BMP \text{ efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

where: A_C = Total On-Site drainage area in the BMP catchment area
 A_i = Impervious area proposed in the BMP catchment area
 A_p = Pervious area remaining in the BMP catchment area
 L_R = TSS Load removed from this catchment area by the proposed BMP
 A_C = **75.36** acres
 A_i = **3.92** acres
 A_p = **71.44** acres
 L_R = **5232** lbs

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

Desired L_M THIS BASIN = **5232** lbs.
 F = **1.00**

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = **4.00** inches
Post Development Runoff Coefficient = **0.08**
On-site Water Quality Volume = **86326** cubic feet

Off-site area draining to BMP = **0.00** acres
Off-site Impervious cover draining to BMP = **0.00** acres
Impervious fraction of off-site area = **0**
Off-site Runoff Coefficient = **0.00**
Off-site Water Quality Volume = **0** cubic feet
Storage for Sediment = **17265**
Total Capture Volume (required water quality volume(s) x 1.20) = **103592** cubic feet

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

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: **Colony at Cole Springs PH 1**
Date Prepared: **11/30/2023**

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

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

Site Data: Determine Required Load Removal Based on the Entire Project
County = **Hays** acres
Total project area included in plan = **10.81** acres
Predevelopment impervious area within the limits of the plan = **0.00** acres
Total post-development impervious area within the limits of the plan = **3.92** acres (PHASE 1 WITHIN RZ AND CZ WITHIN TZ)
Total post-development impervious cover fraction = **0.36**
 P = **33** inches
 L_M TOTAL PROJECT = **3519** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **2**

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

Drainage Basin/Outfall Area No. = **UNTREATED**
Total drainage basin/outfall area = **2.57** acres NT1 TCEQ (2.16 AC) + NT2 TCEQ (0.41 AC)
Predevelopment impervious area within drainage basin/outfall area = **0.00** acres
Post-development impervious area within drainage basin/outfall area = **0.00** acres (PHASE 1 WITHIN RZ AND CZ WITHIN TZ)
Post-development impervious fraction within drainage basin/outfall area = **0.00**
 L_M THIS BASIN = **0** lbs.

TCEQ Overall Water Quality Drainage Basins					
Basin ID	Proposed Area (AC)	Proposed Impervious Cover (AC)	% Impervious Cover	REQUIRED TSS REMOVAL	PROPOSED TSS REMOVAL
WQP-2*	67.12	N/A	N/A		
WQP-2 TCEQ	8.24	3.92	48%	3519	5232
UNTREATED	2.57	0.00	0%	0	0
TOTAL ONSITE	10.81	3.92	36.26%	3519	5232

*WQP-2 AREA NOT WITHIN RECHARGE ZONE AND HAS NO TCEQ WQ REQUIREMENTS. NOT COUNTED IN TOTAL PROJECT AREA.

POND 2 CALCULATIONS

Level Spreader Calcs DS Outlet Pond 2	
Crest Elevation (ft., msl.)	690.5
25 yr. Flow (cfs.)	336.00
Weir Coefficient	3
Provided Length (ft.)	118
Actual HGL (ft.)	691.47
Velocity (fps)	2.95

100-YR Overflow Spillway Pond 2	
Crest Elevation (ft., msl.)	690.5
100 yr. Flow (cfs.)	470.24
Weir Coefficient	3
Provided Length (ft.)	45
Maximum Water Surface Elevation (ft.)	692.80

25-YR Orifice Sizing Pond 2	
Crest Elevation (ft., msl.)	690.5
25 yr. Flow (cfs.)	336.00
Orifice Coefficient	0.6
Orifice Height	3
Orifice Area (sqft.)	56.98
Orifice Minimum Width (ft.)	19.00

POND 3 CALCULATIONS

Level Spreader Calcs Pond 3	
Crest Elevation (ft., msl.)	687
25 yr. Flow (cfs.)	166.00
Weir Coefficient	3
Provided Length (ft.)	59
Actual HGL (ft.)	687.96
Velocity (fps)	2.94

100-YR Overflow Spillway Pond 3	
Crest Elevation (ft., msl.)	691
25 yr. Flow (cfs.)	222.00
Weir Coefficient	3
Provided Length (ft.)	32
Actual HGL (ft.)	692.75

25-YR Orifice Sizing Pond 3	
Crest Elevation (ft., msl.)	686.5
25 yr. Flow (cfs.)	166.00
Orifice Coefficient	0.6
Orifice Height	2
Orifice Area (sqft.)	14.70
Orifice Width (ft.)	7.40

Water Quality Pond 2			
Stage-Storage			
Elevation (Ft.)	Area (Sq. Ft.)	Volume (Sq. Ft.)	Cumulative Volume (Sq. ft.)
Filtration			
685.5	83	1373	0
686	5409	17656.5	1373
687	29904	33108	19030
688	36312	38004	52138
689	39696	41417	90142
690	43138	22005	131559
690.5	44883	WQE	153564
691	46634	22879	176443
692	50094	48364	224807
693	53517	51806	276613
694	56889	58947	276613
695	61005	62410	335560
696	63815		397970
		WQ Volume	153564
		Total Volume	397970

811

Know what's below.
Call before you dig.

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

BENCHMARKS

BM #103 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 70'4" NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.01 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 88)

BM #105 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 226

FILE NUMBER 2021-737A APPLICATION DATE _____

APPROVED BY COMMISSION ON _____ UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE.

EXPIRATION DATE 3/12/2026 CASE MANAGER A. KENNEDY

Blair Murski

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE; _____ ZONING N/A

Rev. 1 _____ Correction 1

Rev. 2 _____ Correction 2

Rev. 3 _____ Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER: 2021-737A

Kimley»Horn

5301 SOUTHWEST PARKWAY, BLDG. 3, SUITE 100
AUSTIN, TX 78745
PHONE: 737.646.5737
WWW.KIMLEY-HORN.COM
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TBPE Firm

03/08/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO
130084
LICENSED PROFESSIONAL ENGINEER

Aljano E. Granados

KHA PROJECT 06/783115

DATE JANUARY 2024

SCALE AS SHOWN

DESIGNED BY: WB,DM

DRAWN: WB, HM, MH, DM

CHECKED BY: AEG

POND CALCULATIONS (SHEET 2 OF 2)

THE COLONY - PHASE 1

CITY OF BUDA

HAYS COUNTY, TEXAS

SHEET NUMBER

156

OF 226

SECTION 3: GEOLOGIC ASSESSMENT

GEOLOGIC ASSESSMENT FOR THE 123.67-ACRE COLONY AT COLE SPRINGS TRACT

Hays County, Texas

December 2019

Submitted to:

M/I Homes
6801 N. Capital of Texas Highway
Lakewood II, Suite 100
Austin, Texas 78731

Prepared by:

aci Group, LLC
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-19-100

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

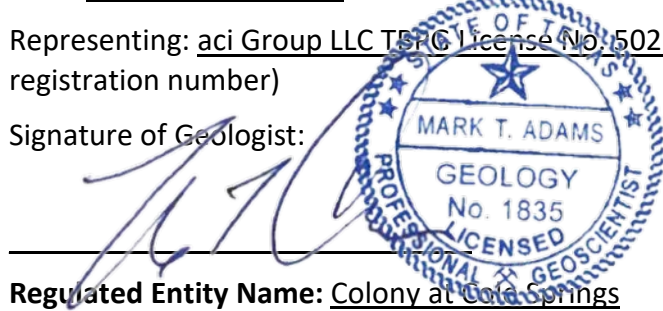
Telephone: (512) 347-9000

Date: November 26, 2019

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: Colony at Cold Springs

Project Information

1. Date(s) Geologic Assessment was performed: November 12, 13 & 18, 2019

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)
See soils table (pg. 12)		

** 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" = 200'
 Site Geologic Map Scale: 1" = 200'
 Site Soils Map Scale (if more than 1 soil type): 1" = 500'
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 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- ☐ The wells are not in use and have been properly abandoned.
- ☐ The wells are not in use and will be properly abandoned.
- ☒ The wells are in use and comply with 16 TAC Chapter 76.
- ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

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December 3, 2019

Geologic Assessment for the Colony at Cole Springs Tract located in Hays County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. 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.

The Colony at Cole Springs Tract hereafter referred to as the subject area or site, is located approximately 0.5 mile southeast from the intersection of Cole Springs Road and Old Black Colony Road in the City of Buda Extraterritorial Jurisdiction (ETJ), Hays County, Texas (**Attachment D, Figure 1**).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on November 12th, 13th, and 18th, 2019 by Luke Rome, P.G., and Kara Posso, G.I.T., Eric Brown, Ben Ruthven, and Mark Adams, P.G. with **aci 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) and Sewage Collection System (SCS). The proposed site use is for a single-family, residential development. 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.

According to Edwards aquifer zone maps, the subject area is within the Edwards aquifer Recharge Zone, Transition Zone, and Transition Zone within the Contributing Zone (TCEQ 2005).

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 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on November 12th, 13th, and 18th, 2019. Nine features (non-karst and manmade features in bedrock) were initially noted on the site. No sensitive karst features were identified within the subject area. Six of the nine features are manmade features in bedrock and should be brought to the attention of the engineer. The remaining three features were classified as other and are not a product of dissolution or karst processes and do not have a direct connection to the Edwards aquifer. Based on the field findings, it appears that the thin sliver of recharge zone that extends onto the subject area as shown on TCEQ maps is likely miss-mapped.

5.0 RECOMMENDATIONS

aci consulting recommends that the six manmade features in bedrock (CS-01, CS-04, CS-05, CS-06, CS-07, and CS-08) be brought to the attention of the engineer.

6.0 REFERENCES

- Hauwert, N., et. al. 2002. Geologic Map of the Barton Springs Segment of the Edwards Aquifer. Barton Springs Edwards Aquifer Conservation District and the United States Geologic Survey. Austin, Texas.
- (SCS) Soil Conservation Survey. 1983. Soil Survey of Hays County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- Small, T.A.; J.A. Hanson; and N.M. Hauwert. 1996. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, (Barton Springs Segment) Northeastern Hays and Southwestern Travis Counties, Texas. U.S. Geological Survey Water Resources Investigations Report 96-4306.
- (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. 2019. Water Data Interactive Groundwater Data Viewer. Accessed on November 11, 2019. Available at:
<http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer>
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2019. WebSoilSurvey.com. Soil Survey Area: Hays County, Texas. Date accessed: November 11, 2019.

ATTACHMENT A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE										PROJECT NAME: Colony at Cole Springs									
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)	DO	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
CS-01	30.079596	-97.858919	MB	30	Kbu/Kdr/Kgt	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-02	30.081277	-97.860138	O	5	Kdr (Kbu)	1.5	0.7	1.5	-	-	-	-	O,F,C	15	20	X		X	Drainage
CS-03	30.082607	-97.857384	O	5	Kgt	2	2	2.75	-	-	-	-	O,F	5	10	X		X	Hillside
CS-04	30.079589	-97.857979	MB	30	Kbu/Kdr/Kgt	0.25	0.25	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-05	30.076847	-97.855193	MB	30	Kbu	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-06	30.077728	-97.856127	MB	30	Kbu	0.08	0.08	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-07	30.078152	-97.852964	MB	30	Kbu	3	3	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-08	30.078029	-97.85343	MB	30	Kbu	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-09	30.078671	-97.852727	O	5	Kbu	1.7	0.7	3.5	-	-	-	-	O,F,C	10	15	X		X	Hillside

* DATUM: NAD 1983 State Plane 4203

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

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

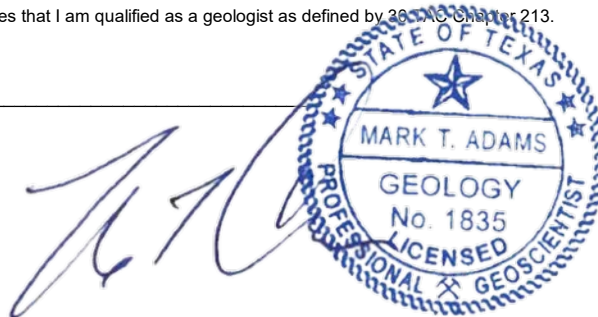
12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

My signature certifies that I am qualified as a geologist as defined by 30.0010 Chapter 213.

Date 12/3/2019

Sheet 1 of 1



ATTACHMENT B
Stratigraphic Column

Colony at Cole Springs Tract, Hays County

Group	Formation	Thickness (Small et al., 1996)
Washita Group	Buda Limestone	40-50 feet
Washita Group	Del Rio Clay	50-60 feet
Washita Group	Georgetown Limestone**	40-60 feet

***Note: the Georgetown Limestone was not identified onsite.*

ATTACHMENT C
Site Geology

The following includes a description of the site stratigraphy, geologic structure related to the Edwards aquifer, and karstic characteristics. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock, the soil table, and a short feature summary. The final portion of this attachment contains full feature descriptions and photos.

Stratigraphy

Kbu – Buda Limestone

Small et al. describes Buda Limestone as “40 to 50 ft of dense, variably nodular, sublithographic or “porcelaneous” limestone; and light-gray to buff mudstone, commonly containing calcispheres and tiny calcite-filled fractures.”

Kdr – Del Rio Clay

The Del Rio Clay is described by Small as “50 to 60 ft thick and is a dark blue-green to yellow-brown, variably gypsiferous clay, commonly containing pecten-type fossil clams and an abundance of the fossil oyster *Ilymatogyra arietina*, formerly *Exogyra arietina* (Roemer). These fossil oysters are known locally as “rams horns.”

Kgt – Georgetown Limestone (Not identified onsite)

The Georgetown Limestone is described as “40 ft in the south to about 60 ft in the north. The lithology of the Georgetown Formation generally consists of gray to light-tan, marly, fossiliferous limestone, usually containing ammonites, oyster-like clams, and the brachiopod *Waconella wacoensis*, formerly *Kingenella wacoensis* (Roemer).”

Structure

According to Small et al (1996), the subject area is underlain by Kbu, Kdr, and Kgt, however, Kgt was not observed. There are two mapped normal faults that intersect the subject area at 30°-35° (Hauwert et. al. 2002). Locally, the dominant structural trend of the area is 35°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 20° to 50° are considered on trend and will be awarded an additional 10 points in the Geologic Assessment Table.

The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek

Member. The Glen Rose Formation, another marine limestone stratum, is located below the Walnut Formation. On site, the Edwards Aquifer Recharge Zone corresponds to the Georgetown Formation.

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and “point recharge” for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Review of Historic Aerials

Aerial photographs were reviewed for the site 1951, 1958, 1967, 1973, 1981, 1995, 2004, 2008, 2014, 2018. It was determined that ranching and agricultural activities occurred on the site with an associated rural residence since the first aerial image dated 1951 (**Attachment E**). There is a “Refined Liquid Product” buried pipeline crossing the site that appears to have been installed prior to the 1951 aerial. It is unclear whether this pipeline is still in service. Additional information regarding the pipeline in **Attachment F**. The 1973 aerial show the first appearance of an aerial easement (transmission line) crossing the site. The 2008 aerial shows the first appearance of a quarry to the northeast of the site.

Soil Table

Soil Name	Group	Thickness (feet)
DeB—Denton silty clay, 1 to 3 percent slopes	D	6.66
ErG—Eckrant-Rock outcrop association, 8 to 30 percent slopes	D	6.66
GrC—Gruene clay, 1 to 5 percent slopes	D	6.66
KrB—Krum clay, 1 to 3 percent slopes	C	6.66
Or—Orif soils, moist, 0 to 3 percent slopes, frequently flooded	A	6.66
RUD—Rumple-Comfort, rubbly association, 1 to 8 percent slopes	D	4.92
SeB—Seawillow clay loam, 1 to 3 percent slopes	B	5.16

Feature Summary

Nine features were identified during site investigations and are detailed below, and shown on **Figure 3 in Attachment D**.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment D, Figure 4**.

CS-01

GPS: 30.079596, -97.858919

CS-01 is a manmade feature in bedrock that crosses the Buda Limestone, Del Rio Clay, and Georgetown Limestone Formations. The feature is a petroleum pipeline registered to Sunoco Pipeline, L.P. (P-5 # 829627). The pipeline permit information is presented in Attachment F. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive to call the attention of the project engineer.

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



Photo of CS-01.

CS-02

GPS: 30.081277, -97.860138

CS-02 is an “other natural bedrock feature” and is present on a bank within a drainage. The geology is mapped as the Del Rio Clay Formation but was field confirmed as the Buda Limestone Formation. The feature is 1.5 feet wide by 0.7 feet tall, extending laterally 1.5 feet into the east bank of the drainage. Infill material consists of exposed limestone, rock cobbles, loose leaf litter, soils, and clay with desiccation cracks. The catchment area is less than 1.6 acres. Based on Figure 1 of the TCEQ Instructions to Geologists, the probability of rapid infiltration is designated as low (15 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-02.

CS-03

GPS: 30.082607, -97.857384

CS-03 is an “other natural bedrock feature” and is present on a hillside in the Del Rio Clay Formation. This is likely an animal burrow due to the presence of soil mounding surrounding the feature. The dimensions are 2 feet by 2 feet, extending down and laterally 2.5 feet. Infill material consists of loose leaf litter, roots and dark soils. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (5 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-03.

CS-04

GPS: 30.079589, -97.857979

CS-04 represents a buried 3-inch waterline with a series of water spigots (manmade features in bedrock) that protrude approximately 1-2 feet above the surface. The locations of the spigots were located throughout the property and fall within each of the three mapped geological formations on site. Based on conversations with the ranch hand, the waterline and spigots are directly connected to the water well, CS-05, and are found primarily along the open pasture and the fenced areas along the west portion of the subject area. The depth of the waterline is unknown. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-04

CS-05

GPS: 30.076847, -97.855193

CS-05 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-05.

CS-06

GPS: 30.077728, -97.856127

CS-06 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. There were two waterline spigots in the vicinity that had a 1-inch diameter each and an unknown depth. These waterlines are likely connected to the well designated as CS-05. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-06.

CS-07

GPS: 30.078152, -97.852964

CS-07 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature was found proximal to a collapsed rural residence and is likely the relict access for a below ground septic system. The dimensions are approximately 3 feet by 3 feet with an unknown depth. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-07.

CS-08

GPS: 30.078029, -97.85343

CS-08 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-08.

CS-09

GPS: 30.078671, -97.852727

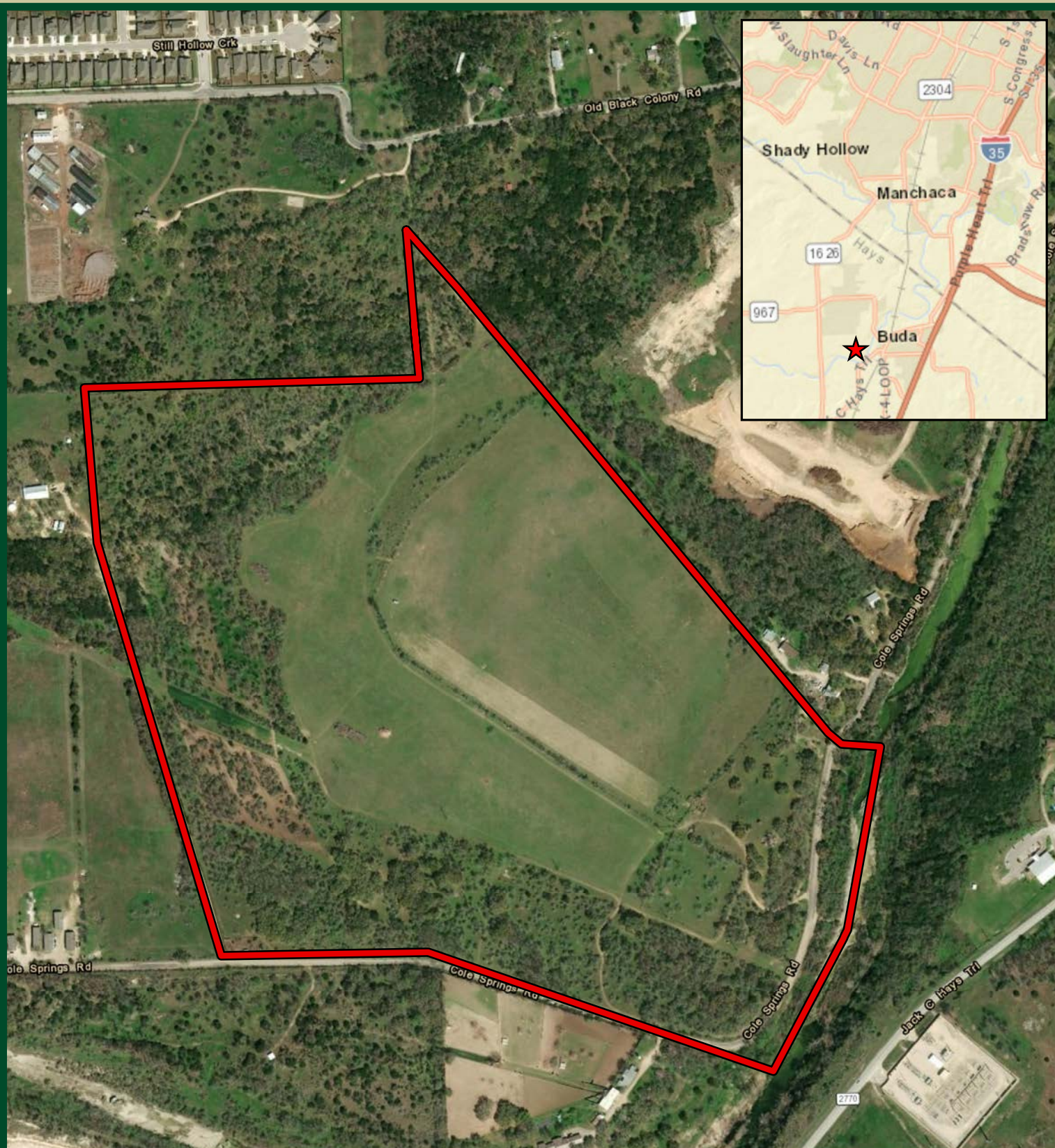
CS-09 is a “other natural bedrock feature” and is present on a hillside outcrop in the Buda Limestone Formation. While the outcrop constituents are consistent with the Buda Limestone, the structure suggests an alluvial concretionary deposit rather than bedrock. The feature dimensions are 1.7 feet by 0.7 feet, extending laterally into the outcrop for 3.5 feet. Infill material consists of rock cobbles, loose leaf litter, and soil. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (10 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.

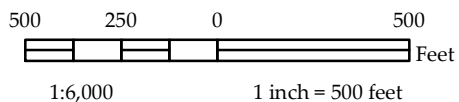


Photo of CS-09.

ATTACHMENT D
Site Maps

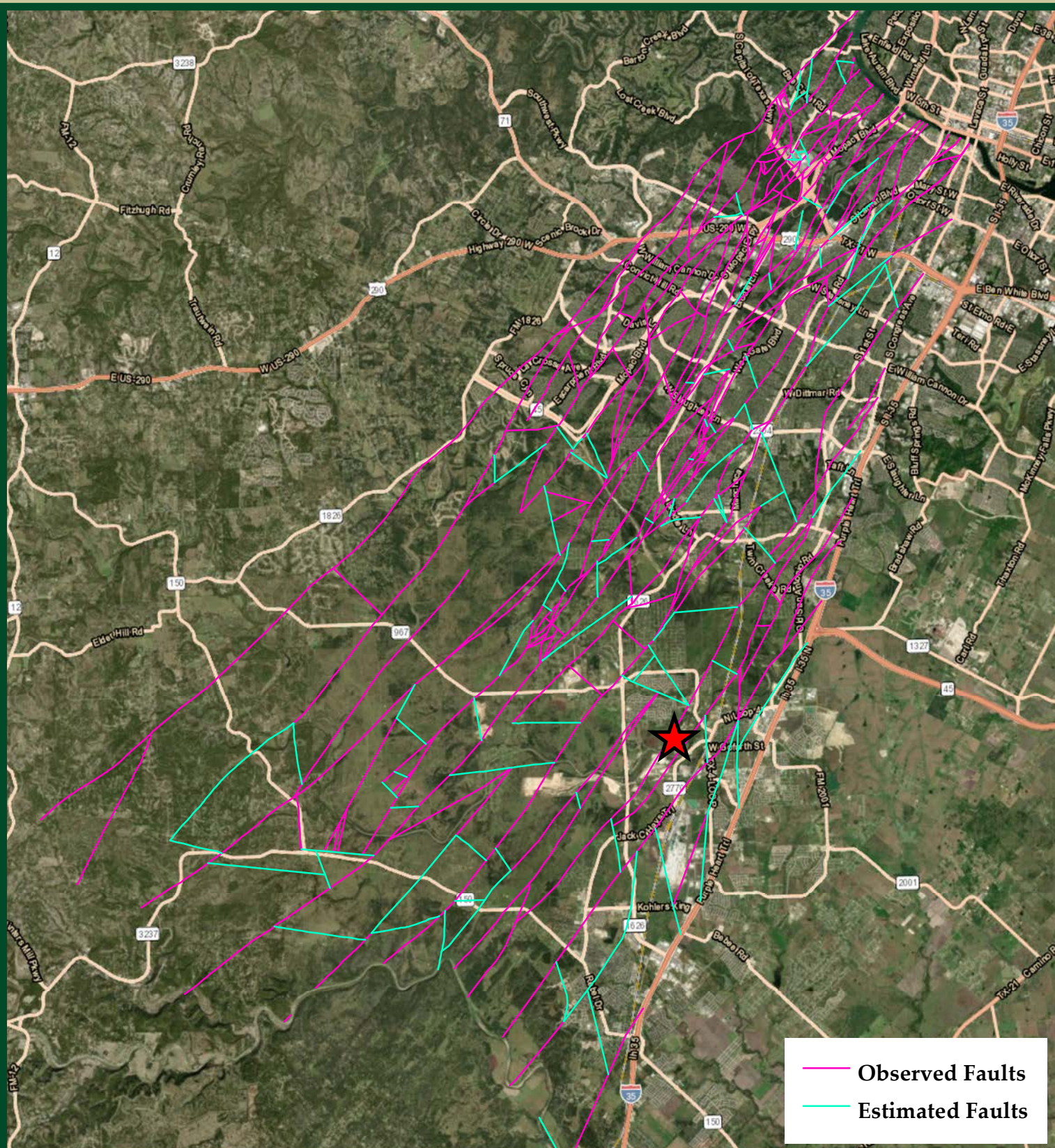


This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.



Subject Area





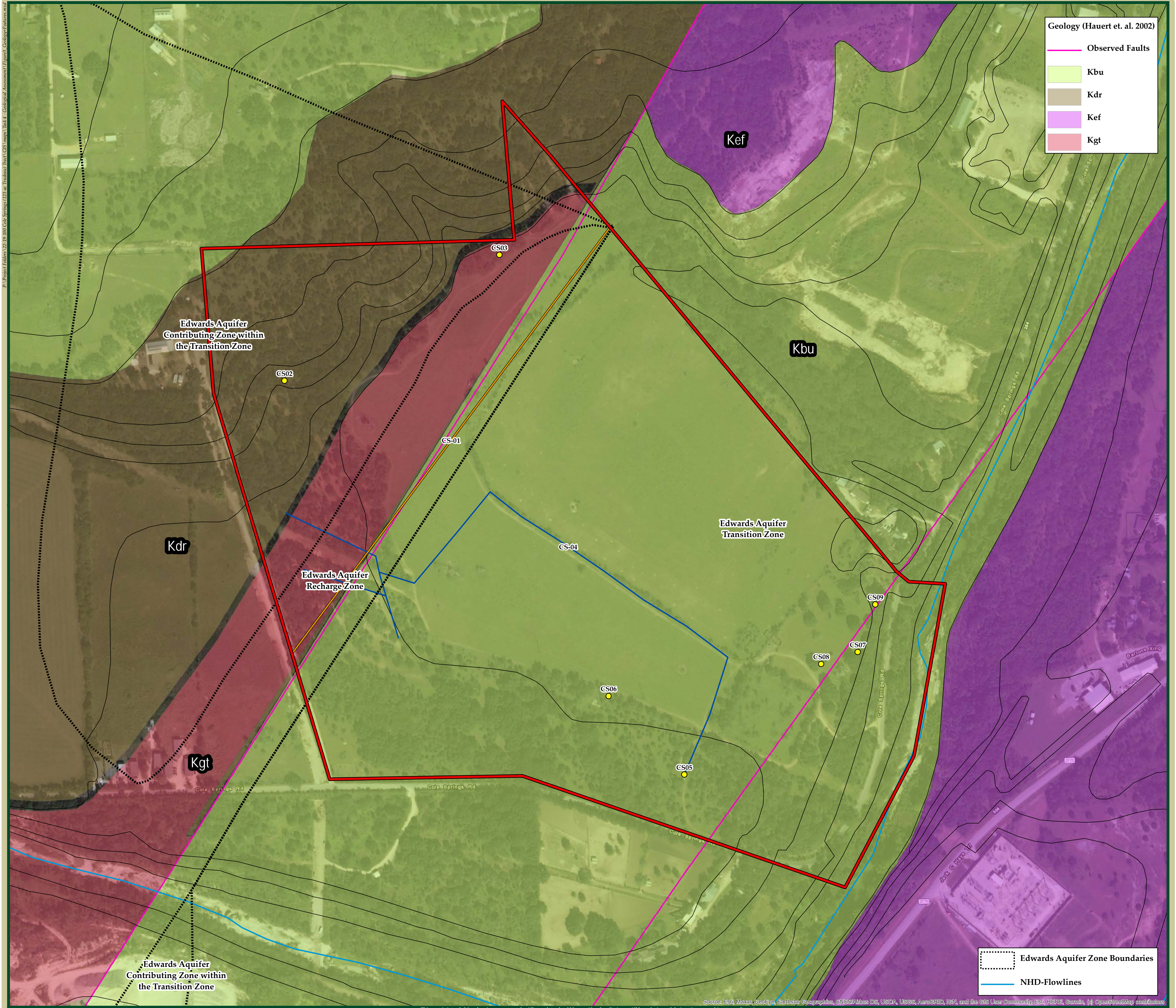
This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.



15,000 7,500 0 15,000
Feet
1:180,000 1 inch = 15,000 feet

★ Subject Area
Regional Trend 35°





N

200 100 0 200

Feet

1:2,400inch = 200 Feet

Subject Area

Features

Pipeline

Waterline

Contours - 10ft

STATE OF TEXAS

MARK T. ADAMS

GEOLOGY

No. 1835

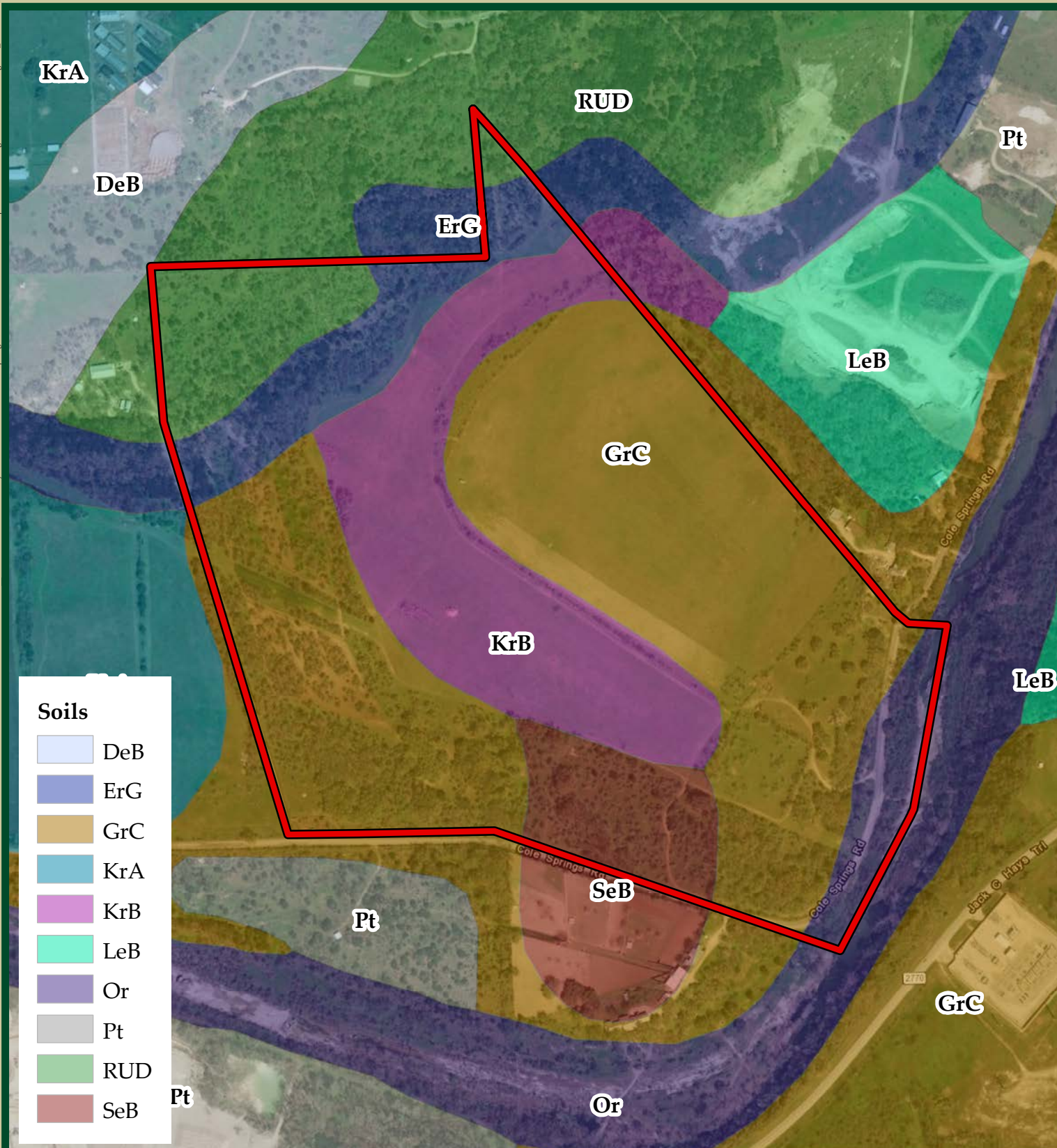
LICENSED

PROFESSIONAL GEOLOGIST

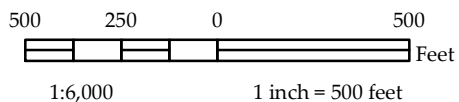
aci

consulting

austin • denver



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



ATTACHMENT E
Historical Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin TX 78746



Historical Aerial Photographs

Cole Springs Road tract

Hays County, TX

PO #: 22-15-03J

ES-131419

Thursday, June 27, 2019



Date: 2018
Source: TNRIS

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2014
Source: USDA

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2008
Source: USDA

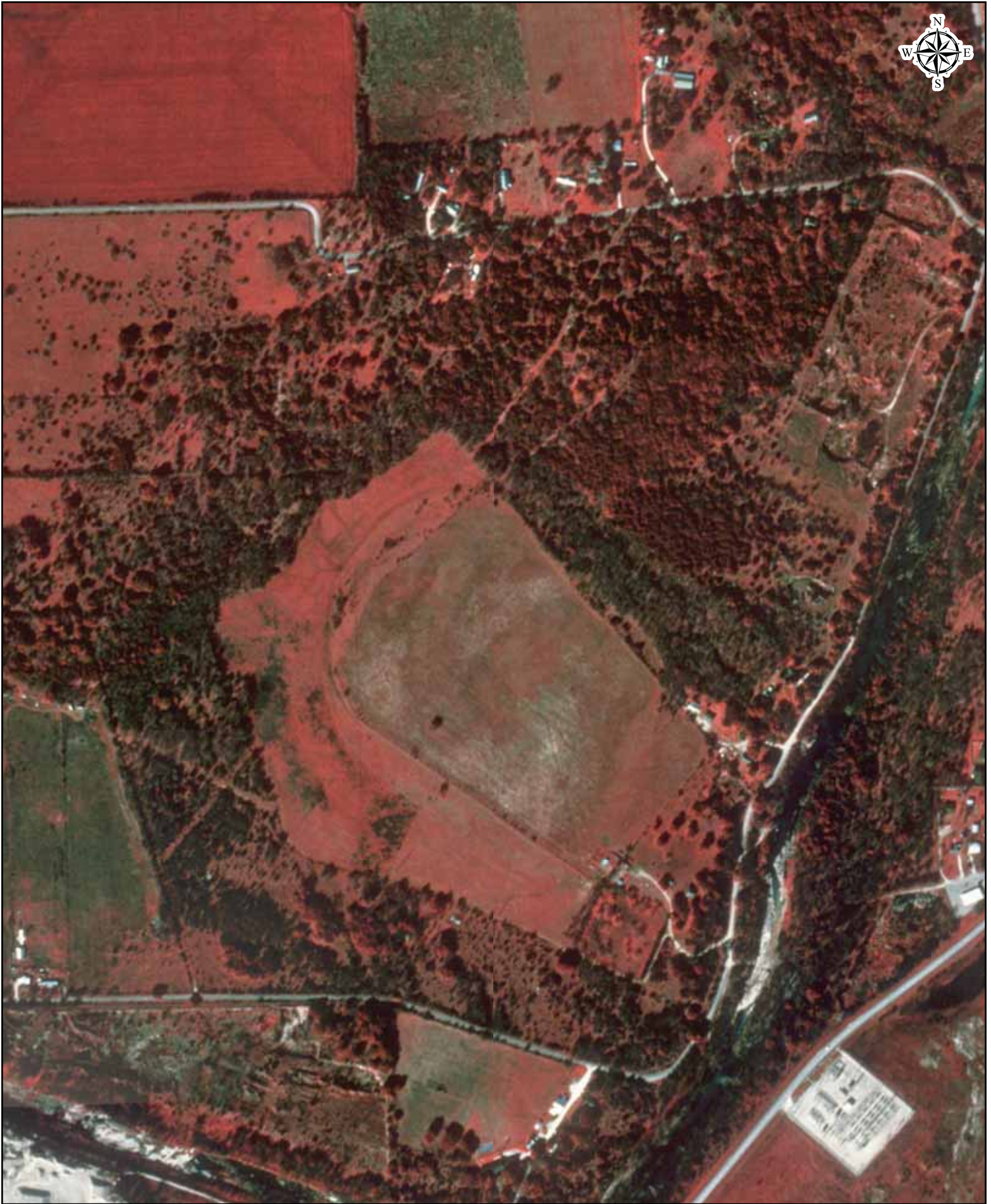
0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
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Date: 2004
Source: USDA





Date: 1995
Source: USGS





Date: 1981
Source: USGS

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
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Date: 1973
Source: USGS

0 250 500 1,000 Feet





Date: 1967
Source: USGS

0 250 500 1,000 Feet





Date: 1958
Source: USGS

0 250 500 1,000 Feet





Date: 1951
Source: USDA

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

HISTORICAL AERIAL PHOTOGRAPHS	
ES-131419	June 27, 2019



AERIAL SOURCE DEFINITIONS

Acronym	Agency
NASA	National Aeronautics & Space Administration
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
SCS	Soil Conservation Service
ISGS	Illinois State Geological Survey
Fairchild	Fairchild Aerial Surveys
TXDOT	Texas Department of Transportation
BLM	Bureau of Land Management
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
TNRIS	Texas Natural Resources Information System

HISTORICAL AERIAL PHOTOGRAPHS	
ES-131419	June 27, 2019



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ATTACHMENT F
Petroleum Pipeline Information

*** DATABASE CHANGES ***

06566

TRANSFER FROM PERMIT 06566 TO PERMIT

Safety Eval# _____ Prepared by _____ Permit # 07899 Change date 1/4/10 print date 1/4/10

1) COMPANY:

☐ Add New Company ☐ Change Company ☐ Change Status to Inactive ☒ No Changes

	COID	STATUS	COMPANY NAME
CURRENT	1791	A	CHEVRON PIPE LINE COMPANY
NEW	6139	A	SUNOCO PIPELINE L.P.

2) UNIT: When adding a new unit, include the contact person and complete address.

☐ Add Unit* ☐ Chg. Co. ID ☐ Chg Name of Unit ☐ Transfer to Another Unit ☒ No Chgs.

Contact Person _____ Title _____ Phone (____) _____

* Address _____

	UNIT ID	UNIT NAME	CO ID
CURRENT	17949	CHEVRON PL/REG 4	1791
CHG/NEW	18250	SUNOCO PL LP/BEAUMONT	6139

3) SYSTEM:

Change of: ☒ Unit ID ☐ Name ☐ Status ☐ County ☐ Miles ☒ T-4 Permit

☐ Add New System(s) ☐ Merge System(s) ☐ Split System(s) Out ☐ Other _____
ACTIVE JURIS SYSTEM

	SYSTEM	UNIT	SYSTEM NAME	A	J	S	T-4	COUNTY
CURRENT	450873	17949	HEARNE-AUSTIN PRODUCT	A	J	P	6566	Milam
CHG/NEW							7899	Robertson

Reason OPERATOR NAME CHANGE, PERMIT CHANGE: Travis
IDLE SYSTEM TRANSFERRING FROM CHEVRON PERMIT 06566 CANCELED Williamson
AND MERGED INTO EXISTING SUNOCO PERMIT 07899. 71.4 mi

CURRENT								
CHG/NEW								

Reason

CURRENT								
CHG/NEW								

Reason

CURRENT								
CHG/NEW								

Reason

CURRENT								
CHG/NEW								

Reason

Form PS-74 rev 7-04

Program Manager Review

Date

RAILROAD COMMISSION OF TEXAS
SAFETY DIVISION
PERMIT SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, December 23, 2009

SUNOCO PIPELINE L.P.
ATTN DAVID BORN
ONE FLUOR DANIEL DR BLDG A 3
SUGAR LAND TX 77478

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that SUNOCO PIPELINE L.P. has
complied with 16 TAC Sec. 3.70 of the Commission Rules and
Regulations governing pipelines in accordance with the Natural
Resources Code Sec. 81.051 and is granted this permit by the
Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

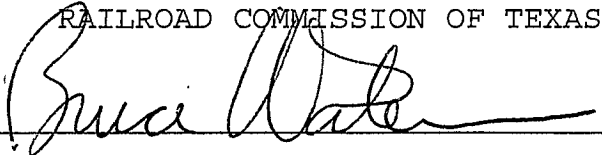
WILLIAMSON

PERMIT AMENDED TO REFLECT OPERATOR CHANGE FROM CHEVRON PIPE LINE
COMPANY, THEN PERMIT CANCELED AND MERGED INTO SUNOCO PIPELINE
L.P. EXISTING PERMIT 07899. (ALSO OWNER CHANGE FROM TEXACO
PIPELINE COMPANY TO SAME AS CURRENT OPERATOR.)

This permit is valid until the operating ownership of such line
or system changes, or until extensions or other physical changes
are made in the line or system. (See Instructions on Form T-4.)

BY

RAILROAD COMMISSION OF TEXAS



APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN THE STATE OF TEXAS

(See 16 TAC 3.70)

RECEIVED
RRD OF TEXAS

FORM T-4

(8/06)

Railroad Commission of Texas
Gas Services Division
License & Permits Section

DEC 22 2009

SAFETY DIVISION
AUSTIN, TEXAS

Permit No.:

06566

ORGANIZATION INFORMATION

1. Operator (Applicant) (See Instruction 1) Sunoco Pipeline L.P. P5# <u>829627</u>	Address One Fluor Daniel Dr. Bldg. A Level 3, Sugar Land TX 77478
2. Does the above named operator own pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name and address of owner.	
3. Does the above named operator conduct or control the economic operations on the pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name, address and P-5# of economic operator. (See Instruction 2) P5# _____	

PIPELINE INFORMATION

1. Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify <u>Gasoline, Diesel, Jet A</u> c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a <input type="checkbox"/> gas utility or as a <input type="checkbox"/> private line? (Texas Utilities Code) <i>NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status.</i> e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.	
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No New Construction Report Number _____ b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (see 16 TAC 8.115 for applicability) c) Extension or modification? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) <u>Chevron Pipeline Company, 4800 Fournace Place, Bellaire Texas 77401</u>	
3. Check detailed purpose(s) for which described pipeline will be used: <input checked="" type="checkbox"/> Transmission <input type="checkbox"/> Terminal (Storage Field) <input type="checkbox"/> Industrial Distribution <input type="checkbox"/> Gathering <input type="checkbox"/> Gas Lift <input type="checkbox"/> Manufacturing Feed Stock (Own Consumption) <input type="checkbox"/> Gas Injection <input type="checkbox"/> Gas Plant <input type="checkbox"/> Other (explain) _____	
4. U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) <input type="checkbox"/> Yes <input type="checkbox"/> No Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Todd M. Stamm
(Type or Print Name of Person)

12-18-09
(Date)

Manager, Western Pipeline Operations
(Title)

Todd M. Stamm 12/21/09
(Signature)

Inquiries regarding this application should be directed to:

Name: David Born Address: One Fluor Daniel Dr. Building A Level 3, Sugar Land TX 77478 Phone: (A/C) 281-637-6497

Fax (866) 619-8702 E-mail kdborn@sunocologistics.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY
PO BOX 12967, AUSTIN, TX 78711-2967

RECEIVED
RRC OF TEXAS
DEC 22 2009
SAFETY DIVISION
AUSTIN, TEXAS

PIPELINE TRANSFER CERTIFICATION
(File with Form T-4)


NEW OPERATOR/APPLICANT: Sunoco Pipeline L.P.

Address: One Fluor Daniel Dr., Building A Level 3

Sugar Land Texas 77478
City State Zip

Does the above named operator own the pipeline(s) ☒ Yes ☐ No
If "no" give owners name and address:

NEW OPERATOR'S CERTIFICATION. By signing this certificate, I acknowledge responsibility for the regulatory compliance of the listed pipelines. I also acknowledge that I will remain designated as the current operator until a new certificate designating a new current operator is approved by the Commission.

Name (print) Todd M. Stamm Signature  Date 12-18-09

Title: Manager, Western Pipeline Operations Phone: (281) 637-6581

OLD OPERATOR: Chevron Pipe Line Company

Address: 4800 Fournace Place

Bellaire Texas 77401
City State Zip

Did the above named operator own the pipeline(s) ☒ Yes ☐ No
If "no" give owners name and address:

OLD OPERATOR CERTIFICATION. Being the previous operator, I certify that operating responsibility for 1 pipeline listed on Form T-4A for Permit 006566 has been transferred to the above named operator. I understand, as previous operator, that designation of the above named operator as current operator is not effective until this certification is approved by the Commission.

Name (print) J. R. Burke Signature  Date 12-17-09

Title DOT Specialist Phone (713) 432-3206

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

RECEIVED
RRC OF TEXAS

MAR 11 2009

SAFETY DIVISION
AUSTIN, TEXAS

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401		PERMIT NO. 06566	P-5 NO. 148100
PIPELINE CLASSIFICATION Common Carrier <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Interstate <input type="checkbox"/> Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Private <input type="checkbox"/> Issuance Date of Last Permit <u>March 5, 2007</u> Location of Line(s) by County(s) <u>Milam, Robertson, Travis</u> <u>& Williamson Counties</u> 		PLEASE ANSWER (A) & (B) (A) Fluid Transported (B) Miles of Pipe Crude <input type="checkbox"/> _____ Condensate <input type="checkbox"/> _____ Gas * <input type="checkbox"/> _____ Products * <input checked="" type="checkbox"/> <u>71.46</u> Full Oil Well Stream <input type="checkbox"/> <u>✓ 71.5 (W)</u> Full Gas Well Stream <input type="checkbox"/> _____ Other * <input type="checkbox"/> _____ Specify <u>Idle Products Line</u> <input checked="" type="checkbox"/> Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> If yes, at what concentration? _____ ppm	

This will certify that the installations described above have not been subject to any modifications, extensions or abandonment since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature



J. R. Burke - rburke@chevron.com
Name of Person (type or print)

03/10/2009 DOT Specialist
Date Title

FAX: (713) 432-3477
Telephone Number (713) 432-3206
Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.



Global Gas

J. R. Burke
DOT Specialist

**Environmental and
Technical**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
RBurke@Chevron.com

March 10, 2009

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

06218	00700	00963	02042	01032	01033
00964	01447	05365	06344	06566	06335
05718	00188				

Also included is a Form PS-87 Pipeline Proximity to Public Schools and a 7100.2-1 Annual Gas Report for permit # 06335 Chevron Keystone Gas Storage.

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

**RECEIVED
RRC OF TEXAS**

MAR 11 2009

**SAFETY DIVISION
AUSTIN, TEXAS**

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS
MAR 17 2008

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

<p>COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401</p>	<p>PERMIT NO 06566</p>	<p>P-5 NO. 148100</p>																																	
<p align="center">PIPELINE CLASSIFICATION</p> <p>Common Carrier <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Interstate <input type="checkbox"/></p> <p>Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Private <input type="checkbox"/></p> <p>Issuance Date of Last Permit <u>March 5, 2007</u></p> <p>Location of Line(s) by County(s) <u>Milam, Robertson, Travis</u> <u>& Williamson Counties</u></p>	<p>PLEASE ANSWER (A) & (B)</p> <table style="width:100%;"> <thead> <tr> <th></th> <th>(A) Fluid Transported</th> <th>(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Condensate</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Gas *</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Products *</td> <td><input checked="" type="checkbox"/></td> <td><u>71.46</u></td> </tr> <tr> <td>Full Oil Well Stream</td> <td><input type="checkbox"/></td> <td><u>✓ 71.510A</u></td> </tr> <tr> <td>Full Gas Well Stream</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Other *</td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u></td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td><input type="checkbox"/> Yes</td> <td><input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>71.46</u>	Full Oil Well Stream	<input type="checkbox"/>	<u>✓ 71.510A</u>	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input checked="" type="checkbox"/>	_____	Specify <u>Idle Products Line</u>			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, at what concentration? _____ ppm		
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RECEIVED
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MAR 17 2008
GAS SERVICES DIVISION
AUSTIN, TEXAS

This will certify that the installations described above have not been subject to any modifications, extensions or abandonment since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature

03/10/2008

Date

DOT Specialist

Title

J. R. Burke - rburke@chevron.com

Name of Person (type or print)

FAX: (713) 432-3477

Telephone Number (713) 432-3206

Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS

MAR 23 2007

Form T-4C

(4/97)

GAS SERVICES DIVISION
AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

<p>COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401</p>	<p>PERMIT NO. 06566</p>	<p>P-5 NO. 148100</p>																																	
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Signature 

03/10/2007 DOT Specialist
Date Title

J. R. Burke
Name of Person (type or print)

Telephone Number (713) 432-3206
Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, March 5, 2007

CHEVRON PIPE LINE COMPANY
ATTN J.R. (RANDY) BURKE
4800 FOURNACE PLACE
BELLAIRE TX 77401

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

WILLIAMSON

PERMIT AMENDED TO REFLECT 2007-2008 RENEWAL AND TO REMOVE 81.0 MILES OF PIPE ABANDONED IN BEXAR, COMAL, GUADALUPE, HAYS, AND TRAVIS COUNTIES. REMAINING MILEAGE FOR THE HEARNE PRODUCTS SYSTEM IS 71.5.

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY Kathy Arnold

APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS
(See 16 TAC 3.70)

RECEIVED
R.O. OF TEXAS
MAR 01 2007

FORM T-4
(8/06)

Railroad Commission of Texas
Gas Services Division
License & Permits Section **71.5**

**GAS SERVICES DIVISION
AUSTIN, TEXAS**

Permit No. **06566**

Haarme Products System

ORGANIZATION INFORMATION	
1. Operator (Applicant) (See Instruction 1) Chevron Pipe Line Company <div style="text-align: right;">P5# 148100</div>	Address 4800 Fournace Place, Houston, TX. 77401
2. Does the above named operator own pipeline? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "No", give name and address of owner. No - P5 <i>For Randy Burke / Chevron 3/2/07 Texaco Pipeline Company, LLC ICA</i>	
3. Does the above named operator conduct or control the economic operations on the pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name, address and P-5# of economic operator. (See Instruction 2) <div style="text-align: right;">P5# _____</div>	
PIPELINE INFORMATION	
1. Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify <u>Refined Products (Idle)</u> c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a <input type="checkbox"/> gas utility or as a <input type="checkbox"/> private line? (Texas Utilities Code) NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status. e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.	
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No New Construction Report Number _____ b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (see 16 TAC 8.115 for applicability) c) Extension or modification? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Remove 80.99 mi of Haarme Products System Abandoned</i> If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) <i>Remove: Bexar, Comal, Guadalupe, + Hays Cos.</i> See Cover Sheet for detailed explanation.	
3. Check detailed purpose(s) for which described pipeline will be used: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Transmission</div> <div style="width: 33%;"><input type="checkbox"/> Terminal (Storage Field)</div> <div style="width: 33%;"><input type="checkbox"/> Industrial Distribution</div> <div style="width: 33%;"><input type="checkbox"/> Gathering</div> <div style="width: 33%;"><input type="checkbox"/> Gas Lift</div> <div style="width: 33%;"><input type="checkbox"/> Manufacturing Feed Stock (Own Consumption)</div> <div style="width: 33%;"><input type="checkbox"/> Gas Injection</div> <div style="width: 33%;"><input type="checkbox"/> Gas Plant</div> <div style="width: 33%;"><input type="checkbox"/> Other (explain) _____</div> </div>	
4. U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

J.R. (Randy) Burke

02/19/2007

(Type or Print Name of Person)

(Date)

DOT Specialist

(Title)

Inquiries regarding this application should be directed to:

J.R. Burke
(Signature)

Name: **Randy Burke** Address: **4800 Fournace Place, Houston, TX. 77401** Phone: (A/C) **(713) 432-3206**
 Fax: **(713) 432-3477** E-mail: **rburke@chevron.com**



Global Gas

J. R. (Randy) Burke
DOT Pipeline Safety
Specialist

**Environmental &
Technical Services**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
Fax 713-432-3477
rburke@chevron.com

February 19, 2007

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RE: T-4 Permit #06566

Dear Ms. Arnold,

Attached please find a T-4 permit application, and an overview map. Please note the following:

- ~~BP~~ ^{BP} - Abandon 80.99 miles of the Hearne Products System in Bexar, Guadalupe, Comal, Hays and Travis Counties. The abandoned section begins at the San Antonio Terminal and ends near FM 973, in Travis Co.
- NC - No Change

Add Counties: None

Remove Counties: Bexar, Comal, Guadalupe, Hays

Miles of Pipeline: Existing	BP ^{BP}	152.45
	AB	- 80.99

Total Miles Permit #06566	<hr/>	71.46
---------------------------	-------	-------

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke
Attachments

Geography submitted via "FTP" filename t06566 on 02-19-07.

281 451 7537

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R.R.C. OF TEXAS

FEB 20 2007

GAS SERVICES DIVISION
AUSTIN, TEXAS

From: Kathy Arnold
To: rburke@chevron.com
Date: 2/20/2007 3:42:16 PM
Subject: T-4 #06566 Chevron Pipe Line Company

Hey, Randy. How goes it?

Two things. One. Your P-5 is delinquent. Two. Go fish on the permit application you submitted. It is way too old. The current one is on the website date 8/06. The one before this was 9/04. You are really digging up some old bones here. Look under Pipeline Safety for the current form and please resubmit. It is not going anywhere anyway until the P-5 is active again. Let me know if you have any questions. Thanks.

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

MAR 14 2005

Form T-4C

(4/97)

GAS SERVICES DIVISION
AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401		PERMIT NO. 06566	P-5 NO. 148100																																	
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Signature 

J. R. Burke
Name of Person (type or print)

03/10/2006
Date

DOT Specialist
Title

Telephone Number (713) 432-3206
Area Code Number

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Global Gas

J. R. Burke
DOT Specialist

**Environmental and
Technical**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
RBurke@Chevron.com

March 10, 2006

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

00204	00700	00894	00963	00964	01032
01033	01446	01447	01895	02838	04005
05235	05365	05718	05725	00188	06344
06566					

Also included is a Form PS-45 and 7100.2-1 for CPL and a 7100.2-1 for Unocal Keystone Gas Storage, LLC (please forward to Bruce Waterman).

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

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MAR 14 2006

GAS SERVICES DIVISION
AUSTIN, TEXAS

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

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lms
MAR 15 2005

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM
GAS SERVICES DIVISION
AUSTIN, TEXAS

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210	PERMIT NO. <p align="center">06566</p>	P-5 NO. <p align="center">148100</p>																																	
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Specify <u>Idle Products Line</u> ✓																																			
Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																																	
If yes, at what concentration? _____ ppm																																			

This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Heame - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature

J.R. Burke

J. R. Burke

Name of Person (type or print)

03/10/2005

Date

DOT Specialist

Title

Telephone Number (281)

Area Code

596-3596

Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

Chevron Pipe Line Company
DOT Compliance/Risk Management
2811 Hayes Road
Houston, TX 77082
Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke
DOT Compliance Specialist

March 10, 2005

ChevronTexaco

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RECEIVED
R.R.C. OF TEXAS

MAR 15 2005

Dear Ms. Arnold:

GAS SERVICES DIVISION
AUSTIN, TEXAS

The following T-4C permit forms have been completed for your use:

00203	00204	00700	00894	00963	00964
01033	01446	01447	01895	02838	04005
05235	05365	05711	05718	05725	00188
06344	06566				

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,



J. R. Burke



PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210		PERMIT NO. 06566	P-5 NO. 148100																																	
PIPELINE CLASSIFICATION Common Carrier <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Interstate <input type="checkbox"/> Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Private <input type="checkbox"/> Issuance Date of Last Permit <u>February 19, 2003</u> Location of Line(s) by County(s) <u>Bexar, Comal, Guadalupe, Hays, Milam,</u> <u>Robertson, Travis & Williamson Counties</u> 		PLEASE ANSWER (A) & (B) <table border="0"> <thead> <tr> <th></th> <th>(A) Fluid Transported</th> <th>(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td>Condensate</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td>Gas *</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td>Products *</td> <td><input checked="" type="checkbox"/></td> <td><u>152.45</u> ✓</td> </tr> <tr> <td>Full Oil Well Stream</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td>Full Gas Well Stream</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td>Other *</td> <td><input type="checkbox"/></td> <td><u> </u></td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u> ✓</td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td><input type="checkbox"/> Yes</td> <td><input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? <u> </u> ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	<u> </u>	Condensate	<input type="checkbox"/>	<u> </u>	Gas *	<input type="checkbox"/>	<u> </u>	Products *	<input checked="" type="checkbox"/>	<u>152.45</u> ✓	Full Oil Well Stream	<input type="checkbox"/>	<u> </u>	Full Gas Well Stream	<input type="checkbox"/>	<u> </u>	Other *	<input type="checkbox"/>	<u> </u>	Specify <u>Idle Products Line</u> ✓			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, at what concentration? <u> </u> ppm		
	(A) Fluid Transported	(B) Miles of Pipe																																		
Crude	<input type="checkbox"/>	<u> </u>																																		
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This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature J. R. Burke

J. R. Burke
Name of Person (type or print)

03/10/2004 DOT Specialist
Date Title

Telephone Number (281) 596-3596
Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

Chevron Pipe Line Company
DOT Compliance/Risk Management
2811 Hayes Road
Houston, TX 77082
Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke
DOT Compliance Specialist

ChevronTexaco

March 10, 2004

RECEIVED
R.R.C. OF TEXAS

MAR 12 2004

GAS SERVICES DIVISION
AUSTIN, TEXAS

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

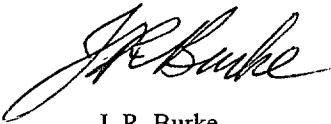
Dear Ms. Arnold:

The following T-4C permit forms have been completed for your use:

00203	00204	00205	00700	00894	00963
00964	01032	01446	01447	01895	02838
04005	05235	05365	05711	05718	05725
00188	06344	06566			

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,



J. R. Burke



Safety Eval. # ----- T-4 Permit No. 06566 Prepared by SEC Date 3/24/03

1) COMPANY:

☐ Add New Company ☐ Change Company ☐ Change Status to Inactive ☒ **No Changes**

	COID	STATUS	COMPANY NAME
CURRENT	6194	A	SHELL PIPELINE COMPANY LP
NEW	1791	A	CHEVRON PIPE LINE COMPANY

2) UNIT:

☐ Add Unit ☐ Delete Unit ☒ **Change Co. ID** ☒ **Change Name** ☐ No Changes

Contact Person Phillip C. DePrang Title Operations Specialist Ph (281) 596-3623

*Address P. O. Box 4879, Houston, Texas 77210

	UNIT ID	UNIT NAME	CO ID
CURRENT	05962	SHELL PIPELINE/REG 4	6194
CHG/NEW	17949	CHEVRON PL/REG 4	1791

3) SYSTEM:

Change of: ☒ Unit ID ☐ Name ☐ Status ☒ T-4 Permit ☒ PARTIAL ACQUISITION

A^{CTIVE} J^{URIS} S^{YSTYPE}

	SYSTEM	UNIT	SYSTEM NAME	A	J	S	T-4	COUNTY
CURRENT	450873	05962	HEARNE-AUSTIN-SAN ANTONIO PRODUCT	I	J	P	00967	BEXAR COMAL GUADALUPE HAYS MILAM ROBERTSON TRAVIS WILLIAMSON
CHG/NEW	450873	17949	HEARNE-AUSTIN-SAN ANTONIO PRODUCT	I	J	P	06566	SAME
Reason	PARTIAL ACQUISITION FROM SHELL PIPELINE COMPANY LP T-4 00967.							
CURRENT								
CHG/NEW								
Reason								
CURRENT								
CHG/NEW								
Reason								
CURRENT								
CHG/NEW								
Reason								

**AS INTRASTATE PIPELINE QUESTIONNAIRE
RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS

**T-4 Permit No. 00967
(HEARNE PRODUCTS SYSTEM)**

DEC 02 2002

If there are any changes in this address or information, please indicate below:

NAME OF OPERATOR **SHELL PIPELINE CO. L.P.**
MAILING ADDRESS **P. O. BOX 2648**
CITY, STATE, ZIP+4 **HOUSTON, TX 77252-2648**

**GAS SERVICES DIVISION
AUSTIN, TEXAS**

Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.

I. GENERAL INFORMATION Are the pipelines covered under this permit ☐ Interstate ☒ Intrastate

NAME OF COMPLIANCE REPRESENTATIVE **MAXINE G. KINNEY**
MAILING ADDRESS **P. O. BOX 2648**
CITY, STATE, ZIP+4 **HOUSTON, TX 77252-2648**
TELEPHONE NUMBER **(713) 241-2910**

II. SYSTEM IDENTIFICATION AND LOCATION. The referenced T-4 permit may be several pipelines or pipeline systems, or a single listing permit
With one pipeline or pipeline system

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/ COMPRESSOR STATIONS	COUNTIES
Hearne Products System NC	Product	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 144.19	SMYS 35000 OD 10.750 WT .250 MAOP 1145	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive	2	Robertson Falls McLennan Hills Ellis Dallas
Dallas Term. To Ft. Worth Term. 8" BP	Product	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 25.87	SMYS 35000 OD 8 WT .250 MAOP 1109	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Dallas Tarrant
Hearne - Austin SYSID 450873 PT- Chevron/Texaco	Product T4#06566	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 78.97	SMYS 42000 OD 8 WT .250/.322 MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Robertson Milam Williamson Travis
Austin- San Antonio 450873 PT- Chevron/Texaco	Product T4#06566	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 73.48	SMYS 42000 OD 6 WT .250/.280 MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Travis Hays Comal Guadalupe Bexar

*Rural means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

NOTE: Wt = Wall Thickness

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/ COMPRESSOR STATIONS	COUNTIES
		<input type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES	SMYS OD WT MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		
		<input type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES	SMYS OD WT MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		
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		<input type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES	SMYS OD WT MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		

Do any of these pipelines transport H₂S? ☒ No
☐ Yes Identify: _____ Concentration _____ ppm

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P. O. BOX 12967, AUSTIN, TX 78711-2967.

MAXINE G. KINNEY, OFFICE ASSISTANT
 NAME AND TITLE OF REPORTING OFFICIAL

Maxine G. Kinney 11/26/02
 SIGNATURE OF REPORTING OFFICIAL

(713) 241-2910
 TELEPHONE

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS
MAR 17 2003

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210	PERMIT NO. <p align="center">06566</p>	P-5 NO. <p align="center">148100</p>																																	
<p align="center">PIPELINE CLASSIFICATION</p> <p>Common Carrier <input checked="" type="checkbox"/> Interstate <input type="checkbox"/></p> <p>Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/></p> <p>Private <input type="checkbox"/></p> <p>Issuance Date of Last Permit <u>February 19, 2003</u></p> <p>Location of Line(s) by County(s) <u>Bexar, Comal, Guadalupe, Hays, Milam,</u> <u>Robertson, Travis & Williamson Counties</u></p>	<p>PLEASE ANSWER (A) & (B)</p> <table style="width:100%;"> <thead> <tr> <th></th> <th style="text-align: center;">(A) Fluid Transported</th> <th style="text-align: center;">(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Condensate</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Gas *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Products *</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><u>152.45</u></td> </tr> <tr> <td>Full Oil Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Full Gas Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Other *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u></td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td align="center"><input type="checkbox"/> Yes</td> <td align="center"><input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>152.45</u>	Full Oil Well Stream	<input type="checkbox"/>	_____	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input type="checkbox"/>	_____	Specify <u>Idle Products Line</u>			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, at what concentration? _____ ppm		
	(A) Fluid Transported	(B) Miles of Pipe																																	
Crude	<input type="checkbox"/>	_____																																	
Condensate	<input type="checkbox"/>	_____																																	
Gas *	<input type="checkbox"/>	_____																																	
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Other *	<input type="checkbox"/>	_____																																	
Specify <u>Idle Products Line</u>																																			
Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																																	
If yes, at what concentration? _____ ppm																																			

This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

J. R. Burke
 Signature

J. R. Burke
 Name of Person (type or print)

03/12/2003 DOT Specialist
 Date Title

Telephone Number (281) 596-3596
 Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

TEXAS INTRASTATE PIPELINE QUESTIONNAIRE
RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

T-4 Permit No. 06566

If there are any changes in this address or information, please indicate below:

NAME OF OPERATOR Chevron Pipe Line Company
 MAILING ADDRESS P O Box 4862
 CITY, STATE, ZIP+4 Houston Texas 77210

Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.

I. GENERAL INFORMATION Are the pipelines covered under this permit ☐ Interstate ☒ Intrastate

NAME OF COMPLIANCE REPRESENTATIVE J. R. Burke
 MAILING ADDRESS P O Box 4879
 CITY, STATE, ZIP+4 Houston Texas 77210
 TELEPHONE NUMBER (281) 596-3569

RECEIVED
 B.R.C. OF TEXAS

MAR 17 2003

GAS SERVICES DIVISION
 AUSTIN, TEXAS

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/ COMPRESSOR STATIONS	COUNTIES
<u>Idle Products</u> <u>8" Hearne To</u> <u>Austin</u>	<u>MILES 78.97</u>	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D. 8.625</u> <u>W.T. .322</u> <u>SMYS 24.000</u> <u>MAOP 1.032</u>	<input checked="" type="checkbox"/> *Rural <input checked="" type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Bexar Guadalupe Comal Hays Travis
<u>Idle Products</u> <u>6" Austin To</u> <u>San Antonio</u>	<u>MILES 73.48</u>	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D. 6.625</u> <u>W.T. .280</u> <u>SMYS 24.000</u> <u>MAOP 1.168</u>	<input checked="" type="checkbox"/> *Rural <input checked="" type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Williamson Milam Robertson
<u> </u> <u> </u> <u> </u>	<u>MILES</u>	<input type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D.</u> <u>W.T.</u> <u>SMYS</u> <u>MAOP</u>	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		

Do any of these pipelines transport H₂S? ☒ No
☐ Yes Identify Concentration ppm

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P.O. BOX 12967, AUSTIN, TEXAS 78711-2967.

J. R. Burke DOT Specialist
 NAME AND TITLE OF REPORTING OFFICIAL

J.R. Burke 3-12-03
 SIGNATURE OF REPORTING OFFICIAL

(281) 596-3569
 TELEPHONE

PS-8000A, 6/97

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, February 19, 2003

CHEVRON PIPE LINE COMPANY
ATTN PHILLIP DE PRANG
P O BOX 4879
HOUSTON TX 77210

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has
complied with 16 TAC Sec. 3.65 of the Commission Rules and
Regulations governing pipelines in accordance with the Natural
Resources Code Sec. 81.051 and is granted this permit by the
Commission to operate the following line or lines located at:

BEXAR
MILAM

COMAL
ROBERTSON

GUADALUPE
TRAVIS

HAYS
WILLIAMSON

INITIAL PERMIT: SAN ANTONIO TO HEARNE SYSTEM, PARTIAL TRANSFER
FROM SHELL PIPELINE COMPANY T-4 #00967. MILEAGE 152.45 (IDLE).

This permit is valid until the operating ownership of such line
or system changes, or until extensions or other physical changes
are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY

Kathy Arnold

APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS

6 TAC 3.65 [Rule 70 of Statewide Rules and Regulations]

FORM T-4
(3/98)Railroad Commission Of Texas
Gas Services Division
Pipeline Safety Section

P-5 # 148100		ORGANIZATION INFORMATION		Permit No. New <u>065666</u>
1. Operator (Applicant) CHEVRON PIPE LINE COMPANY		Address P O BOX 4879 HOUSTON, TEXAS 77210		
2. To Whom in Texas should the Commission give notice? CHEVRON PIPE LINE COMPANY		Address P O BOX 4879 HOUSTON, TEXAS 77210		
3. Does the above named operator own pipeline? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "No", give name and address of owner. Texaco Pipeline Company, LLC 1301 McKinney HOUSTON, TEXAS 77010				
4. Does the above named operator own or operate oil or gas producing properties in Texas? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
PIPELINE INFORMATION				
1. Mark appropriate block for each of the following questions:				
a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate				
b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify Refined Products (Idle)				
c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm				
d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as <input type="checkbox"/> a gas utility or as <input type="checkbox"/> a private line? (Texas Utilities Code) A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division will make that determination and notify the operator of its status.				
e) Does pipeline cross any public highway or road, right-of-way for any railroad, public utility, or other common carrier? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
f) Will pipeline carry only the gas and/or liquids produced by pipeline owner or operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.				
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, do not complete remainder of this question. (SEE COVER SHEET) b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No c) Extension or modification? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: Equilon Pipeline Company LLC P.O. Box 2648 Houston, Texas 77252				
3. Check detailed purpose for which described pipeline will be used: <input checked="" type="checkbox"/> Trunk Transmission <input type="checkbox"/> Manufacturing Feed Stock (Chemical, plastic, etc.) <input type="checkbox"/> Gathering <input type="checkbox"/> Gas Injection (Recycling, pressure maintenance) <input type="checkbox"/> Gas Lift <input type="checkbox"/> Distribution Systems (Municipal, industrial) <input type="checkbox"/> Gas Plant (Gathering system) <input type="checkbox"/> Other (explain) <input type="checkbox"/> Terminal (Storage, loading racks, etc.)				
4. U.S.G.S. 7.5 Minute Quad Map or General Highway County Map attached? (Scale 1" = 2 Miles) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Detailed map of gathering system attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Phillip C. DePrang (Type or Print Name of Person)	1-30-2003 (Date)
---	---------------------

OPERATIONS SPECIALIST

(Title)


 (Signature)

Inquiries regarding this application should be directed to:

Phillip C. DePrang	P O BOX 4879 HOUSTON, TEXAS 77210	(281) 596-3623 RECEIVED R.R.C. OF TEXAS
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FEB 08 2003

GAS SERVICES DIVISION
AUSTIN TEXAS



Chevron

January 30, 2003

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RECEIVED
R.R.C. OF TEXAS
FEB 03 2003
GAS SERVICES DIVISION
AUSTIN, TEXAS

Chevron Pipe Line Company
2811 Hayes Road
Houston, Texas 77082
P. O. Box 4879
Houston, Texas 77210

RE: T-4 Permit #unknown

Dear Ms. Arnold:

Attached please find a T-4 permit application, and an overview map. Please note the following:

- PT - Partial Transfer from Equilon Pipeline permit #00967, a 152.45 mile segment of idle 6"/8" products line from Hearne to San Antonio. Equilon contact is Maxine Kinney (281-241-2910).

Add Counties: Bexar, Guadalupe, Comal, Hays, Travis, Williamson, Milam, **AND ROBERTSON**
Remove Counties: None

PER RANDY BURKE
2/4/03

Miles of Pipeline:	Existing	0.00
	PT	152.45

Total Miles Permit # unknown	152.45
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Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J.R. Burke
DOT Compliance Specialist

Attachments

Geography submitted via "FTP" filename tChevron on 1-30-03.

SECTION 4: WATER POLLUTION ABATEMENT PLAN

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

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

Date: June 11, 2024

Signature of Customer/Agent:



Regulated Entity Name: Colony at Cole Springs Phase 1

Regulated Entity Information

1. The type of project is:

- ☒ Residential: Number of Lots: 100
- ☐ Residential: Number of Living Unit Equivalents:
- ☐ Commercial
- ☐ Industrial
- ☐ Other: _____

2. Total site acreage (size of property): 29.43

3. Estimated projected population: 350

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	362,000	÷ 43,560 =	8.31
Other paved surfaces	172,380	÷ 43,560 =	3.95
Total Impervious Cover	534,380	÷ 43,560 =	12.26

Total Impervious Cover 12.26 ÷ **Total Acreage** 29.43 X 100 = 41.66 % Impervious Cover

5. ☒ **Attachment A - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
6. ☒ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

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

7. Type of project:
- ☐ TXDOT road project.
 - ☐ County road or roads built to county specifications.
 - ☐ City thoroughfare or roads to be dedicated to a municipality.
 - ☐ Street or road providing access to private driveways.
8. Type of pavement or road surface to be used:
- ☐ Concrete
 - ☐ Asphaltic concrete pavement
 - ☐ Other: _____
9. Length of Right of Way (R.O.W.): _____ feet.
- Width of R.O.W.: _____ feet.
- L x W = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.
10. Length of pavement area: _____ feet.
- Width of pavement area: _____ feet.
- L x W = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.
- Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.
11. ☐ A rest stop will be included in this project.
- ☐ A rest stop will not be included in this project.
12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening

roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

<u>100</u> % Domestic	<u>16,660</u>	Gallons/day
<u> </u> % Industrial	<u> </u>	Gallons/day
<u> </u> % Commingled	<u> </u>	Gallons/day
TOTAL gallons/day <u>16,660</u>		

15. Wastewater will be disposed of by:

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

☐ **Attachment C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):

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

☒ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

☐ The SCS was previously submitted on .

☒ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☒ The sewage collection system will convey the wastewater to The City of Buda (Downtown) Wastewater Treatment Plant. The treatment facility is:

☒ Existing.

☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 200'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

☐ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

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

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

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

☒ There are two (2) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.

☐ The wells are not in use and will be properly abandoned.

☒ The wells are in use and comply with 16 TAC §76.

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

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

☒ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.

☐ **Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).
☒ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.
☒ There will be no discharges to surface water or sensitive features.
28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Factors Affecting Water Quality

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

During Construction:

1. Concrete and Masonry Materials
2. Wood, plastic, and metal Materials
3. Tar and hydrocarbons from paving operations
4. Oil, Grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
5. Fertilizers, Herbicides, and Pesticides
6. Cleaning solutions and detergents
7. Miscellaneous construction trash and debris
8. Soil erosion and sedimentation due to construction activity

Ultimate Use:

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

(This is not intended to be an all-inclusive list)

All practical management practices will be used to reduce the risk of spills and other exposure of any contaminant to surface or groundwater

Volume and Character of Storm Water

The proposed Colony at Cole Springs Phase 1 project within the Recharge Zone and Contributing Zone within the Transition Zone includes the construction of 100 single family lots and associated civil improvements including, water, wastewater, roadways. There are three road connections to Colony at Cole Springs Phase 1 to provide ingress and egress from the Phase 2 site. Impervious cover for the site within the Recharge Zone of Phases 1 and 2 total 12.26 total acres (41.66 %) of impervious cover proposed.

Under existing conditions, the site generally flows from West to East. The site is a part of two watersheds, with both discharging into onion creek on the eastern property boundary. This flow is then carried off the property to the north.

Part of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209CO280F, Hays County, Texas and incorporated areas, dated September 2, 2005. In proposed conditions, all onsite flow will be captured and conveyed through a proposed storm system. Water will be treated according to TCEQ requirements. The area of Phase 2 within the recharge and contributing zone within the transition zone will be treated by Pond 2. The portion of Phase 2 not within the recharge and contributing zone within the transition zone will be treated by both Pond 2 and Pond 3. Pond 1 will be built at a later date to treat stormwater from future phases. Offsite drainage has no impervious cover; therefore, no treatment will be provided for these areas.

Three (3) on site Batch detention ponds are proposed on site for the entire subdivision. Only Pond 2 and Pond 3 will be built during Phase 1 and Pond 1 will be built with Phase 3. The Detention and Water Quality Structures are sized per current City of Buda and TCEQ design standards. Drainage area maps and calculations are included in the plan set for reference.

Regarding stormwater volume (quantity) of the stormwater runoff which is expected to occur from the proposed project, see table below depicting existing vs proposed runoff volume. This increase of runoff is being detained in proposed detention ponds to at or below existing condition runoff rates for the 2, 10, 25 and 100 year events.

	Storm Event	Volume of Runoff (CF)
EXISTING	2	775,640
	10	1,599,733
	25	2,242,723
	100	3,142,705,896
PROPOSED	2	853,640
	10	1,698,155
	25	2,349,904
	100	3,143,385,432

Suitability Letter From Authorized Agent

An on-site sewage facility will **not** be used to treat and dispose of the wastewater.

Exception to the Required Geologic Assessment

No sensitive geologic or manmade features were identified in the geologic assessment. Therefore, an exception to the Geologic Assessment Requirements will not be required.

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: June 11, 2024

Signature of Customer/Agent:



Regulated Entity Name: Colony at Cole Springs Phase 1

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.
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.

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.

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 stockpiled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stockpiled 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.

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 (29.43 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (29.43 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (29.43 Acres)
5. Wet and Dry Utility Construction (6 Acres)
6. Final Subgrade Preparation (6 Acres)
7. Installation of Base Materials (5 Acres)
8. Concrete (foundations, curbs, flatwork) (4 Acres)
9. Building Construction (5 Acres)
10. Paving Activities (3.5 Acres)
11. Topsoil, Irrigation and Landscaping (29.43 Acres)
12. Site cleanup and Removal of Temporary BMPs (29.43 Acres)

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

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. A spoils and staging area will be designated as part of the temporary best management practices near the intersection of Old Black Colony Road and the proposed Clarissa Street.

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.

Request To Temporarily Seal a Feature

Naturally occurring features will not be sealed on the site.

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 during 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.

Drainage Area Map

There are two areas greater than 10 acres within a common drainage area that will be disturbed at one time. An existing and proposed drainage area map is provided at the end of this report in Section 8 to support the aforementioned requirement.

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 Colony at Cole Springs Phase 2, the batch detention ponds will be the temporary sedimentation ponds that 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.

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);
- rock berms;
- concrete washout area;
- inlet protection;
- 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.

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: <ul style="list-style-type: none"> <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: <ul style="list-style-type: none"> 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: PERMANENT STORMWATER

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

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

Date: June 11, 2024

Signature of Customer/Agent



Regulated Entity Name: Colony at Cole Springs Phase 1

Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
☐ N/A
2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 85% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.
☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

☐ N/A

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

☐ N/A

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

☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.

☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.

☒ The site will not be used for low density single-family residential development.

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

☐ **Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

☒ The site will not be used for multi-family residential developments, schools, or small business sites.

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

- ☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
- ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
- ☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7. ☒ **Attachment C - BMPs for On-site Stormwater.**
- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8. ☒ **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- ☒ N/A
9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- ☒ The permanent sealing of or diversion of flow from a naturally occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
- ☐ **Attachment E - Request to Seal Features.** A request to seal a naturally occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10. ☒ **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- ☒ Design calculations (TSS removal calculations)
- ☒ TCEQ construction notes
- ☒ All geologic features
- ☒ All proposed structural BMP(s) plans and specifications
- ☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
 - ☒ Signed by the owner or responsible party
 - ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
 - ☒ A discussion of record keeping procedures
- ☐ N/A
12. ☐ **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- ☒ N/A
13. ☐ **Attachment I - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- ☐ N/A
15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- ☐ N/A

20% or Less Impervious Cover Waiver

The site has more than 20% impervious cover. Therefore, a waiver will not be submitted for this project.

BMPs for UP-GRADIENT STORMWATER

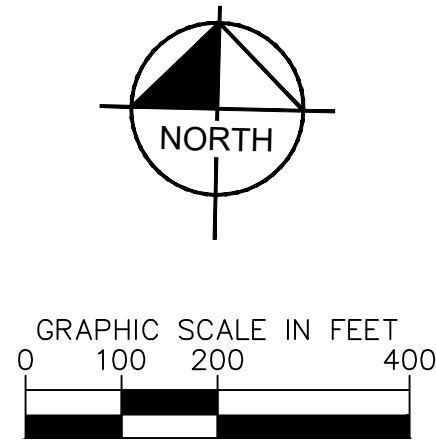
Up- gradient storm water exists north and west of the site. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property. Please refer to the Existing and Proposed Drainage Area Maps that are provided at the end of this report in Section 8.

BMPs for On-Site Stormwater

Colony at Cole Springs has a total of 3 onsite basins. The overall required removal for this 29.43 acre site in Phase 1 and 2 of development is $L_m = 11,005$ LBS. The basins have been broken out and are shown on the Water Quality Coordination Exhibit. Water quality drainage area PH1 WQP-2 TCEQ and PH 2 WQP-2 TCEQ will overland flow to drainage inlets then pipe flow to Batch Detention Pond 2. This is the only area required to be treated to TCEQ standards. Water quality drainage area WQP-2 will overland flow to drainage inlets then pipe flow to Batch Detention Pond 2. This area is not required to be treated per TCEQ standards. Water Quality Pond 2 is sized to treat the total impervious cover going to the pond per City of Buda standards. The impervious breakdown is shown on the Water Quality Coordination Exhibit.

After construction, all disturbed areas on the site will be re-vegetated and runoff from the proposed improvements will be captured by the proposed storm system and conveyed through the proposed BMP's.

Construction plans, calculations and specifications are provided in Section 8 which is located at the end of this report.



LEGEND

- OVERALL PROPERTY BOUNDARY
- EDWARDS AQUIFER BOUNDARIES
- FEMA 100-YEAR FP
- DRAINAGE AREA DIVIDE

TCEQ Overall Water Quality Drainage Basins: PHASE 1 & PHASE 2					
Basin ID	Proposed Area (AC)	Proposed Impervious Cover (AC)	% Impervious Cover	REQUIRED TSS REMOVAL	PROPOSED TSS REMOVAL
WQP-2*	50.60	N/A	N/A	N/A	N/A
PH 1 WQP-2 TCEQ	8.24	3.92	48%	11005	13100
PH 2 WQP-2 TCEQ	16.57	8.34	50%	0	0
UNTREATED (PH1 & PH2)	4.62	0.00	0%	11005	13100
TOTAL TCEQ*	29.43	12.26	41.66%	11005	13100
TOTAL ONSITE	80.03	8.34	10.42%	11005	13100

*WQP-2 AREA NOT WITHIN RECHARGE ZONE AND HAS NO TCEQ WQ REQUIREMENTS. NOT COUNTED IN TOTAL PROJECT AREA.

DRAINAGE AREA TABLE	
DRAINAGE AREA NO.	AREA (ac)
PH1 NT1-TCEQ	2.16
PH1 NT2-TCEQ	0.41
PH1 WQP-2 TCEQ	8.24
PH2 NT-TCEQ	2.05
PH2 WQP-2 TCEQ	16.57
WQP-2	50.60

Water Quality Pond 2			
Stage-Storage			
Elevation (Ft.)	Area (Sq. Ft.)	Volume (Sq. Ft.)	Cumulative Volume (Sq. ft.)
Filtration			
685.5	83	1373	0
686	5409	17656.5	1373
687	29904	33108	19030
688	36312	38004	52138
689	39696	41417	90142
690	43138	22005	131559
690.5	44883	WQE	153564
691	46634	22879	176443
692	50094	48364	224807
693	53517	51806	276613
694	56889	58947	276613
695	61005	62410	335560
696	63815		397970
WQ Volume		153564	
Total Volume		397970	

TCEQ WATER QUALITY COORDINATION

The Colony at Cole Springs

APRIL 2024

Kimley»Horn

NOTE: THIS PLAN IS CONCEPTUAL IN NATURE AND HAS BEEN PRODUCED WITHOUT THE BENEFIT OF A SURVEY. TOPOGRAPHY, UTILITIES, CONTACT WITH THE CITY, ETC.



Additional information is provided for calls with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

 L_M TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Hays		
Total project area included in plan =	29.43	acres	(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)
Predevelopment impervious area within the limits of the plan =	0.00	acres	
Total post-development impervious area within the limits of the plan =	12.26	acres	(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)
Total post-development impervious cover fraction =	0.42		
P =	33	inches	

 L_M TOTAL PROJECT = 11005 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = WQP-2

Total drainage basin/outfall area =	75.41	acres	WQP-2 (50.60 AC) + WQP-2 PH 1 TCEQ (8.24 AC) + WQP-2 PH 2 TCEQ (16.57 AC)
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	12.26	acres	PHASE 1 (3.92) + PHASE 2 (8.34) WITHIN RZ AND CZ WITHIN TZ DRAINING TO POND
Post-development impervious fraction within drainage basin/outfall area =	0.16		
L_M THIS BASIN =	11005	lbs.	

3. Indicate the proposed BMP Code for this basin

Proposed BMP = Extended Detention

Removal efficiency = 91 percent

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

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

where:

 A_C = Total On-Site drainage area in the BMP catchment area A_i = Impervious area proposed in the BMP catchment area A_p = Pervious area remaining in the BMP catchment area L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	75.41	acres
A_i =	12.26	acres
A_p =	63.15	acres
L_R =	13763	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall areDesired L_M THIS BASIN = 13100 lbs.

F = 0.95

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall are:

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth =	2.60	inches
Post Development Runoff Coefficient =	0.18	
On-site Water Quality Volume =	124759	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet

Storage for Sediment = 24952

Total Capture Volume (required water quality volume(s) x 1.20) = 149710 cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.

The values for BMP Types not selected in cell C45 will show NA

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 149710 cubic feet

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

L_M TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Hays	
Total project area included in plan *	29.43	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	12.26	acres
Total post-development impervious cover fraction *	0.42	
P =	33	inches

(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)

L_M TOTAL PROJECT = 11005 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = UNTREATED

Total drainage basin/outfall area =	4.62	acres	PH1 NT1 TCEQ (2.16 AC) + PH1 NT2 TCEQ (0.41 AC) + PH2 NT TC
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	0.00	acres	(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)
Post-development impervious fraction within drainage basin/outfall area =	0.00		
L_M THIS BASIN =	0	lbs.	

BMPs for Surface Streams and Sensitive Features

There are no existing surface streams or sensitive features on site. All permanent BMP's have been designed to remove minimum of 80% of the increase in Total Suspended Solids as per current TCEQ and City of Buda requirements.

Request To Seal a Feature

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

Construction Plans

Calculations for the load removal requirements for the project and the load removal provided by the permanent BMP's are provided as an exhibit in Section 8 which have been preliminary approved by a professional engineer licensed in the state of Texas. The load removal requirements are derived from the equations from the technical guidance manual based upon project area and increase in impervious cover. All stormwater runoff from impervious areas will be treated by the proposed permanent BMP's to provide the overall required removal of 85% of the increase in Total Suspended Solids. Provided within the calculations is a summary of the amount of pollutant load required to be removed from the drainage areas and the amount of removal provided by the permanent BMP's.

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

**COLONY AT COLE SPRINGS PHASE 1
WATER POLLUTION ABATEMENT PLAN**

Inspection, Maintenance, Repair and Retrofit Plan

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

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

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

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

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

Responsible Party: M/I Homes of Austin, LLC
Mailing Address: 7600 N. Capital of Texas Hwy.; Bldg. C, Suite 250
City, State: Austin, TX Zip: 78731
Telephone: 512-770-8524 Fax: N/A

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

Signature of Responsible Party  Date 6/17/24

This Maintenance Plan is based on TCEQ Maintenance Guidelines.

By:  Date 6/11/2024
Alejandro E. Granados Rico, P.E.

INSPECTION AND MAINTENANCE FOR BMPS

Batch Detention Basin

1. **Inspections:** Basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the pond is meeting the target detention times. In particular, the extended detention control device should be regularly inspected for evidence of clogging, or conversely, for too rapid a release. If the design drawdown times are exceeded by more than 24 hours, then repairs should be scheduled immediately. The upper stage pilot channel, if any, and its flow path to the lower stage should be checked for erosion problems. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired or revegetated immediately.
2. **Mowing.** The upper stage, side slopes, embankment, and emergency spillway of an extended detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins should be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed.
3. **Debris and Litter Removal.** Debris and litter will accumulate near the extended detention control device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.
4. **Erosion Control.** The pond side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems. Similarly, the channel connecting an upper stage with a lower stage may periodically need to be replaced or repaired. g: Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscape areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.
5. **Structural Repairs and Replacement.** With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, whereas reinforced concrete barrels and risers may last from 50 to 75 yr.
6. **Nuisance Control.** Standing water (not desired in a extended detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device).
7. **Sediment Removal.** When properly designed, dry extended detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in extended detention dry ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity within the basin. Second, unlike wet extended detention basins (which have a permanent pool to conceal deposited sediments), sediment accumulation can make dry extended detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition increases the risk that the orifice will become clogged, and gradually reduces storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, accumulated sediment needs to be removed from the lower stage when sediment buildup fills 20% of the volume of the basin or at least every 10 years.
8. **Logic Controller.** The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the

**COLONY AT COLE SPRINGS PHASE 1
WATER POLLUTION ABATEMENT PLAN**

basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Rock Berm

1. Inspection should be made weekly and after each rainfall in accordance to Section 2.4.5 of RG-348. If placed in streambeds, inspection should occur on a daily basis.
2. Accumulated silt shall be removed when it reaches a depth of six (6) inches. The silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.
3. Loose wire sheathing shall be repaired immediately when necessary and the berm shall be reshaped as needed during inspection.
4. Berm shall be replaced if the structure ceases to function as initially intended due to factors such as silt accumulation, washout, construction traffic damage, etc.
5. When all upstream areas are stabilized and the accumulated silt has been removed, the rock berm should be removed and disposed of.

Pilot-Scale Field Testing Plan

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

Measures for Minimizing Surface Stream Contamination

Surface streams do not exist on site. Therefore, a description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is not provided at the end of this form. All disturbed areas will be re-vegetated as soon as practical.

SECTION 7: ADDITIONAL FORMS

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

I Derek Baker,
Print Name

Area President,
Title - Owner/President/Other

of M/I HOMES OF AUSTIN,
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:

[Signature]
Applicant's Signature

6/17/24
Date

THE STATE OF TEXAS §

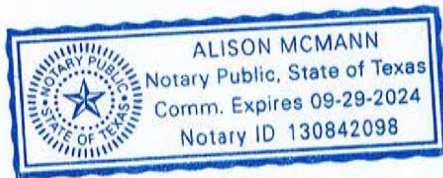
County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared Derek Baker 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 17 day of JUNE, 2024

[Signature]
NOTARY PUBLIC

ALISON MCMANN
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 09.29.2024

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

I Brandon Hammann,
Print Name
Director of Land Development,
Title - Owner/President/Other
of Meritage Homes of Texas, LLC,
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.

Brandon Hammann
Applicant's Signature

6/14/24
Date

THE STATE OF TEXAS §

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared Brandon Hammann 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 14 day of JUNE 2024



Annette Hermiston
NOTARY PUBLIC

ANNETTE HERMISTON
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 4.13.25

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Colony at Cole Springs Phase 1

Regulated Entity Location: Cole Springs Rd and Old Black Colony Rd

Name of Customer: M/I Homes of Austin, LLC

Contact Person: Kyle Krieger

Phone: 512-770-8524

Customer Reference Number (if issued): 604305250

Regulated Entity Reference Number (if issued): 111401139

Austin Regional Office (3373)

☒ Hays

☐ Travis

☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone

☒ Contributing Zone

☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	29.43 Acres	\$ 4,000
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System		
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: Alexander E. Gonzalez-Rivera

Date: June 11, 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



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 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 checked="" 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 604305250		RN 111401139

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
<input 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>	
M/I Homes of Austin, LLC					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0801672376		32049298139			
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
12. Number of Employees				13. Independently Owned and Operated?	
<input 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 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:		7600 N. Capital of Texas Highway, Building C ite 250			
City		Austin	State	TX	ZIP
					78731
ZIP + 4					
16. Country Mailing Information (if outside USA)			17. E-Mail Address (if applicable)		
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If "New Regulated Entity" is selected, a new permit application is also required.)							
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input checked="" type="checkbox"/> Update to Regulated Entity Information							
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>							
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)							
The Colony at Cole Springs Phase 2							
23. Street Address of the Regulated Entity: (No PO Boxes)							
	City	Buda	State	TX	ZIP	78610	ZIP + 4
24. County	Hays County						

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

25. Description to Physical Location:	Turn onto Cole Springs Rd from FM 1626 and go 1.25 miles on Cole Springs Road						
26. Nearest City					State	Nearest ZIP Code	
Buda					TX	78610	
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>							
27. Latitude (N) In Decimal:		30.080681			28. Longitude (W) In Decimal:		-97.858217
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)		
6514			53111				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							
Single Family Residential Development							
34. Mailing Address:	501 S. Austin Ave, Suite 1310						
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4
35. E-Mail Address:	alex.granados@kimley-horn.com						
36. Telephone Number	37. Extension or Code		38. Fax Number (if applicable)				
(512) 520-0768			() -				

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 checked="" 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			41. Title:	P.E.
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(512) 782-0602		() -	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:	Kimley-Horn		Job Title:	Project Manager	
Name (In Print):	Alex Granados			Phone:	(512) 520- 6078
Signature:				Date:	4/9/2024

SECTION 8: EXHIBITS

1ST SUBMITTAL TO CITY 02/05/2024

1. A PORTION OF PHASE 2 OF THE DEVELOPMENT IS LOCATED WITHIN A REGULATORY FEMA SPECIAL FLOOD HAZARD AREA, OR THE 100-YEAR FLOODPLAIN, FIRM PANEL NO. 48209CO280F, HAYS COUNTY, TEXAS AND INCORPORATED AREAS (DATED SEPTEMBER 2, 2005).
2. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
3. ALL PORTIONS OF THIS SITE ARE OVER THE EDWARDS AQUIFER RECHARGE ZONE, TRANSITION ZONE OR THE CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE.
4. CONTRACTOR SHALL CONTACT INFRAMARK (O&M MANAGER) AT 14050 SUMMIT DRIVE, SUITE 113A, AUSTIN, TX 78728 (512-246-0498) AND MURFEE ENGINEERING COMPANY AT 512-327-9204, AT LEAST (3) DAYS PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED IMPROVEMENTS OR MAKING ANY CONNECTION TO THE EXISTING WASTEWATER COLLECTION AND STORM DRAINAGE SYSTEM. FAILURE TO SUCCESSFULLY PROVIDE NOTICE OF WORK MAY RESULT IN RE-EXCAVATION AND/OR REMOVAL OF INSTALLED FACILITIES.
5. THERE ARE TREES GREATER THAN 8" CALIPER WITHIN PHASE 1 OF THE DEVELOPMENT.
6. ALL PROPOSED ELEVATIONS (SPOT GRADES AND CONTOURS) ARE TO FUTURE TOP OF GROUND AND PAVEMENT. CONTRACTOR TO CONSTRUCT ROADWAYS AND R.O.W. TO FINAL TOP OF PAVEMENT, CURB, AND GROUND ELEVATIONS PER THESE PLANS. CONTRACTOR TO VERIFY EXISTING TOP OF SUBGRADE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
7. ALL WASTEWATER SERVICES TO BE EXTENDED 5' BEYOND THE PROPOSED 10' UTILITY EASEMENT.
8. ENTIRE SITE IS LOCATED WITHIN BUDA CITY LIMITS AND BUDA ETJ
8. PHASE 2 OF THE COLONY AT COLE SPRINGS MEETS THE REQUIREMENTS OF THE DEVELOPMENT AGREEMENT.
9. HOA/MUD SHALL BE RESPONSIBLE FOR MAINTENANCE OF WATER QUALITY PONDS.

MERITAGE HOMES
12301 RESEARCH BLVD.
BLDG 4, SUITE 400
AUSTIN, TX 78759
TEL: (512) 610-4816
CONTACT: BRANDON HAMMANN

MI HOMES OF AUSTIN, LLC
7600 N. CAPITAL OF TEXAS HIGHWAY
BUILDING C, SUITE #250
AUSTIN, TEXAS 78731
TEL: (512) 770-8503
CONTACT: ROYCE RIPPY

01 S. AUSTIN AVE., SUITE 1310 Tel. No. (512) 520-0768
GEORGETOWN, TEXAS 78626 Fax No. (512) 418-1791
CERTIFICATE OF REGISTRATION #928
CONTACT: ALEJANDRO E. GRANADOS RICO, P.E.

GREG MOSIER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6330
601 NW LOOP 410
SUITE 350
SAN ANTONIO, TEXAS 78216
TEL: (210) 541-9166
GREG.MOSIER@KIMLEY-HORN.COM

APPROVED BY: _____ DATE _____

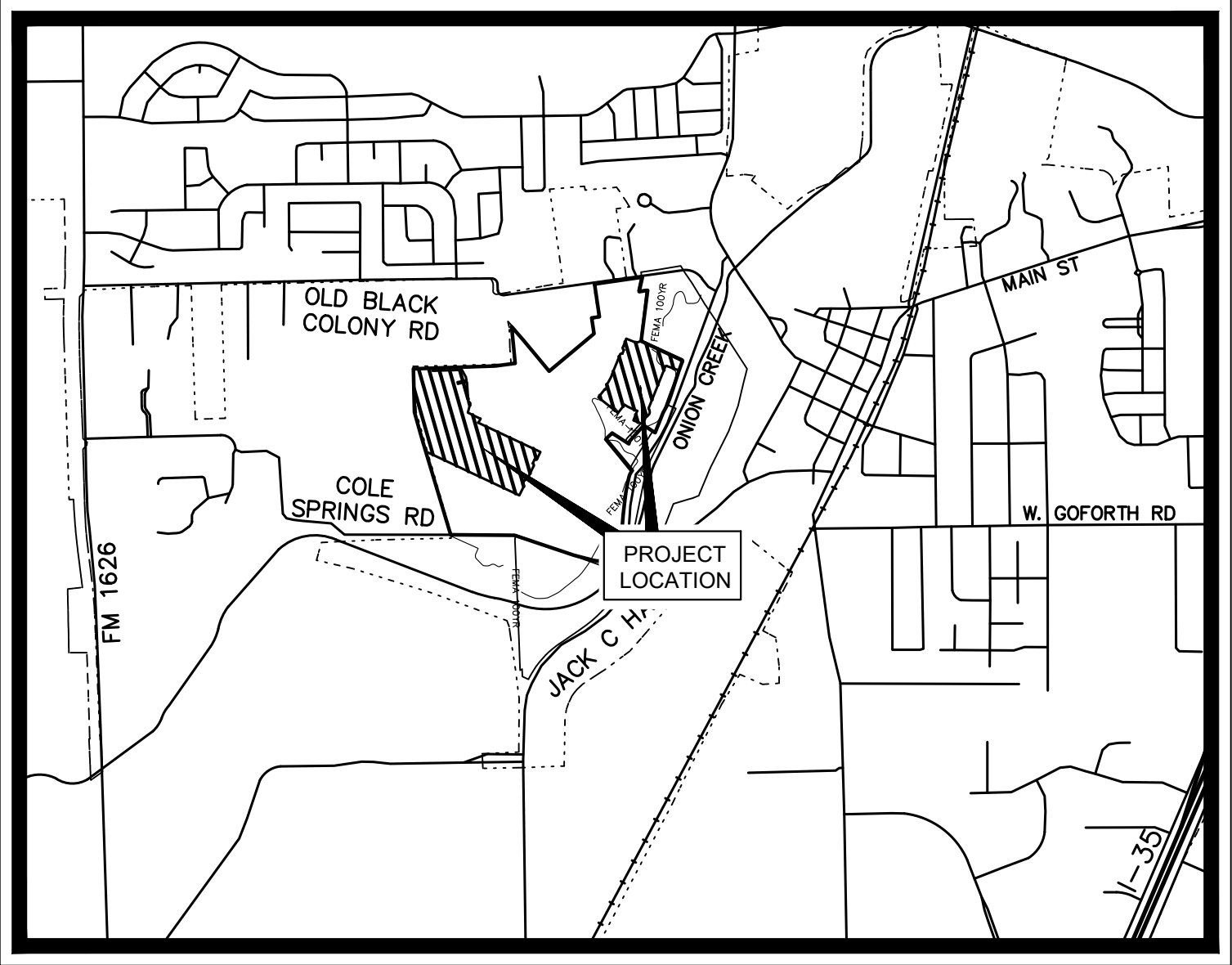
CITY OF BUDA _____ DATE _____

BUDA FIRE DEPARTMENT _____ DATE _____

DISTRICT ENGINEER** _____ DATE _____

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

33.04 ACRES, HIRAM CUMMINGS SURVEY, A-108, PHILLIPS J.
ALLEN SURVEY, A-1 & S.V.R. EGGLESTON SURVEY, A-5 IN
HAYS COUNTY, TEXAS



VICINITY MAP

SCALE: 1" = 2,000'

FEBRUARY 2024

[illegible]

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES (SHEET 1 OF 2)
3	GENERAL NOTES (SHEET 2 OF 2)
4	PRELIMINARY PLAT (SHEET 1 OF 7)
5	PRELIMINARY PLAT (SHEET 2 OF 7)
6	PRELIMINARY PLAT (SHEET 3 OF 7)
7	PRELIMINARY PLAT (SHEET 4 OF 7)
8	PRELIMINARY PLAT (SHEET 5 OF 7)
9	PRELIMINARY PLAT (SHEET 6 OF 7)
10	PRELIMINARY PLAT (SHEET 7 OF 7)
11	PHASING PLAN
12	PARKLAND HOA HATCHING
13	EXISTING CONDITIONS & DEMOLITION PLAN
14	EROSION CONTROL PLAN
15	TREE LIST
16	OVERALL TREE PLAN
17	GRADING PLAN (SHEET 1 OF 4)
18	GRADING PLAN (SHEET 2 OF 4)
19	GRADING PLAN (SHEET 3 OF 4)
20	GRADING PLAN (SHEET 4 OF 4)
21	PAVING PLAN & PROFILE - ANTIOCH CHURCH DR.
22	PAVING PLAN & PROFILE - ANTIOCH SCHOOL LN.
23	PAVING PLAN & PROFILE - MAGGIE REVADA ST.
24	PAVING PLAN & PROFILE - ALLEY A
25	PAVING PLAN & PROFILE - ALLEY B (SHEET 1 OF 2)
26	PAVING PLAN & PROFILE - ALLEY B (SHEET 2 OF 2)
27	PAVING PLAN & PROFILE - ALLEY D & ALLEY E
28	PAVING PLAN & PROFILE - ONION CREEK WAY
29	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 1 OF 3)
30	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 2 OF 3)
31	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 3 OF 3)
32	PAVING PLAN & PROFILE - BEARD WAY
33	PAVING PLAN & PROFILE - CHAMP AVE.
34	PAVING PLAN & PROFILE - WADING CREEK ST.
35	PAVING PLAN & PROFILE - YANCY LN.
36	PAVING PLAN & PROFILE - FIRE ACCESS DRIVE
37	EXISTING DRAINAGE AREA MAP
38	PROPOSED DRAINAGE AREA MAP
39	INLET DRAINAGE AREA MAP (SHEET 1 OF 3)
40	INLET DRAINAGE AREA MAP (SHEET 2 OF 3)
41	INLET DRAINAGE AREA MAP (SHEET 3 OF 3)
42	DRAINAGE CALCULATIONS (SHEET 1 OF 4)
43	DRAINAGE CALCULATIONS (SHEET 2 OF 4)
44	DRAINAGE CALCULATIONS (SHEET 3 OF 4)
45	DRAINAGE CALCULATIONS (SHEET 4 OF 4)
46	STORM PLAN & PROFILE SD-A STA. 13+28 - 21+50
47	STORM PLAN & PROFILE SD-A STA. 21+50 - END
48	STORM PLAN & PROFILE SD-D
49	STORM PLAN AND PROFILE SD-E & SD-FF
50	STORM PLAN & PROFILE SD-G
51	STORM PLAN AND PROFILE SD-GG & SD-HH
52	STORM PLAN AND PROFILE SD-L & SD-N
53	STORM PLAN AND PROFILE SD-M
54	STORM PLAN AND PROFILE SD-R & SD-X
55	STORM LATERAL PROFILES (SHEET 1 OF 5)
56	STORM LATERAL PROFILES (SHEET 2 OF 5)
57	STORM LATERAL PROFILES (SHEET 3 OF 5)
58	STORM LATERAL PROFILES (SHEET 4 OF 5)
59	STORM LATERAL PROFILES (SHEET 5 OF 5)
60	OVERALL WATER PLAN
61	WATER PLAN & PROFILE - WL-F (SHEET 1 OF 2)
62	WATER PLAN & PROFILE - WL-F (SHEET 2 OF 2)
63	WATER PLAN & PROFILE - WL-G
64	WATER PLAN & PROFILE - WL-H
65	WATER PLAN & PROFILE - WL-O
66	WATER PLAN & PROFILE - WL-R (SHEET 1 OF 3)
67	WATER PLAN & PROFILE - WL-R (SHEET 2 OF 3)
68	WATER PLAN & PROFILE - WL-R (SHEET 3 OF 3)
69	WATER PLAN & PROFILE - WL-V
70	OVERALL WASTEWATER PLAN
71	WASTEWATER PLAN & PROFILE WWL-O (SHEET 1 OF 2)
72	WASTEWATER PLAN & PROFILE WWL-O (SHEET 2 OF 2) & WWL-P
73	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 1 OF 3)
74	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 2 OF 3)
75	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 3 OF 3)
76	WASTEWATER PLAN & PROFILE WWL-R
77	WASTEWATER PLAN & PROFILE WWL-Y (SHEET 1 OF 2)
78	WASTEWATER PLAN & PROFILE WWL-Y (SHEET 2 OF 2)
79	WASTEWATER PLAN & PROFILE WWL-Z
80	WASTEWATER PLAN & PROFILE WWL-AA
81	STREET LIGHT & SIGN PLAN (SHEET 1 OF 2)
82	STREET LIGHT & SIGN PLAN (SHEET 2 OF 2)
83	EROSION CONTROL DETAILS
84	PAVING DETAILS (SHEET 1 OF 4)
85	PAVING DETAILS (SHEET 2 OF 4)
86	PAVING DETAILS (SHEET 3 OF 4)
87	PAVING DETAILS (SHEET 4 OF 4)
88	STORM DRAIN DETAILS
89	WATER DETAILS
90	WASTEWATER DETAILS

CONSTRUCTION PLAN APPROVAL		SHEET	OF 90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON		N/A UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE:		ZONING	N/A
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
<i>Final plan must be recorded by the Project Engineer date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of Construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>			
PERMIT NUMBER:			

Plotted By: Flynn, Alyssa Date: April 09, 2024 01:59:26pm File Path: K:\you_civil\067783115 meritage buds assemblage PHASE 2\06d\plansheets\0-Erosion Control Plan.dwg
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NOTES:

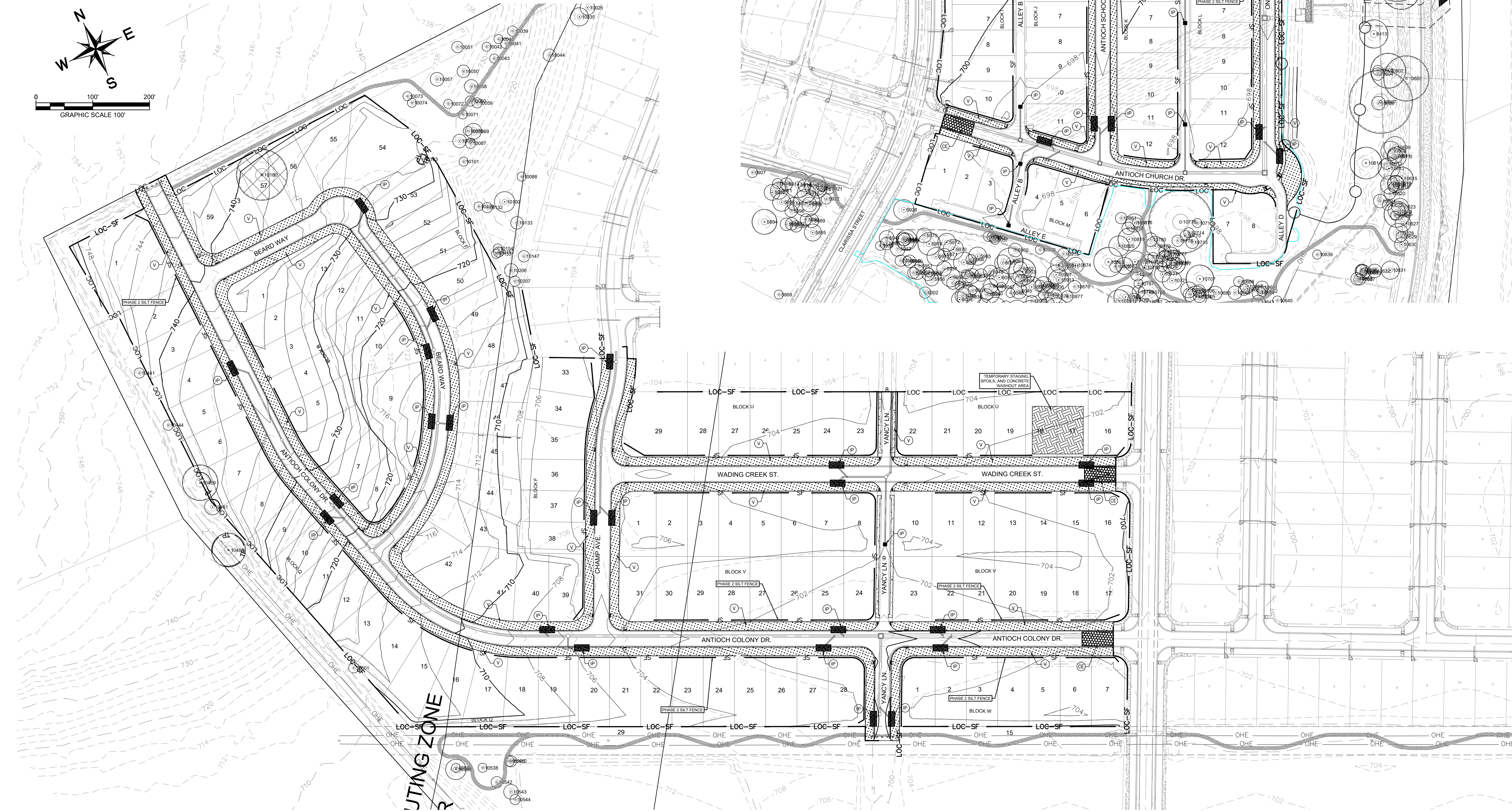
1. FLOODPLAIN EASEMENT RESTRICTION: CONSTRUCTION WITHIN THE FLOODPLAIN MAY ONLY OCCUR WITH THE WRITTEN APPROVAL OF THE CITY. A REQUEST FOR CONSTRUCTION WITHIN THE FLOODPLAIN EASEMENT MUST BE ACCOMPANIED WITH DETAILED CONSTRUCTION PLANS AND STUDIES INDICATING THAT NO FLOODING WILL RESULT, THAT NO OBSTRUCTION TO THE NATURAL FLOW OF WATER WILL RESULT; AND SUBJECT TO ALL OWNERS OR THE PROPERTY AFFECTED BY SUCH CONSTRUCTION BECOMING A PARTY TO THE REQUEST. WHERE CONSTRUCTION IS PERMITTED ALL FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF TWO (2) FEET ABOVE THE 100-YEAR FLOOD ELEVATION AS DETERMINED BY ANALYZING THE ULTIMATE BUILD-OUT CONDITIONS OF THE ENTIRE DRAINAGE BASIN.
2. EXISTING CREEKS, LAKES, RESERVOIRS, OR DRAINAGE CHANNELS TRAVERSING ALONG OR ACROSS PORTIONS OF THIS ADDITION, WILL REMAIN AS AN OPEN CHANNEL AT ALL TIMES AND WILL BE MAINTAINED BY THE INDIVIDUAL OWNERS OF THE LOT OR LOTS THAT ARE TRAVERSED BY THE DRAINAGE COURSES ALONG OR ACROSS SAID LOTS. THE CITY WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF SAID DRAINAGE WAYS OR FOR THE CONTROL OF EROSION. EACH PROPERTY OWNER SHALL KEEP THE NATURAL DRAINAGE CHANNELS TRAVERSING HIS PROPERTY CLEAN AND FREE OF DEBRIS, SILT, OR ANY SUBSTANCE, WHICH WOULD RESULT IN UNSANITARY CONDITIONS. THE CITY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS FOR THE PURPOSE OF INSPECTION AND SUPERVISION OF MAINTENANCE WORK BY THE PROPERTY OWNER TO ALLEVIATE ANY UNDESIRABLE CONDITIONS, WHICH MAY OCCUR.
3. EASEMENTS: ANY PUBLIC UTILITY, INCLUDING THE CITY, SHALL HAVE THE RIGHT TO MOVE AND KEEP MOVED ALL OR PART OF ANY BUILDING, FENCES, TREES, SHRUBS, OTHER GROWTHS OR IMPROVEMENTS WHICH IN ANY WAY ENDANGER OR INTERFERE WITH THE CONSTRUCTION, MAINTENANCE, OR EFFICIENCY OF ITS RESPECTIVE SYSTEMS ON ANY OF THE EASEMENTS OR RIGHT-OF-WAY SHOWN ON THE PLAT (OR FILED BY SEPARATE INSTRUMENT THAT IS ASSOCIATED WITH SAID PROPERTY), AND ANY PUBLIC, INCLUDING THE CITY, SHALL HAVE THE RIGHT AT ALL TIMES OF INGRESS AND EGRESS TO AND FROM UPON SAID EASEMENTS FOR THE PURPOSE OF CONSTRUCTION, RECONSTRUCTION, INSPECTION, PATROLLING, MAINTAINING AND ADDING TO REMOVING ALL OR PART OF ITS RESPECTIVE SYSTEMS WITHOUT THE NECESSITY AT ANY TIME OF PROCURING THE PERMISSION OF ANYONE. EASEMENTS SHALL BE MAINTAINED BY PROPERTY OWNERS. THE CITY CAN MOVE TREES OR ANY OTHER IMPROVEMENTS AND DOES NOT HAVE THE RESPONSIBILITY TO REPLACE THEM.
4. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
5. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL AS ADOPTED BY THE CITY OF BUDA.
6. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF BUDA ENGINEERING DEPARTMENT, 312-0084, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
7. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE PLAN MAY BE REQUIRED BY THE INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
8. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR THE MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHED SIX (6) INCHES.
9. WHERE A DIVERSION OR PERIMETER CONTROL SILT FENCE IS INSTALLED IN THE DIRECTION OF A SLOPE, A 20-FOOT LENGTH OF FENCE SHOULD BE TURNED IN, ACROSS THE SLOPE, AT REGULAR INTERVALS (100 FEET) TO CREATE A "J" HOOK.

PERMANENT EROSION CONTROL:

ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE AS SPECIFIED IN THE CITY OF AUSTIN STANDARD SPECIFICATION 604S, AS ADOPTED BY THE CITY OF BUDA. USE NATIVE SEEDING.

DUST CONTROL:

DUST CONTROL METHODS ARE REQUIRED AS PER CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL SECTION 1.4.5.D AS ADOPTED BY THE CITY OF BUDA.



EROSION CONTROL LEGEND	
	PROPERTY LINE
	PROPOSED CONTOUR
	EXISTING CONTOUR
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE/EXIT
	INLET PROTECTION
	ROCK BERM
	LIMITS OF CONSTRUCTION
	TREE PROTECTION
	LIMITS OF REVEGETATION
	CURLEX MATTING



KEY MAP
SCALE: 1" = 1,000'

Know what's below.
Call before you dig.

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV +707.57 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV +712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION CODE	N/A	UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A			
Rev. 1 _____ Correction 1			
Rev. 2 _____ Correction 2			
Rev. 3 _____ Correction 3			
Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.			
PERMIT NUMBER: _____			

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WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Granados Rico

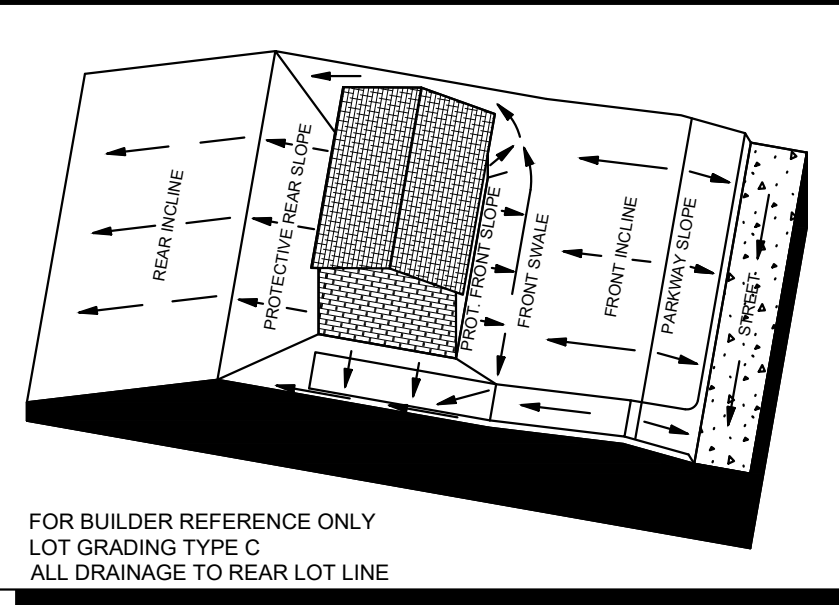
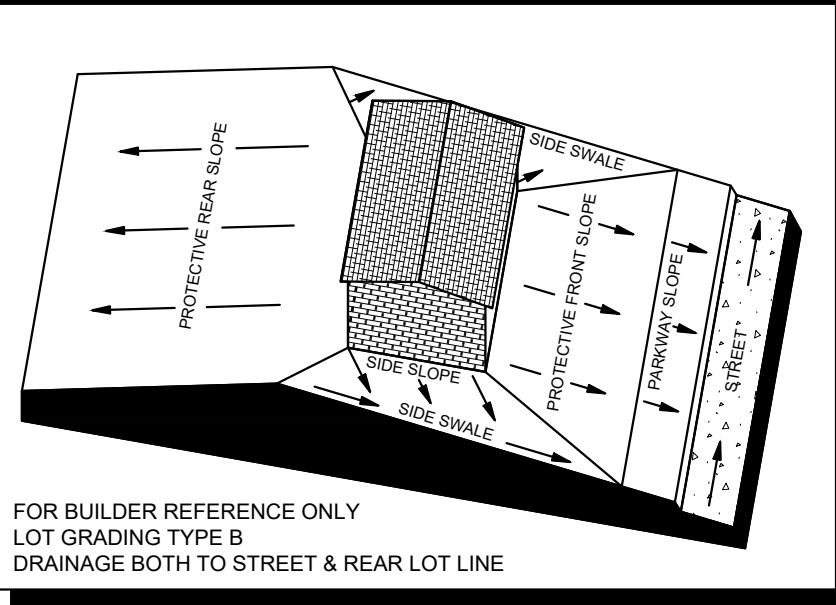
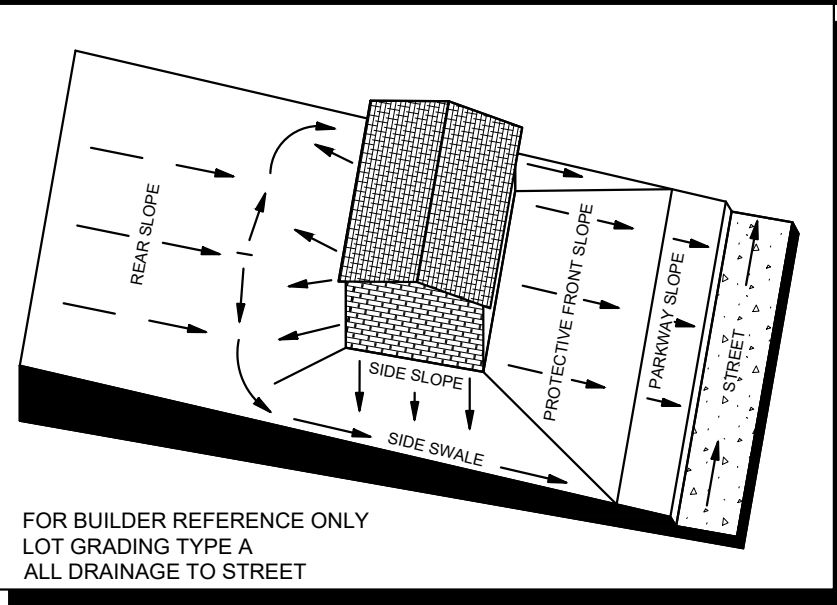
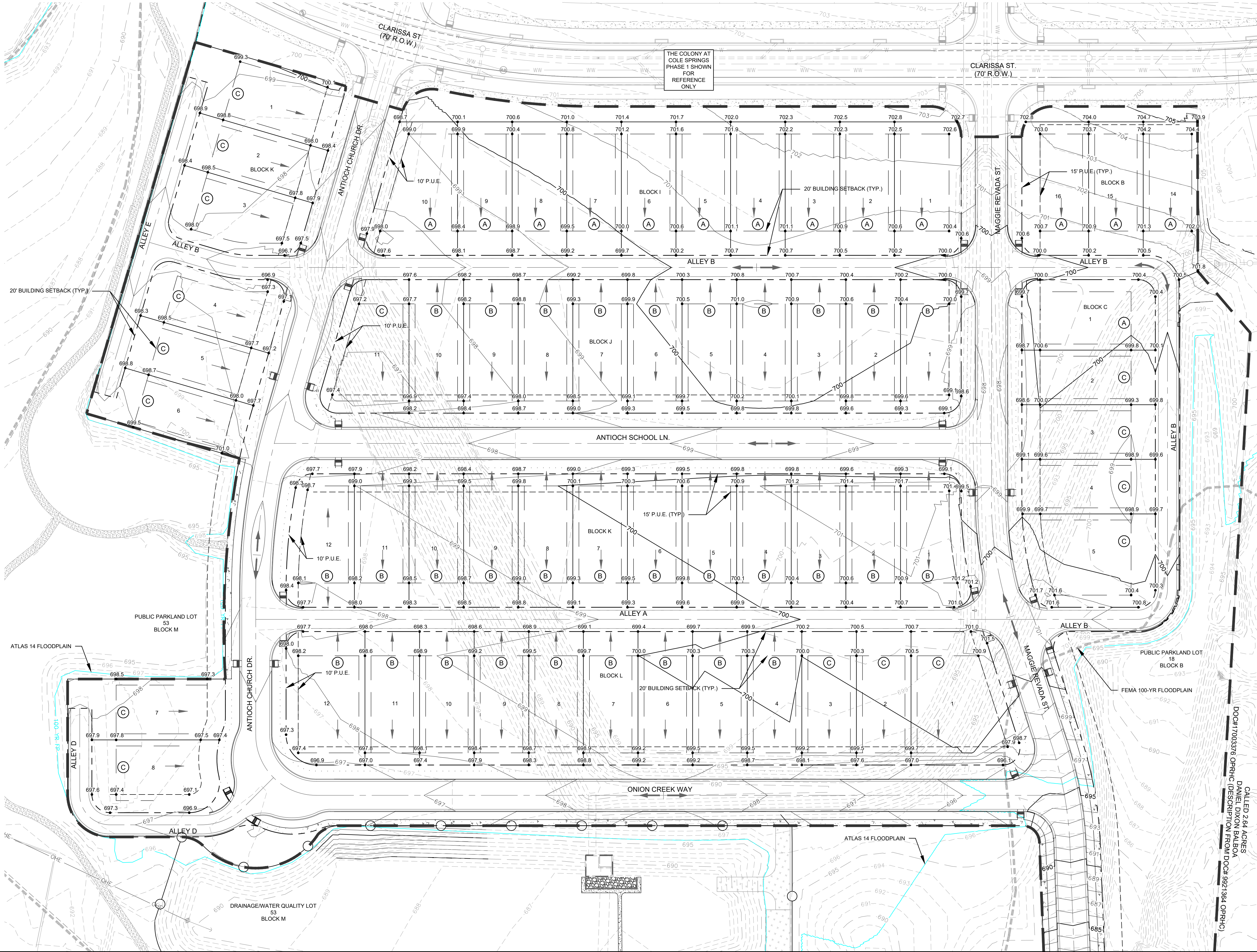
KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AMF
CHECKED BY	AEC

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

EROSION CONTROL PLAN

SHEET NUMBER
14
OF 90

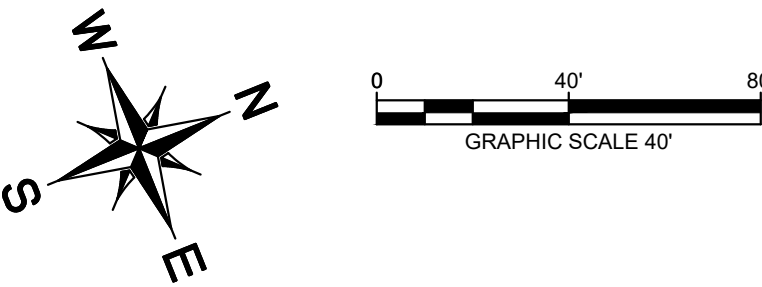
Plotted By: Flynn, Alyssa Date: April 09, 2024 02:00:53pm File Path: K:\You_civil\067783115_mortgage_budo_assemble\PHASE 2\Grading\plan\streets\G-Grading Plan.dwg
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LEGEND

---	PROPERTY LINE
---	PHASE LINE
FP 675.00	PROPOSED FINISHED PAD ELEVATION
55.5 •	PROPOSED SPOT ELEVATION
EX 55.5 •	EXISTING SPOT ELEVATION
TW 55.5 •	PROPOSED GRADE AT TOP OF WALL
BW 55.5 •	PROPOSED GRADE AT BOTTOM OF WALL
EW 55.5 •	PROPOSED GRADE AT END OF WALL
TM	PAD MOUNT TRANSFORMER
→	LOT DRAINAGE FLOW DIRECTION
→	STREET DRAINAGE FLOW DIRECTION
---	PROPOSED RETAINING WALL
---	EXPOSED FACE OF RETAINING WALL
555	PROPOSED CONTOUR
555	EXISTING CONTOUR
---	STORM SEWER
---	STORM INLET
○	STORM MANHOLE
W	WATER MAIN
WW	WASTEWATER MAIN
---	5' SIDEWALK (INCLUDED IN CONTRACT)
---	5' SIDEWALK (EXCLUDED FROM CONTRACT)

- NOTE:
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 - BW = BOTTOM OF GRADE
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SEE STRUCTURAL FOR TOP OF FOOTING AND TOP OF BLOCK.
 - ANY REVISIONS TO RETAINING WALLS WILL REQUIRE CITY APPROVAL.



KEY MAP
SCALE: 1" = 1,000'



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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897.774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.54 (NAVD 83)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHWEST SIDE OF FM 2776 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 83)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 83)

CONSTRUCTION PLAN APPROVAL	SHEET 17 OF 90
FILE NUMBER	APPLICATION DATE
APPROVED BY COMMISSION ON	N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE	
EXPIRATION DATE	CASE MANAGER

City Engineer, City of Buda
Released for General Compliance: _____ ZONING N/A
Rev. 1: _____ Correction 1
Rev. 2: _____ Correction 2
Rev. 3: _____ Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024



KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY:	DPD
DRAWN BY:	AJD
CHECKED BY:	AEC

GRADING PLAN
(SHEET 1 OF 4)

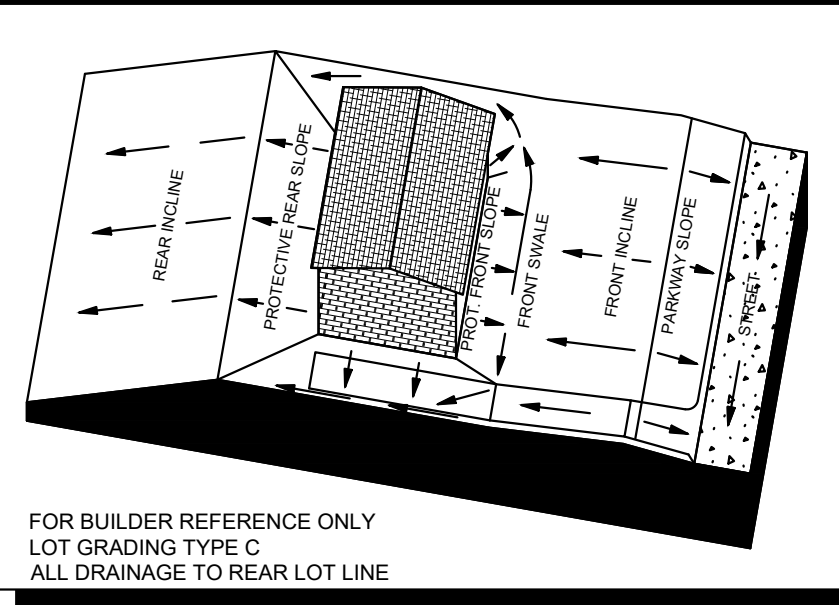
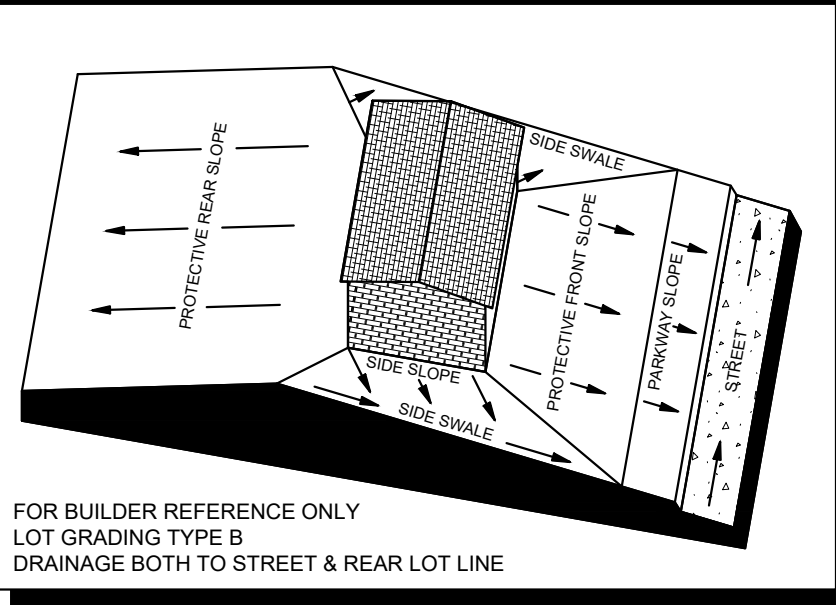
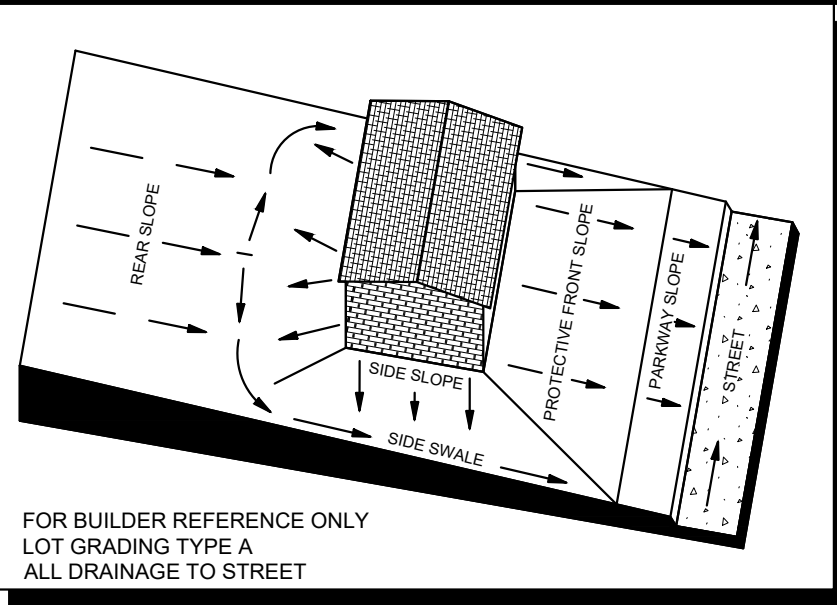
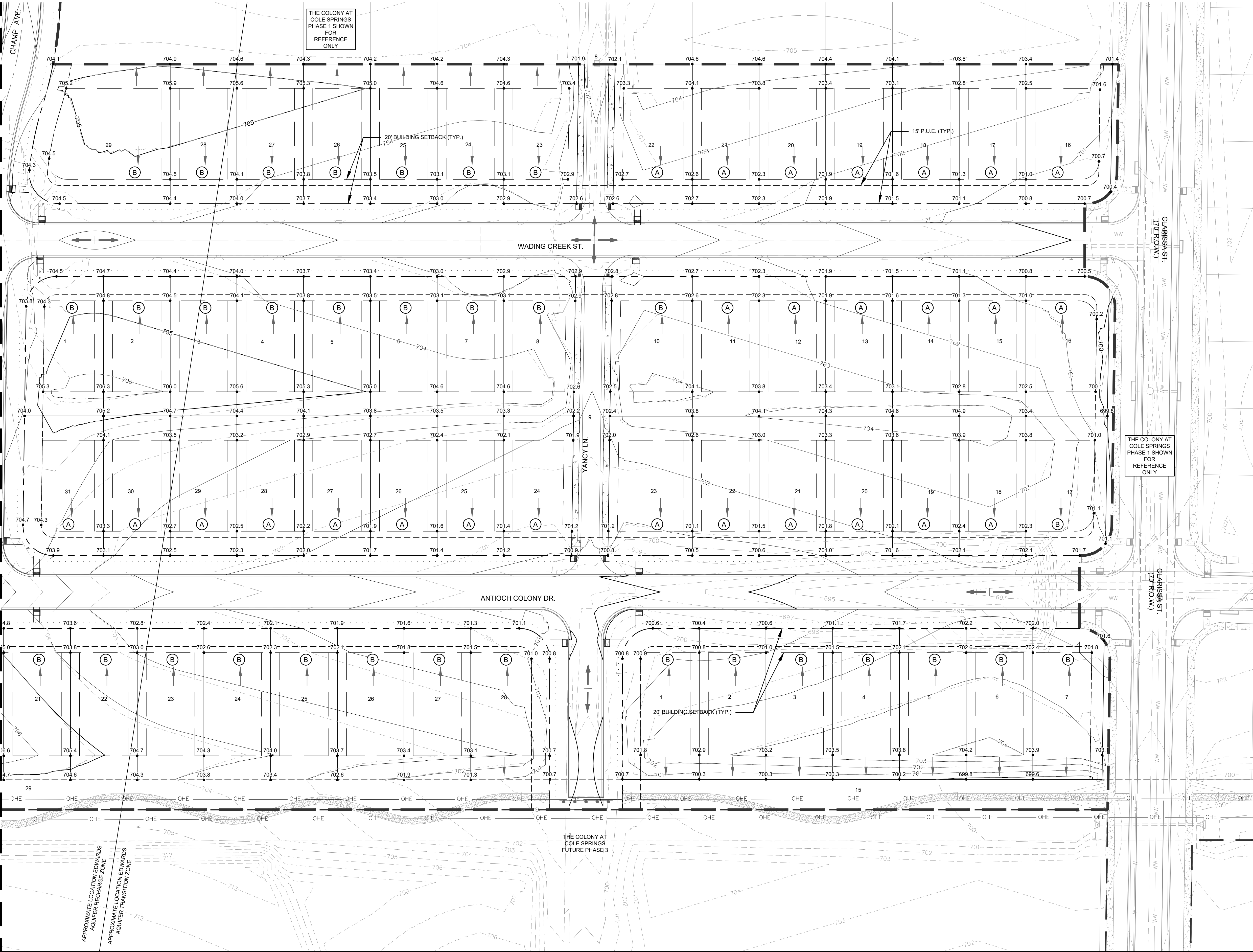
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
17
OF 90

Plotted By: Lynn, Alyssa Date: April 09, 2024 02:01:05pm File Path: K:\You_civil\067783115 meritage buds assem\blp\PHASE 2\067783115 Grading Plan.dwg

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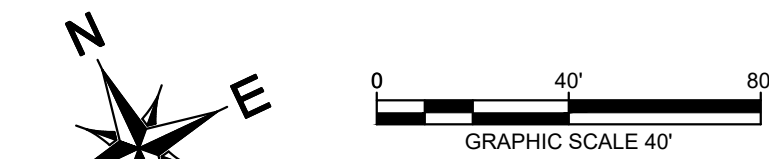
MATCH LINE SEE SHEET 19



LEGEND

---	PROPERTY LINE
---	PHASE LINE
FP 675.00	PROPOSED FINISHED PAD ELEVATION
55.5 •	PROPOSED SPOT ELEVATION
EX 55.5 •	EXISTING SPOT ELEVATION
TW 55.5 •	PROPOSED GRADE AT TOP OF WALL
BW 55.5 •	PROPOSED GRADE AT BOTTOM OF WALL
EW 55.5 •	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
W	WATER MAIN
WW	WASTEWATER MAIN
---	5' SIDEWALK (INCLUDED IN CONTRACT)
---	5' SIDEWALK (EXCLUDED FROM CONTRACT)

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KEY MAP
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BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV = 712.54 (NAVD 88)

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CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION CODE	N/A	UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A			
Rev. 1 _____ Correction 1			
Rev. 2 _____ Correction 2			
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04/9/2024



KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY:	DPD
DRAWN BY:	AJD
CHECKED BY:	AEC

GRADING PLAN
(SHEET 2 OF 4)

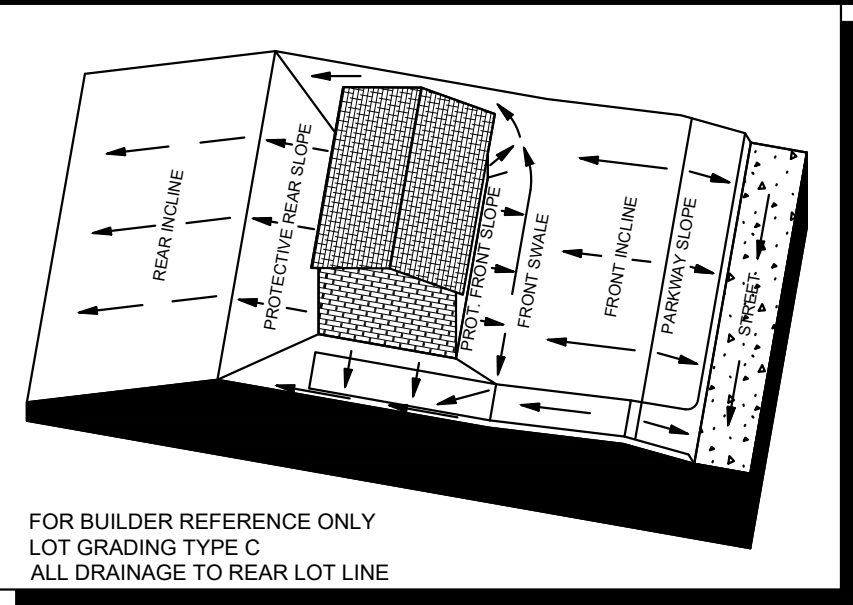
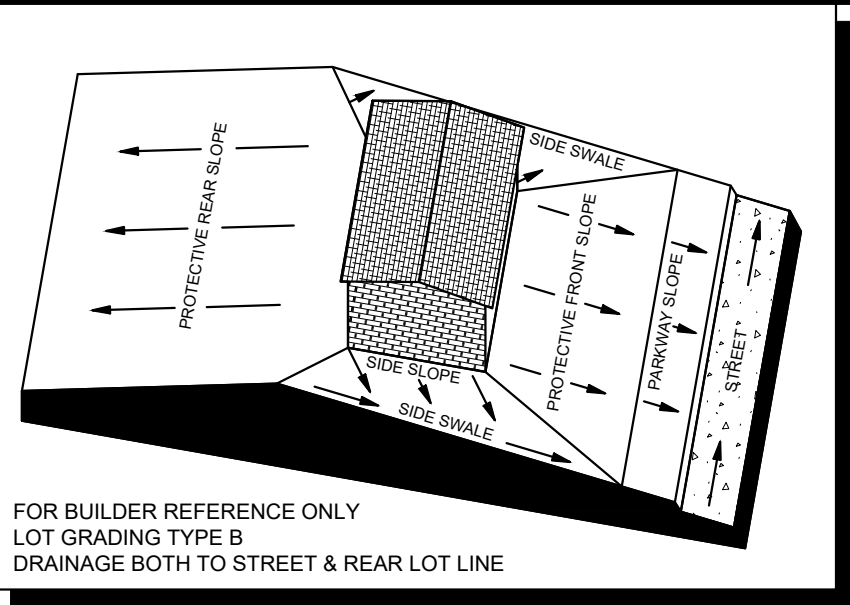
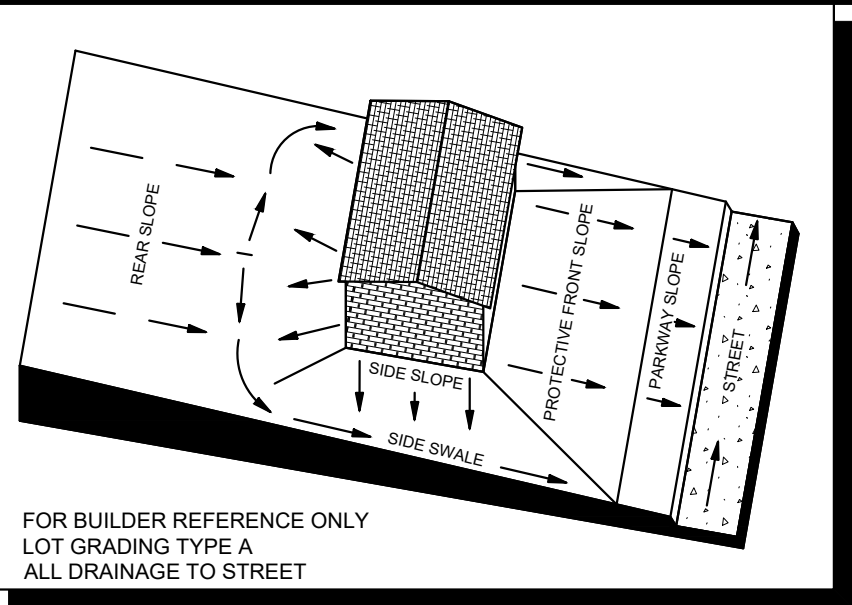
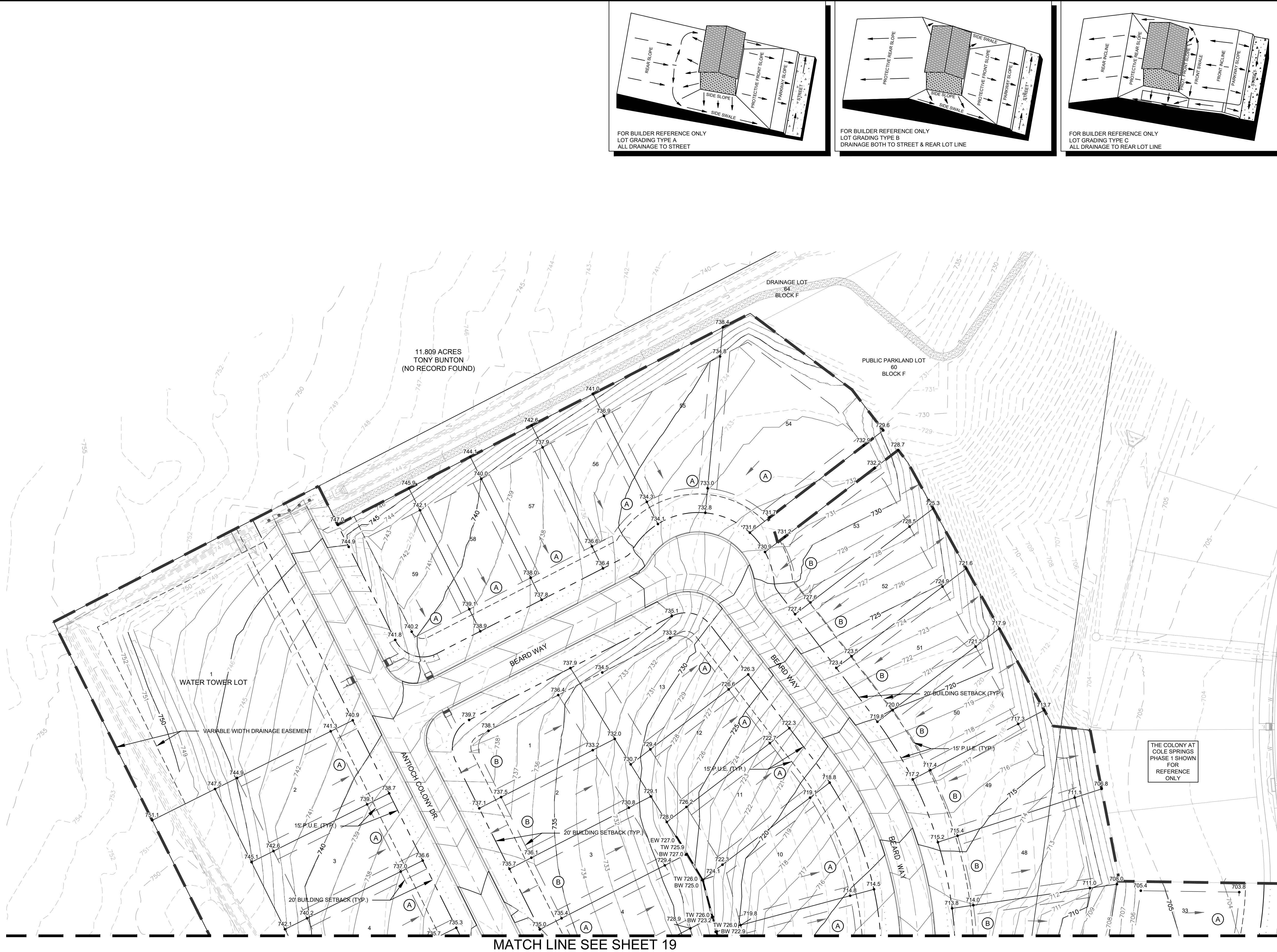
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
18
OF 90

DATE
REVISIONS
BY

Plotted By: Flynn, Alyssa Date: April 09, 2024 02:01:25pm File Path: K:\You_civil\067783115 meritage buds assem\blp\phase 2\067783115 Grading Plan.dwg

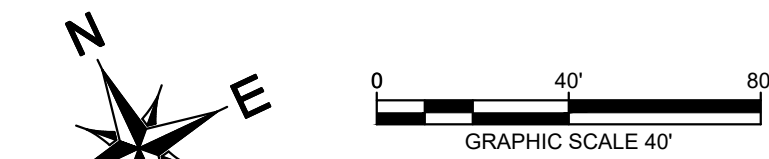
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LEGEND

---	PROPERTY LINE
---	PHASE LINE
•	PROPOSED FINISHED PAD ELEVATION
•	PROPOSED SPOT ELEVATION
•	EXISTING SPOT ELEVATION
•	PROPOSED GRADE AT TOP OF WALL
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□	PAD MOUNT TRANSFORMER
→	LOT DRAINAGE FLOW DIRECTION
→	STREET DRAINAGE FLOW DIRECTION
---	PROPOSED RETAINING WALL
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---	STORM SEWER
□	STORM INLET
○	STORM MANHOLE
W	WATER MAIN
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---	5' SIDEWALK (INCLUDED IN CONTRACT)
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KEY MAP
SCALE: 1" = 1,000'



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BENCHMARKS

- BENCHMARKS
- BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 807 174 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV +705.87 (NAVD 88)
 - BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV +712.04 (NAVD 88)
 - BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90	
FILE NUMBER	APPLICATION DATE
APPROVED BY COMMISSION ON	N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE
EXPIRATION DATE	CASE MANAGER
City Engineer, City of Buda	
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KHA PROJECT 067783115		DATE FEBRUARY 2024		SCALE: AS SHOWN		DESIGNED BY: DPD		DRAWN BY: AID		CHECKED BY: AEC	
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THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS											
GRADING PLAN (SHEET 4 OF 4)											
SHEET NUMBER 20 OF 90											

Plotted By: Flynn, Alyssa Dater: April 10, 2024 07:26:13pm File: Patrick_Vsou_civil\067783115 meritage buda assembly\Phase 2\Code\plan\streets\c--Existing Drainage Area Map.dwg
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HMS BASIN PARAMETERS															
SUBBASIN		LOSSES					TRANSFORM								
		SCS CURVE NUMBER					SNYDER UNIT HYDROGRAPH								
							Standard Lag (hr) = t_p								
							$t_p = C_1(L/L_{CA})^{0.77}$								
							Peaking Coefficient = C_p								
							$C_p =$ Basin Characteristic								
Basin	Subbasin	Area	Initial Abstractions (in)				Impervious	C_1	L	L_{CA}	t_p	C_p			
		(sq ft)	2YR	10YR	25YR	100YR	CN		(mi)	(mi)	(hr)				
Unionbasin	UOOCR70	2,528	1618	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07	0.75	
	REVEK	0.228	146	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.66	0.53	0.75	
	REVEK	UOOCR70_OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07	0.75
	PROP	UOOCR70_PROJECT	0.235	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44	0.75
	PROP	UOOCR70_OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07	0.75
UnionBasin	UOOCR70	3,414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27	1.20	0.75	
	REVEK	UOOCR70_PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24	0.75
	REVEK	UOOCR70_OFFSITE	3.376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75
	PROP	UOOCR70_PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20	0.75
	PROP	UOOCR70_OFFSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75

*Note: C₁ and C_p values for subbasings UOOCR70 and UOOCR70 are from effective model

Note: C_1 and C_p values for subbasins UOOCR70 and UOOCR70 are from effective model

LAG TIME CALCULATIONS

Lag Time (Onion Creek Effective Hydraulic Model)													
xSec Station	Dist (ft)	2 YR Velocity			10 YR Velocity			25 YR Velocity			100YR Velocity		
		RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)
168897	—	2.90	—	—	5.07	—	—	6.23	—	—	8.11	—	—
167934	983	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total Lag (sec)		324			170			141			110		
Total Lag (min)		5.4			2.8			2.3			1.8		
Reach "R-730"													
167494	—	2.97	—	—	6.39	—	—	7.62	—	—	9.91	—	—
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.6	76	7.6	7.6	82
166507	473	2.93	2.8	188	5.44	5.8	82	6.64	7.0	89	7.48	7.5	83
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	80	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	867	3.06	3.0	180	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163904	867	3.08	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161507	682	3.01	3.0	221	6.44	6.6	100	8.03	8.0	82	10.02	9.4	70
160770	787	2.89	3.0	287	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	28	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	6.2	1	6.97	6.8	1	8.81	8.6	1
160495	6	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160304	185	2.40	2.5	73	5.99	5.6	33	6.5	7.2	26	8.34	8.2	20
159560	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	283	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	68
155173	384	4.24	4.4	89	7.94	8.0	49	9.54	8.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total Lag (sec)		4124			2085			1701			1454		
Total Lag (min)		68.7			34.4			28.3			24.2		

LOCAL DRAINAGE AREA MAP



Kimley-Horn
102320
BRAD W. PICKERING
PROFESSIONAL ENGINEER
STATE OF TEXAS

Buda, Texas
MERITAGE TIMING STUDY

LOCAL EXISTING DRAINAGE AREA MAP

DATE: JANUARY 2024
DESIGNER: FLYNN, ALYSSA
CHECKED: BRYAN, KIM
PROJECT NO.: 067783115

SHEET
1

PEAK FLOW RESULTS

Junction	2YR				10YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK
UOOCR70_PROJECT	13	134	134	122	233	379	379	145
730 DETENTION	2542	2542	2542	0	22232	22232	22232	0
JUOOCR70	2549	2549	2549	0	22230	22230	22230	0
UOOCR70_PROJECT	3	27	27	24	62	93	93	31
730 DETENTION	2931	2931	2939	0	22462	22464	22464	2
JUOOCR70	2935	2935	2933	0	22479	22481	22482	2
JUOOCR70_730	2935	2935	2933	0	22563	22565	22566	2
JUOOCR70	2916	2916	2934	0	22835	22837	22837	2
JUOOCR70_820	2540	2541	2549	1	9	22958	22960	2
JUOOCR70_830	2540	2540	2548	0	8	22681	22682	1
JUOOCR80	2937	2937	2945	0	8	23044	23045	1
UNION CREEK	3116	3116	3124	0	8	26065	26067	1

Junction	25YR				100YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETROP Peak (cfs)	DETROP - REVEK
UOOCR70_PROJECT	411	546	546	135	659	794	794	135
730 DETENTION	41812	41813	41814	1	80017	80019	80018	2
JUOOCR70	41808	41809	41809	1	80036	80040	80036	4
UOOCR70_PROJECT	106	107	107	1	165	152	152	-13
730 DETENTION	—	—	101	—	—	102	—	—
JUOOCR70	42112	42113	42113	1	80255	80256	80255	1
JUOOCR70	42128	42129	42129	1	80266	80267	80266	1
JUOOCR70_730	42236	42239	42239	1	80487	80489	80487	2
JUOOCR70	42349	42350	42350	1	80563	80564	80563	1
JUOOCR70_820	42817	42818	42819	1	81198	81199	81198	1
JUOOCR70_830	42852	42853	42853	1	81246	81247	81246	1
JUOOCR80	42988	42988	42988	2	81298	81298	81298	0
UNION CREEK	47282	47283	47284	1	87646	87647	87646	1

- NOTES:
- 1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.

811
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Call before you dig.

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

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90
FILE NUMBER APPLICATION DATE
APPROVED BY COMMISSION CODE N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE
EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A
Rev. 1 _____ Correction 1
Rev. 2 _____ Correction 2
Rev. 3 _____ Correction 3
Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.
PERMIT NUMBER:

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 174 NORTH ON THE NORTH SIDE OF THE PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.04 (NAVD 83)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 83)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF COLE SPRINGS ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 83)

Kimley-Horn
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PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024
KHA PROJECT 067783115
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: DPD
DRAWN BY: DPD
CHECKED BY: AEC

EXISTING DRAINAGE AREA MAP
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
37
OF 90

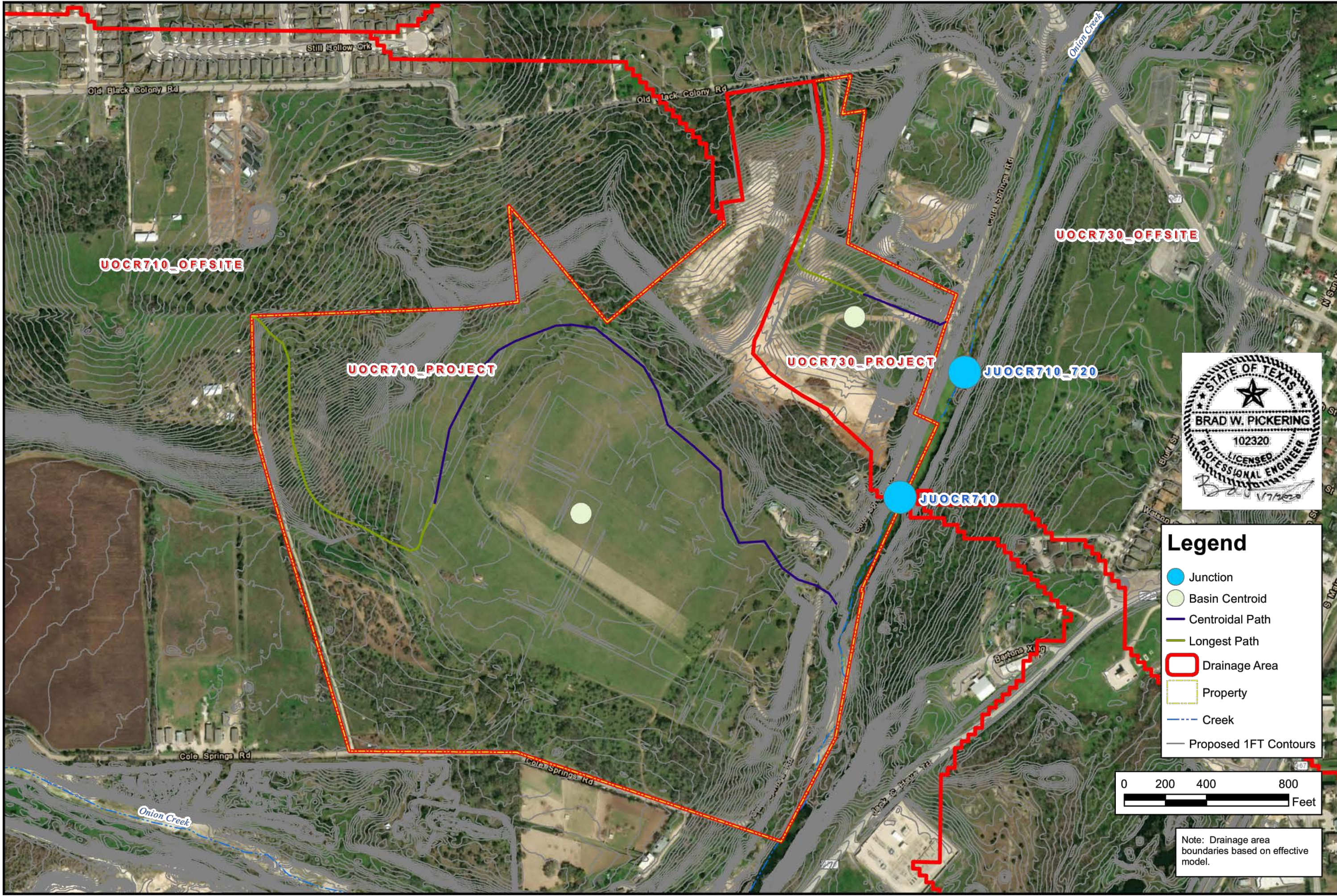
Kimley-Horn
102320
BRAD W. PICKERING
PROFESSIONAL ENGINEER
STATE OF TEXAS

Buda, Texas
MERITAGE TIMING STUDY

LOCAL EXISTING DRAINAGE AREA MAP

DATE: JANUARY 2024
DESIGNER: FLYNN, ALYSSA
CHECKED: BRYAN, KIM
PROJECT NO.: 067783115

SHEET
1



Kimley-Horn
1000 Westwood Dr., Suite 200
Buda, Texas 78610
Phone: 512-520-0768
www.kimley-horn.com

Buda, Texas
MERITAGE TIMING STUDY

LOCAL PROPOSED
DRAINAGE AREA MAP

DATE: JANUARY 2020
DESIGN: KIMLEY-HORN
CHECKED: KIMLEY-HORN
REVISION: 06/7/2015
PROJECT: 067783115
SHEET: 2

HMS BASIN PARAMETERS														
SUBBASIN			LOSSES					TRANSFORM						
			SCS CURVE NUMBER					SWYDER UNIT HYDROGRAPH						
								Standard Lag (hr) = t_p						
								$t_p = C_{t1}(L_{CA})^{0.77}$						
								Peakling Coefficient = C_u						
								C_1 = Basin Characteristic						
Basin	Subbasin	Area	Initial Abstractions (in)				CN	Impervious	C_1	L	L_{CA}	t_p	C_u	
		(mi ²)	(ac)	2YR	10YR	25YR	100YR		%		(mi)	(hr)		
Onionbasin	UOCRT10	2,528	1618	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07	0.75
REVEK	UOCRT10-PROJECT	0.228	148	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.66	0.53	0.75
REVEK	UOCRT10-OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07	0.75
PROP	UOCRT10-PROJECT	0.225	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44	0.75
PROP	UOCRT10-OFFSITE	2,300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07	0.75
OnionBasin	UOCR730	3,414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27	1.20	0.75
REVEK	UOCR730-PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24	0.75
REVEK	UOCR730-OFFSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75
PROP	UOCR730-PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20	0.75
PROP	UOCR730-OFFSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75

*Note: C₁ and C_u values for subbasins UOCRT10 and UOCR730 are from effective model

*Note: C₁ and C_p values for subbasins UOCRT10 and UOCR730 are from effective model

LAG TIME CALCULATIONS

Lao Tim (Onion Creek Effective Hydraulic Model)												
Reach: R-710'												
+Sec Station	Dist (ft)	2 YR Velocity			10 YR Velocity			25 YR Velocity			100YR Velocity	
		RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)
168897	---	2.90	---	---	5.07	---	---	6.23	---	---	8.11	---
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7
Total Lag (sec)		324			170			141			110	
Total Lag (min)		5.4			2.8			2.3			1.8	
Reach: R-730'												
167494	---	2.97	---	---	6.39	---	---	7.62	---	---	9.91	---
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5
166492	466	2.11	2.5	185	5	5.2	69	6.3	6.5	72	7.38	7.4
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8
165534	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	8.5
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0
163904	897	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8
162747	867	3.20	3.4	246	6.36	6.2	138	7.71	7.5	115	8.33	8.1
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4
160720	787	2.89	3.0	267	7.07	7.4	112	9.46	9.7	90	11.54	10.8
160585	135	3.97	3.4	39	7.43	7.8	18	8.49	9.0	15	9.91	10.7
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1
160389	108	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2
159660	544	2.87	2.6	206	4.85	4.9	112	5.87	6.2	88	7.51	7.9
158828	892	2.47	2.7	300	5.69	5.8	165	7.08	6.5	124	8.52	8.0
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3
156478	704	3.90	3.2	245	7.05	6.2	138	8.51	7.6	105	9.85	8.8
155967	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9
155011	59	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.73	8.6
Total Lag (sec)		4124			2065			1701			1454	
Total Lag (min)		68.7			34.4			28.3			24.2	

PEAK FLOW RESULTS

Junction	2YR						10YR					
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK		REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK	
UOCRT10-PROJECT	13	134	134	122	122		233	379	379	145	145	
710 DETENTION	---	12	---	---	---		---	223	---	---	---	
UOCRT10-720	2540	2540	2556	0	7		22200	22232	22232	1	2	
UOCR730-PROJECT	3	27	27	24	24		62	93	93	31	31	
730 DETENTION	---	3	---	---	---		---	60	---	---	---	
UOCRT730	2531	2531	2539	0	8		22462	22464	22464	2	2	
UOCRT740	2525	2525	2533	0	8		22479	22481	22482	2	3	
UOCRT750-30	2525	2525	2533	0	8		22593	22595	22596	2	3	
UOCRT750	2516	2516	2524	0	8		22635	22637	22637	2	2	
UOCRT80-830	2540	2541	2549	1	9		22656	22660	22660	2	2	
UOCRT80-830	2540	2540	2548	0	8		22991	22992	22993	1	2	
UOCRT840	2537	2537	2545	0	8		23004	23005	23006	1	2	
UNION CREEK	3116	3116	3124	0	8		26065	26066	26067	1	2	
Junction	25YR						100YR					
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK		REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK	
UOCRT10-PROJECT	411	546	546	135	135		699	794	794	135	135	
710 DETENTION	---	409	---	---	---		---	658	---	---	---	
UOCRT10-720	41812	41813	41814	1	2		80112	80115	80115	3	4	
UOCR730-PROJECT	106	107	107	1	1		165	152	152	-13	-13	
730 DETENTION	---	101	---	---	---		---	152	---	---	---	
UOCRT730	42112	42113	42113	1	1		80255	80256	80255	1	0	
UOCRT740	42126	42129	42129	1	1		80266	80267	80266	1	0	
UOCRT750-30	42286	42289	42289	1	1		80497	80499	80497	2	0	
UOCRT750	42349	42350	42350	1	1		80563	80564	80563	1	0	
UOCRT80-830	42817	42818	42819	1	2		81198	81199	81198	1	0	
UOCRT80-830	42863	42863	42863	1	1		81246	81247	81246	1	0	
UOCRT840	42886	42888	42888	2	2		81265	81285	81285	1	0	
UNION CREEK	47282	47283	47284	1	2		87646	87647	87646	1	0	

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



Know what's below.
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WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

BENCHMARKS

BM #102 - PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 174' NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV +712.51 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV +712.04 (NAVD 88)

BM #106 - PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION CODE N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE CASE MANAGER

EXPIRATION DATE

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev: 1 Correction 1

Rev: 2 Correction 2

Rev: 3 Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

Kimley-Horn
© 2023 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

04/9/2024
KHA PROJECT 067783115
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: DPD
DRAWN BY: DPD
CHECKED BY: AEC














PROPOSED DRAINAGE
AREA MAP

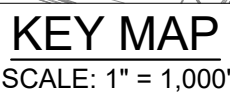
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
38
OF 90

No. REVISIONS DATE BY




	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



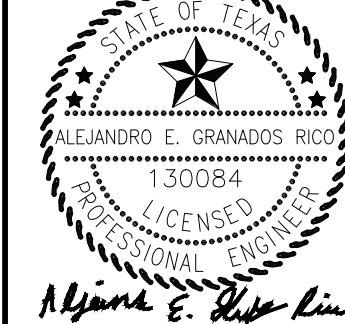
CONSTRUCTION PLAN APPROVAL SHEET ____ OF 90

FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON	N/A UNDER THE CITY OF BUDA		
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE:	ZONING	N/A	
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
<p><i>Final plan must be recorded by the Project Expiration Date. (Applicable. Subsequent Site Plans or other documents that do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i></p>			
PERMIT NUMBER:			

<p>THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS</p>		<p>INLET DRAINAGE AREA MAP (SHEET 1 OF 3)</p>		<p>KHA PROJECT 067783115</p>		<p>DATE FEBRUARY 2024</p>		<p>SCALE: AS SHOWN</p>		<p>DESIGNED BY: DPD</p>		<p>DRAWN BY: DPD</p>		<p>CHECKED BY: AEG</p>		<p>04/9/2024</p>				<p><i>Alejandro E. Granados Rocio</i></p>		<p>Kimley»»»Horn</p> <p>© 2024 KIMLEY-HORN AND ASSOCIATES, INC. 501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78628 PHONE: 512-520-0768 FAX: 512-418-1791 WWW.KIMLEY-HORN.COM</p> <p>TEXAS REGISTERED ENGINEERING FIRM F-928</p>		<p>No.</p>		<p>REVISIONS</p>		<p>DATE</p>		<p>BY</p>	
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Kimley»Horn

04/9/2024

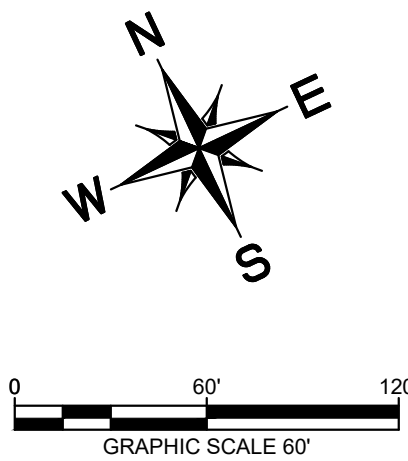
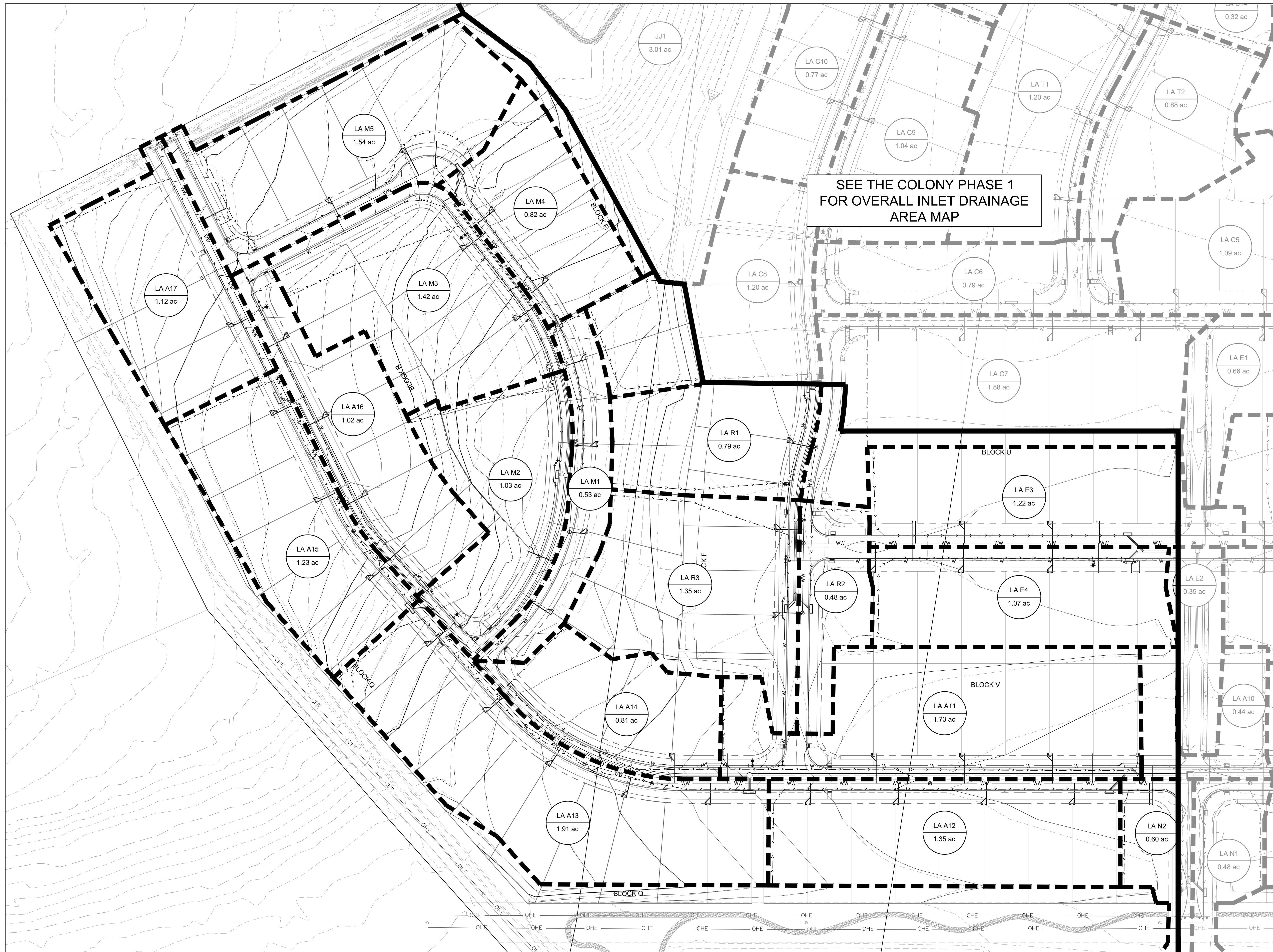


KHA PROJECT 067783115	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: DPD	DRAWN BY: DPD	CHECKED BY: AEG
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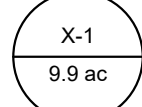










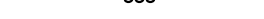

INLET DRAINAGE
AREA MAP
(SHEET 1 OF 3)

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
39
OF 90



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



KEY MAP
SCALE: 1" = 1,000'



Know what's below.
Call before you dig.

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

BENCHMARKS

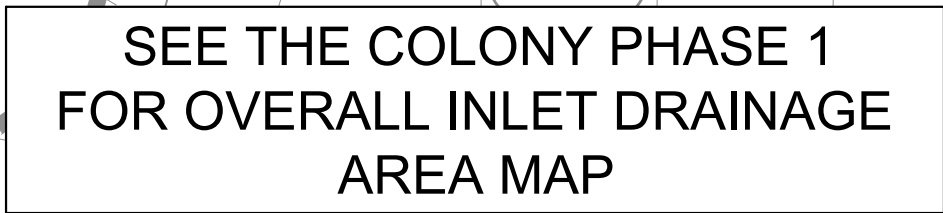
BENCHMARKS:














BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70% NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
ELEV = 6991.51' (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES
ELEV = 712.04' (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE
ELEV = 732.56' (NAVD 88)

CONSTRUCTION PLAN APPROVAL		SHEET _____ OF 90	
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON		N/A UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE		CASE MANAGER	
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE:		ZONING	N/A
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
<i>Final plot must be recorded by the Project Expiration date, if applicable. Subsequent Site Plan which does not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>			
PERMIT NUMBER:			



	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



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

BENCHMARKS

BENCHMARKS:

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70% NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
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CONSTRUCTION PLAN APPROVAL		SHEET _____ OF 90	
FILE NUMBER	APPLICATION DATE		
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City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE:		ZONING	N/A
Rev. 1	Correction 1		
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Final plot must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.



PERMIT NUMBER:

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:30:56am File Path: K:\You_civil\067783115_meritage_buds_assemble\Phase 2\067783115_C-Drainage Calculations.dwg
This document, together with the concepts and designs presented herein, is an instrument of service. It is intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drainage Area ID	Area (Ac.)	Impervious %	Impervious Area (Ac.)	PerVIOUS Area (Ac.)	C, 2 Yr.	C, 10 Yr.	C, 25 Yr.	C, 100 Yr.	Tc, min.	I, 2 Yr.	I, 10 Yr.	I, 25 Yr.	I, 100 Yr.	Q, 2 Yr.	Q, 10 Yr.	Q, 25 Yr.	Q, 100 Yr.
LA A0	0.68	60%	0.41	0.27	0.60	0.66	0.70	0.77	9.56	5.14	7.79	9.56	12.47	2.09	3.49	4.55	6.53
LA A1	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	13.05	4.54	6.86	8.42	10.99	3.04	5.05	6.60	9.48
LA A2	0.40	60%	0.24	0.16	0.60	0.66	0.70	0.77	11.35	4.81	7.28	8.93	11.65	1.15	1.91	2.50	3.59
LA A3	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	9.54	5.15	7.80	9.57	12.48	3.79	6.31	8.24	11.82
LA A4	0.22	60%	0.13	0.09	0.60	0.66	0.70	0.77	8.33	5.40	8.19	10.06	13.12	0.71	1.19	1.55	2.22
LA A5	0.21	60%	0.13	0.08	0.60	0.66	0.70	0.77	10.14	5.63	8.34	10.19	12.83	0.63	1.05	1.37	1.97
LA A6	0.30	60%	0.18	0.12	0.60	0.66	0.70	0.77	9.01	5.25	7.96	9.77	12.75	0.94	1.57	2.05	2.94
LA A7	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	8.41	5.39	8.17	10.02	13.08	1.06	1.77	2.32	3.32
LA A8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	9.47	5.16	7.82	9.59	12.51	2.13	3.55	4.63	6.65
LA A9	0.74	60%	0.44	0.30	0.60	0.66	0.70	0.77	11.89	4.72	7.14	8.76	11.43	2.09	3.47	4.54	6.51
LA A10	0.44	60%	0.26	0.18	0.60	0.66	0.70	0.77	11.65	4.76	7.20	8.84	11.53	1.25	2.08	2.72	3.91
LA A11	1.73	60%	1.04	0.69	0.60	0.66	0.70	0.77	10.17	5.02	7.60	9.33	12.17	5.20	8.66	11.30	16.22
LA A12	1.35	60%	0.81	0.54	0.60	0.66	0.70	0.77	13.38	4.49	6.78	8.33	10.88	3.62	6.03	7.88	11.31
LA A13	1.91	60%	1.15	0.76	0.60	0.66	0.70	0.77	8.86	5.25	8.01	9.84	12.83	6.04	10.07	13.15	18.87
LA A14	0.81	60%	0.49	0.32	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	3.05	5.12	6.69	9.62
LA A15	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	4.06	6.78	8.86	12.71
LA A16	1.02	60%	0.61	0.41	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	3.37	5.63	7.34	10.54
LA A17	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	8.38	5.39	8.18	10.03	13.09	3.61	6.03	7.87	11.29
LA AA1	0.75	60%	0.45	0.30	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	2.22	3.70	4.83	6.92
LA AA2	1.24	60%	0.74	0.50	0.60	0.66	0.70	0.77	12.34	4.64	7.03	8.63	11.26	3.44	5.73	7.49	10.75
LA B0	1.21	60%	0.73	0.48	0.60	0.66	0.70	0.77	11.47	4.79	7.25	8.90	11.61	3.47	5.77	7.54	10.81
LA B1	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	5.13	5.23	7.92	12.69	3.81	6.36	8.31	11.92	
LA B2	0.54	60%	0.32	0.22	0.60	0.66	0.70	0.77	10.65	4.93	7.47	11.95	2.65	3.46	4.97	7.47	
LA B3	0.72	60%	0.43	0.29	0.60	0.66	0.70	0.77	10.05	5.05	7.64	9.38	12.23	2.17	3.62	4.73	6.78
LA B4	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	9.81	5.09	7.71	9.47	12.35	2.22	3.70	4.84	6.94
LA B5	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	10.56	4.95	7.49	9.20	12.00	2.34	3.89	5.09	7.30
LA B6	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	12.17	4.67	7.07	8.68	11.32	3.13	5.21	6.80	9.77
LA B7	0.85	60%	0.51	0.34	0.60	0.66	0.70	0.77	11.09	4.85	7.35	9.02	11.76	2.47	4.11	5.37	7.70
LA B8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	12.40	4.64	7.01	8.61	11.23	1.91	3.18	4.16	5.97
LA B9	0.57	60%	0.34	0.23	0.60	0.66	0.70	0.77	10.73	4.92	7.44	9.14	11.92	1.68	2.79	3.65	5.23
LA B10	0.37	60%	0.22	0.15	0.60	0.66	0.70	0.77	6.16	5.96	9.06	11.11	14.51	1.32	2.20	2.88	4.13
LA B11	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	10.24	5.01	7.58	9.21	12.14	3.20	5.34	6.97	10.00
LA B12	1.21	60%	0.73	0.48	0.60	0.66	0.70	0.77	13.02	4.54	6.86	8.43	11.00	3.28	5.47	7.14	10.25
LA B13	0.34	60%	0.20	0.14	0.60	0.66	0.70	0.77	9.80	5.09	7.71	9.47	12.35	1.04	1.73	2.25	3.23
LA B14	0.32	60%	0.19	0.13	0.60	0.66	0.70	0.77	10.44	4.97	7.53	9.24	12.05	0.95	1.58	2.07	2.97
LA BB1	1.30	60%	0.78	0.52	0.60	0.66	0.70	0.77	11.32	4.81	7.28	8.94	11.67	3.74	6.23	8.14	11.68
LA BB2	1.16	60%	0.70	0.46	0.60	0.66	0.70	0.77	11.08	4.86	7.35	9.02	11.77	3.37	5.61	7.33	10.51
LA C1	1.97	60%	1.18	0.79	0.60	0.66	0.70	0.77	11.08	4.86	7.35	9.02	11.77	5.72	9.53	12.44	17.85
LA C2	0.36	60%	0.22	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.36	2.28	2.97	4.28
LA C3	0.54	60%	0.38	0.26	0.60	0.66	0.70	0.77	8.70	5.32	8.07	9.90	12.91	2.04	3.40	4.43	6.36
LA C4	0.55	60%	0.33	0.22	0.60	0.66	0.70	0.77	10.20	5.02	7.60	9.32	12.16	1.65	2.75	3.59	5.15
LA C5	1.09	60%	0.65	0.44	0.37	0.42	0.46	0.53	9.26	5.20	7.89	9.68	12.62	2.10	3.61	4.85	7.29
LA C6	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	11.35	4.81	7.28	8.93	11.65	2.27	3.78	4.94	7.09
LA C7	1.88	60%	1.13	0.75	0.60	0.66	0.70	0.77	16.13	4.12	6.23	7.66	10.01	4.64	7.71	10.08	14.49
LA C8	1.20	60%	0.72	0.48	0.60	0.66	0.70	0.77	9.19	5.22	7.91	9.70	12.66	3.74	6.24	8.15	11.69
LA C9	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	11.14	4.84	7.33	9.00	11.74	3.01	5.02	6.55	9.40
LA C10	0.77	60%	0.46	0.31	0.60	0.66	0.70	0.77	10.83	4.90	7.42	9.10	11.87	2.26	3.76	4.91	7.04
LA C11	0.87	60%	0.52	0.35	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	2.43	4.04	5.27	7.57
LA D1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	12.67	4.59	6.95	8.53	4.07	5.32	7.63	10.08	14.49
LA D2	0.17	60%	0.10	0.07	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.64	1.07	1.40	2.02
LA D3	0.24	60%	0.14	0.10	0.60	0.66	0.70	0.77	12.16	4.67	7.07	8.68	11.33	0.67	1.12	1.46	2.09
LA D4	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92
LA D5	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	1.70	2.83	3.70	5.31
LA D6	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	10.01	5.05	7.65	9.39	12.25	1.84	3.07	4.01	5.75
LA D7	0.38	60%	0.23	0.15	0.60	0.66	0.70	0.77	7.26	5.66	8.59	10.54	13.76	1.29	2.15	2.80	4.03
LA D8	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92
LA D9	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	7.57	5.58	8.47	10.40	13.57	4.07	5.31	7.63	10.97
LA D10	0.62	60%	0.37	0.25	0.60	0.66	0.70	0.77	10.64	5.71	8.67	10.64	13.88	2.12	3.54	4.62	6.73
LA DD1	0.25	60%	0.15	0.10	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.94	1.58	2.06	2.97
LA DD2	0.23	60%	0.14	0.09	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.87	1.45	1.90	2.73
LA E1	0.66	60%	0.40	0.26	0.60	0.66	0.70	0.77	11.00	4.87	7.37	9.05	11.80	1.92	3.20	4.18	6.00
LA E2	0.35	60%	0.21	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.32	2.21	2.89	4.16
LA E3	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	13.57	4.46	6.74	8.28	10.81	3.25	5.41	7.07	10.16
LA E4	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	11.09	4.85	7.35	9.02	11.76	3.11	5.17	6.76	9.69
LA EE1	0.19	60%	0.11	0.08	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.58	0.96	1.26	1.80
LA EE2	0.18	60%	0.11	0.07	0.60	0.66	0.70	0.77	9.80	5.08	7.69	9.44	12.32	0.55	0.91	1.19	1.71
LA F1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	10.31	5.00	7.57	9.29	12.11	2.66	4.43	5.78	8.30
LA F2	0.96	60%	0.58	0.38	0.60	0.66	0.70	0.77	10.30	5.00	7.57	9.29	12.11	2.87	4.78	6.24	8.95
LA F3	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	3.08	5.12	6.69	9.60
LA F4	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	10.59	4.94	7.48	9.19	11.98	3.64	6.06	7.91	11.35
LA F5	0.65	60%	0.39	0.26	0.60	0.66	0.70	0.77	11.55	4.77	7.22	8.87	11.57	1.86	3.09	4.04	5.79
LA F6	1.26	60%	0.76	0.50	0.60	0.66	0.70	0.77	10.93	4.88	7.39	9.07	11.83	3.68	6.13	8.00	11.48
LA F7	1.28	60%	0.77	0.51	0.60	0.66	0.70	0.77									

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:31:03am File Path: K:\Users\civill\067783115\meritage_buda_assembly\PHASE 2\Code\planets\A-C--Drainage Calculations.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.

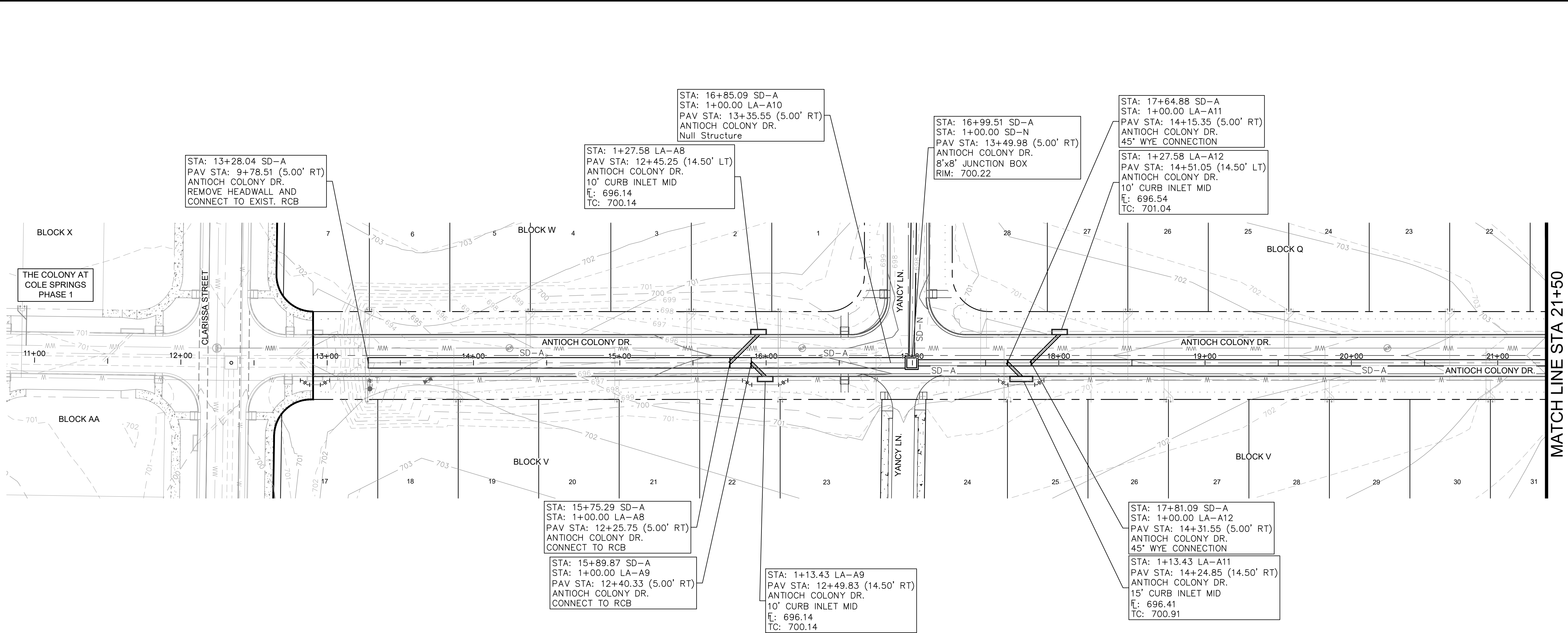
DRAINAGE AREA (DA)	Sheet Flow										Shallow Concentrated Flow										Shallow Concentrated Flow										Channel Flow										Actual	Design	Flow Rate 25-yr	Flow Rate 100-yr						
	AREAS (ACRES)										Unpaved										Paved										Gutter																			
	n	s	L	T ₁₁	L	s	V	T ₁₀	L	s	V	T ₁₀	L	s	V	T ₁₀	L	s	a	Pw	r	n	s	T ₁₁	T ₁ , min.	T ₁ , min.	cfs	cfs	L	s	a	Pw	r	n	s	T ₁₁	T ₁ , min.	T ₁ , min.	cfs	cfs										
LA A0	0.68	0.15	0.0183	100	9.1	52	0.183	6.90	0.13	0	0.183	0.00	0	51	2.8	3.8	15.5	0.245	0.016	0.005	0.32	9.6	9.56	4.55	6.53																									
LA A1	1.12	0.15	0.01	100	11.6	0	0.01	1.61	0	0	0	0.00	0	245	2.8	3.8	15.5	0.245	0.016	0.005	1.45	13.1	13.05	6.60	9.48																									
LA A2	0.40	0.15	0.018	100	9.2	11	0.018	2.16	0.08	0	0	0.00	0	355	2.8	3.8	15.5	0.245	0.016	0.005	2.09	11.4	11.35	2.50	3.55																									
LA A3	1.23	0.15	0.018	100	9.2	0	0.02	2.28	0	0	0	0.00	0	56	2.6	3.8	15.5	0.245	0.016	0.005	0.36	9.5	9.51	8.24	11.82																									
LA A4	0.22	0.15	0.026	100	7.9	30	0.026	2.60	0.19	0	0	0.00	0	34	2.6	3.8	15.5	0.245	0.016	0.005	0.22	8.3	8.33	1.55	2.22																									
LA A5	0.21	0.15	0.02	100	8.8	22	0.02	2.28	0.16	0	0	0.00	0	201	2.8	3.8	15.5	0.245	0.016	0.005	1.19	10.1	10.14	1.37	1.97																									
LA A6	0.30	0.15	0.026	100	7.9	34	0.026	2.60	0.22	0	0	0.00	0	191	3.6	3.8	15.5	0.245	0.016	0.01	0.87	9.0	9.01	2.05	2.94																									
LA A7	0.33	0.15	0.026	100	7.9	30	0.026	2.60	0.12	0	0	0.00	0	59	3.6	3.8	15.5	0.245	0.016	0.01	0.27	8.4	8.41	1.32	3.32																									
LA A8	0.69	0.15	0.02	100	8.8	32	0.02	2.28	0.23	0	0	0.00	0	71	2.8	3.8	15.5	0.245	0.016	0.005	0.44	9.5	9.47	4.63	6.65																									
LA A9	0.74	0.15	0.02	100	8.8	16	0.02	2.28	0.12	0	0	0.00	0	505	2.8	3.8	15.5	0.245	0.016	0.005	2.98	11.9	11.89	4.54	6.51																									
LA A10	0.44	0.15	0.02	100	8.8	22	0.02	2.28	0.16	0	0	0.00	0	107	2.6	3.8	15.5	0.245	0.016	0.005	2.70	11.7	11.65	2.72	3.91																									
LA A11	1.73	0.15	0.025	100	7.0	30	0.025	3.02	0.17	0	0	0.00	0	504	2.8	3.8	15.5	0.245	0.016	0.006	2.97	10.2	10.17	10.12	16.22																									
LA A12	1.35	0.15	0.01	100	11.6	0	0.01	1.61	0	0	0	0.00	0	300	2.8	3.8	15.5	0.245	0.016	0.005	1.77	13.4	13.38	7.88	11.31																									
LA A13	1.91	0.15	0.03	100	7.5	41	0.03	2.79	0.24	0	0	0.00	0	372	5.5	3.8	15.5	0.245	0.016	0.0225	1.13	8.9	8.86	13.15	18.87																									
LA A14	0.81	0.15	0.045	100	9.7	29.9	0	0.045	2.32	0	0	0.00	0	404	5.5	3.8	15.5	0.245	0.016	0.0225	1.29	4.2	5.00	6.69	9.62																									
LA A15	1.23	0.15	0.035	100	7.0	60	0.035	3.02	0.33	0	0	0.00	0	268	10.0	3.8	15.5	0.245	0.016	0.075	0.45	7.8	7.81	7.34	10.54																									
LA A16	1.02	0.15	0.035	100	7.0	60	0.035	3.02	0.33	0	0	0.00	0	268	4.4	3.8	15.5	0.245	0.016	0.0145	1.02	8.4	8.38	7.87	11.29																									
LA A17	1.12	0.15	0.038	100	7.0	60	0.038	3.02	0.38	0	0	0.00	0	268	1.8	3.8	15.5	0.245	0.016	0.016	1.02	8.4	8.38	7.87	11.29																									
LA A18	0.75	0.15	0.018	100	9.2	22	0.018	2.28	0.18	0	0.0075	1.76	0	189	2.6	3.8	15.5	0.245	0.016	0.005	1.22	10.6	10.58	4.83	6.92																									
LA A19	1.24	0.15	0.011	100	11.2	57	0.025	2.55	0.37	0	0.0075	1.76	0	123	2.6	3.8	15.5	0.245	0.016	0.005	0.80	12.3	12.34	7.49	10.75																									
LA B0	1.21	0.15	0.016	100	9.6	22	0.016	2.04	0.18	0	0.0075	1.76	0	258	2.6	3.8	15.5	0.245	0.016	0.005	1.67	11.5	11.47	7.54	10.81																									
LA B1	1.22	0.15	0.025	100	8.0	43	0.018	2.16	0.33	0	0.005	1.44	0	117	2.6	3.8	15.5	0.245	0.016	0.005	0.76	9.1	9.13	8.31	11.92																									
LA B2	0.84	0.15	0.016	100	9.6	22	0.016	2.04	0.18	0	0.005	1.44	0	162	2.6	3.8	15.5	0.245	0.016	0.0075	1.46	10.6	10.56	3.46	4.97																									
LA B3	0.72	0.15	0.018	100	9.2	43	0.018	2.16	0.33	0	0.005	1.44	0	81	2.6	3.8	15.5	0.245	0.016	0.005	0.54	10.0	10.06	4.73	6.78																									

THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS	DRAINAGE CALCULATIONS (SHEET 3 OF 4)	KHA PROJECT 067783115	04/9/2024				 <i>Alejandro L. Granados-Rios</i>	 © 2024 KIMLEY-HORN AND ASSOCIATES, INC. 501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78626 PHONE: 512-520-0766 FAX: 512-416-1791 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM F-928	No.	REVISIONS	DATE	BY	
		DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: TPD	DRAWN BY: DPD	CHECKED BY: AEG							
SHEET NUMBER 44 OF 90													

2% Straight Crown				SUMP INLETS																								
Inlet No.	Drainage Area No.	Inlet Type	Street Type	Q (cfs)	Q Pass (cfs)	Q Total (Qa) (cfs)	Slope (%)	a (in.)	yo (ft)	yo (in.)	Ponded Width (ft)	Min. Clear	Width Allow.	1/2 Street Cpcy (cfs)	E _s	S _{ff}	Qa/La	La (ft)	Length (ft)	L/La	a/yo	Crown Pass (Cfs)	Q/Qa	Q Intercept (cfs)	Q Pass (cfs)	Ensuing DA No.		
LA A3	LA A3	Sump	Local 55	11.82	0.000	11.819	0.50%	5.000	0.537	6.449	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.835	10	0.84	0.78	1.21	1.00	10.61	1.21	X		
LA A4	LA A4	Sump	Local 55	2.22	0.000	2.222	0.50%	5.000	0.176	2.117	8.819	N/A	14.000	-	0.78	0.30	67.86	0.033	10	305.36	2.36	0.00	1.00	10.61	0.00	X		
LA A10	LA A10	Sump	Local 55	3.91	0.000	3.906	0.50%	5.000	0.257	3.083	12.844	N/A	14.000	-	0.59	0.23	1.86	2.103	10	12.44	1.62	0.00	1.00	10.61	0.00	X		
LA AA1	LA AA1	Sump	Local 55	6.92	0.000	6.923	0.50%	5.000	0.376	4.515	OVER CNTR	N/A	14.000	-	0.39	0.16	1.19	5.814	10	1.72	1.11	0.00	1.00	10.61	0.00	X		
LA AA2	LA AA2	Sump	Local 55	10.75	0.000	10.748	0.50%	5.000	0.504	6.053	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.517	10	0.95	0.83	0.14	1.00	10.61	0.14	X		
LA B0	LA B0	Sump	Local 55	10.81	0.019	10.832	0.50%	5.000	0.507	6.085	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.620	10	0.94	0.82	0.23	1.00	10.61	0.23	X		
LA B1	LA B1	Sump	Local 55	11.92	0.000	11.916	0.50%	5.000	0.540	6.484	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.954	10	0.84	0.77	1.31	1.00	10.61	1.31	X		
LA B3	LA B3	Sump	Local 55	6.78	0.000	6.781	0.50%	5.000	0.371	4.453	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.639	10	1.77	1.12	0.00	1.00	10.61	0.00	X		
LA B11	LA B11	Sump	Local 55	10.00	0.014	10.016	0.50%	5.000	0.481	5.775	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.617	10	1.04	0.87	0.00	1.00	10.61	0.00	X		
LA B12	LA B12	Sump	Local 55	10.25	0.000	10.252	0.50%	5.000	0.489	5.865	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	9.907	10	1.01	0.85	0.00	1.00	10.61	0.00	X		
LA C1	LA C1	Sump	Local 55	17.85	0.000	17.851	1.00%	5.000	0.540	6.478	OVER CNTR	N/A	14.000	-	0.25	0.11	0.93	19.252	15	0.78	0.77	1.94	1.00	15.91	1.94	X		
LA C2	LA C2	Sump	Local 55	4.28	0.000	4.275	1.00%	5.000	0.273	3.274	13.642	N/A	14.000	-	0.56	0.22	1.67	2.558	10	3.91	1.53	0.00	1.00	10.61	0.00	X		
LA C6	LA C6	Sump	Local 55	7.09	0.324	7.412	0.50%	5.000	0.394	4.725	OVER CNTR	N/A	14.000	-	0.37	0.15	1.16	6.415	10	1.56	1.06	0.00	0.98	10.61	0.00	X		
LA C7	LA C7	Sump	Local 55	14.49	0.000	14.488	0.50%	5.000	0.616	7.387	OVER CNTR	N/A	14.000	-	0.21	0.10	0.96	15.117	10	0.66	0.68	3.88	1.00	10.61	3.88	X		
LA C8	LA C8	Sump	Local 55	11.69	0.000	11.694	0.50%	5.000	0.534	6.403	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.681	10	0.86	0.78	1.09	1.00	10.61	1.09	X		
LA CC1	LA CC1	Sump	Local 55	7.57	0.000	7.568	0.50%	5.000	0.399	4.791	OVER CNTR	N/A	14.000	-	0.37	0.15	1.15	6.807	10	1.51	1.04	0.00	1.00	10.61	0.00	X		
LA D1	LA D1	Sump	Local 45	7.63	0.000	7.629	1.24%	5.000	0.401	4.817	OVER CNTR	N/A	13.000	-	0.36	0.15	1.14	6.682	10	1.50	1.04	0.00	1.00	10.61	0.00	X		
LA D2	LA D2	Sump	Local 45	2.02	0.000	2.019	1.24%	5.000	0.165	1.985	8.272	N/A	13.000	-	0.81	0.31	-9.29	-0.217	10	-46.03	2.52	0.00	1.00	10.61	0.00	X		
LA D5	LA D5	Sump	Local 45	5.31	0.000	5.308	0.50%	5.000	0.315	3.782	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.827	10	2.61	1.32	0.00	1.00	10.61	0.00	X		
LA DD1	LA DD1	Sump	Collector	2.97	0.000	2.969	0.50%	5.000	0.214	2.567	10.698	12'	11.000	-	0.69	0.26	3.12	0.951	10	10.51	1.95	0.00	1.00	10.61	0.00	X		
LA DD2	LA DD2	Sump	Collector	2.73	0.000	2.731	0.50%	5.000	0.202	2.429	10.119	12'	11.000	-	0.71	0.27	4.14	0.959	10	15.17	2.06	0.00	1.00	10.61	0.00	X		
LA E3	LA E3	Sump	Local 55	10.16	0.000	10.156	0.60%	5.000	0.486	5.829	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.789	10	1.02	0.86	0.00	1.00	10.61	0.00	X		
LA E4	LA E4	Sump	Local 55	9.69	0.000	9.693	0.60%	5.000	0.471	5.650	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.220	10	1.08	0.88	0.00	1.00	10.61	0.00	X		
LA EE1	LA EE1	Sump	Local 55	1.80	0.000	1.802	0.50%	5.000	0.153	1.841	7.869	N/A	14.000	-	0.84	0.32	-3.72	-0.484	10	-20.66	2.72	0.00	1.00	10.61	0.00	X		
LA EE2	LA EE2	Sump	Local 55	1.71	0.000	1.707	0.50%	5.000	0.148	1.775	7.397	N/A	14.000	-	0.85	0.32	-2.84	-0.601	10	-16.65	2.82	0.00	1.00	10.61	0.00	X		
LA F1	LA F1	Sump	Local 55	8.30	0.000	8.300	0.50%	5.000	0.425	5.095	OVER CNTR	N/A	14.000	-	0.34	0.14	1.11	7.507	10	1.33	0.98	0.00	1.00	10.61	0.00	X		
LA F2	LA F2	Sump	Local 55	8.95	0.000	8.954	0.50%	5.000	0.447	4.359	OVER CNTR	N/A	14.000	-	0.32	0.13	1.08	8.312	10	1.20	0.93	0.00	1.00	10.61	0.00	X		
LA F3	LA F3	Sump	Local 55	9.60	0.000	9.600	0.50%	5.000	0.468	5.614	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.106	10	1.10	0.89	0.00	1.00	10.61	0.00	X		
LA F4	LA F4	Sump	Local 55	11.35	0.000	11.347	0.50%	5.000	0.523	6.276	OVER CNTR	N/A	14.000	-	0.26	0.11	1.01	11.254	10	0.89	0.80	0.74	1.00	10.61	0.74	X		
LA F5	LA F5	Sump	Local 55	5.79	0.580	6.371	0.50%	5.000	0.356	4.271	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.135	10	1.95	1.17	0.00	0.91	10.61	0.00	X		
LA F6	LA F6	Sump	Local 55	11.48	0.000	11.478	0.50%	5.000	0.527	6.324	OVER CNTR	N/A	14.000	-	0.26	0.11	1.01	11.415	10	0.88	0.79	0.87	1.00	10.61	0.87	X		
LA F10	LA F10	Sump	Local 55	9.34	0.000	9.341	0.60%	5.000	0.459	5.513	OVER CNTR	N/A	14.000	-	0.31	0.13	1.06	8.788	10	1.14	0.91	0.00	1.00	10.61	0.00	X		
LA F11	LA F11	Sump	Local 55	5.51	0.000	5.508	0.60%	5.000	0.323	3.876	OVER CNTR	N/A	14.000	-	0.47	0.19	1.35	4.073	10	2.46	1.29	0.00	1.00	10.61	0.00	X		
LA G1	LA G1	Sump	Local 45	10.07	0.026	10.094	0.50%	5.000	0.484	5.805	OVER CNTR	N/A	13.000	-	0.29	0.12	1.04	9.713	10	1.03	0.86	0.00	1.00	10.61	0.00	X		
LA G2	LA G2	Sump	Local 45	6.53	0.184	6.716	0.50%	5.000	0.369	4.424	OVER CNTR	N/A	13.000	-	0.40	0.16	1.21	5.559	10	1.80	1.13	0.00	0.97	10.61	0.00	X		
LA M1	LA M1	Sump	Local 55	5.99	0.295	6.289	0.50%	5.000	0.353	4.235	OVER CNTR	N/A	14.000	-	0.42	0.17	1.25	5.034	10	1.99	1.18	0.00	0.95	10.61	0.00	X		
LA M2	LA M2	Sump	Local 55	12.23	1.025	13.257	0.50%	5.000	0.580	6.962	OVER CNTR	N/A	14.000	-	0.23	0.10	0.97	13.603	10	0.74	0.72	2.65	0.92	10.61	2.65	X		
LA N1	LA N1	Sump	Local 55	4.29	0.000	4.285	0.50%	5.000	0.273	3.279	13.662	N/A	14.000	-	0.56	0.22	1.67	2.570	10	3.89	1.52	0.00	1.00	10.61	0.00	X		
LA N2	LA N2	Sump	Local 55	5.59	0.766	6.359	0.50%	5.000	0.355	4.266	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.120	10	1.95	1.17	0.00	0.88	10.61	0.00	X		
LA O1	LA O1	Sump	Local 55	6.46	0.000	6.459	0.50%	5.000	0.359	4.311	OVER CNTR	N/A	14.000	-	0.42	0.17	1.23	5.243	10	1.91	1.16	0.00	1.00	10.61	0.00	X		
LA O2	LA O2	Sump	Local 55	6.09	0.000	6.087	0.50%	5.000	0.345	4.144	OVER CNTR	N/A	14.000	-	0.43	0.17	1.27	4.786	10	2.09	1.21	0.00	1.00	10.61	0.00	X		
LA R2	LA R2	Sump	Local 55	5.01	0.000	5.014	0.50%	5.000	0.303	3.641	OVER CNTR	N/A	14.000	-	0.50	0.20	1.45	3.466	10	2.89	1.37	0.00	1.00	10.61	0.00	X		
LA R3	LA R3	Sump	Local 55	14.61	0.000	14.612	0.50%	5.000	0.619	7.429	OVER CNTR	N/A	14.000	-	0.21	0.09	0.96	15.270	10	0.65	0.67	4.01	1.00	10.61	4.01	X		
LA U2	LA U2	Sump	Collector	5.11	0.000	5.107	0.50%	5.000	0.307	3.686	MINCLEAR	12'	11.000	-	0.49	0.20	1.43	3.580	10	2.79	1.36	0.00	1.00	10.61	0.00	X		
LA U3	LA U3	Sump	Collector	6.29	0.000	6.294	0.50%	5.000	0.353	4.237	MINCLEAR	12'	11.000	-	0.42	0.17	1.25	5.040	10	1.98	1.18	0.00	1.00	10.61	0.00	X		
LA V1	LA V1	Sump	Local 55	15.17	0.000	15.172	0.50%	5.000	0.635	7.617	OVER CNTR	N/A	14.000	-	0.20	0.09	0.95	15.958	10	0.63	0.66	4.57	1.00	10.61	4.57	X		
LA V2	LA V2	Sump	Local 55	13.67	0.000	13.673	0.50%	5.000	0.592	7.107	OVER CNTR	N/A	14.000	-	0.22	0.10	0.97	14.114	10	0.71	0.70	3.07	1.00	10.61	3.07	X		
LA W3	LA W3	Sump	Collector	4.16	0.000	4.157	0.60%	5.000	0.268	3.213	MINCLEAR	12'	11.000	-	0.57	0.22	1.72	2.412	10	4.15	1.56	0.00	1.00	10.61	0.00	X		
LA W4	LA W4	Sump	Collector	4.71	0.000	4.715	0.60%	5.000	0.291	3.495	MINCLEAR	12'	11.000	-	0.52	0.21	1.52	3.098	10	3.23	1.43	0.00	1.00	10.61	0.00	X		
LA Y1	LA Y1	Sump	Collector	3.56	0.000	3.563	0.50%	5.000	0.242	2.899	MINCLEAR	12'	11.000	-	0.62	0.24	2.12	1.681	10	5.95	1.72	0.00	1.00	10.61	0.00	X		
LA Y2	LA Y2	Sump	Collector	4.59	0.000	4.591	0.50%	5.000	0.286	3.433	MINCLEAR	12'	11.000	-	0.53	0.21	1.56	2.945	10									

[illegible]

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:32:46am File Path: K:\you_civil\067783115 meritage buds assemblage\PHASE 2\06d\plansheets\06d-Storm P&P SD-A & SD-D.dwg
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LEGEND

- PROPERTY LINE
- PHASE LINE
- LOT DRAINAGE FLOW DIRECTION
- STREET DRAINAGE FLOW DIRECTION
- PROPOSED RETAINING WALL
- EXPOSED FACE OF RETAINING WALL
- PROPOSED CONTOUR
- EXISTING CONTOUR
- STORM SEWER
- STORM INLET
- AREA INLET
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- WATER MAIN
- WASTEWATER MAIN
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE

NOTES:

- ALL CONCRETE STRUCTURES SHALL HAVE MINIMUM STRENGTH OF 4200 PSI.
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GRAPHIC SCALE 40'

0 40' 80'

811

Know what's below. Call before you dig.

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 987 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET 06 OF 90

FILE NUMBER 067783115 APPLICATION DATE N/A

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE, ZONING N/A

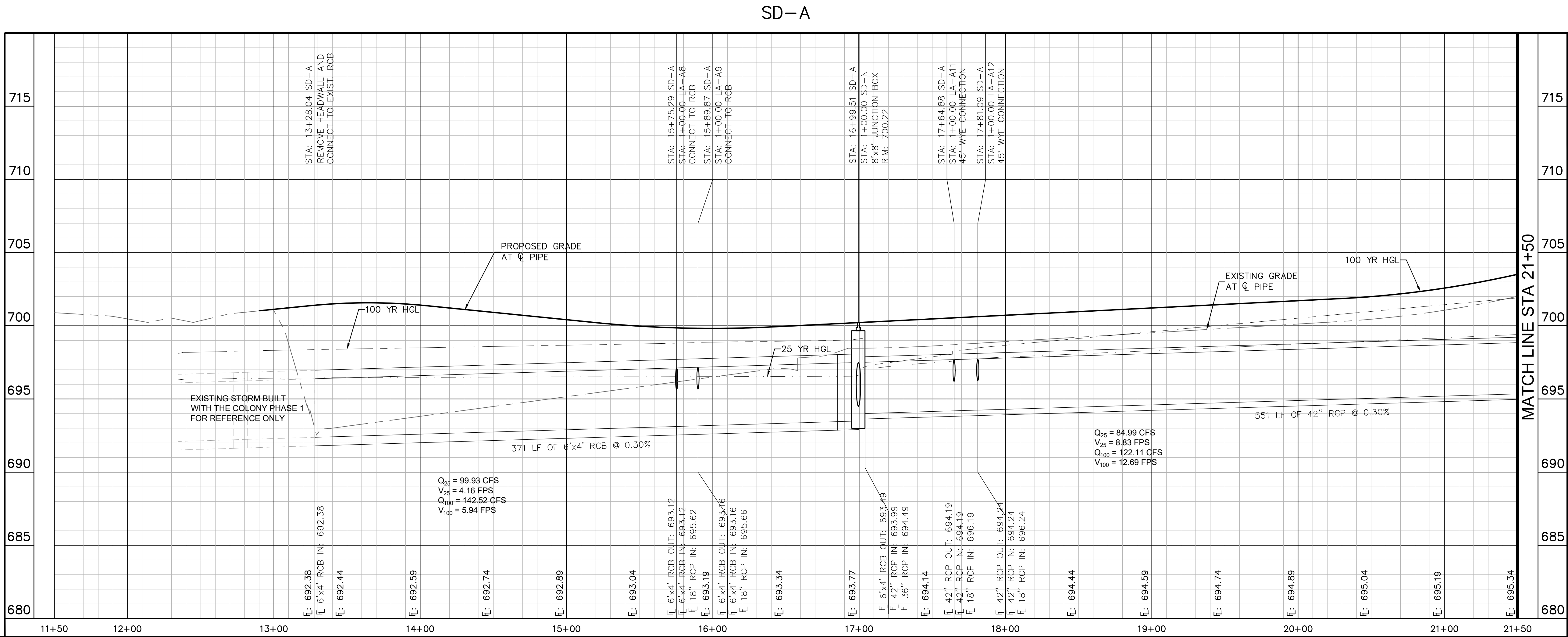
Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:



PROFILE SCALE

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

811

Know what's below. Call before you dig.

BENCHMARKS

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CONSTRUCTION PLAN APPROVAL SHEET 06 OF 90

FILE NUMBER 067783115 APPLICATION DATE N/A

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

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City Engineer, City of Buda

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PERMIT NUMBER:

THE COLONY

PHASE 2

CITY OF BUDA

HAYS COUNTY, TEXAS

STORM PLAN & PROFILE

SD-A STA. 13+28 - 21+50

SHEET NUMBER

46

OF 90

LEGEND

- PROPERTY LINE
- PHASE LINE
- LOT DRAINAGE FLOW DIRECTION
- STREET DRAINAGE FLOW DIRECTION
- PROPOSED RETAINING WALL
- EXPOSED FACE OF RETAINING WALL
- PROPOSED CONTOUR
- EXISTING CONTOUR
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GRAPHIC SCALE 40'

0 40' 80'

811

Know what's below. Call before you dig.

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 987 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET 06 OF 90

FILE NUMBER 067783115 APPLICATION DATE N/A

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE, ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

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PERMIT NUMBER:

Kimley-Horn

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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

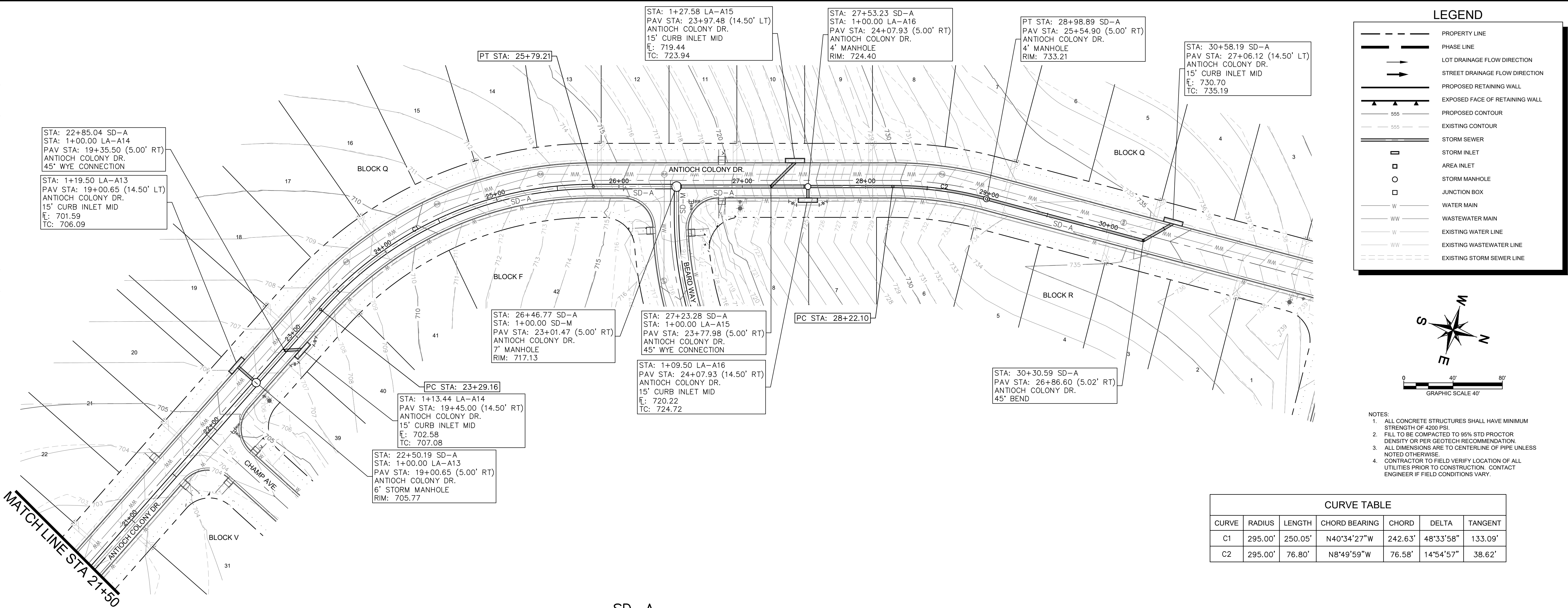
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REVISIONS

BY

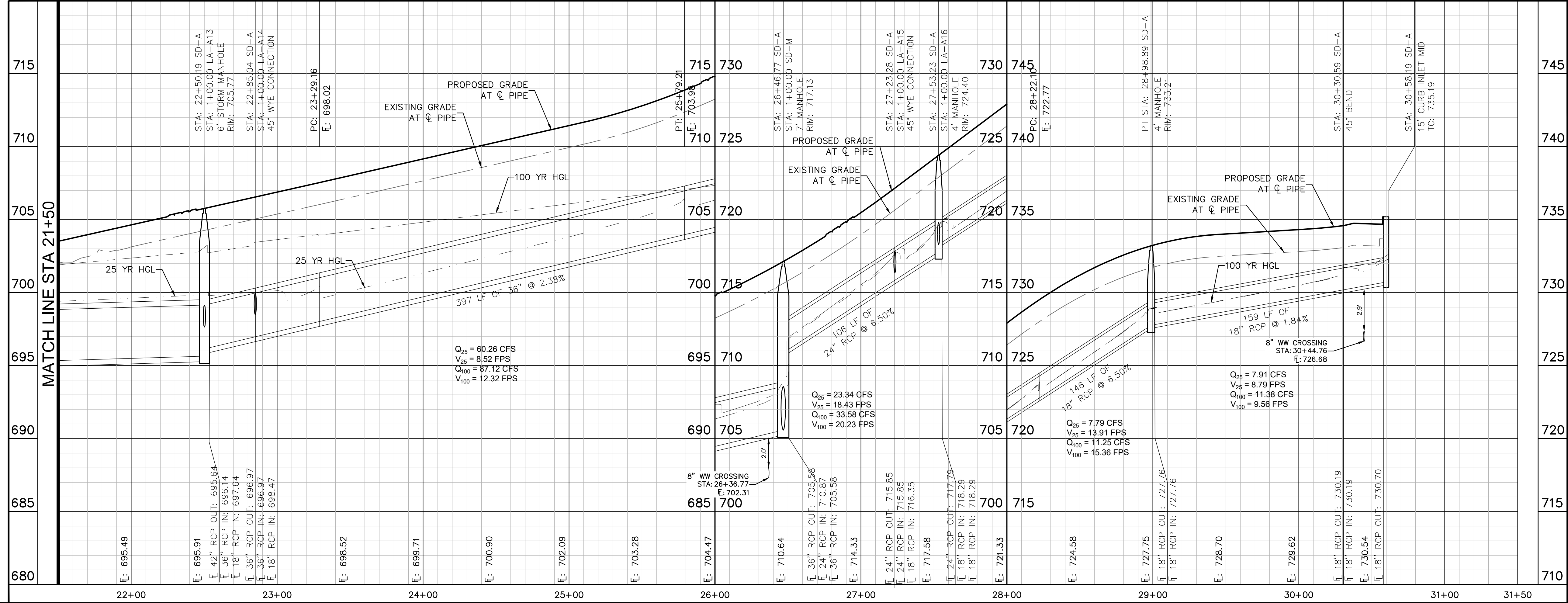
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CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C1	295.00'	250.05'	N40°34'27"W	242.63'	48°33'58"	133.09'
C2	295.00'	76.80'	N8°49'59"W	76.58'	14°54'57"	38.62'

- NOTES:
1. ALL CONCRETE STRUCTURES SHALL HAVE MINIMUM STRENGTH OF 4200 PSI.
 2. FILL TO BE COMPACTED TO 95% STD PROCTOR DENSITY OR PER GEOTECH RECOMMENDATION.
 3. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE.
 4. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF FIELD CONDITIONS VARY.



811

Know what's below.
Call before you dig.

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 174' NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV: 712.81 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV: 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV: 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION CODE N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

Kimley»Horn

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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

04/9/2024

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

CHECKED BY: AEC

THE COLONY

PHASE 2

CITY OF BUDA

HAYS COUNTY, TEXAS

STORM PLAN & PROFILE

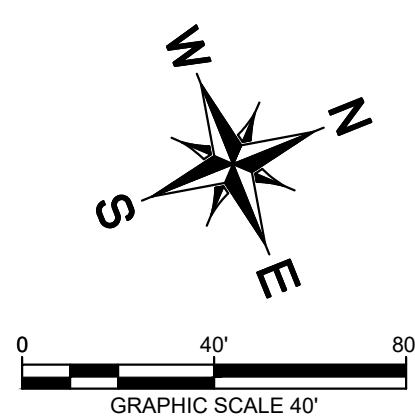
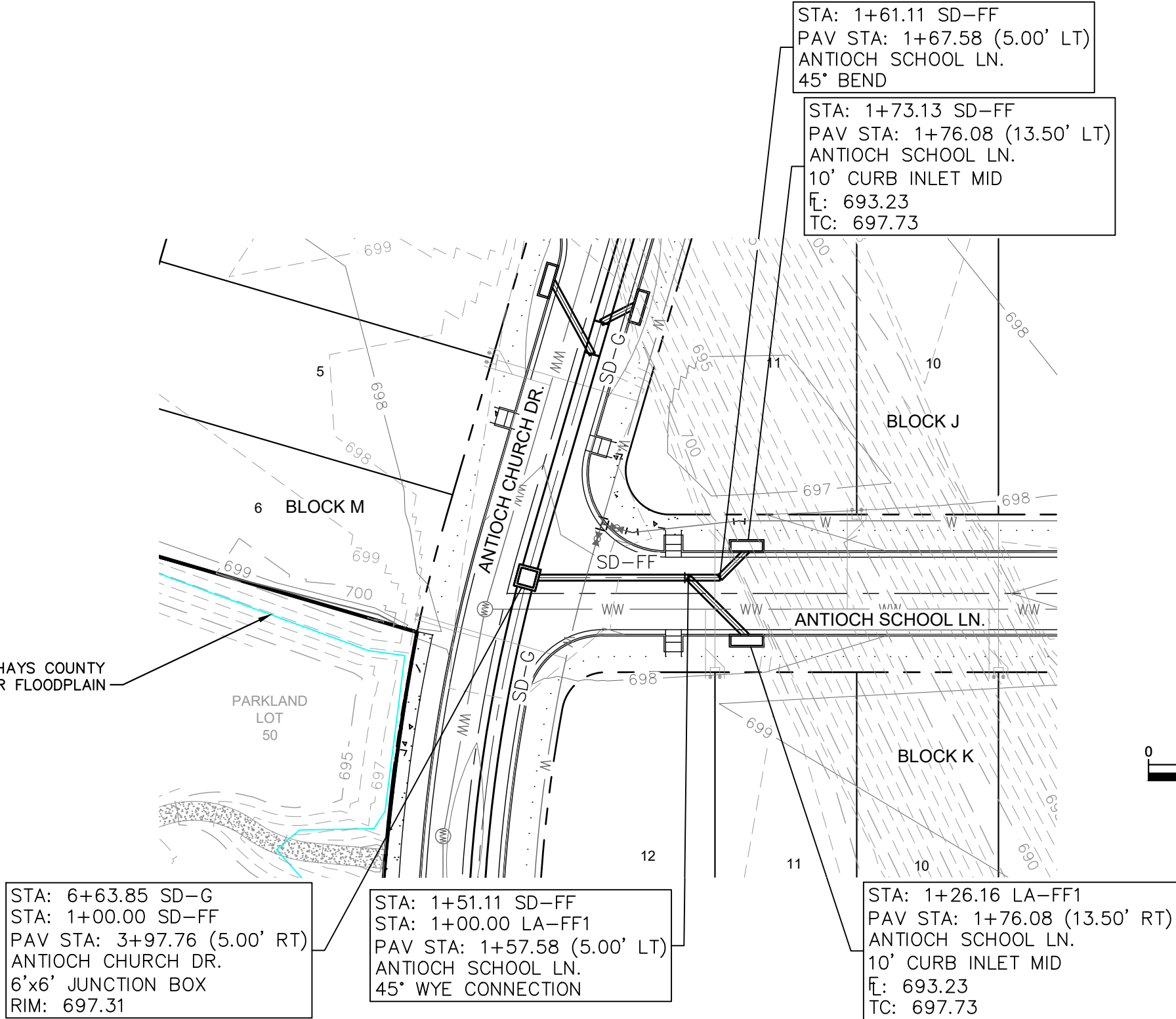
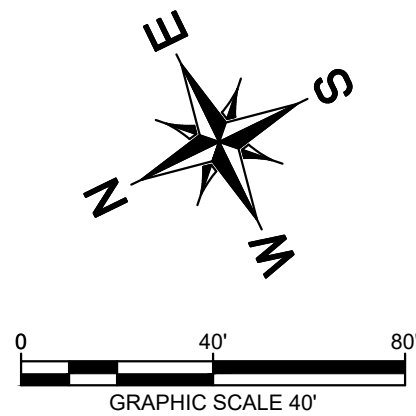
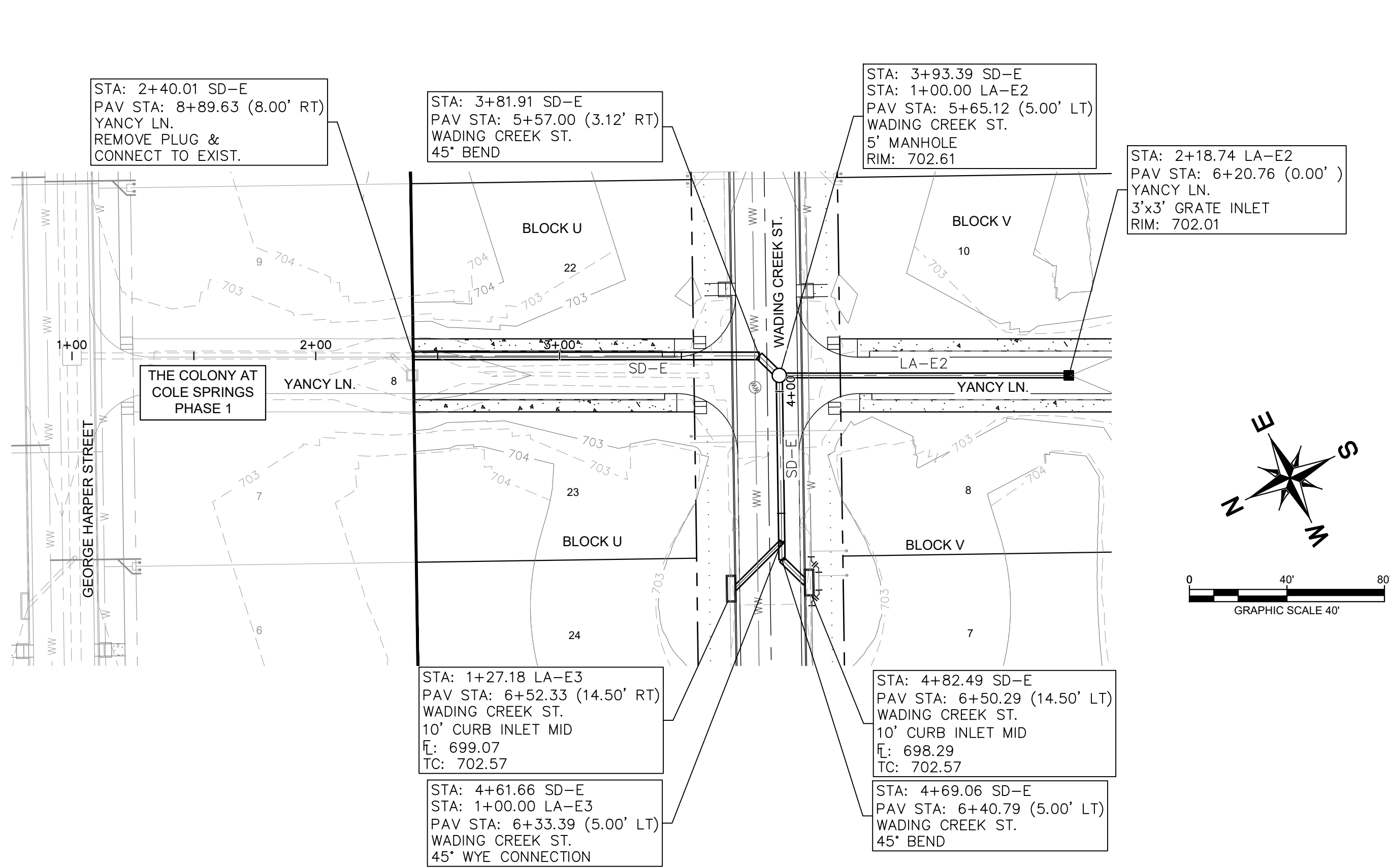
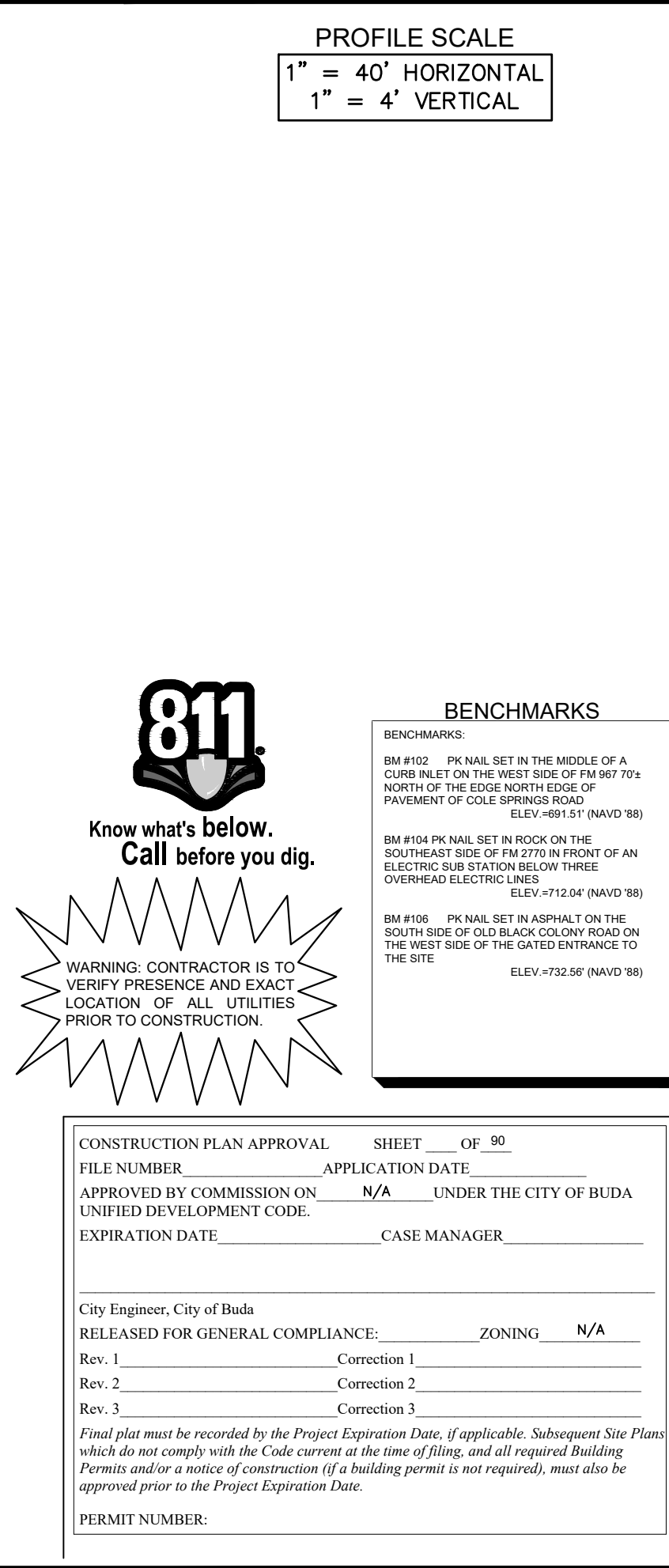
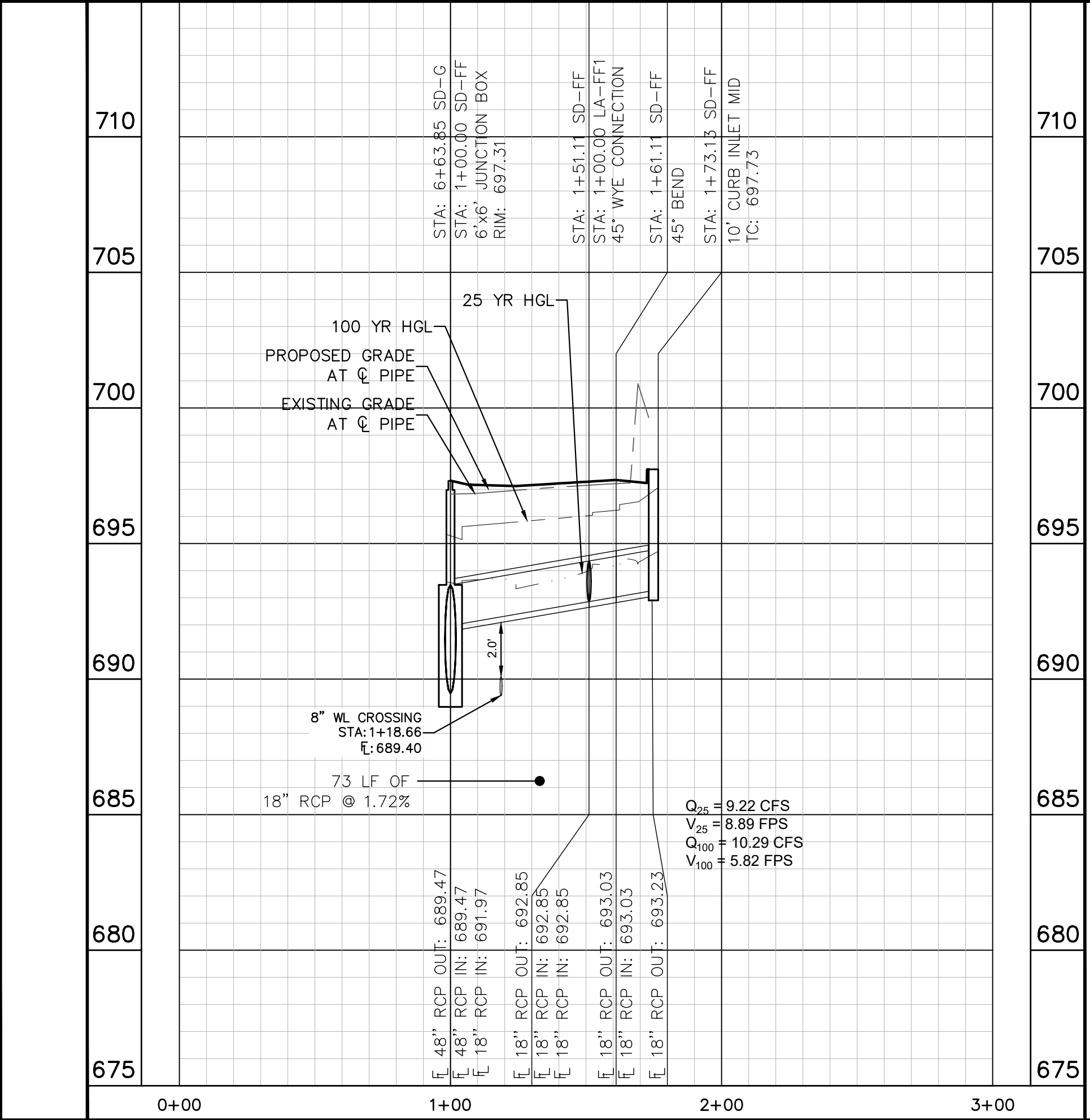
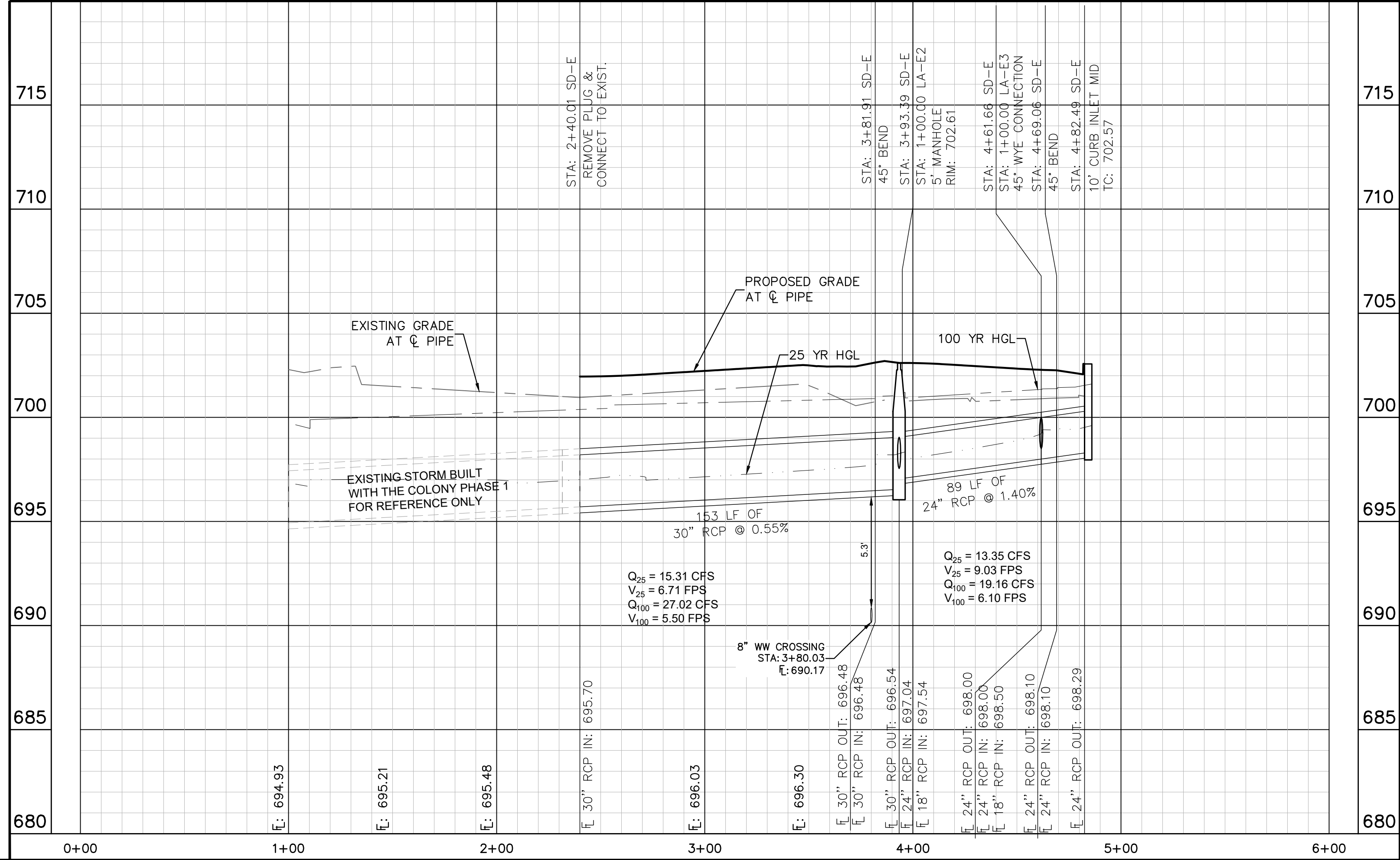
SD-A STA. 21+50 - END

SHEET NUMBER

47

OF 90

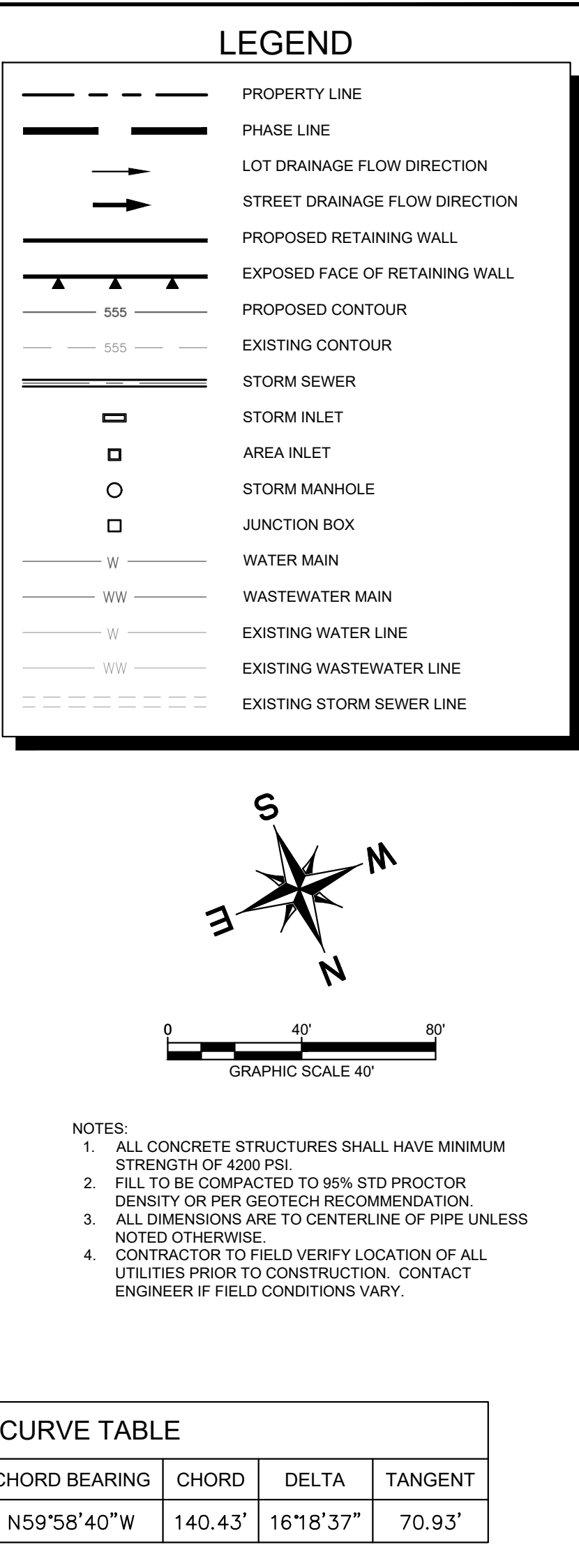
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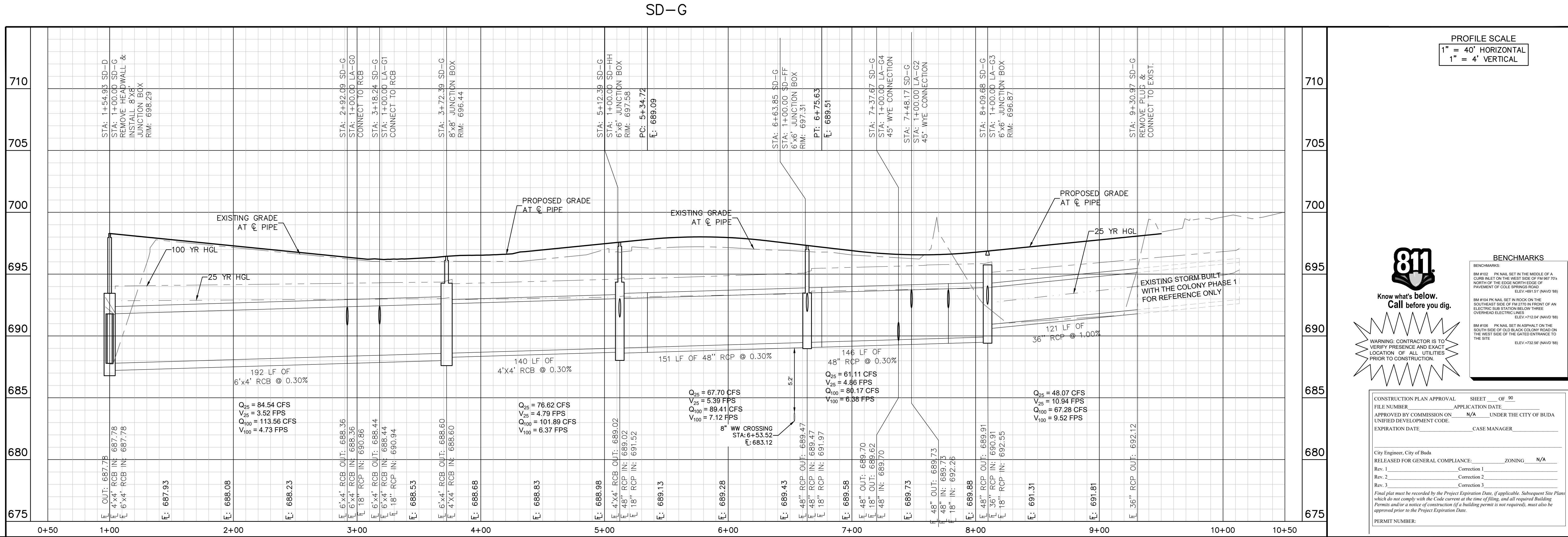
- NOTES:
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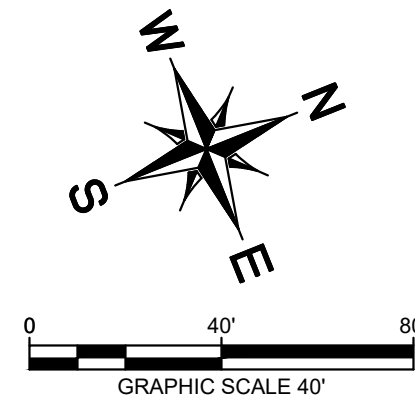
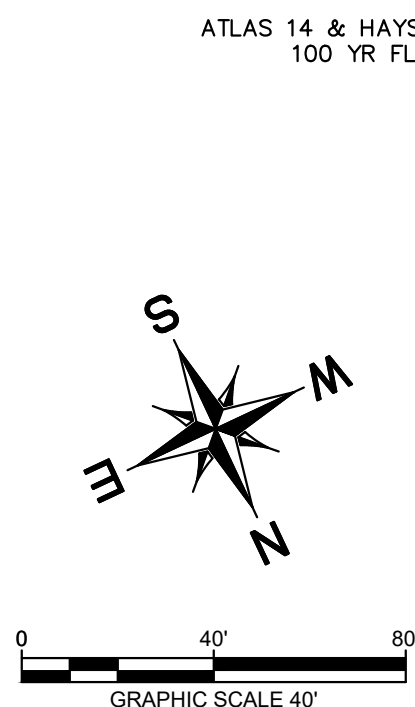
LEGEND	
	PROPERTY LINE
	PHASE LINE
	LOT DRAINAGE FLOW DIRECTION
	STREET DRAINAGE FLOW DIRECTION
	PROPOSED RETAINING WALL
	EXPOSED FACE OF RETAINING WALL
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	WATER MAIN
	WASTEWATER MAIN
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	EXISTING STORM SEWER LINE

KHA PROJECT 067783115		DATE FEBRUARY 2024	SCALE AS SHOWN	DESIGNED BY: DPD	DRAWN BY: AMF	CHECKED BY: AEC
KIMLEY-HORN & 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
04/9/2024		STAMP OF ALEXANDRO E. GRANADOS RICO, PROFESSIONAL ENGINEER, LICENSE NO. 130084				
THE COLONY PHASE 2		STORM PLAN & PROFILE				
CITY OF BUDA		SD-E & SD-FF				
HAYS COUNTY, TEXAS		SHEET NUMBER 49 OF 90				

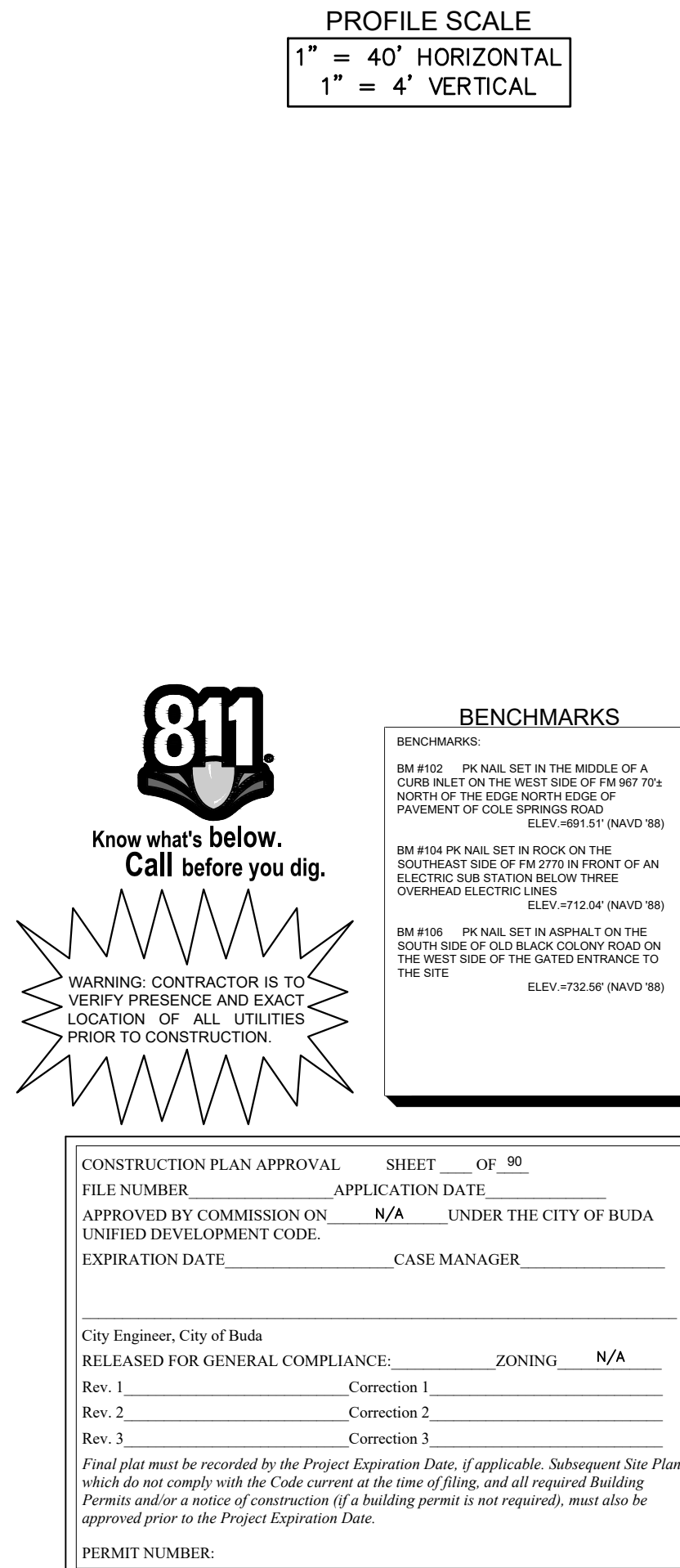
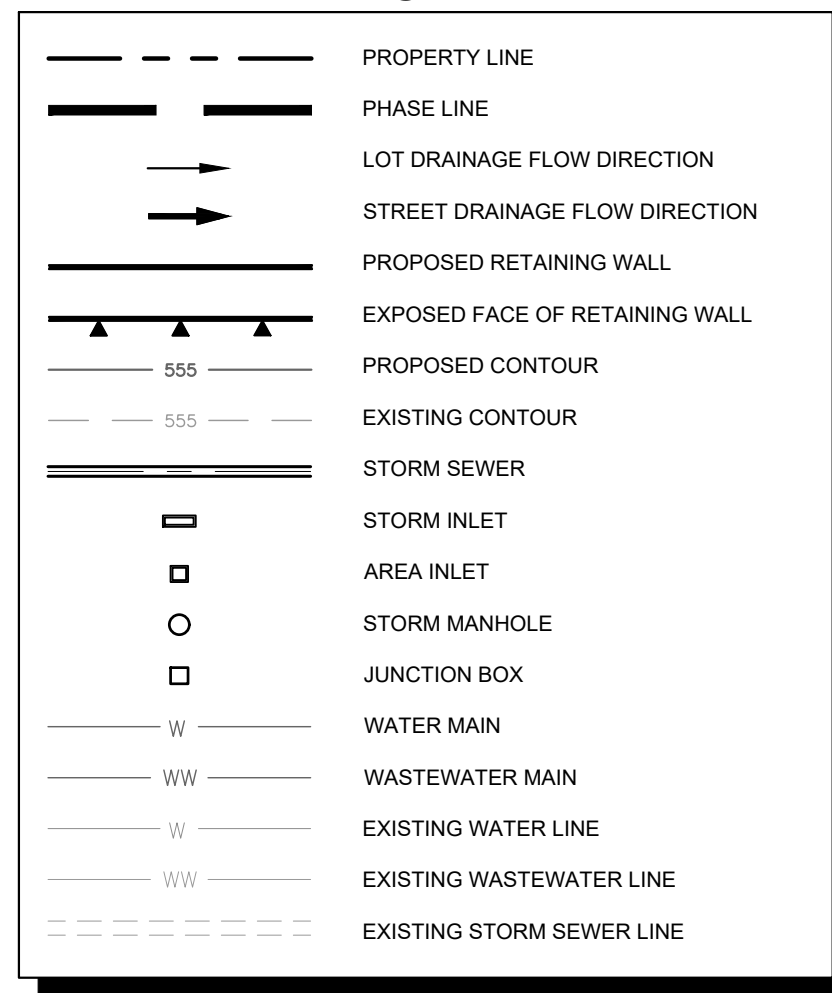


CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C4	495.00'	140.91'	N59°58'40"W	140.43'	16°18'37"	70.93'





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[illegible]

Kimley»Horn

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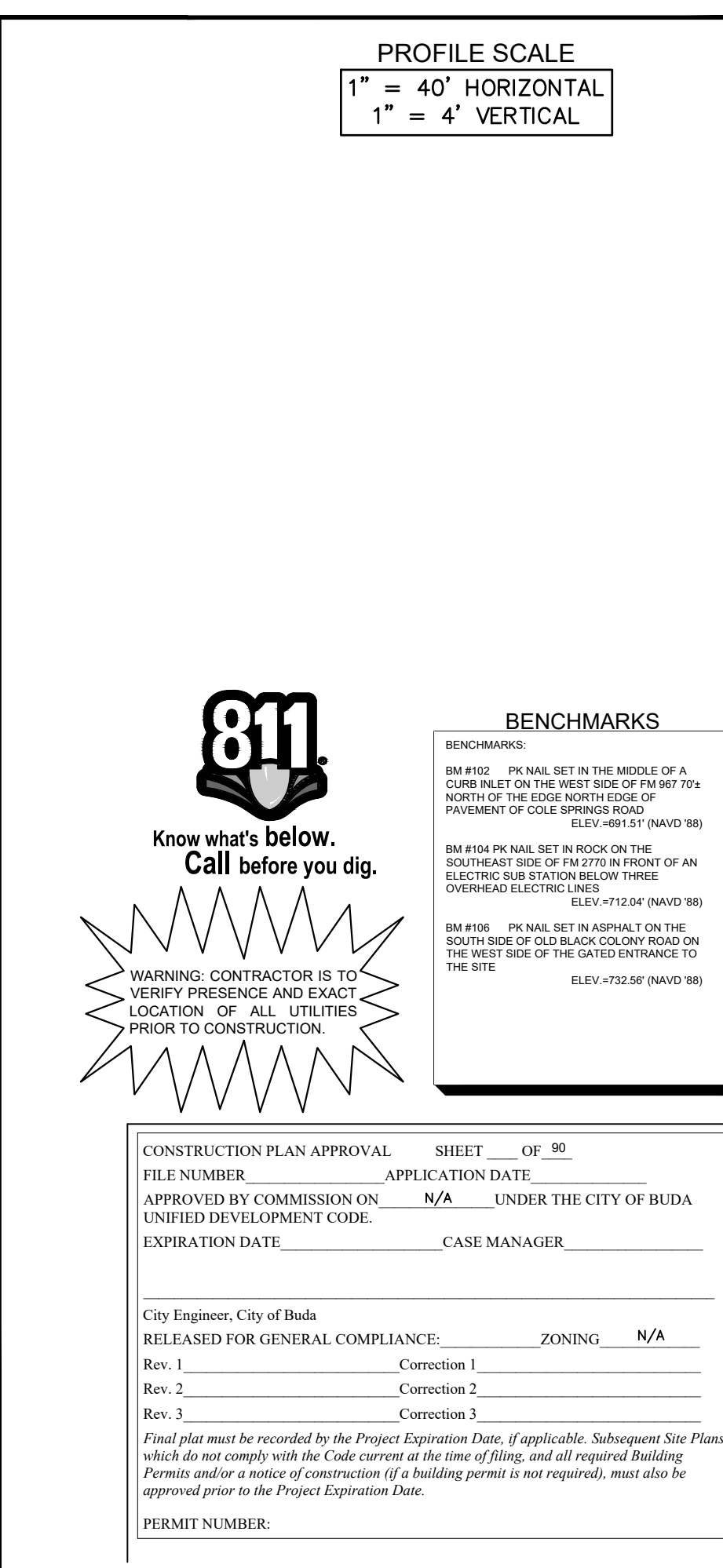
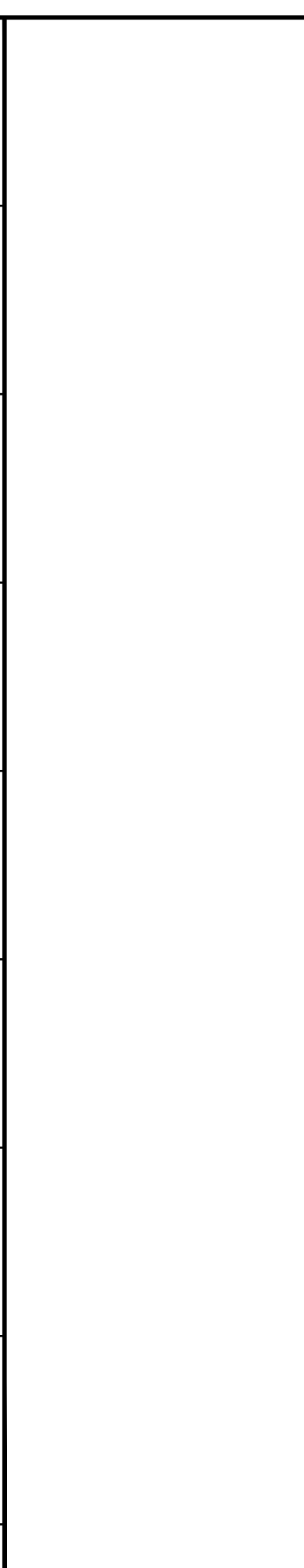
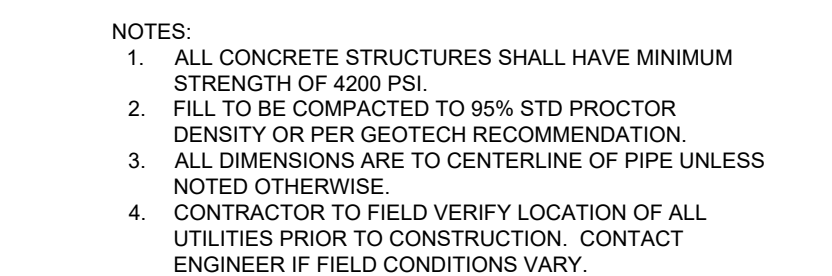
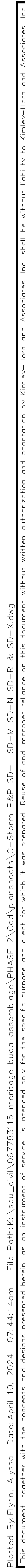


KHA PROJECT 067783115	DATE FEBRUARY 2021	SCALE: AS SHOWN	DESIGNED BY: DPT	DRAWN BY: AMB	CHECKED BY: AEC
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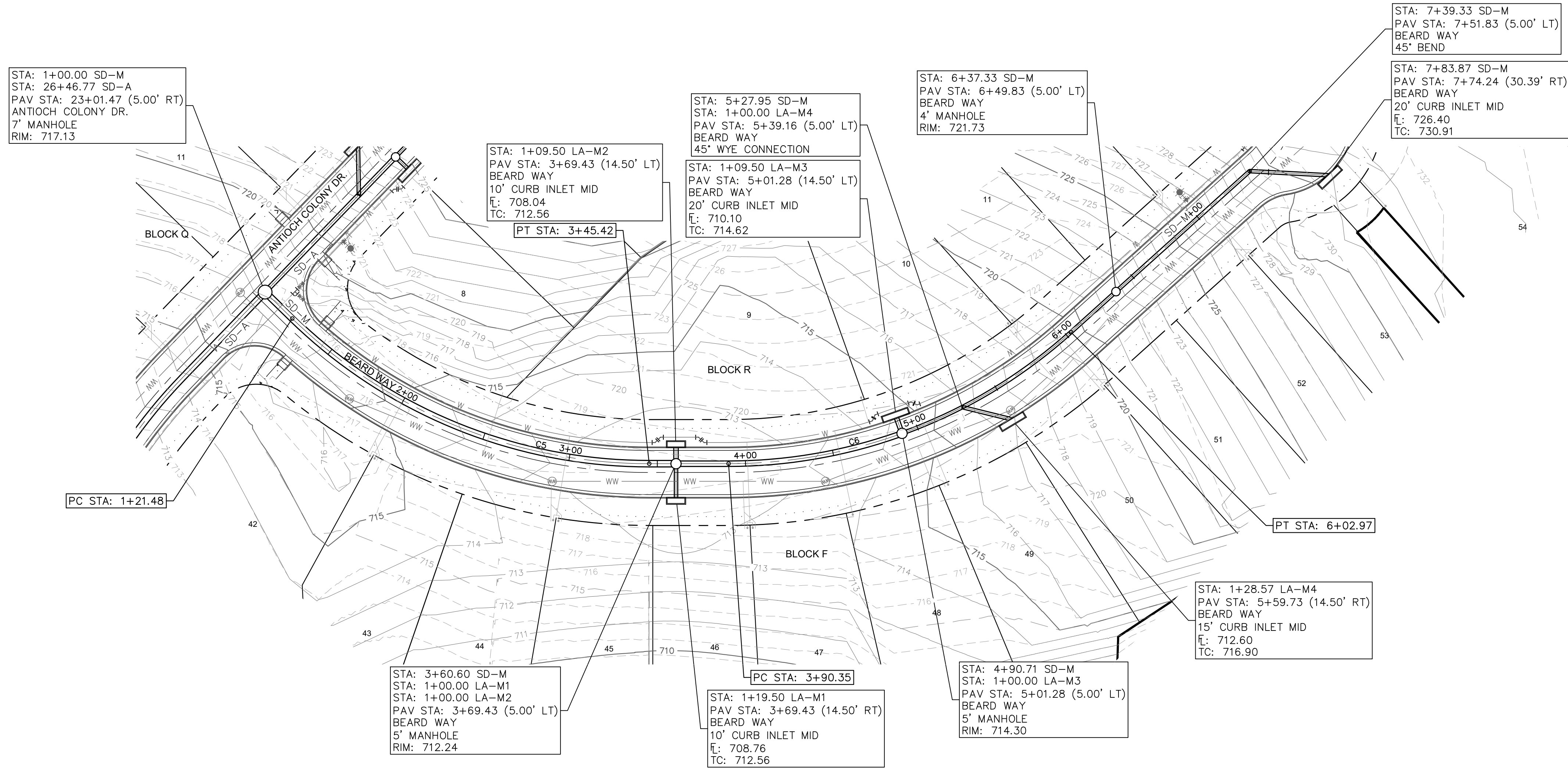
STORM PLAN & PROFILE

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
51
OF 90

[illegible]

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:44:53am File Path: K:\you_civil\067783115 meritage buds assemblage\PHASE 2\067783115 Storm P&P SD-M & SD-X.dwg
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- PROPOSED RETAINING WALL
- EXPOSED FACE OF RETAINING WALL
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- WATER MAIN
- WASTEWATER MAIN
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE

GRAPHIC SCALE

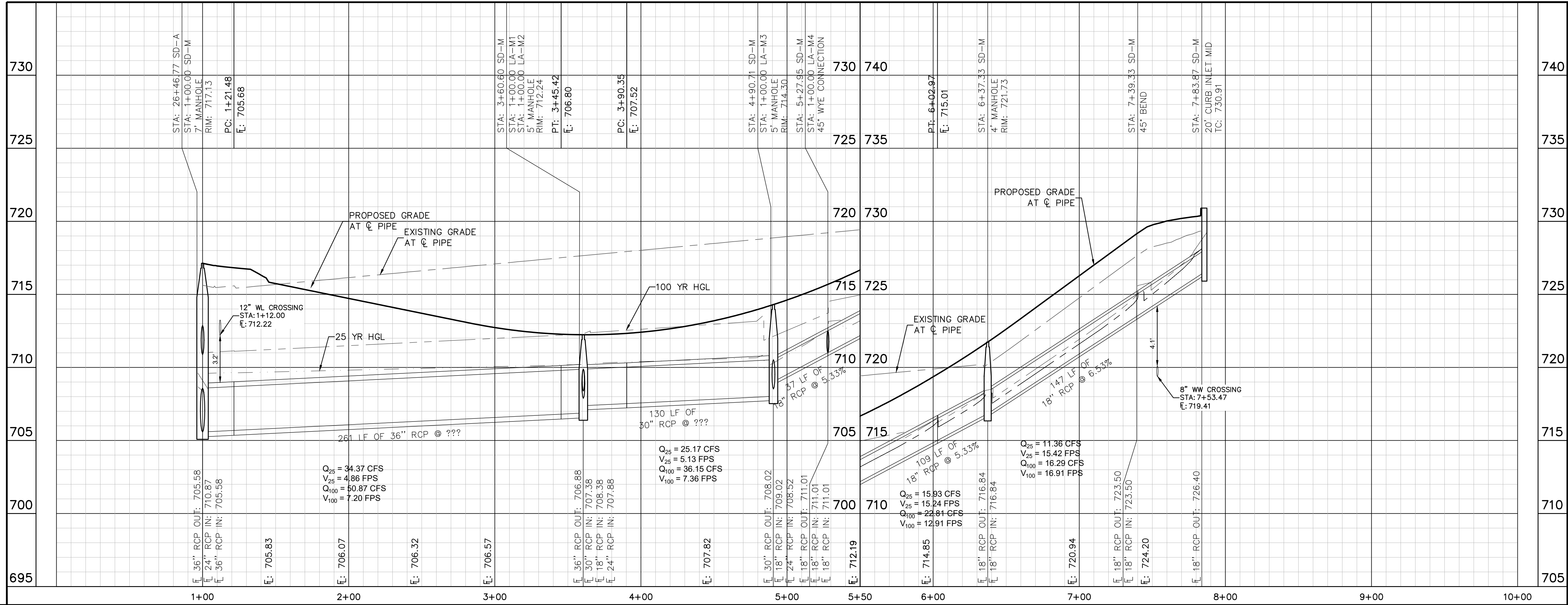
0 40' 80'

NOTES:

- ALL CONCRETE STRUCTURES SHALL HAVE MINIMUM STRENGTH OF 4200 PSI.
- FILL TO BE COMPACTED TO 95% STD PROCTOR DENSITY OR PER GEOTECH RECOMMENDATION.
- ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE.
- CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF FIELD CONDITIONS VARY.

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C5	290.00'	223.94'	N51°49'53"E	218.41'	44°14'37"	117.89'
C6	290.00'	212.62'	N8°42'21"E	207.89'	42°00'28"	111.34'

SD-M



PROFILE SCALE

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 987 1774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV: +715.81 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV: +712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF COLE SPRINGS ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV: +732.56 (NAVD 88)

811

Know what's below.
Call before you dig.

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

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION CODE N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

Kimley»Horn

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PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

CHECKED BY: AEC

THE COLONY

PHASE 2

SD-M

CITY OF BUDA

HAYS COUNTY, TEXAS

SHEET NUMBER

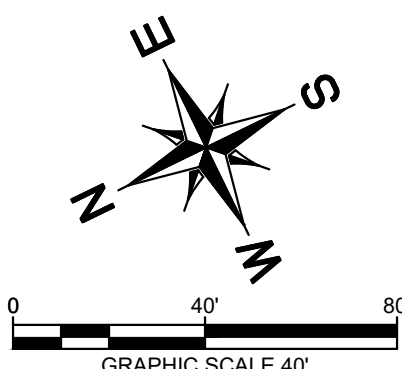
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OF 90

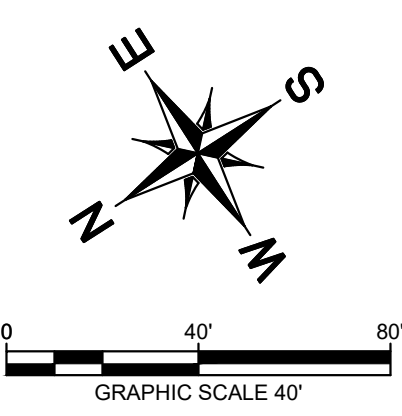
REVISIONS

BY

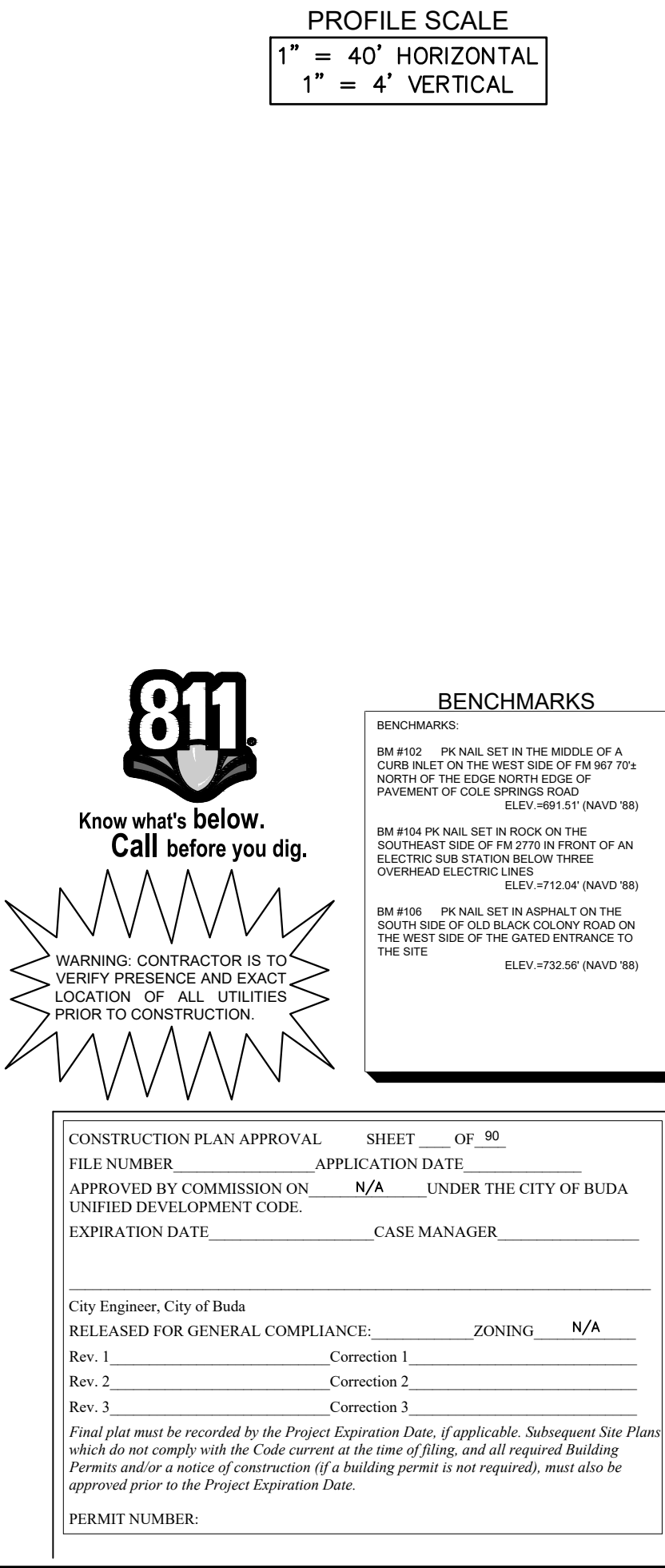
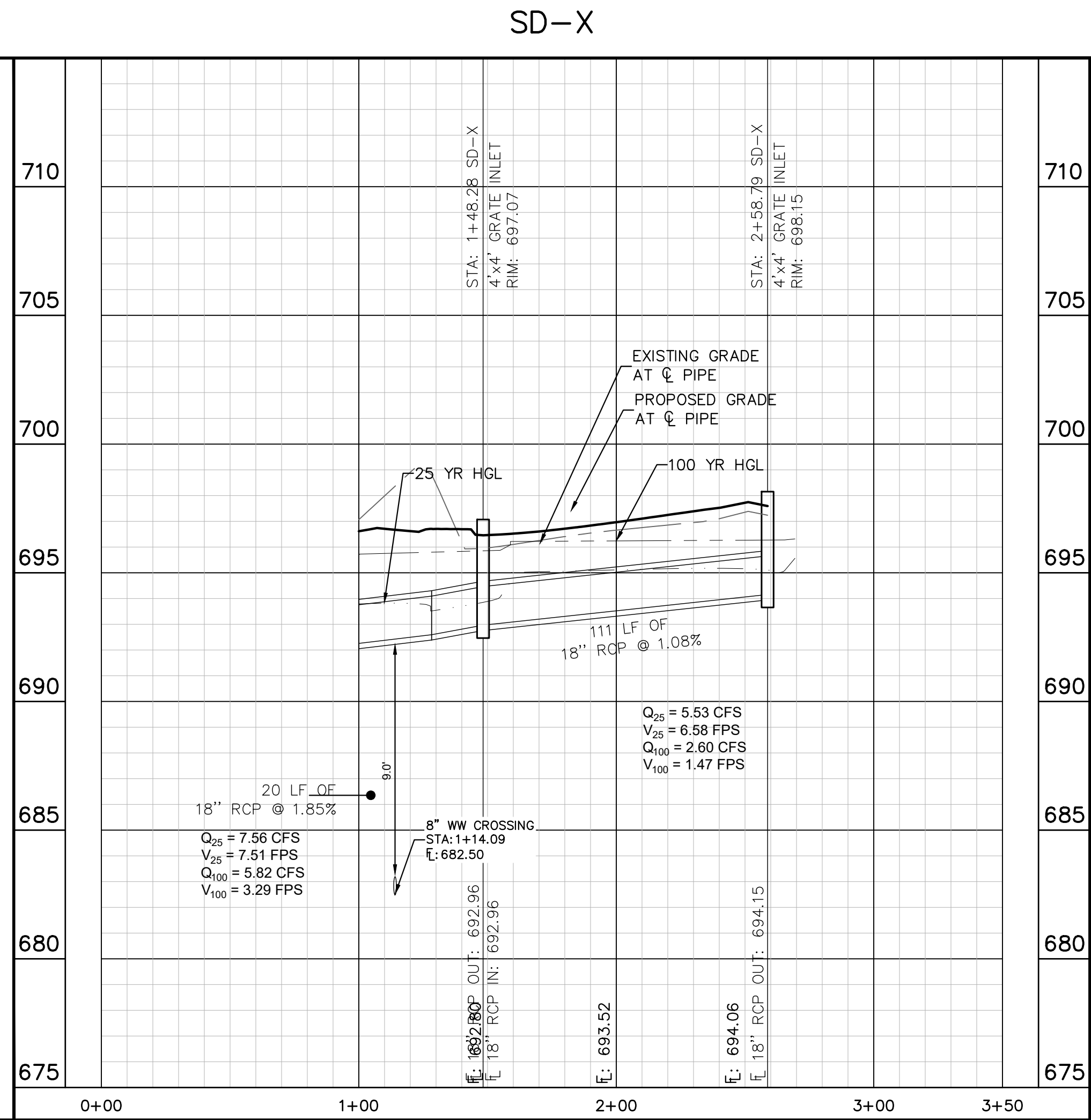
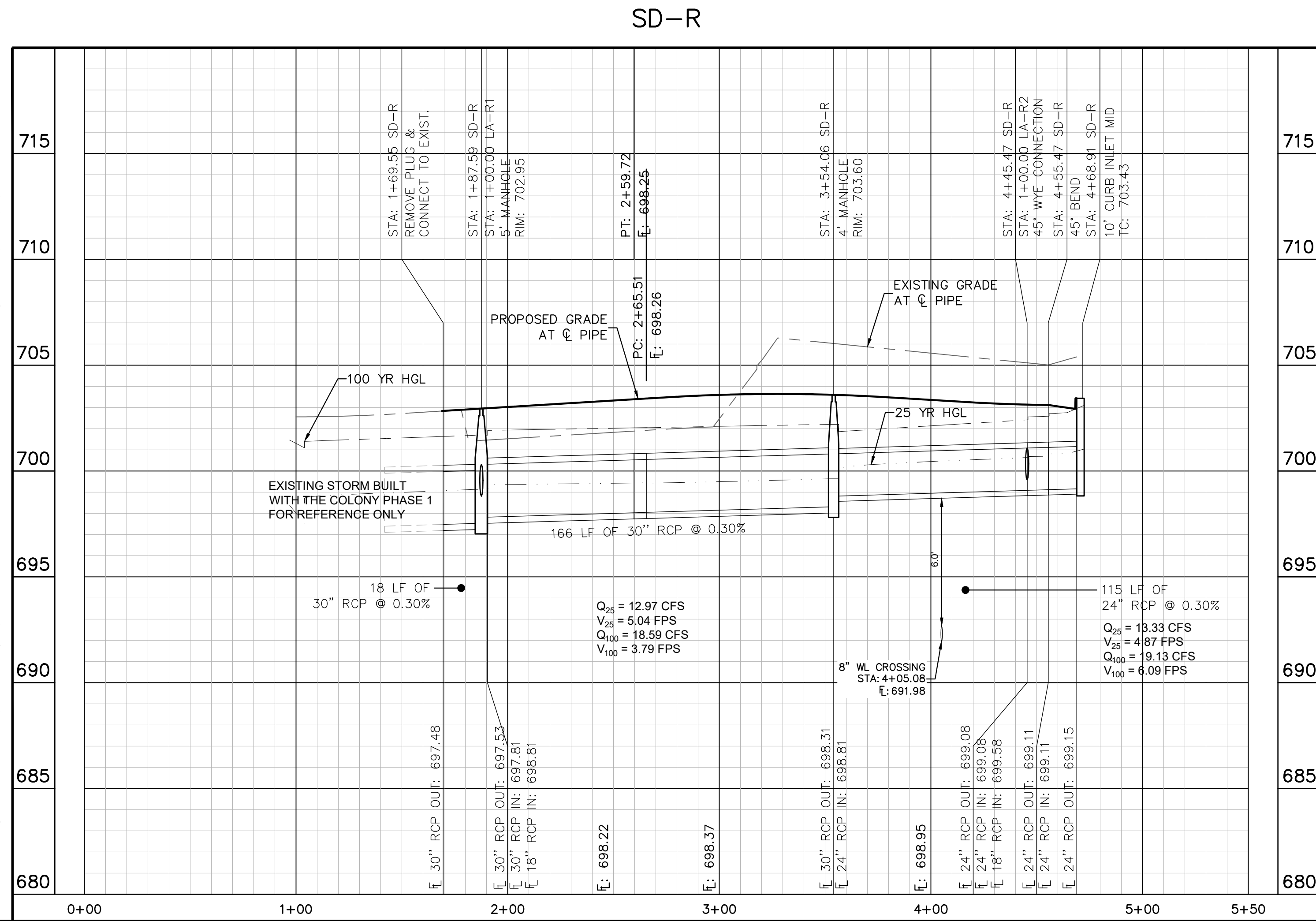
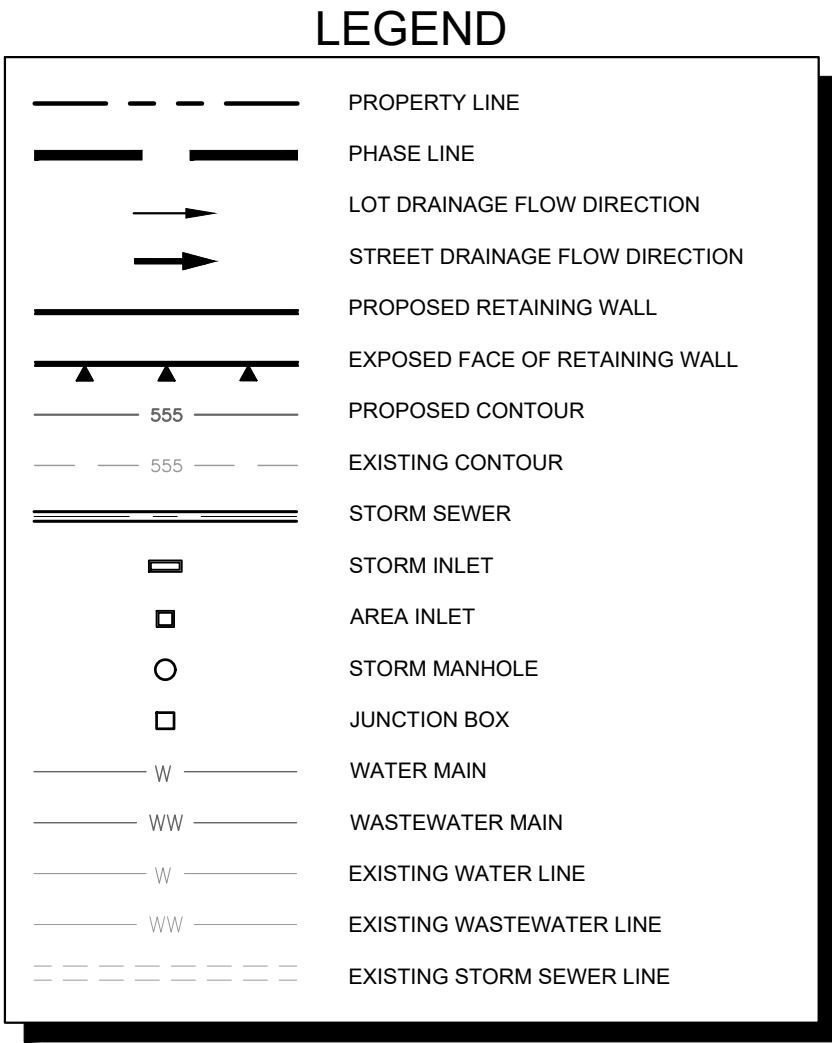
DATE




CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C7	295.00'	117.81'	S29°46'30"W	117.03'	22°52'54"	59.70'
C8	310.00'	88.55'	S34°09'28"W	88.25'	16°21'56"	44.58'

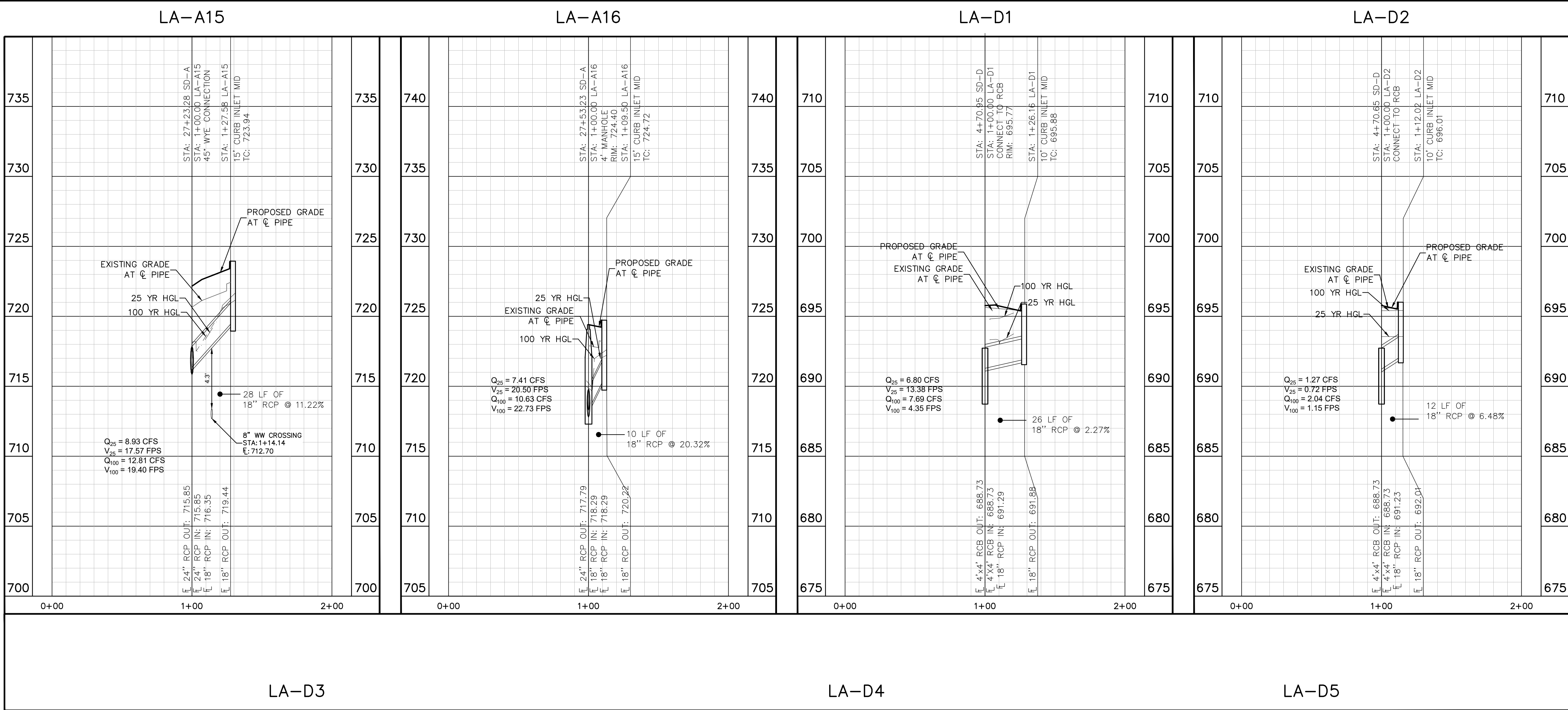


- NOTES:
1. ALL CONCRETE STRUCTURES SHALL HAVE MINIMUM STRENGTH OF 4200 PSI.
 2. FILL TO BE COMPACTED TO 95% STD PROCTOR DENSITY OR PER GEOTECH RECOMMENDATION.
 3. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE.
 4. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF FIELD CONDITIONS VARY.



<p>THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS</p>		<p>STORM PLAN & PROFILE SD-R & SD-X</p>		<p>KHA PROJECT 067783115</p>		<p>04/9/2024</p>  <p><i>Alejandro E. Granados Rico</i></p>		<p>Kimley»»Horn</p> <p>© 2024, KIMLEY-HORN AND ASSOCIATES, INC. 501 S. AUSTIN AVENUE, SUITE 1310, GEORGETOWN, TX 78626 PHONE: 512-520-0758 FAX: 512-418-1791 WWW.KIMLEY-HORN.COM</p> <p>TEXAS REGISTERED ENGINEERING FIRM F-928</p>		<p>No.</p>		<p>REVISIONS</p>		<p>DATE</p>		<p>BY</p>	
<p>SHEET NUMBER</p> <p>54 OF 90</p>																	

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:47:28am File Path: K:\you_civil\067783115 meritage buds assembly\PHASE 2\067783115 Storm Profiles.dwg
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PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

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

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

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER _____ APPLICATION DATE _____

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE _____

EXPIRATION DATE _____ CASE MANAGER _____

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A

Rev. 1 _____ Correction 1 _____

Rev. 2 _____ Correction 2 _____

Rev. 3 _____ Correction 3 _____

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER: _____

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

STORM LATERAL
PROFILES (SHEET 2 OF 5)

SHEET NUMBER
56
OF 90

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Granados Rocio

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

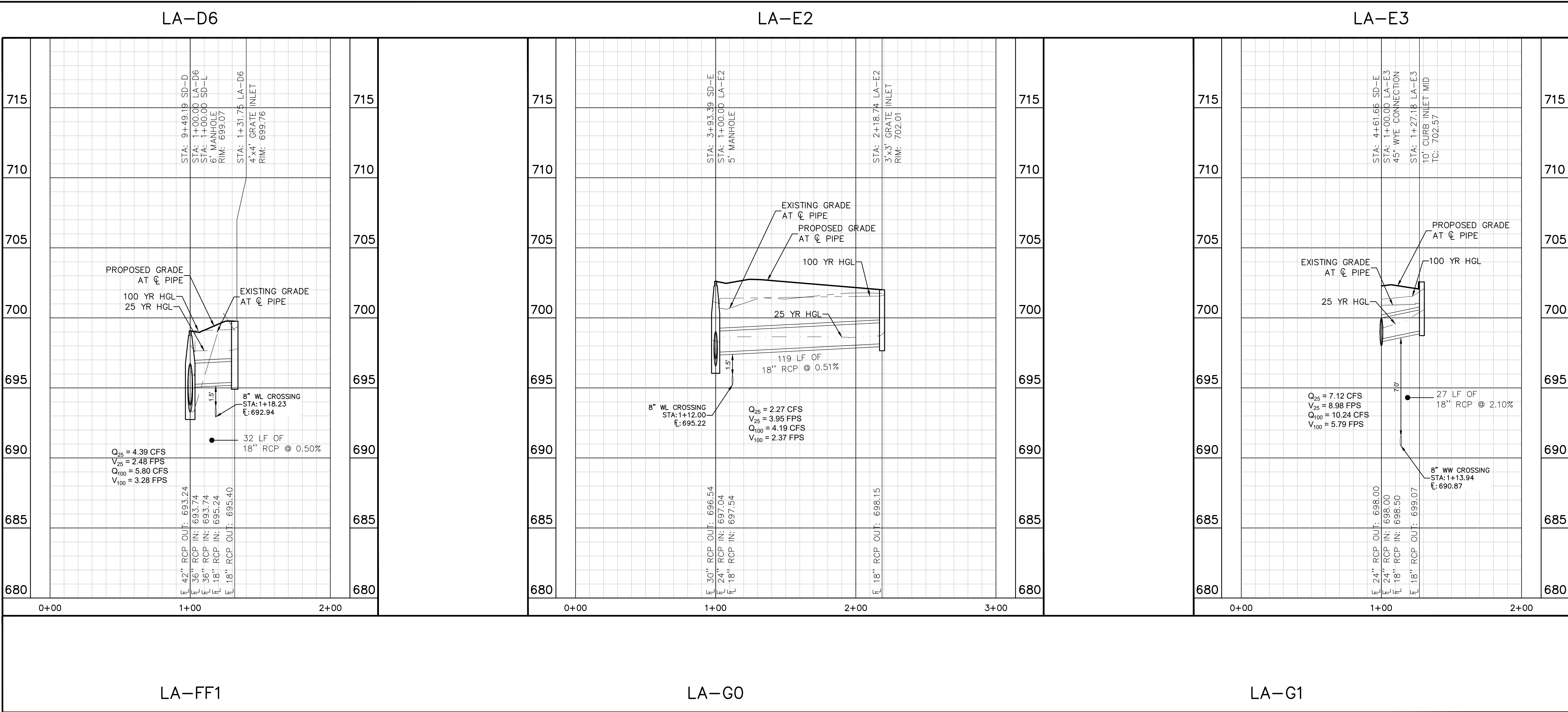
CHECKED BY: AEC

REVISIONS

No.	DATE	BY

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1" = 4' VERTICAL

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

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967.774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV=712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV=712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV=732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Gramados Rocio

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

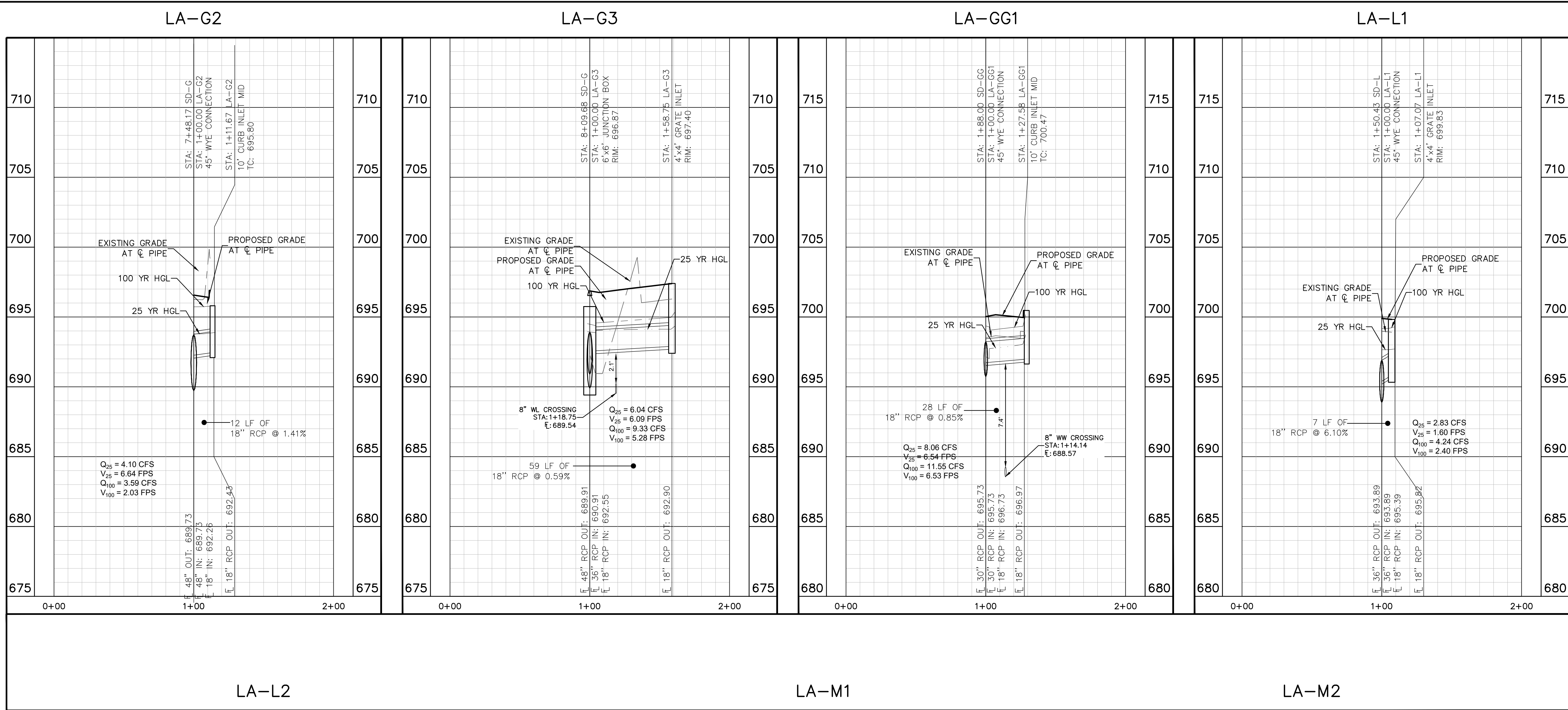
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STORM LATERAL PROFILES (SHEET 3 OF 5)

THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS

SHEET NUMBER 57 OF 90

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:48:28am File Path: K:\you_civil\067783115_meritage_budo_assemblies\PHASE 2\Grid\plansheets\LA--Storm Profiles.dwg
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PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

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

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CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90
FILE NUMBER APPLICATION DATE
APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE
EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A

Rev. 1 _____ Correction 1
Rev. 2 _____ Correction 2
Rev. 3 _____ Correction 3

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PERMIT NUMBER: _____

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV = 712.47 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW ON THREE OVERHEAD ELECTRICAL LINES ELEV = 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV = 732.56 (NAVD 88)

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04/9/2024

Alejandro E. Granados Rocio

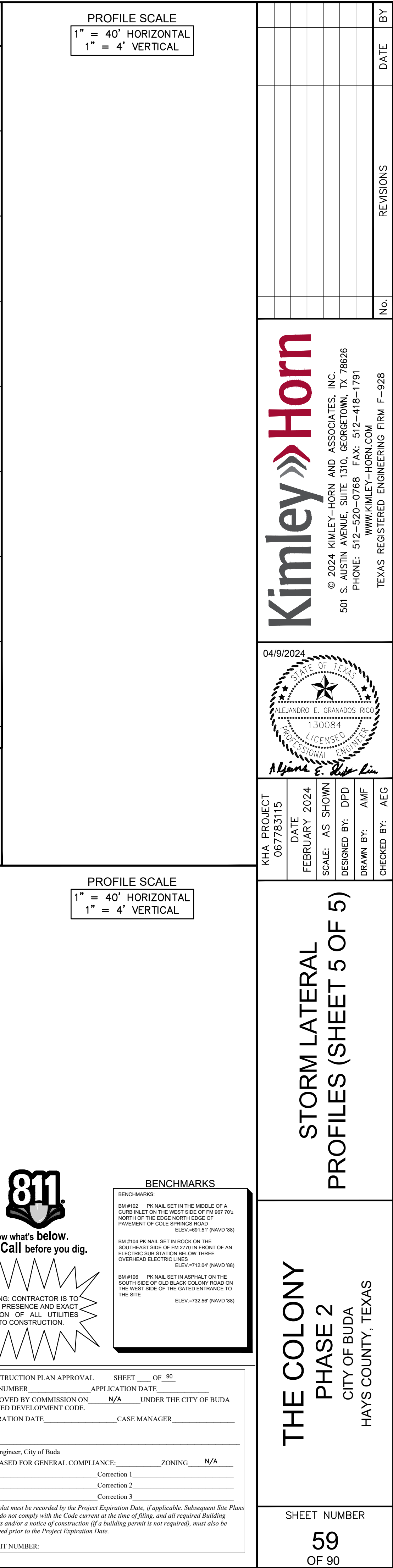
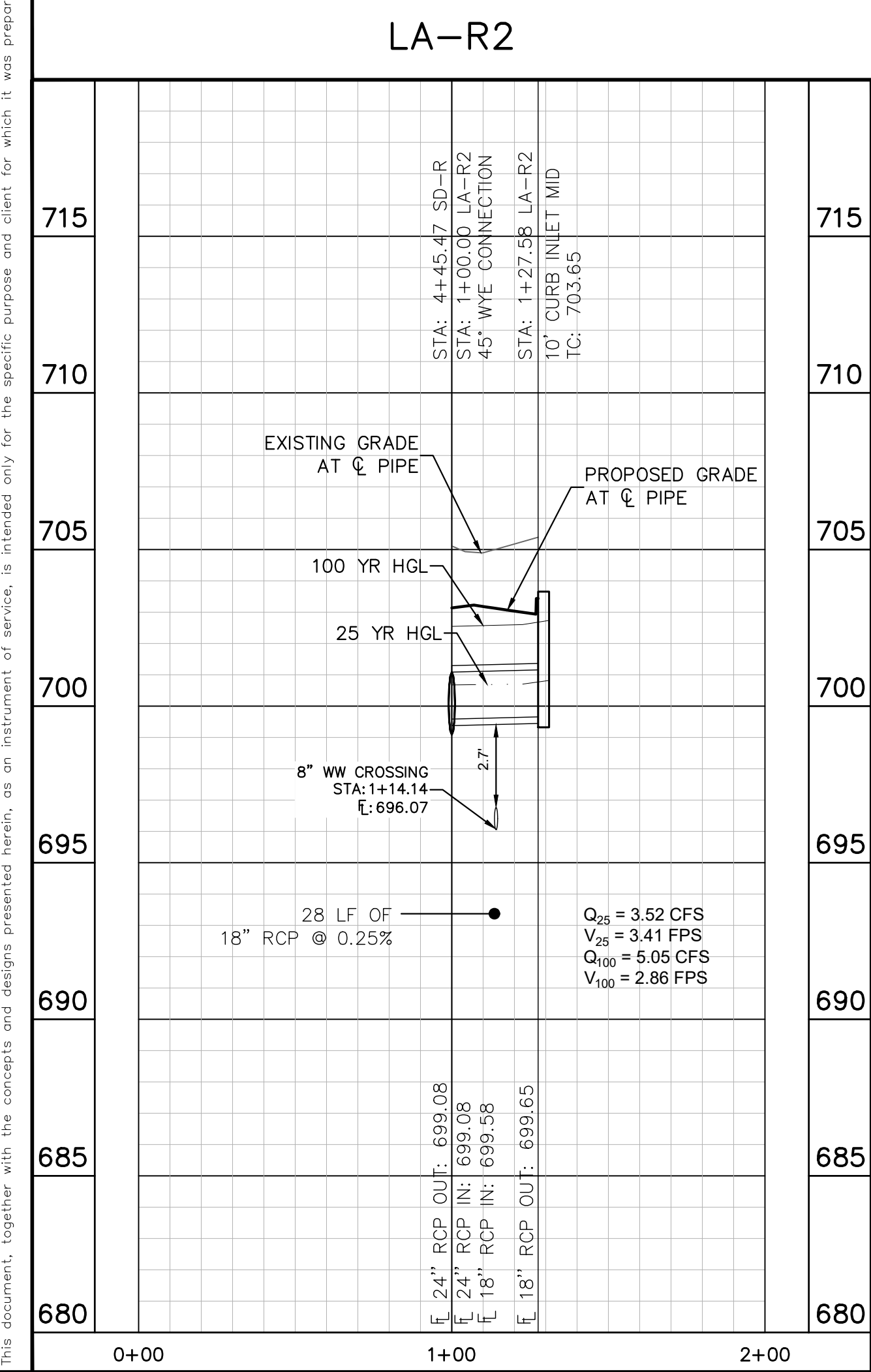
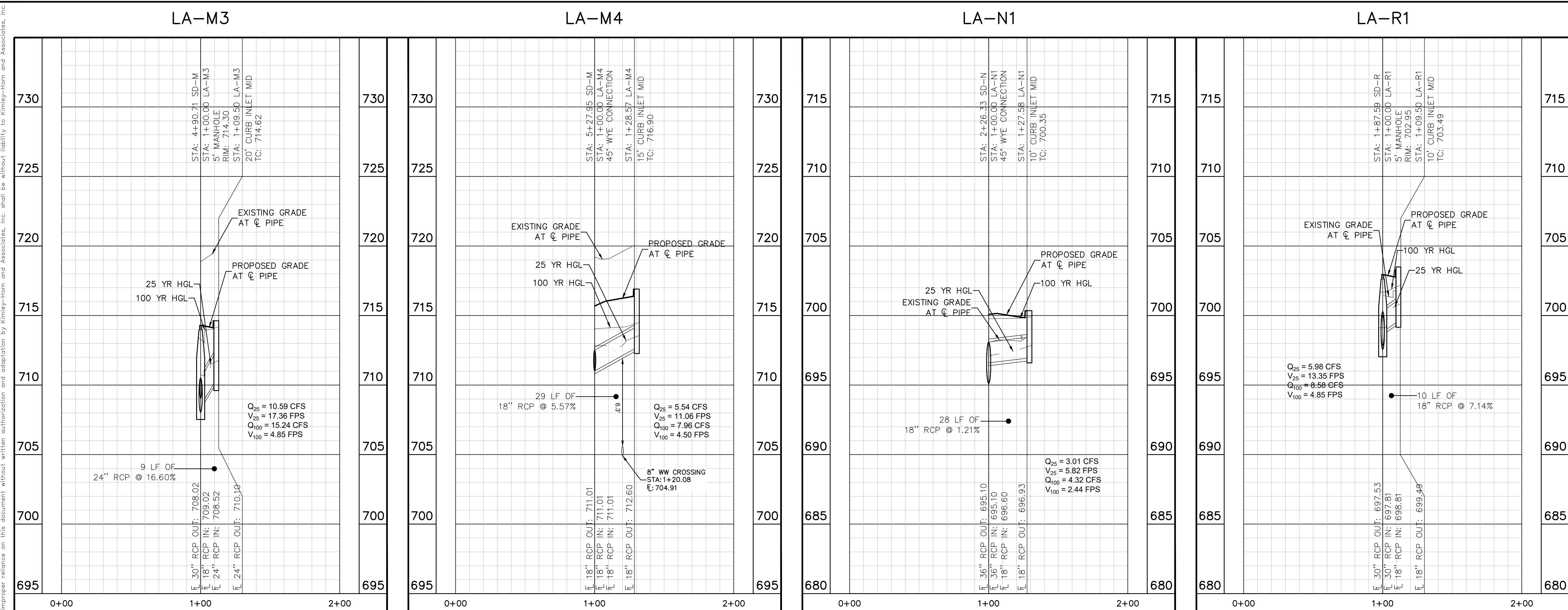
KHA PROJECT 067783115
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY: DPD
DRAWN BY: AMF
CHECKED BY: AEC

STORM LATERAL PROFILES (SHEET 4 OF 5)

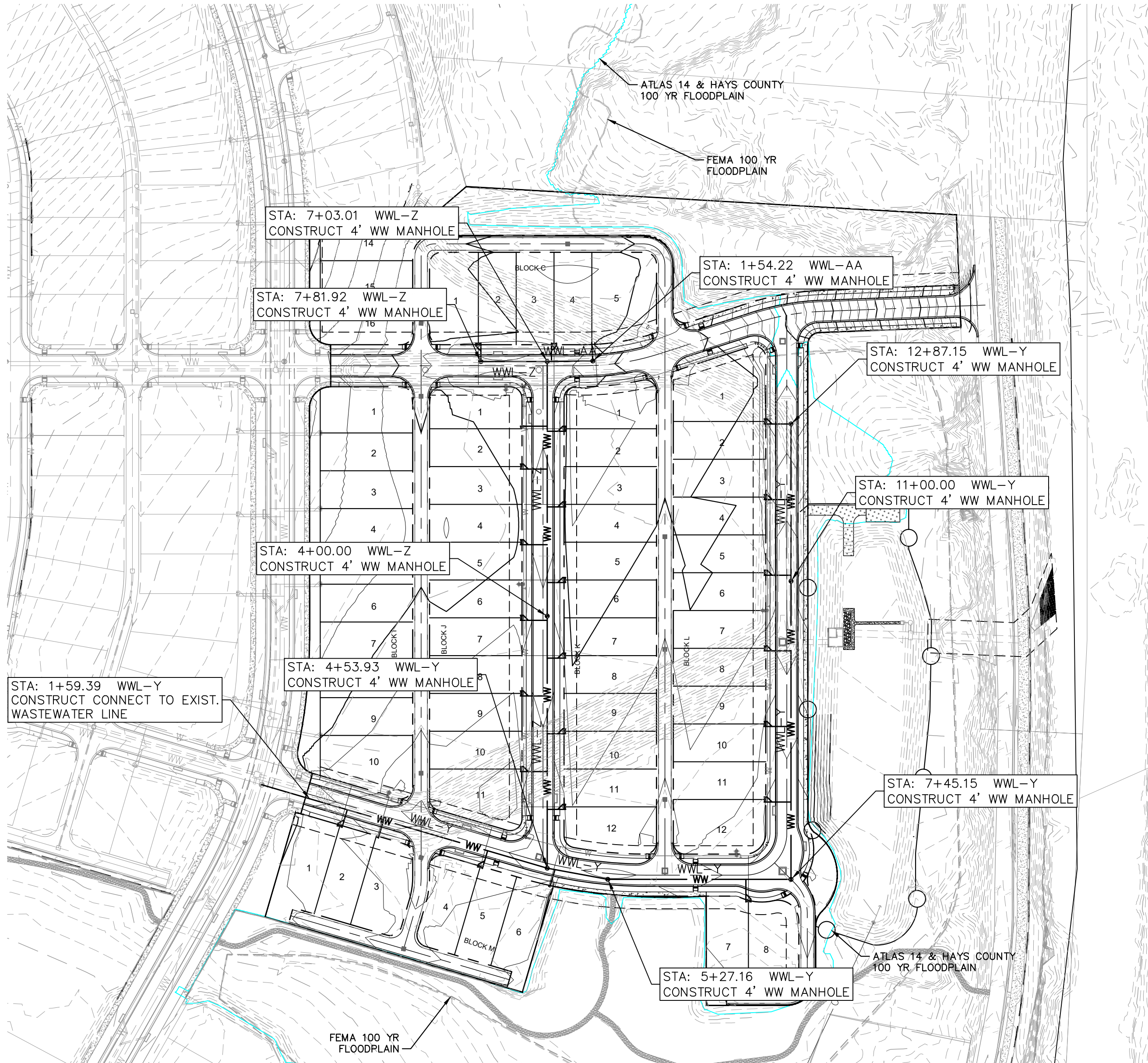
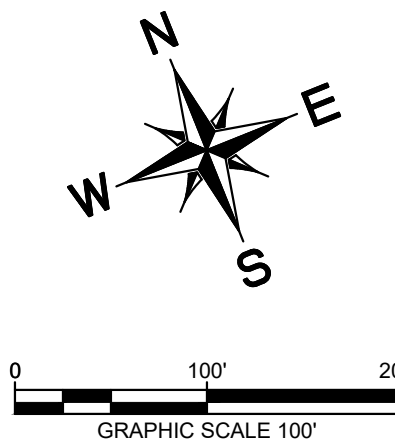
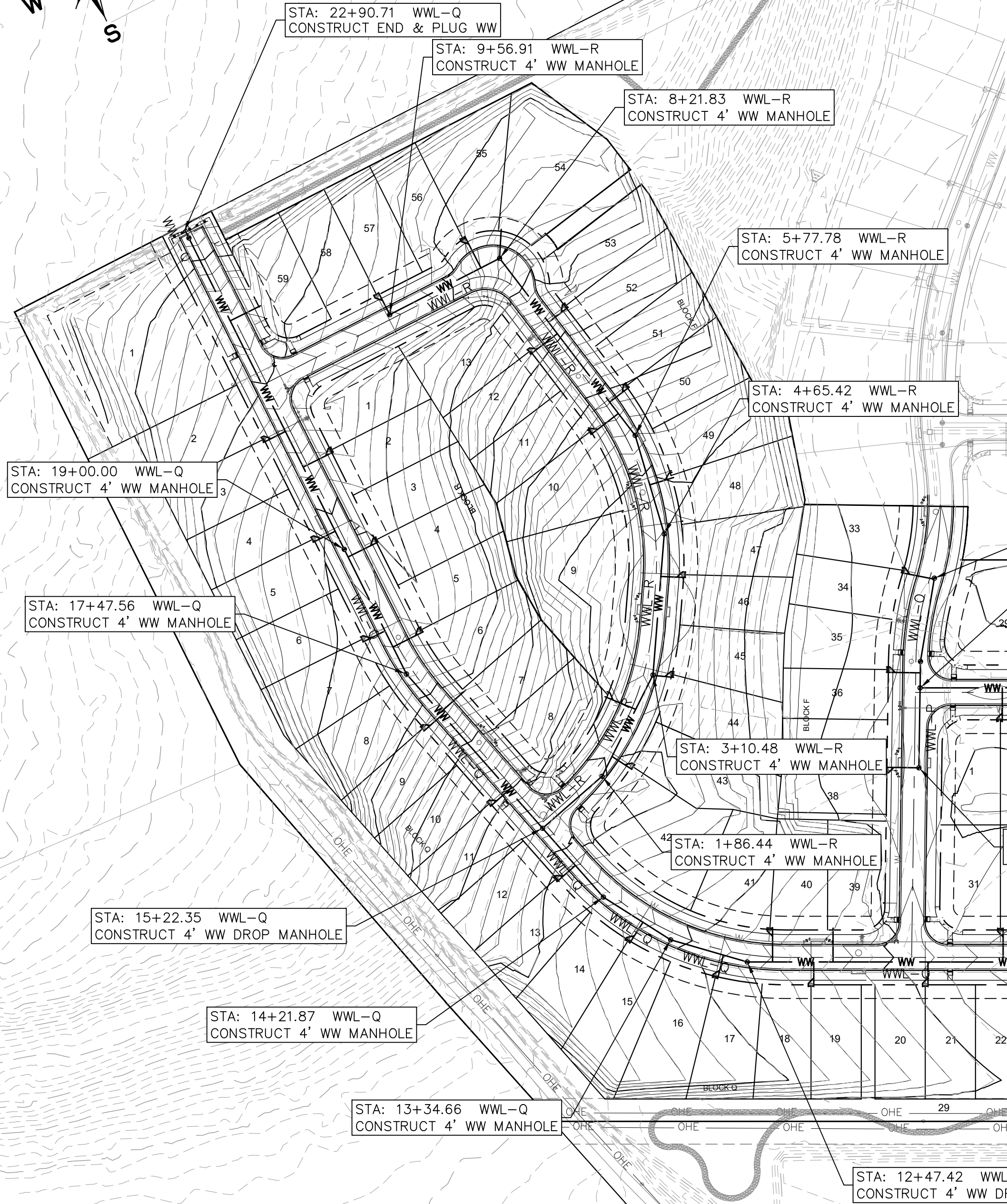
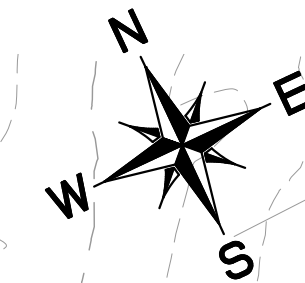
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
58
OF 90

REVISIONS
No. DATE BY



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UTILITY LEGEND	
	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



KEY MAP
SCALE: 1" = 1,000'



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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 174' NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV +98.81 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV +712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON	N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE		
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A			
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.			
PERMIT NUMBER:			

NO.	REVISIONS	DATE	BY

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

STATE OF TEXAS

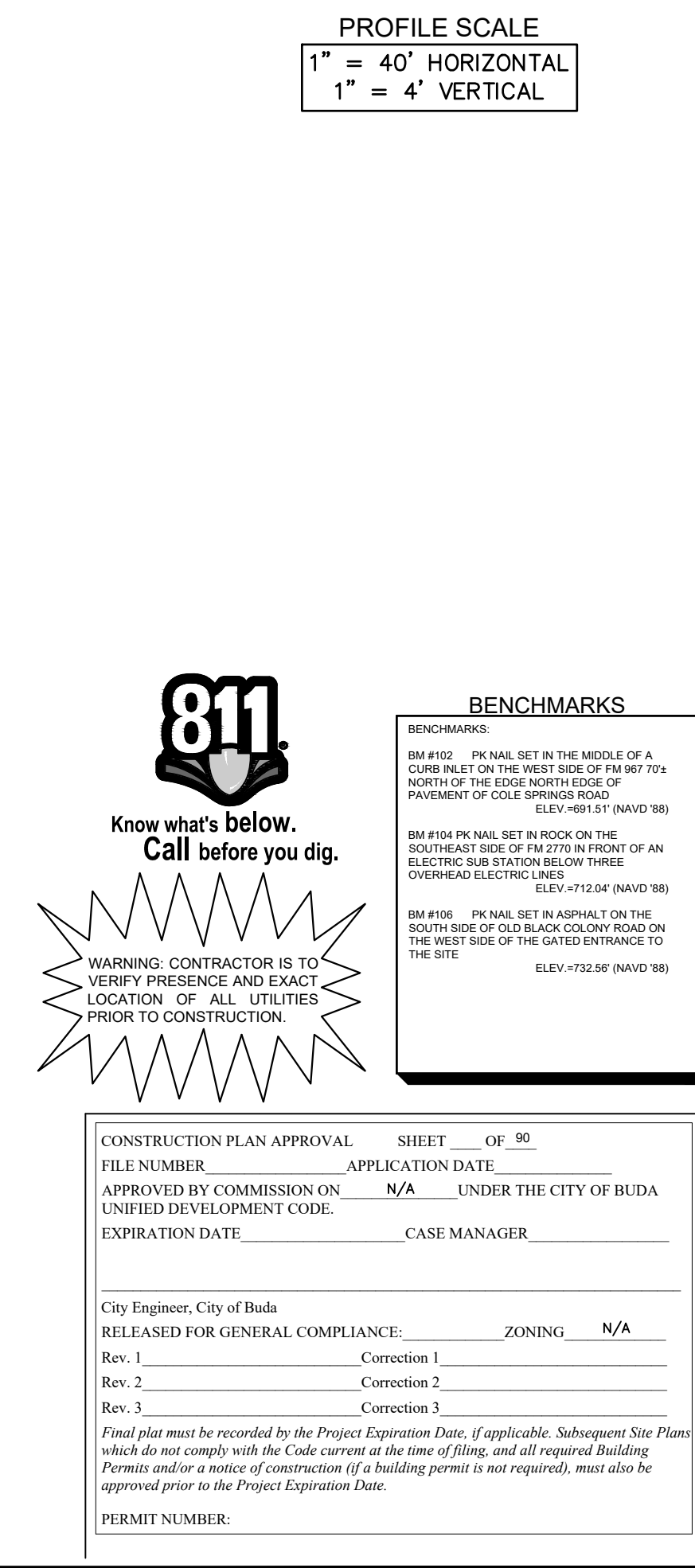
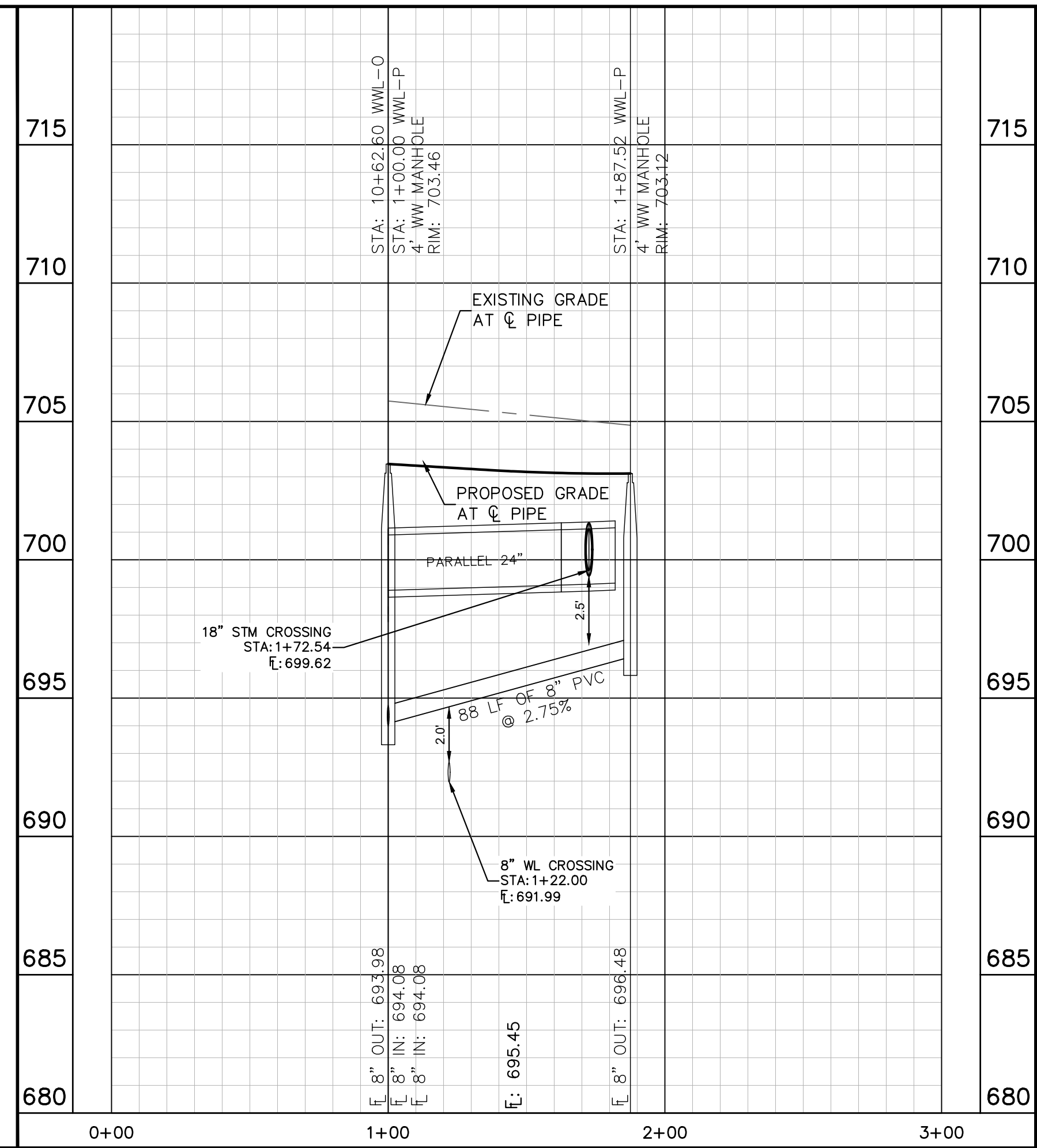
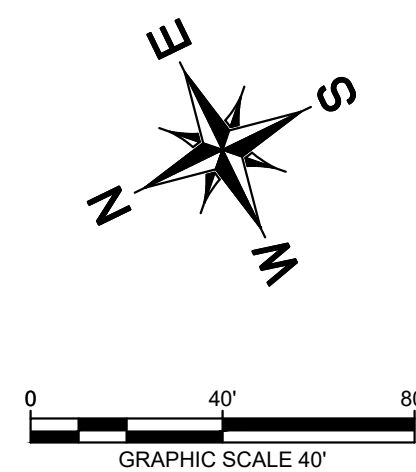
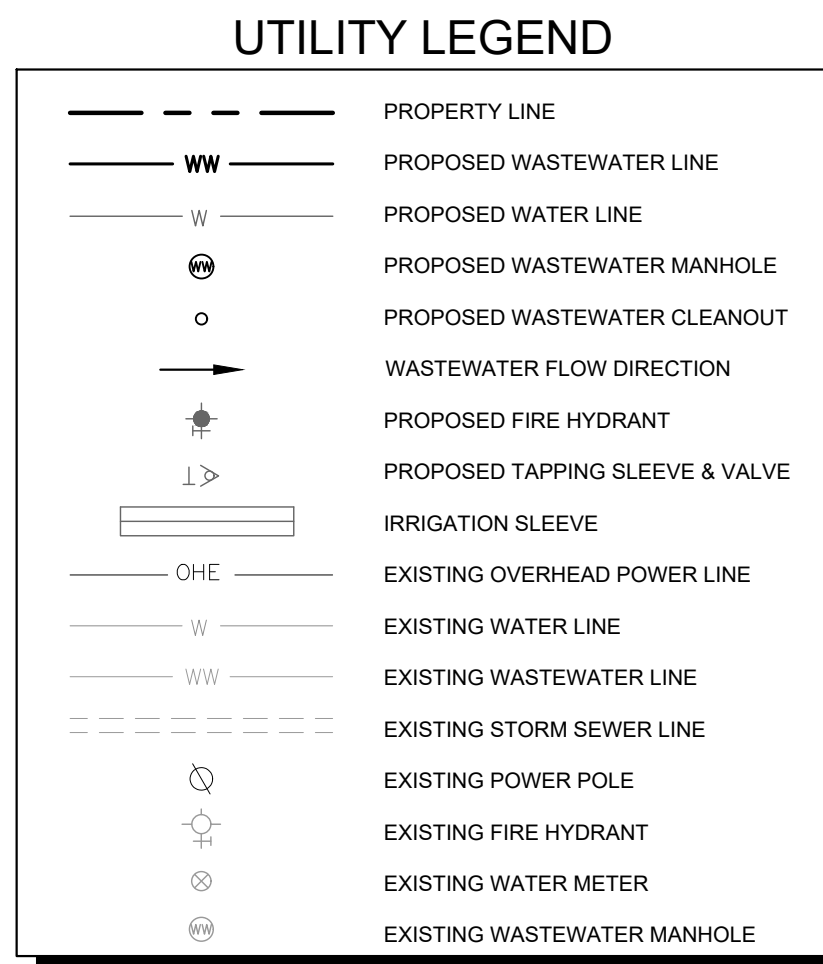
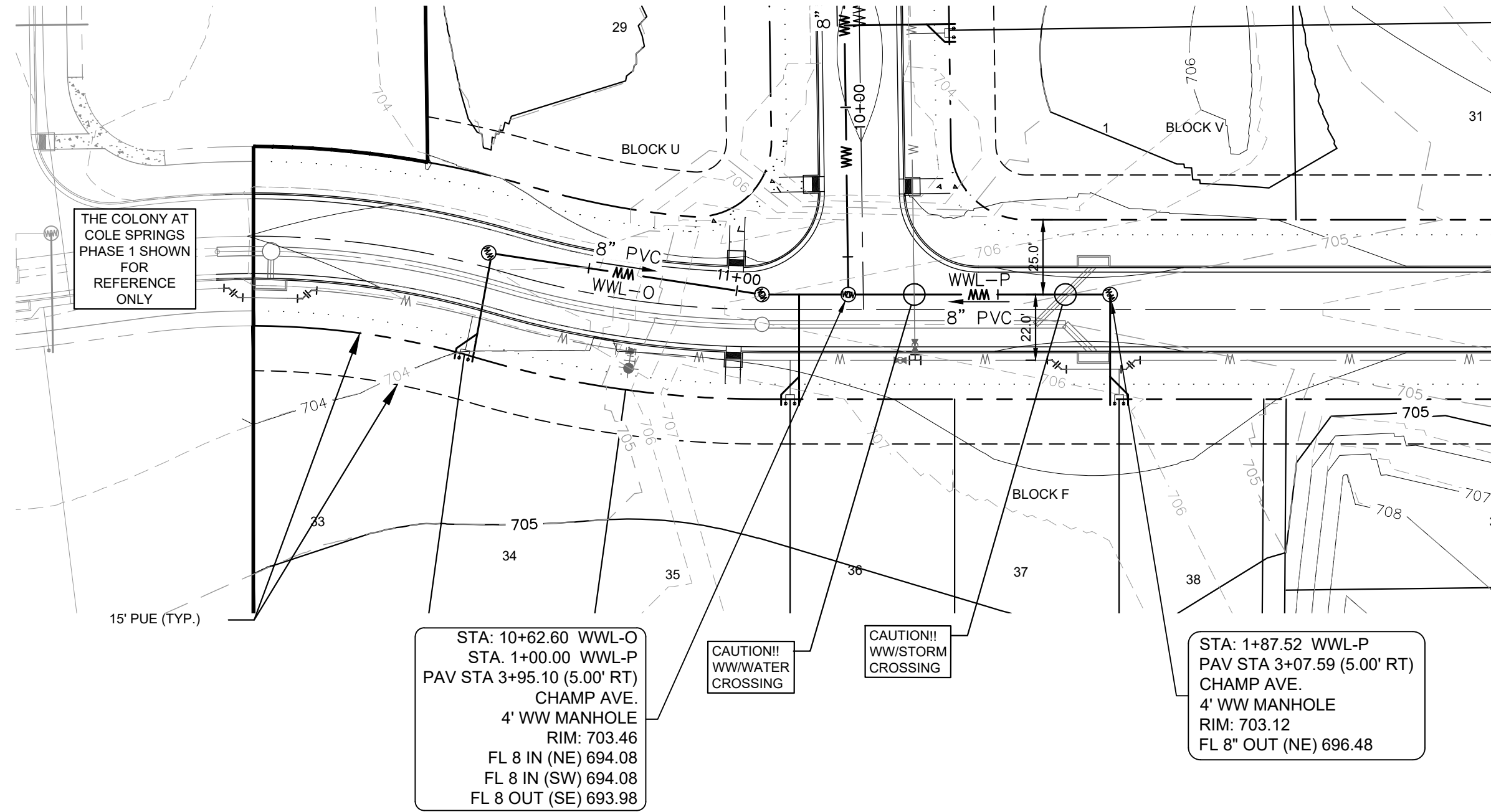
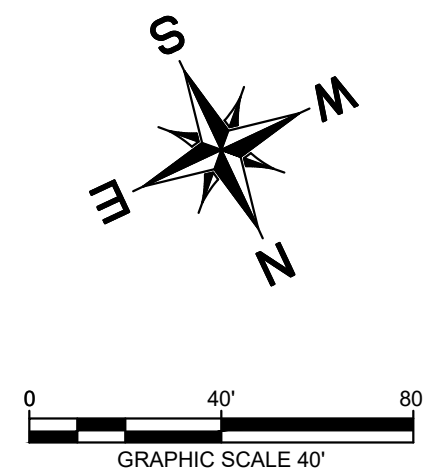
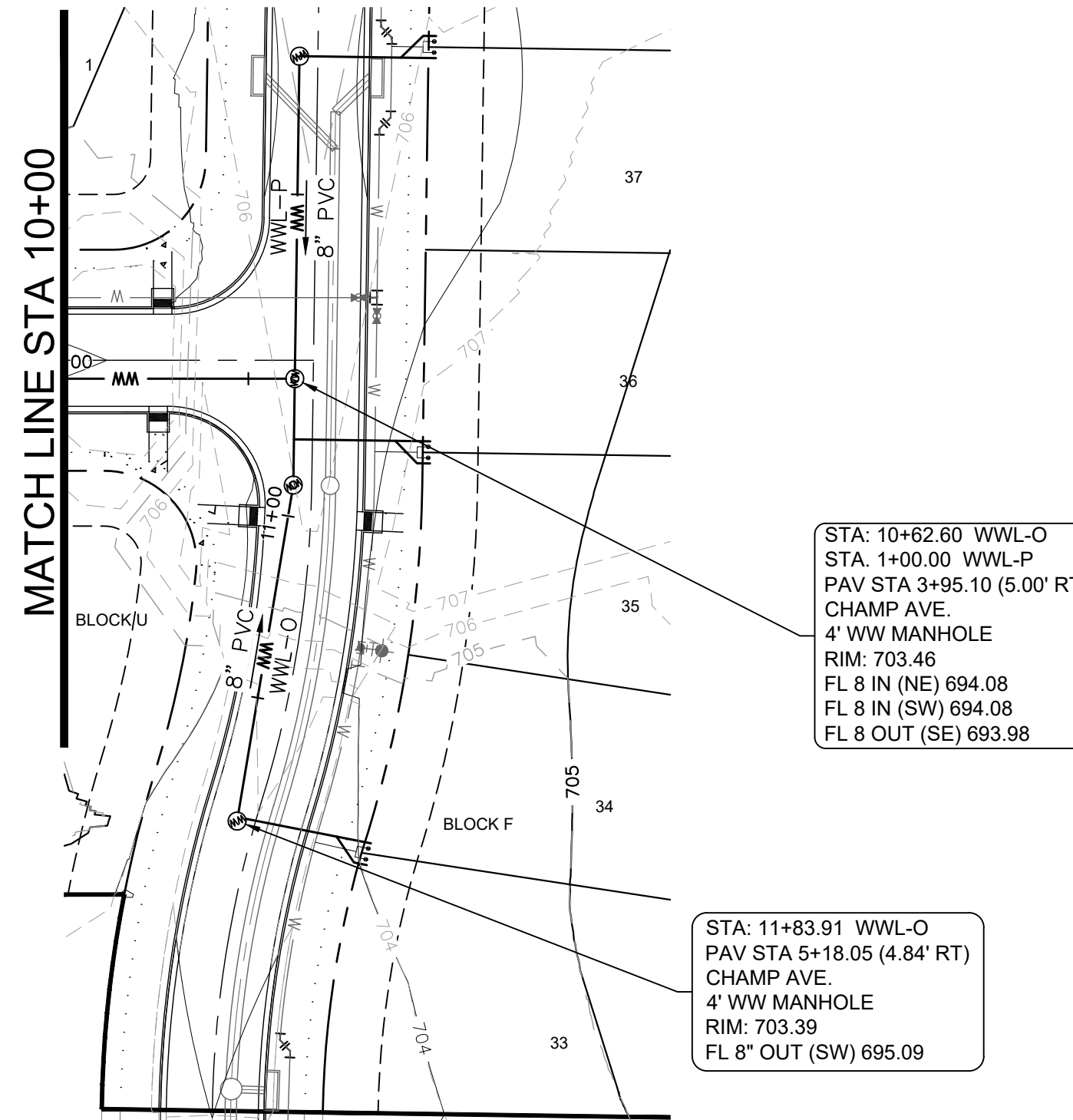
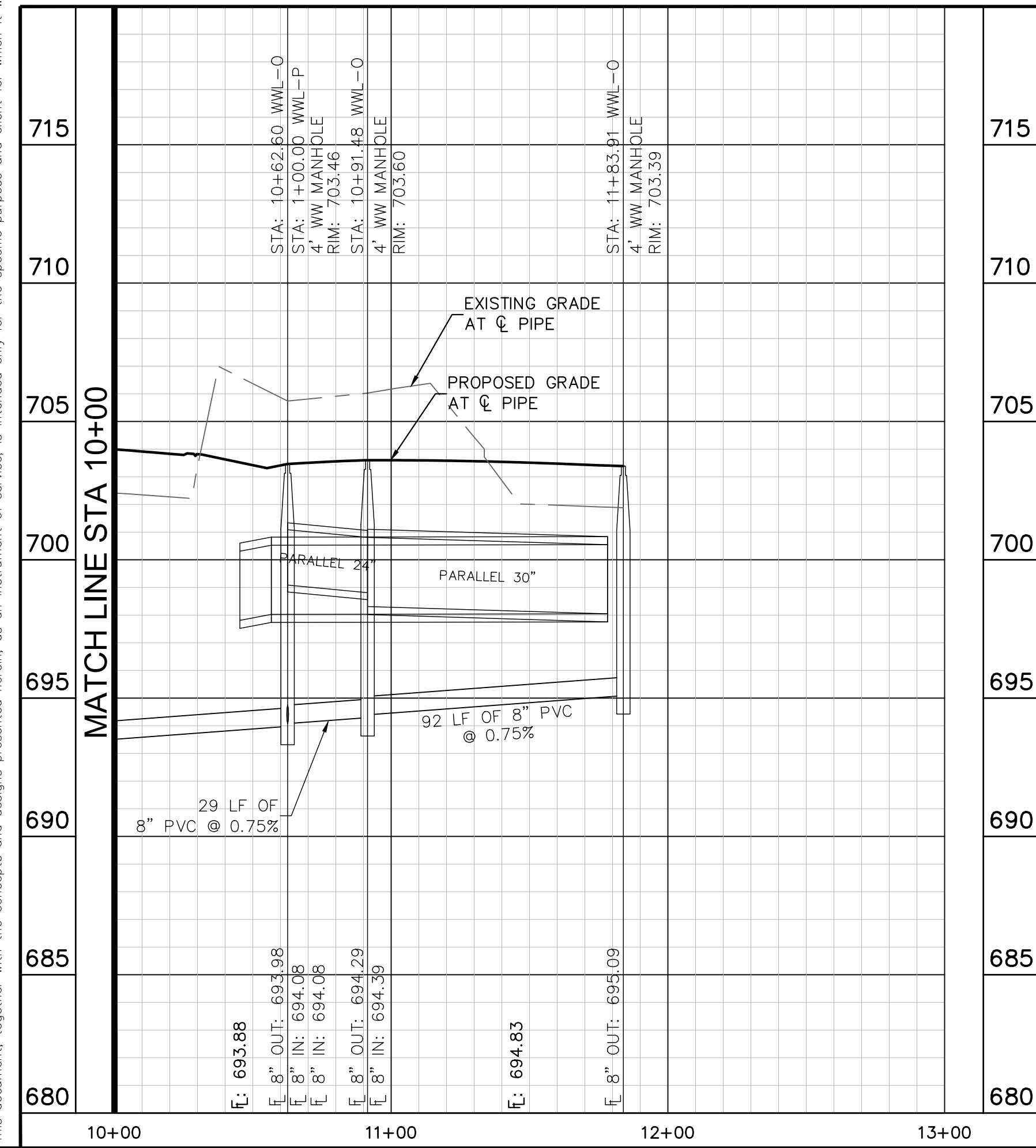
ALEJANDRO E. GRANADOS RICO
130084
PROFESSIONAL ENGINEER

Alejandro E. Granados Rico

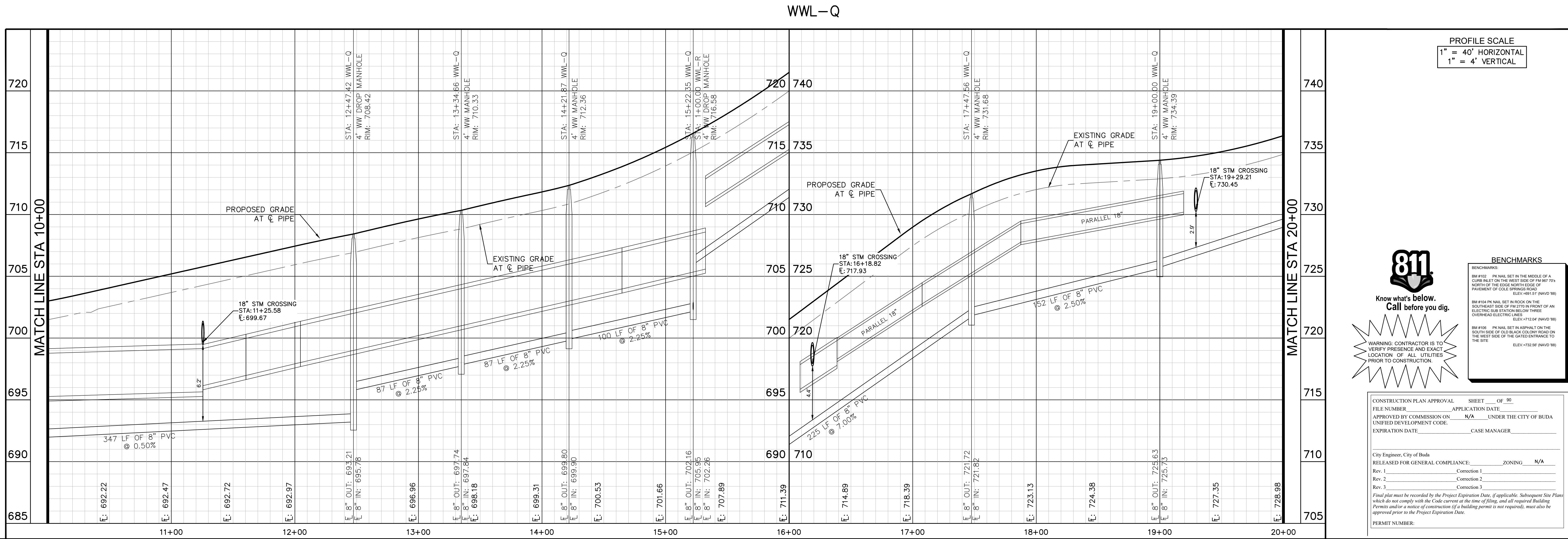
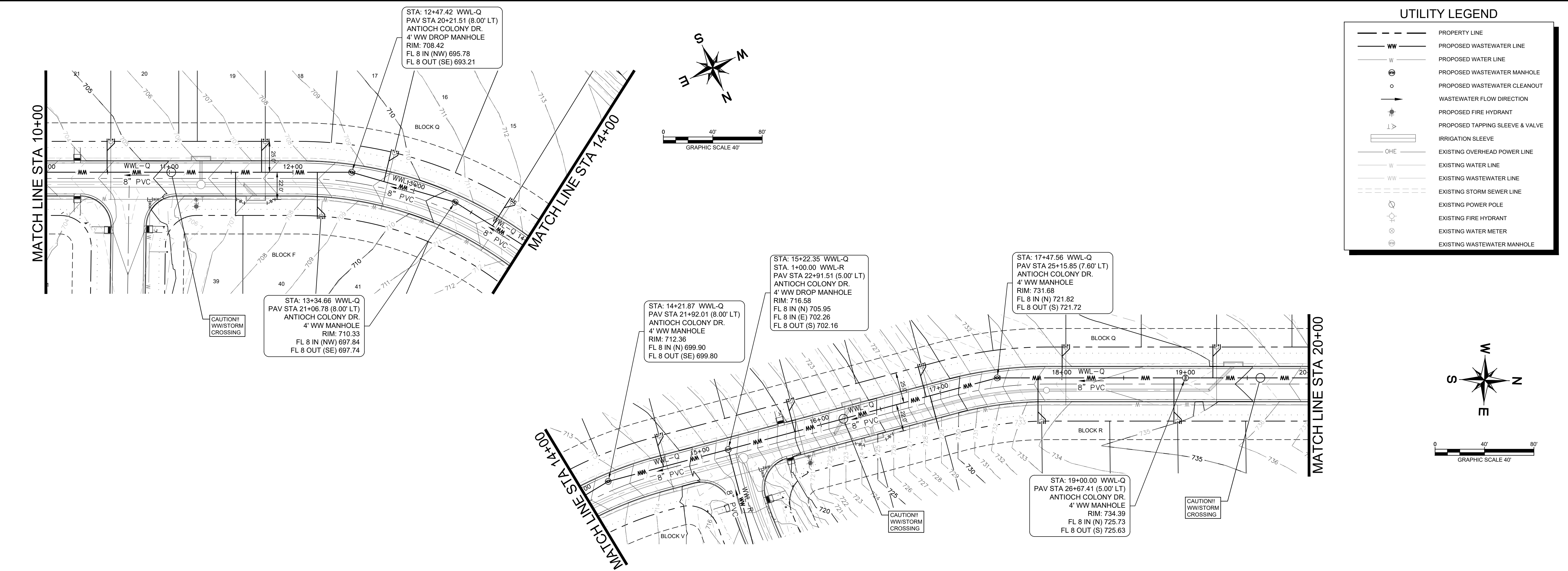
KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AMF
CHECKED BY	AEC

OVERALL WASTEWATER PLAN

THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS



Plotted By: Flynn, Alyssa Date: April 10, 2024 08:11:21am File Path: K:\ssou_civil\067783115 merritape buda_assembly\067783115 merritape buda_assembly\067783115 Wastewater Plan & Profile 3.dwg
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REVISIONS		DATE	BY

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

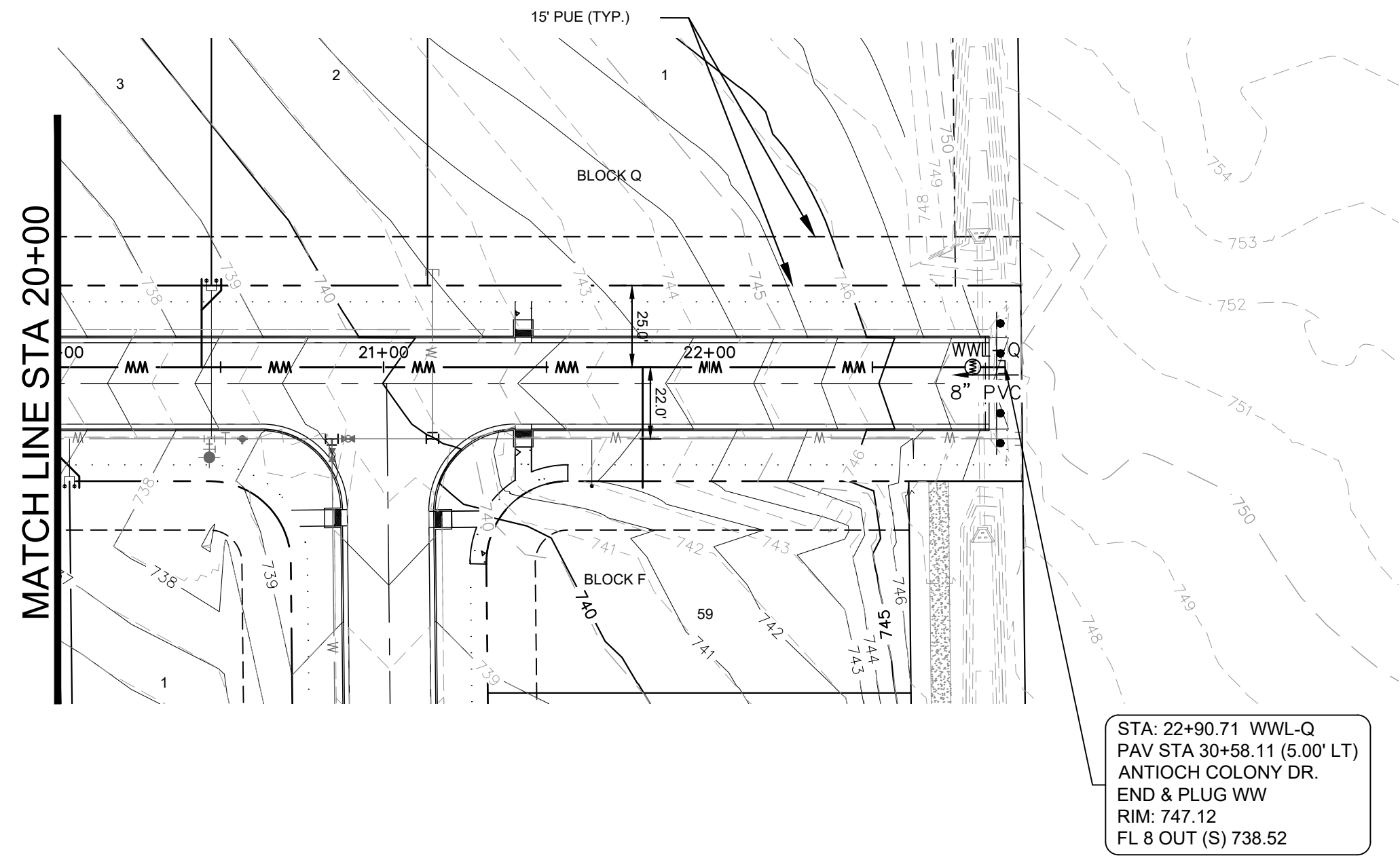
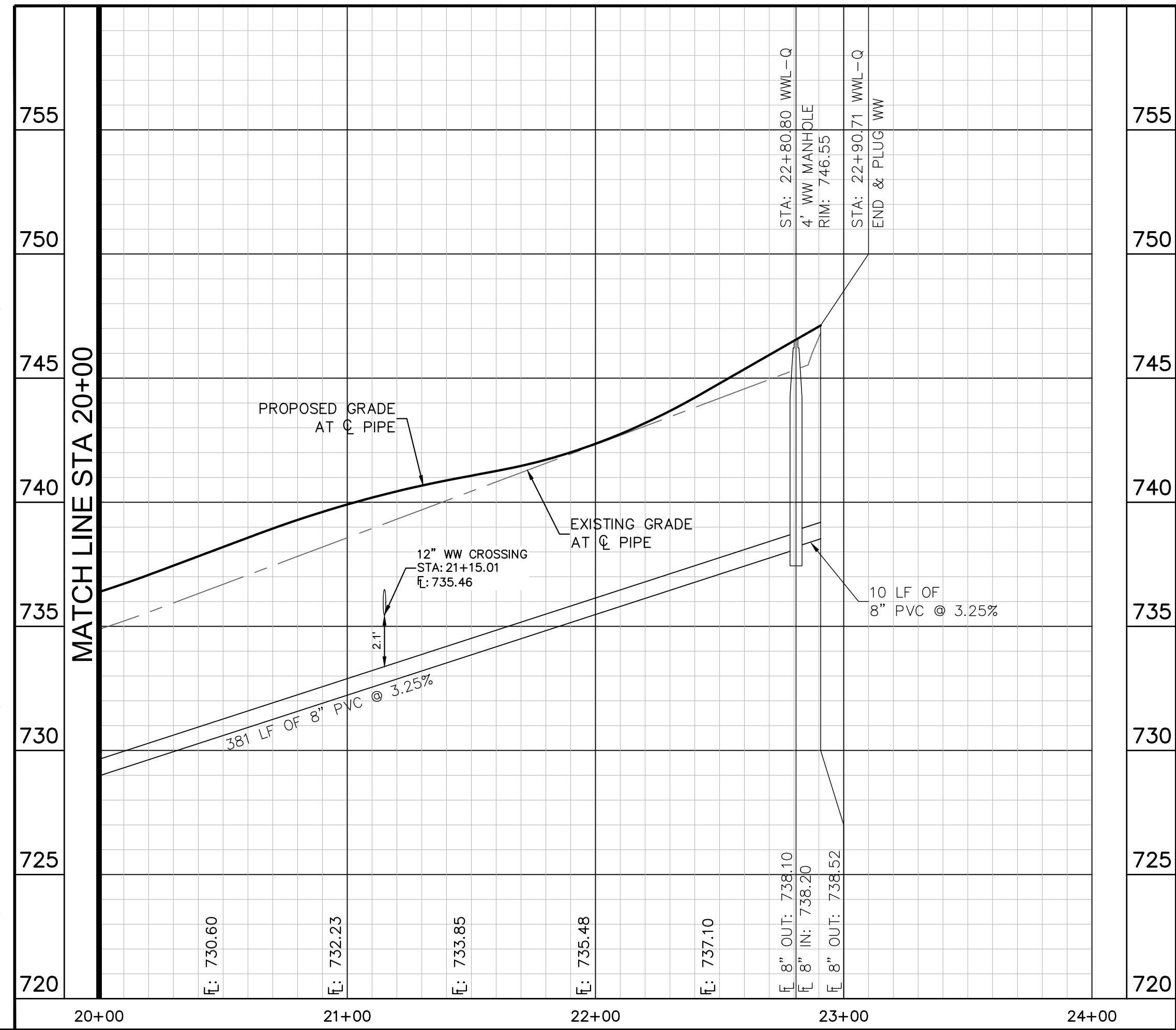
Alejandro E. Gramados Rocio

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
067783115	FEBRUARY 2024	AS SHOWN	DPD	AJD	AEC

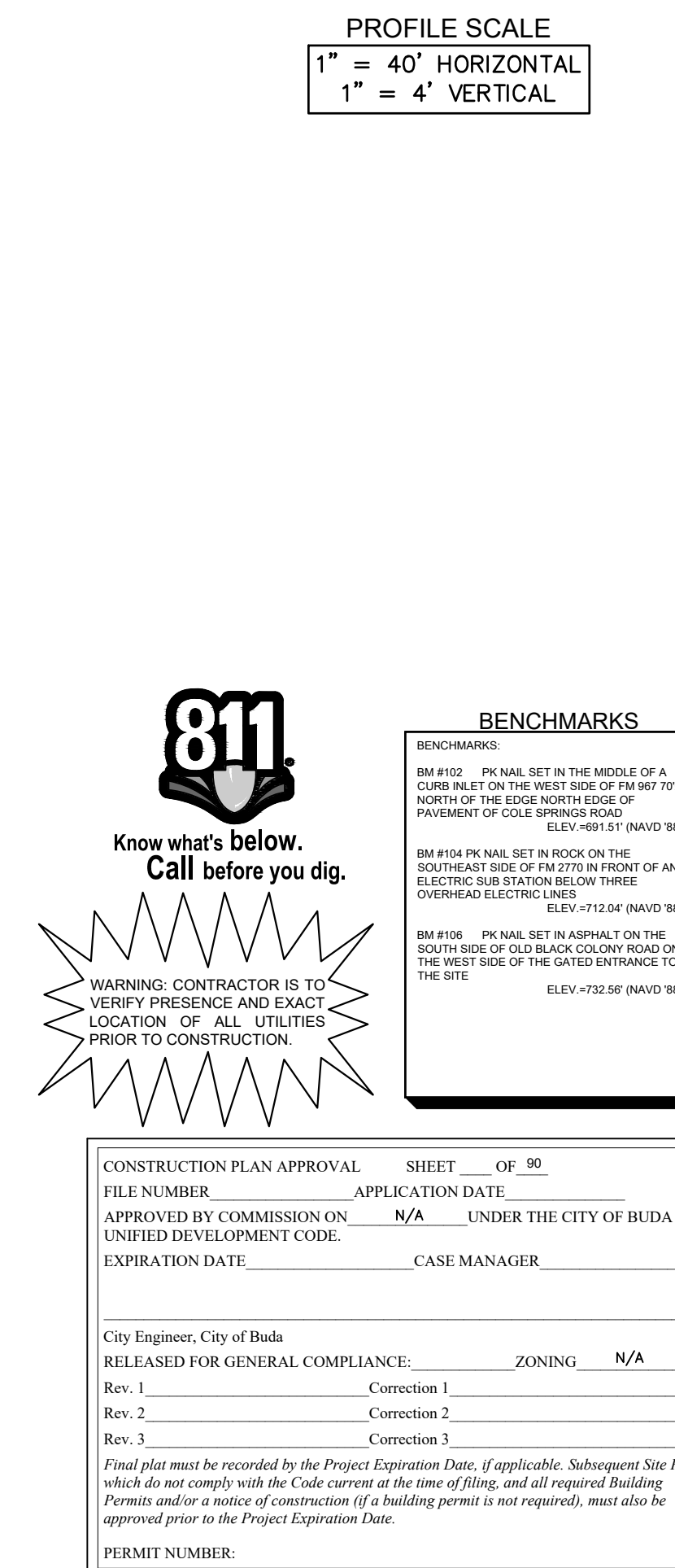
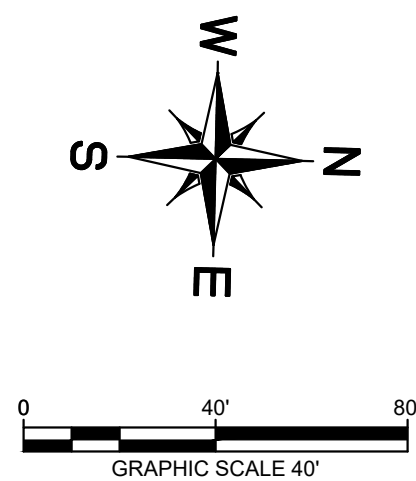
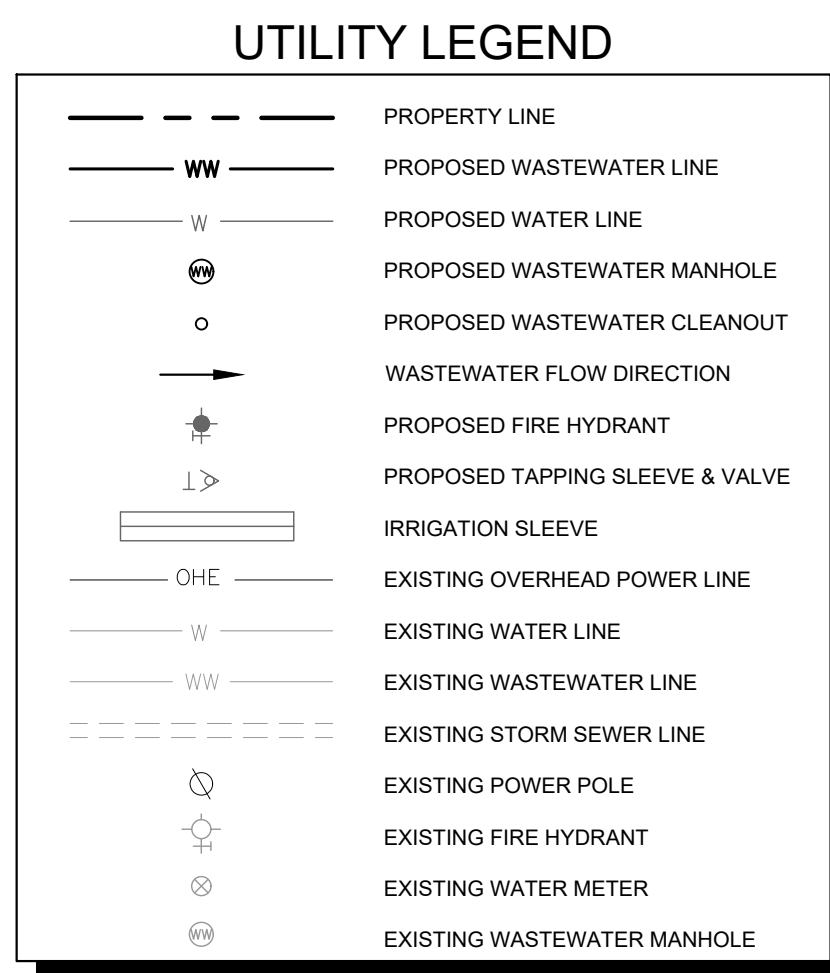
WASTEWATER PLAN & PROFILE WWL-Q
(SHEET 2 OF 3)

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
74
OF 90



WWL-Q

[illegible]

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

The seal is circular with a double-lined border. Inside the border, the words "STATE OF TEXAS" are at the top and "PROFESSIONAL ENGINEER" are at the bottom, separated by stars. In the center is a five-pointed star. Below the star, the text "ALEJANDRO E. GRANADOS RICO" and "130084" are printed.

Alejandro E. Granados Rico

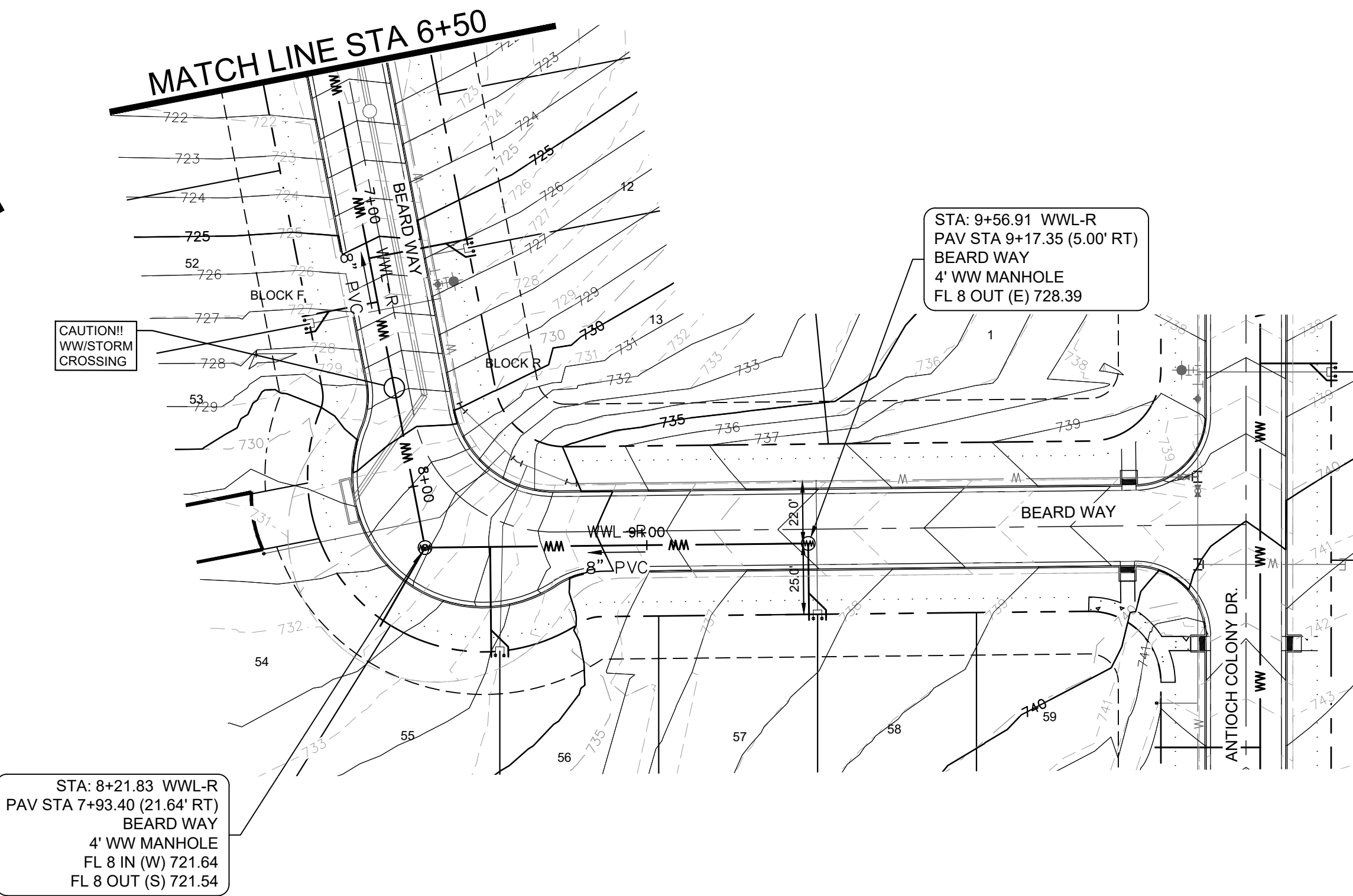
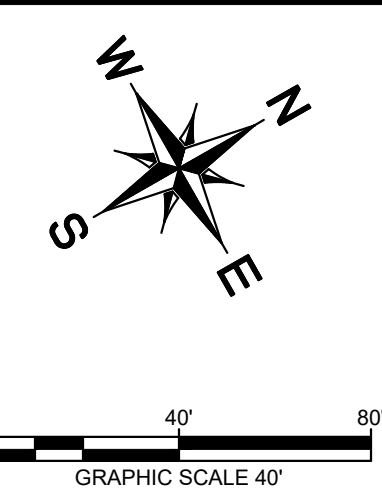
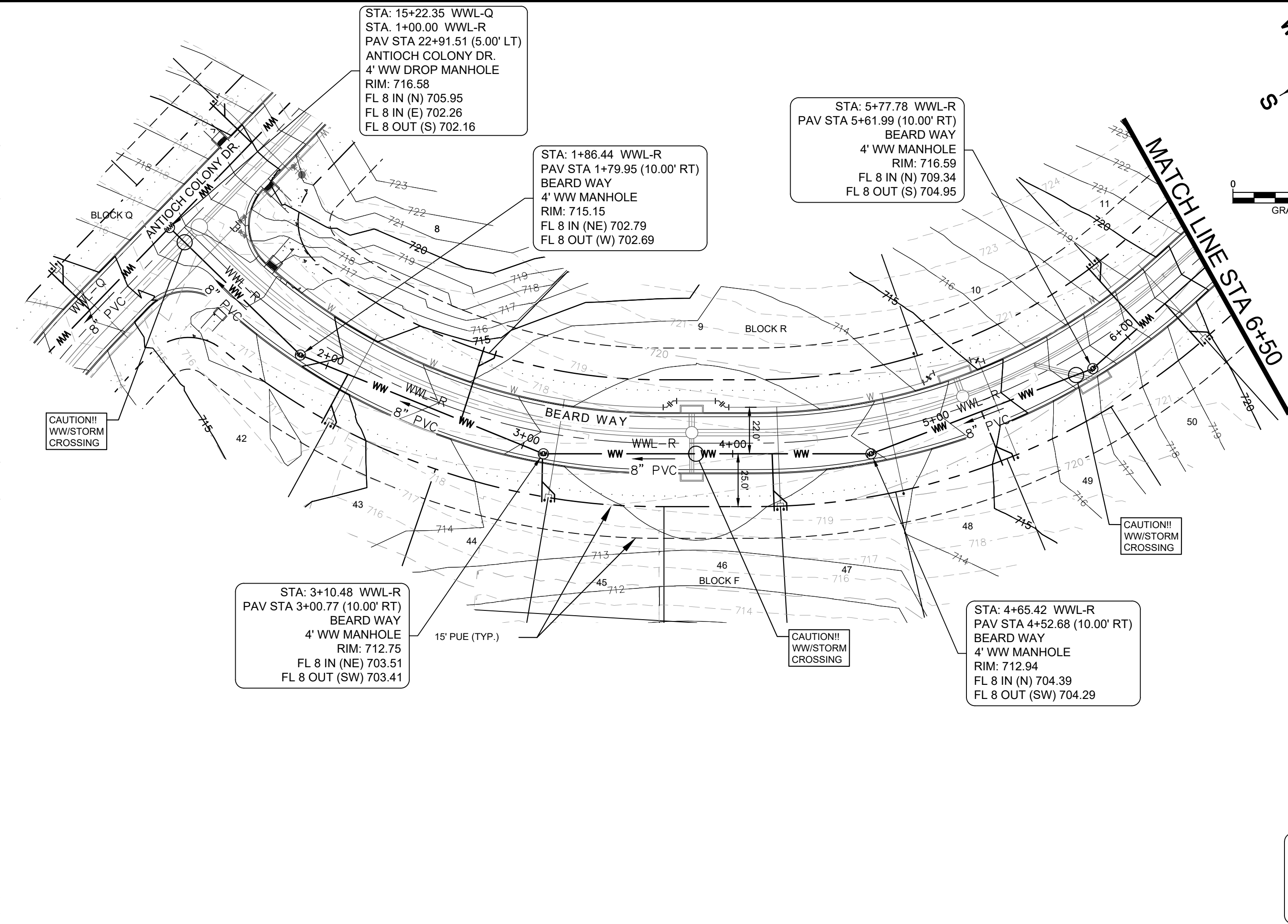
KHA PROJECT 067783115	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: DPD	DRAWN BY: AJD	CHECKED BY: AEG
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WASTEWATER PLAN &
PROFILE WWL-Q
(SHEET 3 OF 3)

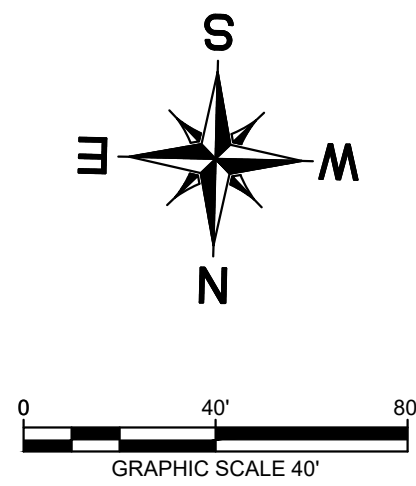
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
75
OF 90

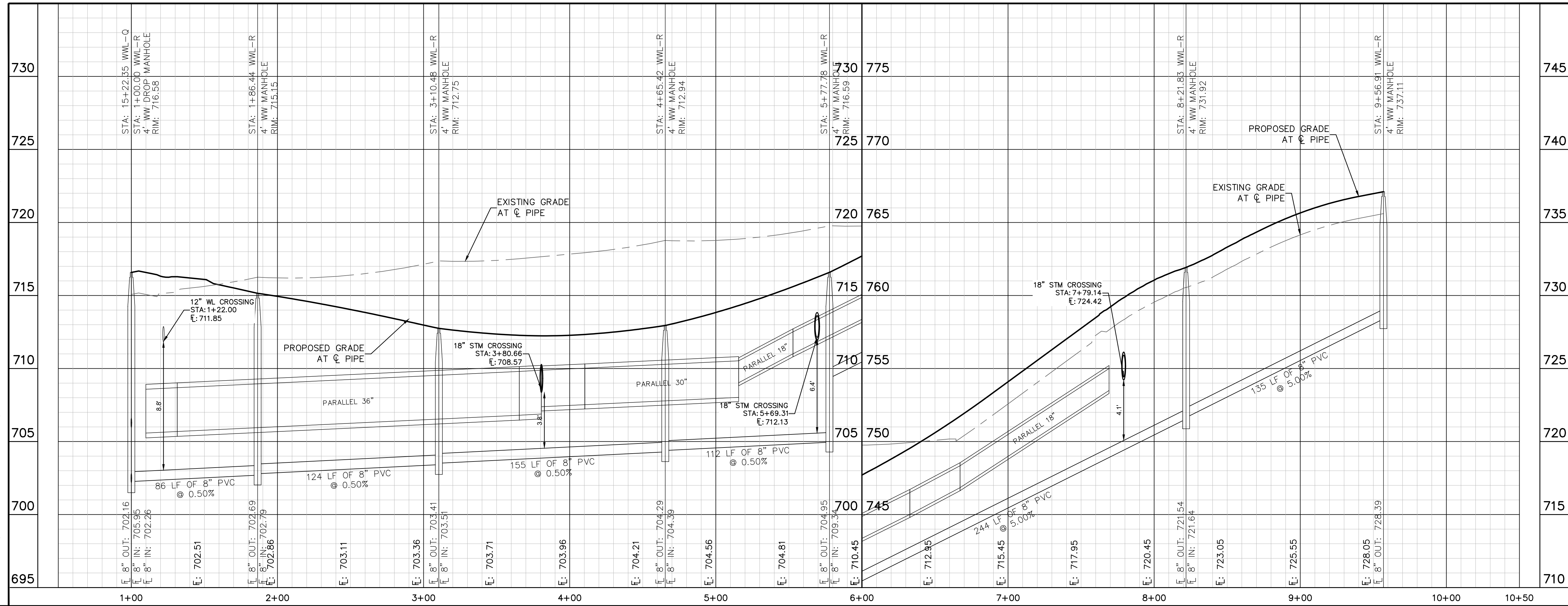
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UTILITY LEGEND	
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	WASTEWATER FLOW DIRECTION
	PROPOSED FIRE HYDRANT
	PROPOSED TAPPING SLEEVE & VALVE
	IRRIGATION SLEEVE
	EXISTING OVERHEAD POWER LINE
	EXISTING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



WWL-R



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

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV: 716.81 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV: 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV: 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

REVISIONS		DATE	BY
No.			

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PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

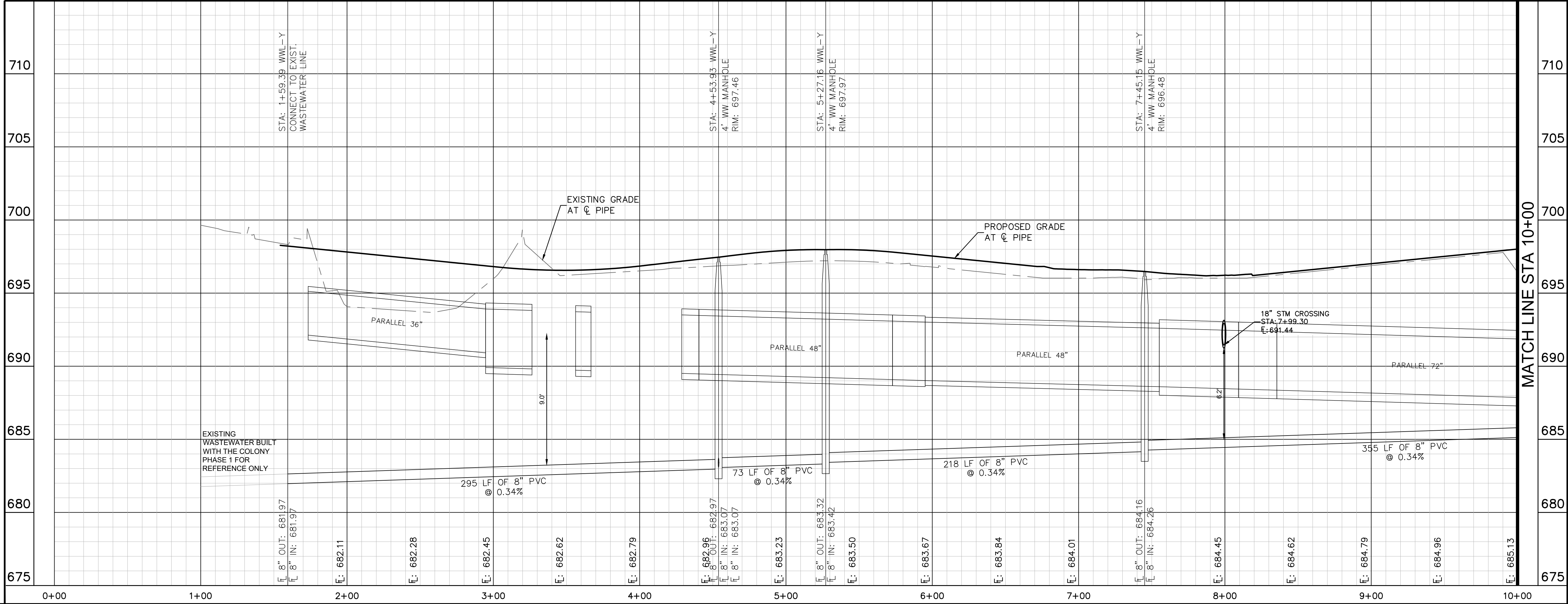
KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AJD
CHECKED BY	AEC

WASTEWATER PLAN & PROFILE WWL-R

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
76
OF 90

Plotted By: Flynn, Alyssa Date: April 10, 2024 08:14:03am File Path: K:\Users\civil\067783115\meritope_buda_assemblies\PHASE 2\Drawings\Drawings\Wastewater Plan & Profile.dwg
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811
Know what's below.
Call before you dig.

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 RT. NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV +712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV +712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

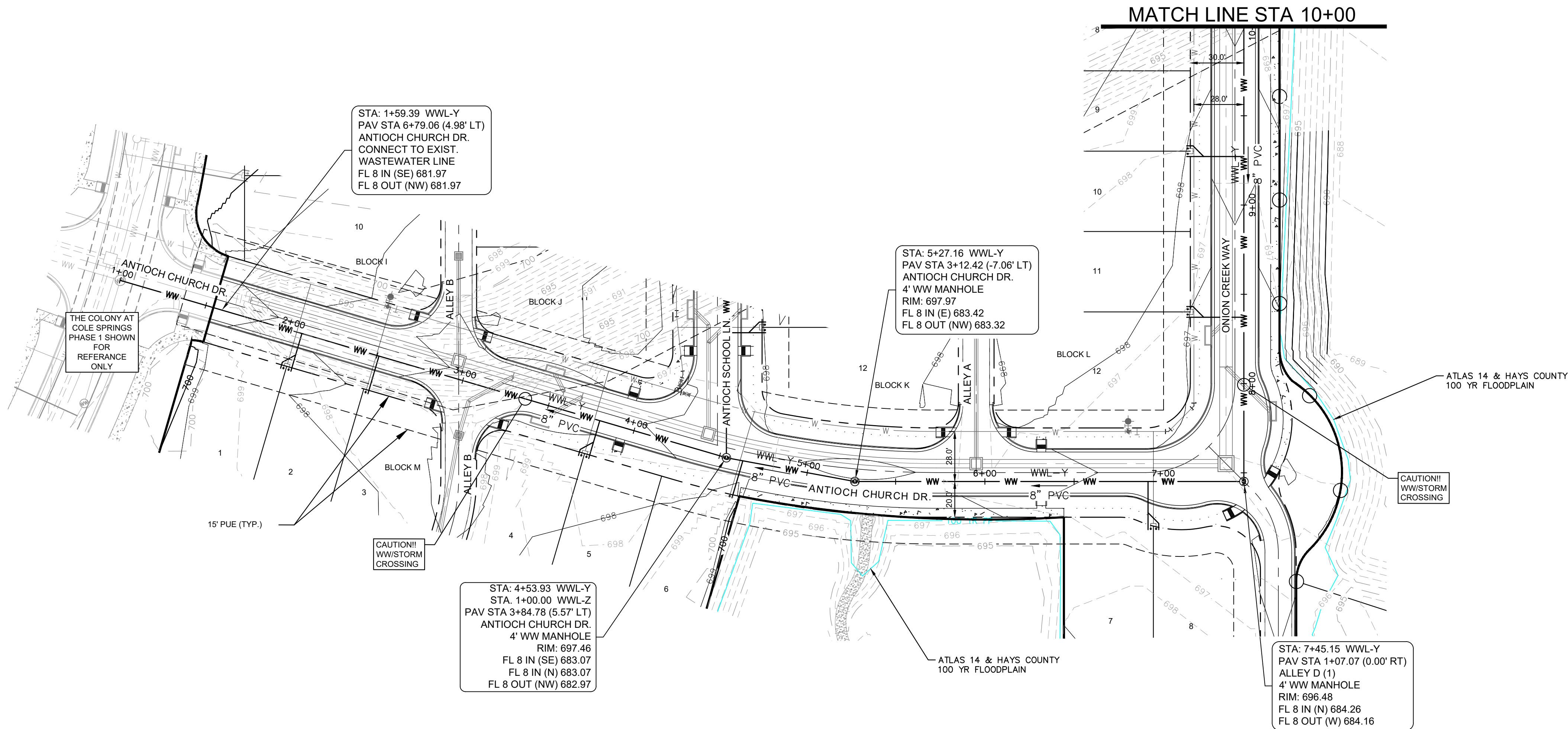
Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:



UTILITY 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
- 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

GRAPHIC SCALE 40'

0 40' 80'

North Arrow

Kimley-Horn

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WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

STATE OF TEXAS
ALEXANDRO E. GRANADOS RICO
130084
PROFESSIONAL ENGINEER
Alfonso E. Granados Rico

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AID

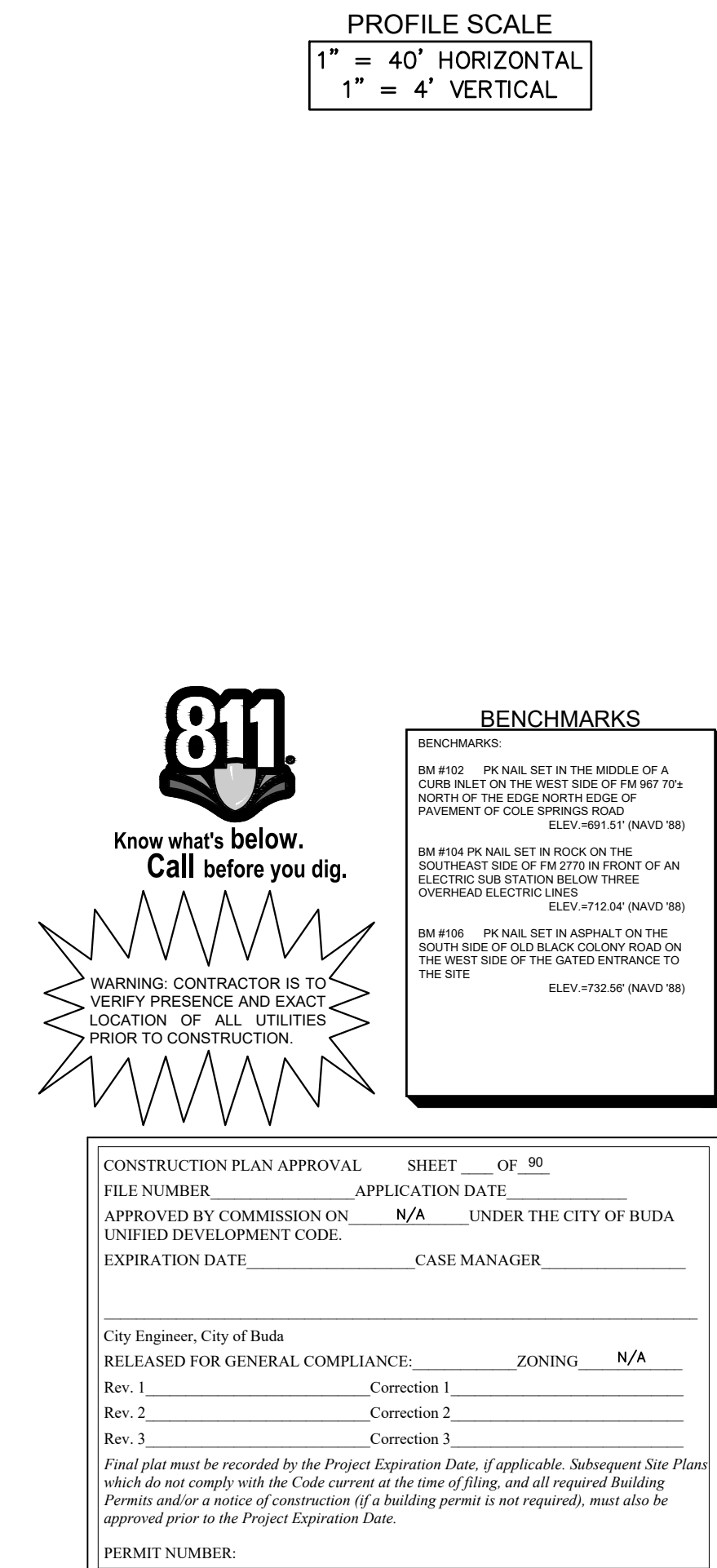
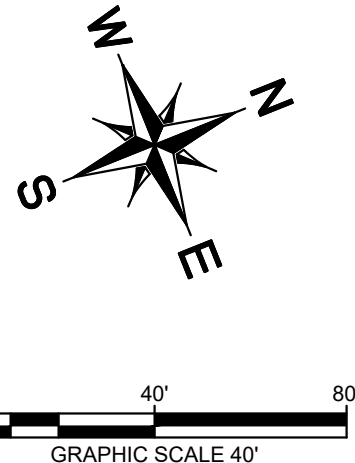
CHECKED BY: AEC

WASTEWATER PLAN & PROFILE WWL-Y (SHEET 1 OF 2)

THE COLONY PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

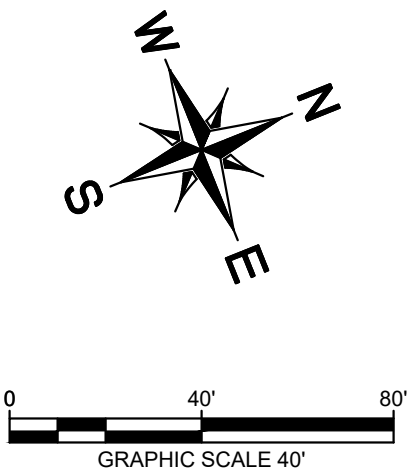
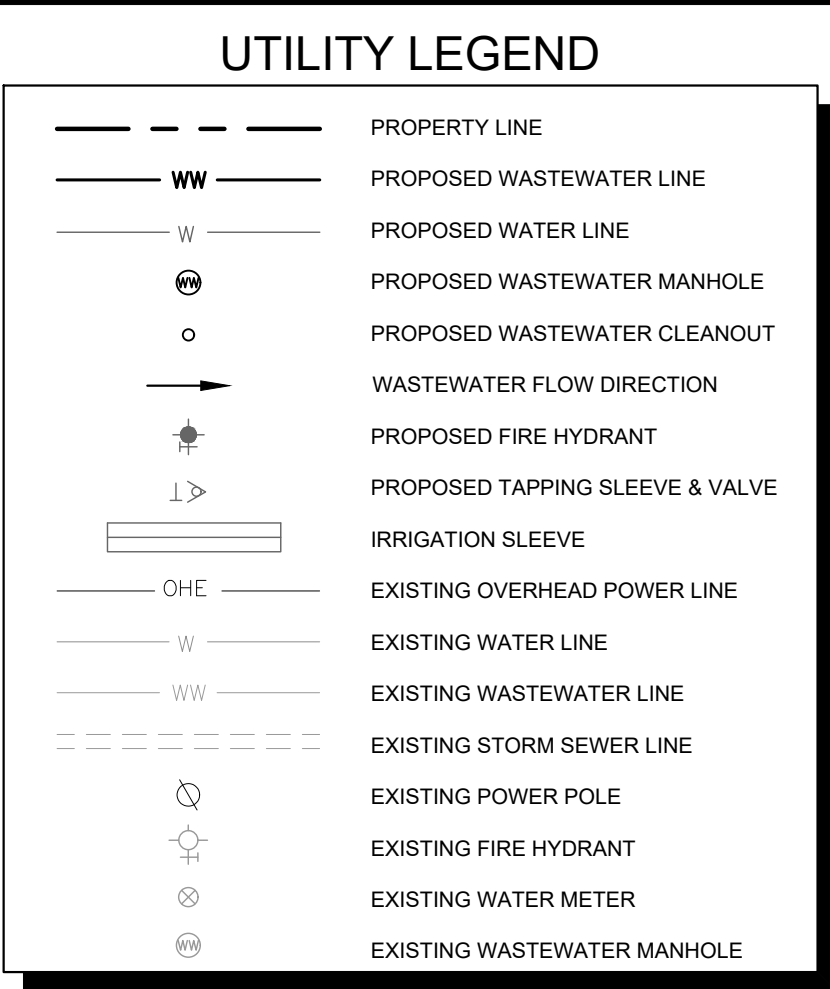
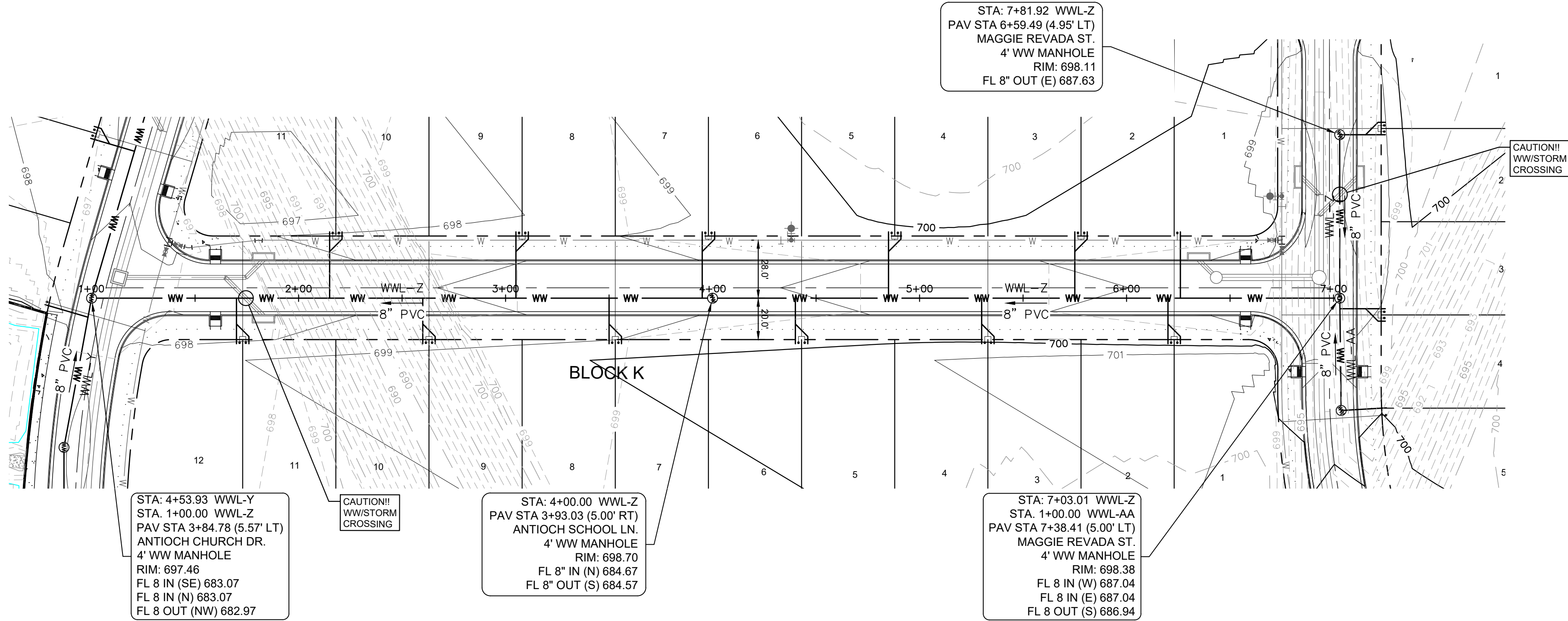
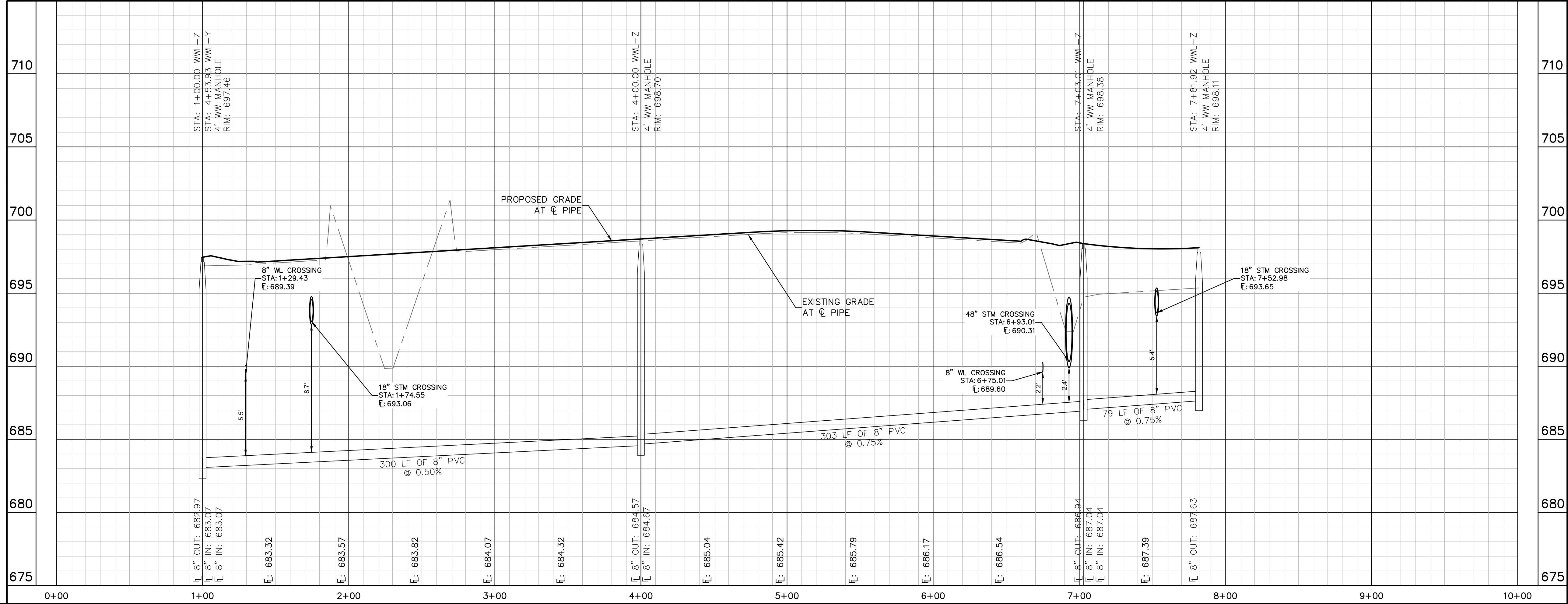
SHEET NUMBER
77
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No.	REVISIONS	DATE	BY

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO

130084

PROFESSIONAL ENGINEER

Alejandro E. Granados Rico

KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AJD
CHECKED BY	AEC

THE COLONY

PHASE 2

CITY OF BUDA

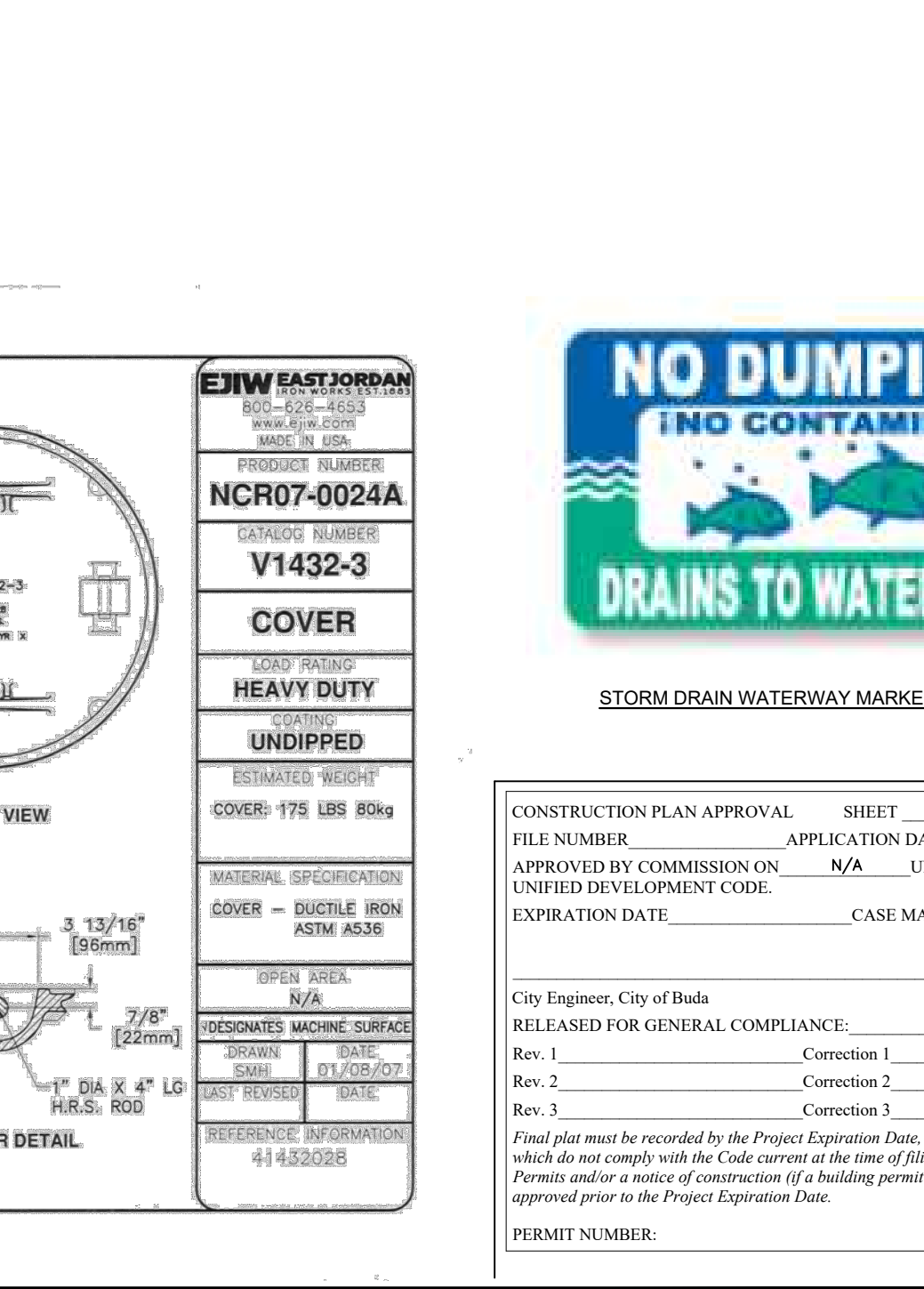
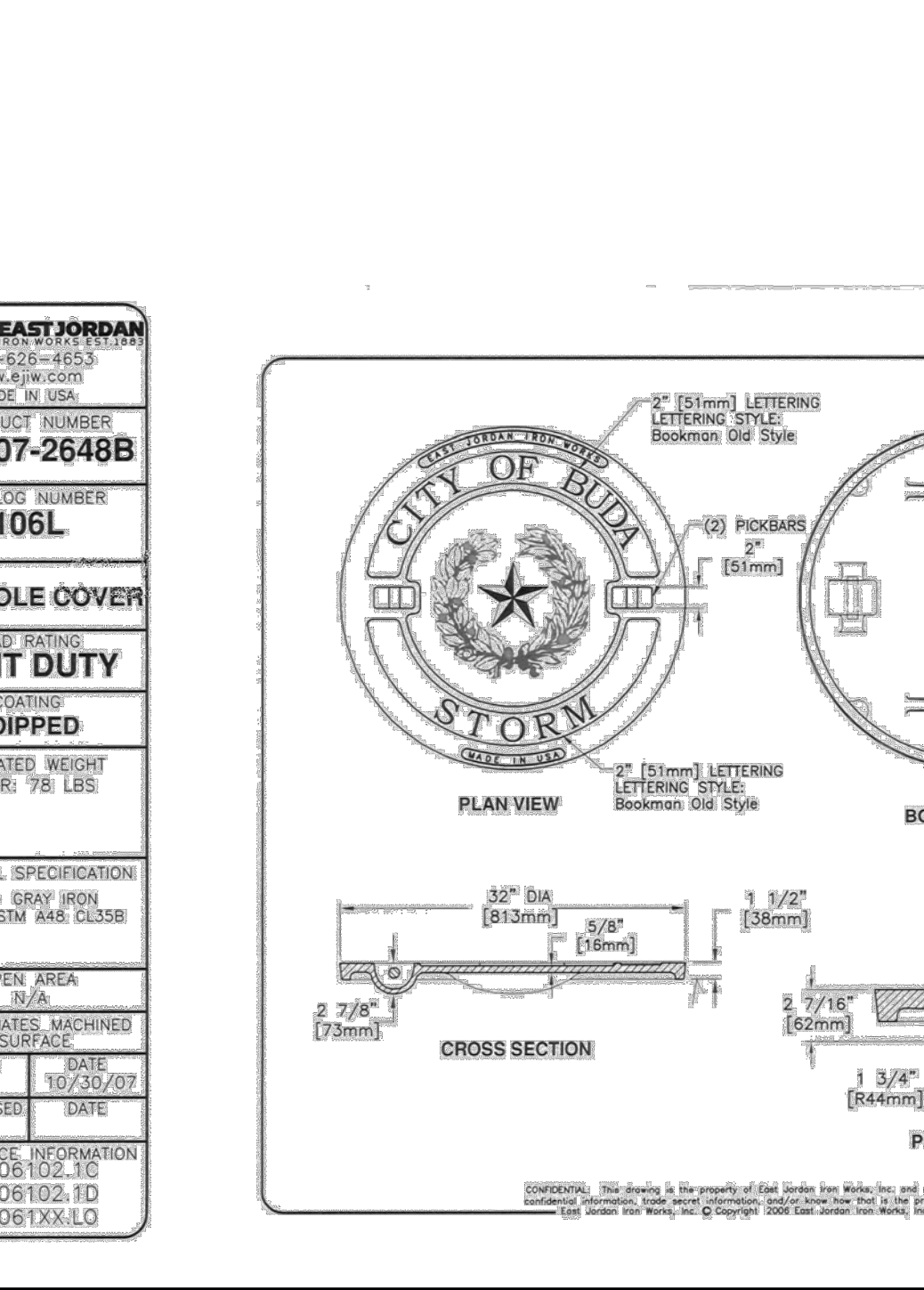
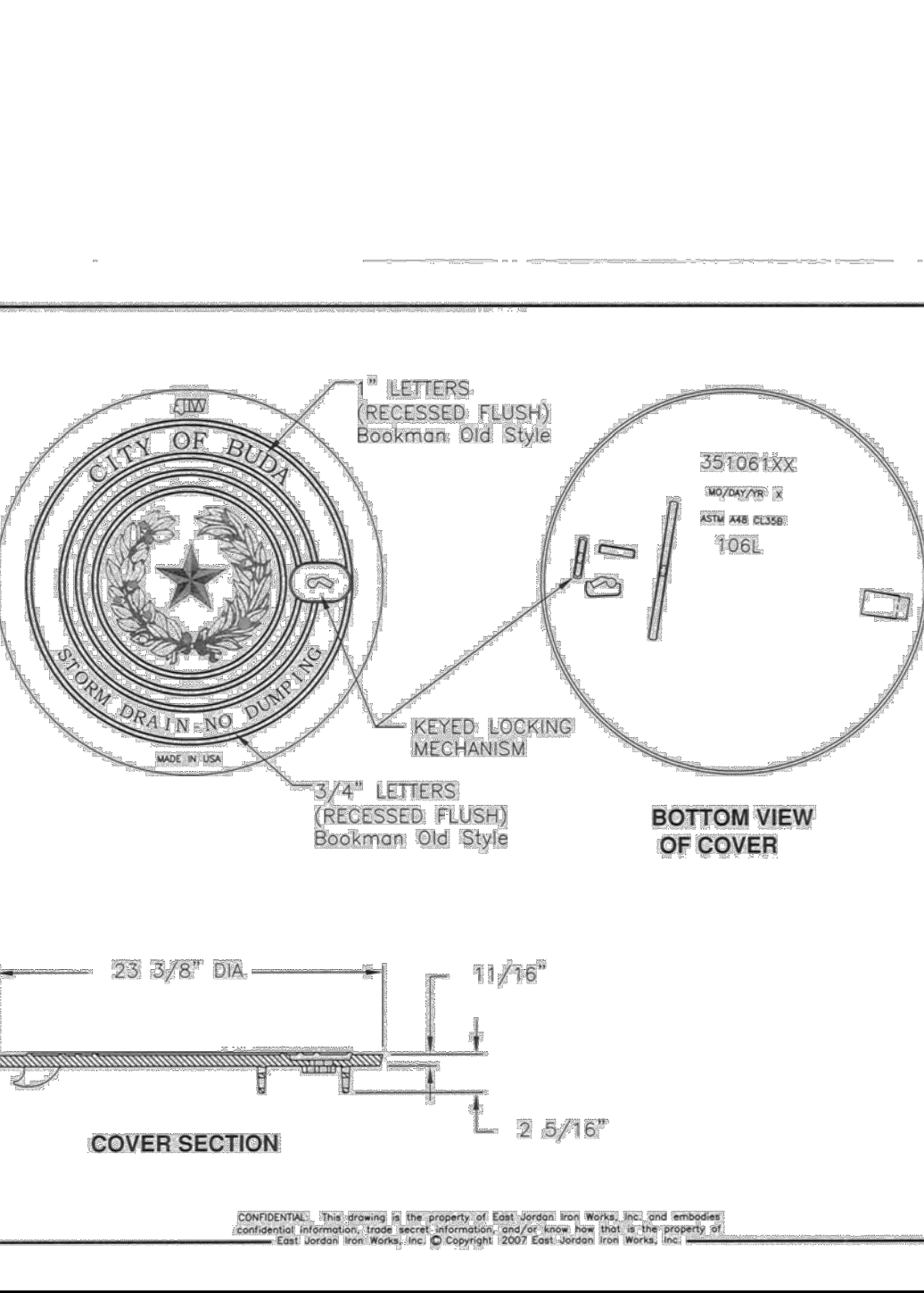
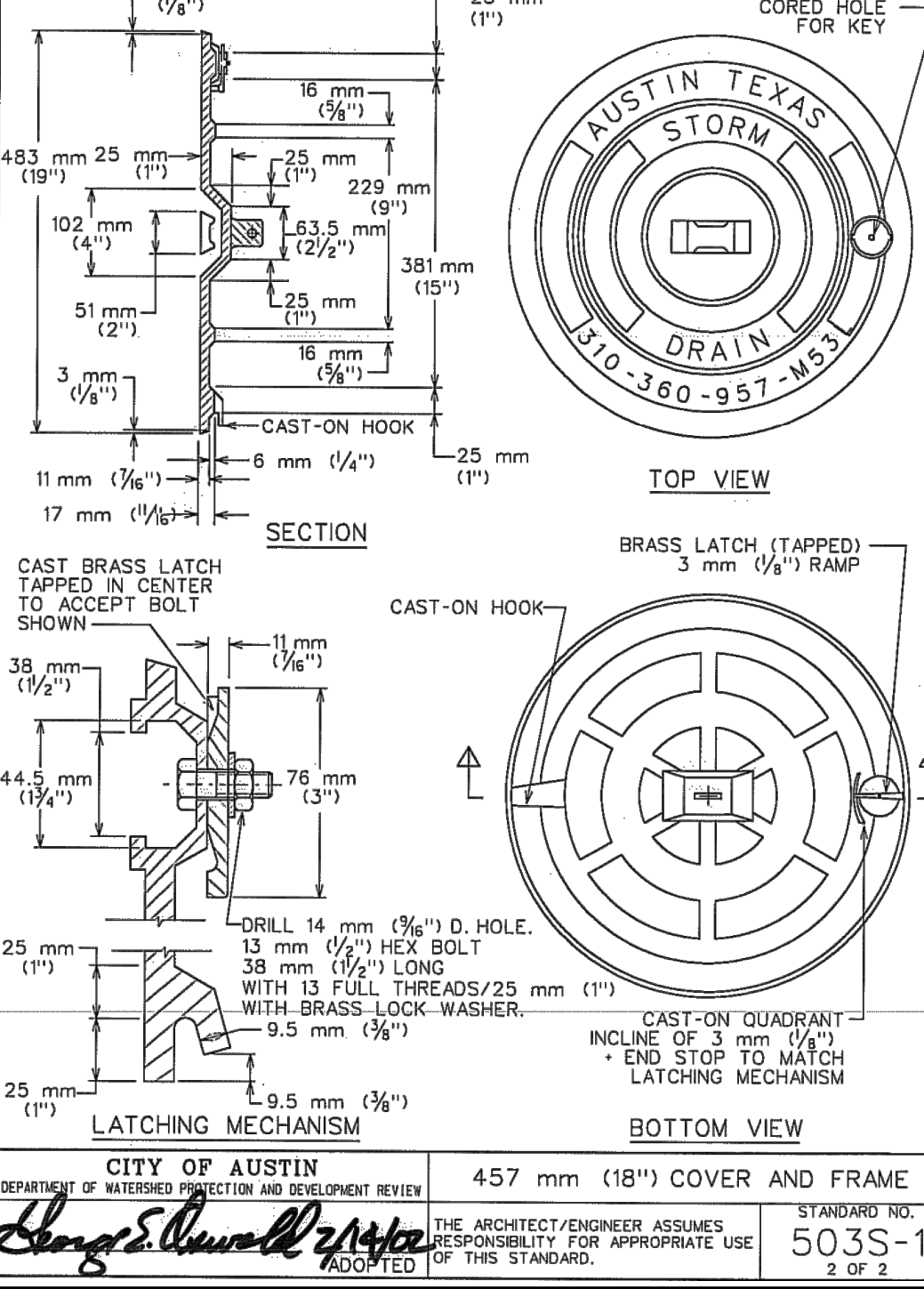
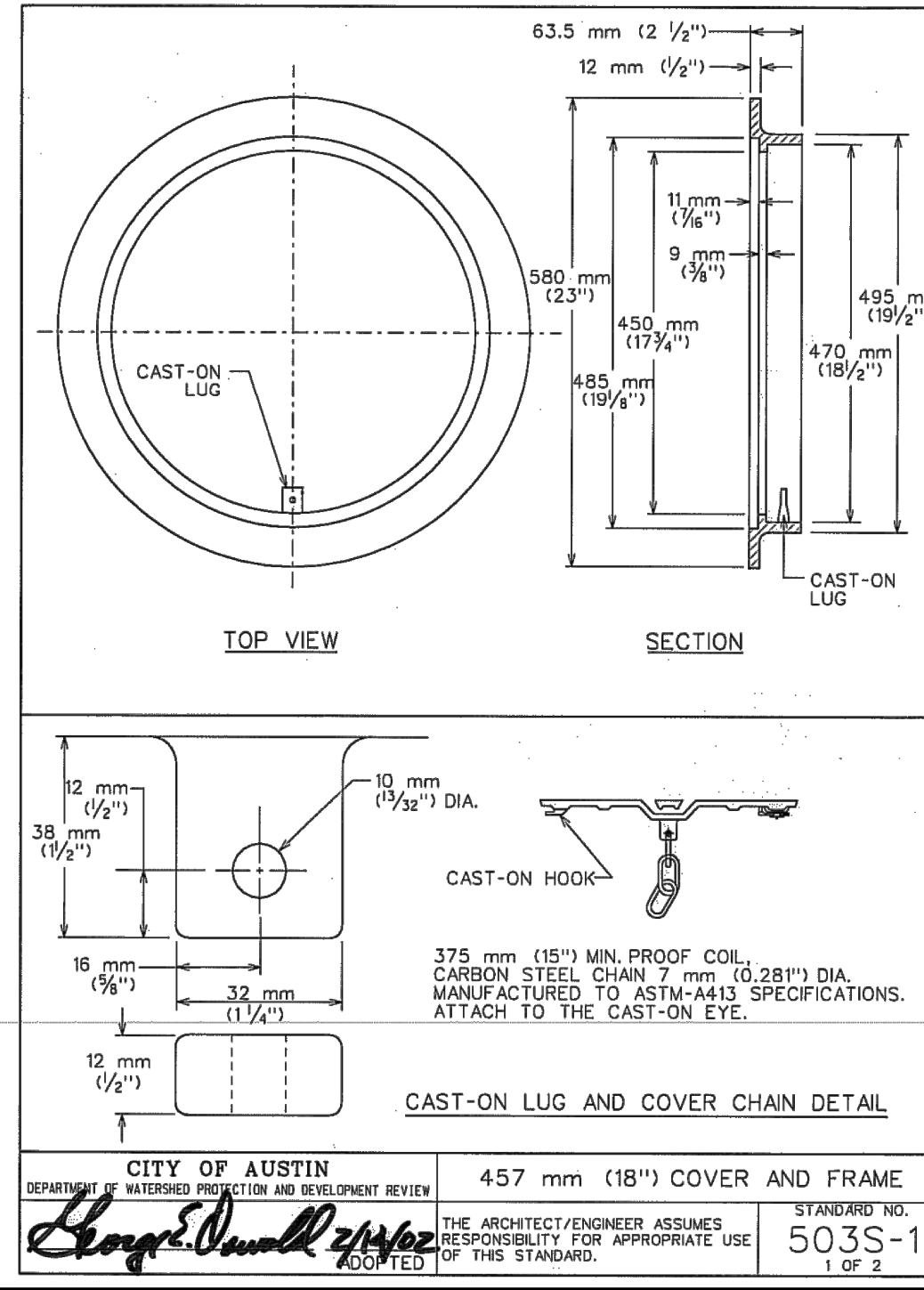
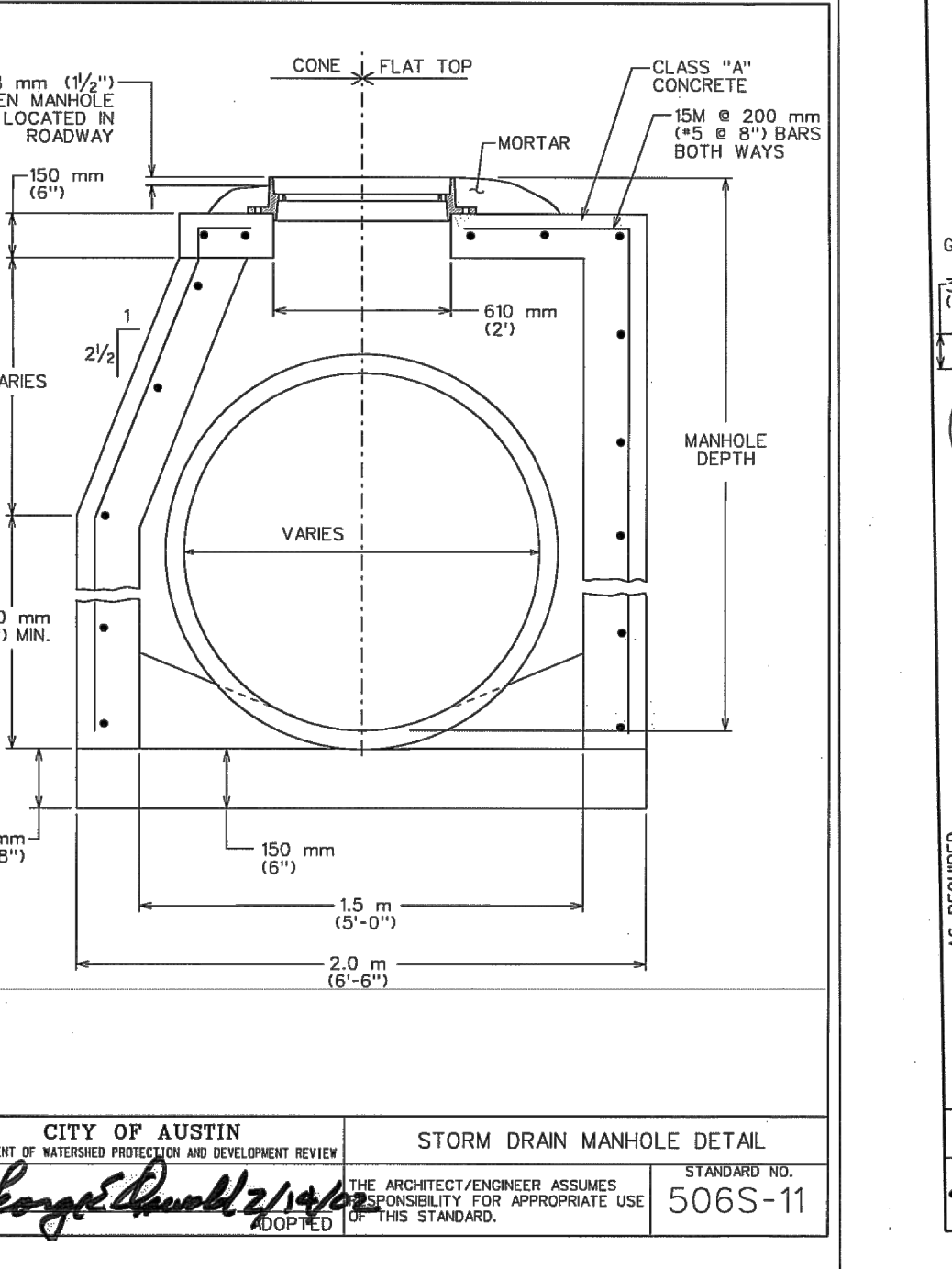
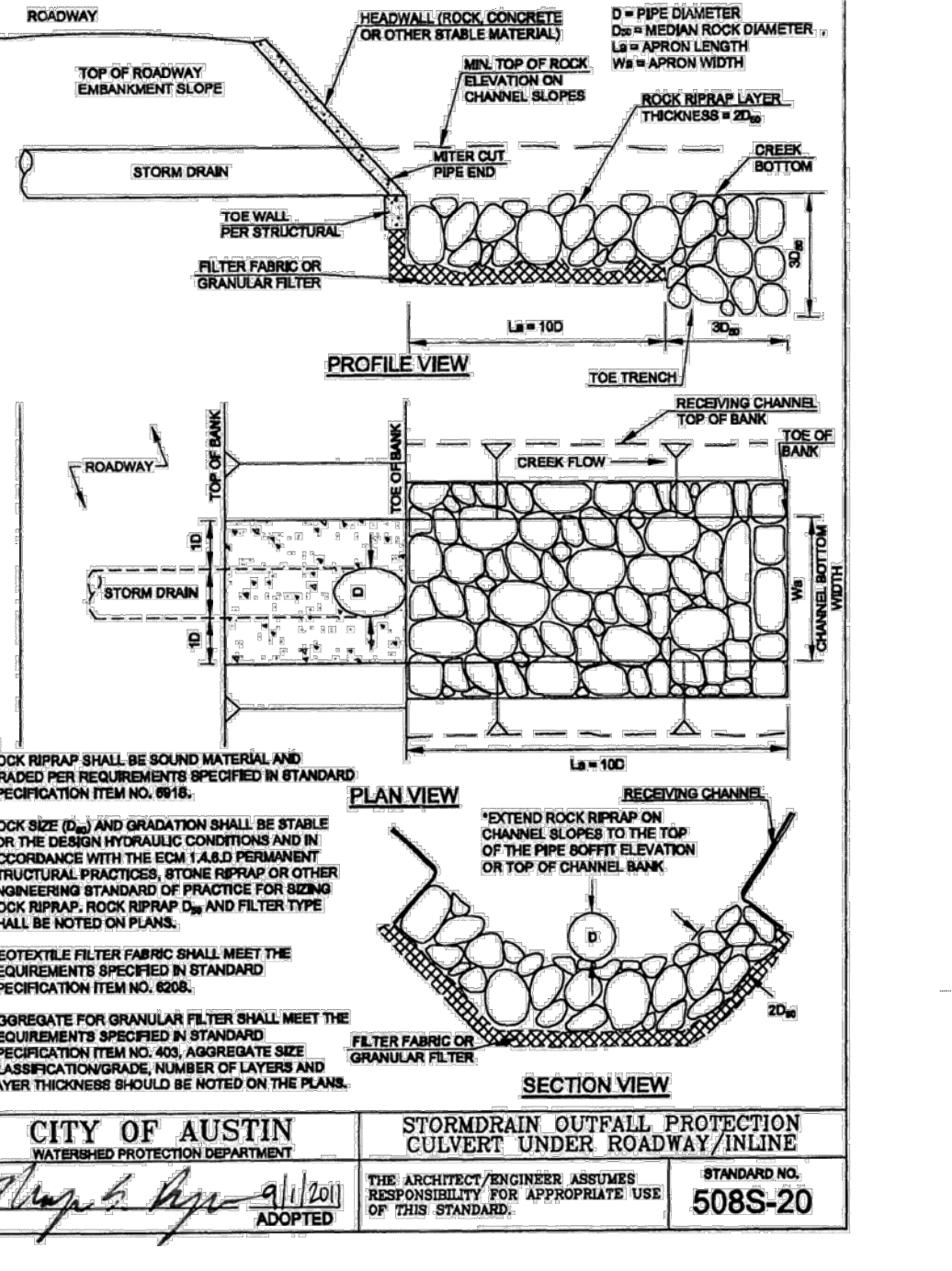
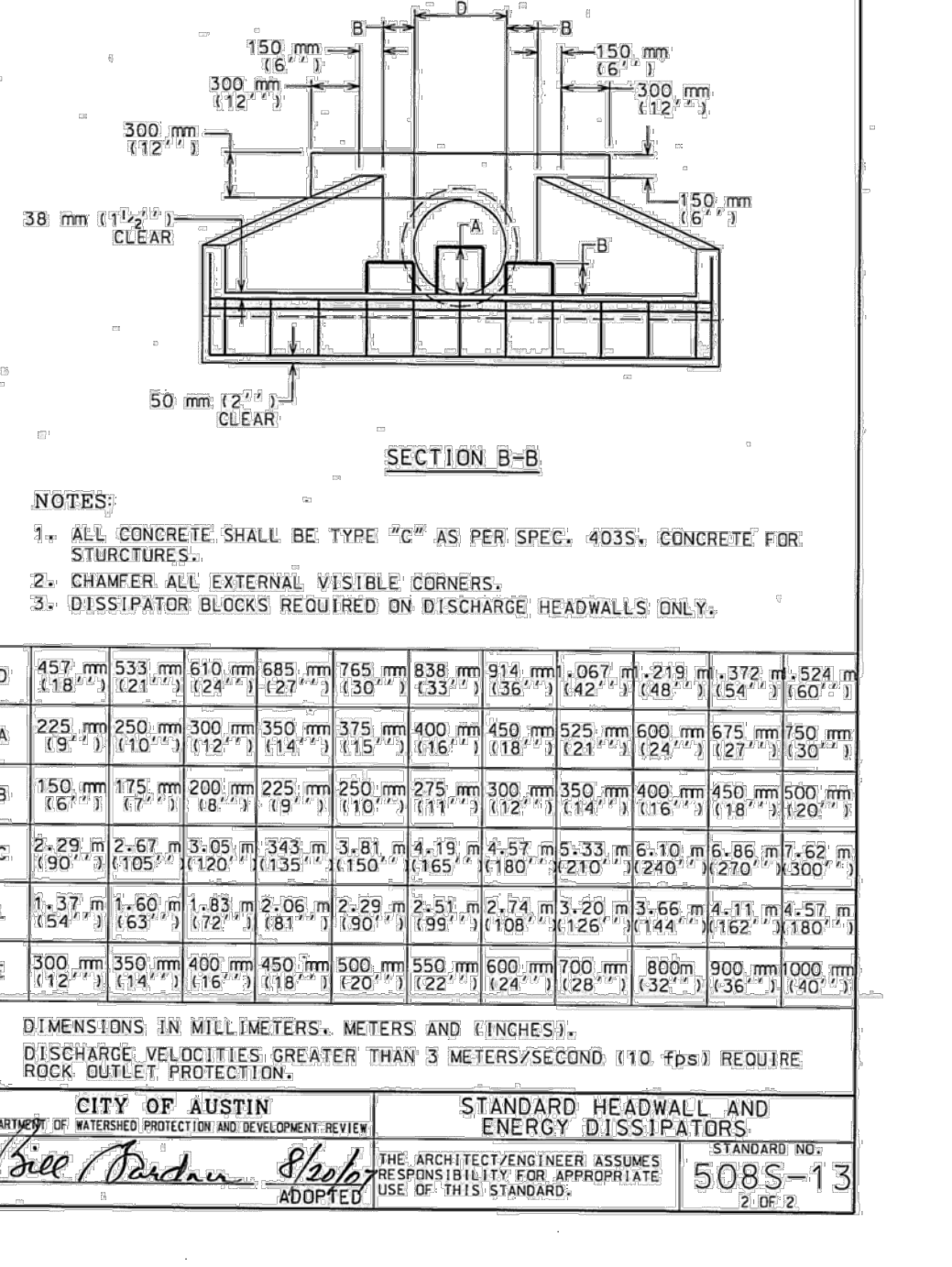
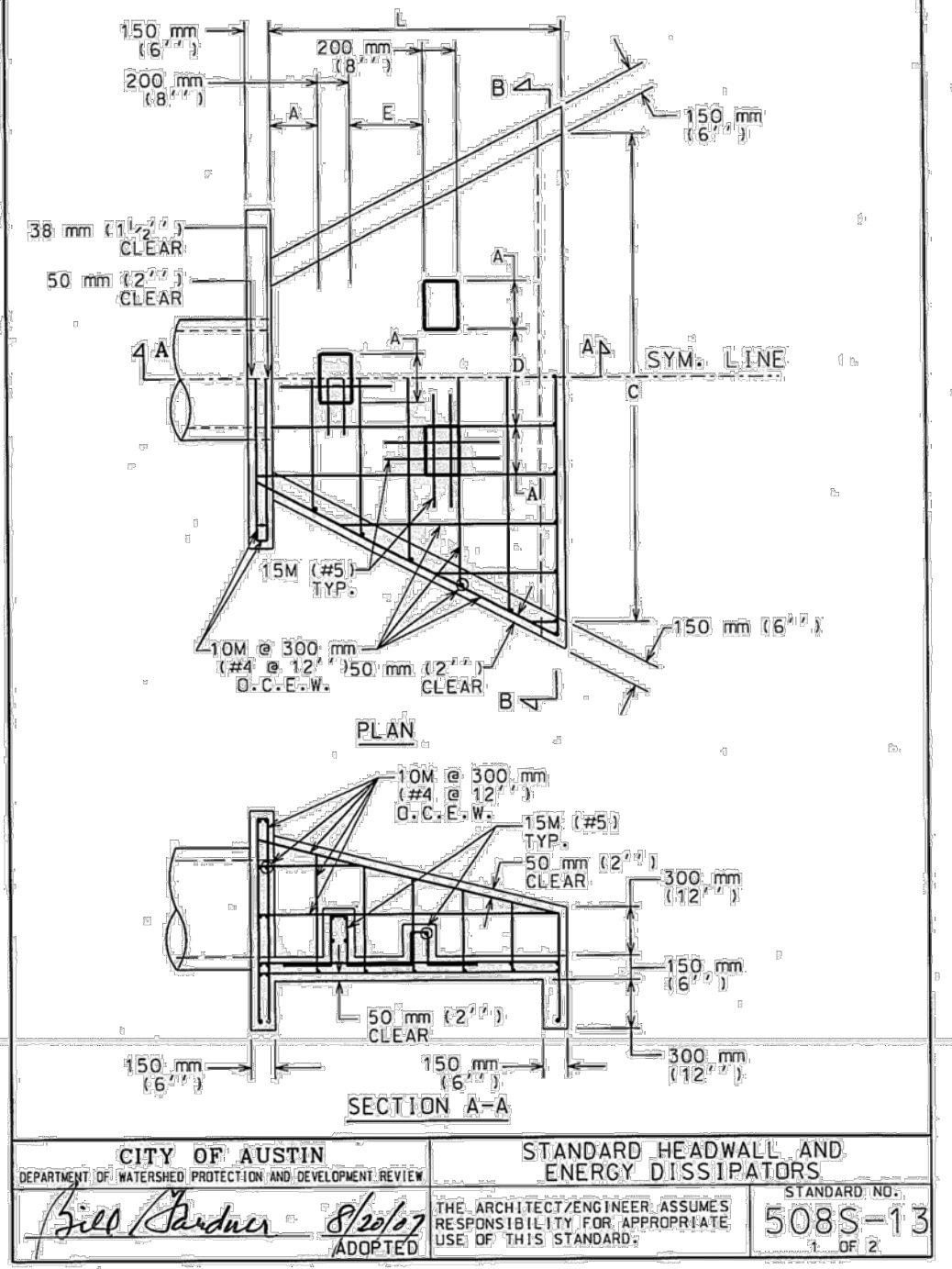
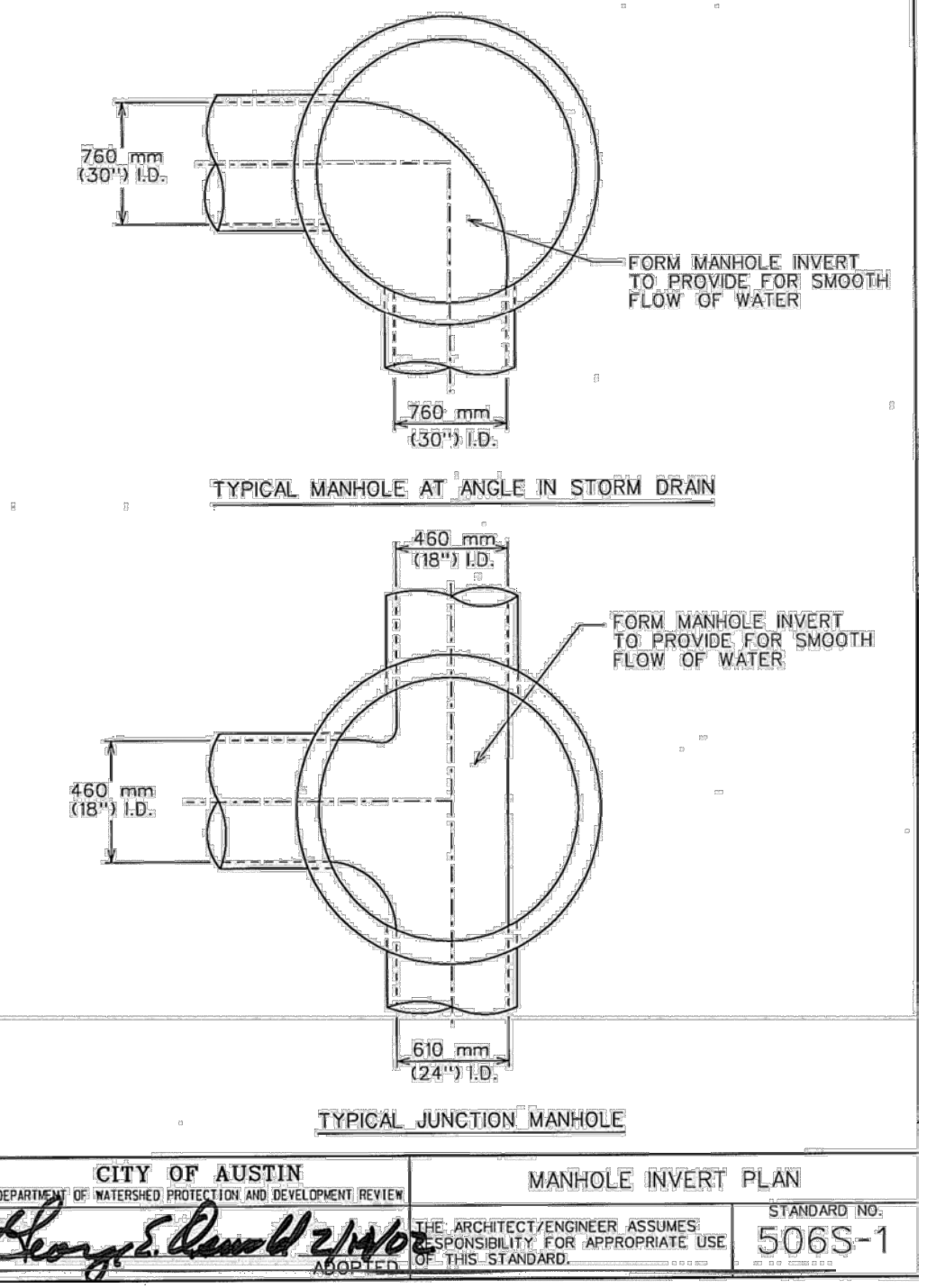
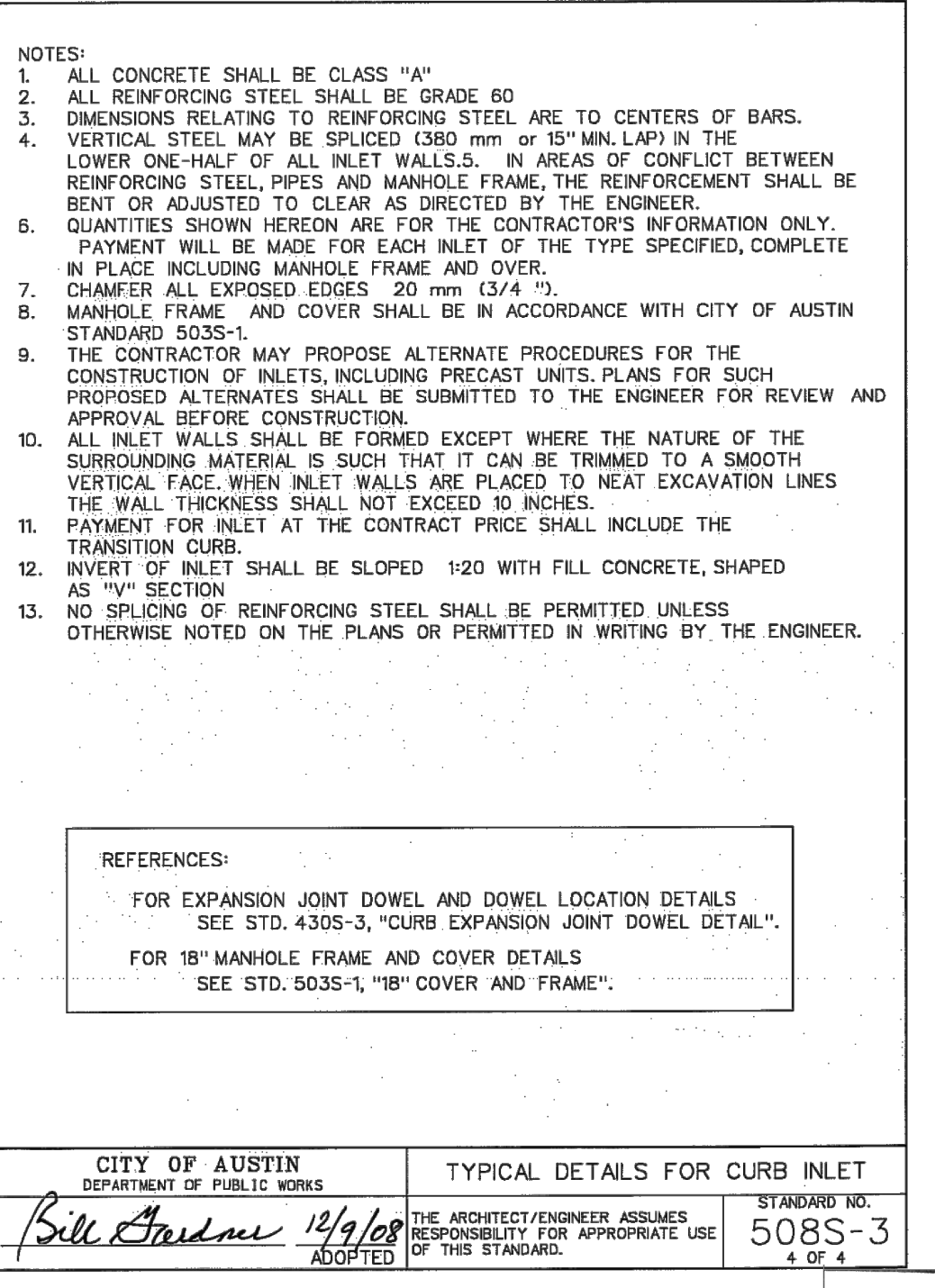
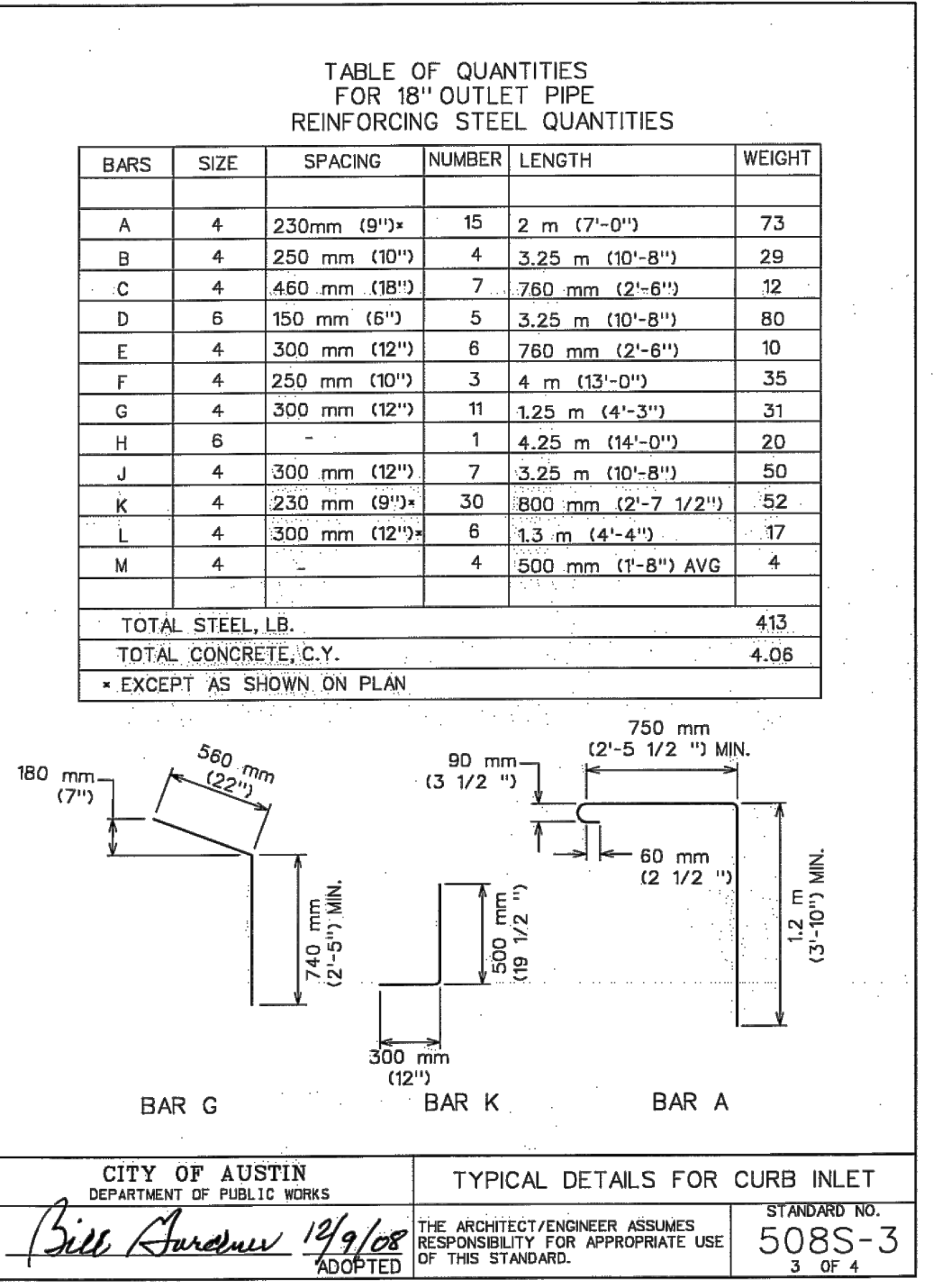
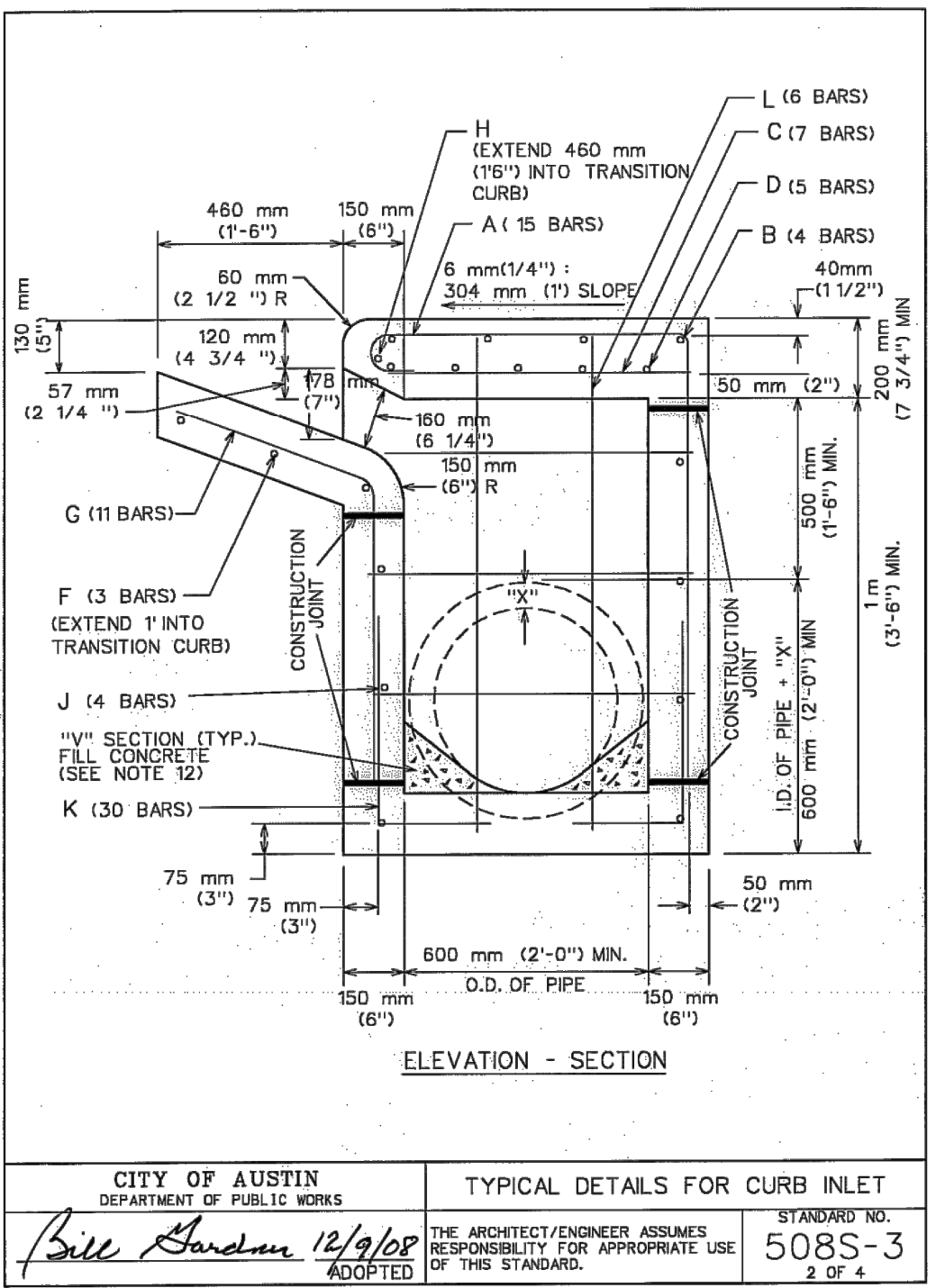
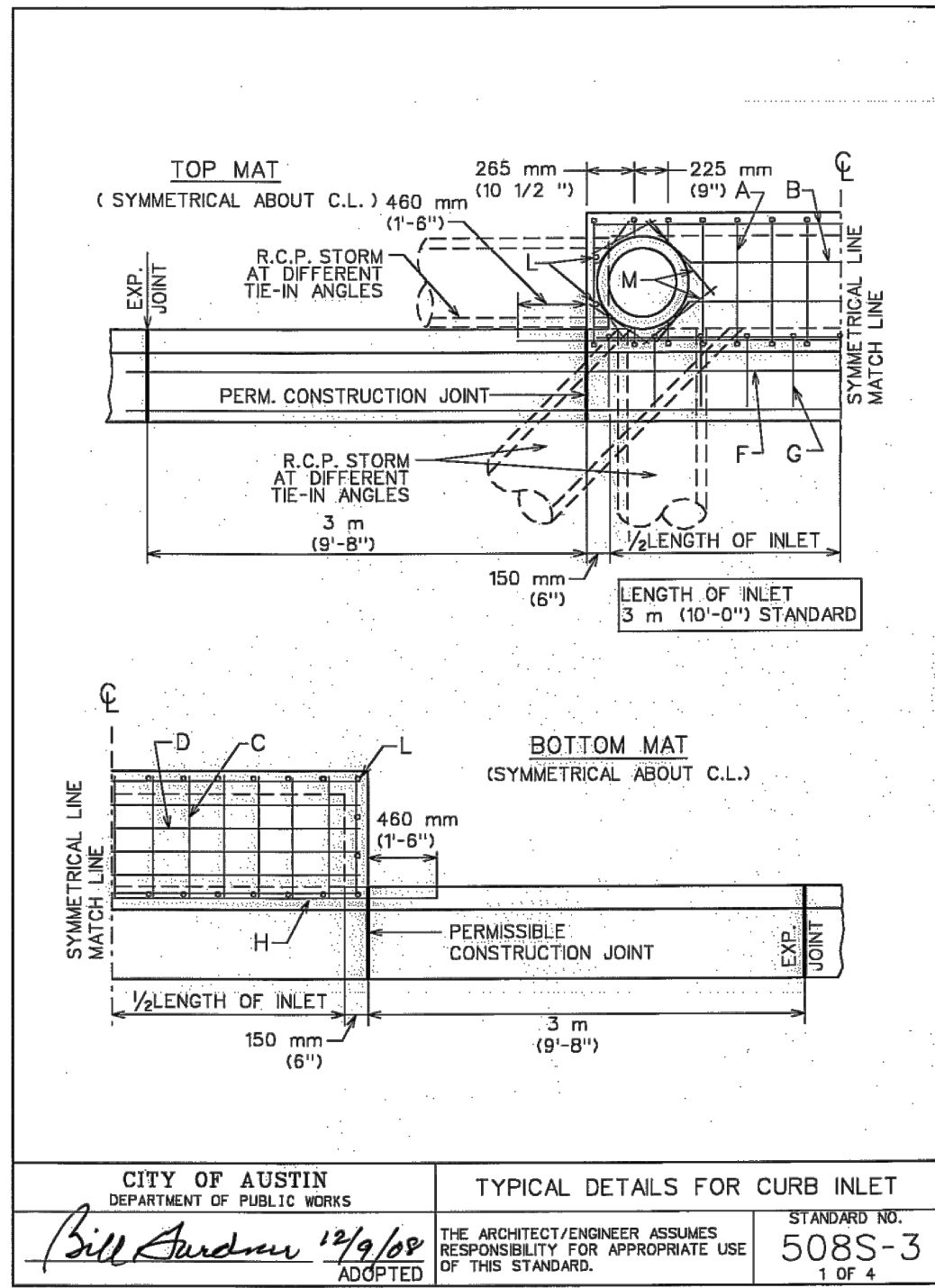
HAYS COUNTY, TEXAS

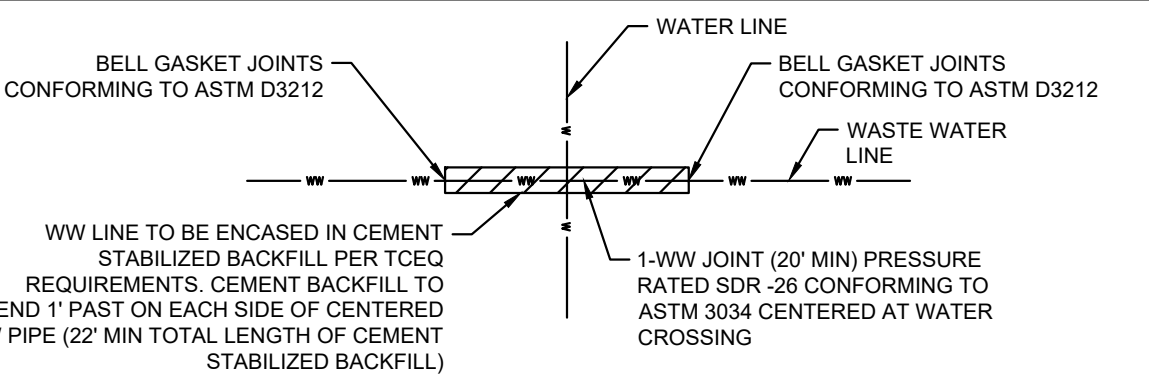
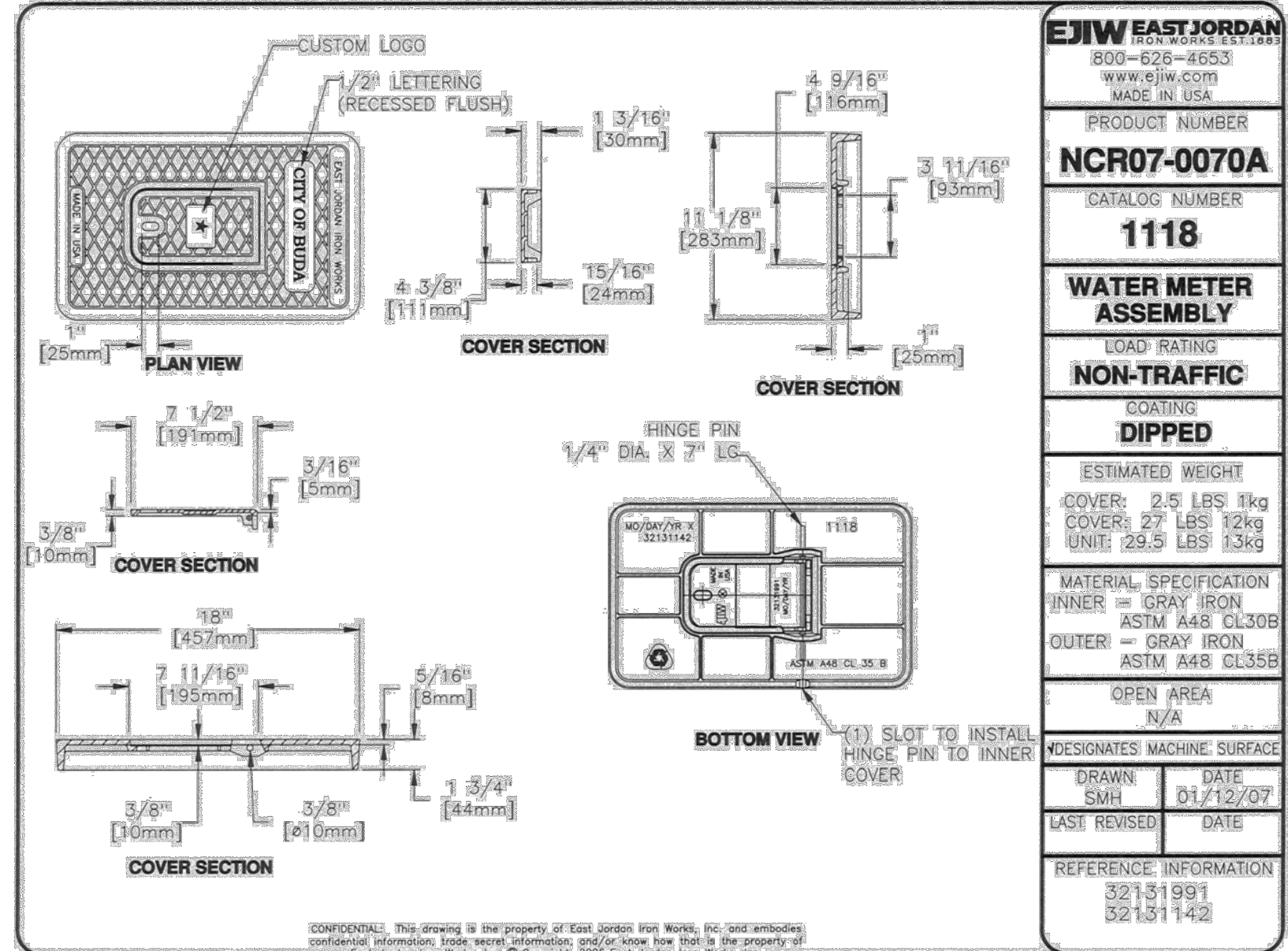
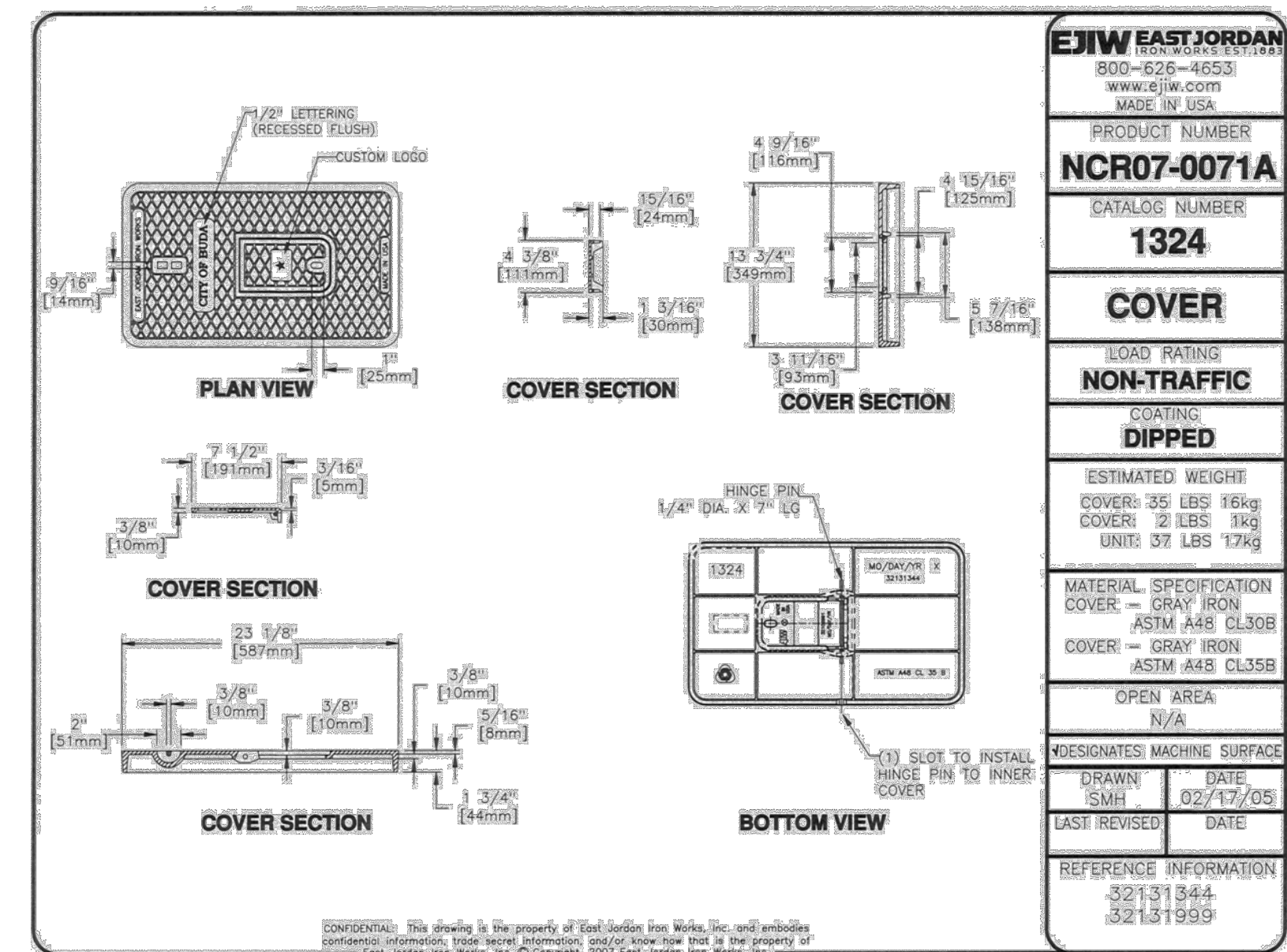
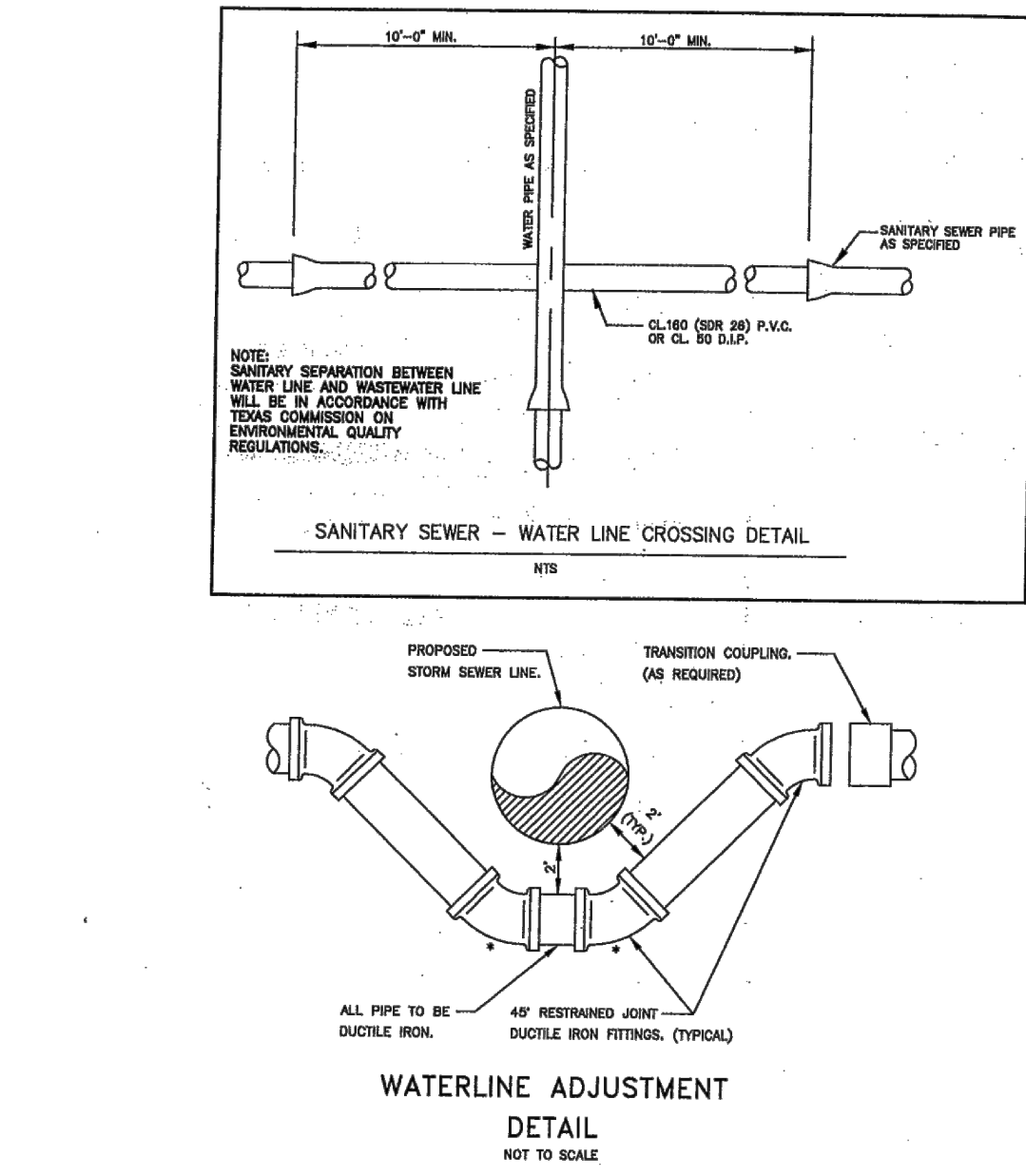
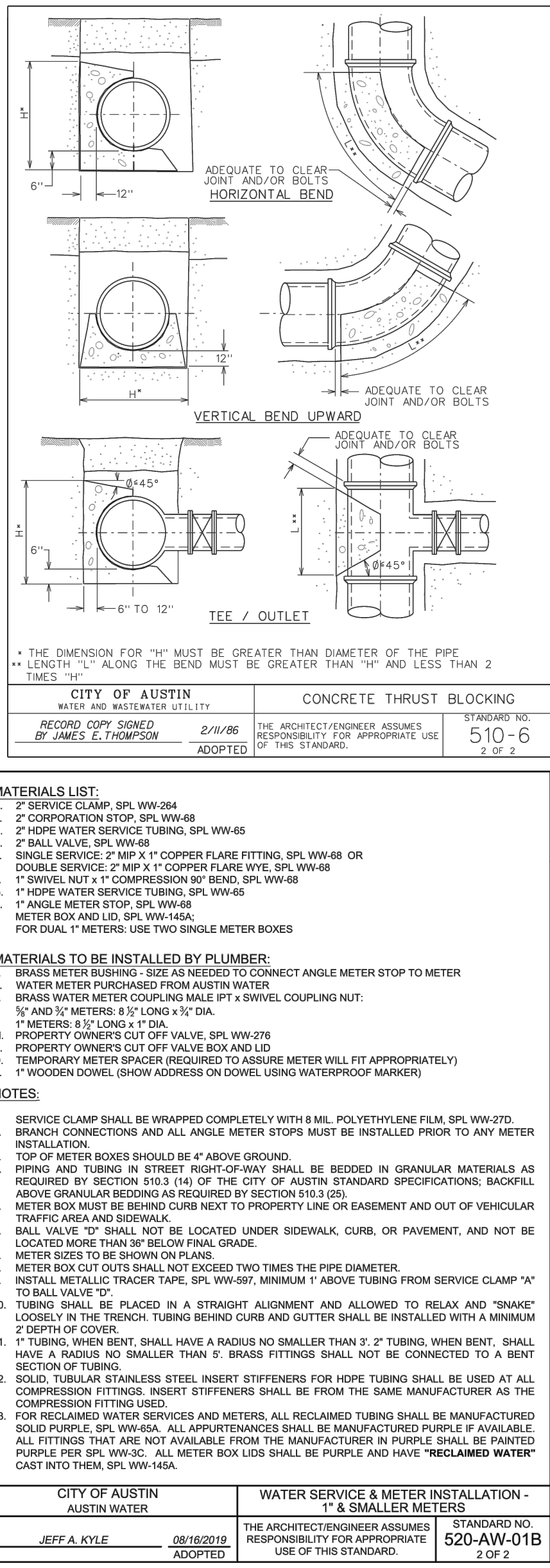
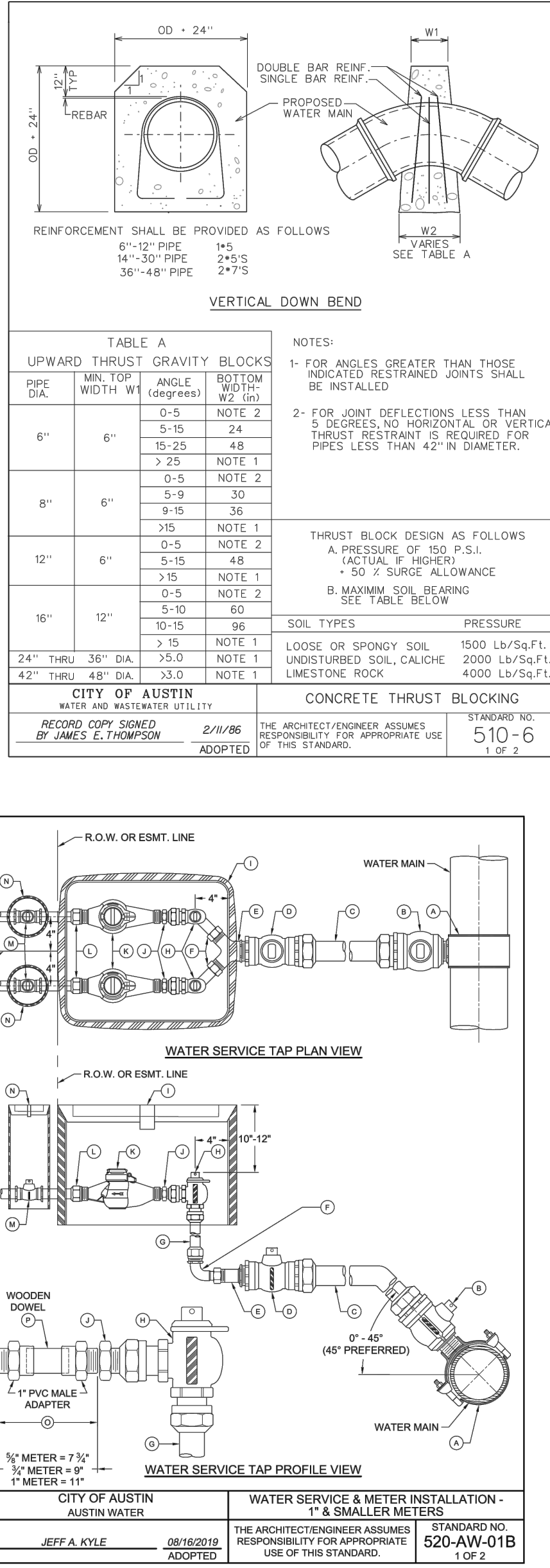
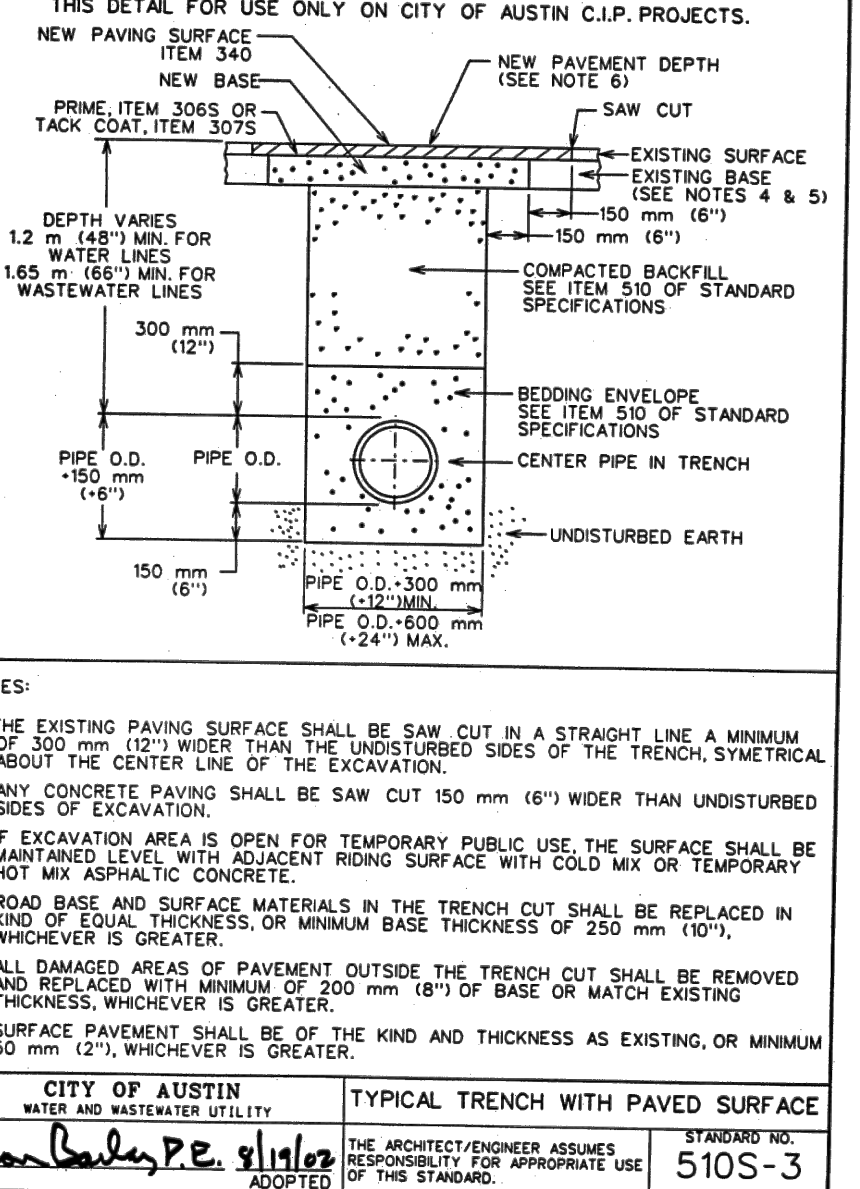
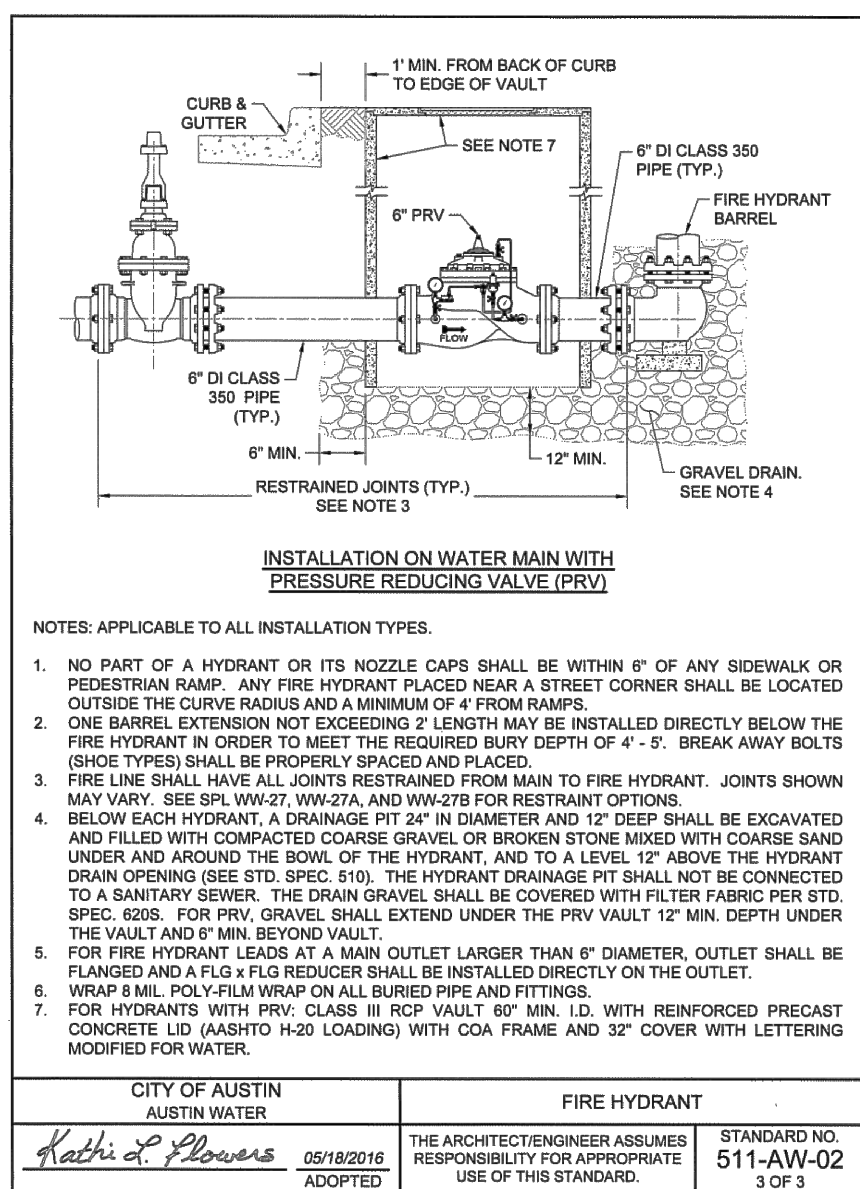
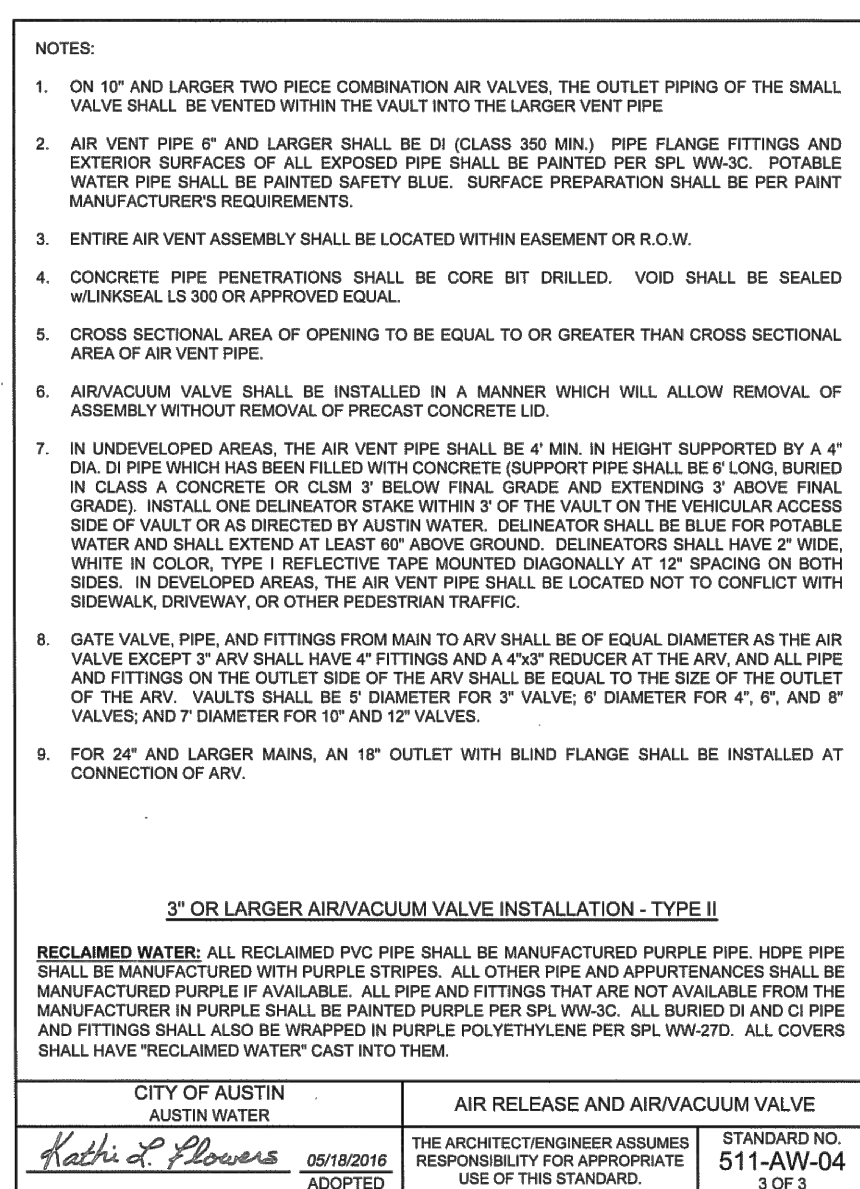
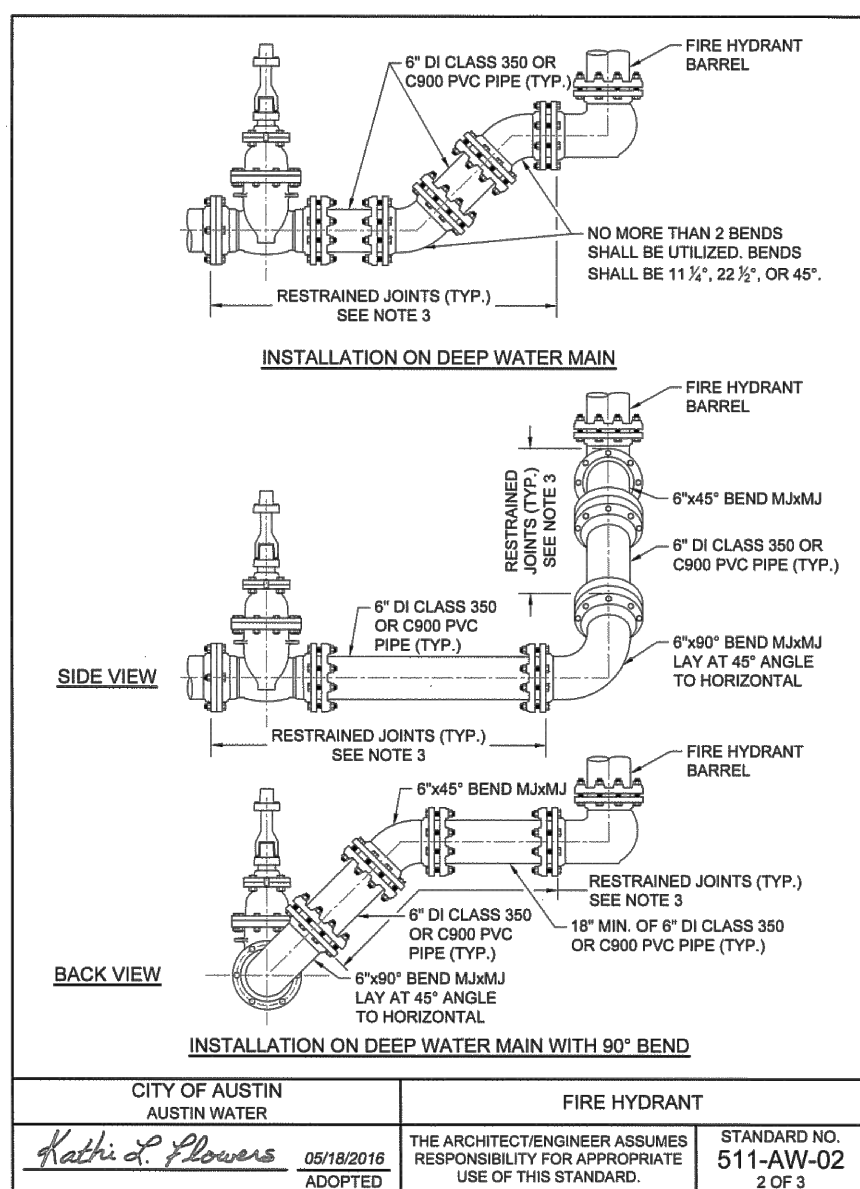
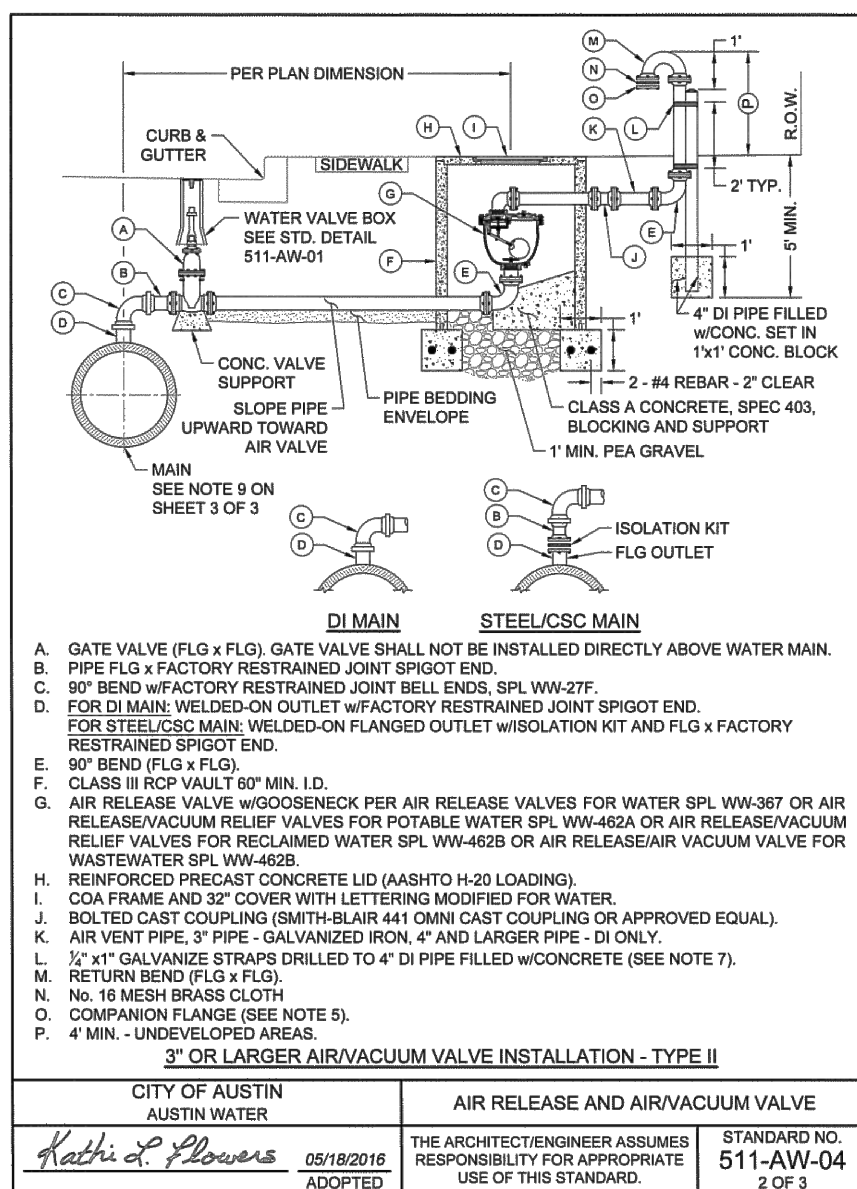
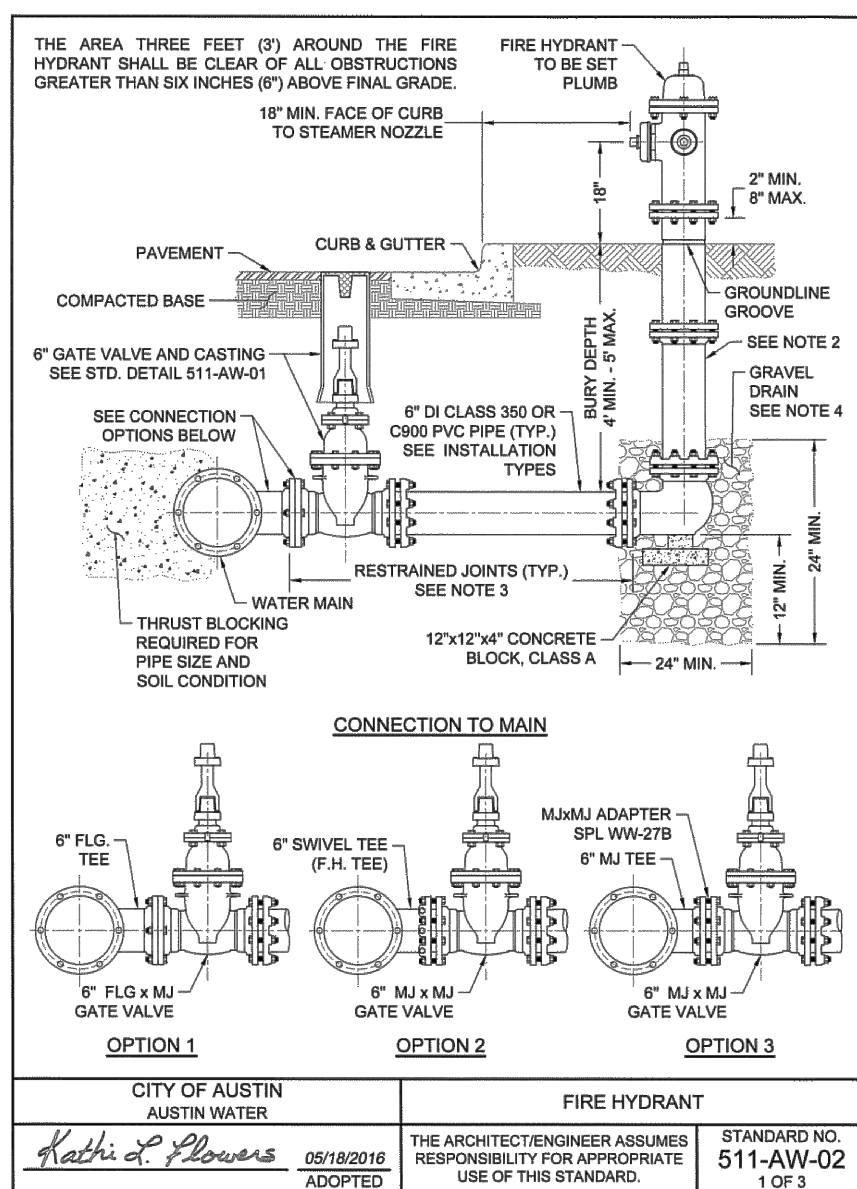
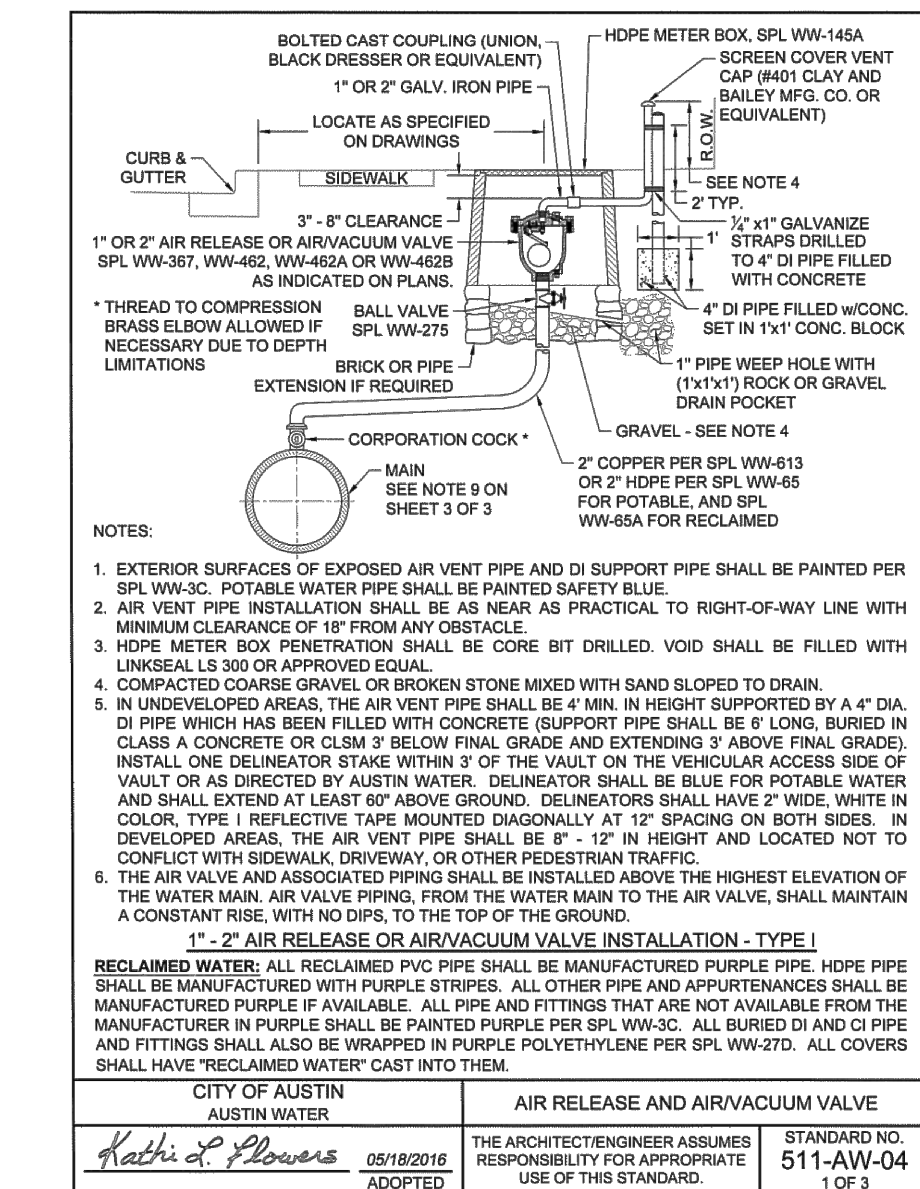
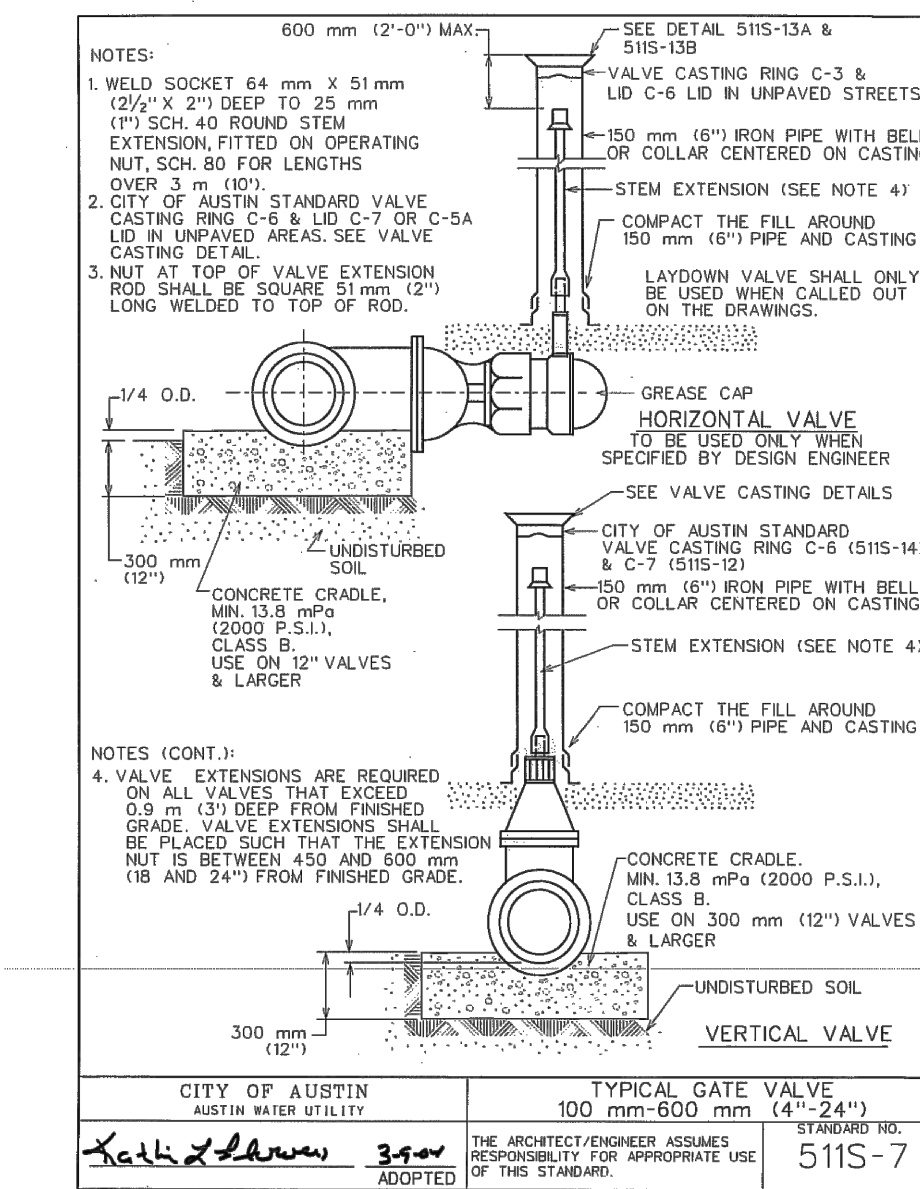
WASTEWATER PLAN & PROFILE WWL-Z

SHEET NUMBER

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OF 90





WATER/WASTEWATER CROSSING DETAIL

CONSTRUCTION PLAN APPROVAL		SHEET <u>OF</u> <u>50</u>
FILE NUMBER	APPLICATION DATE	
APPROVED BY COMMISSION <u>N/A</u> UNDER THE CITY OF BUDA		
UNIFIED DEVELOPMENT CODE		
EXPIRATION DATE	CASE MANAGER	
City Engineer, City of Buda		
RELEASED FOR GENERAL COMPLIANCE:		ZONING <u>N/A</u>
Rev. 1	Correction 1	
Rev. 2	Correction 2	
Rev. 3	Correction 3	
<i>Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code carrier at the time of filing, and all required Building Permits under a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>		
PERMIT NUMBER:		

ORGANIZED SEWAGE COLLECTION SYSTEM

**THE COLONY AT COLE SPRINGS PHASE 2
COLE SPRINGS RD AND OLD BLACK COLONY RD
BUDA, HAYS COUNTY, TEXAS**

Prepared For:

**M/I HOMES OF AUSTIN, LLC MERITAGE HOMES OF TEXAS,
LLC**

7600 N. Capital of Texas Hwy, Bldg C, Ste 250
Austin, TX 78759
512-770-8524

Prepared For:

MERITAGE HOMES OF TEXAS, LLC

12301 Research Blvd, Suite. 400
Austin, TX 78759
512-615-6432

Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

501 S. Austin Ave, Suite 1310
Georgetown, Texas 78626
(512) 520-0768

Firm No. 928
KHA Project No. 067783115

June 11, 2024

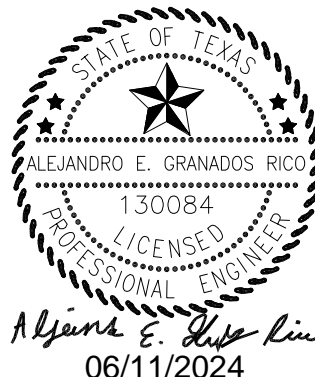


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SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

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: The Colony at Cole Springs Phase 2					2. Regulated Entity No.: N111401139				
3. Customer Name: M/I Homes of Austin, LLC Meritage Homes of Texas, LLC					4. Customer No.: 604305250, 603298068				
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)	<u>Residential</u>		Non-residential			8. Site (acres):		18.62	
9. Application Fee:	\$2,957.50		10. Permanent BMP(s):				Batch Detention Pond		
11. SCS (Linear Ft.):	5,935		12. AST/UST (No. Tanks):				N/A		
13. County:	Hays		14. Watershed:				Onion 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.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Region (1 req.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
County(ies)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input checked="" type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	<input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

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

6/11/2024

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: June 11, 2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: The Colony at Cole Springs Phase 2

2. County: Hays

3. Stream Basin: Onion 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: Kyle Kriegel
Entity: M/I Homes of Austin, LLC
Mailing Address: 7600 N. Capital of Texas Hwy, Bldg C, Ste 250
City, State: Austin, TX Zip: 78731
Telephone: 512-770-8524 Fax: N/A
Email Address: kkriegel@mihomes.com

Contact Person: Brandon Hammann
Entity: Meritage Homes of Texas, LLC
Mailing Address: 1231 Research Blvd, Suite 400
City, State: Austin, TX Zip: 78759
Telephone: 512-615-6432 Fax: N/A
Email Address: brandon.hammann@meritagehomes.com

8. Agent/Representative (If any):

Contact Person: Alejandro E. Granados Rico, P.E.
Entity: Kimley-Horn
Mailing Address: 501 S. Austin Ave, Suite 1310
City, State: Georgetown, Texas Zip: 78626
Telephone: 512-520-0768 Fax: N/A
Email Address: alex.granados@kimley-horn.com

9. Project Location:

- ☒ The project site is located inside the city limits of Buda.
☐ 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. North of Cole Springs Rd
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: 5/1/2024
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.

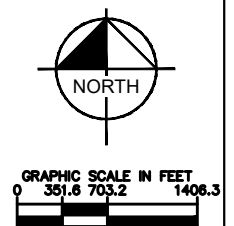


Road Map



DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
2. USE LEFT LANE TO TAKE RAMP ONTO IH-35 AND CONTINUE SOUTH
3. TAKE EXIT 221 TOWARD MAIN STREET AND CONTINUE SOUTH ON S IH-35 FRONTAGE ROAD
4. SLIGHT RIGHT TOWARD MAIN ST/OLD NORTH LOOP 4
5. TURN RIGHT ONTO FM 967/LIVE OAK ST
6. TURN LEFT ONTO COLE SPRINGS RD
7. TURN RIGHT ONTO OLD BLACK COLONY RD
8. CONTINUE PAST ANTIOCH COLONY PARK FOR 0.2 MILES
9. SITE IS LOCATED ON THE LEFT



SHEET

EX A

COLONY AT COLE SPRINGS PH 2

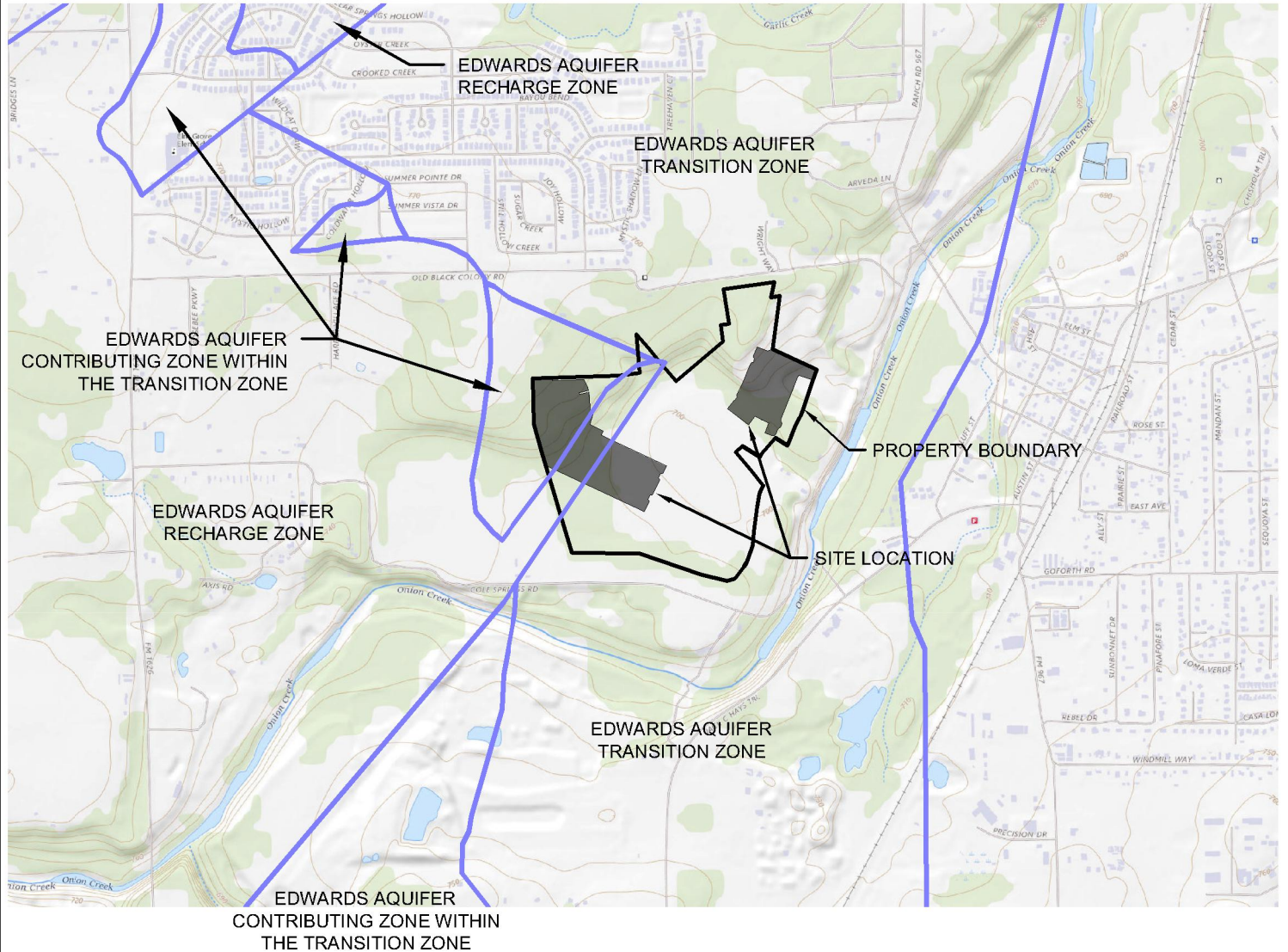
Buda, Texas
April 2024

Kimley»Horn

501 S. AUSTIN AVE, SUITE 1310
GEORGETOWN, TX 78626
PHONE: (512) 520-0768



USGS/Edwards Recharge Zone Map



SHEET

EX B

COLONY AT COLE SPRINGS PH 2

Buda, Texas
April 2024

Kimley»Horn

501 S. AUSTIN AVE, SUITE 1310
GEORGETOWN, TX 78626
PHONE: (512) 520-0768

Introduction

The subject site that is located in the Edwards aquifer recharge zone and contributing zone within the transition zone totals 18.62 acres and is a largely undeveloped lot located on Cole Springs Rd and Old Black Colony Rd and within the Full Purpose city limits of the City of Buda. The subject property is part of a larger development, Colony at Cole Springs, which encompasses ±178 acres and will comprise of residential single-family.

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. Note that no area in Phase 2 that is within the Recharge Zone or Contributing Zone within the Recharge Zone lies within the FEMA 100-year floodplain.

Current Tract Conditions

Legal Description

The legal description is described as 117.43 acres of land in the Hiram Cummings Survey, Phillips J. Allen Survey, A-1 & S.V.R. Eggleston Survey Abstract No. 5 City of Buda, Hays, County, Texas.

Land Use

The lot is zoned as a PUD following regulations for R-3 and F4 zonings, the site resides within the Full Purpose city limits of the City of Buda in Hays County, Texas.

Existing Drainage Conditions

Under existing conditions, the site generally flows from West to East. The site is part of two watersheds, with both discharging into onion creek along the eastern property boundary. This flow is then carried off the property to the North.

Proposed Development

The proposed Colony at Cole Springs Phase 2 includes construction of 179 lots of single-family residential development. Water and wastewater lines will be designed according to City of Buda specifications and connect to City of Buda utility services. Access to the site will be through two proposed driveways along FM 967 and Jack C. Hays Rd. The overall subdivision project encompasses 181.90 acres and proposes 68.61 acres (37.69%) of total impervious cover. Stormwater in Phase 2 will be treated according to TCEQ requirements through two (2) existing on site Batch Detention Ponds. The flow will be discharged east of the site and then into Onion Creek. A timing study was performed, and it was determined detention has a negative impact, therefore a detention waiver was approved.

For the purposes of this Water Pollution Abatement Plan, the project area will be defined by the 18.62 acres of the site is within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone that flows to the Recharge Zone, with 8.34 acres of impervious cover (which includes 68 single family lots, 1 water tower lot, and other associated impervious cover) within this project area.

Drainage and Water Quality Analysis

Floodplain Information

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. No portion of the area within the Recharge and Contributing Zone within the Transition Zone lies within the 100-year floodplain.

On-Site Drainage

The proposed Phase 2 site will convey runoff through an underground storm pipe system into two (2) existing on site Batch detention ponds (Pond 2 and Pond 3). The water quality ponds were sized for treatment, but no detention ponds are being proposed with an approved Detention Waiver Request. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, 353.33 acres of offsite water enters the site from the West. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Colony at Cole Springs Phase 2 will address the water quality requirements for the ultimate area disturbed. Phase 2 will include drainage to two (2) Batch Detention Ponds: Pond 2 and Pond 3. Pond 1, another batch detention pond will be constructed in a later phase as part of overall water quality for the entire subdivision. All of the area in Phase 2 within the recharge and contributing zone within the transition zone will be routed to Pond 2. Offsite drainage has no impervious cover and is remaining in its natural state; therefore no treatment will be provided for these areas. 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.

For the purpose of this Water Pollution Abatement Plan, water quality for the areas of the project within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone will be provided solely by existing Pond 2. There will be no area in Phase 2 within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone that will drain to existing Pond 3.

No detention ponds are proposed as it would negatively impact the timing. The detention waiver study has been provided for reference.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed water quality ponds located on-site. The water quality ponds will discharge onto proposed rock rip rap and eventually into Onion Creek.

Sewage Collection System

The sewage collection system that is within the Edward's Aquifer Recharge Zone will consist of approximately 5,935 LF of 8" SDR 26 ASTM D3034 PVC. All wastewater in Phase 2 shall be conveyed via gravity line that eventually ties to an existing lift station. From the lift station, it will then be pumped by



an 8" force main. The 8" force main will transition to an 8" wastewater line in Old Black Colony Road, where it will continue to an existing manhole connection.

SECTION 3: GEOLOGIC ASSESSMENT

GEOLOGIC ASSESSMENT FOR THE 123.67-ACRE COLONY AT COLE SPRINGS TRACT

Hays County, Texas

December 2019

Submitted to:

M/I Homes
6801 N. Capital of Texas Highway
Lakewood II, Suite 100
Austin, Texas 78731

Prepared by:

aci Group, LLC
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-19-100

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

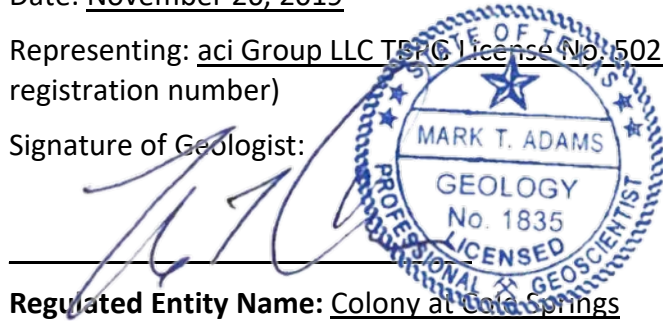
Telephone: (512) 347-9000

Date: November 26, 2019

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: Colony at Cold Springs

Project Information

1. Date(s) Geologic Assessment was performed: November 12, 13 & 18, 2019

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)
See soils table (pg. 12)		

** 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" = 200'
 Site Geologic Map Scale: 1" = 200'
 Site Soils Map Scale (if more than 1 soil type): 1" = 500'
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 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- ☐ The wells are not in use and have been properly abandoned.
- ☐ The wells are not in use and will be properly abandoned.
- ☒ The wells are in use and comply with 16 TAC Chapter 76.
- ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

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December 3, 2019

Geologic Assessment for the Colony at Cole Springs Tract located in Hays County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. 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.

The Colony at Cole Springs Tract hereafter referred to as the subject area or site, is located approximately 0.5 mile southeast from the intersection of Cole Springs Road and Old Black Colony Road in the City of Buda Extraterritorial Jurisdiction (ETJ), Hays County, Texas (**Attachment D, Figure 1**).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on November 12th, 13th, and 18th, 2019 by Luke Rome, P.G., and Kara Posso, G.I.T., Eric Brown, Ben Ruthven, and Mark Adams, P.G. with **aci 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) and Sewage Collection System (SCS). The proposed site use is for a single-family, residential development. 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.

According to Edwards aquifer zone maps, the subject area is within the Edwards aquifer Recharge Zone, Transition Zone, and Transition Zone within the Contributing Zone (TCEQ 2005).

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 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on November 12th, 13th, and 18th, 2019. Nine features (non-karst and manmade features in bedrock) were initially noted on the site. No sensitive karst features were identified within the subject area. Six of the nine features are manmade features in bedrock and should be brought to the attention of the engineer. The remaining three features were classified as other and are not a product of dissolution or karst processes and do not have a direct connection to the Edwards aquifer. Based on the field findings, it appears that the thin sliver of recharge zone that extends onto the subject area as shown on TCEQ maps is likely miss-mapped.

5.0 RECOMMENDATIONS

aci consulting recommends that the six manmade features in bedrock (CS-01, CS-04, CS-05, CS-06, CS-07, and CS-08) be brought to the attention of the engineer.

6.0 REFERENCES

- Hauwert, N., et. al. 2002. Geologic Map of the Barton Springs Segment of the Edwards Aquifer. Barton Springs Edwards Aquifer Conservation District and the United States Geologic Survey. Austin, Texas.
- (SCS) Soil Conservation Survey. 1983. Soil Survey of Hays County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- Small, T.A.; J.A. Hanson; and N.M. Hauwert. 1996. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, (Barton Springs Segment) Northeastern Hays and Southwestern Travis Counties, Texas. U.S. Geological Survey Water Resources Investigations Report 96-4306.
- (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. 2019. Water Data Interactive Groundwater Data Viewer. Accessed on November 11, 2019. Available at:
<http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer>
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2019. WebSoilSurvey.com. Soil Survey Area: Hays County, Texas. Date accessed: November 11, 2019.

ATTACHMENT A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE										PROJECT NAME: Colony at Cole Springs									
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)	DO	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
CS-01	30.079596	-97.858919	MB	30	Kbu/Kdr/Kgt	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-02	30.081277	-97.860138	O	5	Kdr (Kbu)	1.5	0.7	1.5	-	-	-	-	O,F,C	15	20	X		X	Drainage
CS-03	30.082607	-97.857384	O	5	Kgt	2	2	2.75	-	-	-	-	O,F	5	10	X		X	Hillside
CS-04	30.079589	-97.857979	MB	30	Kbu/Kdr/Kgt	0.25	0.25	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-05	30.076847	-97.855193	MB	30	Kbu	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-06	30.077728	-97.856127	MB	30	Kbu	0.08	0.08	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-07	30.078152	-97.852964	MB	30	Kbu	3	3	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-08	30.078029	-97.85343	MB	30	Kbu	-	-	-	-	-	-	-	X/N	10	40		X	X	Hillside
CS-09	30.078671	-97.852727	O	5	Kbu	1.7	0.7	3.5	-	-	-	-	O,F,C	10	15	X		X	Hillside

* DATUM: NAD 1983 State Plane 4203

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

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

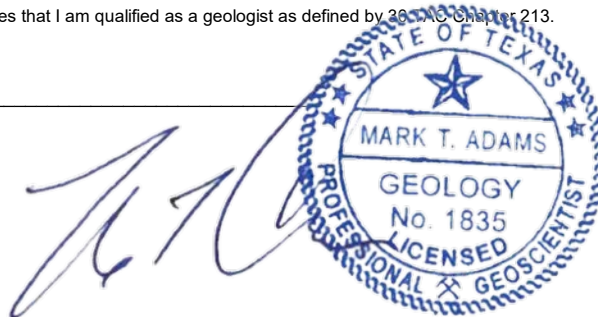
12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

My signature certifies that I am qualified as a geologist as defined by 30.0010 Chapter 213.

Date 12/3/2019

Sheet 1 of 1



ATTACHMENT B
Stratigraphic Column

Colony at Cole Springs Tract, Hays County

Group	Formation	Thickness (Small et al., 1996)
Washita Group	Buda Limestone	40-50 feet
Washita Group	Del Rio Clay	50-60 feet
Washita Group	Georgetown Limestone**	40-60 feet

***Note: the Georgetown Limestone was not identified onsite.*

ATTACHMENT C
Site Geology

The following includes a description of the site stratigraphy, geologic structure related to the Edwards aquifer, and karstic characteristics. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock, the soil table, and a short feature summary. The final portion of this attachment contains full feature descriptions and photos.

Stratigraphy

Kbu – Buda Limestone

Small et al. describes Buda Limestone as “40 to 50 ft of dense, variably nodular, sublithographic or “porcelaneous” limestone; and light-gray to buff mudstone, commonly containing calcispheres and tiny calcite-filled fractures.”

Kdr – Del Rio Clay

The Del Rio Clay is described by Small as “50 to 60 ft thick and is a dark blue-green to yellow-brown, variably gypsiferous clay, commonly containing pecten-type fossil clams and an abundance of the fossil oyster *Ilymatogyra arietina*, formerly *Exogyra arietina* (Roemer). These fossil oysters are known locally as “rams horns.”

Kgt – Georgetown Limestone (Not identified onsite)

The Georgetown Limestone is described as “40 ft in the south to about 60 ft in the north. The lithology of the Georgetown Formation generally consists of gray to light-tan, marly, fossiliferous limestone, usually containing ammonites, oyster-like clams, and the brachiopod *Waconella wacoensis*, formerly *Kingenella wacoensis* (Roemer).”

Structure

According to Small et al (1996), the subject area is underlain by Kbu, Kdr, and Kgt, however, Kgt was not observed. There are two mapped normal faults that intersect the subject area at 30°-35° (Hauwert et. al. 2002). Locally, the dominant structural trend of the area is 35°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 20° to 50° are considered on trend and will be awarded an additional 10 points in the Geologic Assessment Table.

The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek

Member. The Glen Rose Formation, another marine limestone stratum, is located below the Walnut Formation. On site, the Edwards Aquifer Recharge Zone corresponds to the Georgetown Formation.

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and “point recharge” for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Review of Historic Aerials

Aerial photographs were reviewed for the site 1951, 1958, 1967, 1973, 1981, 1995, 2004, 2008, 2014, 2018. It was determined that ranching and agricultural activities occurred on the site with an associated rural residence since the first aerial image dated 1951 (**Attachment E**). There is a “Refined Liquid Product” buried pipeline crossing the site that appears to have been installed prior to the 1951 aerial. It is unclear whether this pipeline is still in service. Additional information regarding the pipeline in **Attachment F**. The 1973 aerial show the first appearance of an aerial easement (transmission line) crossing the site. The 2008 aerial shows the first appearance of a quarry to the northeast of the site.

Soil Table

Soil Name	Group	Thickness (feet)
DeB—Denton silty clay, 1 to 3 percent slopes	D	6.66
ErG—Eckrant-Rock outcrop association, 8 to 30 percent slopes	D	6.66
GrC—Gruene clay, 1 to 5 percent slopes	D	6.66
KrB—Krum clay, 1 to 3 percent slopes	C	6.66
Or—Orif soils, moist, 0 to 3 percent slopes, frequently flooded	A	6.66
RUD—Rumple-Comfort, rubbly association, 1 to 8 percent slopes	D	4.92
SeB—Seawillow clay loam, 1 to 3 percent slopes	B	5.16

Feature Summary

Nine features were identified during site investigations and are detailed below, and shown on **Figure 3 in Attachment D**.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment D, Figure 4**.

CS-01

GPS: 30.079596, -97.858919

CS-01 is a manmade feature in bedrock that crosses the Buda Limestone, Del Rio Clay, and Georgetown Limestone Formations. The feature is a petroleum pipeline registered to Sunoco Pipeline, L.P. (P-5 # 829627). The pipeline permit information is presented in Attachment F. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive to call the attention of the project engineer.

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



Photo of CS-01.

CS-02

GPS: 30.081277, -97.860138

CS-02 is an “other natural bedrock feature” and is present on a bank within a drainage. The geology is mapped as the Del Rio Clay Formation but was field confirmed as the Buda Limestone Formation. The feature is 1.5 feet wide by 0.7 feet tall, extending laterally 1.5 feet into the east bank of the drainage. Infill material consists of exposed limestone, rock cobbles, loose leaf litter, soils, and clay with desiccation cracks. The catchment area is less than 1.6 acres. Based on Figure 1 of the TCEQ Instructions to Geologists, the probability of rapid infiltration is designated as low (15 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-02.

CS-03

GPS: 30.082607, -97.857384

CS-03 is an “other natural bedrock feature” and is present on a hillside in the Del Rio Clay Formation. This is likely an animal burrow due to the presence of soil mounding surrounding the feature. The dimensions are 2 feet by 2 feet, extending down and laterally 2.5 feet. Infill material consists of loose leaf litter, roots and dark soils. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (5 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-03.

CS-04

GPS: 30.079589, -97.857979

CS-04 represents a buried 3-inch waterline with a series of water spigots (manmade features in bedrock) that protrude approximately 1-2 feet above the surface. The locations of the spigots were located throughout the property and fall within each of the three mapped geological formations on site. Based on conversations with the ranch hand, the waterline and spigots are directly connected to the water well, CS-05, and are found primarily along the open pasture and the fenced areas along the west portion of the subject area. The depth of the waterline is unknown. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-04

CS-05

GPS: 30.076847, -97.855193

CS-05 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-05.

CS-06

GPS: 30.077728, -97.856127

CS-06 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. There were two waterline spigots in the vicinity that had a 1-inch diameter each and an unknown depth. These waterlines are likely connected to the well designated as CS-05. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-06.

CS-07

GPS: 30.078152, -97.852964

CS-07 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature was found proximal to a collapsed rural residence and is likely the relict access for a below ground septic system. The dimensions are approximately 3 feet by 3 feet with an unknown depth. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-07.

CS-08

GPS: 30.078029, -97.85343

CS-08 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.

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



Photo of CS-08.

CS-09

GPS: 30.078671, -97.852727

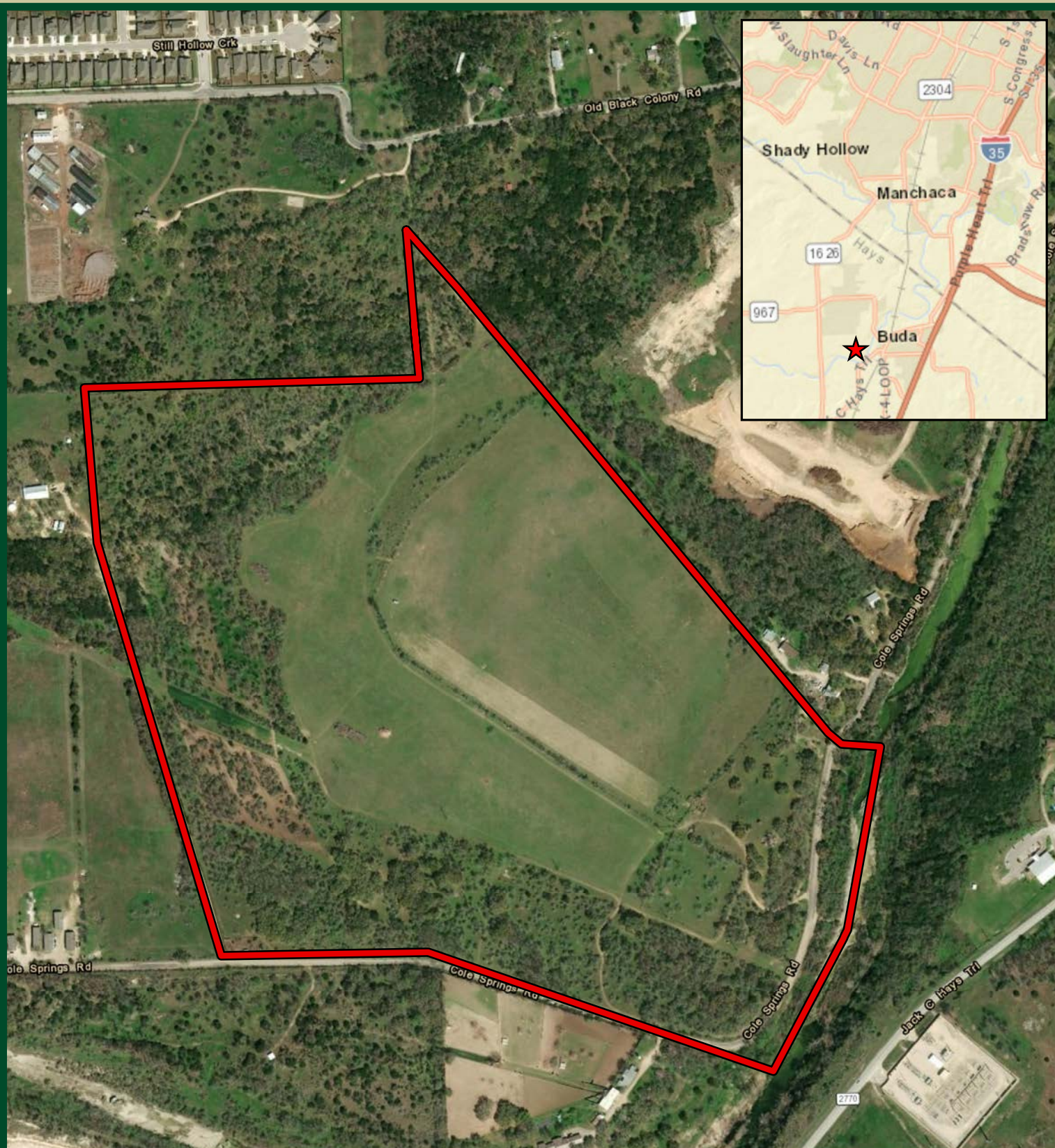
CS-09 is a “other natural bedrock feature” and is present on a hillside outcrop in the Buda Limestone Formation. While the outcrop constituents are consistent with the Buda Limestone, the structure suggests an alluvial concretionary deposit rather than bedrock. The feature dimensions are 1.7 feet by 0.7 feet, extending laterally into the outcrop for 3.5 feet. Infill material consists of rock cobbles, loose leaf litter, and soil. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (10 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.

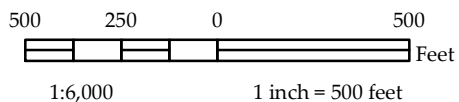


Photo of CS-09.

ATTACHMENT D
Site Maps

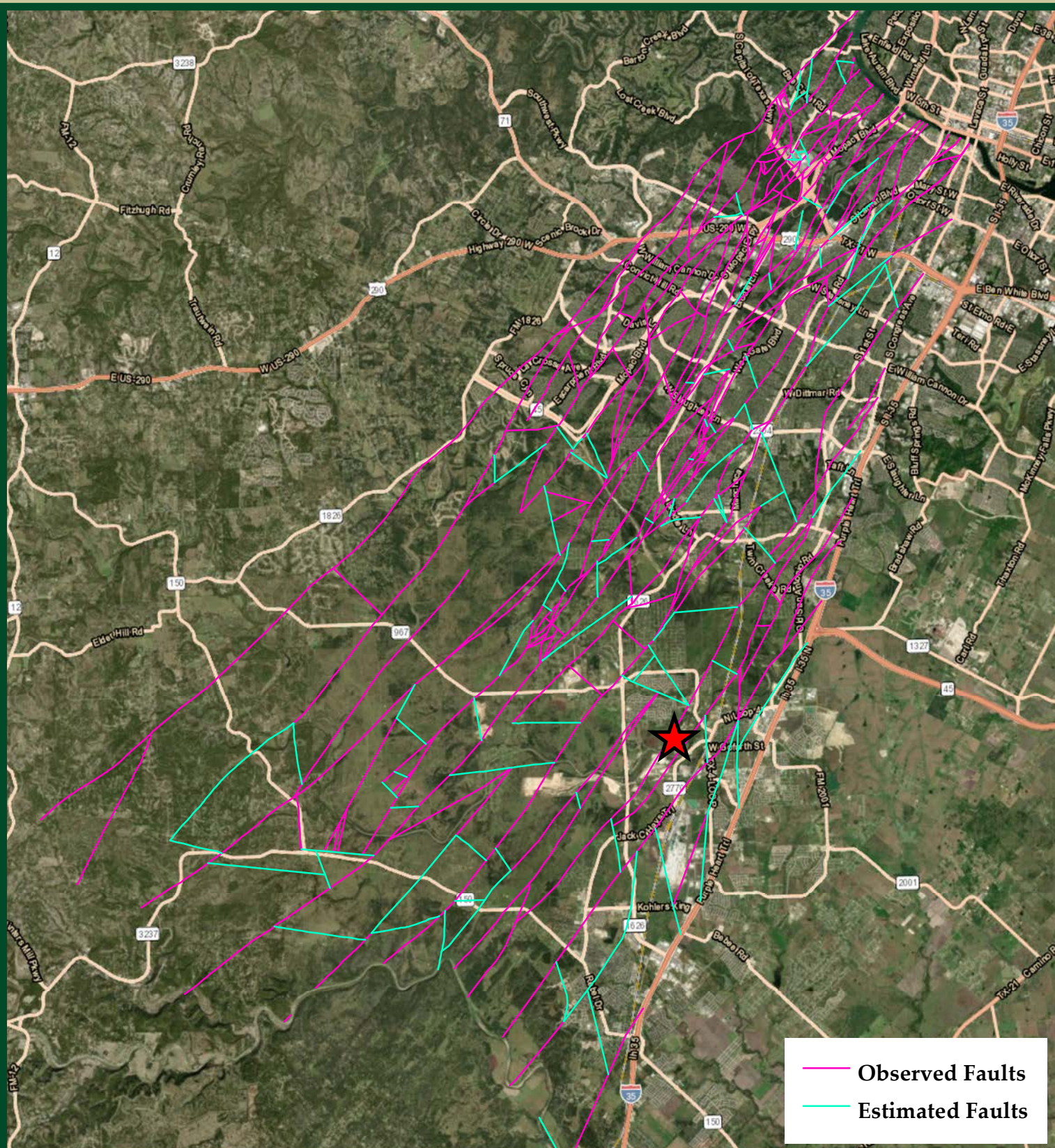


This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.



Subject Area

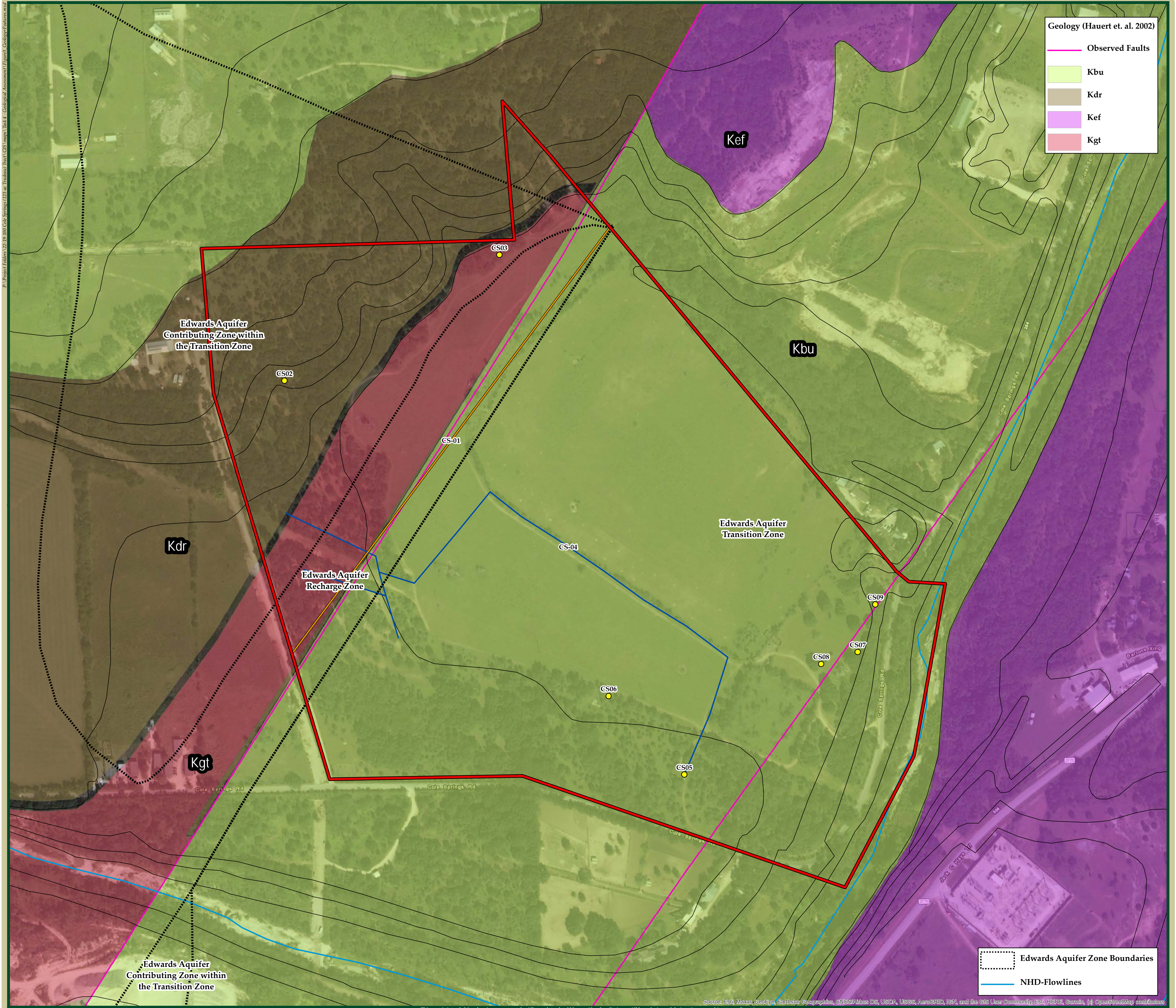




15,000 7,500 0 15,000
Feet
1:180,000 1 inch = 15,000 feet

★ Subject Area
Regional Trend 35°





N

200 100 0 200

Feet

1:2,400 inch = 200 Feet

Subject Area

Features

Pipeline

Waterline

Contours - 10ft

STATE OF TEXAS

MARK T. ADAMS

GEOLOGY

No. 1835

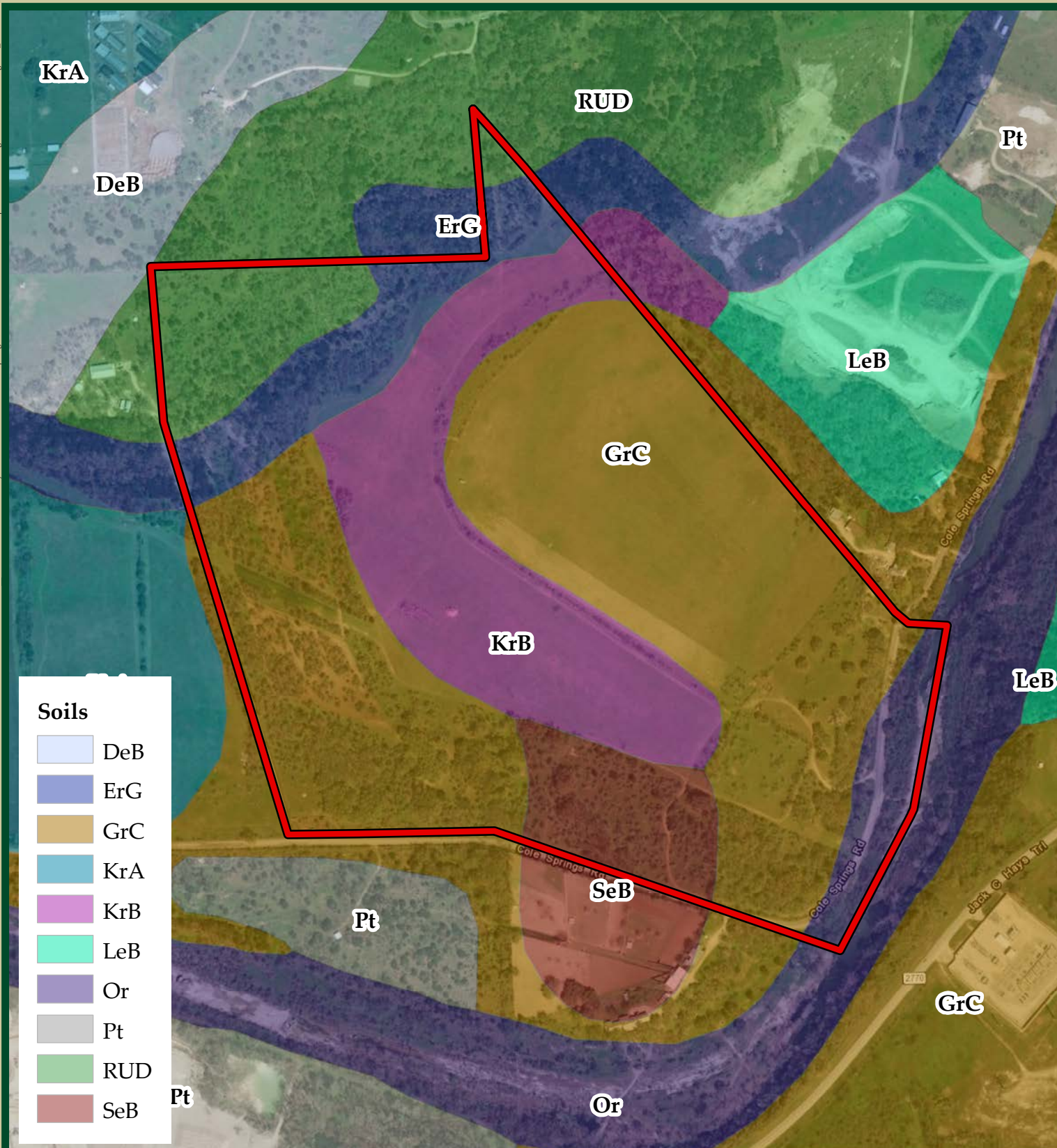
LICENSED

PROFESSIONAL GEOLOGIST

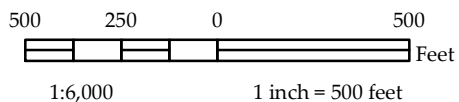
aci

consulting

austin • denver



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



ATTACHMENT E
Historical Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin TX 78746



Historical Aerial Photographs

Cole Springs Road tract

Hays County, TX

PO #: 22-15-03J

ES-131419

Thursday, June 27, 2019



Date: 2018
Source: TNRIS

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2014
Source: USDA

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2008
Source: USDA

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2004
Source: USDA

0 250 500 1,000 Feet





Date: 1995
Source: USGS





Date: 1981
Source: USGS

0 250 500 1,000 Feet





Date: 1973
Source: USGS

0 250 500 1,000 Feet





Date: 1967
Source: USGS

0 250 500 1,000 Feet





Date: 1958
Source: USGS

0 250 500 1,000 Feet





Date: 1951
Source: USDA

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

HISTORICAL AERIAL PHOTOGRAPHS	
ES-131419	June 27, 2019



AERIAL SOURCE DEFINITIONS

Acronym	Agency
NASA	National Aeronautics & Space Administration
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
SCS	Soil Conservation Service
ISGS	Illinois State Geological Survey
Fairchild	Fairchild Aerial Surveys
TXDOT	Texas Department of Transportation
BLM	Bureau of Land Management
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
TNRIS	Texas Natural Resources Information System

HISTORICAL AERIAL PHOTOGRAPHS	
ES-131419	June 27, 2019



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ATTACHMENT F
Petroleum Pipeline Information

*** DATABASE CHANGES ***

06566

TRANSFER FROM PERMIT 06566 TO PERMIT

Safety Eval# _____ Prepared by _____ Permit # 07899 Change date 1/4/10 print date 1/4/10

1) COMPANY:

☐ Add New Company ☐ Change Company ☐ Change Status to Inactive ☒ No Changes

	COID	STATUS	COMPANY NAME
CURRENT	1791	A	CHEVRON PIPE LINE COMPANY
NEW	6139	A	SUNOCO PIPELINE L.P.

2) UNIT: When adding a new unit, include the contact person and complete address.

☐ Add Unit* ☐ Chg. Co. ID ☐ Chg Name of Unit ☐ Transfer to Another Unit ☒ No Chgs.

Contact Person _____ Title _____ Phone (____) _____

* Address _____

	UNIT ID	UNIT NAME	CO ID
CURRENT	17949	CHEVRON PL/REG 4	1791
CHG/NEW	18250	SUNOCO PL LP/BEAUMONT	6139

3) SYSTEM:

Change of: ☒ Unit ID ☐ Name ☐ Status ☐ County ☐ Miles ☒ T-4 Permit

☐ Add New System(s) ☐ Merge System(s) ☐ Split System(s) Out ☐ Other _____
A^{CTIVE} J^{URIS} S^{YSTEM}

	SYSTEM	UNIT	SYSTEM NAME	A	J	S	T-4	COUNTY
CURRENT	450873	17949	HEARNE-AUSTIN PRODUCT	A	J	P	6566	Milam
CHG/NEW							7899	Robertson

Reason: OPERATOR NAME CHANGE, PERMIT CHANGE: Travis
 IDLE SYSTEM TRANSFERRING FROM CHEVRON PERMIT 06566 CANCELED Williamson
 AND MERGED INTO EXISTING SUNOCO PERMIT 07899. 71.4 mi

CURRENT								
CHG/NEW								

Reason: _____

CURRENT								
CHG/NEW								

Reason: _____

CURRENT								
CHG/NEW								

Reason: _____

CURRENT								
CHG/NEW								

Reason: _____

RAILROAD COMMISSION OF TEXAS
SAFETY DIVISION
PERMIT SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, December 23, 2009

SUNOCO PIPELINE L.P.
ATTN DAVID BORN
ONE FLUOR DANIEL DR BLDG A 3
SUGAR LAND TX 77478

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that SUNOCO PIPELINE L.P. has
complied with 16 TAC Sec. 3.70 of the Commission Rules and
Regulations governing pipelines in accordance with the Natural
Resources Code Sec. 81.051 and is granted this permit by the
Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

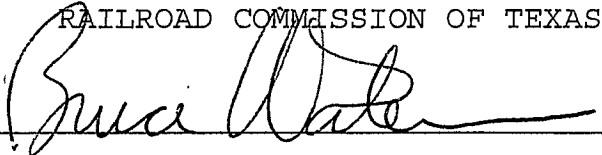
WILLIAMSON

PERMIT AMENDED TO REFLECT OPERATOR CHANGE FROM CHEVRON PIPE LINE
COMPANY, THEN PERMIT CANCELED AND MERGED INTO SUNOCO PIPELINE
L.P. EXISTING PERMIT 07899. (ALSO OWNER CHANGE FROM TEXACO
PIPELINE COMPANY TO SAME AS CURRENT OPERATOR.)

This permit is valid until the operating ownership of such line
or system changes, or until extensions or other physical changes
are made in the line or system. (See Instructions on Form T-4.)

BY

RAILROAD COMMISSION OF TEXAS



APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN THE STATE OF TEXAS

(See 16 TAC 3.70)

RECEIVED
RRD OF TEXAS

FORM T-4

(8/06)

Railroad Commission of Texas
Gas Services Division
License & Permits Section

DEC 22 2009

SAFETY DIVISION
AUSTIN, TEXAS

Permit No.:

06566

ORGANIZATION INFORMATION

1. Operator (Applicant) (See Instruction 1) Sunoco Pipeline L.P. P5# <u>829627</u>	Address One Fluor Daniel Dr. Bldg. A Level 3, Sugar Land TX 77478
2. Does the above named operator own pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name and address of owner.	
3. Does the above named operator conduct or control the economic operations on the pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name, address and P-5# of economic operator. (See Instruction 2) P5# _____	

PIPELINE INFORMATION

1. Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify <u>Gasoline, Diesel, Jet A</u> c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a <input type="checkbox"/> gas utility or as a <input type="checkbox"/> private line? (Texas Utilities Code) <i>NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status.</i> e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.	
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No New Construction Report Number _____ b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (see 16 TAC 8.115 for applicability) c) Extension or modification? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) <u>Chevron Pipeline Company, 4800 Fournace Place, Bellaire Texas 77401</u>	
3. Check detailed purpose(s) for which described pipeline will be used: <input checked="" type="checkbox"/> Transmission <input type="checkbox"/> Terminal (Storage Field) <input type="checkbox"/> Industrial Distribution <input type="checkbox"/> Gathering <input type="checkbox"/> Gas Lift <input type="checkbox"/> Manufacturing Feed Stock (Own Consumption) <input type="checkbox"/> Gas Injection <input type="checkbox"/> Gas Plant <input type="checkbox"/> Other (explain) _____	
4. U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) <input type="checkbox"/> Yes <input type="checkbox"/> No Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Todd M. Stamm
(Type or Print Name of Person)

12-18-09
(Date)

Manager, Western Pipeline Operations
(Title)

Todd M. Stamm 12/21/09
(Signature)

Inquiries regarding this application should be directed to:

Name: David Born Address: One Fluor Daniel Dr. Building A Level 3, Sugar Land TX 77478 Phone: (A/C) 281-637-6497

Fax (866) 619-8702 E-mail kdborn@sunocologistics.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY
PO BOX 12967, AUSTIN, TX 78711-2967

RECEIVED
RRC OF TEXAS
DEC 22 2009
SAFETY DIVISION
AUSTIN, TEXAS

PIPELINE TRANSFER CERTIFICATION
(File with Form T-4)


NEW OPERATOR/APPLICANT: Sunoco Pipeline L.P.

Address: One Fluor Daniel Dr., Building A Level 3

Sugar Land Texas 77478
City State Zip

Does the above named operator own the pipeline(s) ☒ Yes ☐ No
If "no" give owners name and address:

NEW OPERATOR'S CERTIFICATION. By signing this certificate, I acknowledge responsibility for the regulatory compliance of the listed pipelines. I also acknowledge that I will remain designated as the current operator until a new certificate designating a new current operator is approved by the Commission.

Name (print) Todd M. Stamm Signature  Date 12-18-09

Title: Manager, Western Pipeline Operations Phone: (281) 637-6581

OLD OPERATOR: Chevron Pipe Line Company

Address: 4800 Fournace Place

Bellaire Texas 77401
City State Zip

Did the above named operator own the pipeline(s) ☒ Yes ☐ No
If "no" give owners name and address:

OLD OPERATOR CERTIFICATION. Being the previous operator, I certify that operating responsibility for 1 pipeline listed on Form T-4A for Permit 006566 has been transferred to the above named operator. I understand, as previous operator, that designation of the above named operator as current operator is not effective until this certification is approved by the Commission.

Name (print) J. R. Burke Signature  Date 12-17-09

Title DOT Specialist Phone (713) 432-3206

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

**RECEIVED
RRC OF TEXAS**

MAR 11 2009

**SAFETY DIVISION
AUSTIN, TEXAS**

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401	PERMIT NO. <p align="center">06566</p>	P-5 NO. <p align="center">148100</p>																																	
<p align="center">PIPELINE CLASSIFICATION</p> <p>Common Carrier <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Interstate <input type="checkbox"/></p> <p>Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>Private <input type="checkbox"/></p> <p>Issuance Date of Last Permit <u>March 5, 2007</u></p> <p>Location of Line(s) by County(s) <u>Milam, Robertson, Travis</u> <u>& Williamson Counties</u></p>	<p align="center">PLEASE ANSWER (A) & (B)</p> <table style="width:100%;"> <thead> <tr> <th></th> <th align="center">(A) Fluid Transported</th> <th align="center">(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Condensate</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Gas *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Products *</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><u>71.46</u></td> </tr> <tr> <td>Full Oil Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center"><u>✓ 71.5 (W)</u></td> </tr> <tr> <td>Full Gas Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Other *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u> <input checked="" type="checkbox"/></td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td align="center"><input type="checkbox"/> Yes</td> <td align="center"><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>71.46</u>	Full Oil Well Stream	<input type="checkbox"/>	<u>✓ 71.5 (W)</u>	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input type="checkbox"/>	_____	Specify <u>Idle Products Line</u> <input checked="" type="checkbox"/>			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, at what concentration? _____ ppm		
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This will certify that the installations described above have not been subject to any modifications, extensions or abandonment since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature



J. R. Burke - rburke@chevron.com
 Name of Person (type or print)

03/10/2009 DOT Specialist
 Date Title

FAX: (713) 432-3477
 Telephone Number (713) 432-3206
 Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.



Global Gas

J. R. Burke
DOT Specialist

**Environmental and
Technical**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
RBurke@Chevron.com

March 10, 2009

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

06218	00700	00963	02042	01032	01033
00964	01447	05365	06344	06566	06335
05718	00188				

Also included is a Form PS-87 Pipeline Proximity to Public Schools and a 7100.2-1 Annual Gas Report for permit # 06335 Chevron Keystone Gas Storage.

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

**RECEIVED
RRC OF TEXAS**

MAR 11 2009

**SAFETY DIVISION
AUSTIN, TEXAS**

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS
MAR 17 2008

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

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RECEIVED
R.R.C. OF TEXAS
MAR 17 2008
GAS SERVICES DIVISION
AUSTIN, TEXAS

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REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature

J. R. Burke

03/10/2008

Date

DOT Specialist

Title

J. R. Burke - rburke@chevron.com

Name of Person (type or print)

FAX: (713) 432-3477

Telephone Number (713) 432-3206

Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS

MAR 23 2007

Form T-4C

(4/97)

GAS SERVICES DIVISION
AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

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This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature 

J. R. Burke
Name of Person (type or print)

03/10/2007 DOT Specialist
Date Title

Telephone Number (713) 432-3206
Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, March 5, 2007

CHEVRON PIPE LINE COMPANY
ATTN J.R. (RANDY) BURKE
4800 FOURNACE PLACE
BELLAIRE TX 77401

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

WILLIAMSON

PERMIT AMENDED TO REFLECT 2007-2008 RENEWAL AND TO REMOVE 81.0 MILES OF PIPE ABANDONED IN BEXAR, COMAL, GUADALUPE, HAYS, AND TRAVIS COUNTIES. REMAINING MILEAGE FOR THE HEARNE PRODUCTS SYSTEM IS 71.5.

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY Kathy Arnold

APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS
(See 16 TAC 3.70)

RECEIVED
R.O. OF TEXAS
MAR 01 2007

FORM T-4
(8/06)

Railroad Commission of Texas
Gas Services Division
License & Permits Section **71.5**

**GAS SERVICES DIVISION
AUSTIN, TEXAS**

Permit No. **06566**

Haarme Products System

ORGANIZATION INFORMATION	
1. Operator (Applicant) (See Instruction 1) Chevron Pipe Line Company <div style="text-align: right;">P5# 148100</div>	Address 4800 Fournace Place, Houston, TX. 77401
2. Does the above named operator own pipeline? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "No", give name and address of owner. No - P5 <i>For Randy Burke / Chevron 3/2/07 Texaco Pipeline Company, LLC ICA</i>	
3. Does the above named operator conduct or control the economic operations on the pipeline? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "No", give name, address and P-5# of economic operator. (See Instruction 2) <div style="text-align: right;">P5# _____</div>	
PIPELINE INFORMATION	
1. Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify <u>Refined Products (Idle)</u> c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a <input type="checkbox"/> gas utility or as a <input type="checkbox"/> private line? (Texas Utilities Code) NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status. e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.	
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No New Construction Report Number _____ b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (see 16 TAC 8.115 for applicability) c) Extension or modification? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) See Cover Sheet for detailed explanation. <i>Remove: Bexar, Comal, Guadalupe, + Hays Cos.</i>	
3. Check detailed purpose(s) for which described pipeline will be used: <input checked="" type="checkbox"/> Transmission <input type="checkbox"/> Terminal (Storage Field) <input type="checkbox"/> Industrial Distribution <input type="checkbox"/> Gathering <input type="checkbox"/> Gas Lift <input type="checkbox"/> Manufacturing Feed Stock (Own Consumption) <input type="checkbox"/> Gas Injection <input type="checkbox"/> Gas Plant <input type="checkbox"/> Other (explain) _____	
4. U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

J.R. (Randy) Burke

02/19/2007

(Type or Print Name of Person)

(Date)

DOT Specialist

(Title)

Inquiries regarding this application should be directed to:

Name: **Randy Burke** Address: **4800 Fournace Place, Houston, TX. 77401** Phone: (A/C) **(713) 432-3206**
Fax: **(713) 432-3477** E-mail: **rburke@chevron.com**



Global Gas

J. R. (Randy) Burke
DOT Pipeline Safety
Specialist

**Environmental &
Technical Services**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
Fax 713-432-3477
rburke@chevron.com

February 19, 2007

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RE: T-4 Permit #06566

Dear Ms. Arnold,

Attached please find a T-4 permit application, and an overview map. Please note the following:

- ~~BP~~ ^{BP} - Abandon 80.99 miles of the Hearne Products System in Bexar, Guadalupe, Comal, Hays and Travis Counties. The abandoned section begins at the San Antonio Terminal and ends near FM 973, in Travis Co.
- NC - No Change

Add Counties: None

Remove Counties: Bexar, Comal, Guadalupe, Hays

Miles of Pipeline: Existing	BP ^{BP}	152.45
	AB	- 80.99

Total Miles Permit #06566	<hr/>	71.46
---------------------------	-------	-------

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke
Attachments

Geography submitted via "FTP" filename t06566 on 02-19-07.

281 451 7537

RECEIVED
R.R.C. OF TEXAS

FEB 20 2007

GAS SERVICES DIVISION
AUSTIN, TEXAS

From: Kathy Arnold
To: rburke@chevron.com
Date: 2/20/2007 3:42:16 PM
Subject: T-4 #06566 Chevron Pipe Line Company

Hey, Randy. How goes it?

Two things. One. Your P-5 is delinquent. Two. Go fish on the permit application you submitted. It is way too old. The current one is on the website date 8/06. The one before this was 9/04. You are really digging up some old bones here. Look under Pipeline Safety for the current form and please resubmit. It is not going anywhere anyway until the P-5 is active again. Let me know if you have any questions. Thanks.

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

MAR 14 2005

Form T-4C

(4/97)

GAS SERVICES DIVISION
AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401		PERMIT NO. 06566	P-5 NO. 148100																																	
PIPELINE CLASSIFICATION Common Carrier <input checked="" type="checkbox"/> Interstate <input type="checkbox"/> Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> Private <input type="checkbox"/> Issuance Date of Last Permit <u>February 19, 2003</u> Location of Line(s) by County(s) <u>Bexar, Comal, Guadalupe, Hays, Milam,</u> <u>Robertson, Travis & Williamson Counties</u> 		PLEASE ANSWER (A) & (B) <table border="0"> <thead> <tr> <th></th> <th>(A) Fluid Transported</th> <th>(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Condensate</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Gas *</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Products *</td> <td><input checked="" type="checkbox"/></td> <td><u>152.45</u> ✓</td> </tr> <tr> <td>Full Oil Well Stream</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Full Gas Well Stream</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Other *</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u> ✓</td> </tr> <tr> <td colspan="3">Does fluid contain H₂S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>152.45</u> ✓	Full Oil Well Stream	<input type="checkbox"/>	_____	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input type="checkbox"/>	_____	Specify <u>Idle Products Line</u> ✓			Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			If yes, at what concentration? _____ ppm		
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This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature *J. R. Burke*

J. R. Burke
Name of Person (type or print)

03/10/2006
Date

DOT Specialist
Title

Telephone Number (713) 432-3206
Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.



Global Gas

J. R. Burke
DOT Specialist

**Environmental and
Technical**
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Tel 713-432-3206
RBurke@Chevron.com

March 10, 2006

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

00204	00700	00894	00963	00964	01032
01033	01446	01447	01895	02838	04005
05235	05365	05718	05725	00188	06344
06566					

Also included is a Form PS-45 and 7100.2-1 for CPL and a 7100.2-1 for Unocal Keystone Gas Storage, LLC (please forward to Bruce Waterman).

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

RECEIVED
R.R.C. OF TEXAS

MAR 14 2006

GAS SERVICES DIVISION
AUSTIN, TEXAS

**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS
lms
MAR 15 2005

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM
GAS SERVICES DIVISION
AUSTIN, TEXAS

<p>COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210</p>	<p>PERMIT NO. 06566</p>	<p>P-5 NO. 148100</p>																																	
<p align="center">PIPELINE CLASSIFICATION</p> <p>Common Carrier <input checked="" type="checkbox"/> Interstate <input type="checkbox"/> Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> Private <input type="checkbox"/></p> <p>Issuance Date of Last Permit <u>February 19, 2003</u></p> <p>Location of Line(s) by County(s) <u>Bexar, Comal, Guadalupe, Hays, Milam,</u> <u>Robertson, Travis & Williamson Counties</u></p>	<p>PLEASE ANSWER (A) & (B)</p> <table style="width:100%;"> <thead> <tr> <th></th> <th style="text-align: center;">(A) Fluid Transported</th> <th style="text-align: center;">(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Condensate</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Gas *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Products *</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><u>152.45</u></td> </tr> <tr> <td>Full Oil Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Full Gas Well Stream</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td>Other *</td> <td align="center"><input type="checkbox"/></td> <td align="center">_____</td> </tr> <tr> <td colspan="3">Specify <u>Idle Products Line</u> ✓</td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td align="center"><input type="checkbox"/> Yes</td> <td align="center"><input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>152.45</u>	Full Oil Well Stream	<input type="checkbox"/>	_____	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input type="checkbox"/>	_____	Specify <u>Idle Products Line</u> ✓			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, at what concentration? _____ ppm		
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CERTIFICATE

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Signature

J. R. Burke

J. R. Burke

Name of Person (type or print)

03/10/2005

DOT Specialist

Date

Title

Telephone Number (281)

596-3596

Area Code

Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

Chevron Pipe Line Company
DOT Compliance/Risk Management
2811 Hayes Road
Houston, TX 77082
Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke
DOT Compliance Specialist

March 10, 2005

ChevronTexaco

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RECEIVED
R.R.C. OF TEXAS

MAR 15 2005

Dear Ms. Arnold:

GAS SERVICES DIVISION
AUSTIN, TEXAS

The following T-4C permit forms have been completed for your use:

00203	00204	00700	00894	00963	00964
01033	01446	01447	01895	02838	04005
05235	05365	05711	05718	05725	00188
06344	06566				

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,



J. R. Burke



**RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS

MAR 12 2004

Form T-4C

(4/97)

GAS SERVICES DIVISION
AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

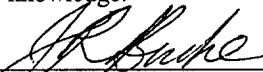
COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210	PERMIT NO. <p align="center">06566</p>	P-5 NO. <p align="center">148100</p>																																	
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 Signature

J. R. Burke
 Name of Person (type or print)

03/10/2004 DOT Specialist
 Date Title

Telephone Number (281) 596-3596
 Area Code Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
 If you have any questions call (512) 463-7194.

Chevron Pipe Line Company
DOT Compliance/Risk Management
2811 Hayes Road
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Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke
DOT Compliance Specialist

ChevronTexaco

March 10, 2004

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R.R.C. OF TEXAS

MAR 12 2004

GAS SERVICES DIVISION
AUSTIN, TEXAS

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

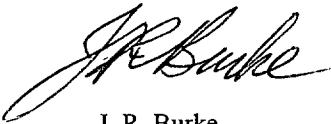
Dear Ms. Arnold:

The following T-4C permit forms have been completed for your use:

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00964	01032	01446	01447	01895	02838
04005	05235	05365	05711	05718	05725
00188	06344	06566			

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,



J. R. Burke



Safety Eval. # ----- T-4 Permit No. 06566 Prepared by SEC Date 3/24/03

1) COMPANY:

☐ Add New Company ☐ Change Company ☐ Change Status to Inactive ☒ **No Changes**

	COID	STATUS	COMPANY NAME
CURRENT	6194	A	SHELL PIPELINE COMPANY LP
NEW	1791	A	CHEVRON PIPE LINE COMPANY

2) UNIT:

☐ Add Unit ☐ Delete Unit ☒ **Change Co. ID** ☒ **Change Name** ☐ No Changes

Contact Person Phillip C. DePrang Title Operations Specialist Ph (281) 596-3623

*Address P. O. Box 4879, Houston, Texas 77210

	UNIT ID	UNIT NAME	CO ID
CURRENT	05962	SHELL PIPELINE/REG 4	6194
CHG/NEW	17949	CHEVRON PL/REG 4	1791

3) SYSTEM:

Change of: ☒ Unit ID ☐ Name ☐ Status ☒ T-4 Permit ☒ PARTIAL ACQUISITION

A^{CTIVE} J^{URIS} S^{YSTYPE}

	SYSTEM	UNIT	SYSTEM NAME	A	J	S	T-4	COUNTY
CURRENT	450873	05962	HEARNE-AUSTIN-SAN ANTONIO PRODUCT	I	J	P	00967	BEXAR COMAL GUADALUPE HAYS MILAM ROBERTSON TRAVIS WILLIAMSON
CHG/NEW	450873	17949	HEARNE-AUSTIN-SAN ANTONIO PRODUCT	I	J	P	06566	SAME
Reason	PARTIAL ACQUISITION FROM SHELL PIPELINE COMPANY LP T-4 00967.							
CURRENT								
CHG/NEW								
Reason								
CURRENT								
CHG/NEW								
Reason								
CURRENT								
CHG/NEW								
Reason								

**AS INTRASTATE PIPELINE QUESTIONNAIRE
RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION**

RECEIVED
R.R.C. OF TEXAS

**T-4 Permit No. 00967
(HEARNE PRODUCTS SYSTEM)**

DEC 02 2002

If there are any changes in this address or information, please indicate below:

NAME OF OPERATOR **SHELL PIPELINE CO. L.P.**
MAILING ADDRESS **P. O. BOX 2648**
CITY, STATE, ZIP+4 **HOUSTON, TX 77252-2648**

**GAS SERVICES DIVISION
AUSTIN, TEXAS**

Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.

I. GENERAL INFORMATION Are the pipelines covered under this permit ☐ Interstate ☒ Intrastate

NAME OF COMPLIANCE REPRESENTATIVE **MAXINE G. KINNEY**
MAILING ADDRESS **P. O. BOX 2648**
CITY, STATE, ZIP+4 **HOUSTON, TX 77252-2648**
TELEPHONE NUMBER **(713) 241-2910**

II. SYSTEM IDENTIFICATION AND LOCATION. The referenced T-4 permit may be several pipelines or pipeline systems, or a single listing permit
With one pipeline or pipeline system

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/ COMPRESSOR STATIONS	COUNTIES
Hearne Products System NC	Product	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 144.19	SMYS 35000 OD 10.750 WT .250 MAOP 1145	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive	2	Robertson Falls McLennan Hills Ellis Dallas
Dallas Term. To Ft. Worth Term. 8" BP	Product	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 25.87	SMYS 35000 OD 8 WT .250 MAOP 1109	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Dallas Tarrant
Hearne - Austin SYSID 450873 PT- Chevron/Texaco	Product T4#06566	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 78.97	SMYS 42000 OD 8 WT .250/.322 MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Robertson Milam Williamson Travis
Austin- San Antonio 450873 PT- Chevron/Texaco	Product T4#06566	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering MILES 73.48	SMYS 42000 OD 6 WT .250/.280 MAOP	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Travis Hays Comal Guadalupe Bexar

*Rural means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

NOTE: Wt = Wall Thickness

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/ COMPRESSOR STATIONS	COUNTIES
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Do any of these pipelines transport H₂S? ☒ No
☐ Yes Identify: _____ Concentration _____ ppm

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P. O. BOX 12967, AUSTIN, TX 78711-2967.

MAXINE G. KINNEY, OFFICE ASSISTANT
 NAME AND TITLE OF REPORTING OFFICIAL

Maxine G. Kinney 11/26/02
 SIGNATURE OF REPORTING OFFICIAL

(713) 241-2910
 TELEPHONE

Form T-4C
(4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY P O BOX 4879 HOUSTON TX 77210		PERMIT NO. 06566	P-5 NO. 148100																																	
PIPELINE CLASSIFICATION Common Carrier <input checked="" type="checkbox"/> Interstate <input type="checkbox"/> Gas Utility <input type="checkbox"/> Intrastate <input checked="" type="checkbox"/> Private <input type="checkbox"/> Issuance Date of Last Permit <u>February 19, 2003</u> Location of Line(s) by County(s) <u>Bexar, Comal, Guadalupe, Hays, Milam,</u> <u>Robertson, Travis & Williamson Counties</u> 		PLEASE ANSWER (A) & (B) <table border="0"> <thead> <tr> <th></th> <th>(A) Fluid Transported</th> <th>(B) Miles of Pipe</th> </tr> </thead> <tbody> <tr> <td>Crude</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Condensate</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Gas *</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Products *</td> <td><input checked="" type="checkbox"/></td> <td><u>152.45</u> ✓</td> </tr> <tr> <td>Full Oil Well Stream</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Full Gas Well Stream</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Other *</td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Specify <u>Idle Products Line</u> ✓</td> <td></td> <td></td> </tr> <tr> <td>Does fluid contain H₂S?</td> <td><input type="checkbox"/> Yes</td> <td><input checked="" type="checkbox"/> No</td> </tr> <tr> <td colspan="3">If yes, at what concentration? _____ ppm</td> </tr> </tbody> </table>			(A) Fluid Transported	(B) Miles of Pipe	Crude	<input type="checkbox"/>	_____	Condensate	<input type="checkbox"/>	_____	Gas *	<input type="checkbox"/>	_____	Products *	<input checked="" type="checkbox"/>	<u>152.45</u> ✓	Full Oil Well Stream	<input type="checkbox"/>	_____	Full Gas Well Stream	<input type="checkbox"/>	_____	Other *	<input type="checkbox"/>	_____	Specify <u>Idle Products Line</u> ✓			Does fluid contain H ₂ S?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, at what concentration? _____ ppm		
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If yes, at what concentration? _____ ppm																																				

This will certify that the installations described above have not been subject to any modifications, extensions or abandonments since the issuance date of last permit.

REMARKS: Idle Hearne - San Antonio System (Texaco)

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature J. Burke

J. R. Burke
Name of Person (type or print)

03/12/2003 DOT Specialist
Date Title

Telephone Number	(281)	596-3596
	Area Code	Number

Please mail **completed** Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967.
If you have any questions call (512) 463-7194.

TEXAS INTRASTATE PIPELINE QUESTIONNAIRE
RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

T-4 Permit No. 06566

If there are any changes in this address or information, please indicate below:

NAME OF OPERATOR Chevron Pipe Line Company
 MAILING ADDRESS P O Box 4862
 CITY, STATE, ZIP+4 Houston Texas 77210

Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.

RECEIVED
 B.R.C. OF TEXAS

I. GENERAL INFORMATION Are the pipelines covered under this permit ☐ Interstate ☒ Intrastate

MAR 17 2003

NAME OF COMPLIANCE REPRESENTATIVE J. R. Burke
 MAILING ADDRESS P O Box 4879
 CITY, STATE, ZIP+4 Houston Texas 77210
 TELEPHONE NUMBER (281) 596-3569

GAS SERVICES DIVISION
 AUSTIN, TEXAS

SYSTEM NAME/LINE NUMBER	FLUID BEING TRANSPORTED	TYPE (Check as applicable)	PIPELINE SPECIFICATIONS	CHECK AS APPLICABLE	#PUMP/COMPRESSOR STATIONS	COUNTIES
<u>Idle Products</u> <u>8" Hearne To</u> <u>Austin</u>	<u>MILES 78.97</u>	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D. 8.625</u> <u>W.T. .322</u> <u>SMYS 24.000</u> <u>MAOP 1.032</u>	<input checked="" type="checkbox"/> *Rural <input checked="" type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Bexar Guadalupe Comal Hays Travis
<u>Idle Products</u> <u>6" Austin To</u> <u>San Antonio</u>	<u>MILES 73.48</u>	<input checked="" type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D. 6.625</u> <u>W.T. .280</u> <u>SMYS 24.000</u> <u>MAOP 1.168</u>	<input checked="" type="checkbox"/> *Rural <input checked="" type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		Williamson Milam Robertson
<u> </u> <u> </u> <u> </u>	<u>MILES</u>	<input type="checkbox"/> Trunkline/ Transmission <input type="checkbox"/> Gathering	<u>O.D. </u> <u>W.T. </u> <u>SMYS </u> <u>MAOP </u>	<input type="checkbox"/> *Rural <input type="checkbox"/> Non-Rural <input type="checkbox"/> Bay Area <input type="checkbox"/> Offshore <input type="checkbox"/> Navigable Waterway <input type="checkbox"/> Environmentally Sensitive		

Do any of these pipelines transport H₂S? ☒ No
☐ Yes Identify Concentration ppm

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P.O. BOX 12967, AUSTIN, TEXAS 78711-2967.

J. R. Burke DOT Specialist
 NAME AND TITLE OF REPORTING OFFICIAL

J.R. Burke 3-12-03
 SIGNATURE OF REPORTING OFFICIAL

(281) 596-3569
 TELEPHONE

PS-8000A, 6/97

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, February 19, 2003

CHEVRON PIPE LINE COMPANY
ATTN PHILLIP DE PRANG
P O BOX 4879
HOUSTON TX 77210

Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has
complied with 16 TAC Sec. 3.65 of the Commission Rules and
Regulations governing pipelines in accordance with the Natural
Resources Code Sec. 81.051 and is granted this permit by the
Commission to operate the following line or lines located at:

BEXAR
MILAM

COMAL
ROBERTSON

GUADALUPE
TRAVIS

HAYS
WILLIAMSON

INITIAL PERMIT: SAN ANTONIO TO HEARNE SYSTEM, PARTIAL TRANSFER
FROM SHELL PIPELINE COMPANY T-4 #00967. MILEAGE 152.45 (IDLE).

This permit is valid until the operating ownership of such line
or system changes, or until extensions or other physical changes
are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY

Kathy Arnold

APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS

6 TAC 3.65 [Rule 70 of Statewide Rules and Regulations]

FORM T-4
(3/98)Railroad Commission Of Texas
Gas Services Division
Pipeline Safety Section

P-5 # 148100		ORGANIZATION INFORMATION		Permit No. New <u>065666</u>
1. Operator (Applicant) CHEVRON PIPE LINE COMPANY		Address P O BOX 4879 HOUSTON, TEXAS 77210		
2. To Whom in Texas should the Commission give notice? CHEVRON PIPE LINE COMPANY		Address P O BOX 4879 HOUSTON, TEXAS 77210		
3. Does the above named operator own pipeline? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "No", give name and address of owner. Texaco Pipeline Company, LLC 1301 McKinney HOUSTON, TEXAS 77010				
4. Does the above named operator own or operate oil or gas producing properties in Texas? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
PIPELINE INFORMATION				
1. Mark appropriate block for each of the following questions:				
a) Are the pipelines covered under this permit <input type="checkbox"/> Interstate <input checked="" type="checkbox"/> Intrastate				
b) Fluid transported: <input type="checkbox"/> Crude <input type="checkbox"/> Condensate <input type="checkbox"/> Gas (*) <input checked="" type="checkbox"/> Products (*) <input type="checkbox"/> Full Gas Well Stream <input type="checkbox"/> Full Oil Well Stream <input type="checkbox"/> Other (*) * Specify Refined Products (Idle)				
c) Does fluid contain H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, at what concentration? _____ ppm				
d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as <input checked="" type="checkbox"/> a common carrier or as <input type="checkbox"/> a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as <input type="checkbox"/> a gas utility or as <input type="checkbox"/> a private line? (Texas Utilities Code) A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division will make that determination and notify the operator of its status.				
e) Does pipeline cross any public highway or road, right-of-way for any railroad, public utility, or other common carrier? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
f) Will pipeline carry only the gas and/or liquids produced by pipeline owner or operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer to (f) is "No", is the gas and/or liquids: <input type="checkbox"/> Purchased from others. <input checked="" type="checkbox"/> Owned by others, but transported for a fee. <input type="checkbox"/> Both purchased and transported for others.				
2. a) New installation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, do not complete remainder of this question. (SEE COVER SHEET) b) Renewal for same operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No c) Extension or modification? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: Equilon Pipeline Company LLC P.O. Box 2648 Houston, Texas 77252				
3. Check detailed purpose for which described pipeline will be used: <input checked="" type="checkbox"/> Trunk Transmission <input type="checkbox"/> Manufacturing Feed Stock (Chemical, plastic, etc.) <input type="checkbox"/> Gathering <input type="checkbox"/> Gas Injection (Recycling, pressure maintenance) <input type="checkbox"/> Gas Lift <input type="checkbox"/> Distribution Systems (Municipal, industrial) <input type="checkbox"/> Gas Plant (Gathering system) <input type="checkbox"/> Other (explain) <input type="checkbox"/> Terminal (Storage, loading racks, etc.)				
4. U.S.G.S. 7.5 Minute Quad Map or General Highway County Map attached? (Scale 1" = 2 Miles) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Detailed map of gathering system attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Phillip C. DePrang (Type or Print Name of Person)	1-30-2003 (Date)
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OPERATIONS SPECIALIST
(Title)

Phillip C. DePrang
(Signature)

Inquiries regarding this application should be directed to:

Phillip C. DePrang	P O BOX 4879 HOUSTON, TEXAS 77210	(281) 596 - 3623 RECEIVED R.R.C. OF TEXAS
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FEB 08 2003

GAS SERVICES DIVISION
AUSTIN TEXAS



Chevron

January 30, 2003

Kathy Arnold
Railroad Commission of Texas
Gas Services Division
P. O. Box 12967
Austin, TX 78711-2967

RECEIVED
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FEB 03 2003
GAS SERVICES DIVISION
AUSTIN, TEXAS

Chevron Pipe Line Company
2811 Hayes Road
Houston, Texas 77082
P. O. Box 4879
Houston, Texas 77210

RE: T-4 Permit #unknown

Dear Ms. Arnold:

Attached please find a T-4 permit application, and an overview map. Please note the following:

- PT - Partial Transfer from Equilon Pipeline permit #00967, a 152.45 mile segment of idle 6"/8" products line from Hearne to San Antonio. Equilon contact is Maxine Kinney (281-241-2910).

Add Counties: Bexar, Guadalupe, Comal, Hays, Travis, Williamson, Milam, **AND ROBERTSON**
Remove Counties: None

PER RANDY BURKE
2/4/03

Miles of Pipeline:	Existing	0.00
	PT	152.45

Total Miles Permit # unknown	152.45
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Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J.R. Burke
DOT Compliance Specialist

Attachments

Geography submitted via "FTP" filename tChevron on 1-30-03.

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: Colony at Cole Springs Phase 2

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: Kyle Kriegel

Entity: M/I Homes of Austin, LLC

Mailing Address: 7600 N. Capital of Texas Hwy.; Bldg. C, Suite 250

City, State: Austin, TX

Zip: 78731

Telephone: (512) 770-8524

Fax: N/A

Email Address: kkriegel@mihomes.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 E. Granados Rico, P.E.

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) 520-0768

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: 68
☐ Multi-family: Number of residential units:
☐ Commercial
☐ Industrial
☐ Off-site system (not associated with any development)
☐ Other: _____

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

<u>100</u> % Domestic	<u>16,660</u> gallons/day
_____ % Industrial	_____ gallons/day
_____ % Commingled	_____ gallons/day
Total gallons/day: <u>16,660</u>	

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 with this application, but has not been approved.
☐ A WPAP application is required for an associated project, but it has not been submitted.
☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

<i>Pipe Diameter(Inches)</i>	<i>Linear Feet (1)</i>	<i>Pipe Material (2)</i>	<i>Specifications (3)</i>
8"	5,935	PVC SDR-26	ASTM D-3034

Total Linear Feet: 5,935

- (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 City of Buda (Downtown) Wastewater Treatment Plant (name) Treatment Plant. The treatment facility is:

- ☒ Existing
☐ Proposed

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

- ☒ The City of Buda 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>
WWL-O	71	5+74.94	Manhole
WWL-O	72	10+62.60	Manhole
WWL-O	72	10+91.48	Manhole
WWL-O	72	11+83.66	Manhole
WWL-P	72	1+87.52	Manhole
WWL-Q	73	3+00.00	Manhole
WWL-Q	73	5+00.00	Manhole
WWL-Q	73	9+00.00	Manhole
WWL-Q	74	12+47.42	Manhole
WWL-Q	74	13+34.66	Manhole

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
WWL-Q	74	14+21.87	Manhole
WWL-Q	74	15+22.35	Manhole
WWL-Q	74	17+47.56	Manhole
WWL-Q	74	19+00.00	Manhole
WWL-Q	75	22+80.80	Manhole
WWL-R	76	1+86.44	Manhole
WWL-R	76	3+10.48	Manhole
WWL-R	76	4+65.42	Manhole
WWL-R	76	5+77.78	Manhole
WWL-R	76	8+21.83	Manhole
WWL-R	76	9+56.91	Manhole
WWL-Y	77	4+53.93	Manhole
WWL-Y	77	5+27.16	Manhole
WWL-Y	77	7+45.15	Manhole
WWL-Y	78	11+00.00	Manhole
WWL-Y	78	12+87.15	Manhole
WWL-Z	79	4+00.00	Manhole
WWL-Z	79	7+03.01	Manhole
WWL-Z	79	7+81.92	Manhole
WWL-A	80	1+54.22	Manhole

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)

Max. Manhole Spacing (feet)

6 - 15

500

16 - 30

800

36 - 48

1000

≥54

2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing.** The maximum spacing between manholes on this project (for each pipe diameter used) is

greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.
- ☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

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

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 100'.
19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.
20. Lateral stub-outs:
- ☒ The location of all lateral stub-outs are shown and labeled.
- ☐ No lateral stub-outs will be installed during the construction of this sewer collection system.
21. Location of existing and proposed water lines:
- ☒ The entire water distribution system for this project is shown and labeled.
- ☒ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
- ☐ There will be no water lines associated with this project.
22. 100-year floodplain:
- ☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
- ☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
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>
WWL-P	1+22.00	CROSSING	N/A	2.0'
WWL-Q	21+15.01	CROSSING	N/A	2.1'
WWL-R	1+22.00	CROSSING	N/A	8.8'
WWL-Z	1+29.43	CROSSING	N/A	5.5'
WWL-Z	6+75.01	CROSSING	N/A	2.2'

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>
WWL-Q	4'	12+47.42	74
WWL-Q	4'	15+22.35	74
WWL-R	4'	5+77.78	76

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]	90
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	n/a
Typical trench cross-sections [Required]	90
Bolted manholes [Required]	n/a
Sewer Service lateral standard details [Required]	90
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]	89
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	90
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	90

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: TBD
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 E. Granados Rico P.E.

Date: June 11th 2024

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

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

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

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

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)

n = Manning's roughness coefficient
(0.013)

R_h = hydraulic radius (ft)

S = slope (ft/ft)

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

Colony at Cole Springs Phase 2 is an undeveloped 42.23 acre property located near the intersection of Cole Springs Road and Old Black Colony Road, within the city limits of Buda, Texas. The proposed Colony at Cole Springs Phase 2 project includes the construction of 179 single family homes with associated roadway, water, wastewater, and drainage improvements to support the project. The portion of this project that is within the recharge and contributing zone within the transition zone includes 18.62 acres and proposes 8.34 acres (44.79%) of impervious cover.

This project is located within the Onion Creek Watershed. A portion of this site is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone according to the City of Austin and Edward's Aquifer GIS databases. There are no critical water quality zones and or critical environmental features located on-site. The overall site for Phase 2 consists of 42.23 acres of undeveloped land.

On-site infrastructure is comprised of water, gas, electric, wastewater, and storm sewer lines. The wastewater service outlined in this report will consist of seven (7) lines that will convey wastewater to one lift station, proposed with The Colony at Cole Springs Phase 1 and eventually will travel via an 8" force main to an existing manhole off of Old Black Colony Road. All lines will consist of single and double service connections to homes that are proposed per this development. All proposed manholes shall be watertight, with watertight rings and covers.

Pipe Design

Flow Design Basis

Service for the build-out of the 42.23 ac 179 single family homes, Phase 2 site, located at Cole Springs Rd and Old Black Colony Rd, will be served by this wastewater system. The City of Austin Utility Criteria Manual (UCM) was used to determine the parameters for the design of the wastewater line system. See Appendix B for the map illustrating the property to be served by this wastewater line system and Appendix C for the calculations (as approved by the City of Austin).

Gravity Pipe and Joint Materials

The proposed pipe to be used for the 8" wastewater line will be ASTM D3034 SDR-26 PVC pipe (cell class 12454). 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. There are 4 water line crossings which do not meet the nine-foot minimum vertical separation. Cement-stabilized sand backfill has been provided at these locations. 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 each of the 179 proposed single-family homes.

Boring and Tunneling of Crossings

No boring or tunneling of crossings are proposed for this project.

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 single family developments generating domestic sewage. There are no proposed lift stations in this phase, and no odor control proposed.

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										
Q-1	402	0.45	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.81	0.73	2.31	2.08
Q-2	488	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
Q-3	29	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
Q-4	92	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
P-1	88	2.75	0.028	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.00	1.80	5.72	5.15
Q-1	127	1.70	0.017	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.57	1.41	4.50	4.05
Q-2	200	1.33	0.013	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.39	1.25	3.98	3.58
Q-3	400	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Q-4	347	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Q-5	87	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-6	87	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-7	100	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-8	225	7.00	0.070	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	3.19	2.87	9.13	8.22
Q-9	152	2.50	0.025	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.90	1.71	5.46	4.91
Q-10	381	3.25	0.033	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.17	1.95	6.22	5.60
Q-11	10	3.25	0.033	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.17	1.95	6.22	5.60
R-1	86	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-2	124	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-3	155	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-4	112	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-5	244	5.00	0.050	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.69	2.42	7.72	6.94
R-6	135	5.00	0.050	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.69	2.42	7.72	6.94
Y-1	295	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-2	73	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-3	218	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-4	355	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-5	187	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Z-1	300	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Z-2	303	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
Z-3	79	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
AA-1	54	2.00	0.020	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.70	1.53	4.88	4.39

Pipe Type	Minimum Velocity fps	Maximum Velocity fps
8" PVC	2.01	9.13

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

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

$$P = H * w \quad (\text{Equation 6.7})$$

Where:

P = prism load pressure due to soil weight (lbs/ft²)

H = depth of pipe (ft)

w = soil density (lbs/ft³) = 120 lbs/ft³

8" ASTM D3034 SDR-26

$$P = 20 * 120$$

$$P = 2,400 \text{ lbs/ft}^2 \text{ or } 16.67 \text{ psi}$$

Long Term Deflection Calculations - the following equations utilized for the calculation of long term deflection are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\Delta Y/D = \frac{DL * K * P + K * W_1}{[2E / (3(DR - 1)^3)] + 0.061 * E'} * 100 \quad (\text{Equation 7.10})$$

Where:

$\Delta Y/D$ = long term deflection (%)

DL = Deflection Lag Factor = 1.0 for prism load calculation

K = bedding constant = 0.096 for 90°

P = prism load pressure due to soil weight (lbs/ft²)

W₁ = live load (psi) = 0 psi

E = modulus of elasticity (psi) = 400,000 psi for PVC

DR = dimension ratio

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock bedding compacted to greater than 95% relative density

Note: Leonhardt's Zeta factor is assumed to equal 1, and thus is not required in the calculation. This is a conservative assumption that results in a more conservatively calculated value for long term deflection.

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

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

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

P_y = 320.25 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) = Do - 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

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

ϵ_h = 0.00052 in/in

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

ϵ_f = 0.0014 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:

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

8" ASTM D3034 SDR-26

$$DR = 26$$

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

$$\mathbf{P_s = 115 \text{ psi}}$$

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 detail on sheet 89. 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 detail on sheet 89, 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 detail on sheet 89 and *TCEQ Chapter 217.54(d)*. Per the detail on sheet 89, 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

No dead end lines are included in this project, so no cleanouts are proposed.

Manhole Material

Monolithic or precast manholes are acceptable for the contractor to utilize and are included in the City of Austin Detail 506S-10 on sheet 90. The use of bricks is not acceptable for the manhole or for cover adjustments.

Manhole Spacing

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

Manholes within Waterways

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

Manhole Covers, Inlets, and Bases

Per the COA detail 506S-10 sheet 90, the manhole covers shall have a 30-inch diameter clear opening. Manhole covers shall be constructed of cast iron and have no openings for water to infiltrate. No proposed manholes are located within the 100-year flood plain. All manholes shall be watertight, with watertight rings and covers, as shown per the detail on sheet 90.

As shown in the project details, the bottom of the manhole shall have a U-shaped channel to provide smooth continuation between the inlet and outlet pipes. For the proposed pipe, the manhole channel depth shall be equal to at least half the largest pipe diameter. Manholes with different pipe sizes shall have the tops of the pipes at the same elevation and flow channels in the invert sloped evenly from pipe to pipe. A bench will be provided above each manhole channel to slope at a minimum of 0.5 inches per foot.

Manhole Steps

No steps shall be allowed in any proposed manholes.

Manhole Connections

Manhole-pipe connections shall be watertight per City of Austin pipe to manhole connector SPL WW-146D. See detail 506S-10 on Sheet 90.

Manhole Venting

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

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 3.

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 8-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 (Alejandro E. Granados Rico, 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. (Alejandro E. Granados Rico, 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 (Alejandro E. Granados Rico, 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: June 11, 2024

Signature of Customer/Agent:



Regulated Entity Name: The Colony at Cole Springs Phase 2

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.

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.

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.

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 (18.62 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (18.62 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (18.62 Acres)
5. Wet and Dry Utility Construction (3 Acres)
6. Final Subgrade Preparation (3 Acres)
7. Installation of Base Materials (2.5 Acres)
8. Concrete (foundations, curbs, flatwork) (2.5 Acres)
9. Paving Activities (2.5 Acres)
10. Topsoil, Irrigation and Landscaping (18.62 Acres)
11. Site cleanup and Removal of Temporary BMPs (18.62 Acres)

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

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. A spoils and staging area will be designated as part of the temporary best management practices.

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. 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.

Temporary runoff protection measures will be installed according to the recommendations made in Chapter 1 of RG-348. Temporary erosion control will be placed as close to the site of construction soil disturbance as possible to minimize any disturbance with drainage areas. Frequent inspections of erosion controls will be warranted near the environmentally sensitive features, especially after every rainfall.

Request To Temporarily Seal a Feature

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

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.

Drainage Area Map

There are two areas greater than 10 acres within a common drainage area that will be disturbed at one time. An existing and proposed drainage area map is provided at the end of this report in Section 8 to support the aforementioned requirement.

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

A batch detention pond will serve as storage for on-site and off-site drainage for Colony Phase 2 (as shown on the approved Colony Cole Springs Phase 1 Pond 2 Plan) during the construction phase. The total drainage area includes 67.17 acres (167.57 acres from Phase 2 + 50.60 acres from Phase 1) and generates a volume of 241,812 ft³. The proposed detention pond (Pond 2) will contain a volume of 397,970 ft³, thus the constructed detention ponds will be adequately sized required for sedimentation purposes.

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.

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 <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 <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 Derek Baker,
Print Name

Area President,
Title - Owner/President/Other

of M/I HOMES OF AUSTIN,
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:

[Signature]
Applicant's Signature

6/17/24
Date

THE STATE OF TEXAS §

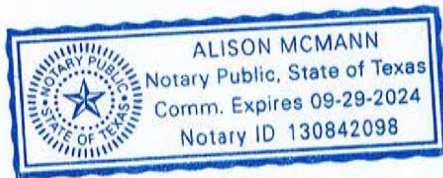
County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared Derek Baker 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 17 day of JUNE, 2024

[Signature]
NOTARY PUBLIC

ALISON MCMANN
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 09.29.2024

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: The Colony at Cole Springs Phase 2

Regulated Entity Location: Cole Springs Rd and Old Black Colony Rd

Name of Customer: M/I Homes of Austin, LLC

Contact Person: Kyle Kriegel

Phone: 512-770-8524

Customer Reference Number (if issued): 604305250

Regulated Entity Reference Number (if issued): N111401139

Austin Regional Office (3373)

☒ Hays

☐ Travis

☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone

☐ Contributing Zone

☒ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System	5,935 LF	\$2,967.50
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: Alexander E. Gonzalez

Date: June 11, 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



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 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 checked="" 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 604305250		RN 111401139

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
<input 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>	
M/I Homes of Austin, LLC					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0801672376		32049298139			
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
12. Number of Employees				13. Independently Owned and Operated?	
<input 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 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:		7600 N. Capital of Texas Highway, Building C ite 250			
City	Austin	State	TX	ZIP	78731
				ZIP + 4	
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If "New Regulated Entity" is selected, a new permit application is also required.)								
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input checked="" type="checkbox"/> Update to Regulated Entity Information								
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
The Colony at Cole Springs Phase 2								
23. Street Address of the Regulated Entity: (No PO Boxes)								
	City	Buda	State	TX	ZIP	78610	ZIP + 4	
24. County		Hays County						

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

25. Description to Physical Location:		Turn onto Cole Springs Rd from FM 1626 and go 1.25 miles on Cole Springs Road						
26. Nearest City					State		Nearest ZIP Code	
Buda					TX		78610	
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>								
27. Latitude (N) In Decimal:		30.080681			28. Longitude (W) In Decimal:		-97.858217	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
29. Primary SIC Code		30. Secondary SIC Code		31. Primary NAICS Code		32. Secondary NAICS Code		
(4 digits)		(4 digits)		(5 or 6 digits)		(5 or 6 digits)		
6514				53111				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Single Family Residential Development								
34. Mailing Address:		501 S. Austin Ave, Suite 1310						
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4	
35. E-Mail Address:		alex.granados@kimley-horn.com						
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)		
(512) 520-0768						() -		

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 checked="" 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			41. Title:	P.E.
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(512) 782-0602		() -	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:	Kimley-Horn		Job Title:	Project Manager	
Name (In Print):	Alex Granados			Phone:	(512) 520- 6078
Signature:				Date:	4/9/2024

SECTION 7: EXHIBITS

1ST SUBMITTAL TO CITY 02/05/2024

1. A PORTION OF PHASE 2 OF THE DEVELOPMENT IS LOCATED WITHIN A REGULATORY FEMA SPECIAL FLOOD HAZARD AREA, OR THE 100-YEAR FLOODPLAIN, FIRM PANEL NO. 48209CO280F, HAYS COUNTY, TEXAS AND INCORPORATED AREAS (DATED SEPTEMBER 2, 2005).
2. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
3. ALL PORTIONS OF THIS SITE ARE OVER THE EDWARDS AQUIFER RECHARGE ZONE, TRANSITION ZONE OR THE CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE.
4. CONTRACTOR SHALL CONTACT INFRAMARK (O&M MANAGER) AT 14050 SUMMIT DRIVE, SUITE 113A, AUSTIN, TX 78728 (512-246-0498) AND MURFEE ENGINEERING COMPANY AT 512-327-9204, AT LEAST (3) DAYS PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED IMPROVEMENTS OR MAKING ANY CONNECTION TO THE EXISTING WASTEWATER COLLECTION AND STORM DRAINAGE SYSTEM. FAILURE TO SUCCESSFULLY PROVIDE NOTICE OF WORK MAY RESULT IN RE-EXCAVATION AND/OR REMOVAL OF INSTALLED FACILITIES.
5. THERE ARE TREES GREATER THAN 8" CALIPER WITHIN PHASE 1 OF THE DEVELOPMENT.
6. ALL PROPOSED ELEVATIONS (SPOT GRADES AND CONTOURS) ARE TO FUTURE TOP OF GROUND AND PAVEMENT. CONTRACTOR TO CONSTRUCT ROADWAYS AND R.O.W. TO FINAL TOP OF PAVEMENT, CURB, AND GROUND ELEVATIONS PER THESE PLANS. CONTRACTOR TO VERIFY EXISTING TOP OF SUBGRADE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
7. ALL WASTEWATER SERVICES TO BE EXTENDED 5' BEYOND THE PROPOSED 10' UTILITY EASEMENT.
8. ENTIRE SITE IS LOCATED WITHIN BUDA CITY LIMITS AND BUDA ETJ
8. PHASE 2 OF THE COLONY AT COLE SPRINGS MEETS THE REQUIREMENTS OF THE DEVELOPMENT AGREEMENT.
9. HOA/MUD SHALL BE RESPONSIBLE FOR MAINTENANCE OF WATER QUALITY PONDS.

MERITAGE HOMES
12301 RESEARCH BLVD.
BLDG 4, SUITE 400
AUSTIN, TX 78759
TEL: (512) 610-4816
CONTACT: BRANDON HAMMANN

MI HOMES OF AUSTIN, LLC
7600 N. CAPITAL OF TEXAS HIGHWAY
BUILDING C, SUITE #250
AUSTIN, TEXAS 78731
TEL: (512) 770-8503
CONTACT: ROYCE RIPPY

Kimley»»Horn

01 S. AUSTIN AVE., SUITE 1310 Tel. No. (512) 520-0768
GEORGETOWN, TEXAS 78626 Fax No. (512) 418-1791
CERTIFICATE OF REGISTRATION #928
CONTACT: ALEJANDRO E. GRANADOS RICO, P.E.

GREG MOSIER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6330
601 NW LOOP 410
SUITE 350
SAN ANTONIO, TEXAS 78216
TEL: (210) 541-9166
GREG.MOSIER@KIMLEY-HORN.COM

APPROVED BY: _____ DATE _____

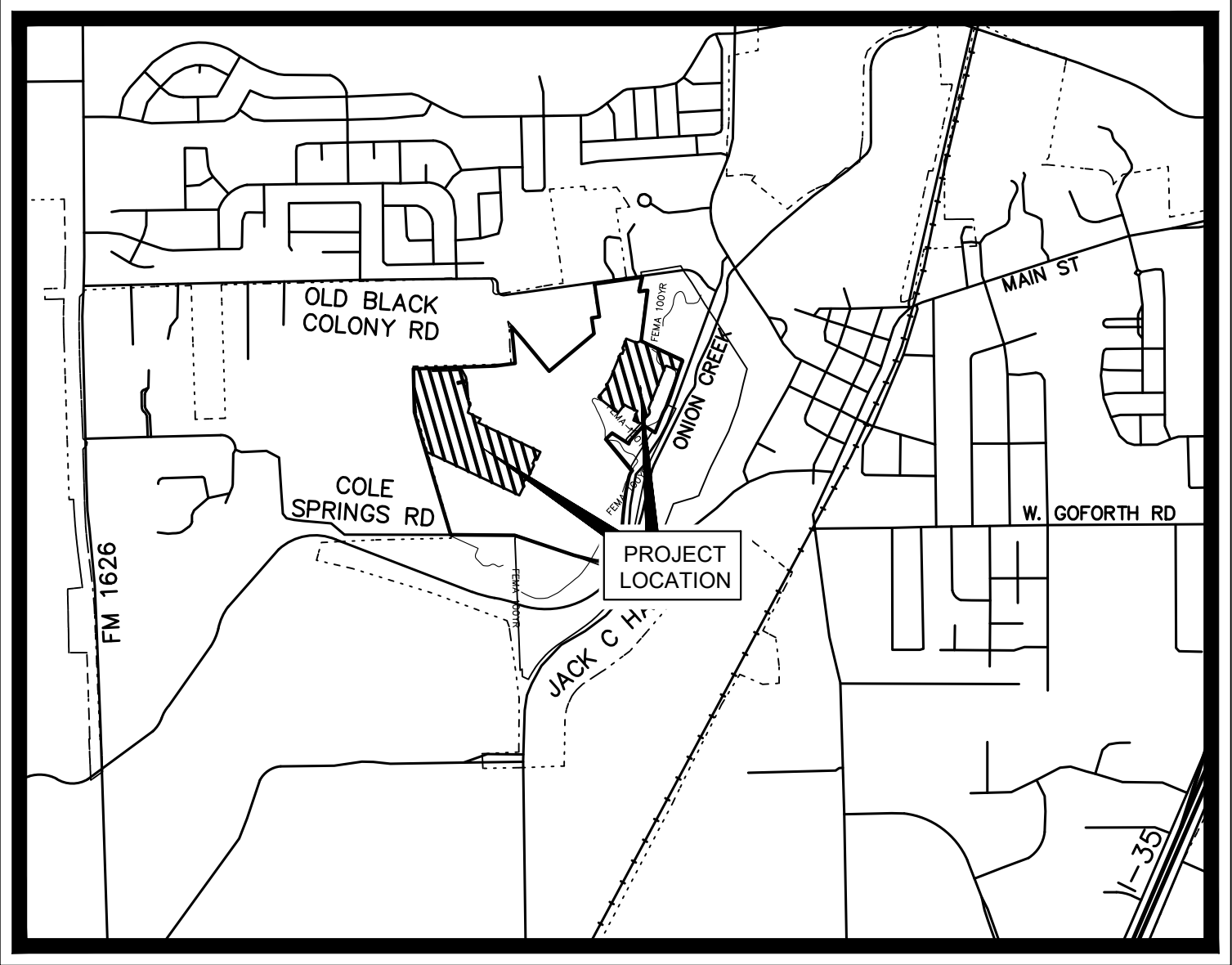
CITY OF BUDA _____ DATE _____

BUDA FIRE DEPARTMENT _____ DATE _____

DISTRICT ENGINEER** _____ DATE _____

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

33.04 ACRES, HIRAM CUMMINGS SURVEY, A-108, PHILLIPS J.
ALLEN SURVEY, A-1 & S.V.R. EGGLESTON SURVEY, A-5 IN
HAYS COUNTY, TEXAS



VICINITY MAP

SCALE: 1" = 2,000'

FEBRUARY 2024

[illegible]

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES (SHEET 1 OF 2)
3	GENERAL NOTES (SHEET 2 OF 2)
4	PRELIMINARY PLAT (SHEET 1 OF 7)
5	PRELIMINARY PLAT (SHEET 2 OF 7)
6	PRELIMINARY PLAT (SHEET 3 OF 7)
7	PRELIMINARY PLAT (SHEET 4 OF 7)
8	PRELIMINARY PLAT (SHEET 5 OF 7)
9	PRELIMINARY PLAT (SHEET 6 OF 7)
10	PRELIMINARY PLAT (SHEET 7 OF 7)
11	PHASING PLAN
12	PARKLAND HOA HATCHING
13	EXISTING CONDITIONS & DEMOLITION PLAN
14	EROSION CONTROL PLAN
15	TREE LIST
16	OVERALL TREE PLAN
17	GRADING PLAN (SHEET 1 OF 4)
18	GRADING PLAN (SHEET 2 OF 4)
19	GRADING PLAN (SHEET 3 OF 4)
20	GRADING PLAN (SHEET 4 OF 4)
21	PAVING PLAN & PROFILE - ANTIOCH CHURCH DR.
22	PAVING PLAN & PROFILE - ANTIOCH SCHOOL LN.
23	PAVING PLAN & PROFILE - MAGGIE REVADA ST.
24	PAVING PLAN & PROFILE - ALLEY A
25	PAVING PLAN & PROFILE - ALLEY B (SHEET 1 OF 2)
26	PAVING PLAN & PROFILE - ALLEY B (SHEET 2 OF 2)
27	PAVING PLAN & PROFILE - ALLEY D & ALLEY E
28	PAVING PLAN & PROFILE - ONION CREEK WAY
29	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 1 OF 3)
30	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 2 OF 3)
31	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 3 OF 3)
32	PAVING PLAN & PROFILE - BEARD WAY
33	PAVING PLAN & PROFILE - CHAMP AVE.
34	PAVING PLAN & PROFILE - WADING CREEK ST.
35	PAVING PLAN & PROFILE - YANCY LN.
36	PAVING PLAN & PROFILE - FIRE ACCESS DRIVE
37	EXISTING DRAINAGE AREA MAP
38	PROPOSED DRAINAGE AREA MAP
39	INLET DRAINAGE AREA MAP (SHEET 1 OF 3)
40	INLET DRAINAGE AREA MAP (SHEET 2 OF 3)
41	INLET DRAINAGE AREA MAP (SHEET 3 OF 3)
42	DRAINAGE CALCULATIONS (SHEET 1 OF 4)
43	DRAINAGE CALCULATIONS (SHEET 2 OF 4)
44	DRAINAGE CALCULATIONS (SHEET 3 OF 4)
45	DRAINAGE CALCULATIONS (SHEET 4 OF 4)
46	STORM PLAN & PROFILE SD-A STA. 13+28 - 21+50
47	STORM PLAN & PROFILE SD-A STA. 21+50 - END
48	STORM PLAN & PROFILE SD-D
49	STORM PLAN AND PROFILE SD-E & SD-FF
50	STORM PLAN & PROFILE SD-G
51	STORM PLAN AND PROFILE SD-GG & SD-HH
52	STORM PLAN AND PROFILE SD-L & SD-N
53	STORM PLAN AND PROFILE SD-M
54	STORM PLAN AND PROFILE SD-R & SD-X
55	STORM LATERAL PROFILES (SHEET 1 OF 5)
56	STORM LATERAL PROFILES (SHEET 2 OF 5)
57	STORM LATERAL PROFILES (SHEET 3 OF 5)
58	STORM LATERAL PROFILES (SHEET 4 OF 5)
59	STORM LATERAL PROFILES (SHEET 5 OF 5)
60	OVERALL WATER PLAN
61	WATER PLAN & PROFILE - WL-F (SHEET 1 OF 2)
62	WATER PLAN & PROFILE - WL-F (SHEET 2 OF 2)
63	WATER PLAN & PROFILE - WL-G
64	WATER PLAN & PROFILE - WL-H
65	WATER PLAN & PROFILE - WL-O
66	WATER PLAN & PROFILE - WL-R (SHEET 1 OF 3)
67	WATER PLAN & PROFILE - WL-R (SHEET 2 OF 3)
68	WATER PLAN & PROFILE - WL-R (SHEET 3 OF 3)
69	WATER PLAN & PROFILE - WL-V
70	OVERALL WASTEWATER PLAN
71	WASTEWATER PLAN & PROFILE WWL-O (SHEET 1 OF 2)
72	WASTEWATER PLAN & PROFILE WWL-O (SHEET 2 OF 2) & WWL-P
73	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 1 OF 3)
74	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 2 OF 3)
75	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 3 OF 3)
76	WASTEWATER PLAN & PROFILE WWL-R
77	WASTEWATER PLAN & PROFILE WWL-Y (SHEET 1 OF 2)
78	WASTEWATER PLAN & PROFILE WWL-Y (SHEET 2 OF 2)
79	WASTEWATER PLAN & PROFILE WWL-Z
80	WASTEWATER PLAN & PROFILE WWL-AA
81	STREET LIGHT & SIGN PLAN (SHEET 1 OF 2)
82	STREET LIGHT & SIGN PLAN (SHEET 2 OF 2)
83	EROSION CONTROL DETAILS
84	PAVING DETAILS (SHEET 1 OF 4)
85	PAVING DETAILS (SHEET 2 OF 4)
86	PAVING DETAILS (SHEET 3 OF 4)
87	PAVING DETAILS (SHEET 4 OF 4)
88	STORM DRAIN DETAILS
89	WATER DETAILS
90	WASTEWATER DETAILS

CONSTRUCTION PLAN APPROVAL		SHEET	OF 90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON		N/A UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE:		ZONING	N/A
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
<i>Final plan must be recorded by the Project Engineer date, if applicable. Subsequent Site Plans which do not comply with the Code current date at the time of filing, and all required Building Permits and/or a notice of Construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>			
PERMIT NUMBER:			

Plotted By: Flynn, Alyssa Date: April 09, 2024 01:59:26pm File Path: K:\you_civil\067783115 meritage buds assemblage PHASE 2\06d\plansheets\0-Erosion Control Plan.dwg
This document, together with the concepts and designs presented herein, is an instrument of service. It is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NOTES:

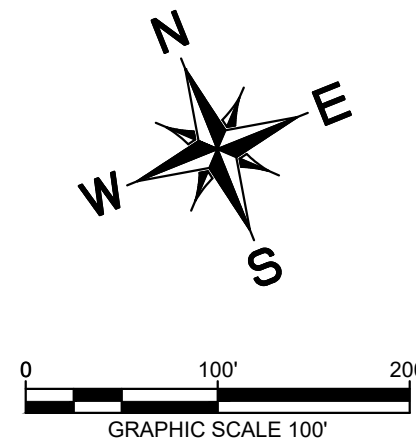
1. FLOODPLAIN EASEMENT RESTRICTION: CONSTRUCTION WITHIN THE FLOODPLAIN MAY ONLY OCCUR WITH THE WRITTEN APPROVAL OF THE CITY. A REQUEST FOR CONSTRUCTION WITHIN THE FLOODPLAIN EASEMENT MUST BE ACCOMPANIED WITH DETAILED CONSTRUCTION PLANS AND STUDIES INDICATING THAT NO FLOODING WILL RESULT, THAT NO OBSTRUCTION TO THE NATURAL FLOW OF WATER WILL RESULT; AND SUBJECT TO ALL OWNERS OR THE PROPERTY AFFECTED BY SUCH CONSTRUCTION BECOMING A PARTY TO THE REQUEST. WHERE CONSTRUCTION IS PERMITTED ALL FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF TWO (2) FEET ABOVE THE 100-YEAR FLOOD ELEVATION AS DETERMINED BY ANALYZING THE ULTIMATE BUILD-OUT CONDITIONS OF THE ENTIRE DRAINAGE BASIN.
2. EXISTING CREEKS, LAKES, RESERVOIRS, OR DRAINAGE CHANNELS TRAVERSING ALONG OR ACROSS PORTIONS OF THIS ADDITION, WILL REMAIN AS AN OPEN CHANNEL AT ALL TIMES AND WILL BE MAINTAINED BY THE INDIVIDUAL OWNERS OF THE LOT OR LOTS THAT ARE TRAVERSED BY THE DRAINAGE COURSES ALONG OR ACROSS SAID LOTS. THE CITY WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF SAID DRAINAGE WAYS OR FOR THE CONTROL OF EROSION. EACH PROPERTY OWNER SHALL KEEP THE NATURAL DRAINAGE CHANNELS TRAVERSING HIS PROPERTY CLEAN AND FREE OF DEBRIS, SILT, OR ANY SUBSTANCE, WHICH WOULD RESULT IN UNSANITARY CONDITIONS. THE CITY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS FOR THE PURPOSE OF INSPECTION AND SUPERVISION OF MAINTENANCE WORK BY THE PROPERTY OWNER TO ALLEVIATE ANY UNDESIRABLE CONDITIONS, WHICH MAY OCCUR.
3. EASEMENTS: ANY PUBLIC UTILITY, INCLUDING THE CITY, SHALL HAVE THE RIGHT TO MOVE AND KEEP MOVED ALL OR PART OF ANY BUILDING, FENCES, TREES, SHRUBS, OTHER GROWTHS OR IMPROVEMENTS WHICH IN ANY WAY ENDANGER OR INTERFERE WITH THE CONSTRUCTION, MAINTENANCE, OR EFFICIENCY OF ITS RESPECTIVE SYSTEMS ON ANY OF THE EASEMENTS OR RIGHT-OF-WAY SHOWN ON THE PLAT (OR FILED BY SEPARATE INSTRUMENT THAT IS ASSOCIATED WITH SAID PROPERTY), AND ANY PUBLIC, INCLUDING THE CITY, SHALL HAVE THE RIGHT AT ALL TIMES OF INGRESS AND EGRESS TO AND FROM UPON SAID EASEMENTS FOR THE PURPOSE OF CONSTRUCTION, RECONSTRUCTION, INSPECTION, PATROLLING, MAINTAINING AND ADDING TO REMOVING ALL OR PART OF ITS RESPECTIVE SYSTEMS WITHOUT THE NECESSITY AT ANY TIME OF PROCURING THE PERMISSION OF ANYONE. EASEMENTS SHALL BE MAINTAINED BY PROPERTY OWNERS. THE CITY CAN MOVE TREES OR ANY OTHER IMPROVEMENTS AND DOES NOT HAVE THE RESPONSIBILITY TO REPLACE THEM.
4. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
5. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL AS ADOPTED BY THE CITY OF BUDA.
6. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF BUDA ENGINEERING DEPARTMENT, 312-0084, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
7. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE PLAN MAY BE REQUIRED BY THE INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
8. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR THE MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHED SIX (6) INCHES.
9. WHERE A DIVERSION OR PERIMETER CONTROL SILT FENCE IS INSTALLED IN THE DIRECTION OF A SLOPE, A 20-FOOT LENGTH OF FENCE SHOULD BE TURNED IN, ACROSS THE SLOPE, AT REGULAR INTERVALS (100 FEET) TO CREATE A "J" HOOK.

PERMANENT EROSION CONTROL:

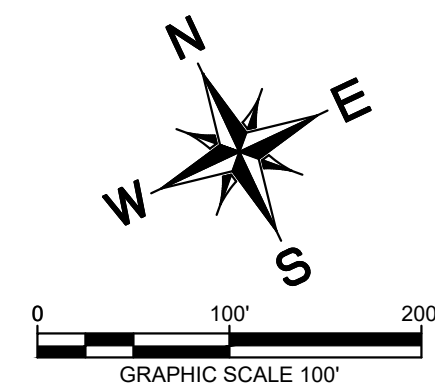
ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE AS SPECIFIED IN THE CITY OF AUSTIN STANDARD SPECIFICATION 604S, AS ADOPTED BY THE CITY OF BUDA. USE NATIVE SEEDING.

DUST CONTROL:

DUST CONTROL METHODS ARE REQUIRED AS PER CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL SECTION 1.4.5.D AS ADOPTED BY THE CITY OF BUDA.



THE COLONY AT COLE SPRINGS PHASE 1 SHOWN FOR REFERENCE ONLY



EROSION CONTROL LEGEND	
	PROPERTY LINE
	PROPOSED CONTOUR
	EXISTING CONTOUR
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE/EXIT
	INLET PROTECTION
	ROCK BERM
	LIMITS OF CONSTRUCTION
	TREE PROTECTION
	LIMITS OF REVEGETATION
	CURLEX MATTING



KEY MAP
SCALE: 1" = 1,000'



Know what's below.
Call before you dig.

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

BENCHMARKS

- BENCHMARKS
- BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV +705.87 (NAVD 88)
 - BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV +712.04 (NAVD 88)
 - BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION CODE	N/A	UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		

City Engineer, City of Buda	
RELEASED FOR GENERAL COMPLIANCE:	ZONING N/A
Rev. 1	Correction 1
Rev. 2	Correction 2
Rev. 3	Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

NO.	REVISIONS	DATE	BY

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

04/9/2024



KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY:	DPD
DRAWN BY:	AMF
CHECKED BY:	AEC

EROSION CONTROL PLAN

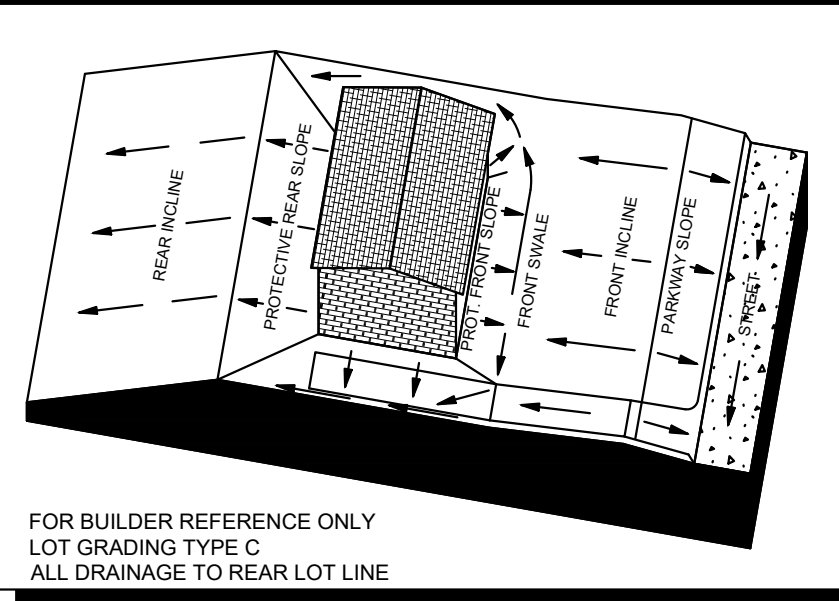
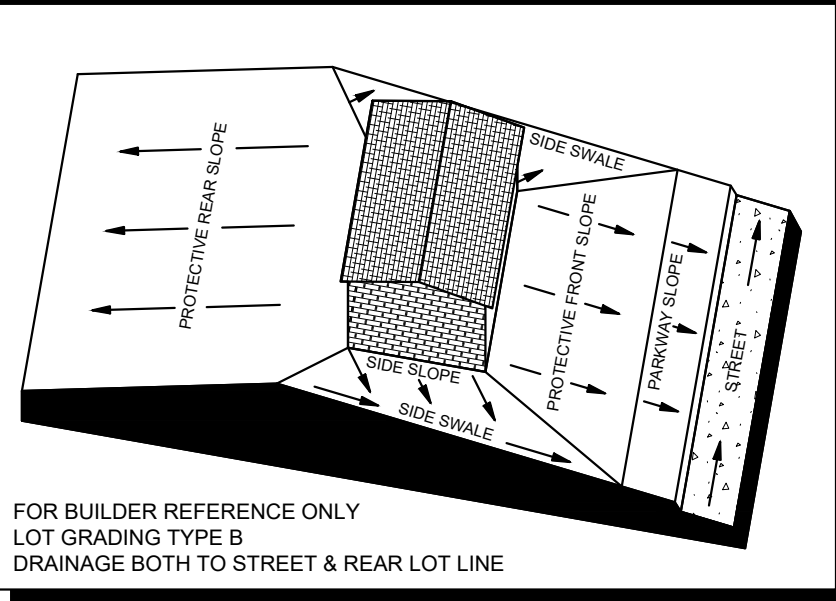
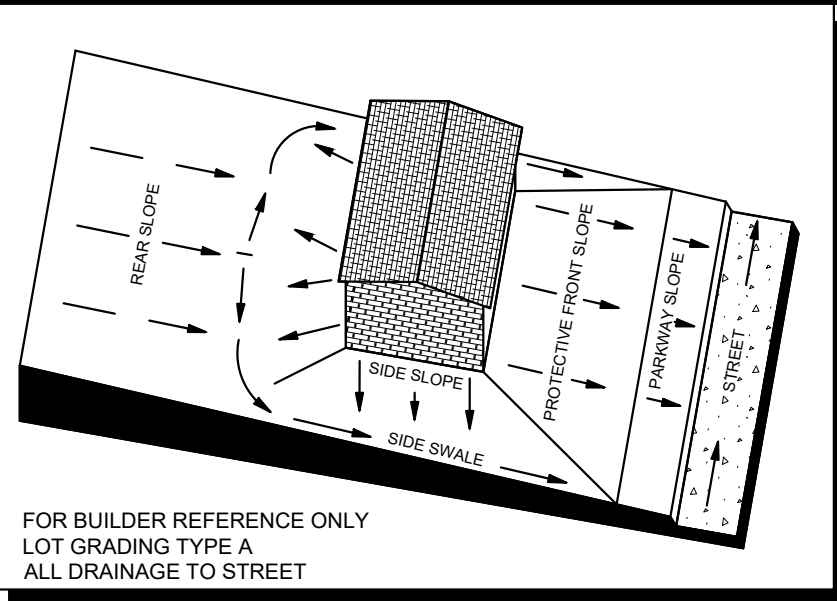
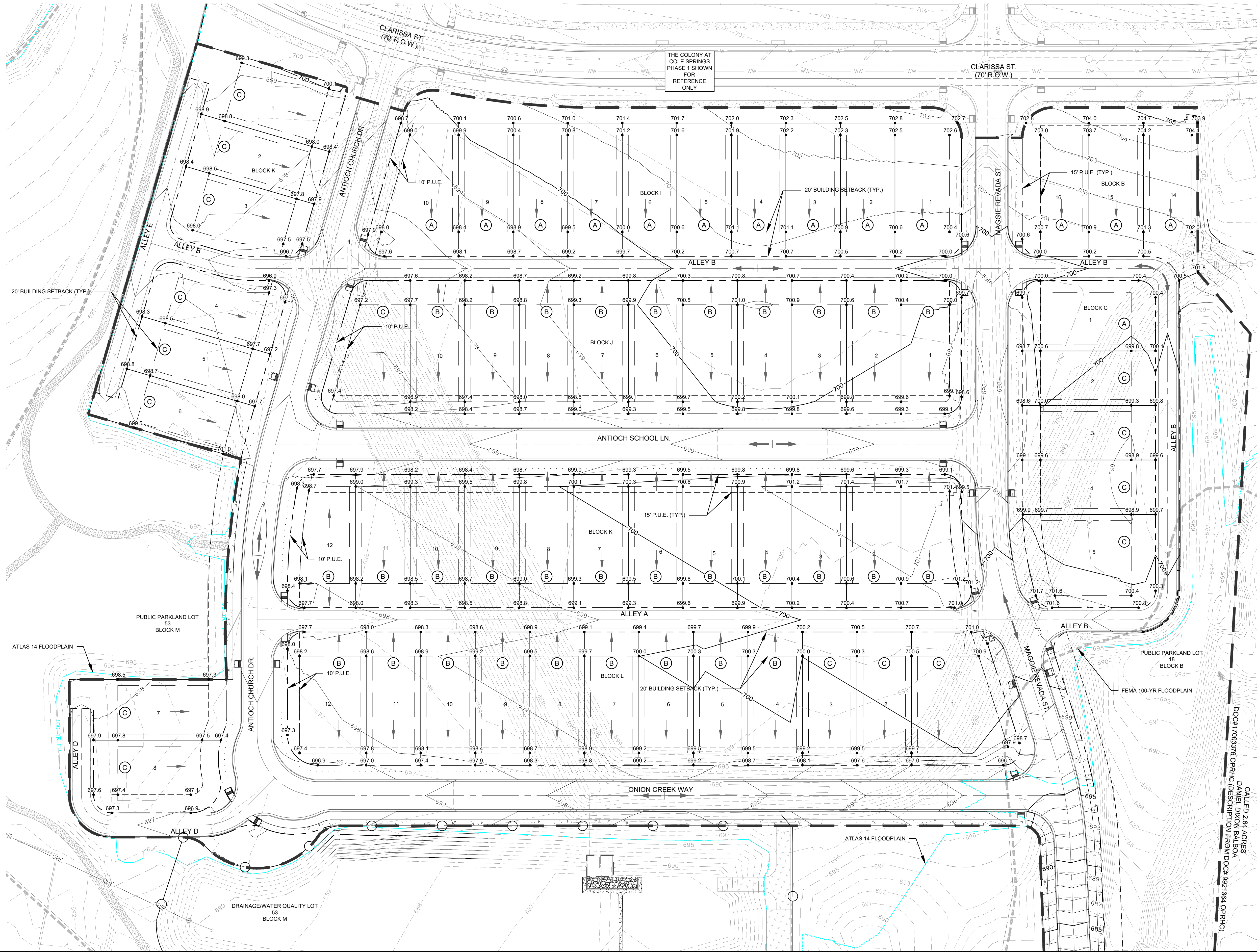
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER

14
OF 90

Plotted By: Flynn, Alyssa Date: April 09, 2024 02:00:53pm File Path: K:\You_civil\067783115_meritage_budo_assemble\PHASE 2\Grading\plan\streets\G-Grading Plan.dwg

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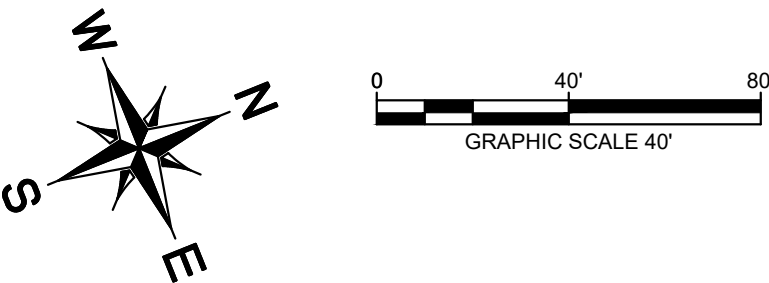


LEGEND

---	PROPERTY LINE
---	PHASE LINE
FP 675.00	PROPOSED FINISHED PAD ELEVATION
55.5 •	PROPOSED SPOT ELEVATION
EX 55.5 •	EXISTING SPOT ELEVATION
TW 55.5 •	PROPOSED GRADE AT TOP OF WALL
BW 55.5 •	PROPOSED GRADE AT BOTTOM OF WALL
EW 55.5 •	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
555	PROPOSED CONTOUR
555	EXISTING CONTOUR
---	STORM SEWER
□	STORM INLET
○	STORM MANHOLE
W	WATER MAIN
WW	WASTEWATER MAIN
---	5' SIDEWALK (INCLUDED IN CONTRACT)
---	5' SIDEWALK (EXCLUDED FROM CONTRACT)

NOTE:

- CONTRACTOR TO PROVIDE STRUCTURAL WALL DESIGN FOR ALL WALLS.
- BW = BOTTOM OF GRADE
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SEE STRUCTURAL FOR TOP OF FOOTING AND TOP OF BLOCK.
- ANY REVISIONS TO RETAINING WALLS WILL REQUIRE CITY APPROVAL.



KEY MAP
SCALE: 1" = 1,000'



BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897.774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.54 (NAVD 83)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHWEST SIDE OF FM 2776 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 83)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 83)

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

CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON	N/A	UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER		

City Engineer, City of Buda
Rev. 1: _____ ZONING N/A
Rev. 2: _____ Correction 1
Rev. 3: _____ Correction 2
Rev. 4: _____ Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

Kimley»Horn

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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

04/9/2024



KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AJD
CHECKED BY	AEC

GRADING PLAN
(SHEET 1 OF 4)

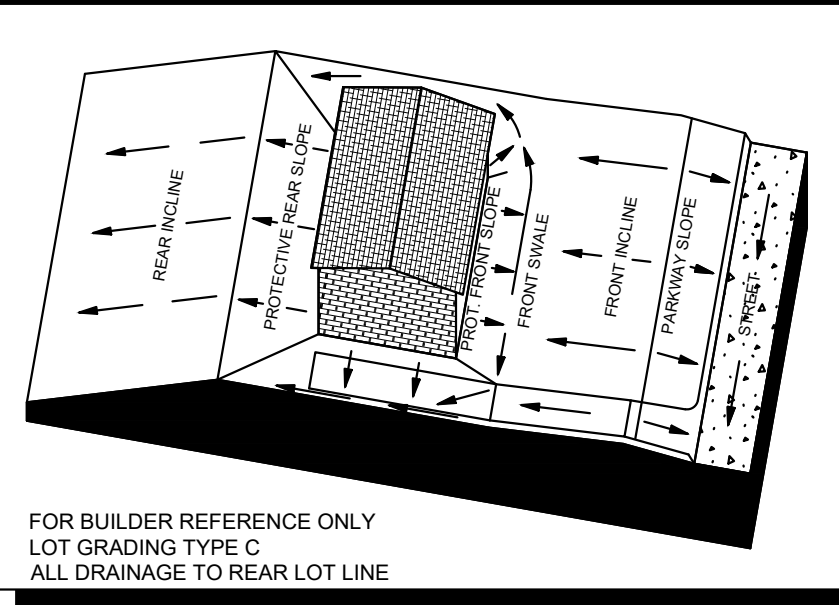
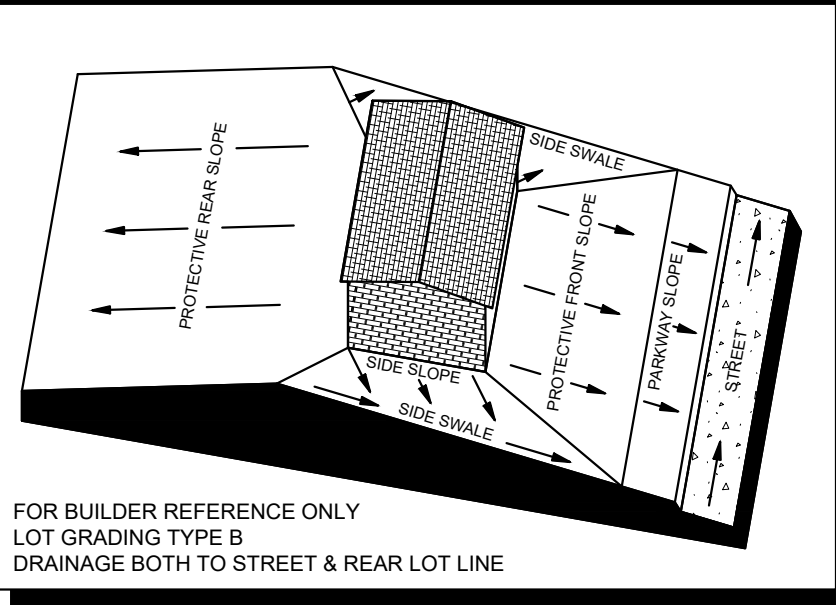
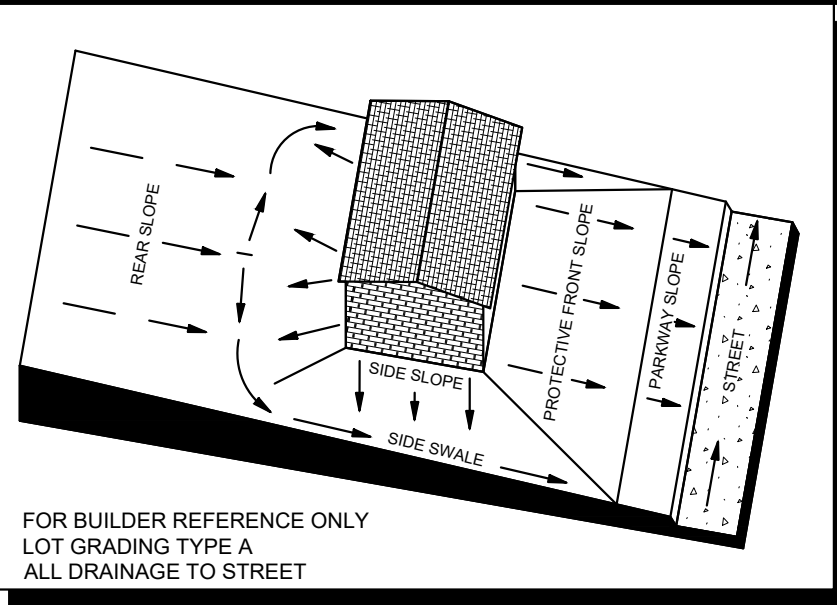
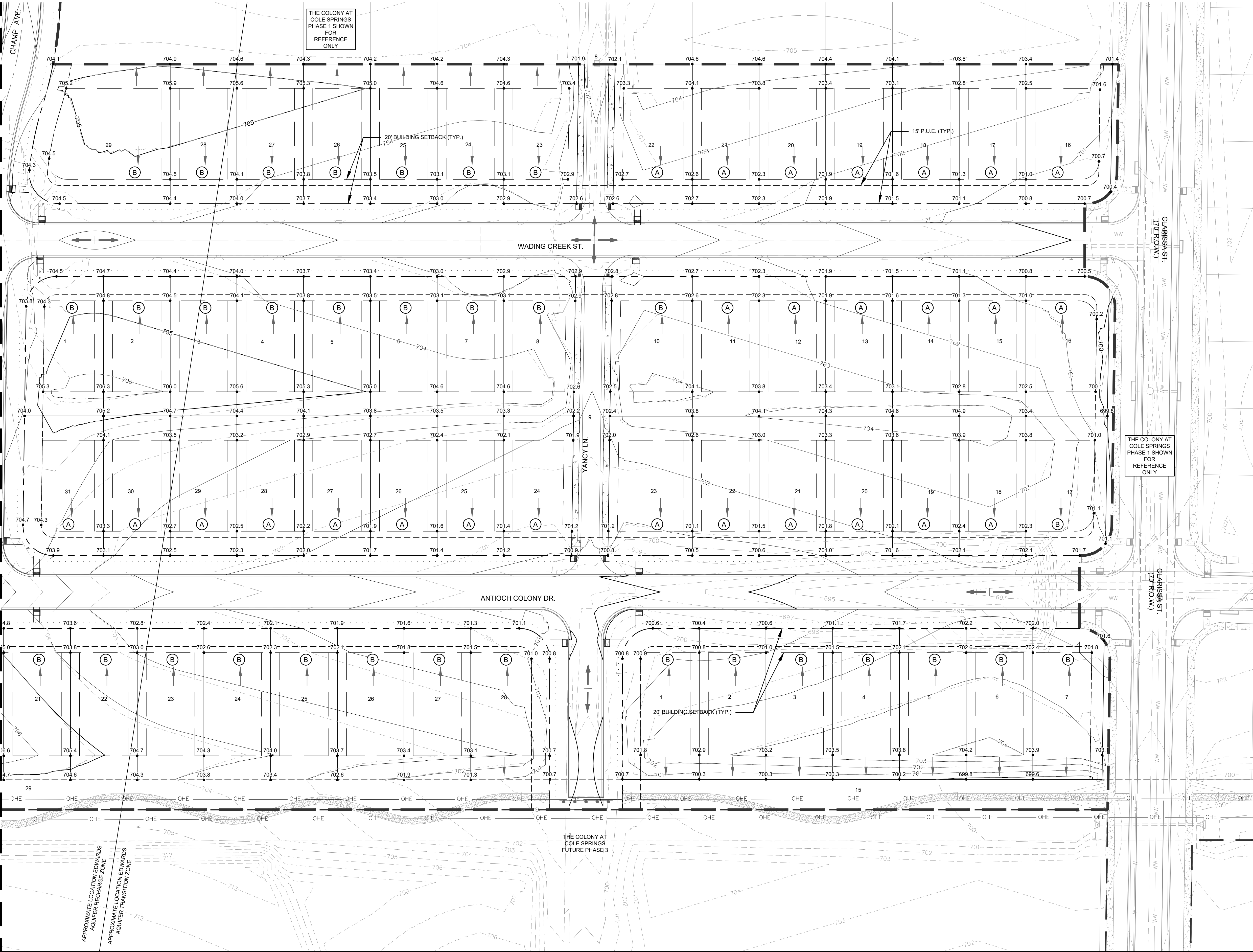
THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
17
OF 90

Plotted By: Lynn, Alyssa Date: April 09, 2024 02:01:05pm File Path: K:\You_civil\067783115 meritage buds assem\blpase PHASE 2\067783115 Grading Plan.dwg

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MATCH LINE SEE SHEET 19

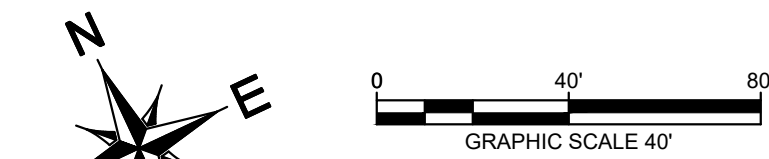


LEGEND

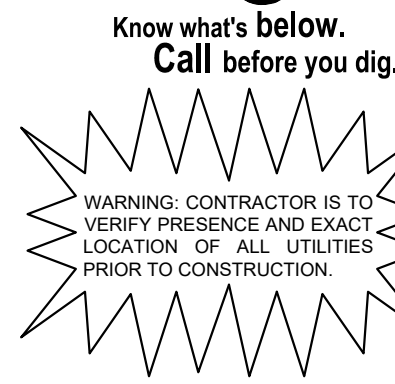
---	PROPERTY LINE
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FP 675.00	PROPOSED FINISHED PAD ELEVATION
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KEY MAP
SCALE: 1" = 1,000'



BENCHMARKS

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CONSTRUCTION PLAN APPROVAL		SHEET	OF	90
FILE NUMBER	APPLICATION DATE			
APPROVED BY COMMISSION CODE	N/A UNDER THE CITY OF BUDA			
UNIFIED DEVELOPMENT CODE	CASE MANAGER			
EXPIRATION DATE				
City Engineer, City of Buda				
RELEASED FOR GENERAL COMPLIANCE: ZONING N/A				
Rev. 1	Correction 1			
Rev. 2	Correction 2			
Rev. 3	Correction 3			
Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.				
PERMIT NUMBER:				

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024



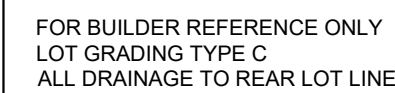
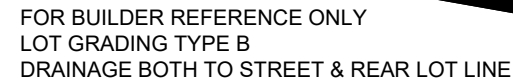
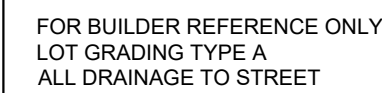
KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY:	DPD
DRAWN BY:	AJD
CHECKED BY:	AEC

GRADING PLAN
(SHEET 2 OF 4)

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
18
OF 90

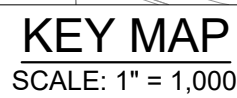
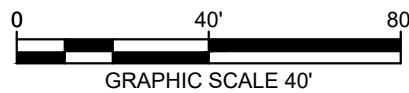
DATE
REVISIONS
No.



CALLER
TRACT 1 - 23.974 ACRES
TRACT 2 - 2.854 ACRES
801 RUBY, LLC
DOC# 22012785
OPRHC

NOTE:

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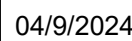


WARNING: CONTRACTOR IS
VERIFY PRESENCE AND EXA

BENCHMARKS

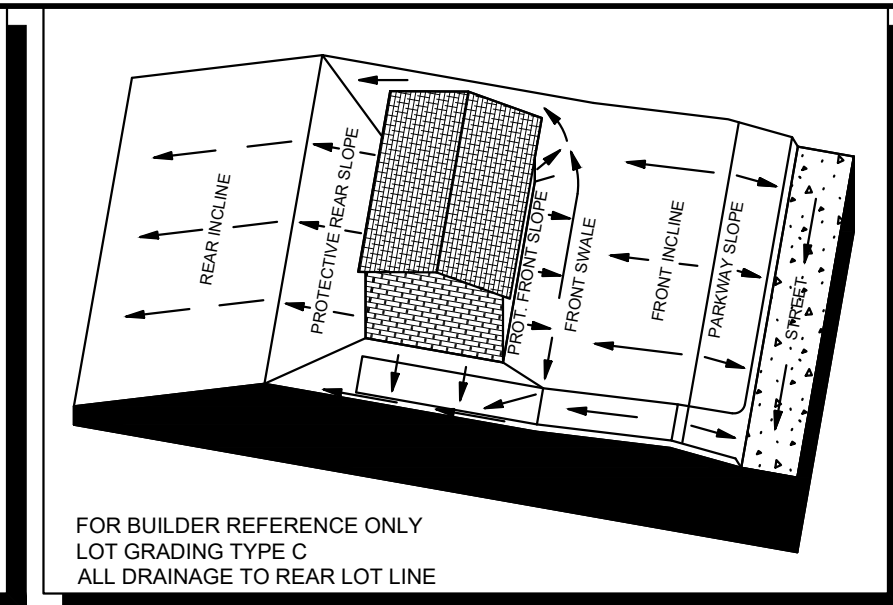
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Kimley»»Horn

KHA PROJECT
067783115

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
19
OF 90



NOTE:

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KEY MAP
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CONSTRUCTION PLAN APPROVAL		SHEET <u> 00 </u> OF <u> 90 </u>
FILE NUMBER	APPLICATION DATE	
APPROVED BY COMMISSION ON <u> N/A </u> UNDER THE CITY OF BUDA		
UNIFIED DEVELOPMENT CODE		
EXPIRATION DATE	CASE MANAGER	

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE:	ZONING	<u> N/A </u>
Rev. 1	Correction 1	
Rev. 2	Correction 2	
Rev. 3	Correction 3	

Final plot must comply with the Project Expiration Date, if applicable. Subsequent Site plans that do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

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04/9/2024

GRADING PLAN
(SHEET 4 OF 4)

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
20
OF 90

Plotted By: Flynn, Alyssa Dater: April 10, 2024 07:26:13pm File Path: K:\you_civil\067783115 meritage buda assembly\Phase 2\UOC\plan\streets\UOC-Existing Drainage Area Map.dwg
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HMS BASIN PARAMETERS											
SUBBASIN			LOSSES			TRANSFORM					
			SCS CURVE NUMBER			SNYDER UNIT HYDROGRAPH					
						Standard Lag (hr) = t_p					
						$t_p = C_r(L/L_{CA})^{.77}$					
						Peaking Coefficient = C_p					
						C_p = Basin Characteristic					
Basin	Subbasin	Area	Initial Abstractions (in)			Impervious			C_r	L	C_p
		(sq ft)	2YR	10YR	25YR	100YR	CN	%	(mi)	(hr)	
UnionBasin	UOCRT10	3,414	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80
REVEK	UOCRT10_PROJECT	0.228	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.53
REVEK	UOCRT10_OFFSITE	2.302	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80
PROP	UOCRT10_PROJECT	0.235	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61
PROP	UOCRT10_OFFSITE	2.300	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80
UnionBasin	UOCRT30	3,414	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27
REVEK	UOCRT30_PROJECT	0.038	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12
REVEK	UOCRT30_OFFSITE	3.376	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27
PROP	UOCRT30_PROJECT	0.031	2.0	1.9	1.5	0.5	82	44.0	0.50	0.32	0.11
PROP	UOCRT30_OFFSITE	3.376	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27

Note: C_r and C_p values for subbasins UOCRT10 and UOCRT30 are from effective model

LAG TIME CALCULATIONS

Lag Time (Onion Creek Effective Hydraulic Model)													
xSec Station	Dist (ft)	2 YR Velocity			10 YR Velocity			25 YR Velocity			100YR Velocity		
		RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)	RAS Vel (ft/s)	Avg Vel (ft/s)	Time (sec)
168897	—	2.90	—	—	5.07	—	—	6.23	—	—	8.11	—	—
167934	983	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total Lag (sec)		324			170			141			110		
Total Lag (min)		5.4			2.8			2.3			1.8		
Reach "R-730"													
167494	—	2.97	—	—	6.39	—	—	7.62	—	—	9.91	—	—
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	69
166507	473	2.93	2.8	188	5.44	5.9	82	6.64	7.0	89	7.48	7.5	83
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	80	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	867	3.06	3.0	180	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163904	867	3.08	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161507	682	3.01	3.0	221	6.44	6.6	100	8.03	8.0	82	10.02	9.4	70
160770	787	2.89	3.0	287	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	28	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	6.2	1	6.97	6.8	1	8.81	8.6	1
160495	6	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160304	185	2.40	2.5	73	5.99	5.6	33	6.5	7.2	26	8.34	8.2	20
159560	544	2.87	2.8	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	283	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	68
155173	384	4.24	4.4	89	7.94	8.0	49	9.54	8.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.33	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total Lag (sec)		4124			2085			1701			1454		
Total Lag (min)		68.7			34.4			28.3			24.2		

LOCAL DRAINAGE AREA MAP

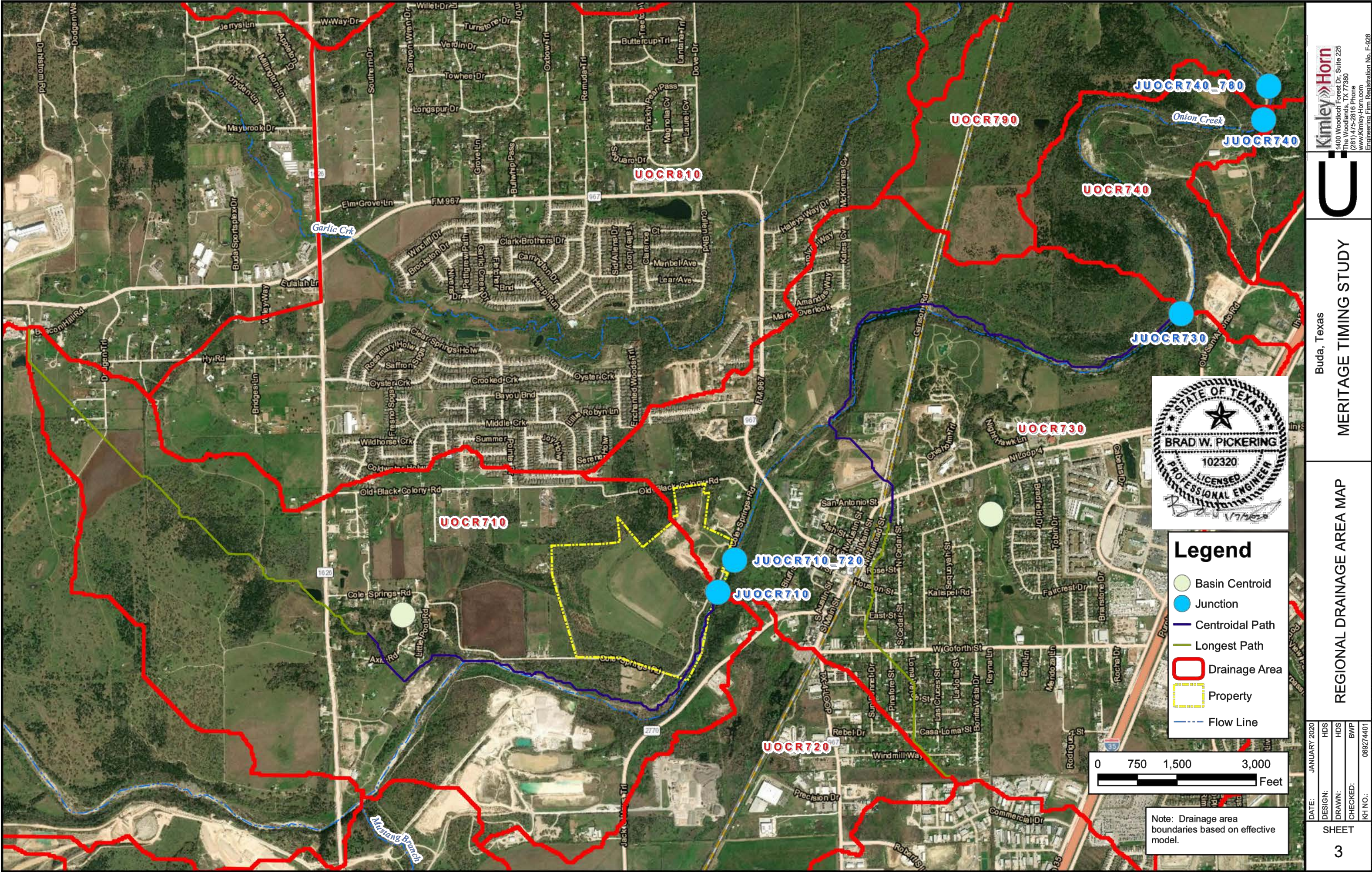


Kimley-Horn
102320
BRAD W. PICKERING
102320
PROFESSIONAL ENGINEER
STATE OF TEXAS

Buda, Texas
MERITAGE TIMING STUDY

LOCAL EXISTING DRAINAGE AREA MAP

DATE: JANUARY 2024
DESIGN: FLYNN, ALYSSA
DRAWN: FLYNN, ALYSSA
CHECKED: FLYNN, ALYSSA
SHEET: 1



Kimley-Horn
102320
BRAD W. PICKERING
102320
PROFESSIONAL ENGINEER
STATE OF TEXAS

Buda, Texas
MERITAGE TIMING STUDY

REGIONAL DRAINAGE AREA MAP

DATE: JANUARY 2024
DESIGN: FLYNN, ALYSSA
DRAWN: FLYNN, ALYSSA
CHECKED: FLYNN, ALYSSA
SHEET: 3

PEAK FLOW RESULTS

Junction	2YR				10YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	DETPROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	DETPROP - REVEK
UOCRT10_PROJECT	13	134	134	122	233	379	379	145
730 DETENTION	2542	2542	2542	0	22232	22232	22232	0
JUOCRT10	2542	2542	2542	0	22232	22232	22232	0
UOCRT30_PROJECT	3	27	27	24	62	93	93	31
730 DETENTION	2931	2931	2939	0	22462	22464	22464	2
JUOCRT30	2935	2935	2933	0	22479	22481	22482	2
JUOCRT70-730	2935	2935	2933	0	22563	22565	22566	2
JUOCRT70	2916	2916	2934	0	22635	22637	22637	2
JUOCRT30-820	2540	2541	2549	1	9	22958	22960	2
JUOCRT30-830	2540	2540	2548	0	8	22681	22682	1
JUOCRT80	2937	2937	2945	0	8	23044	23045	1
UNION CREEK	3116	3116	3124	0	8	26065	26067	1

Junction	25YR				100YR			
	REVEK Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	DETPROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	DETPROP - REVEK
UOCRT10_PROJECT	411	546	546	135	659	794	794	135
730 DETENTION	41812	41813	41814	1	80017	80019	80018	2
JUOCRT10	41808	41809	41810	1	80036	80040	80039	4
UOCRT30_PROJECT	106	107	107	1	165	152	152	-13
730 DETENTION	—	—	101	—	—	102	—	—
JUOCRT30	42112	42113	42113	1	80255	80256	80255	1
JUOCRT70	42128	42129	42129	1	80266	80267	80266	1
JUOCRT70-730	42236	42239	42239	1	80487	80489	80487	2
JUOCRT30-820	42349	42350	42350	1	80563	80564	80563	1
JUOCRT30-830	42817	42818	42819	1	81198	81199	81198	1
JUOCRT80	42852	42853	42853	1	81246	81247	81246	1
JUOCRT80	42888	42888	42888	2	81286	81286	81286	1
UNION CREEK	47282	47283	47284	1	87646	87647	87646	1

NOTES:

- 1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.

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

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

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90
FILE NUMBER APPLICATION DATE
APPROVED BY COMMISSION CODE N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE
EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda
RELEASED FOR GENERAL COMPLIANCE: ZONING N/A
Rev. 1 Correction 1
Rev. 2 Correction 2
Rev. 3 Correction 3
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PERMIT NUMBER:

BENCHMARKS
BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 897 RT 774 NORTH OF THE EDDIE NORTH ROAD OF PAVEMENT OF COLE SPRINGS ROAD. ELEV = 712.54 (NAVD 83)
BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 N FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV = 712.04 (NAVD 83)
BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV = 732.56 (NAVD 83)

Kimley-Horn
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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

04/9/2024
KHA PROJECT 067783115
DATE FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: DPD
DRAWN BY: DPD
CHECKED BY: AEC

EXISTING DRAINAGE AREA MAP
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER 37 OF 90

Kimley-Horn
102320
BRAD W. PICKERING
102320
PROFESSIONAL ENGINEER
STATE OF TEXAS

ALYSSA E. FLYNN
130084
PROFESSIONAL ENGINEER
STATE OF TEXAS

REVISIONS
No. DATE BY

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HMS BASIN PARAMETERS																							
SUBBASIN				LOSSES							TRANSFORM												
				SCS CURVE NUMBER							SNYDER UNIT HYDROGRAPH Standard Lag (hr) = t_w $t_p = Cr(L_{CA})^{0.7}$ $k_p = \text{Baker Coefficient} = C_u$ $C_r = \text{Basin Characteristic}$												
Basin	Subbasin	(mi ²)	(ac)	2YR	10YR	25YR	100YR	CN	Impervious	C_r	L_{CA}	t_p	C_u										
										(mi)	(hr)												
Ontonbasin	UCOR710	2,528	1618	2.0	1.9	1.5	0.5	82	16.0	0.61	3.57	1.80	1.07	0.75									
REVIEW	UCOR710_PROJECT	0.228	146	2.0	1.9	1.5	0.5	82	0.0	0.61	0.96	0.68	0.53	0.75									
REVIEW	UCOR710_OFFSETSITE	2,300	1471	2.0	1.9	1.5	0.5	82	16.0	0.61	3.57	1.80	1.07	0.75									
PROP	UCOR710_PROJECT	0.235	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44	0.75									
PROP	UCOR710_OFFSETSITE	2,300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07	0.75									
Ontonbasin	UCOR730	3,414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.36	2.27	1.20	0.75									
REVIEW	UCOR730_PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24	0.75									
REVIEW	UCOR730_OFFSETSITE	3,376	2161	2.0	1.9	1.5	0.5	82	20.0	0.65	3.36	2.27	1.20	0.75									
PROP	UCOR730_PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20	0.75									
PROP	UCOR730_OFFSETSITE	3,376	2162	2.0	1.9	1.5	0.5	82	20.0	0.65	3.36	2.27	1.20	0.75									

*Note: C_r and C_u values for subbasins UCOR710 and UCOR730 are from effective model

LAG TIME CALCULATIONS													
Lao Tm (Onion Creek Equestre Hydraulic Model)													
vSite	Dist (ft)	2 VR Velocity			Reach "R-710"			10 VR Velocity			100VR Velocity		
		RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)	RAS Vel (fps)	Avg Vel (fps)	Time (sec)
168897	—	2.90	—	—	5.07	—	—	6.23	—	—	8.11	—	—
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total Lag (sec)		324			170			141			110		
Total Lag (min)		5.4			2.8			2.3			1.8		
Reach "R-730"													
167494	2.97	—	—	—	6.39	—	—	7.62	—	—	9.91	—	—
166980	514	2.70	2.8	181	6.12	6.3	82	7.26	7.5	69	7.5	8.8	59
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165738	334	2.98	2.5	127	5.82	5.4	60	7.22	6.8	62	8.47	7.9	41
165444	174	3.49	3.2	54	7.22	6.5	27	9.34	8.2	21	11.04	9.9	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.6	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	967	3.05	3.0	345	6.55	5.5	104	5.86	6.2	99	7.69	7.0	81
164267	967	3.05	3.4	349	6.05	6.3	138	7.22	7.0	122	7.86	7.5	83
164247	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.31	8.1	105
162169	579	2.97	3.1	187	6.81	6.6	108	8.07	7.9	73	8.86	8.6	67
161507	682	3.01	3.0	221	6.44	6.6	100	8.01	8.0	62	10.02	9.4	70
160720	787	2.89	3.0	207	7.67	7.1	112	8.46	8.7	80	11.54	10.7	10
160585	135	3.97	3.4	39	7.43	7.8	18	8.49	9.0	15	9.91	10.7	13
160510	76	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	5.2	1	6.997	6.1	1	8.81	8.5	1
160488	8	2.23	2.1	4	5.63	5.6	2	7.373	7.1	2	9.07	8.7	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	10
159960	544	2.87	2.6	208	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
159889	502	2.47	2.7	300	5.69	6.2	165	7.04	6.5	124	8.52	8.6	105
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	128	8.73	8.6	108
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	8.85	8.8	90
155567	711	1.64	4.3	167	8.03	7.5	91	9.75	9.1	71	11.68	10.8	6
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.35	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total Lag (sec)		6124			2065			1701			1454		
Total Lag (min)		102.4			34.5			28.3			24.2		

PEAK FLOW RESULTS												
Junction	20YR						100YR					
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK		
UCOR740 PROJECT	13	132	124	12	122	122	223	222	223	145	146	
750 DETENTION	—	—	—	—	—	—	—	—	—	—	—	
JUCOR740	2542	2542	2542	0	7	2220	2220	2220	2	2		
JUCOR750 750	2542	2542	2542	0	7	2220	2220	2220	2	2		
JUCOR750 PROJECT	3	27	27	24	24	62	93	93	31	31		
750 DETENTION	—	—	—	—	—	—	—	—	—	—		
JUCOR740	2631	2631	2630	0	8	22462	22464	22464	2	2		
JUCOR740	2525	2525	2533	0	8	22479	22481	22482	2	2		
JUCOR740 750	2545	2533	2533	8	8	22595	22596	22596	2	3		
JUCOR780	2516	2516	2524	0	8	22635	22637	22637	2	3		
JUCOR790 130	2540	2541	2549	0	9	22958	22960	22960	2	2		
JUCOR790 130	2540	2540	2545	0	8	22961	22963	22963	1	2		
JUCOR850	2537	2537	2545	0	8	23004	23005	23005	1	2		
UNION CREEK	3116	3116	3124	0	8	26055	26066	26067	1	2		

Junction	20YR						100YR					
	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK	REVEK Peak (cfs)	PROP Peak (cfs)	DET/PROP Peak (cfs)	PROP - REVEK	DET/PROP - REVEK		
UCOR740 PROJECT	411	546	546	135	135	659	794	794	135	135		
750 DETENTION	—	—	—	—	—	—	—	—	—	—		
JUCOR740	41812	41813	41814	1	2	60137	60148	60138	2	1		
JUCOR750 750	41908	41909	41909	1	1	60138	60138	60138	2	1		
JUCOR750 PROJECT	106	107	107	1	1	165	152	152	-13	-13		
750 DETENTION	—	—	—	—	—	—	—	—	—	—		
JUCOR750	42112	42113	42113	1	1	80255	80266	80256	1	0		
JUCOR760	42138	42139	42139	1	1	80266	80267	80266	0	0		
JUCOR760 750	42208	42209	42209	1	1	80467	80469	80467	2	0		
JUCOR780	42349	42350	42350	1	1	80693	80696	80693	3	0		
JUCOR790 130	42817	42818	42818	1	2	81198	81199	81198	1	0		
JUCOR790 130	42862	42863	42863	1	1	81646	81647	81246	1	0		
JUCOR850	42888	42888	42888	0	2	81825	81825	81245	1	0		
UNION CREEK	47262	47263	47264	1	2	87646	87647	87646	1	0		

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



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LOCATION OF ALL UTILITIES
PRIOR TO CONSTRUCTION.

BENCHMARKS














BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'S NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
ELEV.=691.51' (NAVD '88)

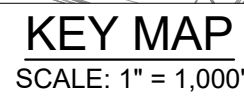
BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES
ELEV.=712.04' (NAVD '88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE
ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLAN APPROVAL		SHEET _____ OF 90	
FILE NUMBER _____		APPLICATION DATE _____	
APPROVED BY COMMISSION ON _____ N/A _____ UNDER THE CITY OF BUDA			
UNIFIED DEVELOPMENT CODE _____			
EXPIRATION DATE _____		CASE MANAGER _____	
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE: _____		ZONING N/A	
Rev. 1	Correction 1 _____		
Rev. 2	Correction 2 _____		
Rev. 3	Correction 3 _____		
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PERMIT NUMBER: _____			



	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



CONSTRUCTION PLAN APPROVAL SHEET OF 90

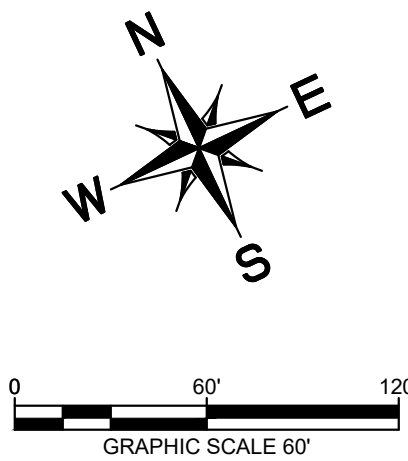
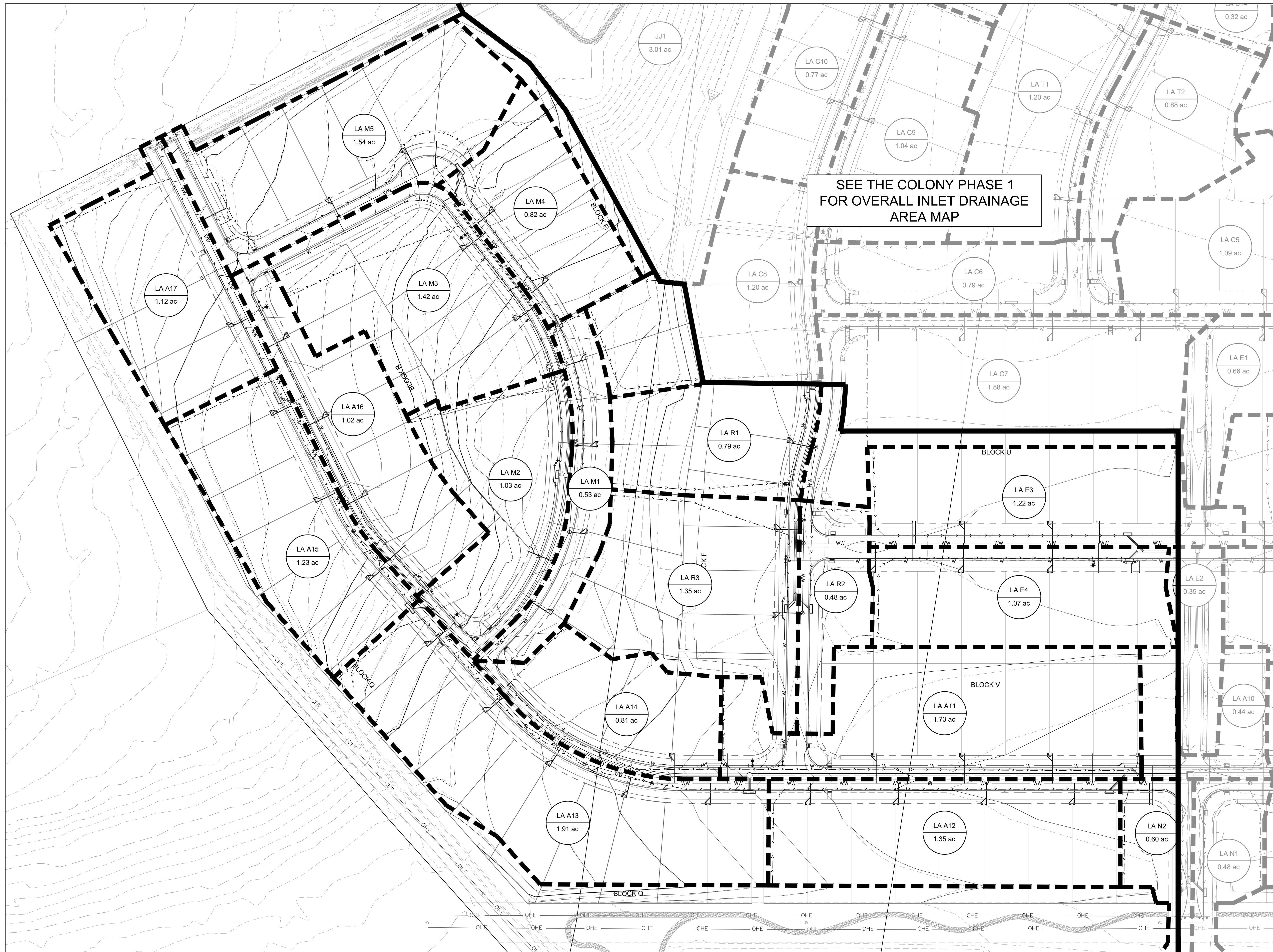
FILE NUMBER _____	APPLICATION DATE _____
APPROVED BY COMMISSION ON _____	N/A UNDER THE CITY OF BUENA VISTA DEVELOPMENT CODE.
EXPIRATION DATE _____	CASE MANAGER _____

City Engineer, City of Buena	
RELEASED FOR GENERAL COMPLIANCE:	ZONING N/A
Rev. 1 _____	Correction 1 _____
Rev. 2 _____	Correction 2 _____
Rev. 3 _____	Correction 3 _____

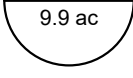












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PERMIT NUMBER: _____

SHEET NUMBER
39
OF 90



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



KEY MAP
SCALE: 1" = 1,000'



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BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 77'9" NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
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CONSTRUCTION PLAN APPROVAL		SHEET _____ OF 90	
FILE NUMBER	APPLICATION DATE _____		
APPROVED BY COMMISSION ON _____ N/A _____ UNDER THE CITY OF BUDA			
UNIFORM DEVELOPMENT CODE			
EXPIRATION DATE	CASE MANAGER _____		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE		ZONING	N/A
Rev. 1	Correction 1 _____		
Rev. 2	Correction 2 _____		
Rev. 3	Correction 3 _____		
<i>Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits under a notice of Construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>			
PERMIT NUMBER:			

Kimley»»Horn

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PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024



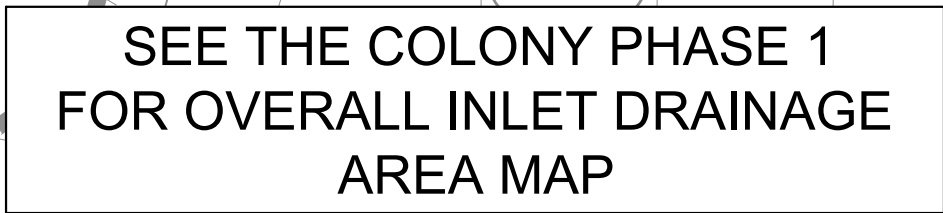
KHA PROJECT 067783115	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: DPD	DRAWN BY: DPD	CHECKED BY: AFG
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NLET DRAINAGE
AREA MAP
(SHEET 2 OF 3)


THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
40
OF 90

Plotted By: Flynn, Alessa Date: April 10, 2024 07:27:59pm
 File Path: K:\soul_civil\06783115_merlotto_budo_assemble\PHASE 2\CD\plan\sheet\Y-C-inlet_Drainage Area Mod.dwg
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The site plan illustrates the layout of the proposed development. It features a central cluster of building footprints, likely residential or commercial structures, surrounded by extensive parking areas. The plan also shows the location of the existing parking lot and the proposed parking lot. A north arrow is positioned in the upper right corner of the plan, indicating the orientation of the site. The plan is bounded by a road to the north and a road to the east, with a road to the south and a road to the west.

[illegible]

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TEXAS REGISTERED ENGINEERING FIRM F-928

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 written around the star. Below the star is the license number "130084" and the words "LICENSED PROFESSIONAL ENGINEER". The seal is surrounded by a decorative border. Below the seal, the name "Alejandro E. Granados Rico" is handwritten in cursive.

DATE	DESIGNED BY:	DRAWN BY:	CHECKED BY:
FEBRUARY 2021	AS SHOWN		AE

NLET DRAINAGE
AREA MAP
(SHEET 3 OF 3)

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
41
OF 90

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:30:56am File Path: K:\You_civil\067783115_meritage_buds_assemble\Phase 2\067783115_C-Drainage Calculations.dwg
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Drainage Area ID	Area (Ac.)	Impervious %	Impervious Area (Ac.)	PerVIOUS Area (Ac.)	C, 2 Yr.	C, 10 Yr.	C, 25 Yr.	C, 100 Yr.	Tc, min.	I, 2 Yr.	I, 10 Yr.	I, 25 Yr.	I, 100 Yr.	Q, 2 Yr.	Q, 10 Yr.	Q, 25 Yr.	Q, 100 Yr.
LA A0	0.68	60%	0.41	0.27	0.60	0.66	0.70	0.77	9.56	5.14	7.79	9.56	12.47	2.09	3.49	4.55	6.53
LA A1	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	13.05	4.54	6.86	8.42	10.99	3.04	5.05	6.60	9.48
LA A2	0.40	60%	0.24	0.16	0.60	0.66	0.70	0.77	11.35	4.81	7.28	8.93	11.65	1.15	1.91	2.50	3.59
LA A3	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	9.54	5.15	7.80	9.57	12.48	3.79	6.31	8.24	11.82
LA A4	0.22	60%	0.13	0.09	0.60	0.66	0.70	0.77	8.33	5.40	8.19	10.06	13.12	0.71	1.19	1.55	2.22
LA A5	0.21	60%	0.13	0.08	0.60	0.66	0.70	0.77	10.14	5.63	8.34	10.19	12.83	0.63	1.05	1.37	1.97
LA A6	0.30	60%	0.18	0.12	0.60	0.66	0.70	0.77	9.01	5.25	7.96	9.77	12.75	0.94	1.57	2.05	2.94
LA A7	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	8.41	5.39	8.17	10.02	13.08	1.06	1.77	2.32	3.32
LA A8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	9.47	5.16	7.82	9.59	12.51	2.13	3.55	4.63	6.65
LA A9	0.74	60%	0.44	0.30	0.60	0.66	0.70	0.77	11.89	4.72	7.14	8.76	11.43	2.09	3.47	4.54	6.51
LA A10	0.44	60%	0.26	0.18	0.60	0.66	0.70	0.77	11.65	4.76	7.20	8.84	11.53	1.25	2.08	2.72	3.91
LA A11	1.73	60%	1.04	0.69	0.60	0.66	0.70	0.77	10.17	5.02	7.60	9.33	12.17	5.20	8.66	11.30	16.22
LA A12	1.35	60%	0.81	0.54	0.60	0.66	0.70	0.77	13.38	4.49	6.78	8.33	10.88	3.62	6.03	7.88	11.31
LA A13	1.91	60%	1.15	0.76	0.60	0.66	0.70	0.77	8.86	5.25	8.01	9.84	12.83	6.04	10.07	13.15	18.87
LA A14	0.81	60%	0.49	0.32	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	3.05	5.12	6.69	9.62
LA A15	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	4.06	6.78	8.86	12.71
LA A16	1.02	60%	0.61	0.41	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	3.37	5.63	7.34	10.54
LA A17	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	8.38	5.39	8.18	10.03	13.09	3.61	6.03	7.87	11.29
LA AA1	0.75	60%	0.45	0.30	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	2.22	3.70	4.83	6.92
LA AA2	1.24	60%	0.74	0.50	0.60	0.66	0.70	0.77	12.34	4.64	7.03	8.63	11.26	3.44	5.73	7.49	10.75
LA B0	1.21	60%	0.73	0.48	0.60	0.66	0.70	0.77	11.47	4.79	7.25	8.90	11.61	3.47	5.77	7.54	10.81
LA B1	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	5.13	5.23	7.92	12.69	3.81	6.36	8.31	11.92	
LA B2	0.54	60%	0.32	0.22	0.60	0.66	0.70	0.77	10.65	4.93	7.47	11.95	2.65	3.46	4.97	7.04	
LA B3	0.72	60%	0.43	0.29	0.60	0.66	0.70	0.77	10.05	5.05	7.64	9.38	12.23	2.17	3.62	4.73	6.78
LA B4	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	9.81	5.09	7.71	9.47	12.35	2.22	3.70	4.84	6.94
LA B5	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	10.56	4.95	7.49	9.20	12.00	2.34	3.89	5.09	7.30
LA B6	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	12.17	4.67	7.07	8.68	11.32	3.13	5.21	6.80	9.77
LA B7	0.85	60%	0.51	0.34	0.60	0.66	0.70	0.77	11.09	4.85	7.35	9.02	11.76	2.47	4.11	5.37	7.70
LA B8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	12.40	4.64	7.01	8.61	11.23	1.91	3.18	4.16	5.97
LA B9	0.57	60%	0.34	0.23	0.60	0.66	0.70	0.77	10.73	4.92	7.44	9.14	11.92	1.68	2.79	3.65	5.23
LA B10	0.37	60%	0.22	0.15	0.60	0.66	0.70	0.77	6.16	5.96	9.06	11.11	14.51	1.32	2.20	2.88	4.13
LA B11	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	10.24	5.01	7.58	9.21	12.14	3.20	5.34	6.97	10.00
LA B12	1.21	60%	0.73	0.48	0.60	0.66	0.70	0.77	13.02	4.54	6.86	8.43	11.00	3.28	5.47	7.14	10.25
LA B13	0.34	60%	0.20	0.14	0.60	0.66	0.70	0.77	9.80	5.09	7.71	9.47	12.35	1.04	1.73	2.25	3.23
LA B14	0.32	60%	0.19	0.13	0.60	0.66	0.70	0.77	10.44	4.97	7.53	9.24	12.05	0.95	1.58	2.07	2.97
LA BB1	1.30	60%	0.78	0.52	0.60	0.66	0.70	0.77	11.32	4.81	7.28	8.94	11.67	3.74	6.23	8.14	11.68
LA BB2	1.16	60%	0.70	0.46	0.60	0.66	0.70	0.77	11.08	4.86	7.35	9.02	11.77	3.37	5.61	7.33	10.51
LA C1	1.97	60%	1.18	0.79	0.60	0.66	0.70	0.77	11.08	4.86	7.35	9.02	11.77	5.72	9.53	12.44	17.85
LA C2	0.36	60%	0.22	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.36	2.28	2.97	4.28
LA C3	0.54	60%	0.36	0.26	0.60	0.66	0.70	0.77	8.70	5.32	8.07	9.90	12.91	2.04	3.40	4.43	6.36
LA C4	0.55	60%	0.33	0.22	0.60	0.66	0.70	0.77	10.20	5.02	7.60	9.32	12.16	1.65	2.75	3.59	5.15
LA C5	1.09	60%	0.65	0.44	0.37	0.42	0.46	0.53	9.26	5.20	7.89	9.68	12.62	2.10	3.61	4.85	7.29
LA C6	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	11.35	4.81	7.28	8.93	11.65	2.27	3.78	4.94	7.09
LA C7	1.88	60%	1.13	0.75	0.60	0.66	0.70	0.77	16.13	4.12	6.23	7.66	10.01	4.64	7.71	10.08	14.49
LA C8	1.20	60%	0.72	0.48	0.60	0.66	0.70	0.77	9.19	5.22	7.91	9.70	12.66	3.74	6.24	8.15	11.69
LA C9	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	11.14	4.84	7.33	9.00	11.74	3.01	5.02	6.55	9.40
LA C10	0.77	60%	0.46	0.31	0.60	0.66	0.70	0.77	10.83	4.90	7.42	9.10	11.87	2.26	3.76	4.91	7.04
LA C11	0.87	60%	0.52	0.35	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	2.43	4.04	5.27	7.57
LA D1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	12.67	4.59	6.95	8.53	4.07	5.32	7.63	10.08	14.49
LA D2	0.17	60%	0.10	0.07	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.64	1.07	1.40	2.02
LA D3	0.24	60%	0.14	0.10	0.60	0.66	0.70	0.77	12.16	4.67	7.07	8.68	11.33	0.67	1.12	1.46	2.09
LA D4	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92
LA D5	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	1.70	2.83	3.70	5.31
LA D6	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	10.01	5.05	7.65	9.39	12.25	1.84	3.07	4.01	5.75
LA D7	0.38	60%	0.23	0.15	0.60	0.66	0.70	0.77	7.26	5.66	8.59	10.54	13.76	1.29	2.15	2.80	4.03
LA D8	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92
LA D9	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	7.57	5.58	8.47	10.40	13.57	4.07	5.31	7.63	10.96
LA D10	0.62	60%	0.37	0.25	0.60	0.66	0.70	0.77	10.64	5.71	8.67	10.64	13.88	2.12	3.54	4.62	6.73
LA DD1	0.25	60%	0.15	0.10	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.94	1.58	2.06	2.97
LA DD2	0.23	60%	0.14	0.09	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.87	1.45	1.90	2.73
LA E1	0.66	60%	0.40	0.26	0.60	0.66	0.70	0.77	11.00	4.87	7.37	9.05	11.80	1.92	3.20	4.18	6.00
LA E2	0.35	60%	0.21	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.32	2.21	2.89	4.16
LA E3	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	13.57	4.46	6.74	8.28	10.81	3.25	5.41	7.07	10.16
LA E4	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	11.09	4.85	7.35	9.02	11.76	3.11	5.17	6.76	9.69
LA EE1	0.19	60%	0.11	0.08	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.58	0.96	1.26	1.80
LA EE2	0.18	60%	0.11	0.07	0.60	0.66	0.70	0.77	9.80	5.08	7.69	9.44	12.32	0.55	0.91	1.19	1.71
LA F1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	10.31	5.00	7.57	9.29	12.11	2.66	4.43	5.78	8.30
LA F2	0.96	60%	0.58	0.38	0.60	0.66	0.70	0.77	10.30	5.00	7.57	9.29	12.11	2.87	4.78	6.24	8.95
LA F3	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	3.08	5.12	6.69	9.60
LA F4	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	10.59	4.94	7.48	9.19	11.98	3.64	6.06	7.91	11.35
LA F5	0.65	60%	0.39	0.26	0.60	0.66	0.70	0.77	11.55	4.77	7.22	8.87	11.57	1.86	3.09	4.04	5.79
LA F6	1.26	60%	0.76	0.50	0.60	0.66	0.70	0.77	10.93	4.88	7.39	9.07	11.83	3.68	6.13	8.00	11.48
LA F7	1.28	60%	0.77	0.51	0.60	0.66	0.70	0.77									

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:31:03am File Path: K:\Users\civill\067783115\meritage_buda_assembly\PHASE 2\Code\planets\c--Drainage Calculations.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.

DRAINAGE AREA (DA)	Sheet Flow				Shallow Concentrated Flow								Shallow Concentrated Flow								Channel Flow								Actual	Design	Flow Rate 25-yr	Flow Rate 100-yr
	AREAS (ACRES)				Unpaved								Paved								Gutter											
	n	s	L	T ₁₁	L	s	V	T ₁₀	L	s	V	T ₁₀	L	s	V	T ₁₀	L	V	a	Pw	r	n	s	T ₁₁	T ₁ , min.	T ₁ , min.	cfs	cfs				
LA A0	0.68	0.15	0.0183	100	9.1	52	0.183	6.90	0.13	0	0.183	0.00	0	51	2.8	3.8	15.5	0.245	0.016	0.005	0.32	9.6	9.56	4.55	6.53							
LA A1	1.12	0.15	0.01	100	11.6	0	0.01	1.61	0	0	0	0.00	0	245	2.8	3.8	15.5	0.245	0.016	0.005	1.45	13.1	13.05	6.60	9.48							
LA A2	0.40	0.15	0.0183	100	9.2	11	0.018	2.16	0.08	0	0	0.00	0	355	2.8	3.8	15.5	0.245	0.016	0.005	2.09	11.4	11.35	2.50	3.53							
LA A3	1.23	0.15	0.0183	100	9.2	0	0.02	2.28	0	0	0	0.00	0	56	2.6	3.8	15.5	0.245	0.016	0.005	0.36	9.5	9.51	8.24	11.82							
LA A4	0.22	0.15	0.026	100	7.9	30	0.026	2.60	0.19	0	0	0.00	0	34	2.6	3.8	15.5	0.245	0.016	0.005	0.22	8.3	8.33	1.55	2.22							
LA A5	0.21	0.15	0.02	100	8.8	22	0.02	2.28	0.16	0	0	0.00	0	201	2.8	3.8	15.5	0.245	0.016	0.005	1.19	10.1	10.14	1.37	1.97							
LA A6	0.30	0.15	0.026	100	7.9	34	0.026	2.60	0.22	0	0	0.00	0	151	3.6	3.8	15.5	0.245	0.016	0.01	0.87	9.0	9.01	2.05	2.94							
LA A7	0.33	0.15	0.026	100	7.9	30	0.026	2.60	0.22	0	0	0.00	0	59	3.6	3.8	15.5	0.245	0.016	0.01	0.27	8.4	8.41	1.32	3.32							
LA A8	0.69	0.15	0.02	100	8.8	32	0.02	2.28	0.23	0	0	0.00	0	71	2.8	3.8	15.5	0.245	0.016	0.005	0.44	9.5	9.47	4.63	6.65							
LA A9	0.74	0.15	0.02	100	8.8	16	0.02	2.28	0.12	0	0	0.00	0	505	2.8	3.8	15.5	0.245	0.016	0.005	2.98	11.9	11.89	4.54	6.51							
LA A10	0.44	0.15	0.02	100	8.8	22	0.02	2.28	0.16	0	0	0.00	0	107	2.6	3.8	15.5	0.245	0.016	0.005	0.10	9.01	9.01	2.05	2.94							
LA A11	1.73	0.15	0.035	100	7.0	30	0.035	3.02	0.17	0	0	0.00	0	504	2.8	3.8	15.5	0.245	0.016	0.005	2.97	10.2	10.17	11.30	16.22							
LA A12	1.35	0.15	0.01	100	11.6	0	0.01	1.61	0	0	0	0.00	0	300	2.8	3.8	15.5	0.245	0.016	0.005	1.77	13.4	13.38	7.88	11.31							
LA A13	1.91	0.15	0.03	100	7.5	41	0.03	2.79	0.24	0	0	0.00	0	372	5.5	3.8	15.5	0.245	0.016	0.0225	1.13	8.9	8.86	13.15	18.87							
LA A14	0.81	0.15	0.045	100	27	2.9	0	0.045	3.42	0	0	0.00	0	404	5.5	3.8	15.5	0.245	0.016	0.0225	1.29	4.2	5.00	4.69	9.62							
LA A15	1.23	0.15	0.035	100	7.0	60	0.035	3.02	0.33	0	0	0.00	0	268	10.0	3.8	15.5	0.245	0.016	0.075	0.45	7.8	7.81	7.34	10.54							
LA A16	1.02	0.15	0.035	100	7.0	60	0.035	3.02	0.33	0	0	0.00	0	268	10.0	3.8	15.5	0.245	0.016	0.075	0.45	7.8	7.81	7.34	10.54							
LA A17	1.12	0.15	0.038	100	7.0	60	0.038	3.02	0.33	0	0	0.00	0	268	4.4	3.8	15.5	0.245	0.016	0.0145	1.02	8.4	8.38	7.87	11.29							
LA A17	0.75	0.15	0.018	100	9.2	22	0.018	2.04	0.18	0	0.0075	0	189	2.6	3.8	15.5	0.245	0.016	0.005	1.22	10.6	10.58	4.83	6.92								
LA A18	1.24	0.15	0.011	100	11.2	57	0.011	1.52	0.37	0	0.0075	0	123	2.6	3.8	15.5	0.245	0.016	0.005	0.80	12.3	12.34	7.49	10.75								
LA B0	1.21	0.15	0.016	100	9.6	22	0.016	2.04	0.18	0	0.0075	0	176	2.6	3.8	15.5	0.245	0.016	0.005	1.67	11.5	11.47	7.54	10.81								
LA B1	1.22	0.15	0.025	100	8.0	43	0.018	2.16	0.33	0	0.005	0	144	2.6	3.8	15.5	0.245	0.016	0.005	0.76	9.1	9.13	8.31	11.92								
LA B2	0.84	0.15	0.016	100	9.6	22	0.018	2.04	0.18	0	0.005	0	144	2.6	3.8	15.5	0.245	0.016	0.0075	0.86	10.4	10.36	5.46	4.97								
LA B3	0.72	0.15	0.018	100	9.2	43	0.018	2.16	0.33	0	0.005	0	144	2.6	3.8	15.5	0.245	0.016	0.005	0.54	10.0	10.06	4.73	6.78								
LA B4	0.73	0.15	0.026	100	7.9	15	0.026	2.60	0.30	0	0.0125	0	304	2.8	3.8	15.5	0.245	0.016	0.005	1.79	9.8	9.81	4.84	6.94								
LA B5	0.79	0.15	0.018	100	9.2	3	0.018	2.16	0.02	0	0.01	0	203	2.8	3.8	15.5	0.245	0.016	0.005	1.36	10.6	10.56	5.39	7.30								
LA B6	1.12	0.15	0.012	100	10.8	86	0.012	2.08	0.81	0	0.01	0	96	2.8	3.8	15.5	0.245	0.016	0.005	0.57	12.2	12.17	8.02	9.77								
LA B7	0.85	0.15	0.018	100	9.2	9	0.018	2.16	0.07	0	0.005	0	144	2.8	3.8	15.5	0.245	0.016	0.005	1.85	11.1	11.09	5.37	7.70								
LA B8	0.69	0.15	0.012	100	10.8	20	0.0124	1.80	0.19	0	0.005	0	144	2.2	3.8	15.5	0.245	0.016	0.0038	1.42	12.4	12.40	4.16	5.97								
LA B9	0.57	0.15	0.019	100	9.0	35	0.019	2.22	0.26	0	0.01	0	203	2.8	3.8	15.5	0.245	0.016	0.0061	1.49	10.7	10.73	3.65	5.23								
LA B10	0.37	0.15	0.014	40	4.9																											

The Colony																													
INLET FLOW CALCULATION TABLE (25-Yr Flows)																													
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The Colony

INLET FLOW CALCULATION TABLE (100-Yr Flows)

ON GRADE INLETS

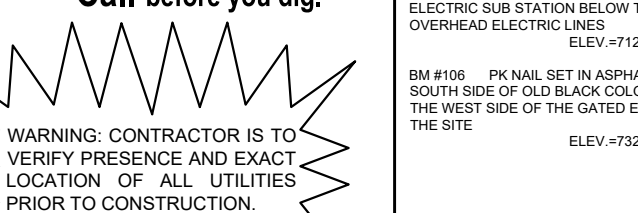
2.5" Straight Crown													ON GRADE INLETS															
Column 1		Column 2		Column 3		Column 4		Column 5		Column 6		Column 9		Column 12		Column 13		Column 15		Column 16		Column 17		Column 18		Column 19		
Column 1	Drainage	Inlet	Street	Q (cfs)	Q (cfs)	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
LA-A0	LA-A0	Grass	Local	5.63	0.00	6.52	0.69	5.00	0.241	3.849	OVER CNTR	N/A	14.000	17.97	0.47	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.52	0.60	LA-B1		
LA-A0	LA-A1	Grass	Local	5.63	0.48	0.48	0.69	5.00	0.360	4.425	OVER CNTR	N/A	14.000	17.97	0.40	0.16	0.92	10.13	10	0.87	130	1.00	1.00	6.48	0.62	LA-B1		
LA-A2	LA-A2	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A2	LA-A3	Grass	Local	5.59	0.48	0.48	0.69	5.00	0.360	4.425	OVER CNTR	N/A	14.000	17.97	0.40	0.16	0.92	10.13	10	0.87	130	1.00	1.00	6.48	0.62	LA-B1		
LA-A4	LA-A4	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-A4	LA-A5	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A7	LA-A7	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A7	LA-A7	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A8	LA-A8	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A9	LA-A9	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A9	LA-A9	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A10	LA-A10	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A11	LA-A11	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A12	LA-A12	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A13	LA-A13	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A14	LA-A14	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A15	LA-A15	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A16	LA-A16	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A17	LA-A17	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A18	LA-A18	Grass	Local	5.59	0.00	6.48	0.69	5.00	0.256	3.974	OVER CNTR	N/A	14.000	17.97	0.59	0.19	0.60	9.32	10	1.23	130	1.00	1.00	6.50	0.60	LA-B1		
LA-A19	LA-A19	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-A20	LA-A20	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B0	LA-B0	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B1	LA-B1	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B2	LA-B2	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B3	LA-B3	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B4	LA-B4	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B5	LA-B5	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B6	LA-B6	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B7	LA-B7	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B8	LA-B8	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B9	LA-B9	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B10	LA-B10	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B11	LA-B11	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B12	LA-B12	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B13	LA-B13	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B14	LA-B14	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-B15	LA-B15	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C1	LA-C1	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C2	LA-C2	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C3	LA-C3	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C4	LA-C4	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C5	LA-C5	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C6	LA-C6	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C7	LA-C7	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C8	LA-C8	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C9	LA-C9	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C10	LA-C10	Sump	Local	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	5.59	0.00	N/A
LA-C11	LA-C11	Sump	Local	5.59	0.00																							

2% Straight Crown				SUMP INLETS																								
Inlet No.	Drainage Area No.	Inlet Type	Street Type	Q (cfs)	Q Pass (cfs)	Q Total (Qa) (cfs)	Slope (%)	a (in.)	yo (ft)	yo (in.)	Ponded Width (ft)	Min. Clear	Width Allow.	1/2 Street Cpcy (cfs)	E _s	S _{ff}	Qa/La	La (ft)	Length (ft)	L/La	a/yo	Crown Pass (Cfs)	Q/Qa	Q Intercept (cfs)	Q Pass (cfs)	Ensuing DA No.		
LA A3	LA A3	Sump	Local 55	11.82	0.000	11.819	0.50%	5.000	0.537	6.449	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.835	10	0.84	0.78	1.21	1.00	10.61	1.21	X		
LA A4	LA A4	Sump	Local 55	2.22	0.000	2.222	0.50%	5.000	0.176	2.117	8.819	N/A	14.000	-	0.78	0.30	67.86	0.033	10	305.36	2.36	0.00	1.00	10.61	0.00	X		
LA A10	LA A10	Sump	Local 55	3.91	0.000	3.906	0.50%	5.000	0.257	3.083	12.844	N/A	14.000	-	0.59	0.23	1.86	2.103	10	12.44	1.62	0.00	1.00	10.61	0.00	X		
LA AA1	LA AA1	Sump	Local 55	6.92	0.000	6.923	0.50%	5.000	0.376	4.515	OVER CNTR	N/A	14.000	-	0.39	0.16	1.19	5.814	10	1.72	1.11	0.00	1.00	10.61	0.00	X		
LA AA2	LA AA2	Sump	Local 55	10.75	0.000	10.748	0.50%	5.000	0.504	6.053	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.517	10	0.95	0.83	0.14	1.00	10.61	0.14	X		
LA B0	LA B0	Sump	Local 55	10.81	0.019	10.832	0.50%	5.000	0.507	6.085	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.620	10	0.94	0.82	0.23	1.00	10.61	0.23	X		
LA B1	LA B1	Sump	Local 55	11.92	0.000	11.916	0.50%	5.000	0.540	6.484	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.954	10	0.84	0.77	1.31	1.00	10.61	1.31	X		
LA B3	LA B3	Sump	Local 55	6.78	0.000	6.781	0.50%	5.000	0.371	4.453	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.639	10	1.77	1.12	0.00	1.00	10.61	0.00	X		
LA B11	LA B11	Sump	Local 55	10.00	0.014	10.016	0.50%	5.000	0.481	5.775	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.617	10	1.04	0.87	0.00	1.00	10.61	0.00	X		
LA B12	LA B12	Sump	Local 55	10.25	0.000	10.252	0.50%	5.000	0.489	5.865	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	9.907	10	1.01	0.85	0.00	1.00	10.61	0.00	X		
LA C1	LA C1	Sump	Local 55	17.85	0.000	17.851	1.00%	5.000	0.540	6.478	OVER CNTR	N/A	14.000	-	0.25	0.11	0.93	19.252	15	0.78	0.77	1.94	1.00	15.91	1.94	X		
LA C2	LA C2	Sump	Local 55	4.28	0.000	4.275	1.00%	5.000	0.273	3.274	13.642	N/A	14.000	-	0.56	0.22	1.67	2.558	10	3.91	1.53	0.00	1.00	10.61	0.00	X		
LA C6	LA C6	Sump	Local 55	7.09	0.324	7.412	0.50%	5.000	0.394	4.725	OVER CNTR	N/A	14.000	-	0.37	0.15	1.16	6.415	10	1.56	1.06	0.00	0.98	10.61	0.00	X		
LA C7	LA C7	Sump	Local 55	14.49	0.000	14.488	0.50%	5.000	0.616	7.387	OVER CNTR	N/A	14.000	-	0.21	0.10	0.96	15.117	10	0.66	0.68	3.88	1.00	10.61	3.88	X		
LA C8	LA C8	Sump	Local 55	11.69	0.000	11.694	0.50%	5.000	0.534	6.403	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.681	10	0.86	0.78	1.09	1.00	10.61	1.09	X		
LA CC1	LA CC1	Sump	Local 55	7.57	0.000	7.568	0.50%	5.000	0.399	4.791	OVER CNTR	N/A	14.000	-	0.37	0.15	1.15	6.807	10	1.51	1.04	0.00	1.00	10.61	0.00	X		
LA D1	LA D1	Sump	Local 45	7.63	0.000	7.629	1.24%	5.000	0.401	4.817	OVER CNTR	N/A	13.000	-	0.36	0.15	1.14	6.682	10	1.50	1.04	0.00	1.00	10.61	0.00	X		
LA D2	LA D2	Sump	Local 45	2.02	0.000	2.019	1.24%	5.000	0.165	1.985	8.272	N/A	13.000	-	0.81	0.31	-9.29	-0.217	10	-46.03	2.52	0.00	1.00	10.61	0.00	X		
LA D5	LA D5	Sump	Local 45	5.31	0.000	5.308	0.50%	5.000	0.315	3.782	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.827	10	2.61	1.32	0.00	1.00	10.61	0.00	X		
LA DD1	LA DD1	Sump	Collector	2.97	0.000	2.969	0.50%	5.000	0.214	2.567	10.698	12'	11.000	-	0.69	0.26	3.12	0.951	10	10.51	1.95	0.00	1.00	10.61	0.00	X		
LA DD2	LA DD2	Sump	Collector	2.73	0.000	2.731	0.50%	5.000	0.202	2.429	10.119	12'	11.000	-	0.71	0.27	4.14	0.959	10	15.17	2.06	0.00	1.00	10.61	0.00	X		
LA E3	LA E3	Sump	Local 55	10.16	0.000	10.156	0.60%	5.000	0.486	5.829	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.789	10	1.02	0.86	0.00	1.00	10.61	0.00	X		
LA E4	LA E4	Sump	Local 55	9.69	0.000	9.693	0.60%	5.000	0.471	5.650	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.220	10	1.08	0.88	0.00	1.00	10.61	0.00	X		
LA EE1	LA EE1	Sump	Local 55	1.80	0.000	1.802	0.50%	5.000	0.153	1.841	7.869	N/A	14.000	-	0.84	0.32	-3.72	-0.484	10	-20.66	2.72	0.00	1.00	10.61	0.00	X		
LA EE2	LA EE2	Sump	Local 55	1.71	0.000	1.707	0.50%	5.000	0.148	1.775	7.397	N/A	14.000	-	0.85	0.32	-2.84	-0.601	10	-16.65	2.82	0.00	1.00	10.61	0.00	X		
LA F1	LA F1	Sump	Local 55	8.30	0.000	8.300	0.50%	5.000	0.425	5.095	OVER CNTR	N/A	14.000	-	0.34	0.14	1.11	7.507	10	1.33	0.98	0.00	1.00	10.61	0.00	X		
LA F2	LA F2	Sump	Local 55	8.95	0.000	8.954	0.50%	5.000	0.447	4.359	OVER CNTR	N/A	14.000	-	0.32	0.13	1.08	8.312	10	1.20	0.93	0.00	1.00	10.61	0.00	X		
LA F3	LA F3	Sump	Local 55	9.60	0.000	9.600	0.50%	5.000	0.468	5.614	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.106	10	1.10	0.89	0.00	1.00	10.61	0.00	X		
LA F4	LA F4	Sump	Local 55	11.35	0.000	11.347	0.50%	5.000	0.523	6.276	OVER CNTR	N/A	14.000	-	0.26	0.11	1.01	11.254	10	0.89	0.80	0.74	1.00	10.61	0.74	X		
LA F5	LA F5	Sump	Local 55	5.79	0.580	6.371	0.50%	5.000	0.356	4.271	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.135	10	1.95	1.17	0.00	0.91	10.61	0.00	X		
LA F6	LA F6	Sump	Local 55	11.48	0.000	11.478	0.50%	5.000	0.527	6.324	OVER CNTR	N/A	14.000	-	0.26	0.11	1.01	11.415	10	0.88	0.79	0.87	1.00	10.61	0.87	X		
LA F10	LA F10	Sump	Local 55	9.34	0.000	9.341	0.60%	5.000	0.459	5.513	OVER CNTR	N/A	14.000	-	0.31	0.13	1.06	8.788	10	1.14	0.91	0.00	1.00	10.61	0.00	X		
LA F11	LA F11	Sump	Local 55	5.51	0.000	5.508	0.60%	5.000	0.323	3.876	OVER CNTR	N/A	14.000	-	0.47	0.19	1.35	4.073	10	2.46	1.29	0.00	1.00	10.61	0.00	X		
LA G1	LA G1	Sump	Local 45	10.07	0.026	10.094	0.50%	5.000	0.484	5.805	OVER CNTR	N/A	13.000	-	0.29	0.12	1.04	9.713	10	1.03	0.86	0.00	1.00	10.61	0.00	X		
LA G2	LA G2	Sump	Local 45	6.53	0.184	6.716	0.50%	5.000	0.369	4.424	OVER CNTR	N/A	13.000	-	0.40	0.16	1.21	5.559	10	1.80	1.13	0.00	0.97	10.61	0.00	X		
LA M1	LA M1	Sump	Local 55	5.99	0.295	6.289	0.50%	5.000	0.353	4.235	OVER CNTR	N/A	14.000	-	0.42	0.17	1.25	5.034	10	1.99	1.18	0.00	0.95	10.61	0.00	X		
LA M2	LA M2	Sump	Local 55	12.23	1.025	13.257	0.50%	5.000	0.580	6.962	OVER CNTR	N/A	14.000	-	0.23	0.10	0.97	13.603	10	0.74	0.72	2.65	0.92	10.61	2.65	X		
LA N1	LA N1	Sump	Local 55	4.29	0.000	4.285	0.50%	5.000	0.273	3.279	13.662	N/A	14.000	-	0.56	0.22	1.67	2.570	10	3.89	1.52	0.00	1.00	10.61	0.00	X		
LA N2	LA N2	Sump	Local 55	5.59	0.766	6.359	0.50%	5.000	0.355	4.266	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.120	10	1.95	1.17	0.00	0.88	10.61	0.00	X		
LA O1	LA O1	Sump	Local 55	6.46	0.000	6.459	0.50%	5.000	0.359	4.311	OVER CNTR	N/A	14.000	-	0.42	0.17	1.23	5.243	10	1.91	1.16	0.00	1.00	10.61	0.00	X		
LA O2	LA O2	Sump	Local 55	6.09	0.000	6.087	0.50%	5.000	0.345	4.144	OVER CNTR	N/A	14.000	-	0.43	0.17	1.27	4.786	10	2.09	1.21	0.00	1.00	10.61	0.00	X		
LA R2	LA R2	Sump	Local 55	5.01	0.000	5.014	0.50%	5.000	0.303	3.641	OVER CNTR	N/A	14.000	-	0.50	0.20	1.45	3.466	10	2.89	1.37	0.00	1.00	10.61	0.00	X		
LA R3	LA R3	Sump	Local 55	14.61	0.000	14.612	0.50%	5.000	0.619	7.429	OVER CNTR	N/A	14.000	-	0.21	0.09	0.96	15.270	10	0.65	0.67	4.01	1.00	10.61	4.01	X		
LA U2	LA U2	Sump	Collector	5.11	0.000	5.107	0.50%	5.000	0.307	3.686	MINCLEAR	12'	11.000	-	0.49	0.20	1.43	3.580	10	2.79	1.36	0.00	1.00	10.61	0.00	X		
LA U3	LA U3	Sump	Collector	6.29	0.000	6.294	0.50%	5.000	0.353	4.237	MINCLEAR	12'	11.000	-	0.42	0.17	1.25	5.040	10	1.98	1.18	0.00	1.00	10.61	0.00	X		
LA V1	LA V1	Sump	Local 55	15.17	0.000	15.172	0.50%	5.000	0.635	7.617	OVER CNTR	N/A	14.000	-	0.20	0.09	0.95	15.958	10	0.63	0.66	4.57	1.00	10.61	4.57	X		
LA V2	LA V2	Sump	Local 55	13.67	0.000	13.673	0.50%	5.000	0.592	7.107	OVER CNTR	N/A	14.000	-	0.22	0.10	0.97	14.114	10	0.71	0.70	3.07	1.00	10.61	3.07	X		
LA W3	LA W3	Sump	Collector	4.16	0.000	4.157	0.60%	5.000	0.268	3.213	MINCLEAR	12'	11.000	-	0.57	0.22	1.72	2.412	10	4.15	1.56	0.00	1.00	10.61	0.00	X		
LA W4	LA W4	Sump	Collector	4.71	0.000	4.715	0.60%	5.000	0.291	3.495	MINCLEAR	12'	11.000	-	0.52	0.21	1.52	3.098	10	3.23	1.43	0.00	1.00	10.61	0.00	X		
LA Y1	LA Y1	Sump	Collector	3.56	0.000	3.563	0.50%	5.000	0.242	2.899	MINCLEAR	12'	11.000	-	0.62	0.24	2.12	1.681	10	5.95	1.72	0.00	1.00	10.61	0.00	X		
LA Y2	LA Y2	Sump	Collector	4.59	0.000	4.591	0.50%	5.000	0.286	3.433	MINCLEAR	12'	11.000	-	0.53	0.21	1.56	2.945	10									



811

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



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

CONSTRUCTION PLAN APPROVAL		SHEET _____ OF 90
FILE NUMBER	APPLICATION DATE	
APPROVED BY COMMISSION ON UNIVERSITY DEVELOPMENT CODE	N/A UNDER THE CITY OF BUDA	
EXPIRATION DATE	CAGE MANAGER	

City Engineer, City of Buda

Released for General COMPLIANCE: _____ ZONING _____ N/A _____

Rev. 1	Correction 1	
Rev. 2	Correction 2	
Rev. 3	Correction 3	

Final plan must be recorded by the Project Expedition Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved for the Project Expedition Date.

PERMIT NUMBER:

BENCHMARKS

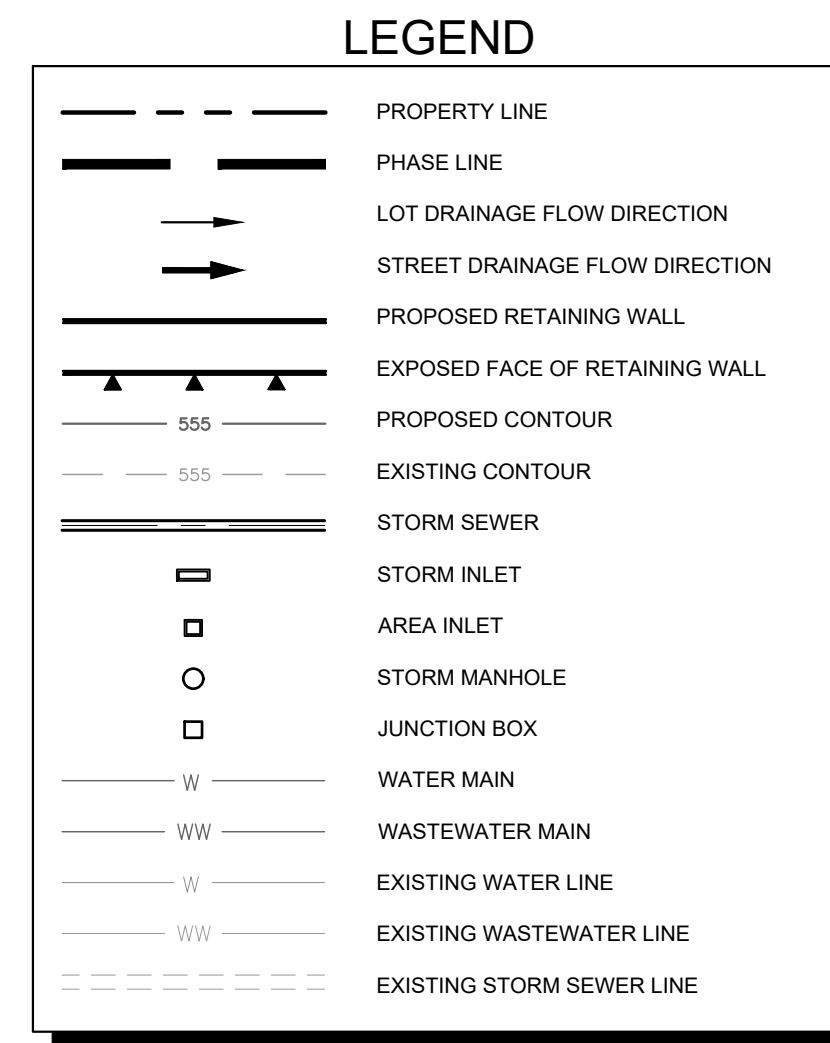
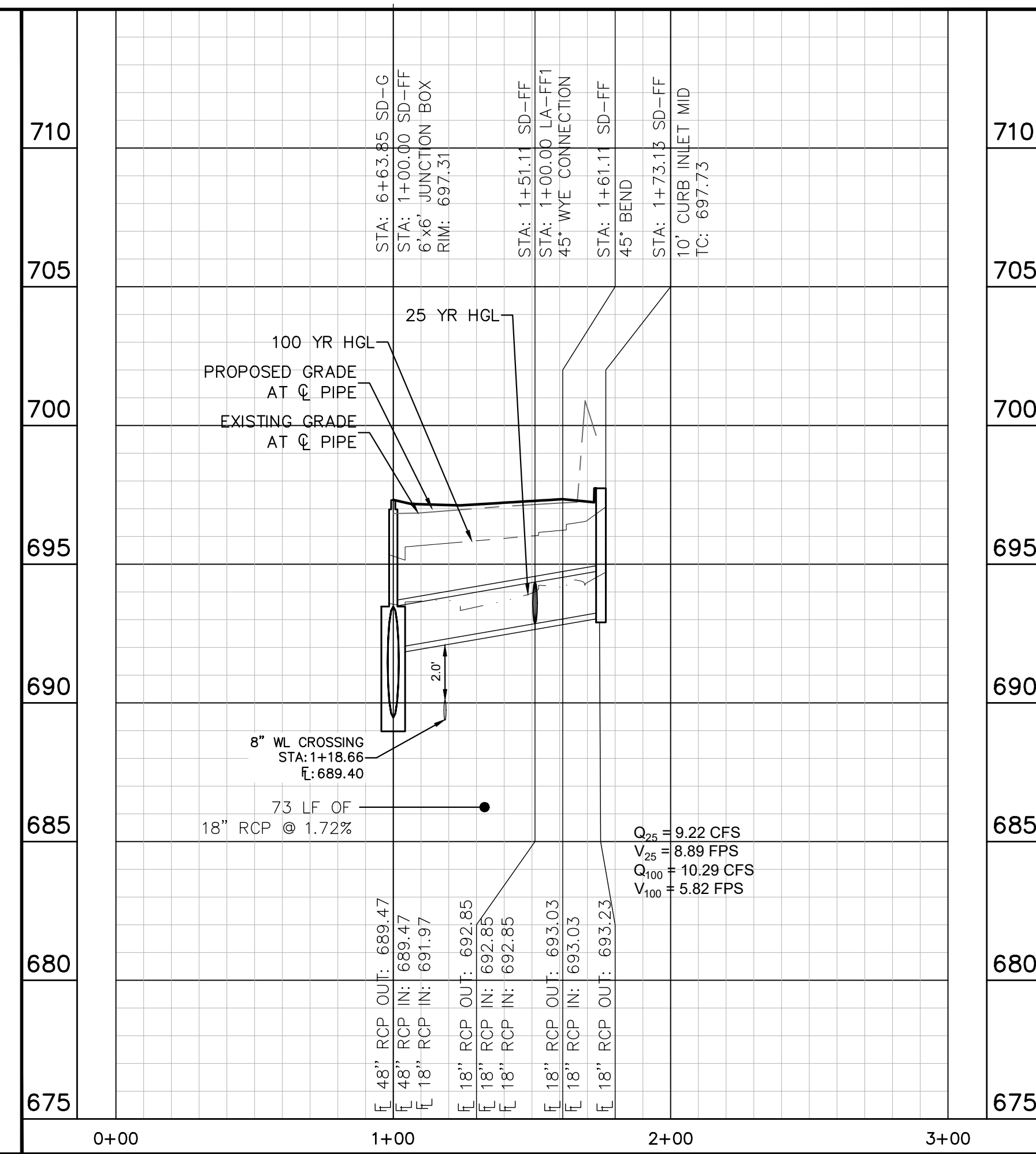
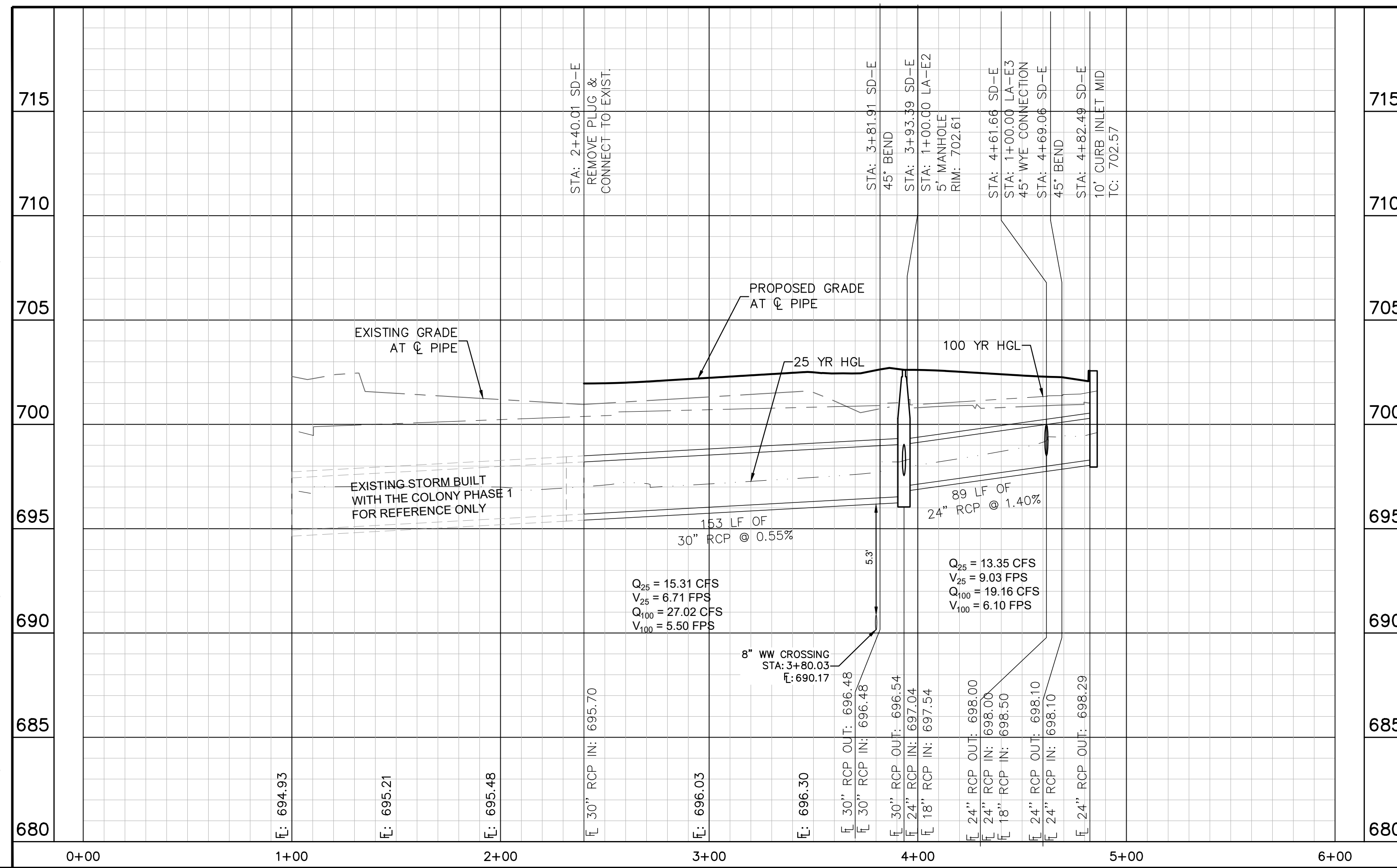
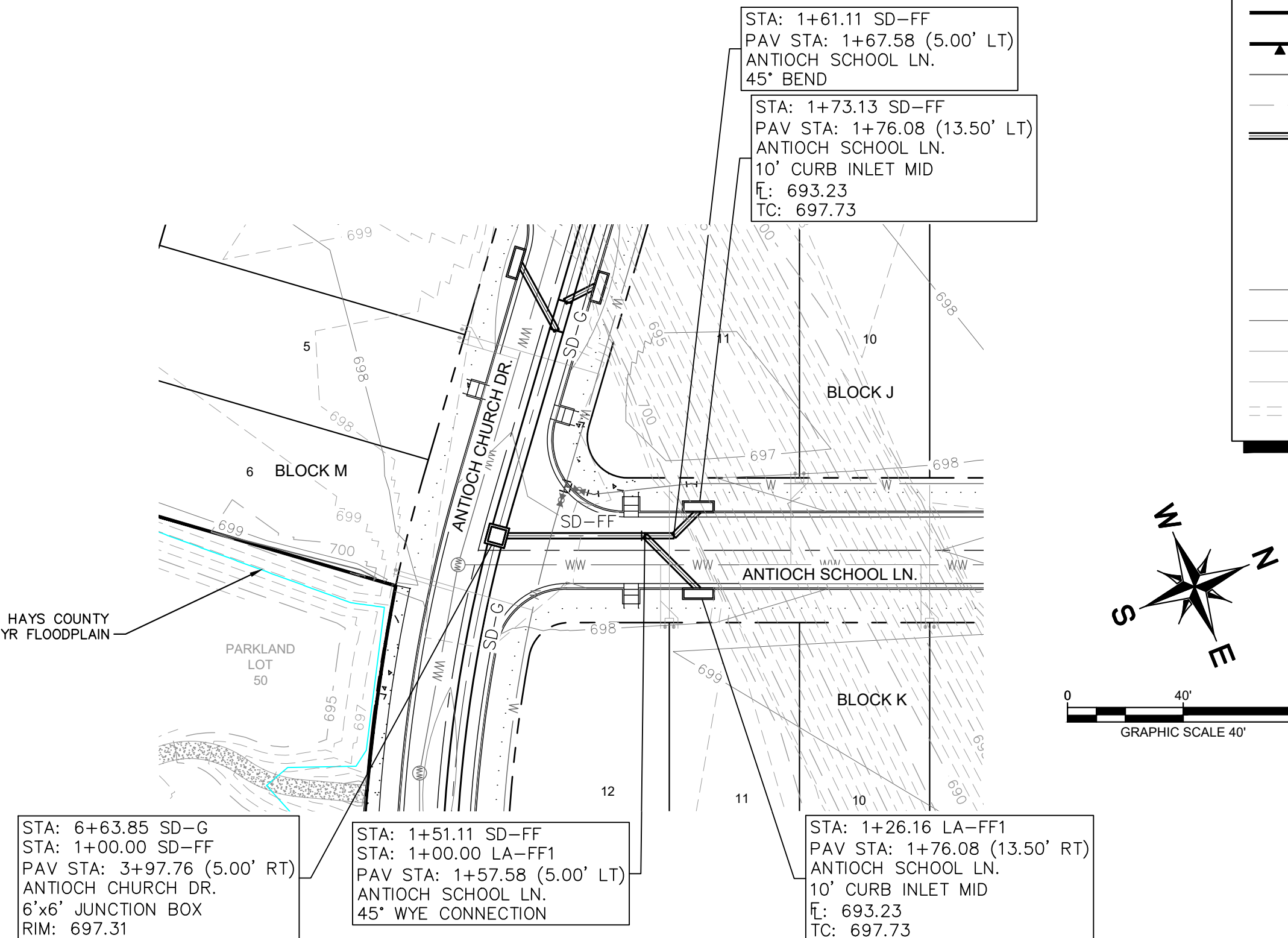
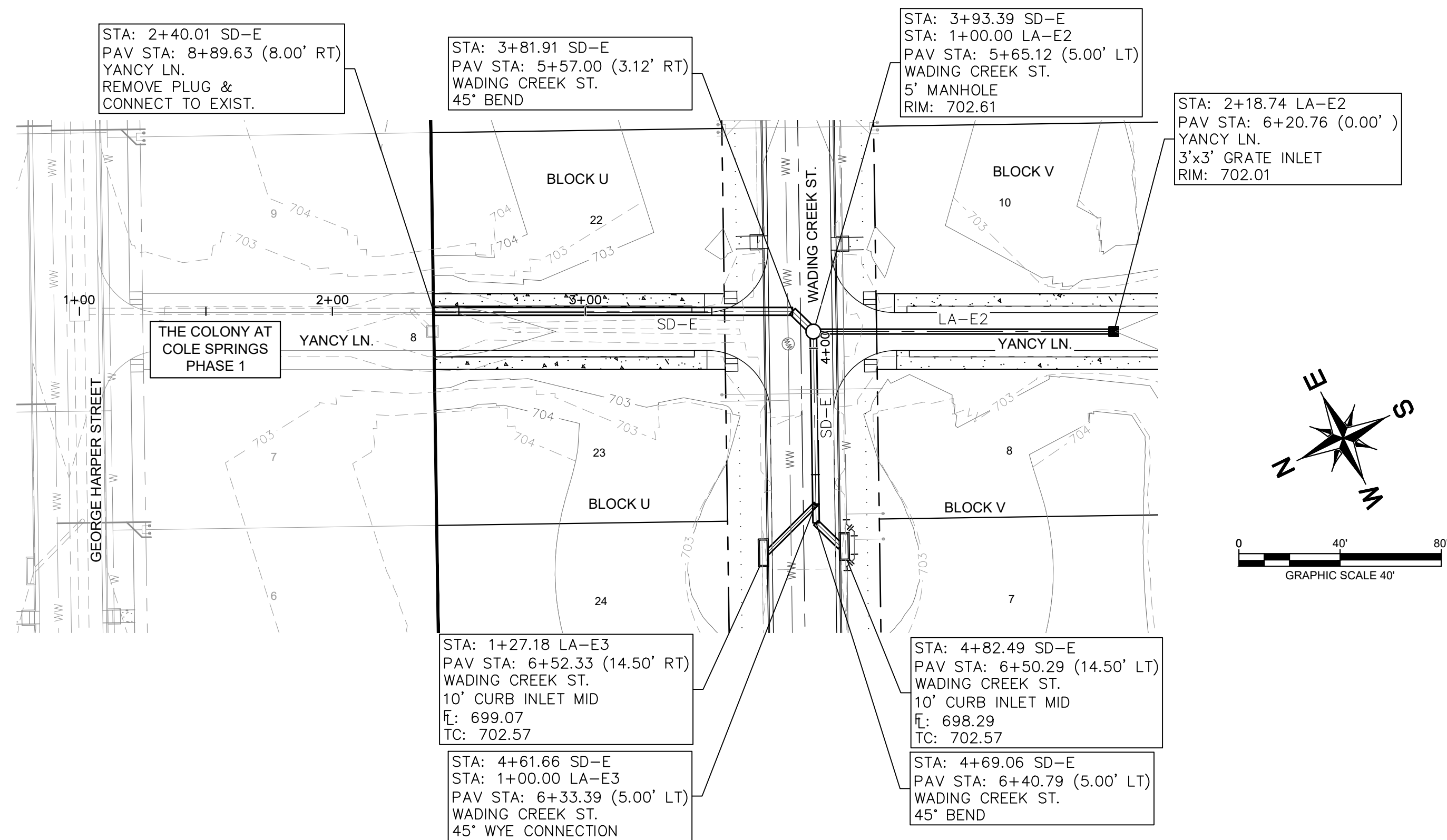
BM #102 PKM NAIL SET IN THE MIDDLE OF A
NORTH OF THE EDEK WORTHY SIDE
PAVEMENT OF COLE SPRINGS ROAD

BM #104 PKM NAIL SET IN ROCK ON THE
SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN
ELECTRIC SUB STATION BELOW THESE
OVERHEAD ELECTRIC LINES

BM #105 PKM NAIL SET IN ASPHALT ON THE
SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON
THE WEST SIDE OF THE GATED ENTRANCE TO
THE SITE

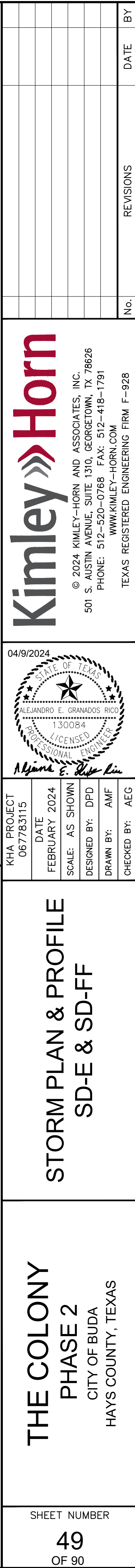
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ELEV: #104-33 (N/A) D/S
ELEV: #105-30 (N/A) D/S

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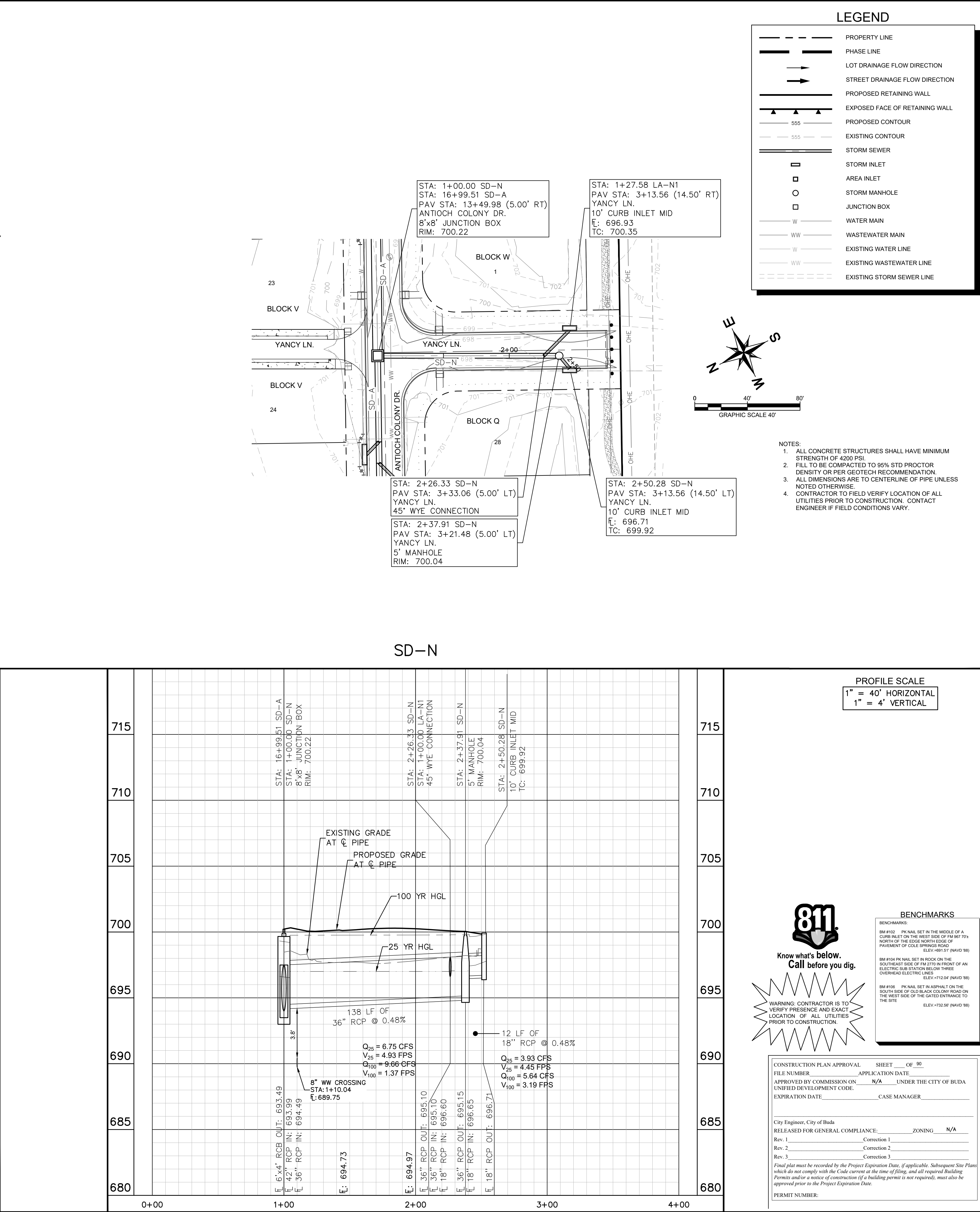
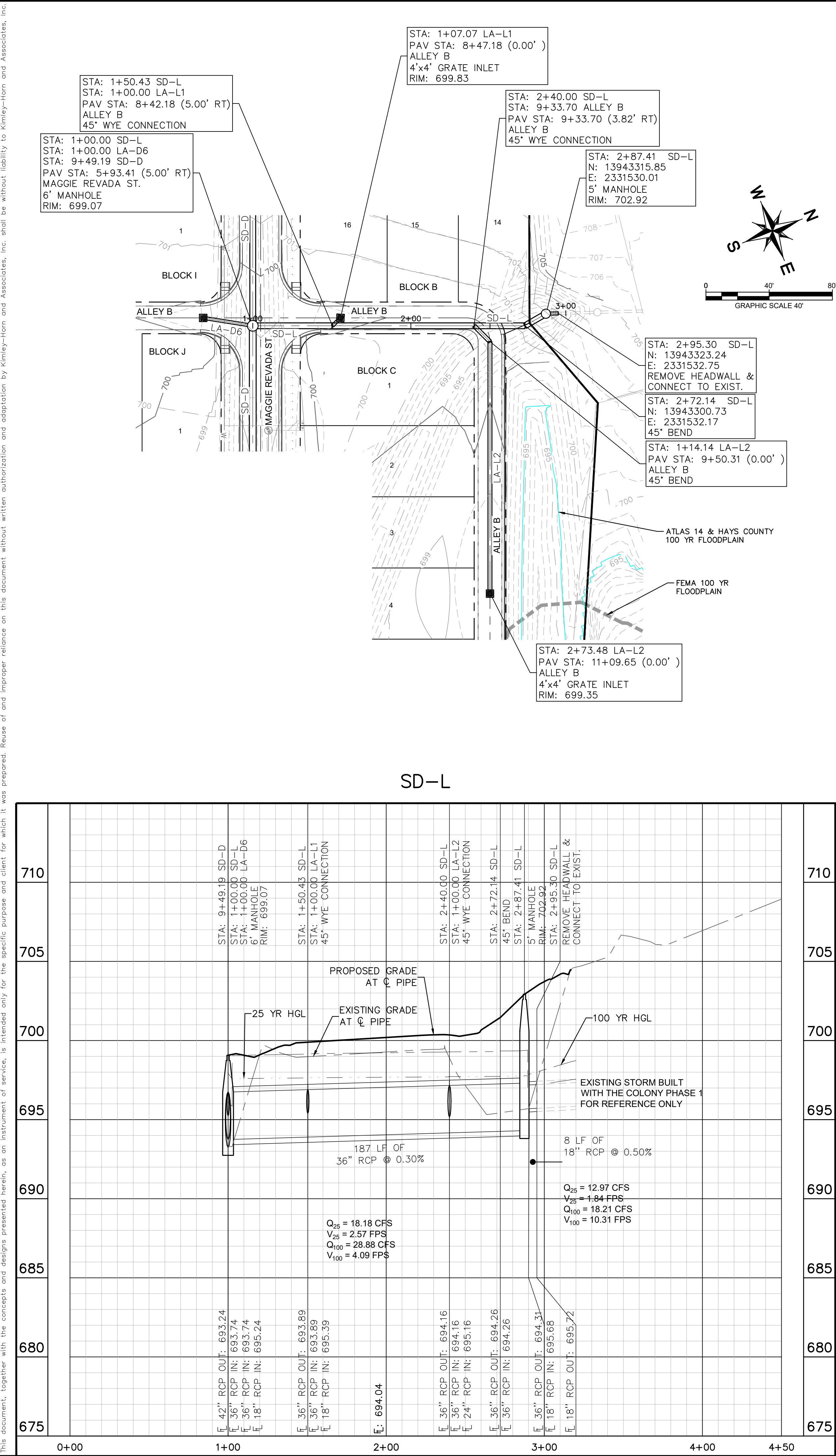


NOTES:

1. ALL CONCRETE STRUCTURES SHALL HAVE MINIMUM STRENGTH OF 4200 PSI.
2. FILL TO BE COMPACTED TO 95% STD PROCTOR DENSITY OR PER GEOTECH RECOMMENDATION.
3. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE.
4. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF FIELD CONDITIONS VARY.



Plotted By: Flynn, Alyssa Date: April 10, 2024 07:44:14am File Path: K:\soul\civil\067783115\meritope buda assem\blgs\PHASE 2\Co\plan\sheet\c--Storm P&P SD-L SD-M SD-N SD-P & SD-X.dwg
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WWW.KIMLEY-HORN.COM

TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

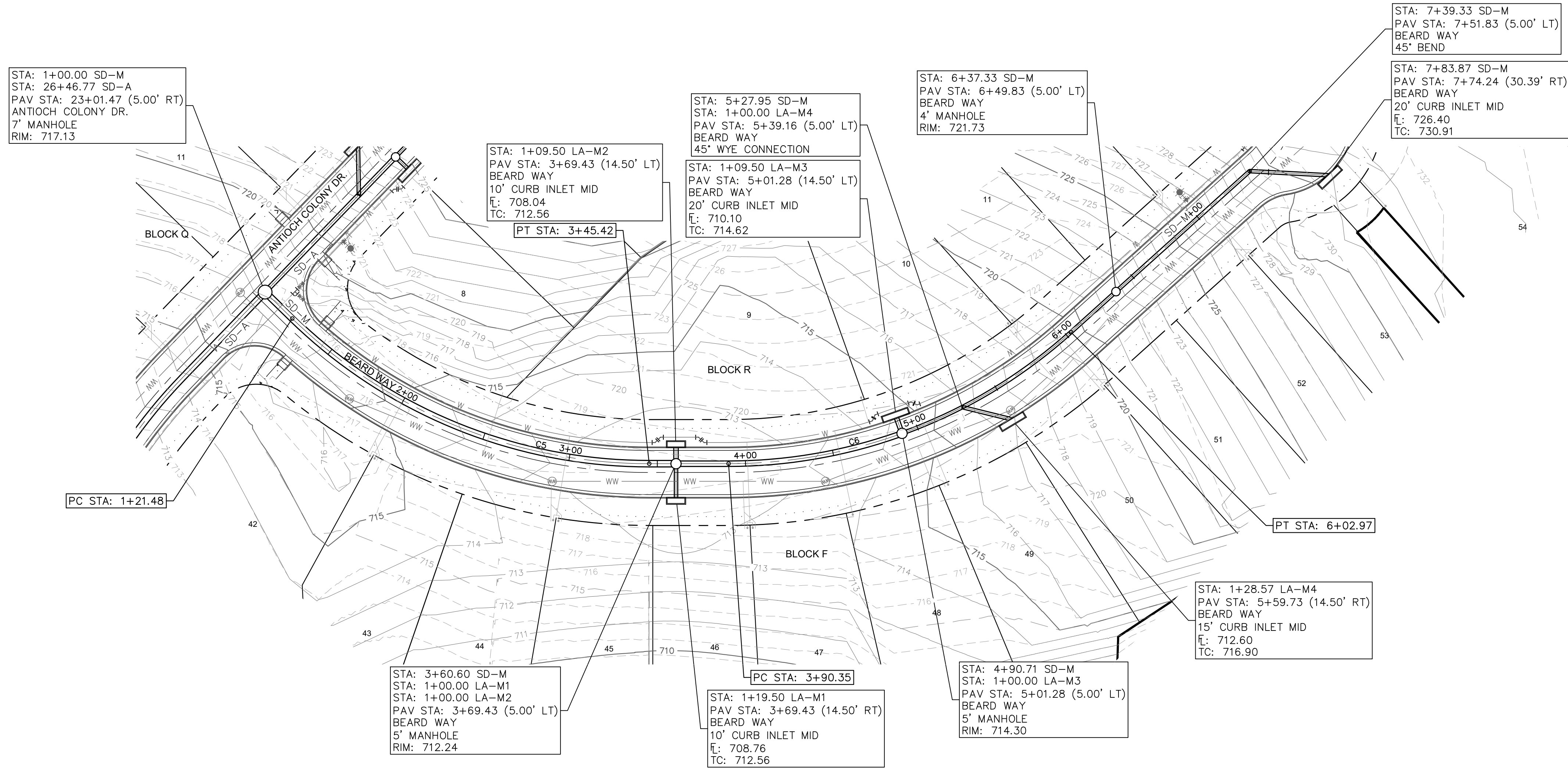
CHECKED BY: AEC

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

STORM PLAN & PROFILE
SD-L & SD-N

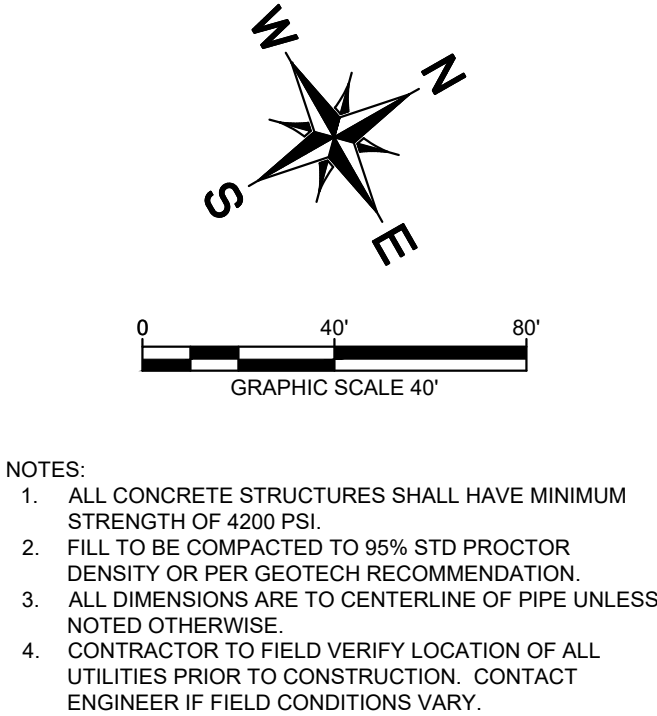
SHEET NUMBER
52
OF 90

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:44:53am File Path: K:\you_civil\067783115 meritage buds assemblage\PHASE 2\067783115 Storm P&P SD-M & SD-X.dwg
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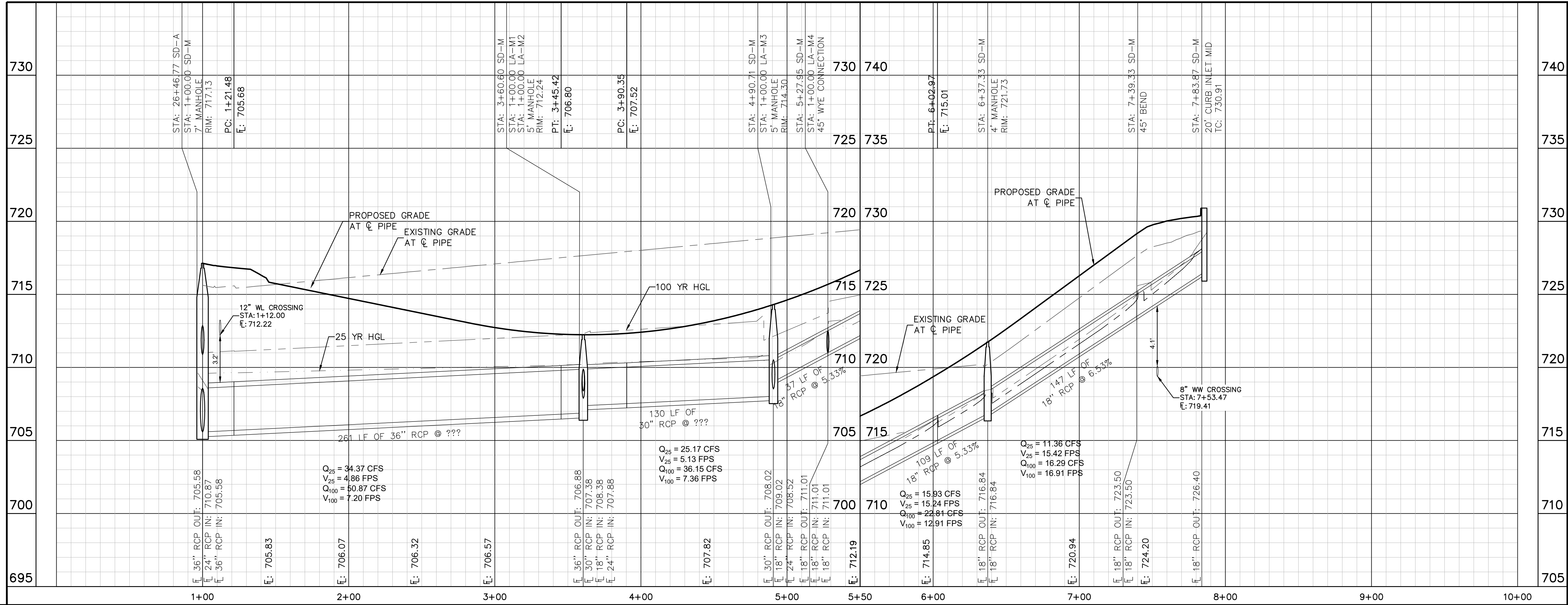
LEGEND

- PROPERTY LINE
- PHASE LINE
- LOT DRAINAGE FLOW DIRECTION
- STREET DRAINAGE FLOW DIRECTION
- PROPOSED RETAINING WALL
- EXPOSED FACE OF RETAINING WALL
- PROPOSED CONTOUR
- EXISTING CONTOUR
- STORM SEWER
- STORM INLET
- AREA INLET
- STORM MANHOLE
- JUNCTION BOX
- WATER MAIN
- WASTEWATER MAIN
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE



CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C5	290.00'	223.94'	N51°49'53"E	218.41'	44°14'37"	117.89'
C6	290.00'	212.62'	N8°42'21"E	207.89'	42°00'28"	111.34'

SD-M



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

BENCHMARKS

- BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV: +715.81 (NAVD 83)
- BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV: +712.04 (NAVD 83)
- BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF COLE SPRINGS ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV: +732.56 (NAVD 83)

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

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

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90
FILE NUMBER _____ APPLICATION DATE _____
APPROVED BY COMMISSION CODE: N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE _____
EXPIRATION DATE _____ CASE MANAGER _____

City Engineer, City of Buda
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: N/A
Rev. 1: _____ Correction 1
Rev. 2: _____ Correction 2
Rev. 3: _____ Correction 3

Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER: _____

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

STORM PLAN & PROFILE
SD-M

LEGEND

- PROPERTY LINE
- PHASE LINE
- LOT DRAINAGE FLOW DIRECTION
- STREET DRAINAGE FLOW DIRECTION
- PROPOSED RETAINING WALL
- EXPOSED FACE OF RETAINING WALL
- PROPOSED CONTOUR
- EXISTING CONTOUR
- STORM SEWER
- STORM INLET
- AREA INLET
- STORM MANHOLE
- JUNCTION BOX
- WATER MAIN
- WASTEWATER MAIN
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE

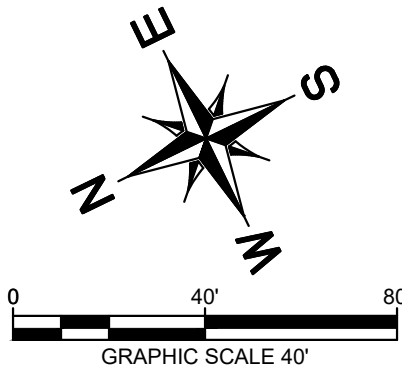
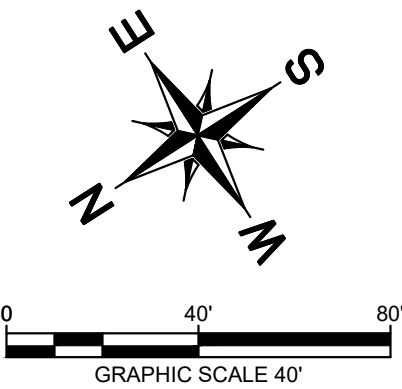
NO. _____ **REVISIONS** _____ **DATE** _____ **BY** _____

SHEET NUMBER
53
OF 90

Kimley-Horn
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PHONE: 512-520-0768 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

Professional Engineer
ALEXANDRO E. GRANADOS RICO
130084
ALFONSO E. RIVERA-LIN

KHA PROJECT 067783115
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY DPD
DRAWN BY AMF
CHECKED BY AEC

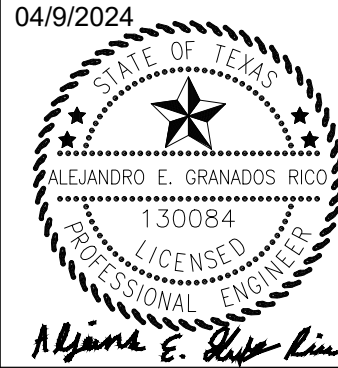
SD-R

- ## LEGEND

Kimley»Horn

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TEXAS REGISTERED ENGINEERING FIRM F-928



KHA PROJECT 067783115	DATE FEBRUARY 2024	SCALE: AS SHOWN	DESIGNED BY: DPDP	DRAWN BY: AMF	CHECKED BY: AFG
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STORM PLAN & PROFILE SD-R & SD-X

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHEET NUMBER
54
OF 90



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

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'S NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD
ELEV.=691.51' (NAVD '88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 270'S IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES
ELEV.=712.04' (NAVD '88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE
ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLAN APPROVAL SHEET OF 90

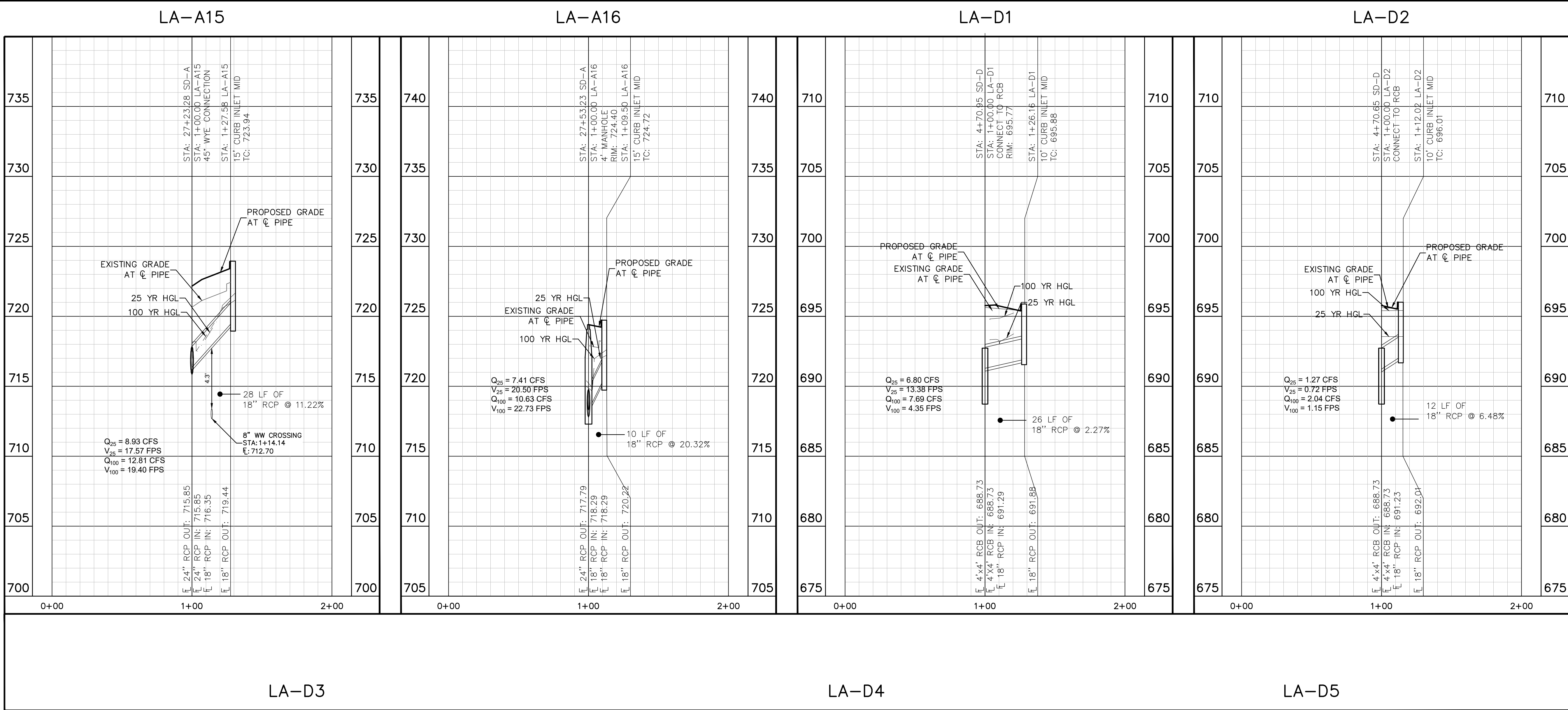
FILE NUMBER _____ APPLICATION DATE _____
APPROVED BY COMMISSION ON _____ N/A _____ UNDER THE CITY OF BUDA
UNIFIED DEVELOPMENT CODE.
EXPIRATION DATE _____ CASE MANAGER _____

City Engineer, City of Buda
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING _____ N/A
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:47:28am File Path: K:\you_civil\067783115 meritage buds assembly\PHASE 2\067783115 Storm Profiles.dwg
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PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

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

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CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER: _____ APPLICATION DATE: _____

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE: _____ CASE MANAGER: _____

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: N/A

Rev. 1: _____ Correction 1

Rev. 2: _____ Correction 2

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Final plan must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction of a building permit is not required, must also be approved prior to the Project Expiration Date.

PERMIT NUMBER: _____

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

STORM LATERAL
PROFILES (SHEET 2 OF 5)

SHEET NUMBER
56
OF 90

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Granados RICO

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

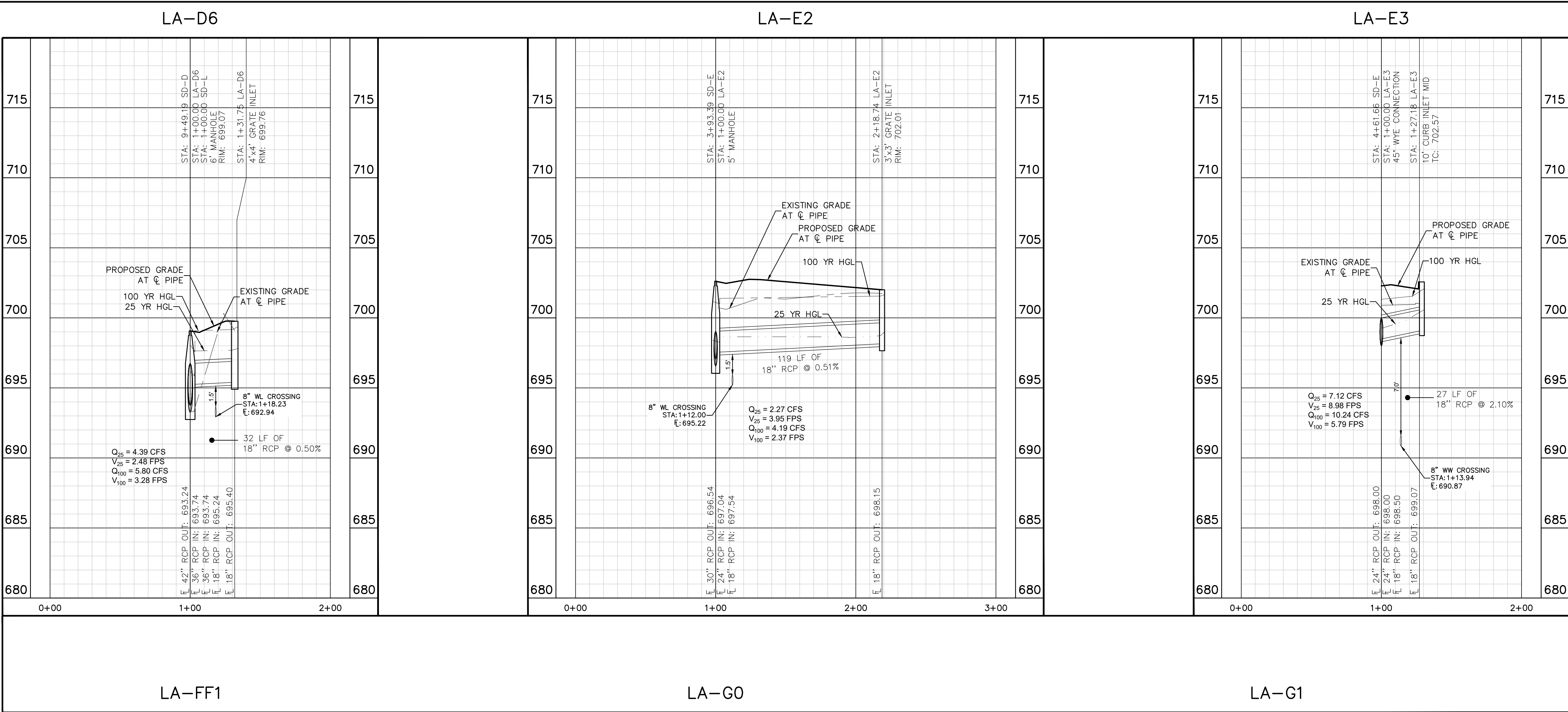
CHECKED BY: AEC

REVISIONS

No.	DATE	BY

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:47:52am File Path: K:\you_civil\067783115 meritage buds assembly\PHASE 2\cadd\plansheets\LA--Storm Profiles.dwg

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BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967.774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV=712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV=712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTHWEST SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV=732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA

UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ZONING N/A

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Gramados Rocio

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

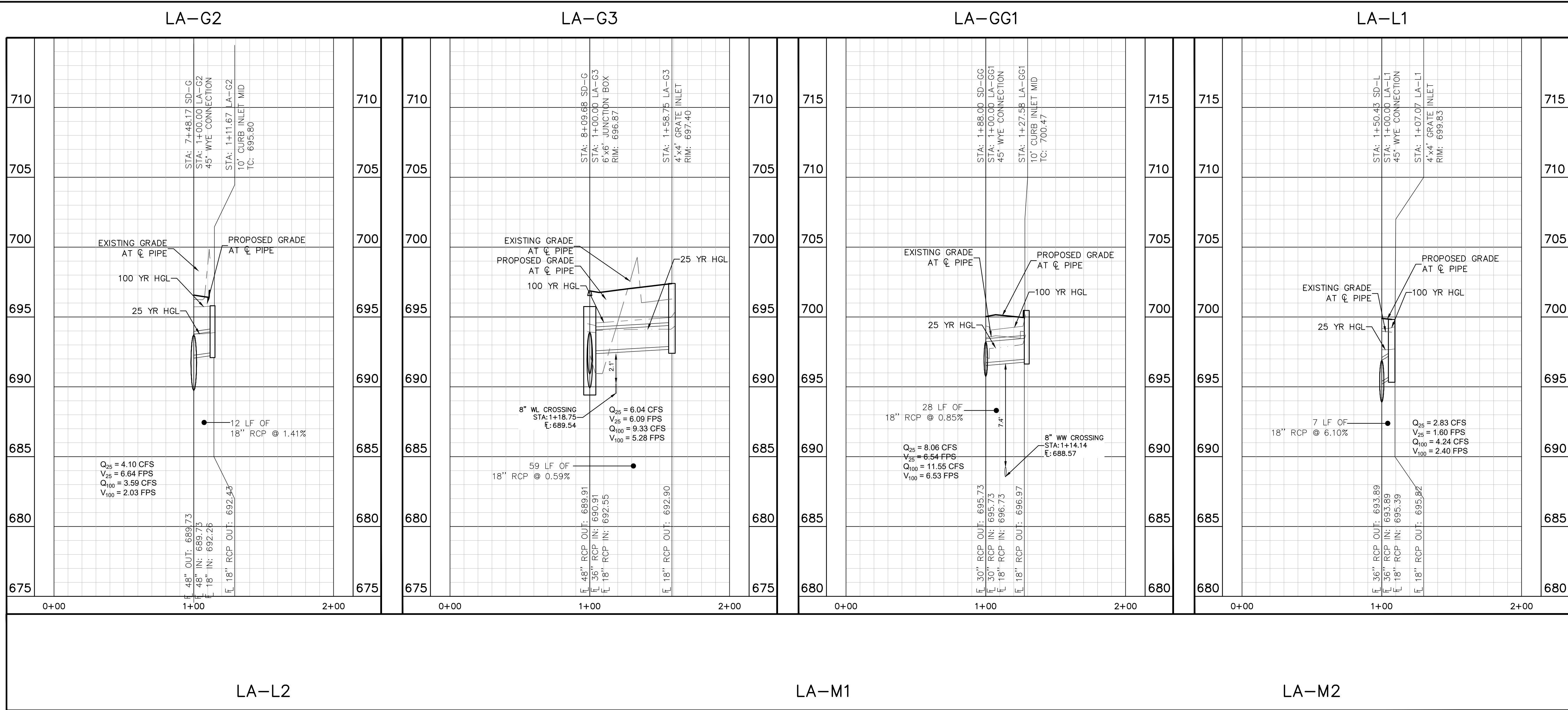
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STORM LATERAL PROFILES (SHEET 3 OF 5)

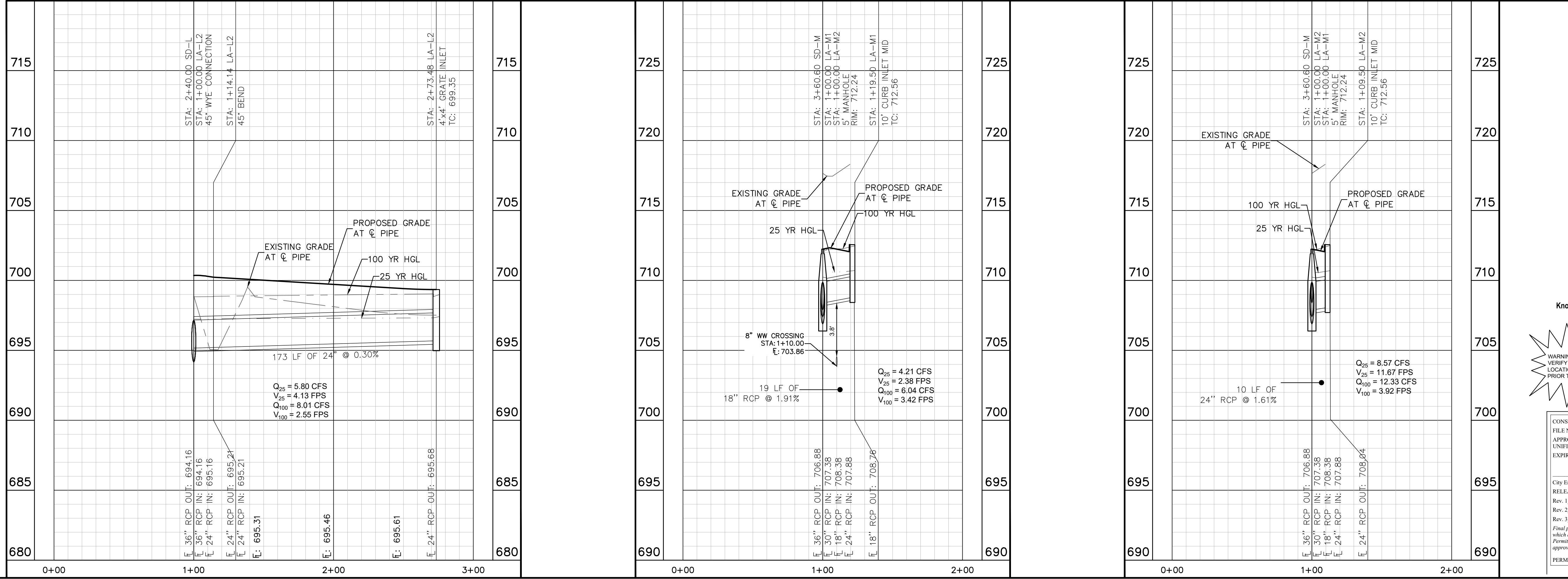
THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS

SHEET NUMBER 57 OF 90

Plotted By: Flynn, Alyssa Date: April 10, 2024 07:48:28am File Path: K:\you_civil\067783115 meritage buds assembly\PHASE 2\cadd\plansheets\LA--Storm Profiles.dwg
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1" = 4' VERTICAL



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

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CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER: _____ APPLICATION DATE: _____

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE: _____ CASE MANAGER: _____

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: _____ ZONING: N/A

Rev. 1: _____ Correction 1

Rev. 2: _____ Correction 2

Rev. 3: _____ Correction 3

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PERMIT NUMBER: _____

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD ELEV = 712.04 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW ON THREE OVERHEAD ELECTRICAL LINES ELEV = 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV = 732.56 (NAVD 88)

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WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

Alejandro E. Granados Rocio

KHA PROJECT 067783115

DATE FEBRUARY 2024

SCALE: AS SHOWN

DESIGNED BY: DPD

DRAWN BY: AMF

CHECKED BY: AEC

STORM LATERAL PROFILES (SHEET 4 OF 5)

THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS

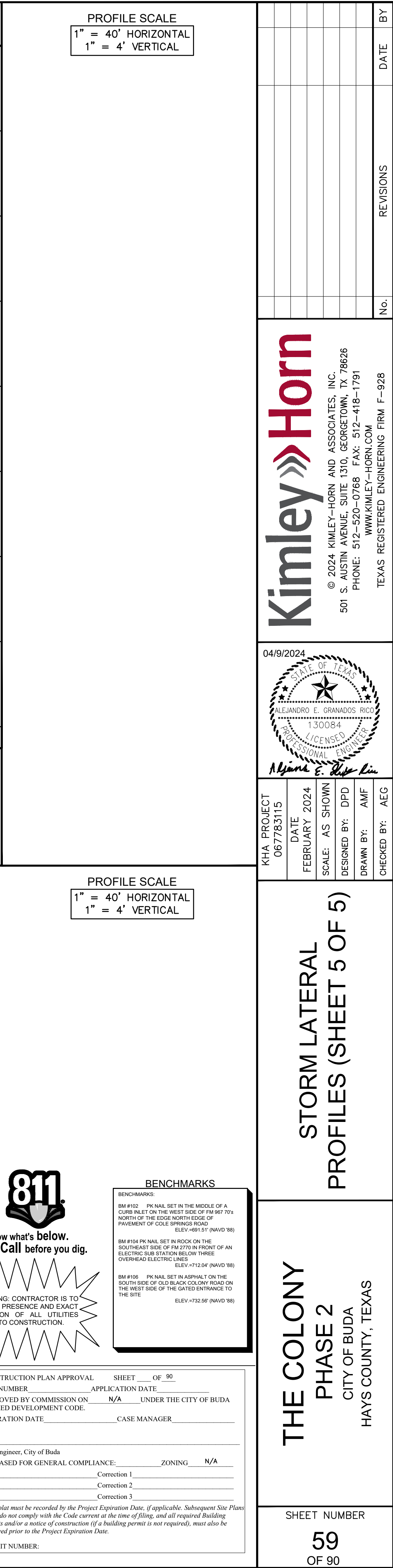
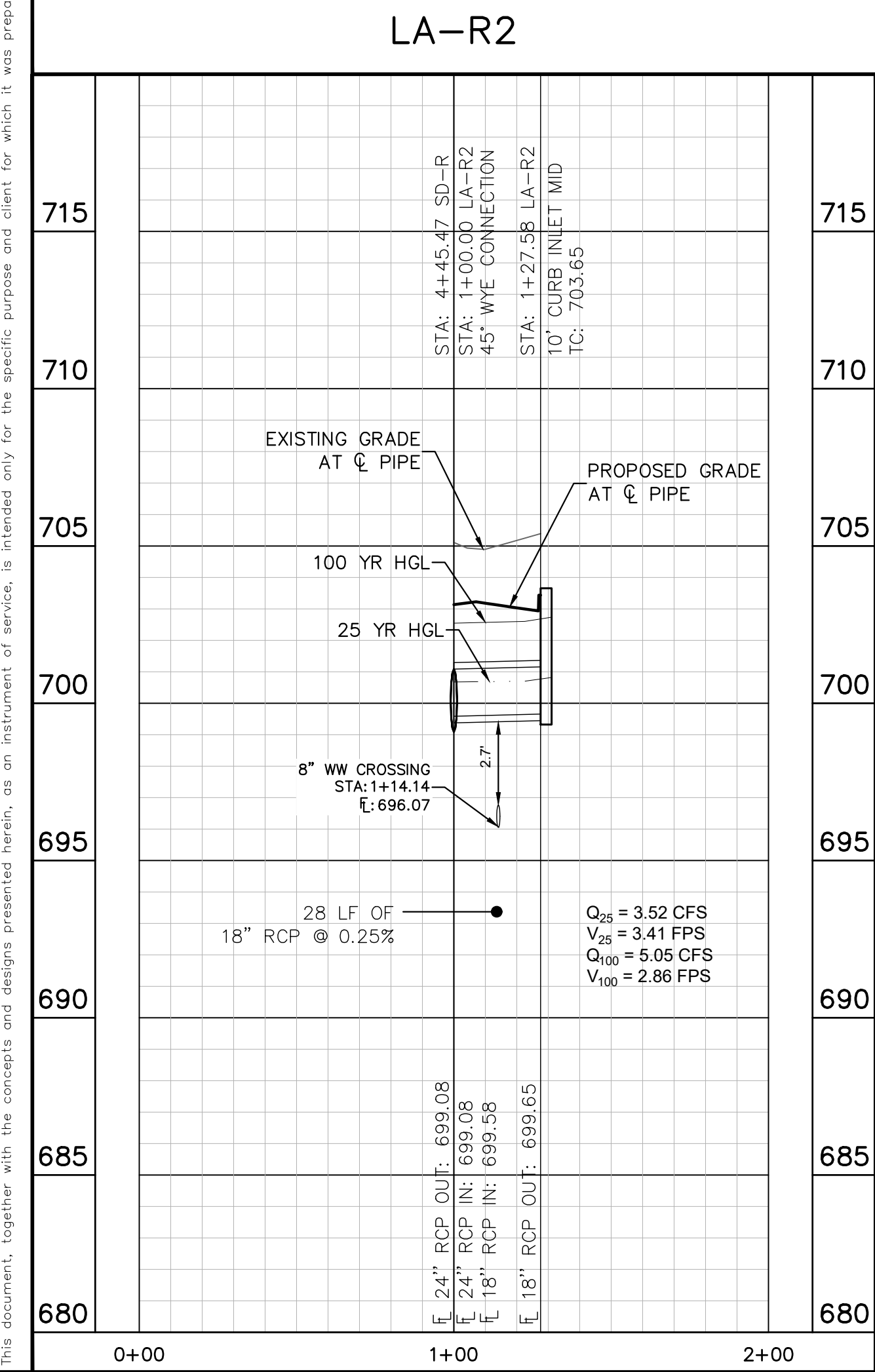
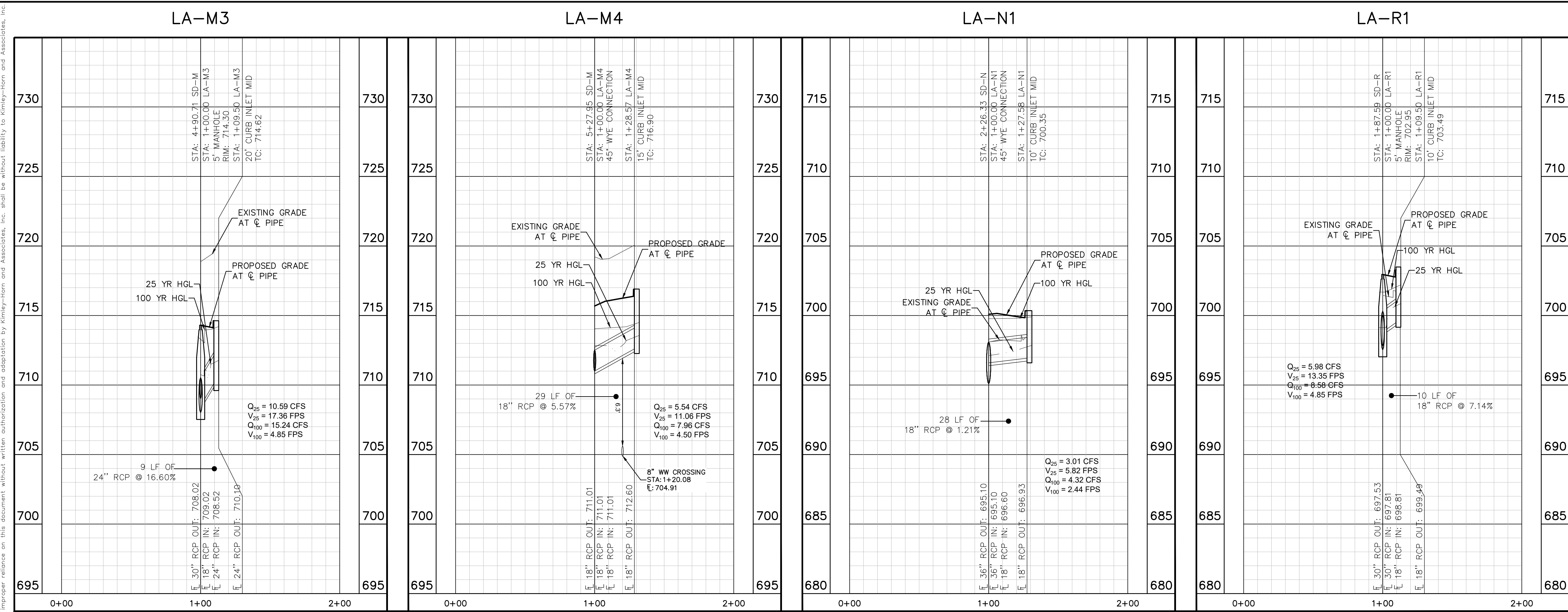
SHEET NUMBER 58 OF 90

BY

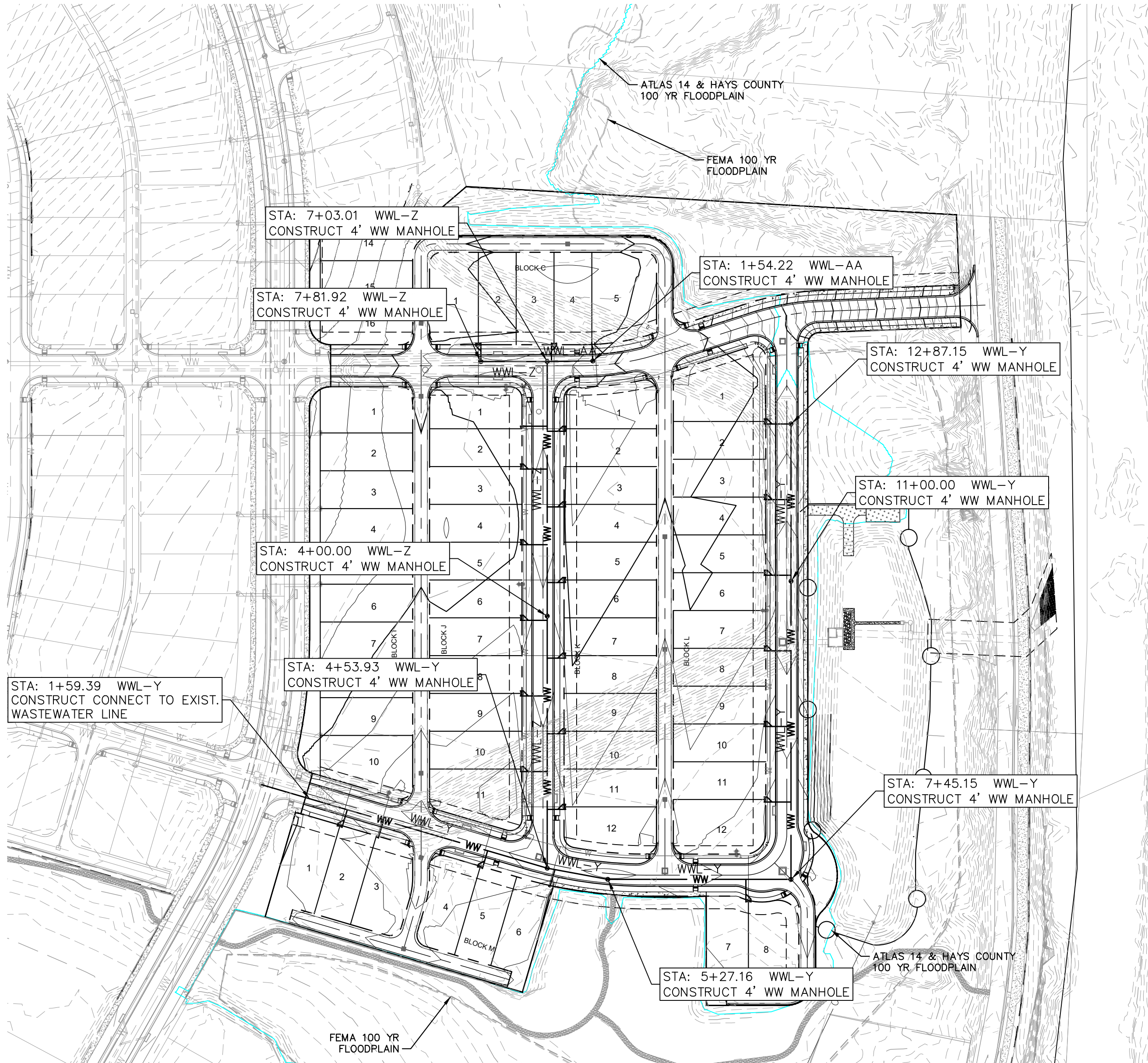
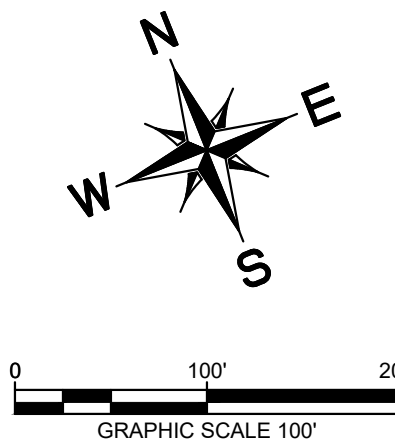
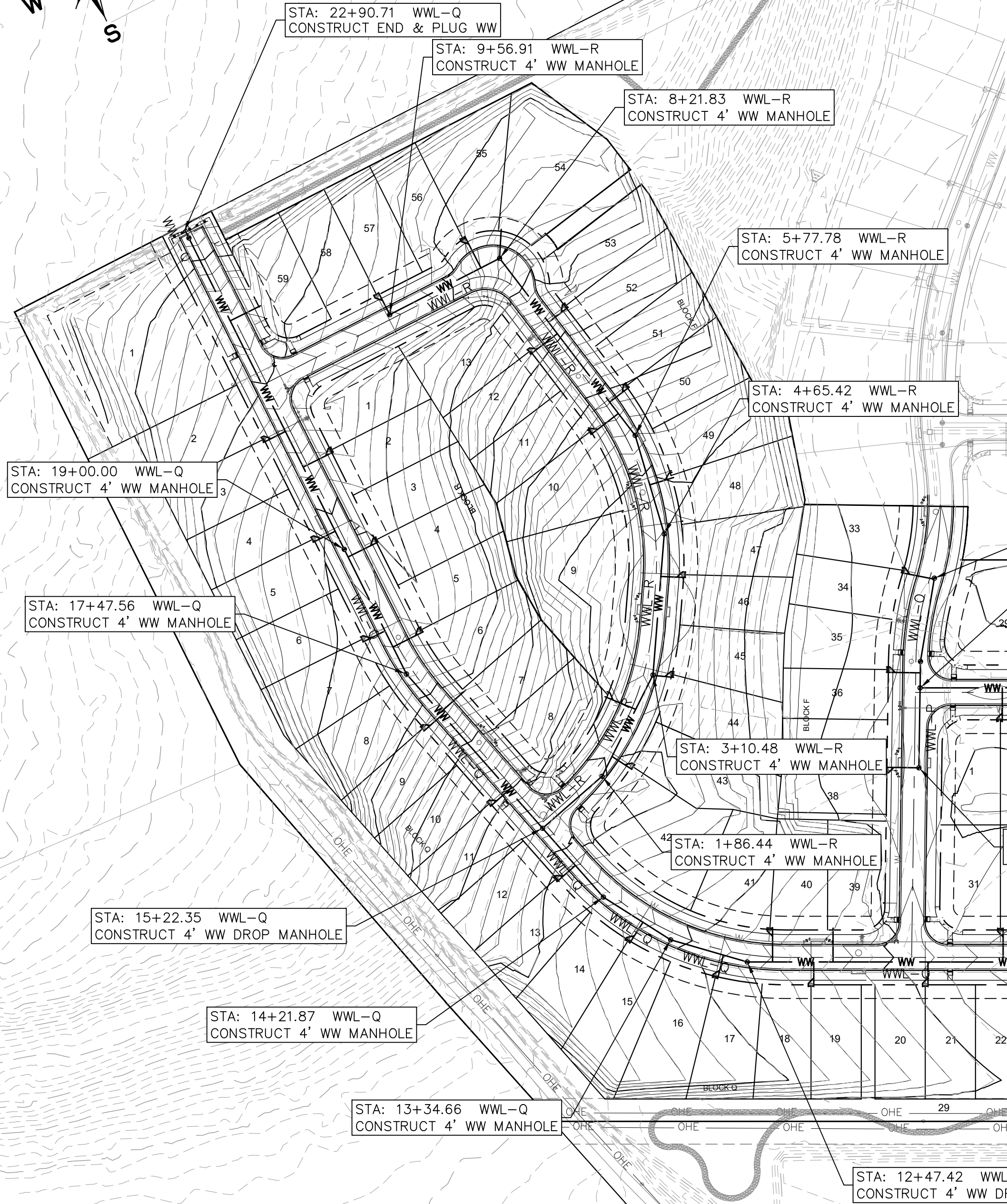
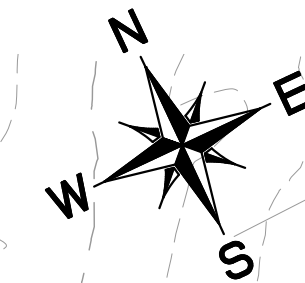
DATE

REVISIONS

No.



Plotted By: Flynn, Alyssa Date: April 10, 2024 08:02:43am File Path: K:\you_civil\067783115 meritage buds assemblage PHASE 2\06d\plansheets\0-Wastewater Plan.dwg
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UTILITY LEGEND	
	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



KEY MAP
SCALE: 1" = 1,000'



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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 174' NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV +98.87 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2710 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV +712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COUNTRY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV +732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL	SHEET	OF	90
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON	N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE		
EXPIRATION DATE	CASE MANAGER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A			
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction if a building permit is not required, must also be approved prior to the Project Expiration Date.			
PERMIT NUMBER:			

NO.	REVISIONS	DATE	BY

Kimley»Horn

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TEXAS REGISTERED ENGINEERING FIRM F-928

04/9/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO
130084
PROFESSIONAL ENGINEER

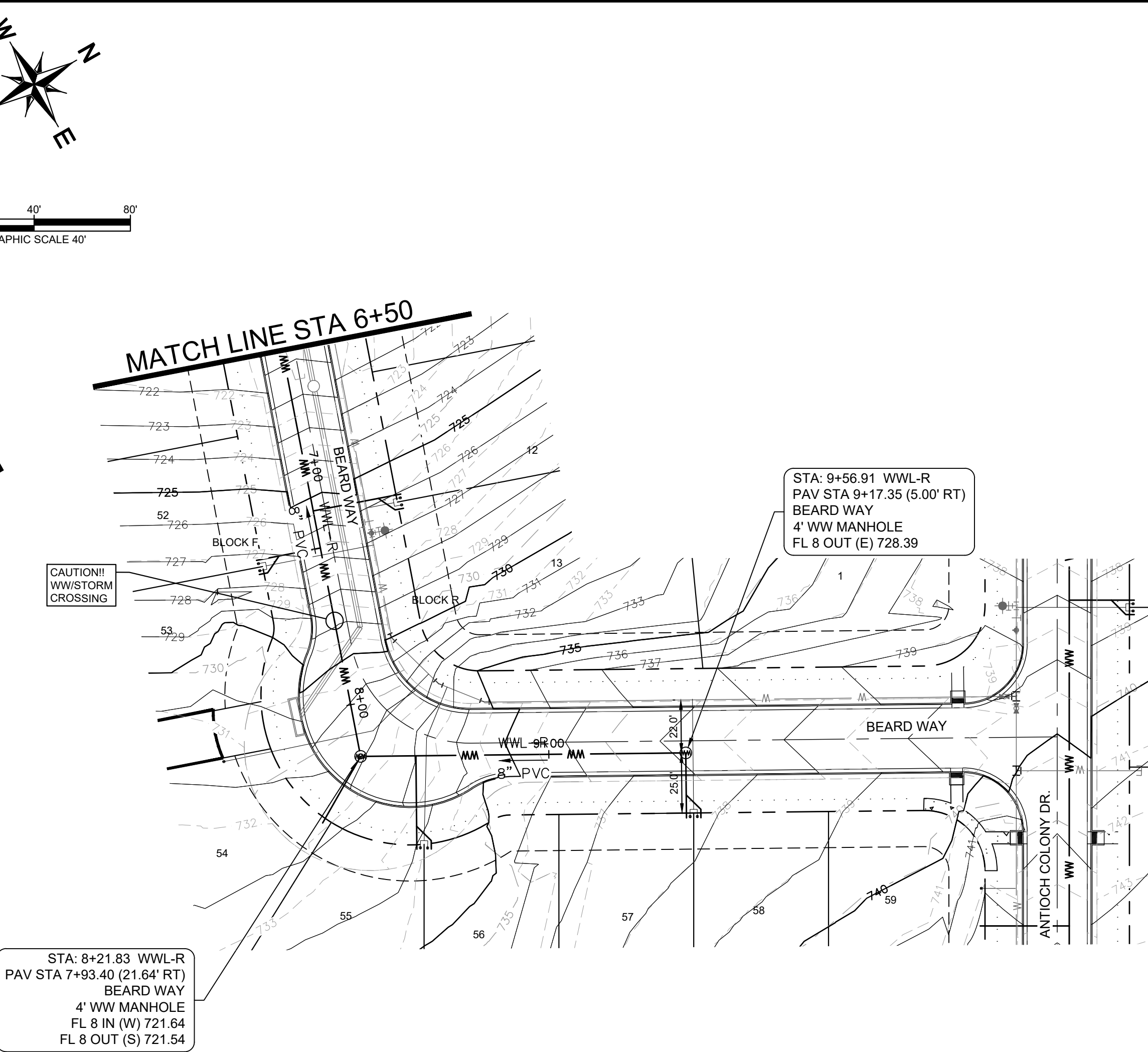
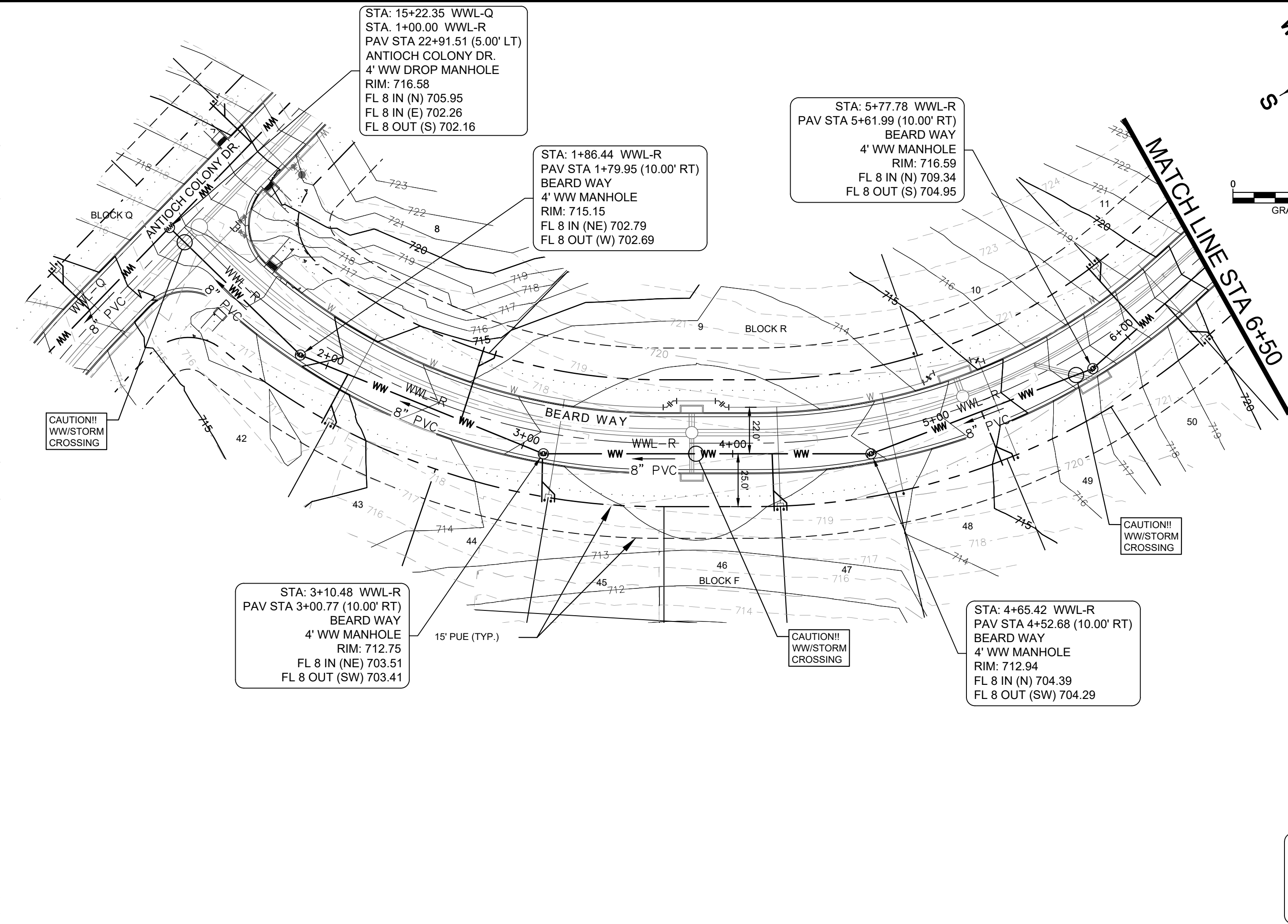
Alejandro E. Granados Rico

KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AMF
CHECKED BY	AEC

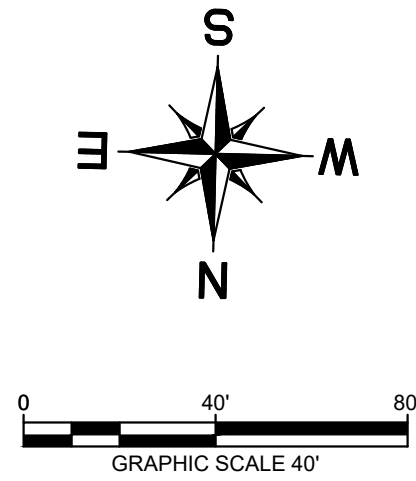
OVERALL WASTEWATER PLAN

THE COLONY PHASE 2 CITY OF BUDA HAYS COUNTY, TEXAS

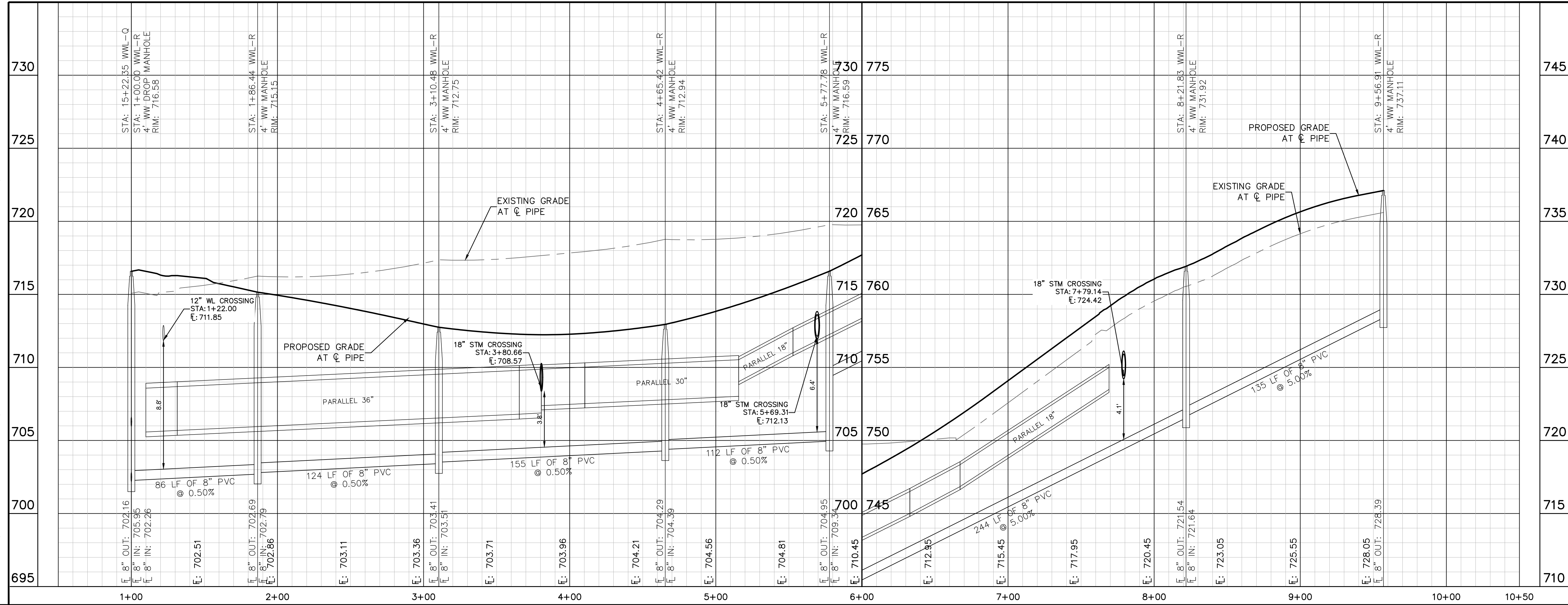
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UTILITY LEGEND	
---	PROPERTY LINE
WW	PROPOSED WASTEWATER LINE
W	PROPOSED WATER LINE
⊙	PROPOSED WASTEWATER MANHOLE
○	PROPOSED WASTEWATER CLEANOUT
→	WASTEWATER FLOW DIRECTION
⋈	PROPOSED FIRE HYDRANT
└┐	PROPOSED TAPPING SLEEVE & VALVE
▬	IRRIGATION SLEEVE
—O—	EXISTING OVERHEAD POWER LINE
—W—	EXISTING WATER LINE
—WW—	EXISTING WASTEWATER LINE
- - - -	EXISTING STORM SEWER LINE
⊙	EXISTING POWER POLE
⋈	EXISTING FIRE HYDRANT
⊗	EXISTING WATER METER
⊙	EXISTING WASTEWATER MANHOLE



WWL-R



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

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

BENCHMARKS

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 867 774 NORTH OF THE EDGE NORTH SIDE OF PAVEMENT OF COLE SPRINGS ROAD. ELEV: 716.81 (NAVD 88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES. ELEV: 712.04 (NAVD 88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE. ELEV: 732.56 (NAVD 88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 90

FILE NUMBER APPLICATION DATE

APPROVED BY COMMISSION ON: N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE

EXPIRATION DATE CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: _____ ZONING N/A

Rev. 1 _____ Correction 1

Rev. 2 _____ Correction 2

Rev. 3 _____ Correction 3

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REVISIONS		DATE	BY
No.			

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04/9/2024

Alejandro E. Granados Rico

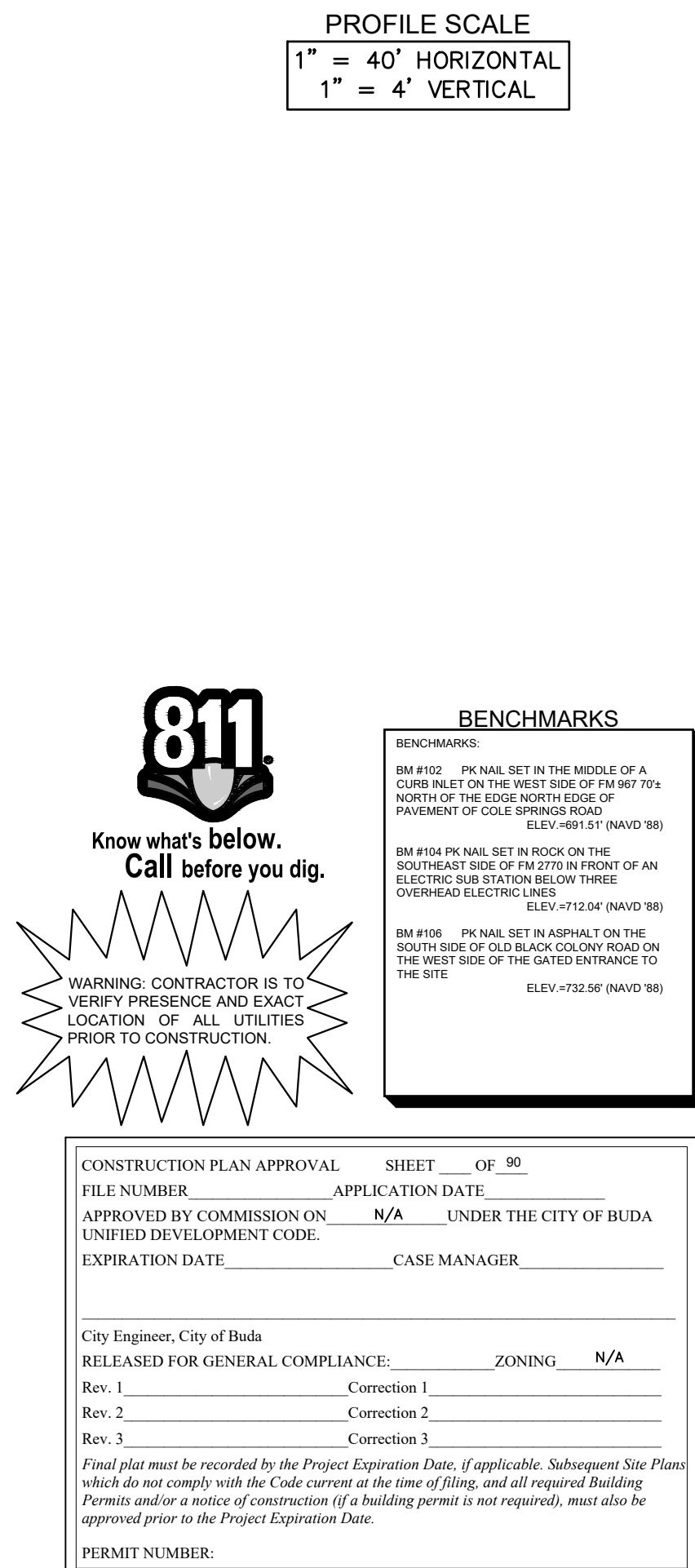
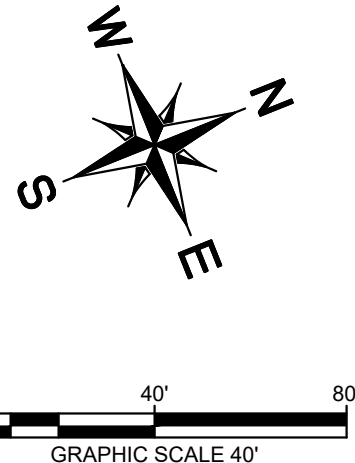
KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AJD
CHECKED BY	AEC

WASTEWATER PLAN & PROFILE WWL-R

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

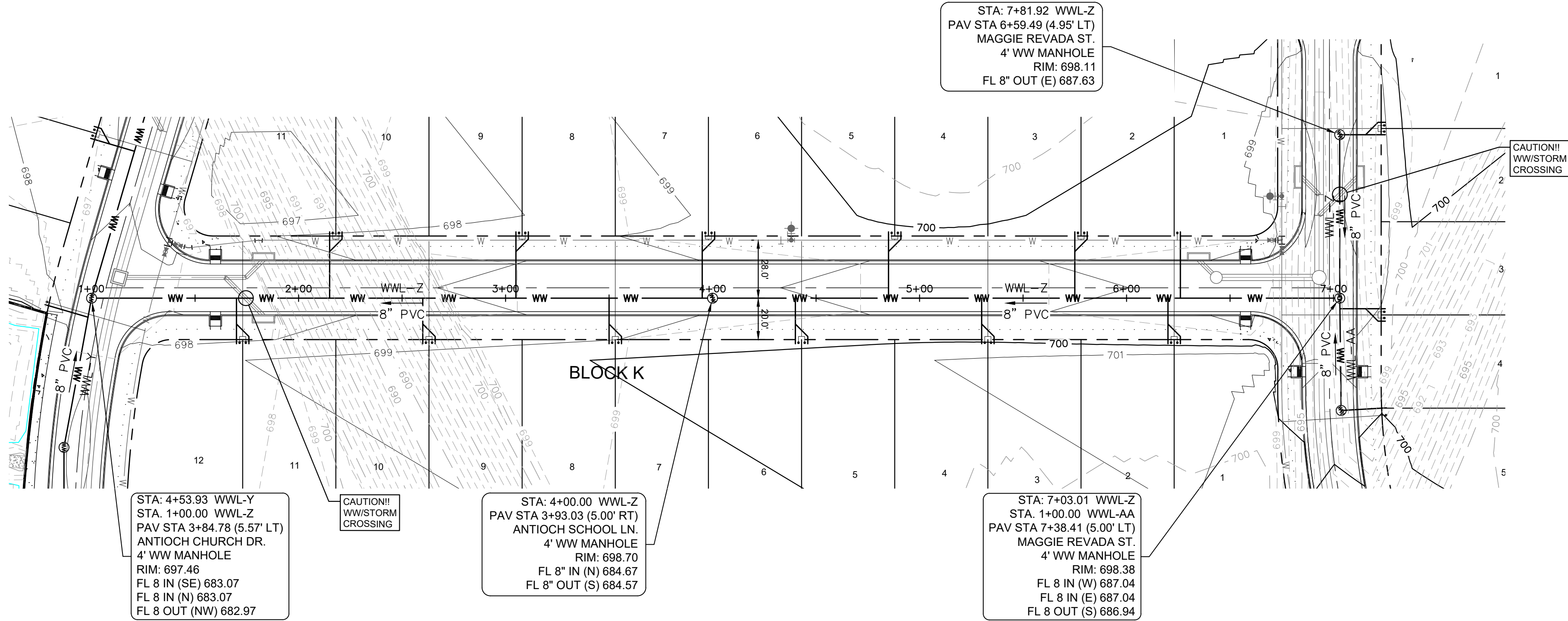
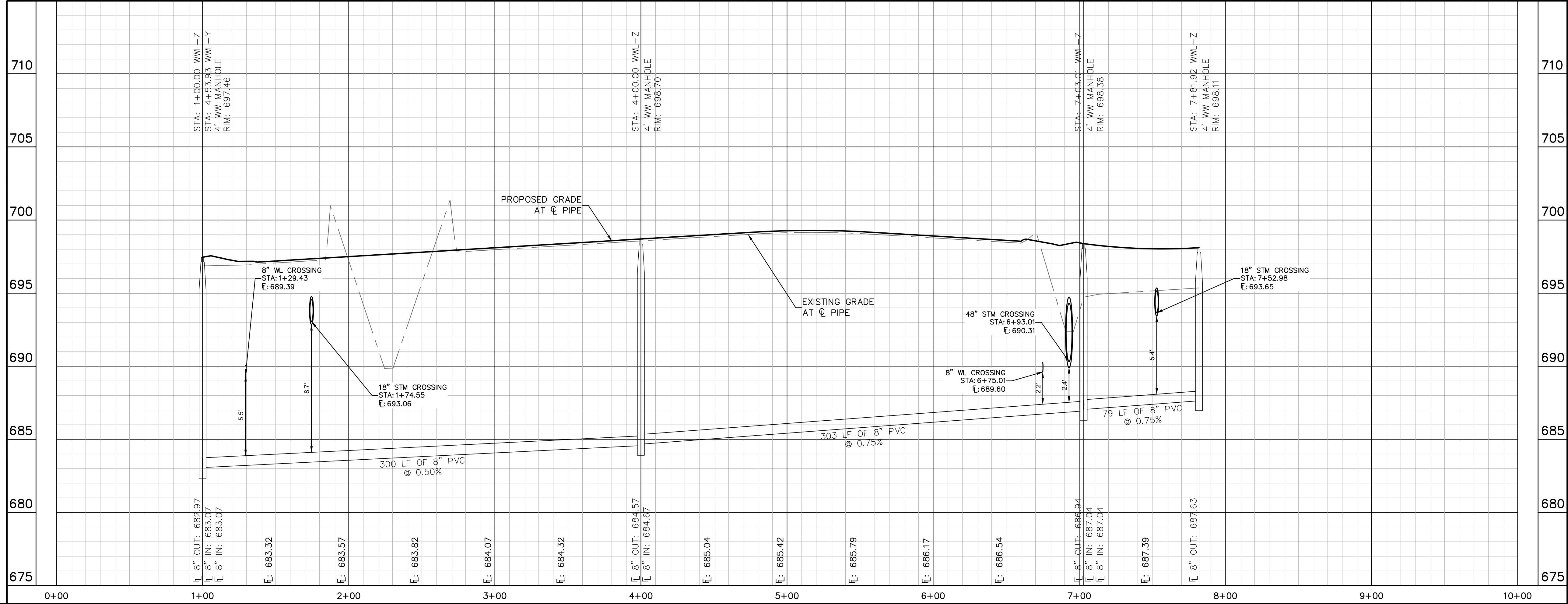
SHEET NUMBER
76
OF 90

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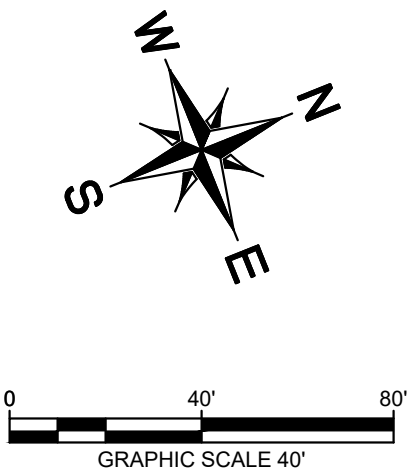


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UTILITY LEGEND	
	PROPERTY LINE
	PROPOSED WASTEWATER LINE
	PROPOSED WATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	WASTEWATER FLOW DIRECTION
	PROPOSED FIRE HYDRANT
	PROPOSED TAPPING SLEEVE & VALVE
	IRRIGATION SLEEVE
	EXISTING 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



REVISIONS		DATE	BY
No.			

Kimley»Horn

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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

04/9/2024

STATE OF TEXAS

ALEJANDRO E. GRANADOS RICO
130084
PROFESSIONAL ENGINEER

Alejandro E. Granados Rico

KHA PROJECT	067783115
DATE	FEBRUARY 2024
SCALE	AS SHOWN
DESIGNED BY	DPD
DRAWN BY	AJD
CHECKED BY	AEC

WASTEWATER PLAN & PROFILE WWL-Z

THE COLONY

PHASE 2

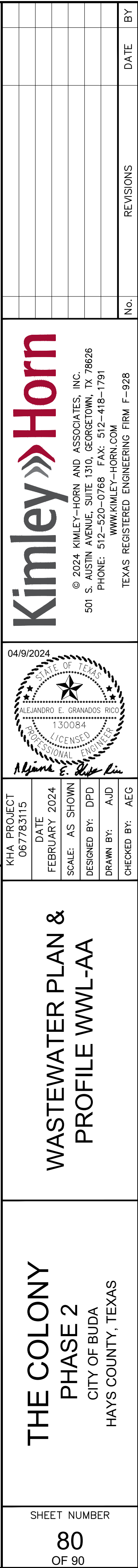
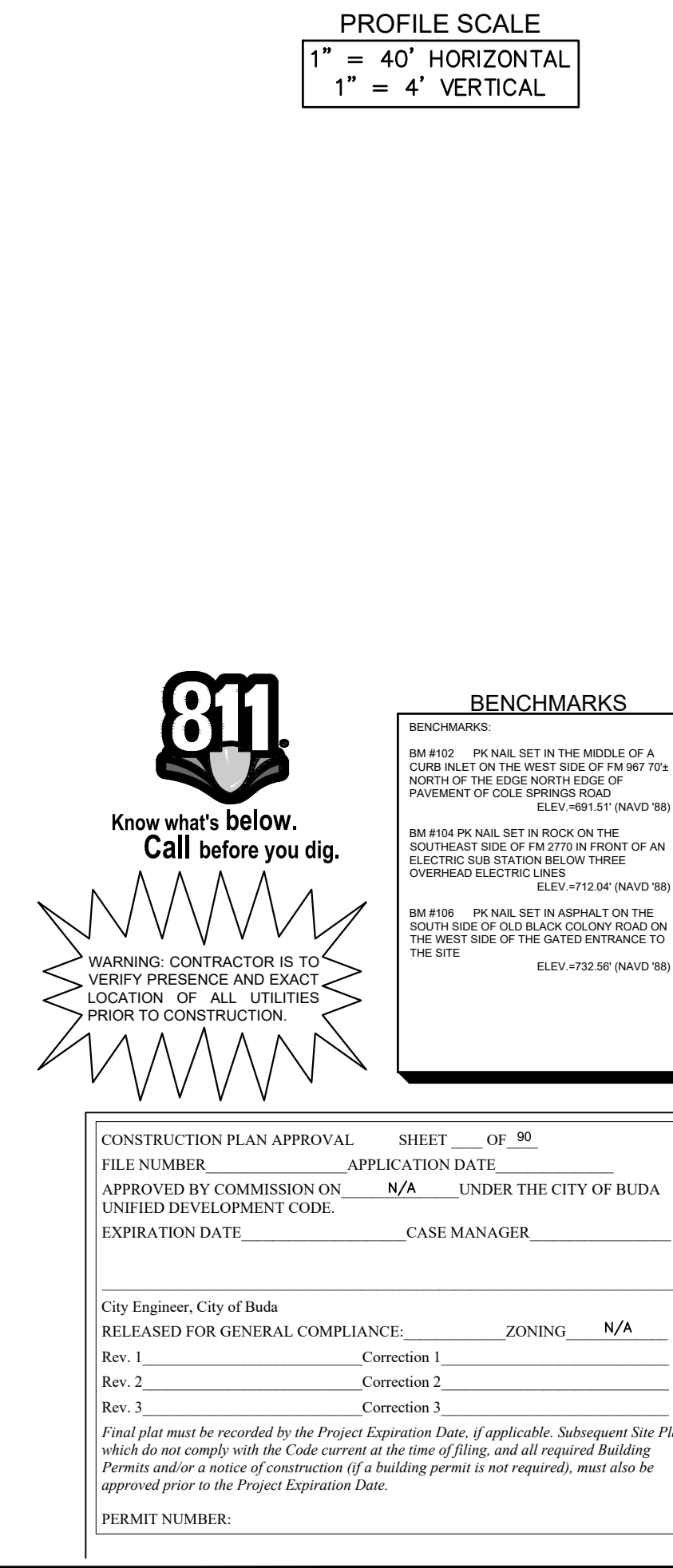
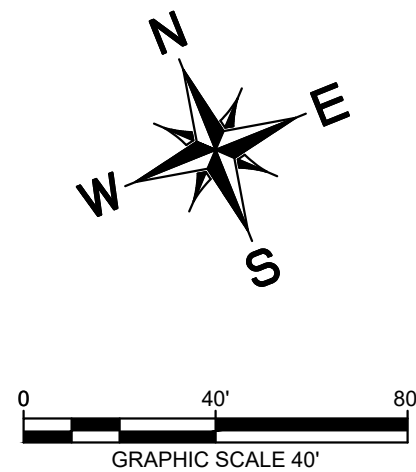
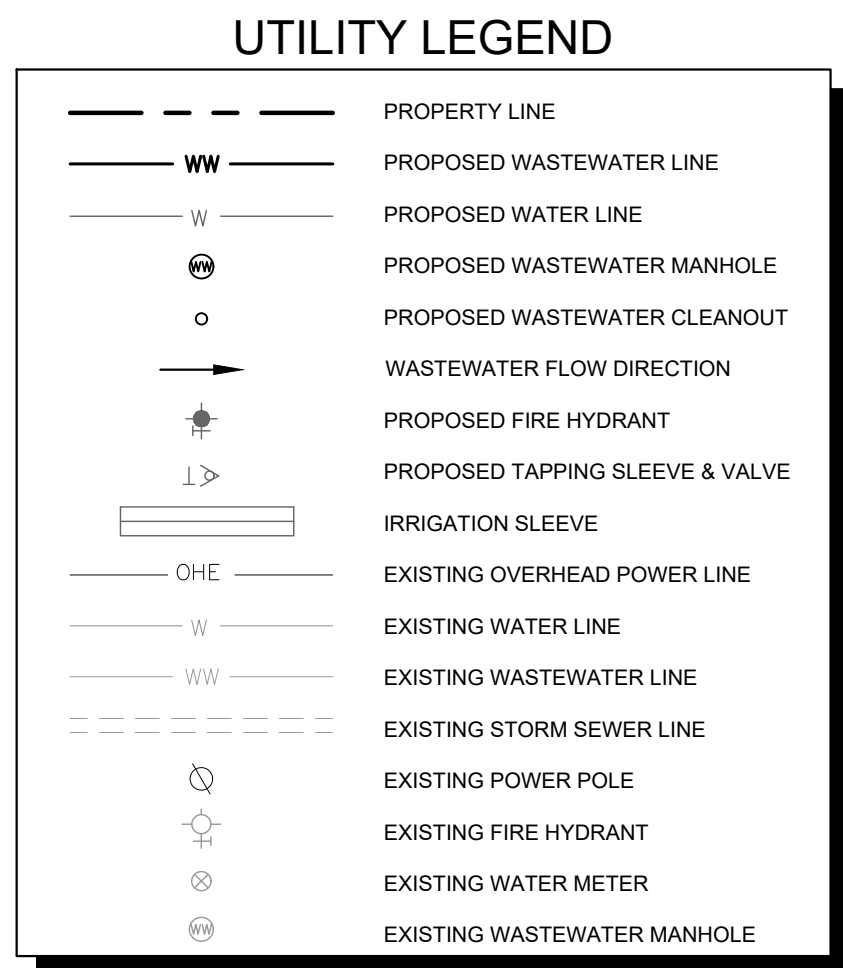
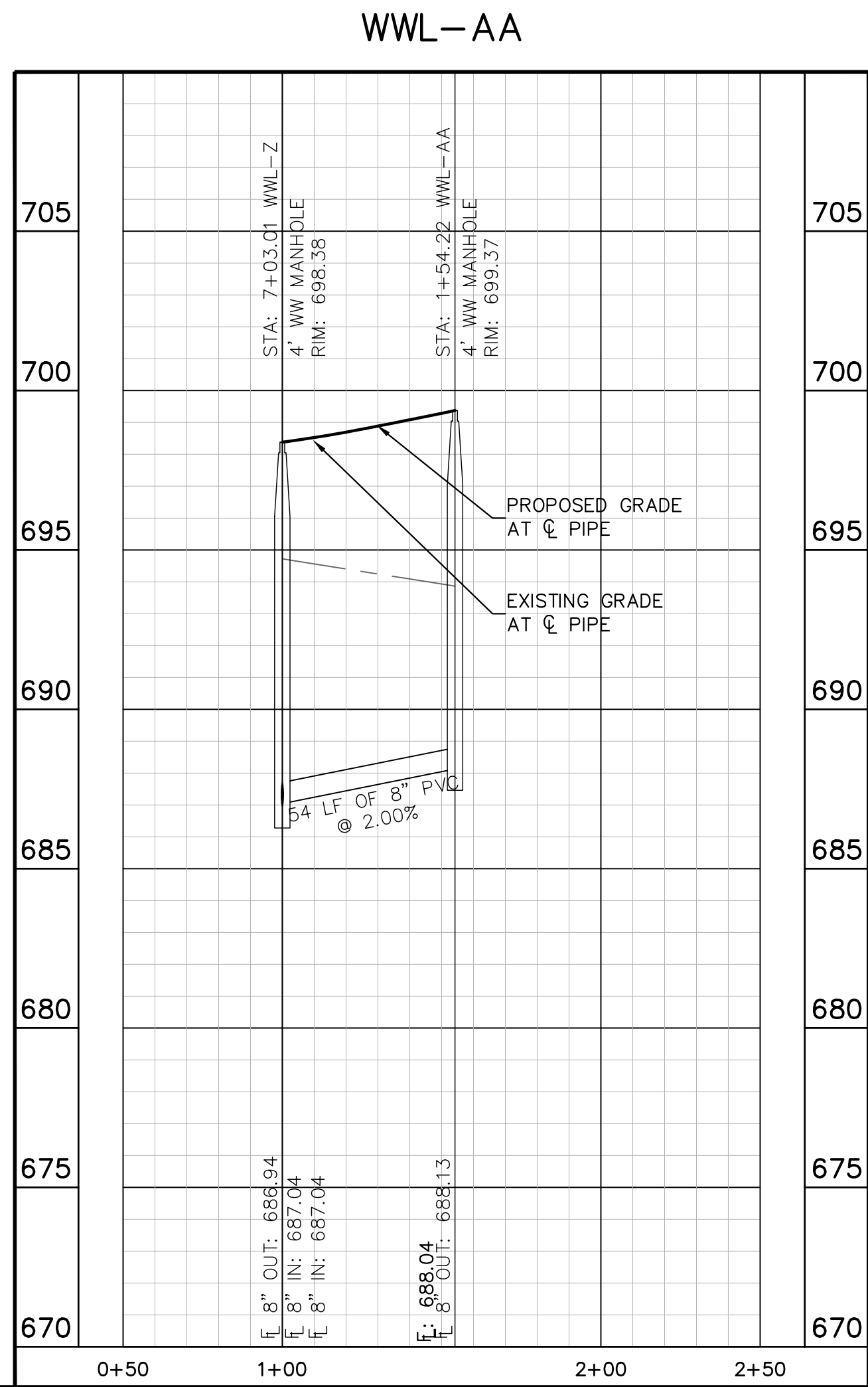
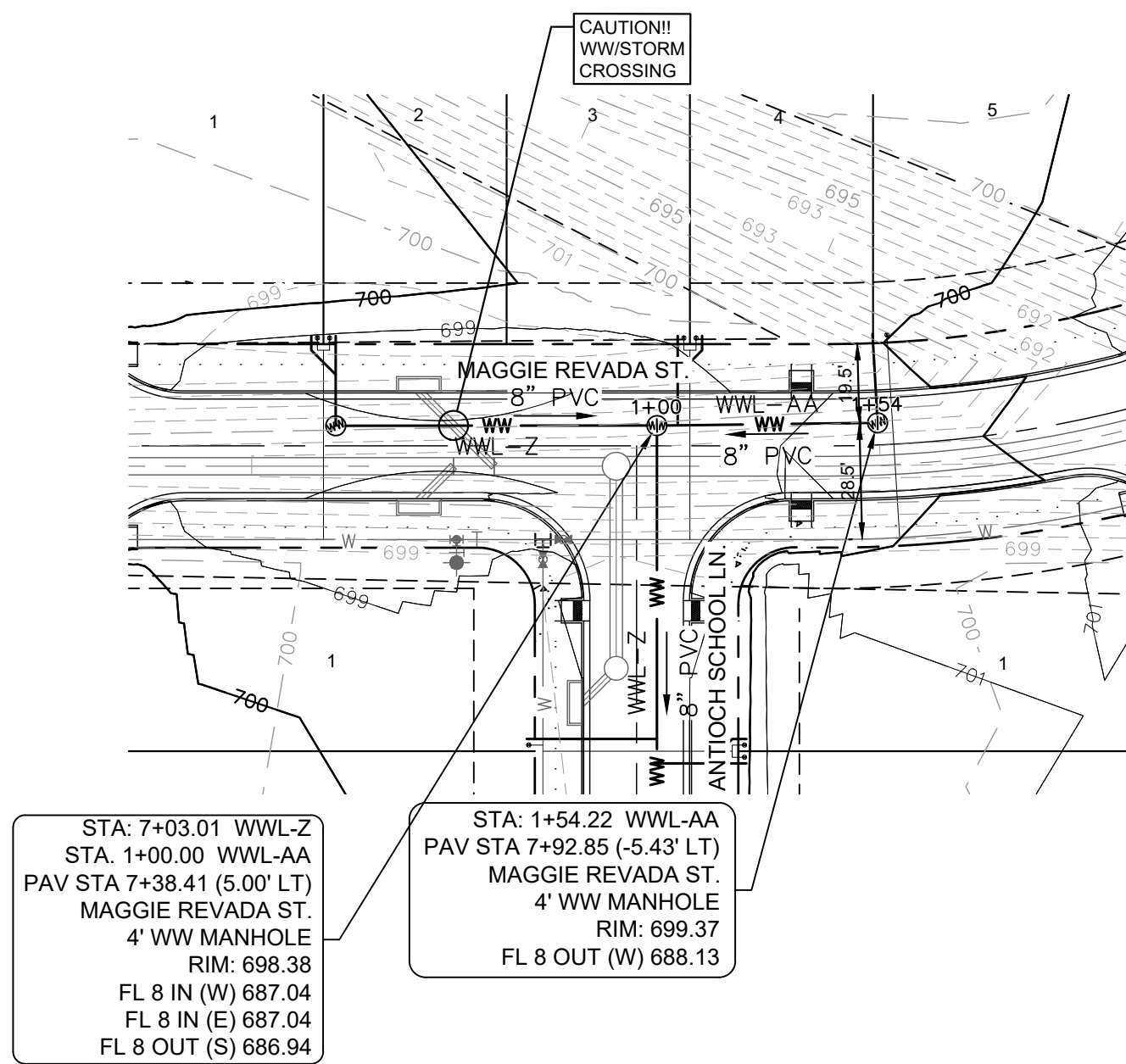
CITY OF BUDA

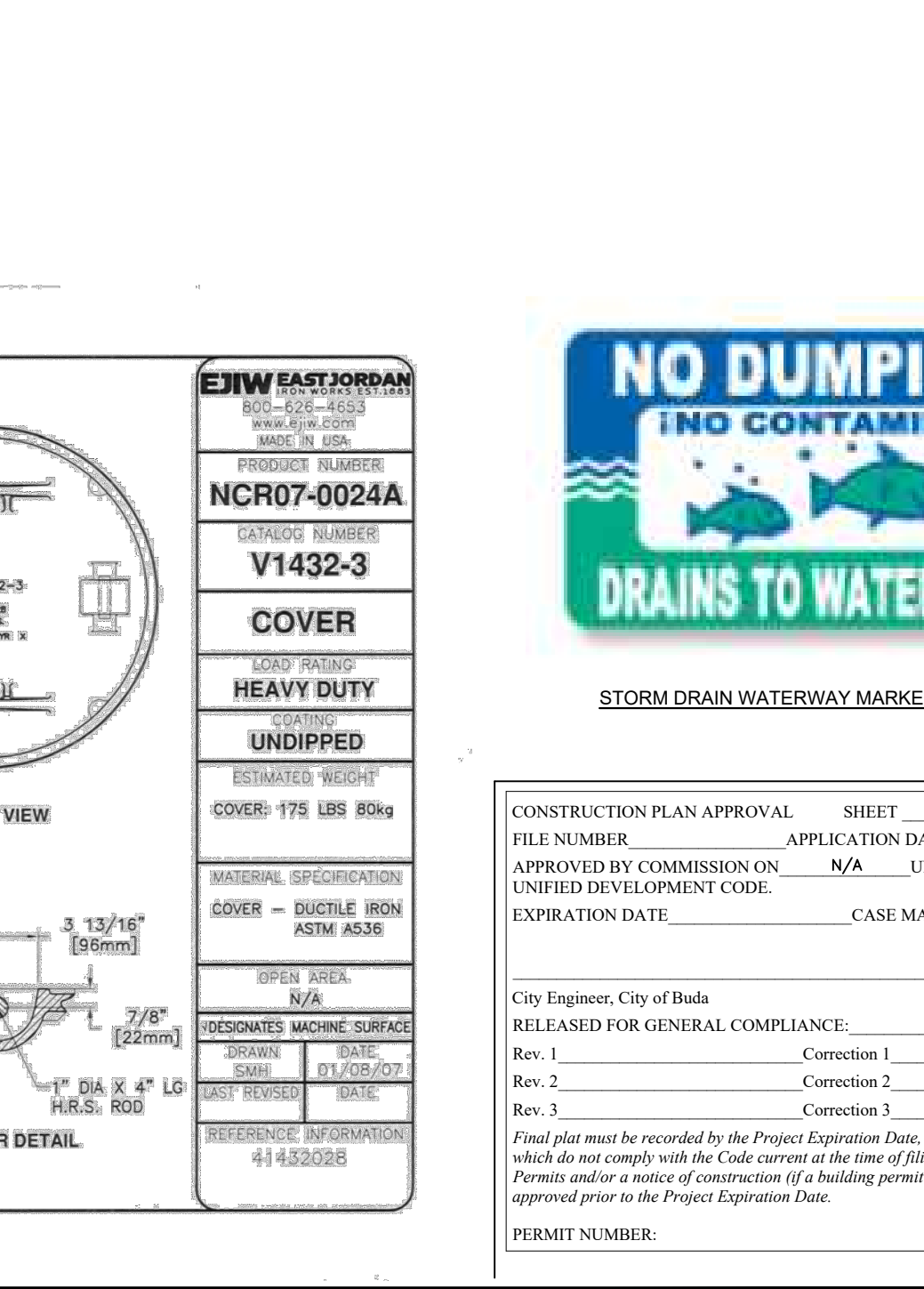
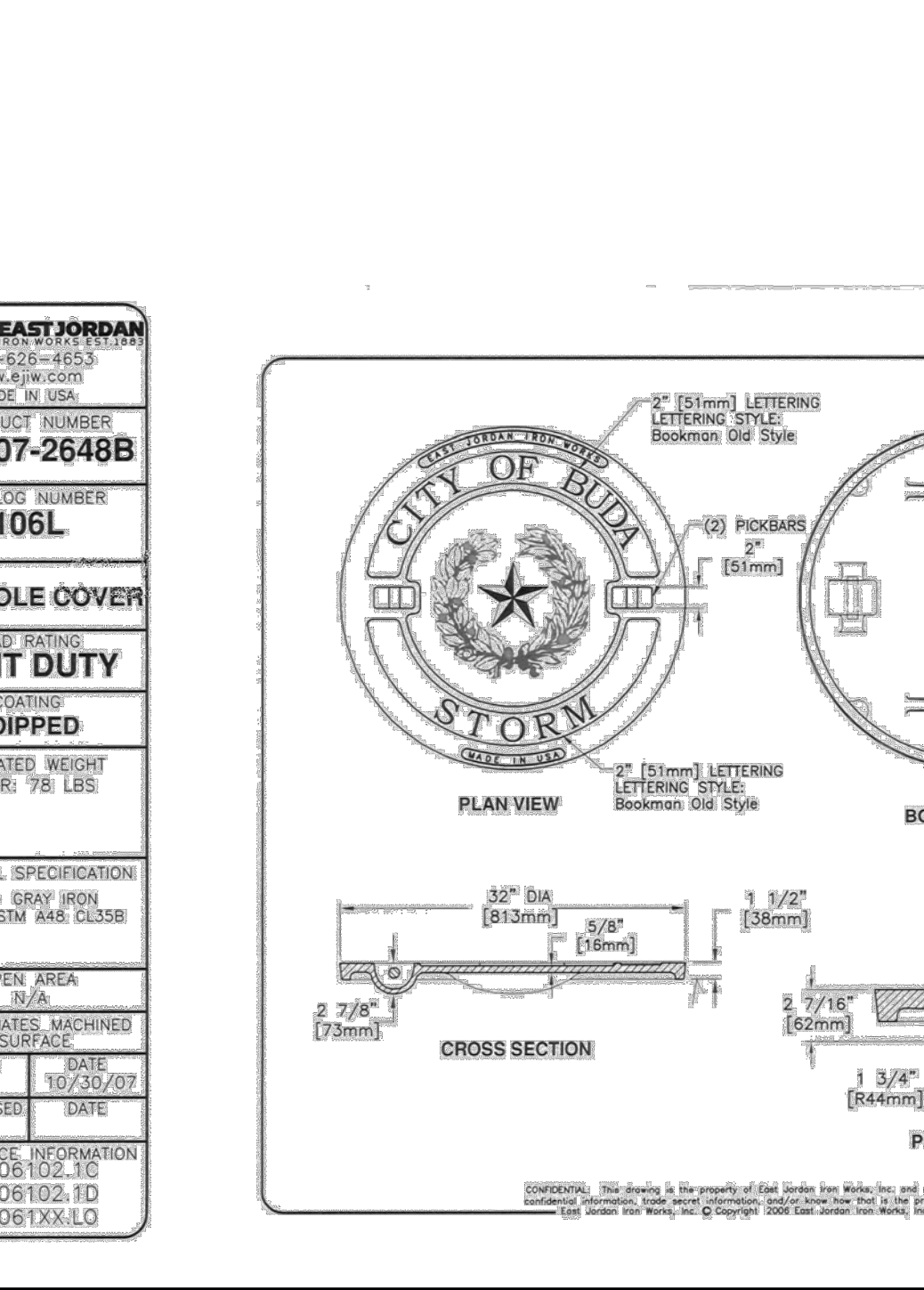
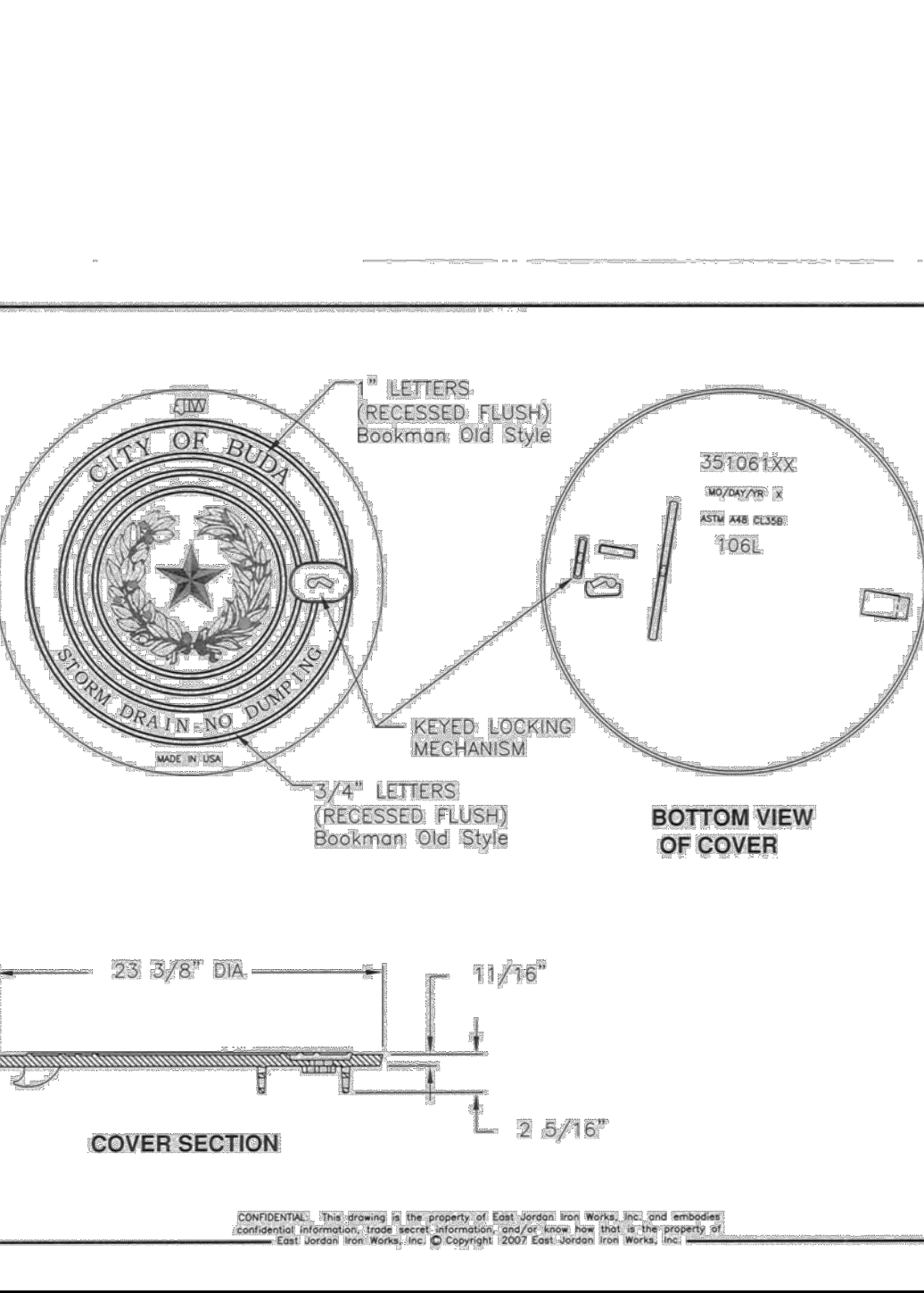
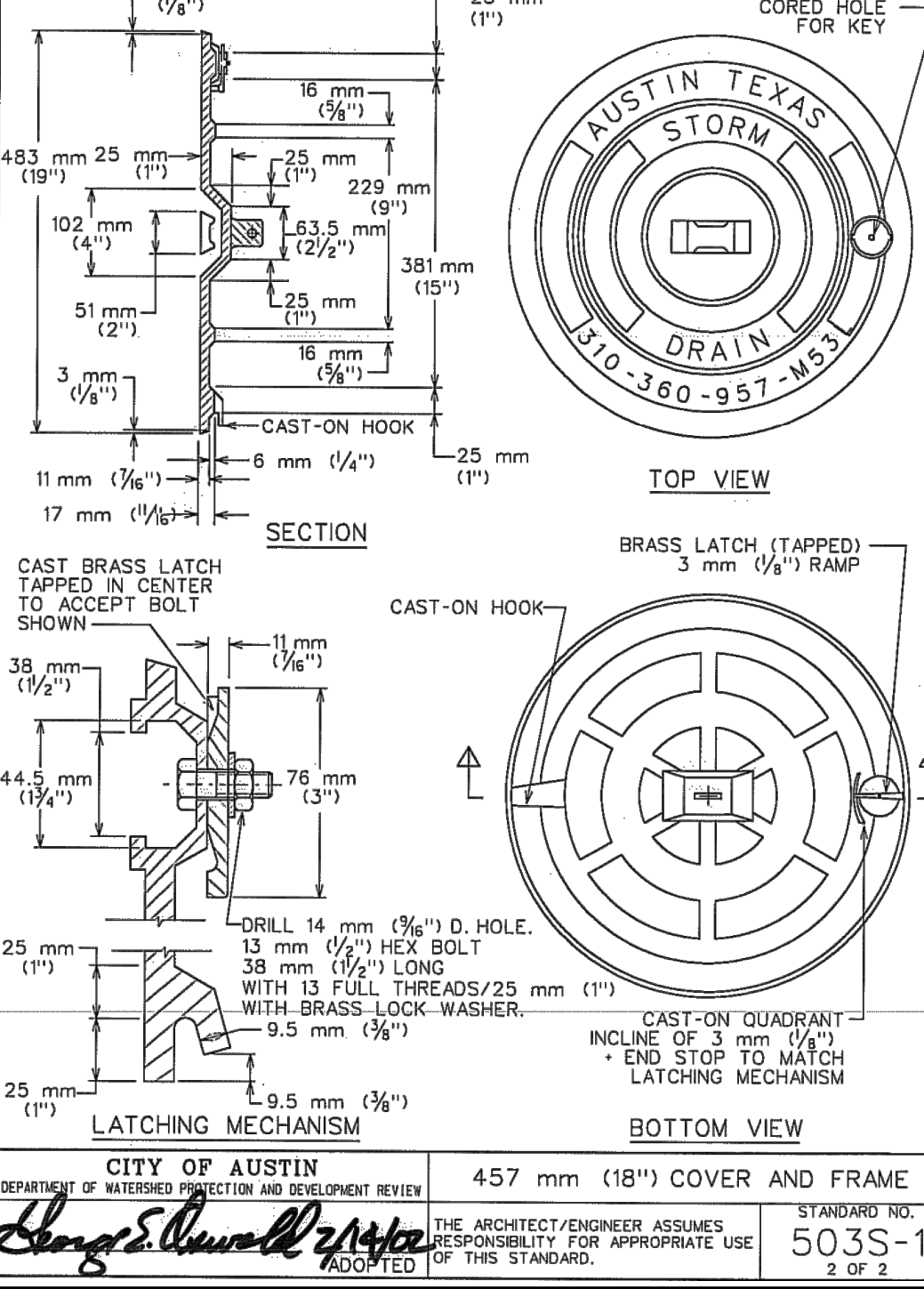
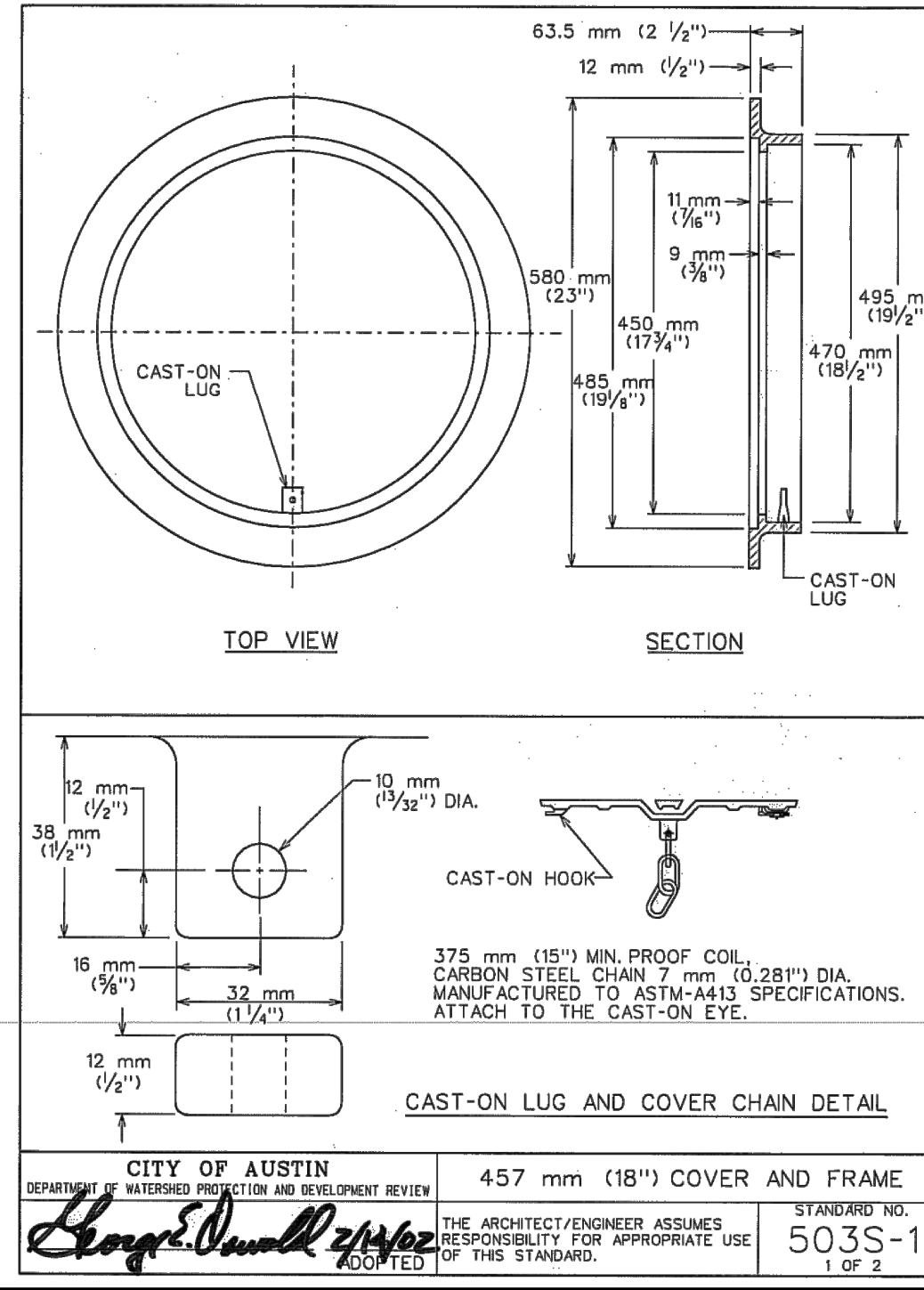
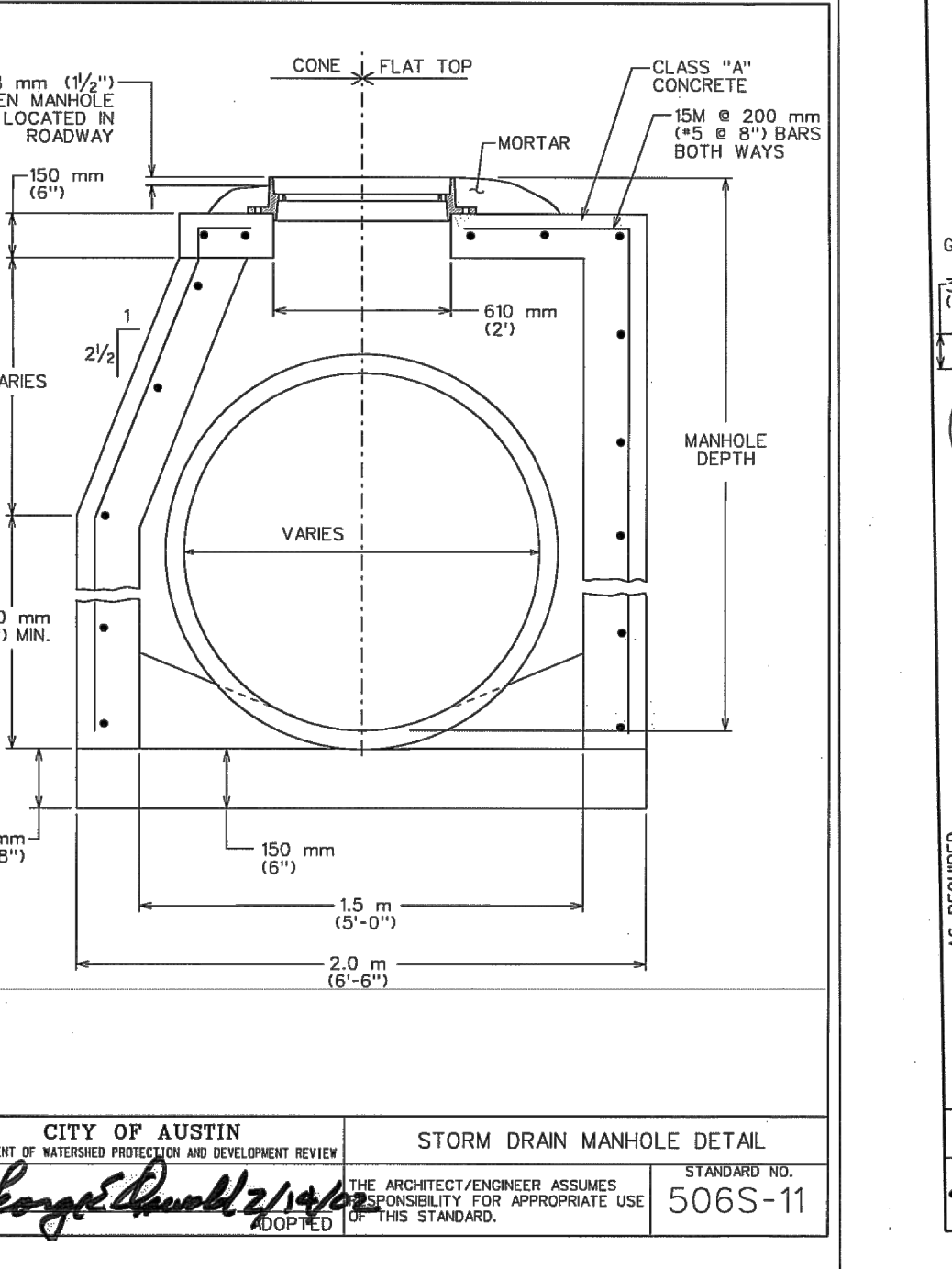
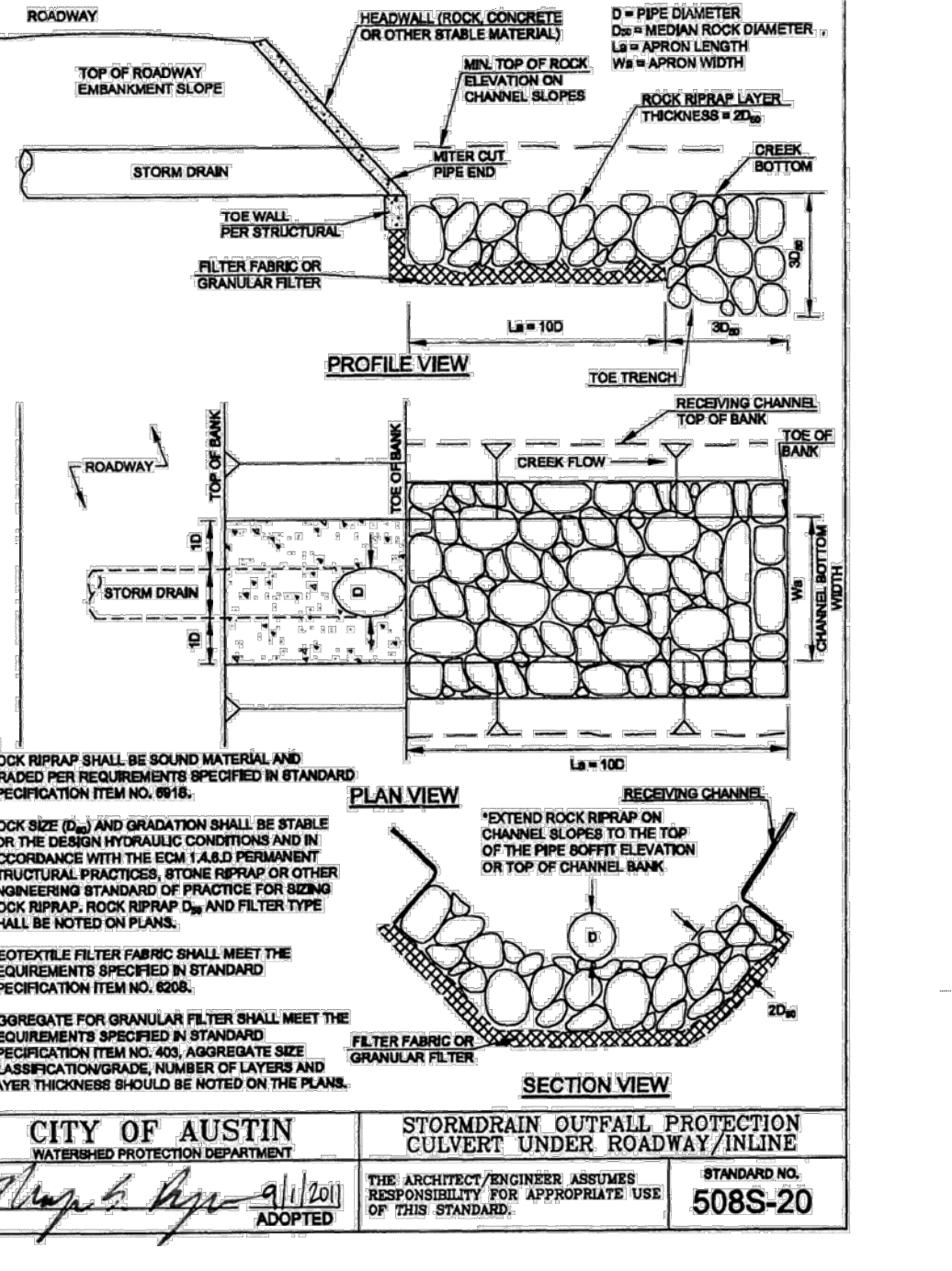
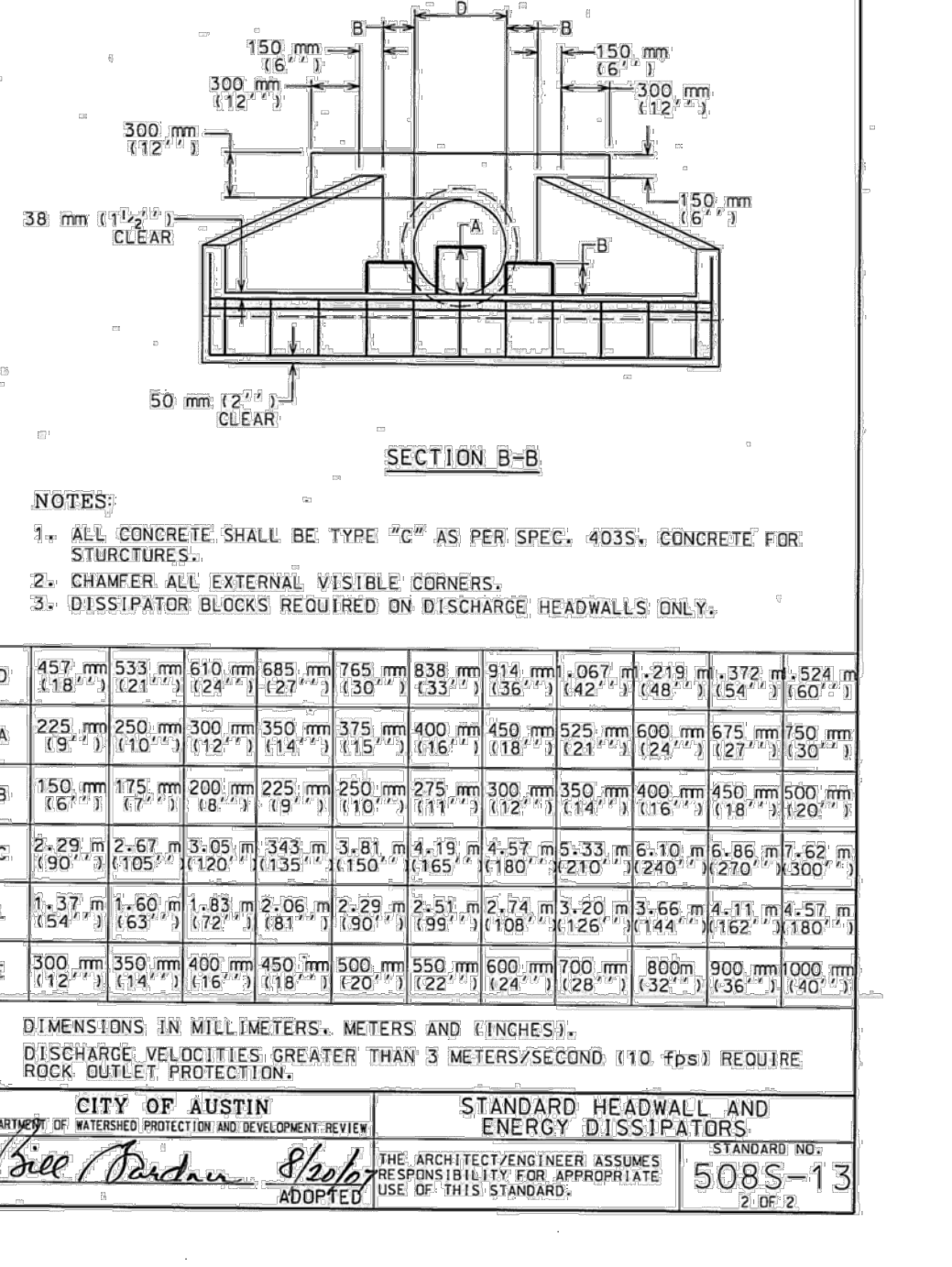
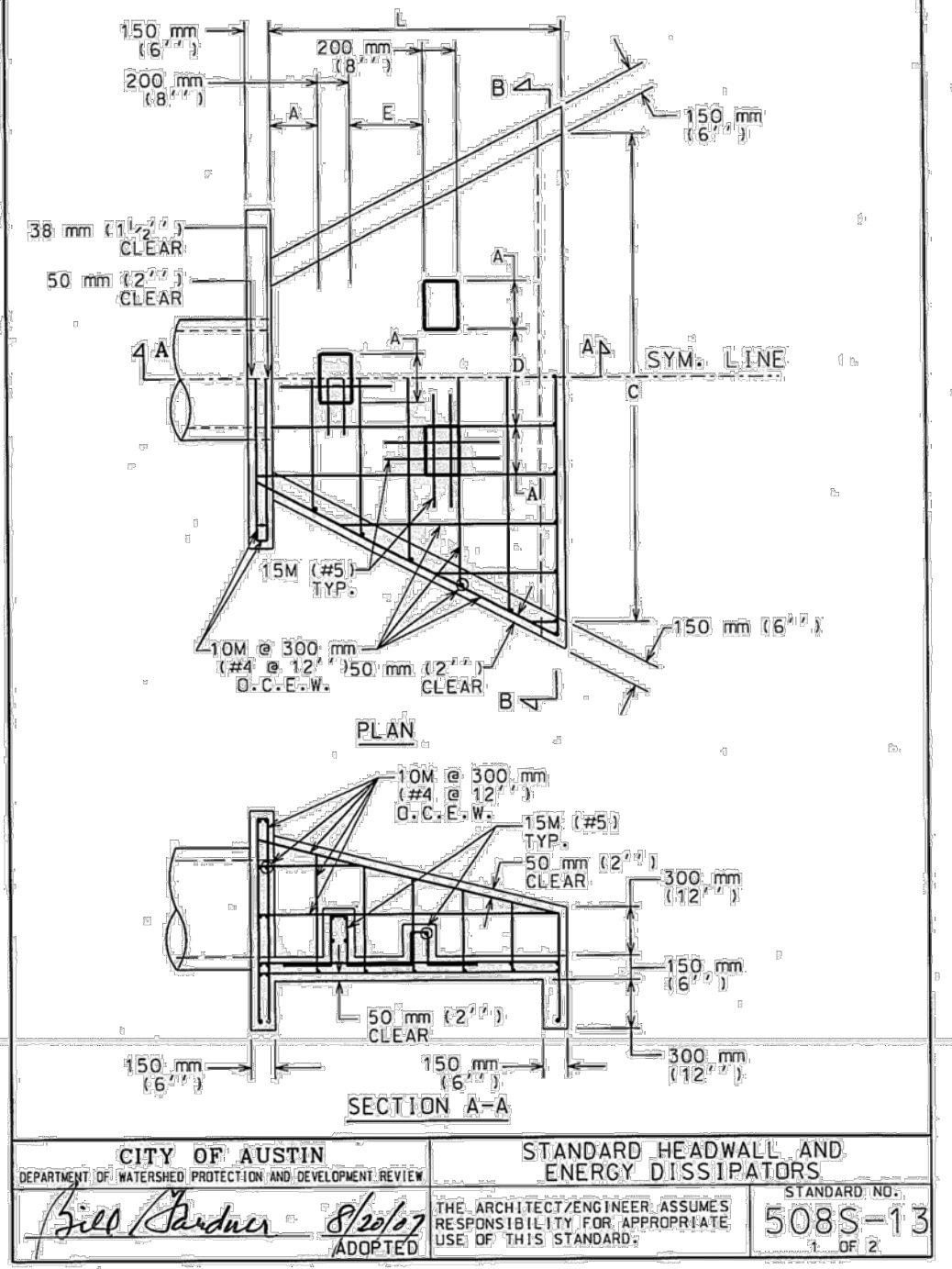
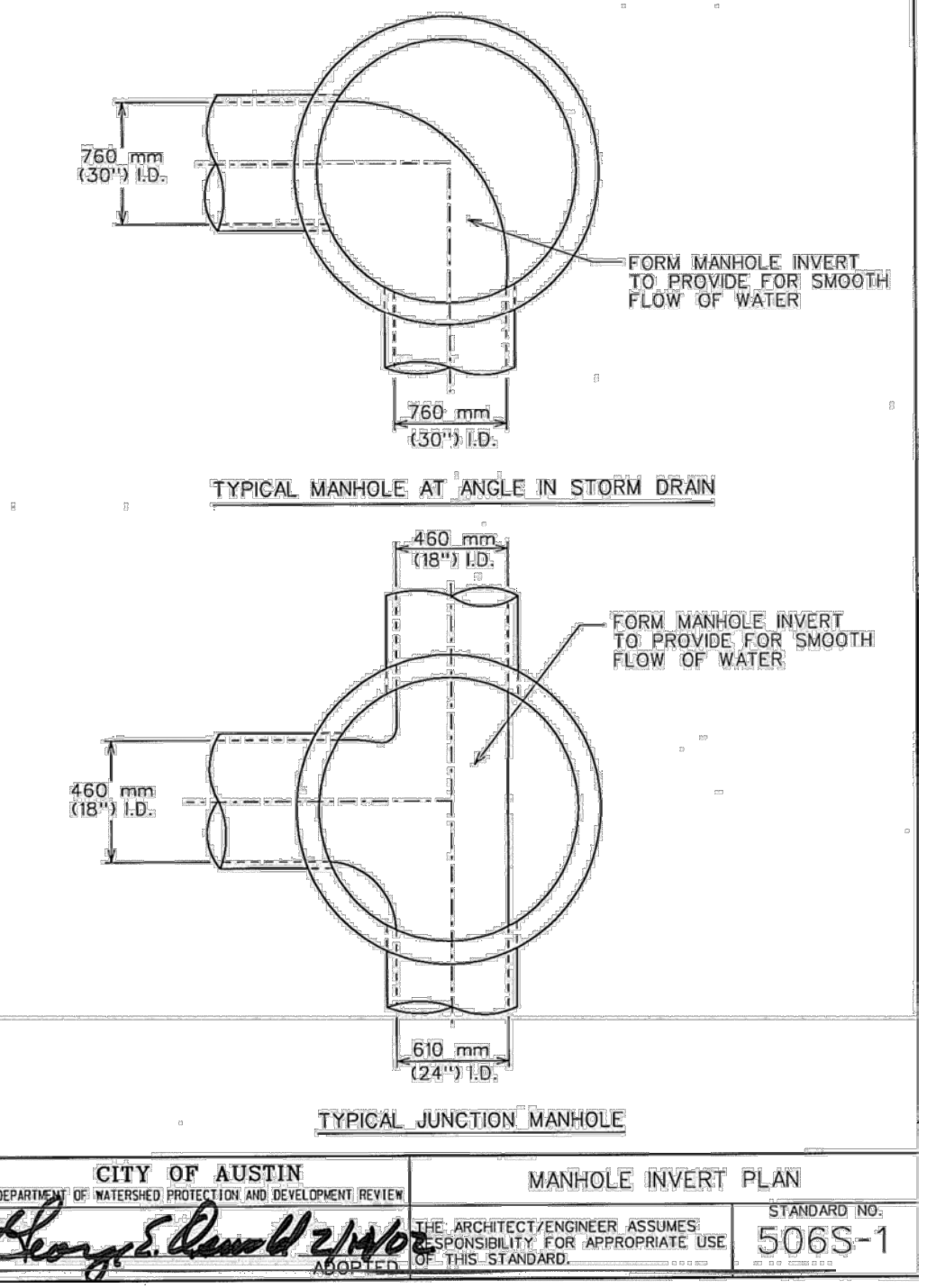
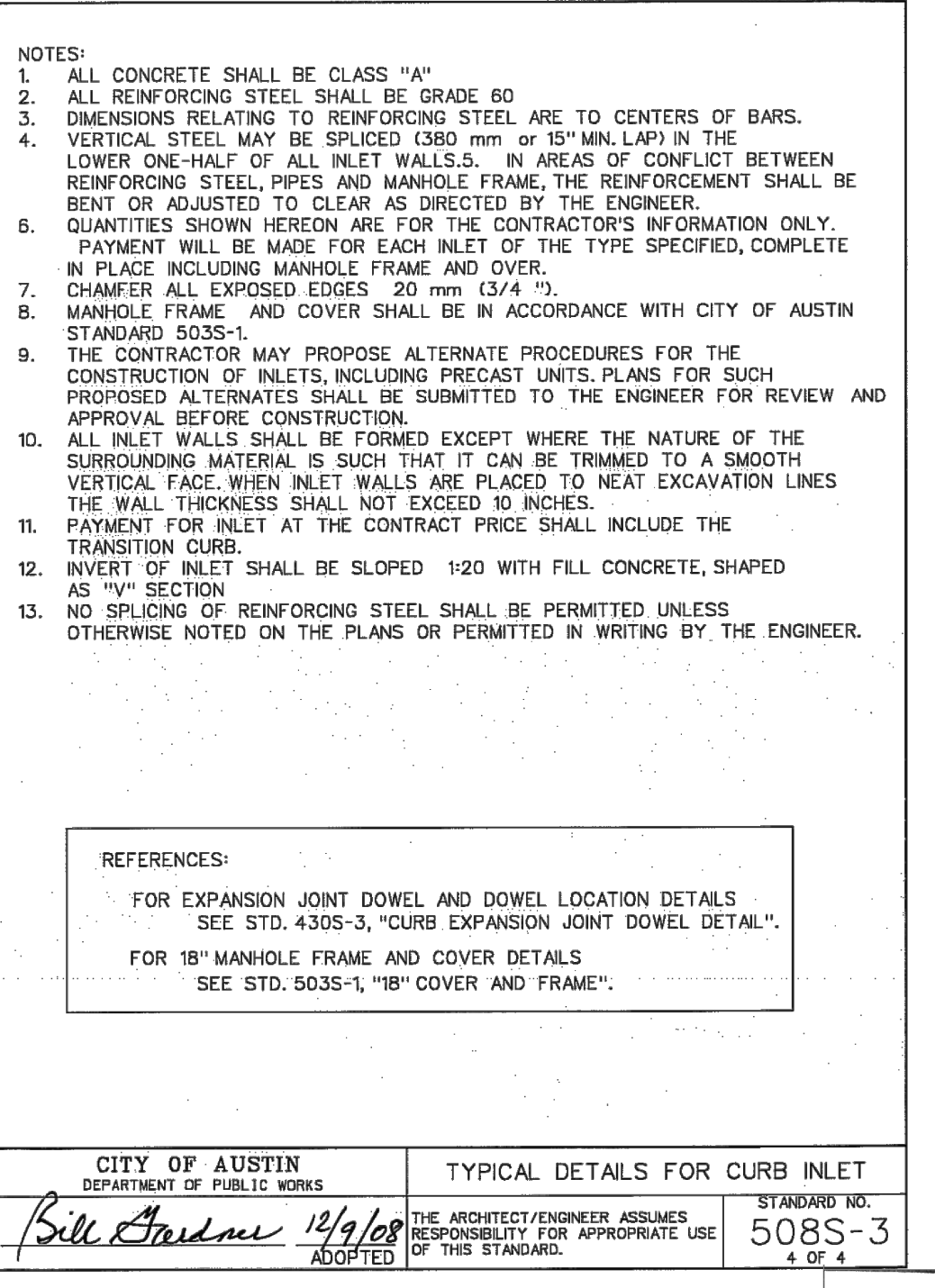
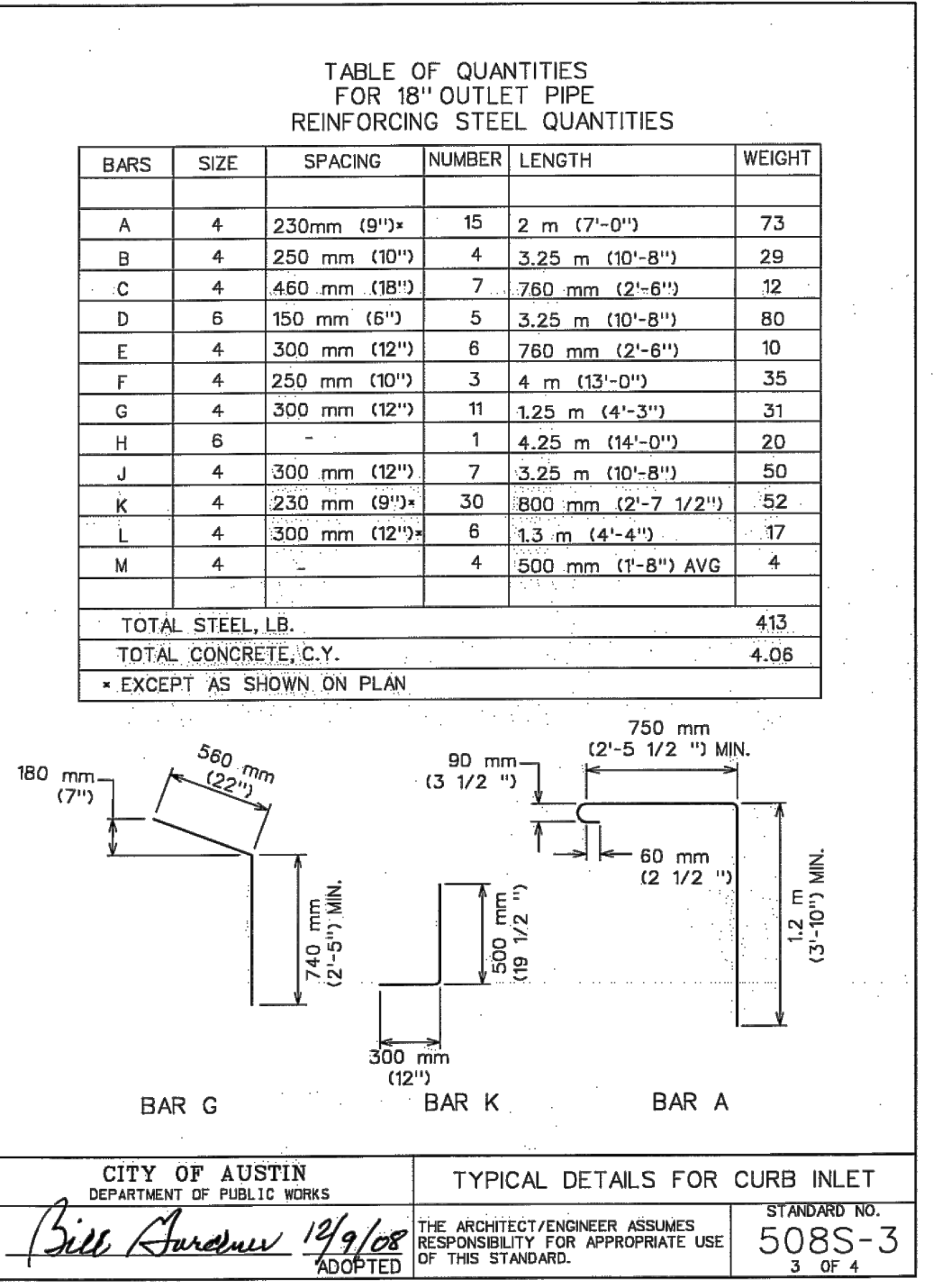
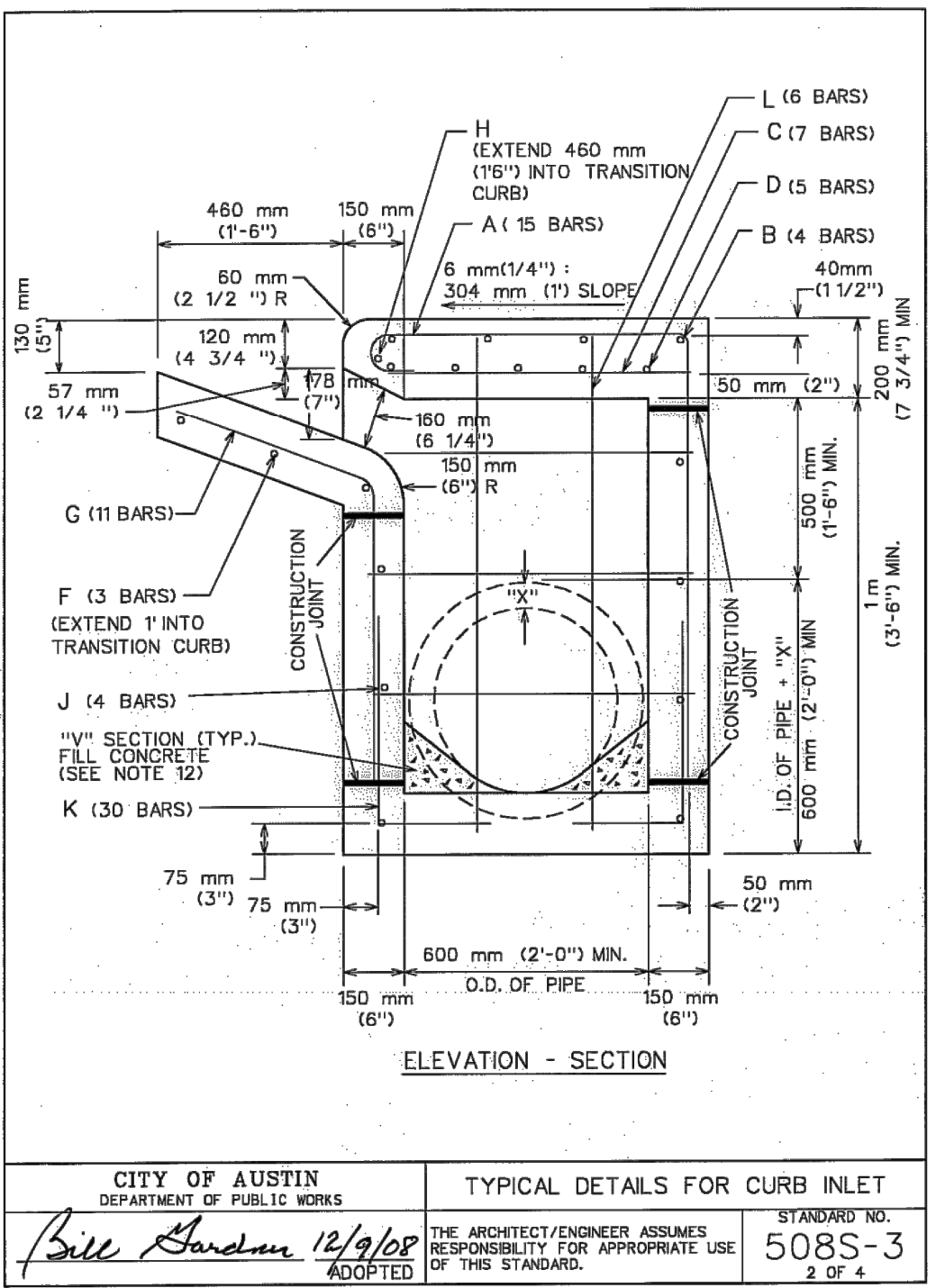
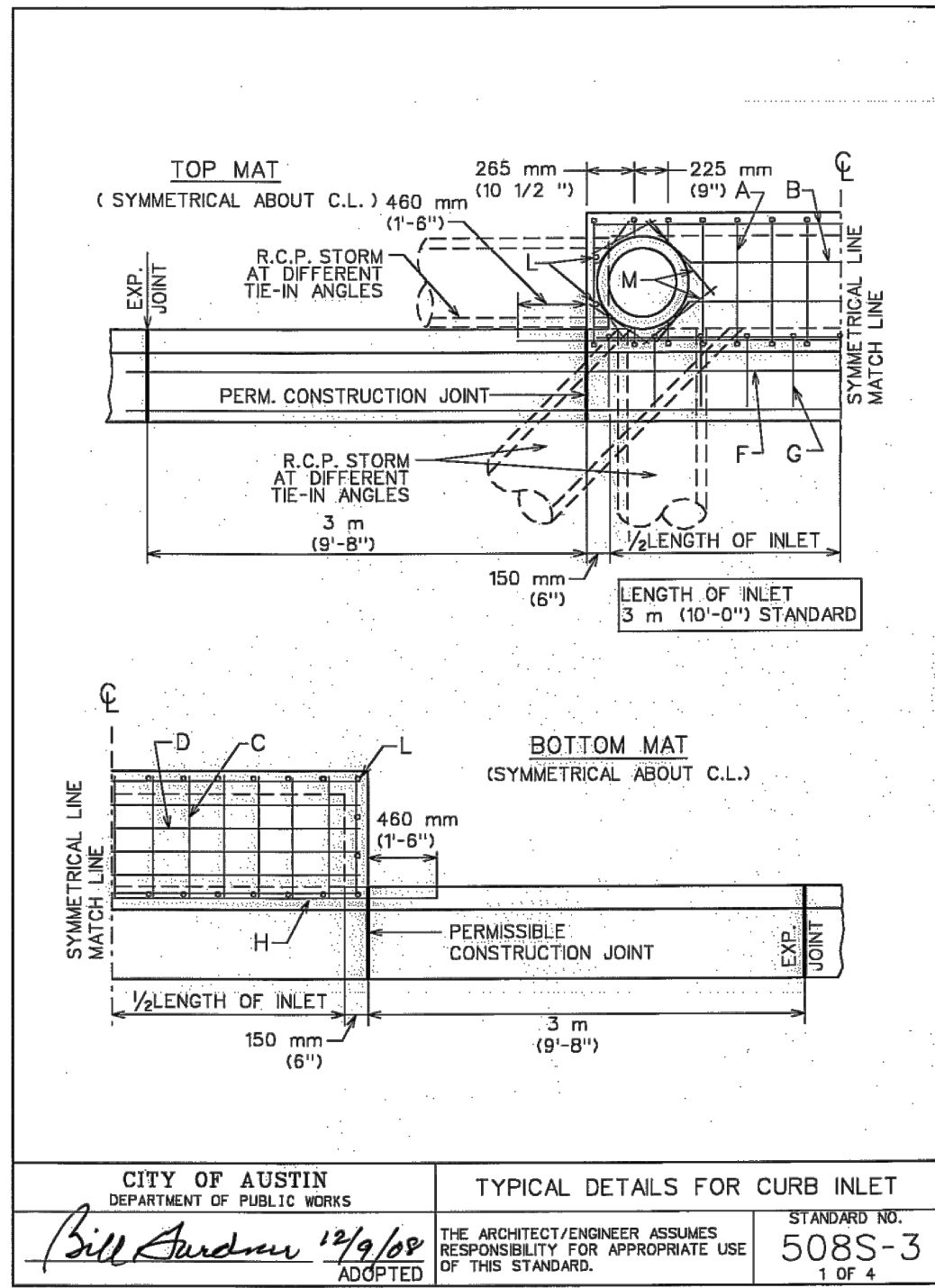
HAYS COUNTY, TEXAS

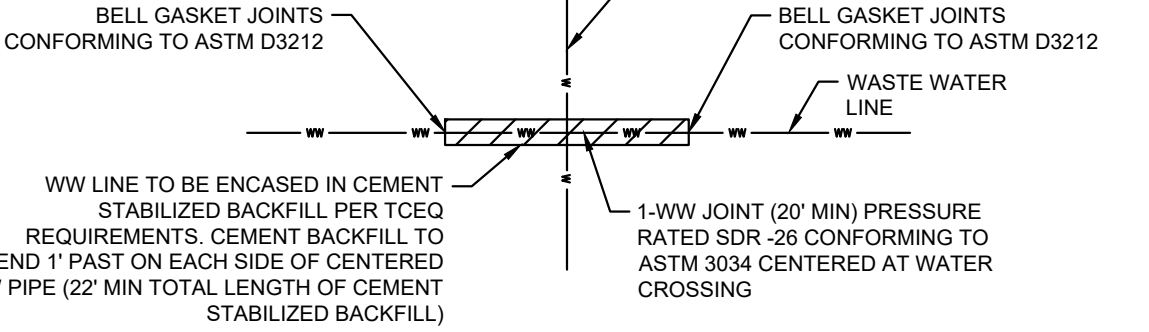
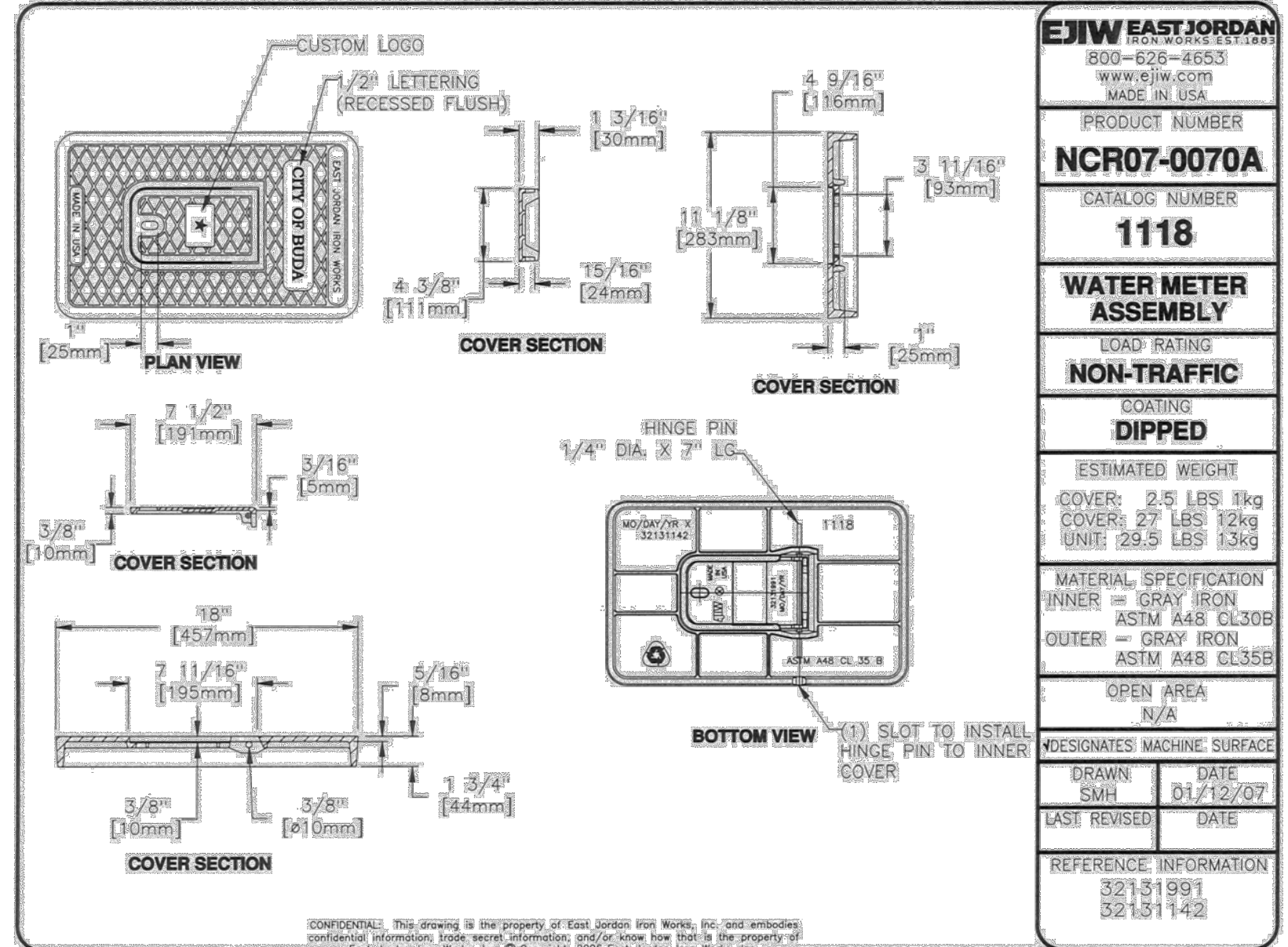
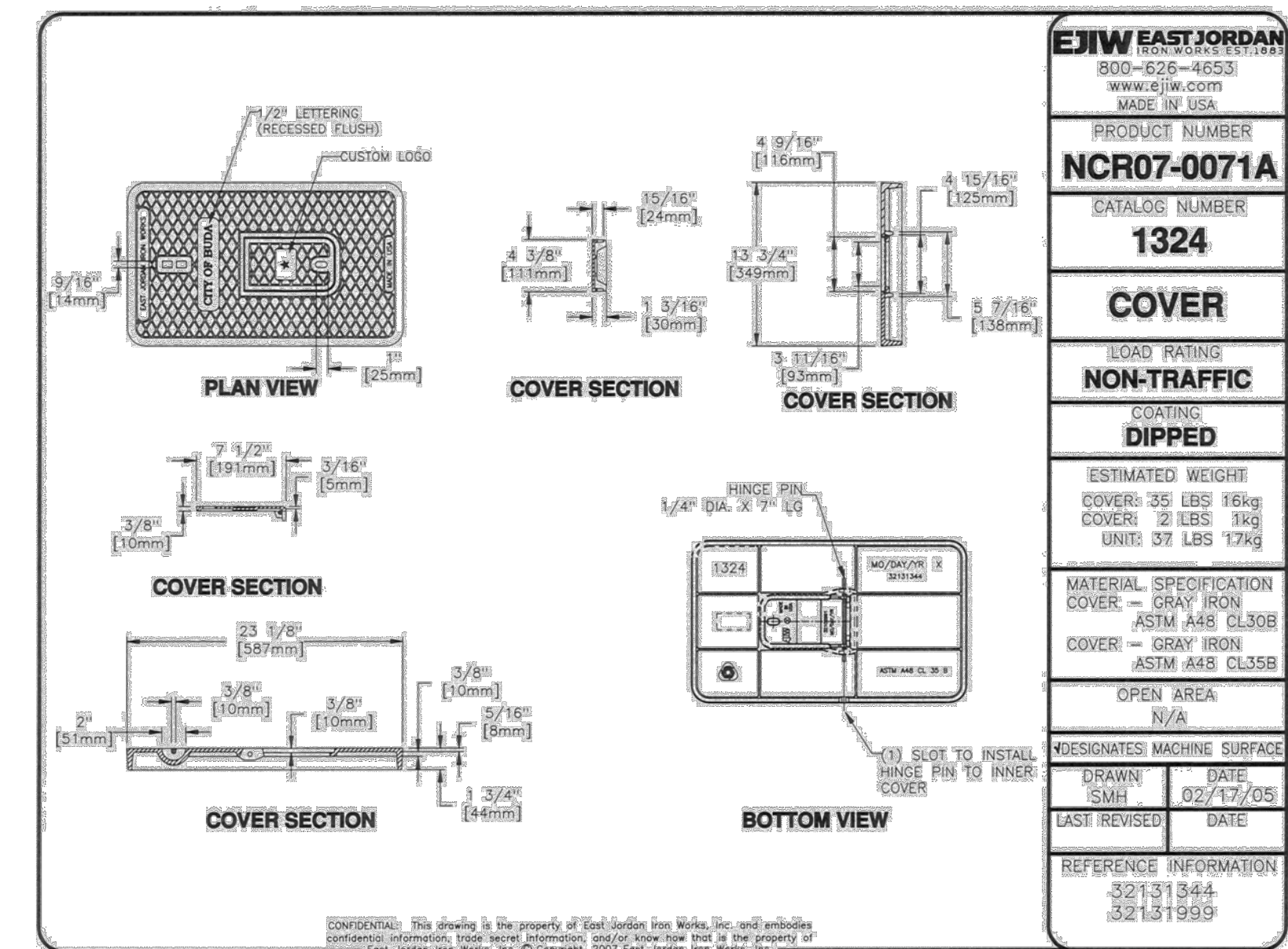
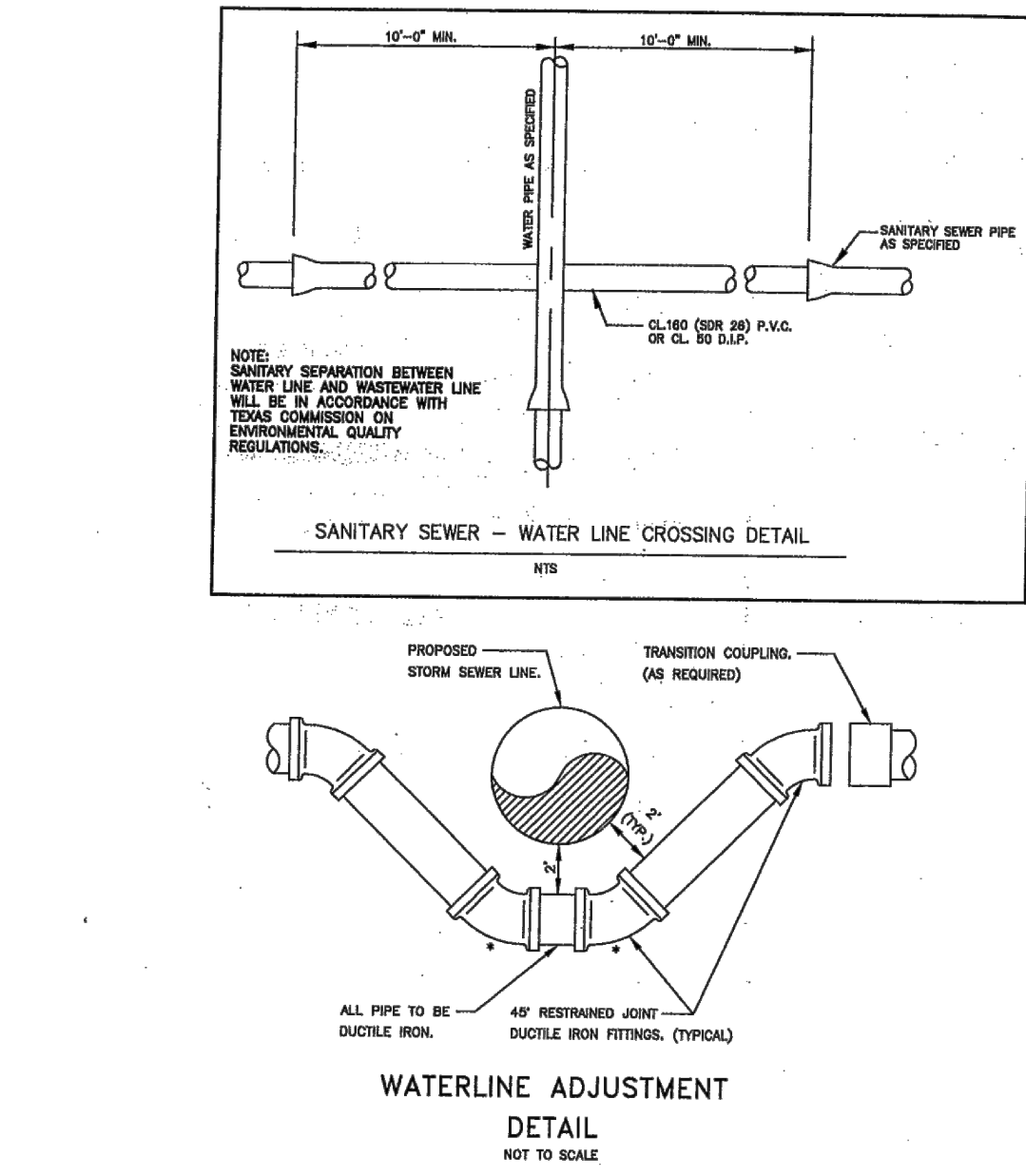
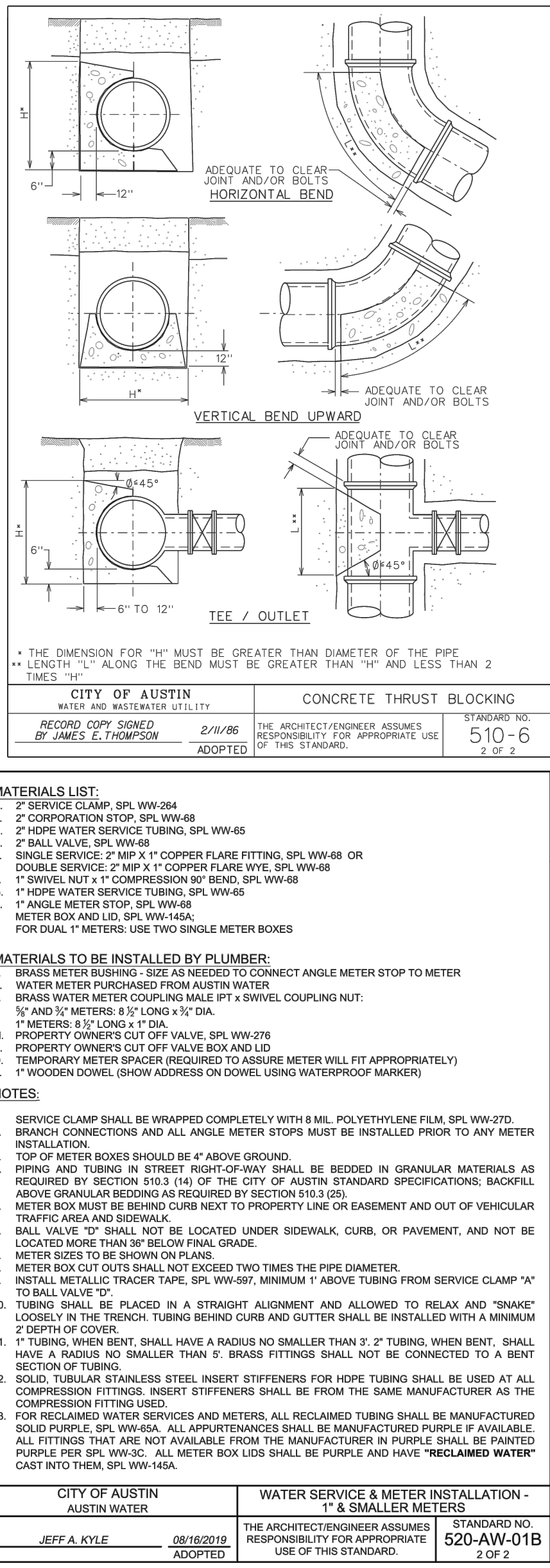
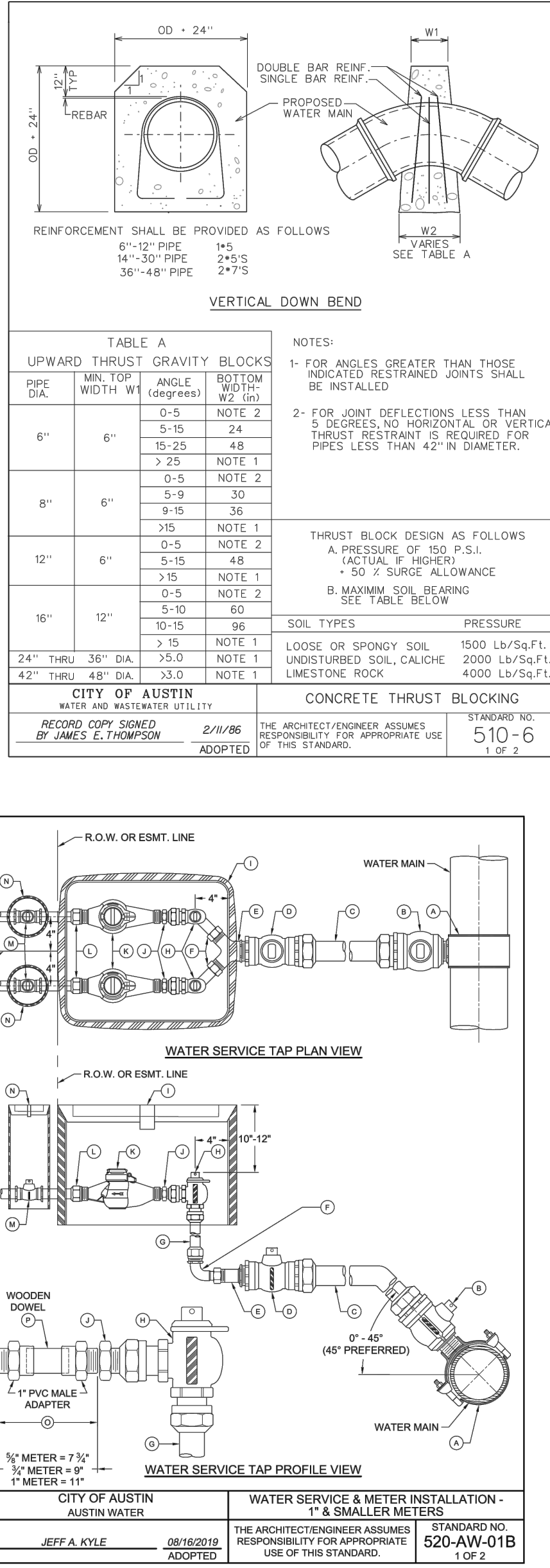
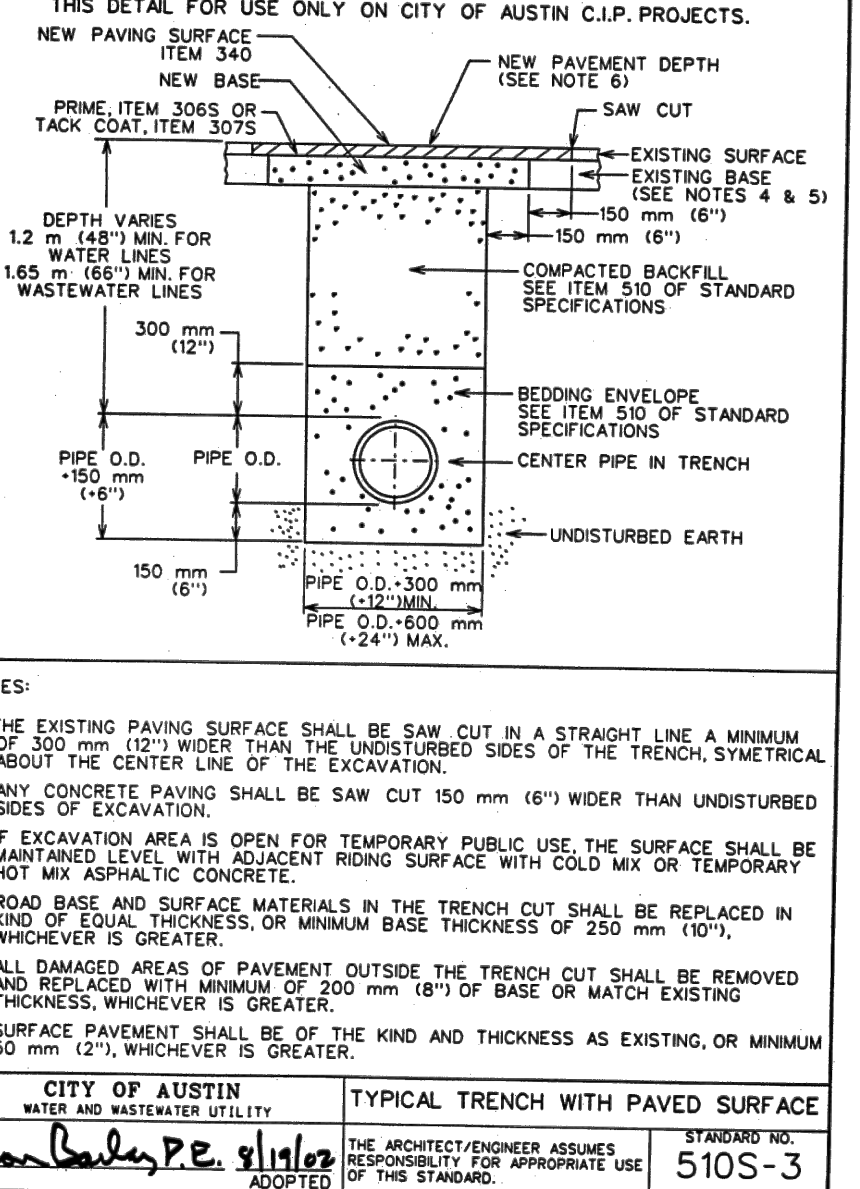
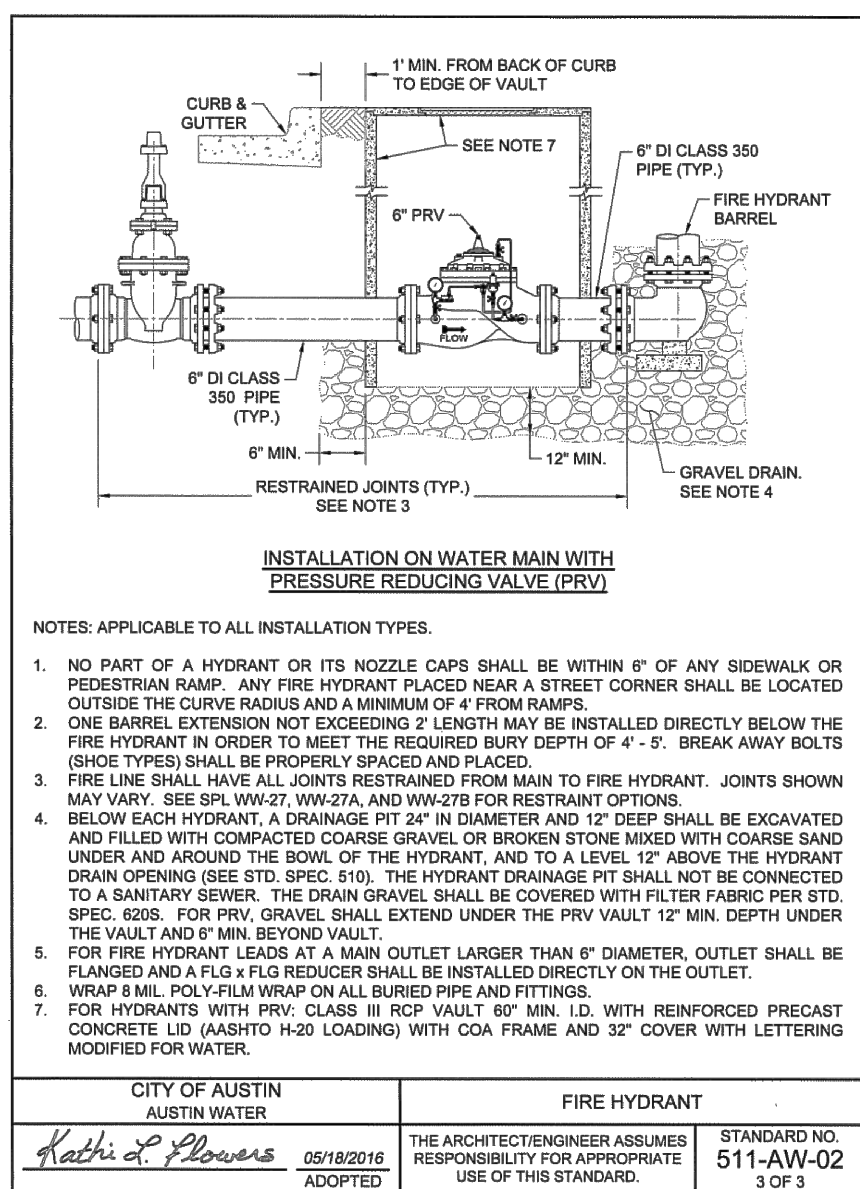
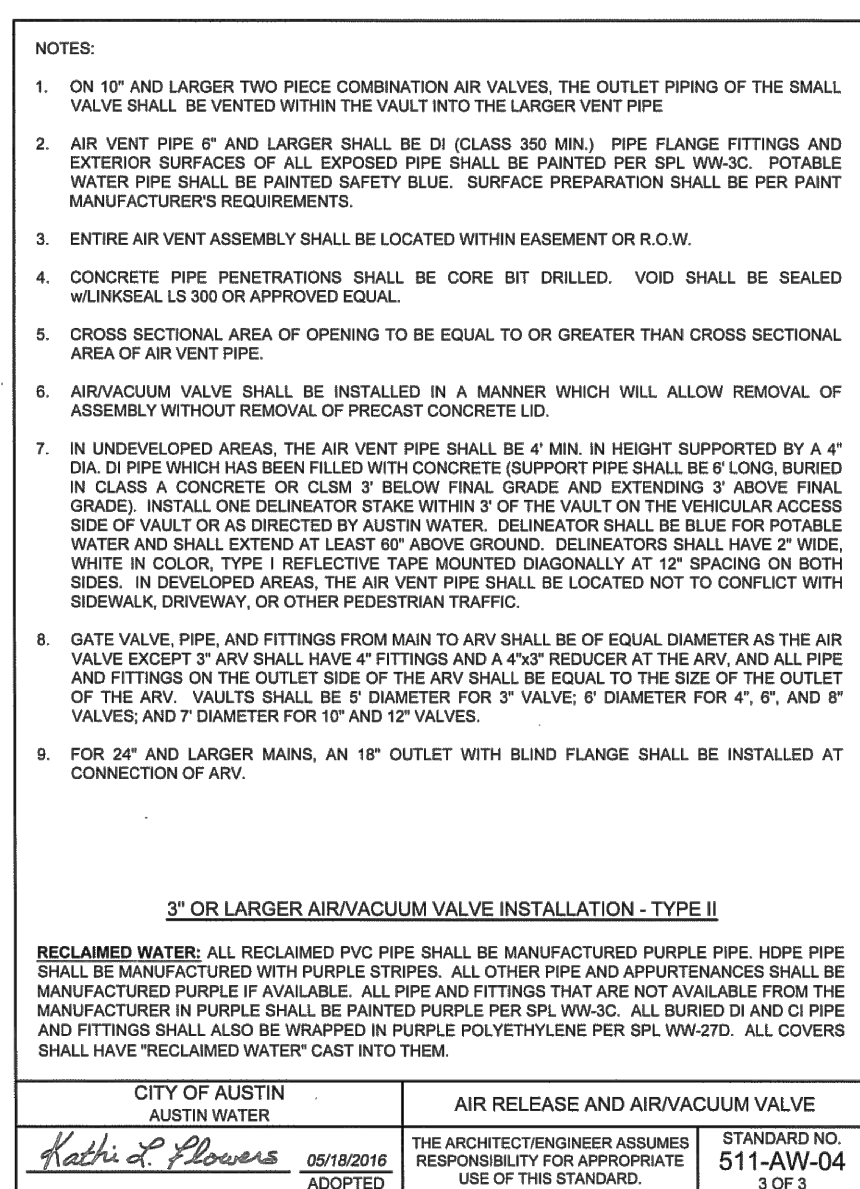
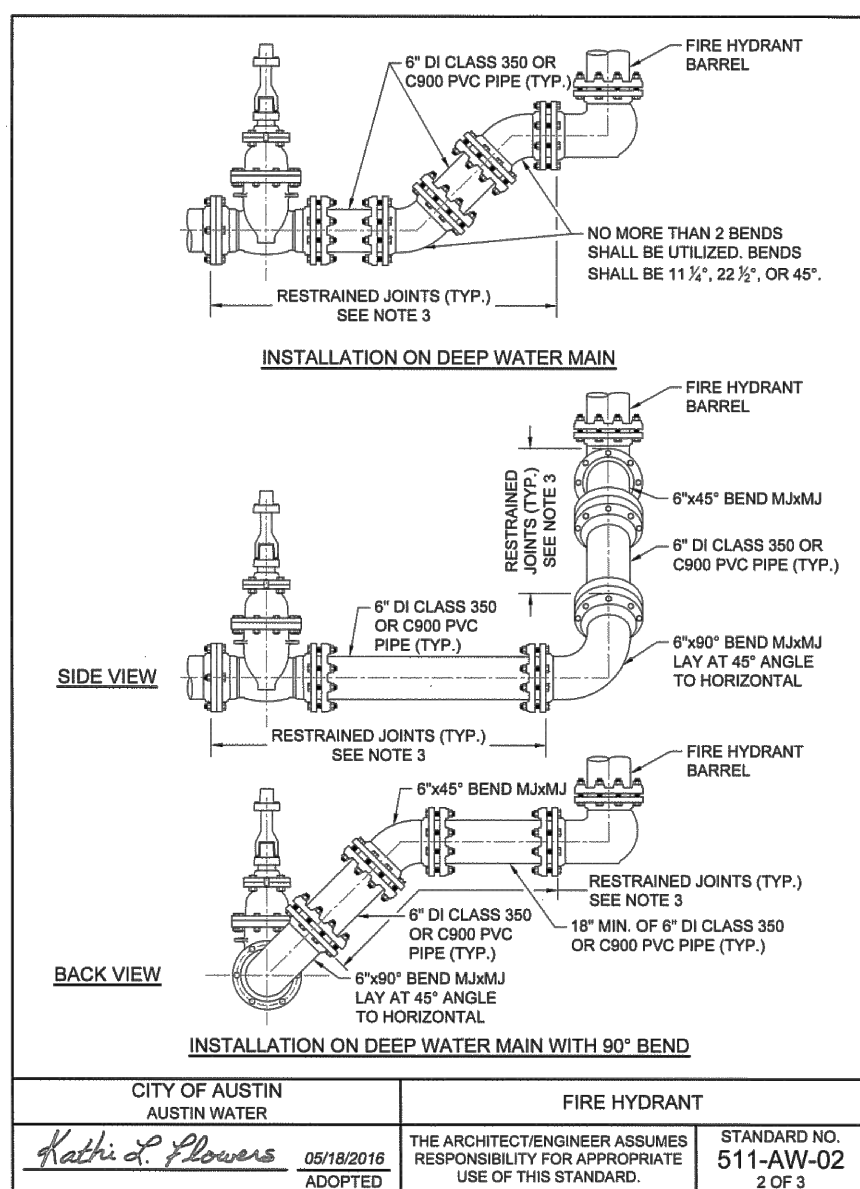
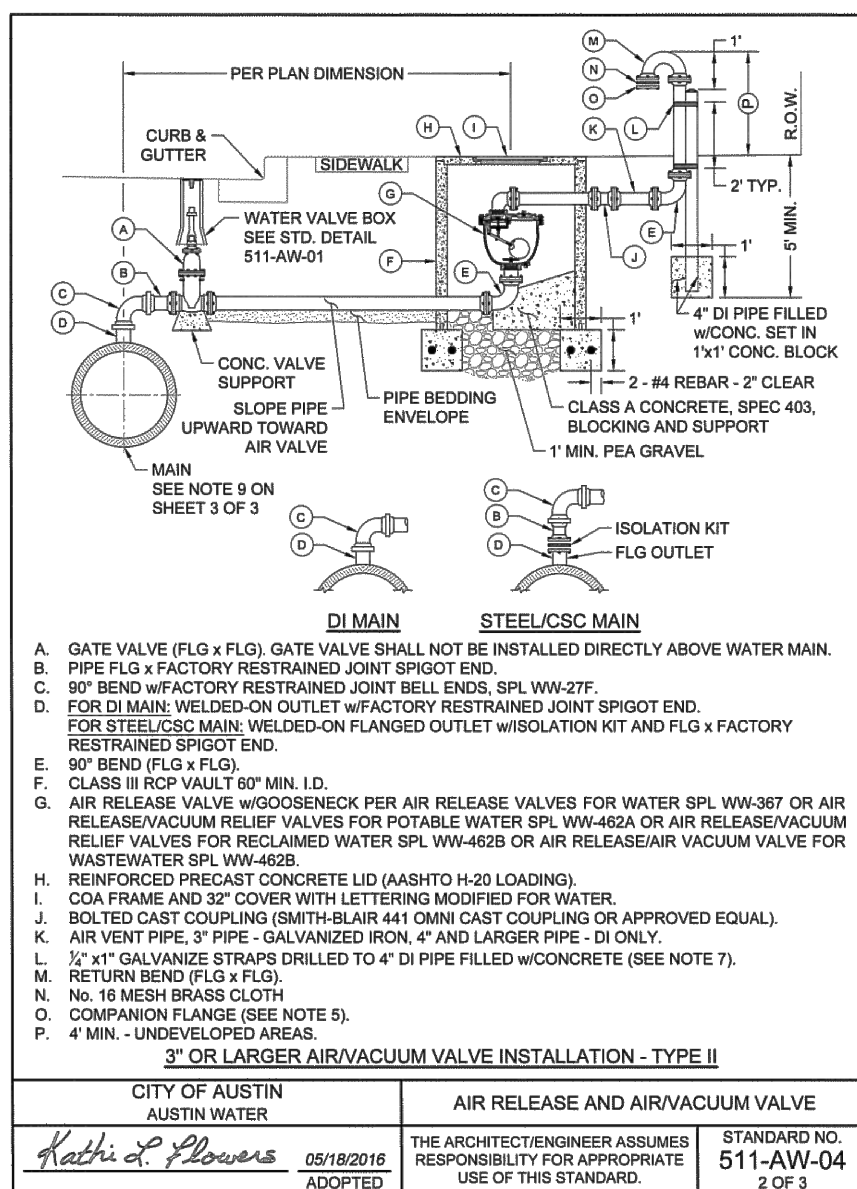
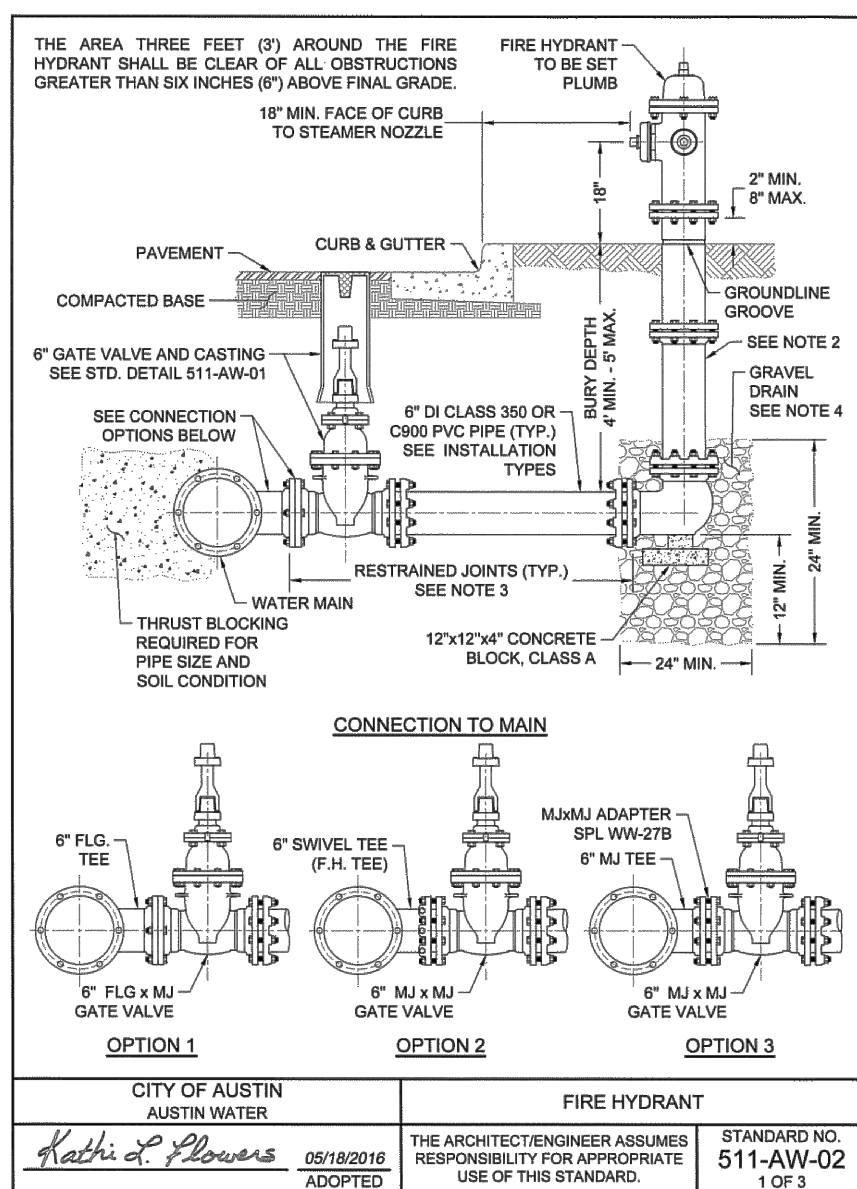
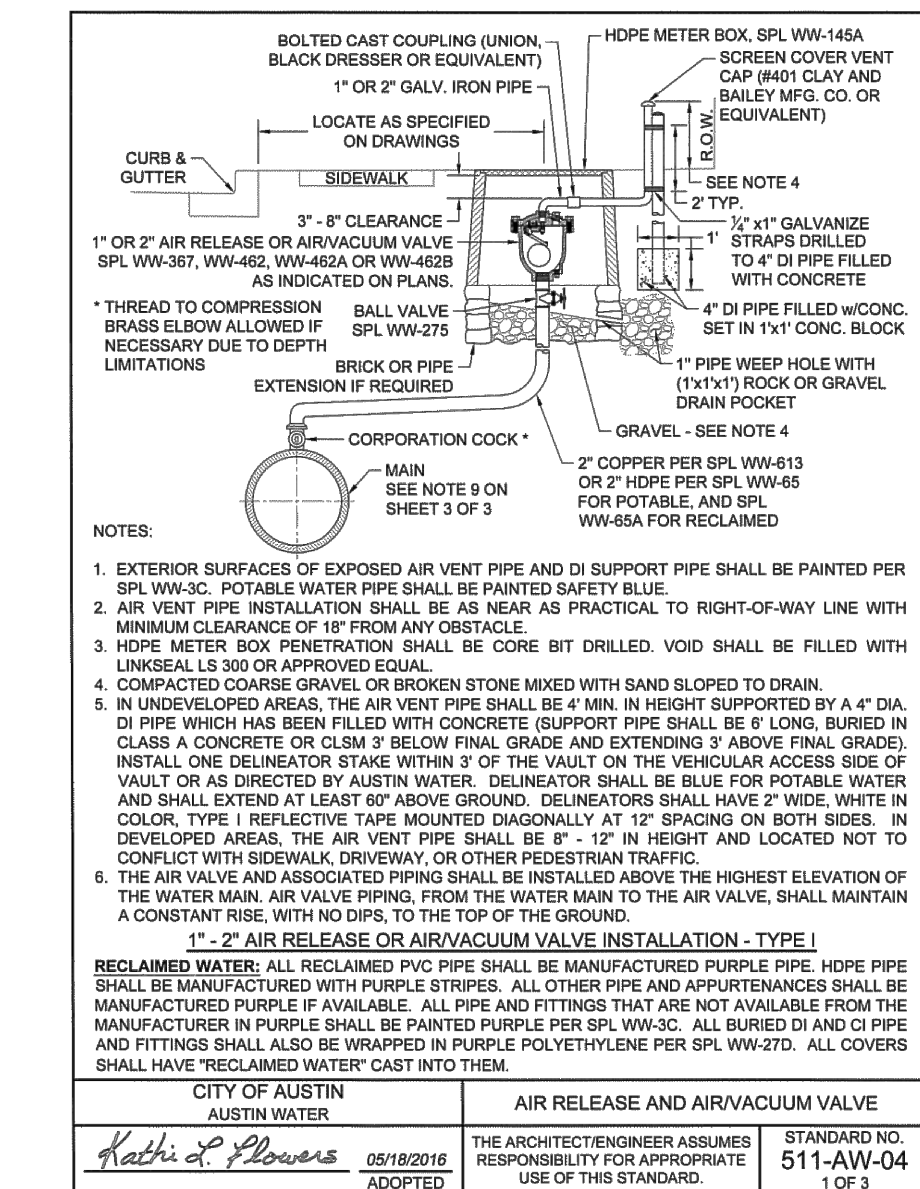
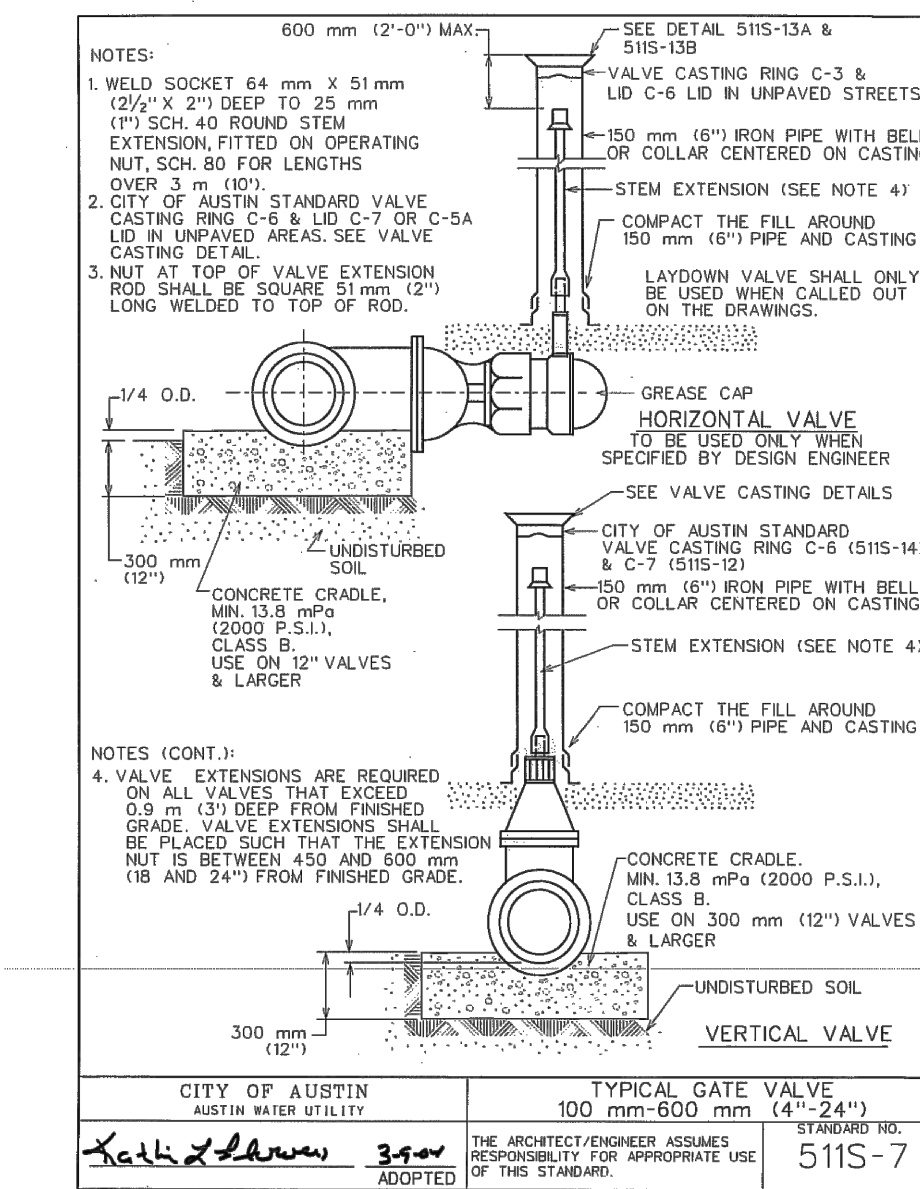
SHEET NUMBER

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WATER/WASTEWATER CROSSING DETAIL

CONSTRUCTION PLAN APPROVAL		SHEET	OF 50
FILE NUMBER	APPLICATION DATE		
APPROVED BY COMMISSION ON		N/A UNDER THE CITY OF BUDA	
UNIFIED DEVELOPMENT CODE			
EXPIRATION DATE	CASE NUMBER		
City Engineer, City of Buda			
RELEASED FOR GENERAL COMPLIANCE:		ZONING	N/A
Rev. 1	Correction 1		
Rev. 2	Correction 2		
Rev. 3	Correction 3		
<i>Final plot must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.</i>			
PERMIT NUMBER:			

