STEGER BIZZELL

ADDRESS
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626

WEB
STEGERBIZZELL.COM

PHONE
512.930.9412

FAX
512.930.9416

TEXAS REGISTERED ENGINEERING FIRM F-181

SERVICES
>> ENGINEERS >> PLANNERS >> SURVEYORS

Organized Sewage Collection System Plan

For

Cowan Creek Wastewater Interceptor CC-1

In the

City of Georgetown ETJ

Williamson County, Texas

Submitted: December 22, 2025

Job Number: 23030-COG Cowan Creek WW

Organized Sewage Collection System Plan

For

Cowan Creek Wastewater Interceptor CC-1

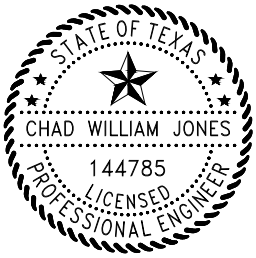
In

City of Georgetown

Williamson County, Texas

Job Number: 23030-COG Cowan Creek WW

Prepared by:



12/22/2025

STEGER BIZZELL

Texas Registered Engineering Firm-181
1978 S. Austin Ave
Georgetown, TX 78626

This Page Left Intentionally Blank

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: Cowan Creek Wastewater Interceptor CC-1						**2. Regulated Entity No.:**			
3. Customer Name: City of Georgetown Utility Systems						**4. Customer No.: 602532327**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		13.13	
9. Application Fee:	$4,355.50		**10. Permanent BMP(s):**			No			
11. SCS (Linear Ft.):	8711		**12. AST/UST (No. Tanks):**			No			
13. County:	Williamson		**14. Watershed:**			Berry 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.)	___	___	✖
Region (1 req.)	___	___	✖
County(ies)	___	___	✖
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ✖Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
Chad W. Jones Print Name of Customer/Authorized Agent
Chad W. Jones 12/22/2025 Signature of Customer/Authorized Agent Date

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

This Page Left Intentionally Blank

Organized Sewage Collection System Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **General Information Form (TCEQ-0587)**

  Attachment A - Road Map
  Attachment B - USGS / Edwards Recharge Zone Map
  Attachment C - Project Description

- **Geologic Assessment Form (TCEQ-0585)**

  Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
  Attachment B - Stratigraphic Column
  Attachment C - Site Geology
  Attachment D - Site Geologic Map(s)

- **Organized Sewage Collection System Plan (TCEQ-0582)**

  Attachment A - SCS Engineering Design Report
  Attachment B - Justification and Calculations for Deviation in Straight Alignment Without Manholes
  Attachment C - Justification for Variance from Maximum Manhole Spacing
  Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet Per Second
  Site Plan
  Final Plan and Profile Sheets

- **Lift Station / Force Main System Application (TCEQ-0624) if applicable**

  Attachment A - Engineering Design Report
  Site Plan
  Final Plan and Profile Sheets

- **Temporary Stormwater Section (TCEQ-0602)**

  Attachment A - Spill Response Actions
  Attachment B - Potential Sources of Contamination
  Attachment C - Sequence of Major Activities
  Attachment D - Temporary Best Management Practices and Measures
  Attachment E - Request to Temporarily Seal a Feature (if requested)
  Attachment F - Structural Practices
  Attachment G - Drainage Area Map
  Attachment H - Temporary Sediment Pond(s) Plans and Calculations
  Attachment I - Inspection and Maintenance for BMPs
  Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**

- **Check Payable to the "Texas Commission on Environmental Quality"**
- **Core Data Form (TCEQ-10400)**

This Page Left Intentionally Blank

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: City of Georgetown Utility Systems

Date: 12/22/2025

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Cowan Creek Wastewater Interceptor CC-1
2. County: Williamson
3. Stream Basin: Berry 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: David Herzog
   Entity: City of Georgetown
   Mailing Address: P.O. Box 409
   City, State: Georgetown, TX Zip: 78627
   Telephone: 512-930-6576 FAX: n/a
   Email Address: david.herzog@georgetowntexas.com

8. Agent/Representative (If any):

   Contact Person: Chad Jones, P.E.
   Entity: Steger Bizzell
   Mailing Address: 1978 S. Austin Ave
   City, State: Georgetown, TX Zip: 78626
   Telephone: 512-930-9412 FAX: n/a
   Email Address: chad.jones@stegerbizzell.com

9. Project Location:

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

    FROM AUSTIN: TRAVELLING NORTH ON I-35, TAKE EXIT 240B TO US-183 N TOWARD RESEARCH BLVD. FOLLOW US-183 N FOR APPROXIMATELY 12.5 MILES. CONTINUE ONTO 183A TOLL ROAD N. FOLLOW 138A TOLL ROAD N FOR APPROXIMATELY 17.6 MILES. TURN RIGHT ONTO FM 3405. FOLLOW FM 3405 FOR APPROXIMATELY 1.7 MILES. TURN LEFT ONTO RONALD REAGAN BLVD. FOLLOW RONALD REAGAN BLVD FOR APPROXIMATELY 3.7 MILES. TAKE EXIT TO RANCH RD 2338. FOLLOW RANCH RD 2338 FOR 1.4 MILES. THE PROJECT BEGINS ON THE SITE TO THE RIGHT.

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: _____

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:

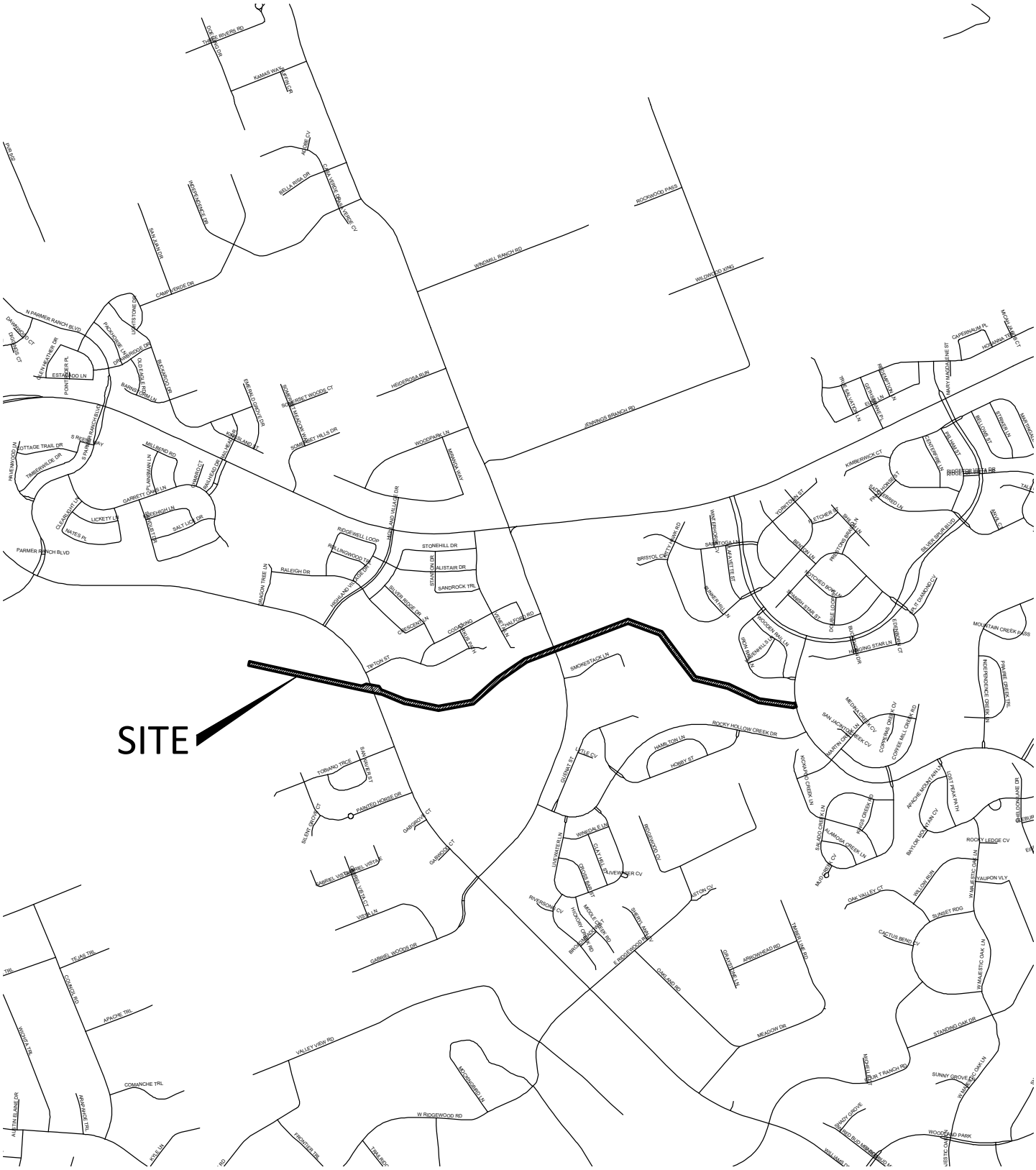
☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility 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
ATTACHMENT A
SCALE: 1' = 2000'

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO	512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPLS FIRM No.10003700	WEB STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE: 10/2/2025 JOB NO. 23030

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF TEXAS
TEXAS WATER DEVELOPMENT BOARD

LEANDER NE QUADRANGLE
TEXAS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Contributing Zone

Recharge Zone

SITE

Recharge Zone

COWAN CREEK WASTEWATER
WILLIAMSON COUNTY, TEXAS

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1962

Polyconic projection. 1927 North American Datum
10,000-foot grid based on Texas coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue
The difference between 1927 North American Datum and North American Datum of 1983 (NAD 83) for 7.5 minute intersections is given in USGS Bulletin 1875. The NAD 83 is shown by dashed corner ticks

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1962 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Map photoinspected 1976
No major culture or drainage changes observed

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION
3097–324

ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U.S. Route
State Route

LEANDER NE, TEX.
30097-F7-TF-024
1962
PHOTOINSPECTED 1976
JOB No. 23030

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1991

P:\23000-23999\23030 COG Cowan Creek WW\Documents\TCEQ\SCS APPLICATION\CC-1\Attachment B - USGS Maps.dwg, 10/8/2025 11:32:06 AM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEORGETOWN QUADRANGLE
TEXAS–WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Recharge Zone

Contributing Zone

Recharge Zone

Recharge Zone

Transition Zone

COWAN CREEK WASTEWATER
WILLIAMSON COUNTY, TEXAS

Produced by the United States Geological Survey

Control by USGS and NOS/NOAA

Compiled from aerial photographs taken 1974. Field checked 1975
Map edited 1982

North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: Texas Coordinate System, central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

Red tint indicates areas in which only landmark buildings are shown

Fine red dashed lines indicate selected fence lines

Areas covered by dashed light-blue pattern are subject to controlled inundation

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

QUADRANGLE LOCATION

3097-313

GEORGETOWN, TX
30097-F6-TF-024

1982

JOB No. 23030

ISBN 0-607-51004-6

INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA—1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WEIR QUADRANGLE
TEXAS—WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NE/4 ROUND ROCK 15' QUADRANGLE

Recharge Zone

Transition Zone

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1974. Field checked 1975. Map edited 1982

Projection and 10,000-foot grid ticks: Texas coordinate system, central zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 14
1927 North American datum
To place on the predicted North American Datum 1983 move the projection lines 17 meters south and 28 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

COWAN CREEK WASTEWATER
WILLIAMSON COUNTY, TEXAS

QUADRANGLE LOCATION

3097-314

WEIR, TEX.
NE/4 ROUND ROCK 15' QUADRANGLE
N3037.5—W9730/7.5

1982

JOB No. 23030

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1982

P:\23000-23999\23030 COG Cowan Creek WW\Documents\TCEQ\SCS APPLICATION\CC-1\Attachment B - USGS Maps.dwg, 10/8/2025 11:32:13 AM

Attachment C – Project Description

This project involves the installation of a wastewater interceptor parallel to an existing 21" wastewater interceptor near Cowan Creek in Georgetown. This SCS includes 8,711 L.F. of 30-inch fiberglass-reinforced polymer wastewater line from west of the intersection of Ranch Rd 2338 and Tipton St. to Pedernales Falls Dr. This proposed interceptor is part of the city of Georgetown CIP program and will accommodate future growth on the west side of the city limits.

The limit of construction for the interceptor is 13.13 acres. The site is located partially within the City of Georgetown and partially in Georgetown's ETJ. It is bordered by Highland village and Sun City Neighborhoods 67 & 68 to the north. There is undeveloped ranch land to the west. South of the project is Silver Hall Park and Sun City Neighborhood 64. To the east of the project site is Sun City Neighborhood 47. The area within the LOC is generally undeveloped land, no demolition is proposed as part of the project.

There are four waterline crossings within the project, which are noted on table 5 of the SCS application. The downstream end of the proposed interceptor will be connected to another proposed interceptor (36-inch FRP pipe, designated CC-7), which will eventually flow to the existing Berry Creek lift station.

There is no existing or proposed impervious cover included in this project. No permanent BMPs will be employed.

No geologic features are located within or near the project limits.

This Page Left Intentionally Blank

aci Project Number 05-24-161

COWAN CREEK WASTEWATER INTERCEPTOR CC-1 SEGMENT

Geologic Assessment

Williamson County, TX
December 2025

Submitted to:

Steger Bizzell
1978 S Austin Ave
Georgetown, TX 78626

Prepared for:

City of Georgetown, TX
300-1 Industrial Ave
Georgetown, TX 78626

aci env

aci-consulting.net

1001 Mopac Circle | Austin, TX 78746

austin (512) 347-9000

denver (720) 440-5320

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

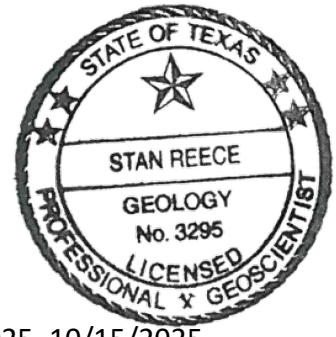
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Stan Reece Telephone: (512) 852-3872

Date: 12/04/2025 Fax: _____

Representing: aci environmental consulting, LLC TBPG License No. 50713 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Cowan Creek Wastewater Interceptor CC-1

Project Information

1. Date(s) Geologic Assessment was performed: 6/12/2025, 9/30/2025, 10/15/2025
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 Section 4.0 of the Report		

** 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" = 1000'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

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

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

Administrative Information

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

TABLE OF CONTENTS

LIST OF ATTACHMENTS

December 2025

Geologic Assessment for the Cowan Creek Wastewater Interceptor CC-1 Segment located in Williamson County, Texas

1.0 INTRODUCTION

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

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

2.0 PROJECT INFORMATION

The Cowan Creek Wastewater Interceptor CC-1 Segment, hereafter referred to as the subject area or site, begins at approximately 0.07 mile south of the intersection of Iron Rail Lane and Pedernales Falls Drive in the City of Georgetown, Williamson County, Texas and extends west for approximately 1.64 miles (**Attachment A, Figure 1**). Pedestrian investigations of the 8.15-acre subject area were performed on June 12, September 30, and October 15, 2025 by Andrew McGlothlin, G.I.T., Mason Finley, Kade Anderson, Collin Kerr, and Anna Ozelius, under the supervision of Stan Reece, P.G. with **aci environmental**.

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 Plan (SCS). The site is approximately 13 acres in total. The proposed site use is for 1.64 mile of 36-inch wastewater interceptor. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features

identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

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

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

4.0 SOILS AND GEOLOGY

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

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2025), six soil units occur within the subject area (**Attachment A, Figure 2**):

- Denton silty clay, 1 to 3 percent slopes (DnB)

The Denton component makes up 88 percent of the map unit. Slopes are 1 to 3 percent. This component is on hillslopes on dissected plateaus. The parent material consists of silty and clayey slope alluvium over residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 22 to 60 inches. The natural drainage class is well

drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded and not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- Eckrant stony clay, 0 to 3 percent slopes, stony (EeB)

The Eckrant, stony component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 4 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded and not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- Fairlie clay, 0 to 1 percent slopes (FaA)

The Fairlie component makes up 100 percent of the map unit. Slopes are 0 to 1 percent. This component is on ridges on dissected plains. The parent material consists of residuum weathered from Austin chalk formation. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded and not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- Fairlie clay, 1 to 2 percent slopes (FaB)

The Fairlie component makes up 100 percent of the map unit. Slopes are 1 to 2 percent. This component is on ridges on dissected plains. The parent material consists of residuum weathered from Austin chalk formation. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or

restricted depth) is moderate. Shrink- swell potential is high. This soil is not flooded and not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- Georgetown stony clay loam, 1 to 3 percent slopes (GsB)

The Georgetown component makes up 90 percent of the map unit. Slopes are 1 to 3 percent. This component is on broad ridges on dissected plateaus. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded and not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- Oakalla soils, 0 to 1 percent slopes, channeled, frequently flooded (OlA)

The Oakalla, channeled component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on channeled flood plains on dissected plateaus. The parent material consists of loamy alluvium derived from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrinkswell potential is low. This soil is frequently flooded but not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: B.

Geologic Stratigraphy

According to the Geologic Atlas of Texas, Austin Sheet, three geologic unit occurs within the subject area (**Attachment A, Figure 3**). Description of this unit by Barnes (1981) is as follows:

- Alluvium (Qal)

"Floodplain deposits, including indistinct low terrace deposits; clay, silt, sand, and gravel; silt and clay, calcareous to surface, dark gray to dark brown; sand largely quartz; gravel, siliceous, mostly chert, quartzite, limestone, and petrified wood, along Colorado

River much igneous and metamorphic rock, probably mostly reworked from terrace deposits; fluviatile morphology well preserved with point bars, oxbows, and abandoned channel segments"

- Edwards Limestone (Ked)

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

- Comanche Peak Limestone (Kc)

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

Site-Specific Stratigraphic Column

Formation	**Members**	**Thickness (Barnes, 1981)**
Alluvium	Alluvium	0-10 feet
Edwards Limestone	Edwards Limestone	60-350 feet
Comanche Peak Limestone	Comanche Peak Limestone	0-80 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingered with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the southeast and are a characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 25°, as evidenced by the mapped fault patterns (**Attachment A, Figure 4**). Thus, all features that have a trend ranging from 10° to 40° are considered "on trend" and were awarded the additional 10 points in the Geologic Assessment Table.

Karstic Characteristics

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

According to Edwards aquifer zone map produced by the TCEQ (2005), the eastern portion of the subject area is within the northern segment of the Edwards Aquifer Recharge Zone (EARZ), while the western portion is located in the Edwards Aquifer Contributing Zone. All karst features identified as sensitive within the EARZ have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the site and it was determined that ranching and agricultural activities occurred on the site since the first aerial image dated 1941 (**Attachment C**). Construction of the existing wastewater line within the subject area can be seen in the 2016 aerial.

5.0 GEORGETOWN WATER QUALITY ORDINANCE

On February 24, 2015, the City of Georgetown (CoGt) passed a finalized ordinance regarding water quality regulations over the Edwards Aquifer Recharge Zone (EARZ), which established setbacks or buffers around springs and streams in the EARZ as well as for occupied salamander sites. **aci environmental** scientists surveyed the subject area as part of the Geologic Assessment (GA) and included obtained pertinent information on springs, streams, and Georgetown Salamander Critical Habitat Units (CHUs) as part of the assessment.

aci environmental verified that the eastern portion of the site is contained within the Edwards Aquifer Recharge Zone (EARZ), based on the mapped boundaries. There were no springs or mapped salamander sites or known surface or subsurface CHUs within the subject area. Additionally, there are two mapped flowlines within the site, Cowan Creek and an unnamed tributary, according to the National Hydrography Dataset (NHD). The FEMA 1% floodplain intersects the eastern portion of the subject area at various points. (**Figure 6)**.

There are no springs onsite in the EARZ, nor are there occupied Red or Orange Zones on site as defined in the Ordinance. The nearest CHU for the Georgetown Salamander occurs approximately 3.9 miles south of the project area, near Lake Georgetown.

According to the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance (the Ordinance), the boundaries of the "Stream Buffer" are to coincide with the boundaries of the FEMA 1% floodplain or a calculated 1% floodplain, whichever is smaller. Based on project information, the FEMA 1% floodplain will serve as the stream buffer. The Stream Buffer within the EARZ intersects the eastern portion of the subject area where the proposed project crosses Cowan Creek; however, the Ordinance allows for construction of wastewater facilities within the stream buffer, "provided that wastewater utilities shall not be located below the normal high water elevation within the channel of a stream except at crossings of a stream" (CoGt 2015). No regulated activity may be conducted within the stream buffer other than the previously mentioned construction of wastewater utilities or other activities named in Section 11.07.003 of the Ordinance.

6.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci environmental** personnel on June 12, September 30, and October 15, 2025. One non-karst geologic feature and multiple manmade features in bedrock were noted on or within 50 feet of the site. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. Based on assessment of each feature, it was determined that there are no sensitive karst features on or within 50 feet of the subject area. The one naturally occurring feature was determined to be non-sensitive. Man-made features in bedrock were observed on site and are shown in **Figure 5**, the utility layout for the surrounding area.

7.0 REFERENCES

Barnes, V.E., 1981. *Geologic Atlas of Texas, Austin Sheet.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.

(TWDB) Texas Water Development Board. 2024. Water Data Interactive Groundwater Data Viewer. Accessed on June 10, 2024. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2024. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: October 10, 2025.

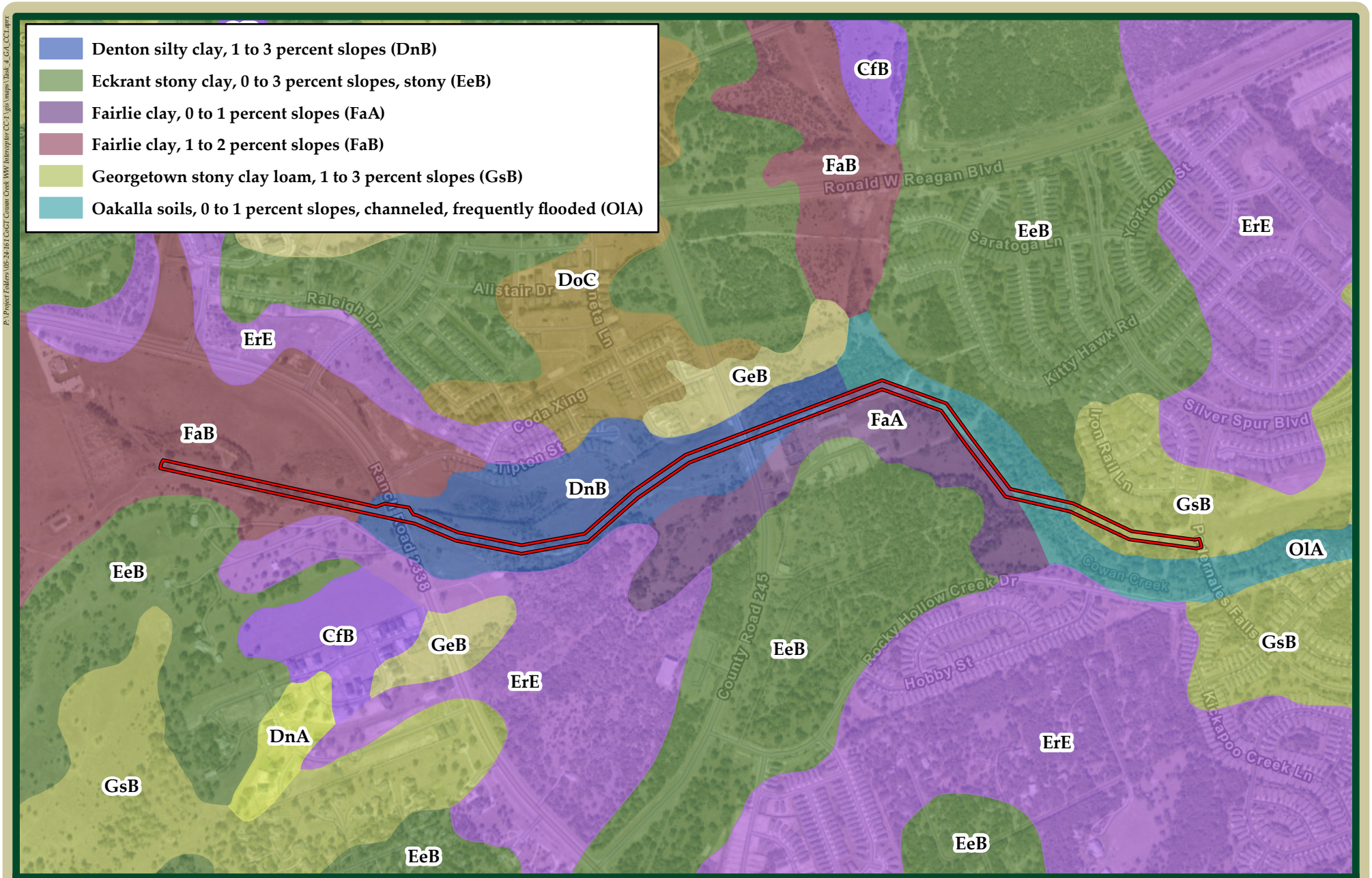
ATTACHMENT A

Site Maps

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

Cowan Creek Wastewater Interceptor CC-1 Segment
Figure 1: Site Location Map

aci Project No.: 05-24-161
November 2025



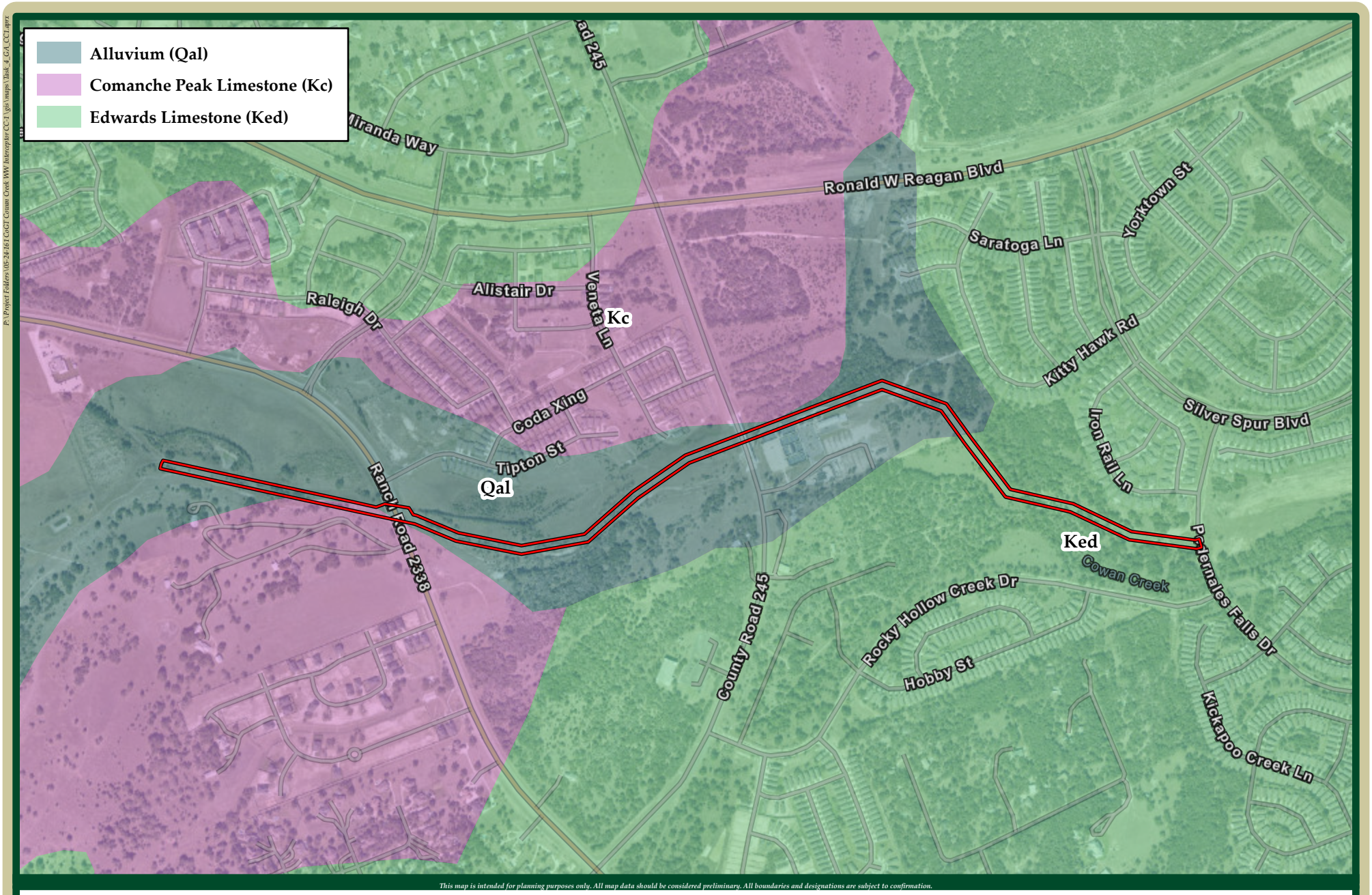
P:\Project Folders\05-24-161 CoGT Cowan Creek WW Interceptor CC-1\gis\maps\Task_4_GA_CC1.aprx

Cowan Creek Wastewater Interceptor CC-1 Segment

Figure 2: Site Soils Map

aci Project No.: 05-24-161

November 2025

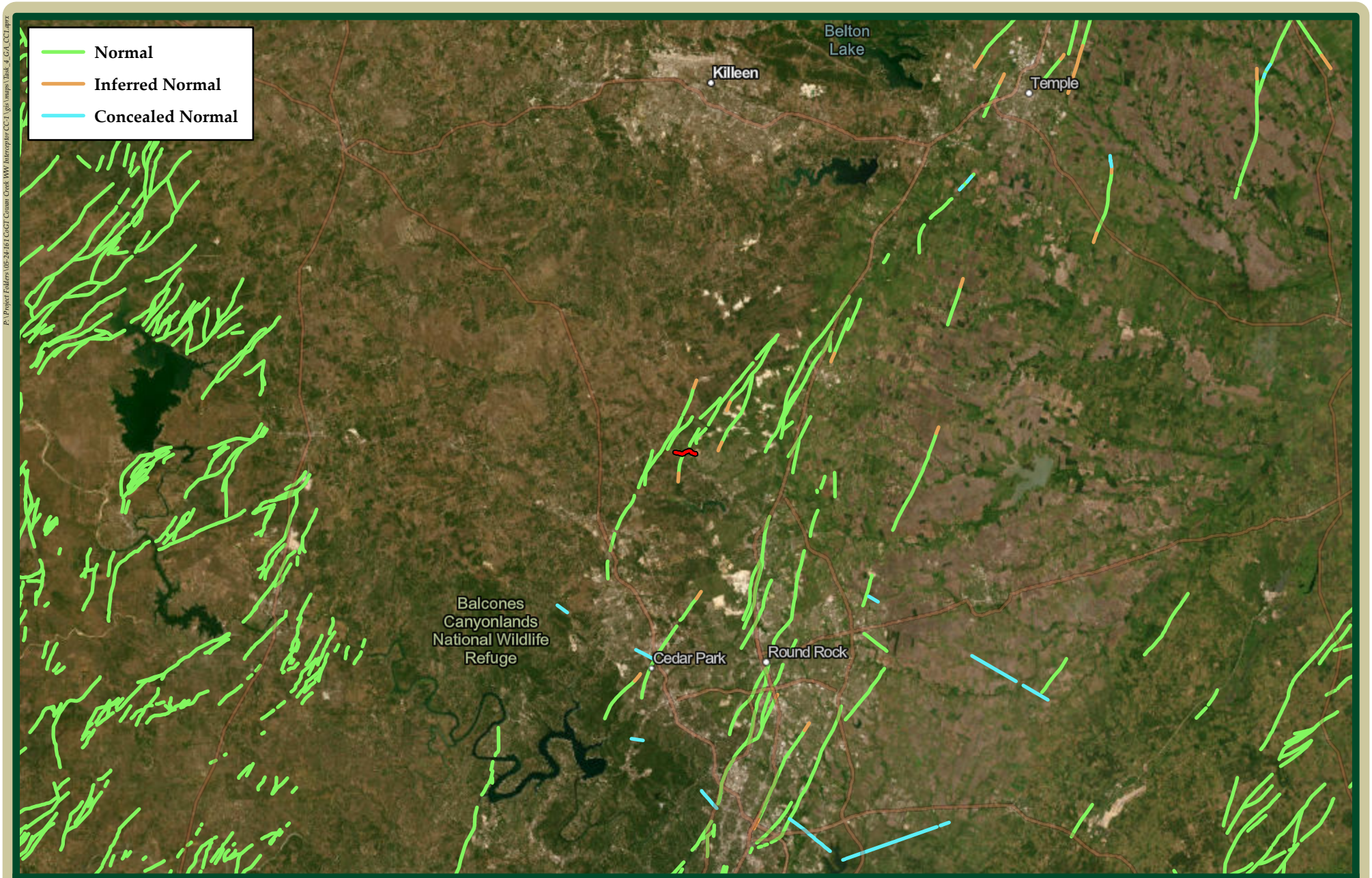


Cowan Creek Wastewater Interceptor CC-1 Segment

aci Project No.: 05-24-161

Figure 3: Site Geology Map

November 2025



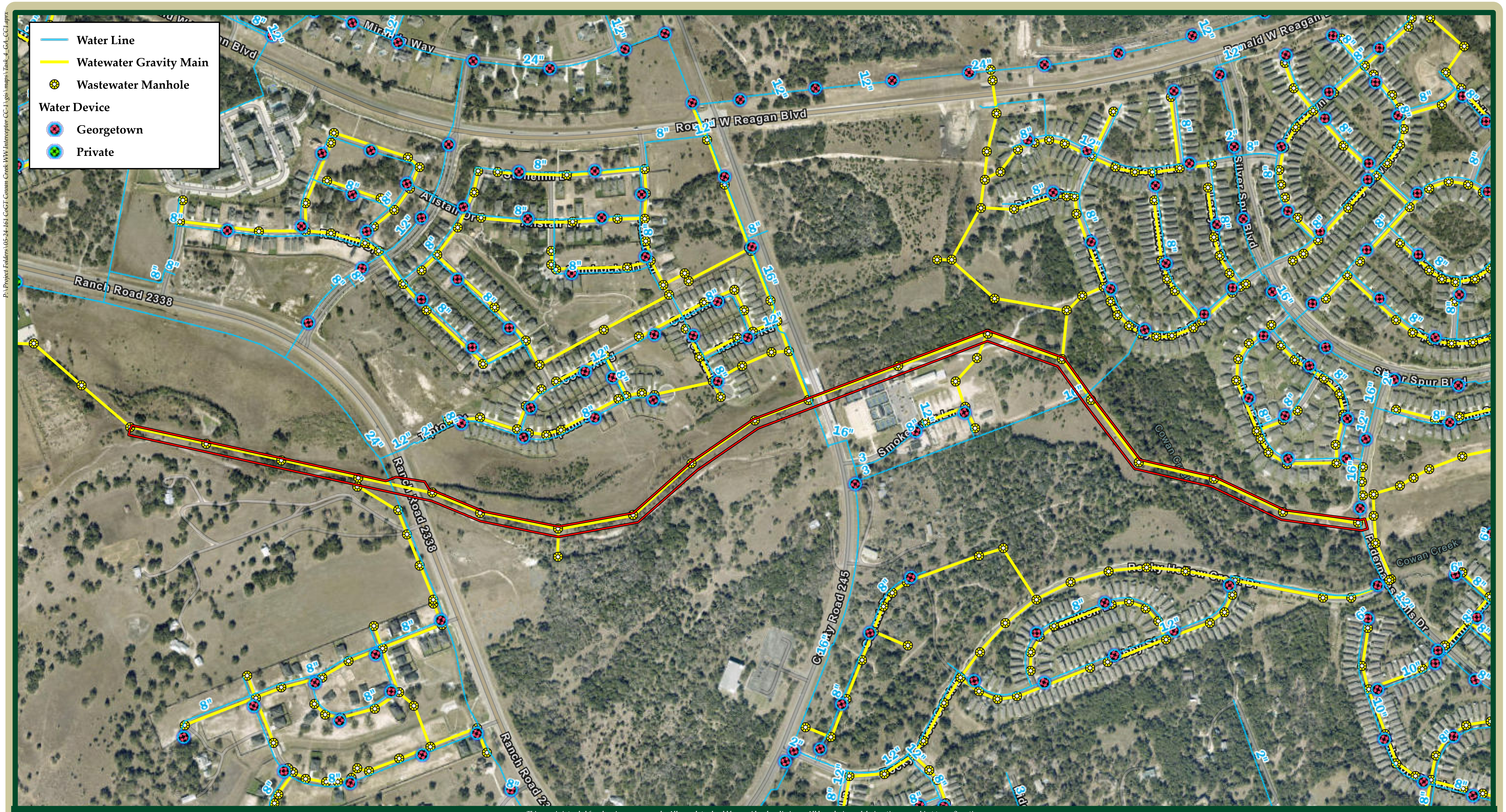
Cowan Creek Wastewater Interceptor CC-1 Segment

aci Project No.: 05-24-161

Figure 4. Regional Trend Map

November 2025

P:\Project Folders\05-24-161 CoGT Cowan Creek WW Interceptor CC-1\gis\maps\Task_4_GA_CC1.aprx



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

N

600 0 600 Feet

1:7,200 1 inch = 600 feet

Subject Area

aci env

Cowan Creek Wastewater Interceptor CC-1 Segment **aci Project No.: 05-24-161**

Figure 5: Utility Layout **November 2025**

ATTACHMENT B

Geologic Table
Geologic and Manmade Feature Map (Figure 6)
Feature Descriptions and Recommendations

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Cowan Creek Wastewater Interceptor CC-1 Segment

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-05	30.731631	-97.767035	CD	5	Qal	20	15	1.5	-	-	-	-	C, F, O, V	5	10	X		X		Hillside
MB	See Figure 5 for Utility Layout																			

* 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 TAC Chapter 213.

Date 12/04/2025

Sheet __1___ of __1____

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
LICENSED
PROFESSIONAL GEOSCIENTIST

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

P:\ Project Folders \05-24-161 CoGT Cowan Creek WW Interceptor CC-1 \gis \maps \Task_4_GA_CC1.aprx

Edwards Aquifer Contributing Zone
Edwards Aquifer Recharge Zone
Alluvium (Qal)
Comanche Peak Limestone (Kc)
Edwards Limestone (Ked)
NHD Mapped Flowline
FEMA Flood Hazard Zone
1% Annual Chance Flood Hazard

Zone X
Qal
Zone A
Kc
Ked

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

N

200 0 200 Feet
1:2,400 1 inch = 200 feet

Subject Area

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
LICENSED
PROFESSIONAL GEOSCIENTIST

aci env

Cowan Creek Wastewater Interceptor CC-1 Segment
Figure 6: Geologic Feature Map

aci Project No.: 05-24-161
November 2025

P:\Project Folders\05-24-161 CoGT Cowan Creek WW Interceptor CC-1\gis\maps\Task_4_GA_CC1.aprx

Edwards Aquifer Contributing Zone
Edwards Aquifer Recharge Zone
Alluvium (Qal)
Comanche Peak Limestone (Kc)
Edwards Limestone (Ked)
NHD Mapped Flowline
FEMA Flood Hazard Zone
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Regulatory Floodway
Geologic Feature
Non-sensitive

Zone X
Zone AE
F-05
Qal
Zone A
Zone AE
Zone X
Ked
Zone X
Zone X

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

N

200 0 200 Feet

1:2,400 1 inch = 200 feet

Subject Area

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
LICENSED
PROFESSIONAL GEOSCIENTIST

aci env

Cowan Creek Wastewater Interceptor CC-1 Segment

aci Project No.: 05-24-161

Figure 6: Geologic Feature Map

November 2025

F-05

GPS: 30.731631, -97.767035

This feature is a non-karst closed depression positioned on a hillside in the Alluvium geologic unit. F-05 is approximately 20 feet long, 15 feet wide, and 1.5 feet deep (vertically). The infill material consists of cobbles, soil, leaf litter, and vegetation including saw greenbrier, frostweed, Texas live oak, and mustang grape. The feature has no trend and a drainage area of less than 1.6 acres. Due to low catchment area and lack of subsurface development, the probability of rapid infiltration was determined to be low and assigned a point value of 5 points. **aci environmental** determined this feature to be non-sensitive in terms of recharge potential.

Recommendation: There are no required setbacks or protections for this feature.

Photo of F-05

Manmade Features in Bedrock (MB)

See Figure 5 for the Utility layout including the man-made features in bedrock. None of these features constitute sensitive point recharge features. The types of these man-made features include manholes, sewer grates, wastewater lines, and water lines. Photo examples of some of these features are included below:

Photo of wastewater manhole.

Photo of sewer grate.

ATTACHMENT C

Historic Aerial Photographs

Prepared for:

ACI ENVIRONMENTAL CONSULTING, LLC
1001 Mopac Circle
Austin, TX 78746

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Historical Aerial Photographs

City of Georgetown

Wastewater Interceptor TX

Williamson County

PO #: 05-24-163

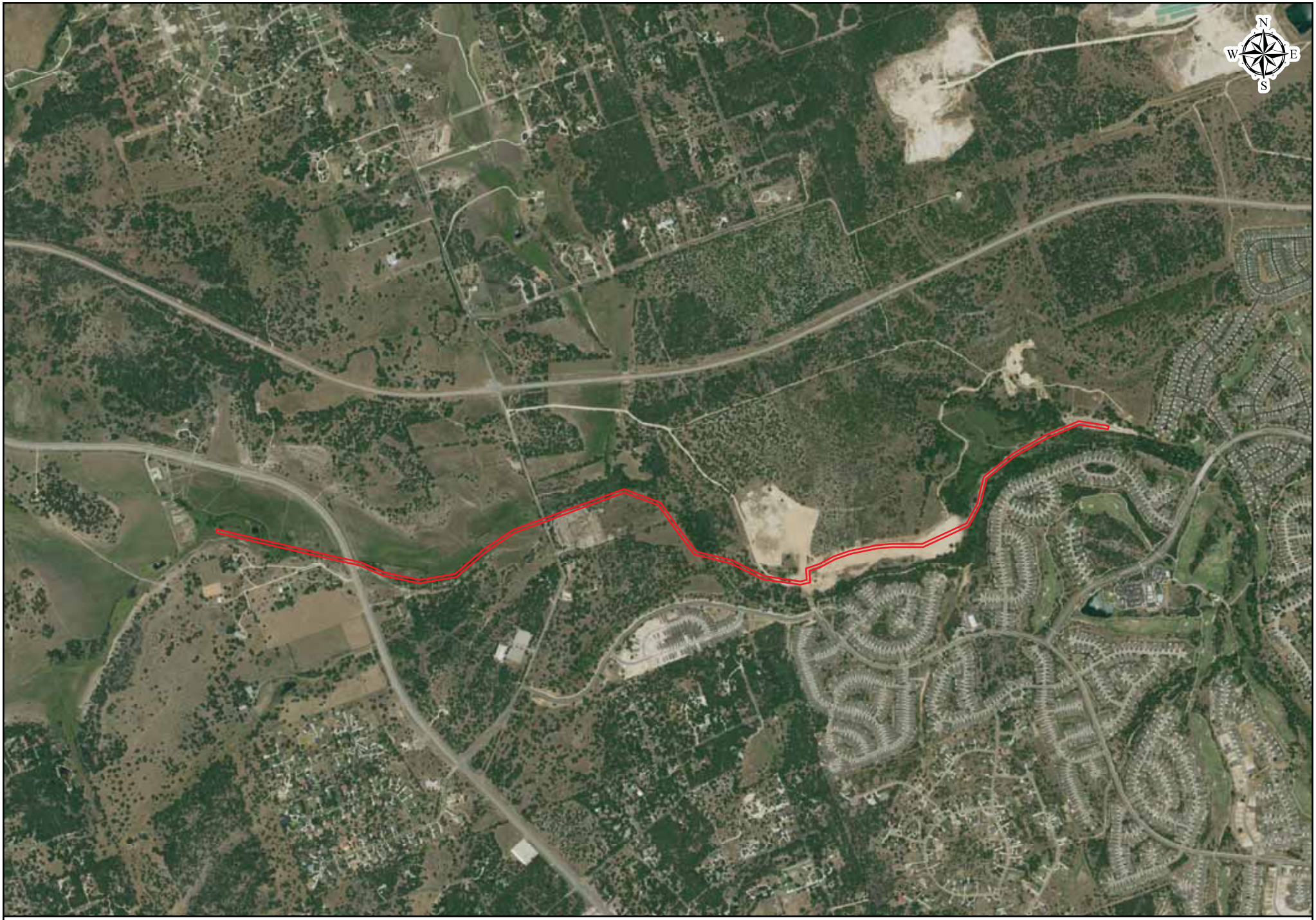
ES-145877

Monday, May 19, 2025

Date: 2024
Source: USDA

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 2016
Source: USDA

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2010
Source: USDA

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2004
Source: USDA

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1995
Source: USGS

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1990
Source: USGS

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1981
Source: USGS

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1970
Source: USGS

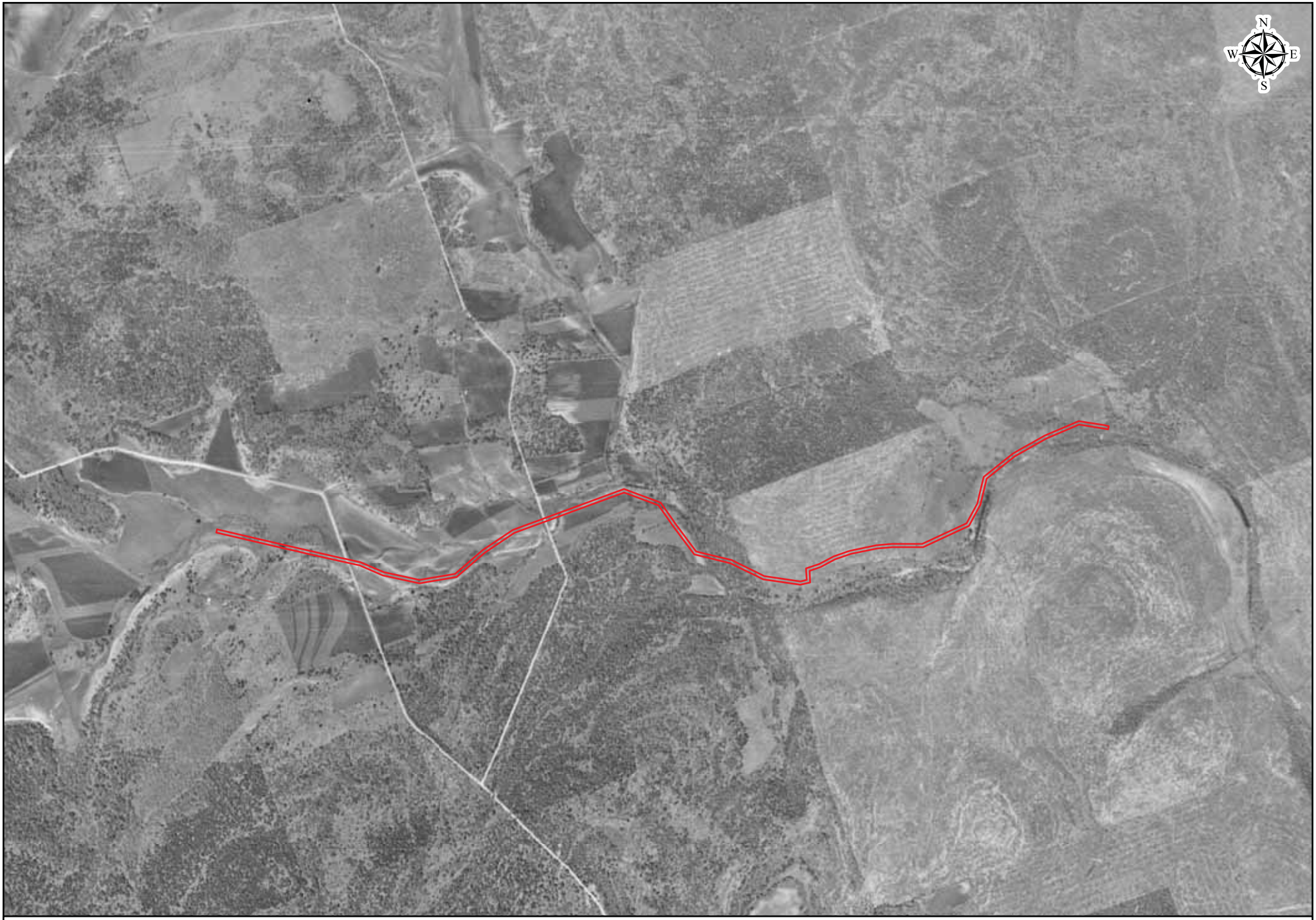
0 5001,000 2,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1962
Source: USGS

0 5001,000 2,000 Feet

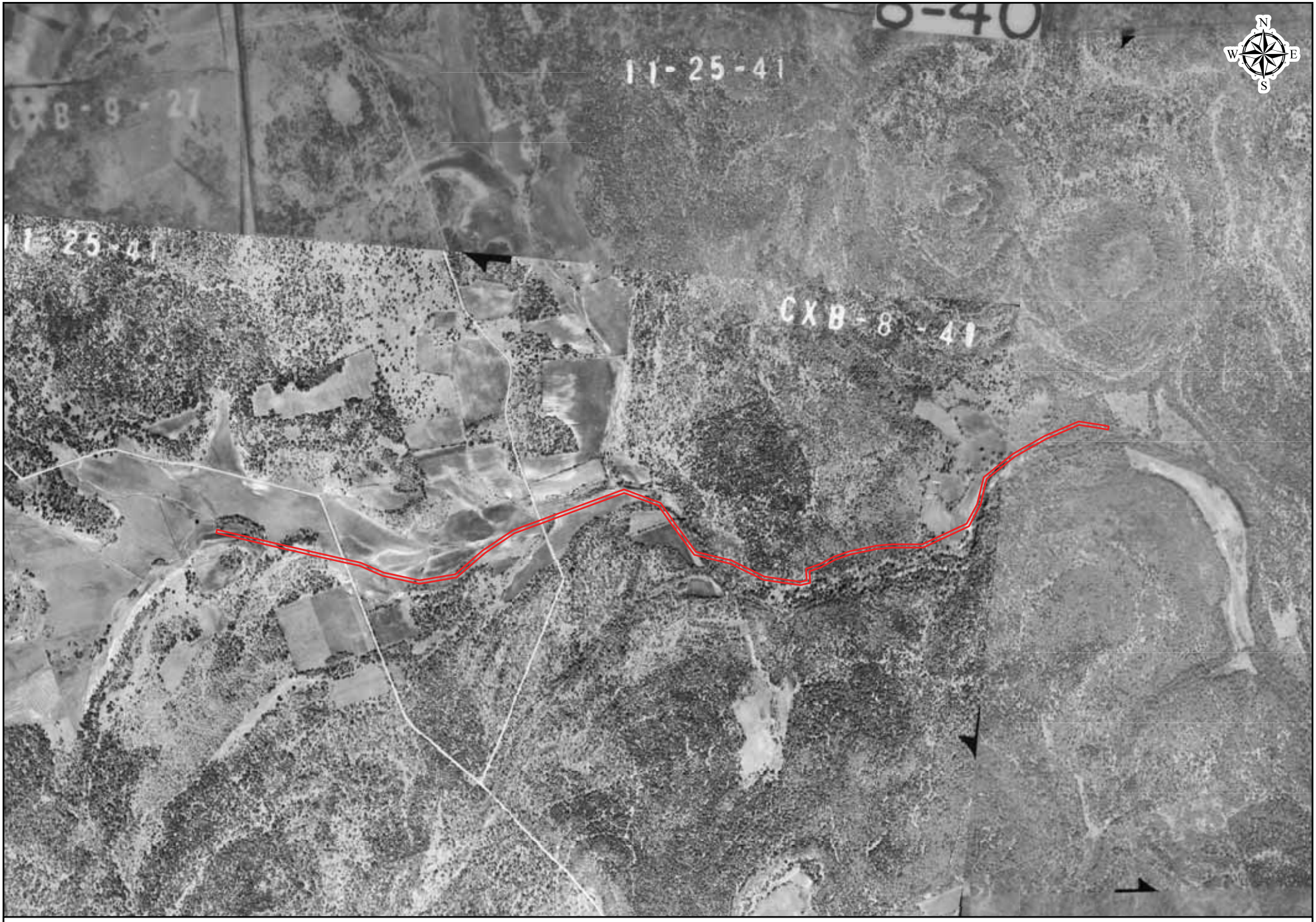
BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 1953
Source: AMS

0 5001,000 2,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 1941
Source: ASCS

0 5001,000 2,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

AERIAL SOURCE DEFINITIONS

Acronym	Agency
NASA	National Aeronautics & Space Administration
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
SCS	Soil Conservation Service
USBR	United States Bureau of Reclamation
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

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

COPYRIGHT POLICY & DISCLAIMER

This report is solely for the limited use of the client and its customers. Banks Environmental Data, Inc. makes no warranties as to accuracy, validity, completeness, merchantability, quality, condition, suitability or fitness for a particular use or purpose in respect to this report and any information contained herein. All risk is assumed by the user. Banks Environmental Data, Inc. assumes no liability to any party for loss or damage whether rising out of errors or omissions, negligence, accident, or any other cause. In no event shall Banks Environmental Data, Inc., its affiliates or agents, be liable to anyone for special incidental, consequential or exemplary damages.

This Page Left Intentionally Blank

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: Cowan Creek Wastewater Interceptor CC-1

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: David Herzog
   Entity: City of Georgetown
   Mailing Address: P.O. Box 409
   City, State: Georgetown, TX Zip: 78627
   Telephone: 512-930-6576 Fax: _____
   Email Address: david.herzog@georgetowntexas.gov
   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: Chad Jones
   Texas Licensed Professional Engineer's Number: 144785
   Entity: Steger Bizzell
   Mailing Address: 1978 S. Austin Ave
   City, State:Georgetown, TX Zip: 78626
   Telephone:512-930-9412 Fax:n/a
   Email Address:chad.jones@stegerbizzell.com

Project Information

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

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

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

100% Domestic	13,791,444 gallons/day
_____% Industrial	_____ gallons/day
_____% Commingled	_____ gallons/day

   Total gallons/day: 13,791,444

6. Existing and anticipated infiltration/inflow is NA gallons/day. This will be addressed by: The wastewater volume shown above will include any infiltration/inflow. However, infiltration/inflow will be minimized by installing water-tight joints per ASTM D4161 and water-tight connections between pipes and manholes.

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 on _____, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☒ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
30" Gravity	8651	SN 46 FRP	ASTM D3262
30" Gravity	60	FRP C150	ASTM D3754

Total Linear Feet: 8711

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.

9. The sewage collection system will convey the wastewater to the Berry Creek (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

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

   ☒ The City of Georgetown 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

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
See Attached Table	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		

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" = 300'.

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

Line	*Sheet*	*Station*
PROP-CC-WW	17 to 21 of 28	00+00.00 to 49+27.14
PROP-CC-WW	22&23 of 28	56+24.75 to 63+76.97
PROP-CC-WW	23 to 25 of 28	68+91.56 to 80+86.00
	of	to

23. 5-year floodplain:

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

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
PROP-CC-WW	21 of 28	48+13.67 to 49+30.82
PROP-CC-WW	24 of 28	74+60.73 to 75+80.73
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

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

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
PROP-CC-WW	17+21.69	CROSSING	N/A	3'
PROP-CC-WW	46+99.79	CROSSING	N/A	1.8
PROP-CC-WW	66+26.51	CROSSING	N/A	6.75'

27. Vented Manholes:

☐ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☒ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*
PROP-CC-WW	MH-CC1(4)	15+00.00	18
PROP-CC-WW	MH-CC1(7)	28+33.23	19
PROP-CC-WW	MH-CC1(9)	38+30.14	20
PROP-CC-WW	MH-CC1(12)	51+21.76	22
PROP-CC-WW	MH-CC1(15)	63+99.41	23

Line	*Manhole*	*Station*	*Sheet*
PROP-CC-WW	MH-CC1(18)	77+24.42	24

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(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
PROP-CC-WW	MH-CC1(7)	28+33.23	19

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

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

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

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

31. Minimum flow velocity (From Appendix A)

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

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

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*
N/A					

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

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	26 of 28
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	27 of 28
Typical trench cross-sections **[Required]**	26 of 28
Bolted manholes **[Required]**	26 of 28
Sewer Service lateral standard details **[Required]**	of
Clean-out at end of line **[Required, if used]**	of
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	26 of 28

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	27 of 28

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: _____

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.

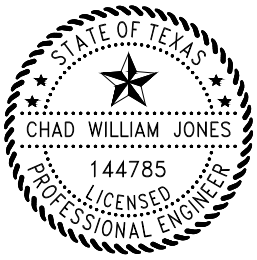
Signature

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: Chad Jones, P.E.

Date: 12/22/2025

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

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

Table 10 - Slope Velocity

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

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

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

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Table 2 – Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
PROP-CC-WW	17 Of 28	00+00.00	MH
PROP-CC-WW	17 Of 28	5+00.00	MH
PROP-CC-WW	18 Of 28	10+00.00	MH
PROP-CC-WW	18 Of 28	15+00.00	MH
PROP-CC-WW	19 Of 28	19+88.24	MH
PROP-CC-WW	19 Of 28	23+34.23	MH
PROP-CC-WW	19 Of 28	28+33.23	MH
PROP-CC-WW	20 Of 28	33+31.33	MH
PROP-CC-WW	20 Of 28	38+30.14	MH
PROP-CC-WW	21 Of 28	43+21.16	MH
PROP-CC-WW	21 Of 28	46+82.50	MH
PROP-CC-WW	22 Of 28	51+21.76	MH
PROP-CC-WW	22 Of 28	55+04.50	MH
PROP-CC-WW	22 Of 28	58+99.77	MH
PROP-CC-WW	23 Of 28	63+99.41	MH
PROP-CC-WW	23 Of 28	67+28.49	MH
PROP-CC-WW	24 Of 28	72+28.18	MH
PROP-CC-WW	24 Of 28	77+24.42	MH
PROP-CC-WW	25 Of 28	82+19.26	MH

ATTACHMENT A

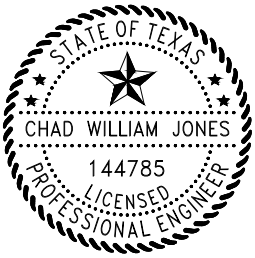
ENGINEERING DESIGN REPORT

FOR

COWAN CREEK WASTEWATER INTERCEPTOR CC-1

Organized Sewage Collection System

Job No. 23030



12/22/2025

Prepared by:

STEGER BIZZELL
1978 South Austin Ave.
Georgetown, Texas 78626

Engineering Design Report
For a
SUN CITY NEIGHBORHOOD 68 OFF-SITE WASTEWATER
Within
Jennings Branch, Georgetown, Texas

PURPOSE

The purpose of this report is to demonstrate that the proposed wastewater main complies with the Texas Commission on Environmental Quality's Chapter 217 - Design Criteria for Domestic Wastewater Systems. The project includes the construction of 8,711 linear feet of 30" fiberglass reinforced polymer wastewater line to increase the capacity of the existing wastewater interceptor. The proposed wastewater line will be connected parallel to the existing 21-inch interceptor along Cowan Creek in accordance with the City of Georgetown's Wastewater Master Plan. The 30-inch line will begin west of RM 2338 and terminate near Pedernales Falls Dr.

The CITY OF GEORGETOWN will own and maintain the sanitary sewer collection system described in this application. The BERRY CREEK Wastewater Treatment Plant (WWTP) which will receive and treat flows from the project. The TCEQ Permit No. is WQ 0010489006. The Permittee is the City of Georgetown Utility Systems. The plans will also be reviewed by the City of Georgetown's Development Engineer.

PIPE DESIGN 30 TAC §217.53

Flow design basis (30 TAC §217.53(a))

The proposed wastewater interceptor is a part of the capital improvement program of the city of Georgetown based on modeling the city-wide collection system. Design flows were not prepared based on particular developments. The pipe capacities and the characteristics of full flow are described below.

The proposed pipe slopes provide full flow velocities above the minimum required 2 feet per second (fps) and below the maximum allowed 10 fps. Within the proposed system, the minimum proposed slope for the 30-inch pipe is 0.27% with a full flow velocity of 4.35 fps and capacity of 21.34 cfs. The maximum proposed slope for the 30-inch pipe is 0.80% with a full flow velocity of 7.48 and capacity of 36.73 cfs.

Gravity pipe materials (30 TAC §217.53(b)), Joints for gravity pipe (30 TAC §217.53(c))

PIPE	LINEAR FEET	PIPE MATERIAL	NATIONAL SPECIFICATION FOR PIPE MATERIAL	NATIONAL STANDARD FOR PIPE JOINTS
21" Gravity	52	SN 46 FRP	AWWA M45	ASTM D3212
30" Gravity	8651	SN 46 FRP	AWWA M45	ASTM D3212
30" Gravity	60	C150 FRP	AWWA M45	ASTM D3212

Separation distances (30 TAC §217.53(d))

The proposed wastewater collection system complies with the TCEQ Separation Distance requirements for horizontal separation. Where the proposed potable water system crosses the proposed collection system the water system will be above the wastewater collection system. The crossings will meet TCEQ criteria for potable water line crossings. C900 DR-18 PVC pipe with a pressure rating of 150 psi will be used for crossings with vertical separations of less than two-feet and greater than six-inches and are labeled on the wastewater plan and profile sheets.

Building laterals and taps (30 TAC §217.53(e))

The are no proposed laterals or taps associated with this project.

Bores (30 TAC §217.53(f))

The proposed bore locations are shown and labeled in the Site Plan.

Corrosion potential (30 TAC §217.53(g)), Odor control (30 TAC §217.53(h))

The SN 46 FRP and C150 FRP proposed for this project meet the requirements of ASTM D3262 and ASTM 3754 for pipe and ASTM D4161 for pipe joints. The sewer pipe will handle ordinary domestic sewer.

Active geologic faults (30 TAC §217.53(i))

There are no known active geologic faults within the limits of construction.

Capacity analysis (30 TAC §217.53(j))

The proposed collection system will be connected to the existing Cowan Creek wastewater interceptor flowing to the existing Sun City Lift Station and is not associated with a particular development. With a minimum slope of 0.27%, the capacity of the 30-inch line proposed in this project is limited to 21.34 cfs. Peak flows may be further restricted downstream of the proposed project. Future developments connecting to the proposed interceptor will require further capacity analysis by the City of Georgetown.

Structural analysis (30 TAC §217.53(k))

Structural analysis is included in the calculations attached to this report.

Minimum and maximum slopes (30 TAC §217.53(l))

The wastewater collection system contains slopes sufficient to maintain velocities greater than 2.0 feet per second and less than 10.0 feet per second, when flowing full.

For 12" diameter pipe, the minimum slope is 0.20%, and the maximum slope is 4.88%. For 12" pipes in this system, the proposed minimum slope is 0.67% and the maximum slope is 6.55%.

For proposed 30" FRP pipe, the proposed minimum slope is 0.27% and the maximum slope is 0.80%.

Alignment (30 TAC §217.53(m))

The proposed wastewater collection system has been designed with uniform grade between manholes. No deviations from straight alignment between manholes are proposed.

Inverted siphons or sag pipes (30 TAC §217.53(n))

There are no inverted siphons or sag pipes proposed with this project

Bridged sections (30 TAC §217.53(o))

There are no bridged sections proposed with this project.

CRITERIA FOR LAYING PIPE 30 TAC §217.54

Pipe embedment (30 TAC §217.54(a)), Compaction (30 TAC §217.54(b))
Envelope size (30 TAC §217.54(c)), Trench width (30 TAC §217.54(d))

The project will comply with the City of Georgetown's details and specifications for pipe embedment and excavation. The detail is included in the construction plans on Sheets 26. The bedding compiles with ASTM D-2321 class 1B gravel. The minimum trench width for 8", 12", 15", 18", 21", and 30" pipe is 21", 25", 28", 31", 35" and 45", respectively. The maximum trench width for 8", 12", 15", 18", 21" and 30" pipe is 35", 39", 41", 45", 48" and 57", respectively.

MANHOLES AND RELATED STRUCTURES 30 TAC §217.55

Precast concrete manholes are proposed for this project. Manhole details are included in the construction plans on Sheets 26 and 27. The manholes must meet the requirements of ASTM C-478. Manholes are proposed at the end of the sewer line and at changes in alignment. Details for the manhole covers and inverts are included on Sheets 26 and 27.

The manholes have been spaced to comply with Table C.3 of 30 TAC §217.55. The maximum spacing between manholes is 500'.

TRENCHLESS PIPE INSTALLATION 30 TAC §217.54

There is no Trenchless Pipe Installation proposed with this project.

TESTING REQUIREMENTS FOR INSTALLATION OF GRAVITY COLLECTION SYSTEM PIPES 30 TAC §217.57

The testing requirements for Gravity System Pipes are included in the construction plans on Sheets 2 and 3.

TESTING REQUIREMENTS FOR MANHOLES 30 TAC §217.58

The following testing requirements are taken from 30 TAC §217.58. The testing requirements are also included in the construction plans on Sheet 3.

All manholes must pass a leakage test. An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

Hydrostatic Testing

The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour. To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water and maintain the test for at least one hour. A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

Vacuum Testing

To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole. No grout must be placed in horizontal joints before testing. Stub outs, manhole boots and pipe plugs must be secured to prevent movement while a vacuum is drawn. An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole. A test head must be placed at the inside of the top of a cone section and the seal inflated in accordance with the manufacturer's recommendations. There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test. A test does not begin until after the vacuum pump is off. A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is a least 9.0 inches of mercury.

LIFT STATION REQUIREMENTS 30 TAC §217.54

There are no Lift Station or force mains associated with this project.

ASTM D3262 SN 46 FRP
Dia. = 30 "
Wall = 0.500 "

Buckling Analysis
T63) Pressure due to live load

L_l = = 0

T68) Calculate allowable and predicted buckling pressure.

a) Calculate allowable buckling pressure:

$q_a = 0.4*Sqrt(32*R_W*B'*E_b*(E*I/D^3))$ Equation (1)
$R_W = 1-0.33*(h_w/h)$ Equation (2)
$B' = 1/(1+4*e^{-0.065H})$ Equation (3)
$I = (t^3/12)*(inches^4/Linch)$ Equation (4)

q_a = allowable buckling pressure, pounds per square inch (psi)	=	67.11	psi
h = height of soil surface above top of pipe in inches (in)	=	180	"
h_w = height of water surface above top of pipe in inches (in) (groundwater elevation)	=	0	"
R_W = Water buoyancy factor. If h_w = 0, R_w = 1. If 0 < or = hw < or = h (groundwater elevation is between the top of the pipe and the ground surface), calculate Rw with Equation 2	=	1	
H = Depth of burial in feet (ft) from ground surface to crown of pipe.	=	15.00	'
B' = Empirical coefficient of elastic support	=	0.40	
E_b = modulus of soil reaction for the bedding material (psi)	=	3000	psi
E = modulus of elasticity of the pipe material (psi)	=	1900000	psi
I = moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/lineal inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.	=	0.01041667	
t = pipe structural wall thickness (in)	=	0.500	"
D = mean pipe diameter (in)	=	30	"

b) Calculate pressure applied to pipe under installed conditions:

$q_p = Y_w*h_w=R_w*(W_c/D)+L_l$ Equation (5)
$W_c - Y_s*H*(D+t)/144$ Equation (6)

q_p = pressure applied to pipe under installed conditions (psi)	=	13.77	psi
Y_w = 0.0361 pounds per cubic inch (pci), specific weight of water	=	0.0361	pcf
Y_s = specific weight of soil in pounds per cubic foot (pcf)	=	130	pcf
W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)	=	413.02	lb/in
L_l = Live load as determined in T63	=	0	psi

T81) Determine Pipe Stiffness

$P_s = EI/0.149*r^3$ Equation (10)

E = modulus of elasticity of the pipe material (psi)	=	1900000	psi
I = moment of inertia of the pipe wall cross section per linear inch of pipe, inch4/lineal inch = inch3. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer. mean pipe diameter (in)	=	0.01041667	in.
r =mean radius (in)	=	15	in.
P_s	=	39	psi

T83) Calculate P_s/SSF ratio

$P_s/SSF = P_s/0.61*zeta*E_b$> or = 0.15 Equation (12)

P_s = Pipe stiffness (psi)	=	39	psi
E_b = modulus of soil reaction for the bedding material (psi) [from T76]	=	3000	psi
zeta = 1.0, or a value calculated with the method in T79	=	1.0	
SSF = soil stiffness factor (0.061*zeta*Eb)	=	183	
P_s/SSF	=	0.21	

T86) Calculate and report predicted deflection.

$DeltaY/D(\%) = (K*(L_p+L_l)*100)/(((0.149*P_s)+(0.061*zeta*E_b))$ Equation (13)

$L_p = (Y_s*H)/144$ Equation (14)

Delta Y/D = Predicted % vertical deflection under load	=	0.79	%	< 2%
DeltaY = Change in vertical pipe diameter under load				
D = Undeflected mean pipe diameter (in)	=	30	in.	
K = Bedding angle constant. Assumed to be 0.110 unless otherwise justified.	=	0.110		
Y_s = Unit weight of soil (pcf). Y_s less than 120 pcf must be justified.	=	130	pcf	
H = Depth of burial (ft) from ground surface to crown of pipe.	=	15	ft.	
L_p =Prism load (psi). If prism load is calculated using Marston's load formula, or other formulas less conservative than the one provided above, the load should be multiplied by a deflection lag factor DL = 1.5 to account for long-term deflection of the pipe as the bedding consolidates.	=	13.54	psi	

(P_s from T82; zeta from T80; and E_b from T76)

ASTM D3262 C150 FRP
Dia. = 30 "
Wall = 0.500 "

Buckling Analysis
T63) Pressure due to live load

L_l = = 0

T68) Calculate allowable and predicted buckling pressure.

a) Calculate allowable buckling pressure:

$q_a = 0.4*Sqrt(32*R_W*B'*E_b*(E*I/D^3))$ Equation (1)
$R_W = 1-0.33*(h_w/h)$ Equation (2)
$B' = 1/(1+4*e^{-0.065H})$ Equation (3)
$I = (t^3/12)*(inches^4/Linch)$ Equation (4)

q_a = allowable buckling pressure, pounds per square inch (psi)	=	61.87	psi
h = height of soil surface above top of pipe in inches (in)	=	133	"
h_w = height of water surface above top of pipe in inches (in) (groundwater elevation)	=	0	"
R_W = Water buoyancy factor. If h_w = 0, R_w = 1. If 0 < or = hw < or = h (groundwater elevation is between the top of the pipe and the ground surface), calculate Rw with Equation 2	=	1	
H = Depth of burial in feet (ft) from ground surface to crown of pipe.	=	11.08	'
B' = Empirical coefficient of elastic support	=	0.34	
E_b = modulus of soil reaction for the bedding material (psi)	=	3000	psi
E = modulus of elasticity of the pipe material (psi)	=	1900000	psi
I = moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/lineal inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.	=	0.01041667	
t = pipe structural wall thickness (in)	=	0.500	"
D = mean pipe diameter (in)	=	30	"

b) Calculate pressure applied to pipe under installed conditions:

$q_p = Y_w*h_w=R_w*(W_c/D)+L_l$ Equation (5)
$W_c - Y_s*H*(D+t)/144$ Equation (6)

q_p = pressure applied to pipe under installed conditions (psi)	=	10.17	psi
Y_w = 0.0361 pounds per cubic inch (pci), specific weight of water	=	0.0361	pcf
Y_s = specific weight of soil in pounds per cubic foot (pcf)	=	130	pcf
W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)	=	305.18	lb/in
L_l = Live load as determined in T63	=	0	psi

T81) Determine Pipe Stiffness

$P_s = EI/0.149*r^3$ Equation (10)

E = modulus of elasticity of the pipe material (psi)	=	1900000	psi
I = moment of inertia of the pipe wall cross section per linear inch of pipe, inch4/lineal inch = inch3. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer. mean pipe diameter (in)	=	0.01041667	in.
r =mean radius (in)	=	15	in.
P_s	=	39	psi

T83) Calculate P_s/SSF ratio

$P_s/SSF = P_s/0.61*zeta*E_b$> or = 0.15 Equation (12)

P_s = Pipe stiffness (psi)	=	39	psi
E_b = modulus of soil reaction for the bedding material (psi) [from T76]	=	3000	psi
zeta = 1.0, or a value calculated with the method in T79	=	1.0	
SSF = soil stiffness factor (0.061*zeta*Eb)	=	183	
P_s/SSF	=	0.21	

T86) Calculate and report predicted deflection.

$\text{DeltaY/D(\%)} = (K*(L_p+L_l)*100)/(((0.149*P_s)+(0.061*\text{zeta}*E_b))$ Equation (13)

$L_p = (Y_s*H)/144$ Equation (14)

Delta Y/D = Predicted % vertical deflection under load	=	0.58	%	< 2%
DeltaY = Change in vertical pipe diameter under load				
D = Undeflected mean pipe diameter (in)	=	30	in.	
K = Bedding angle constant. Assumed to be 0.110 unless otherwise justified.	=	0.110		
Y_s = Unit weight of soil (pcf). Y_s less than 120 pcf must be justified.	=	130	pcf	
H = Depth of burial (ft) from ground surface to crown of pipe.	=	11.0833333	ft.	
L_p =Prism load (psi). If prism load is calculated using Marston's load formula, or other formulas less conservative than the one provided above, the load should be multiplied by a deflection lag factor DL = 1.5 to account for long-term deflection of the pipe as the bedding consolidates.	=	10.01	psi	

(P_s from T82; zeta from T80; and E_b from T76)

This Page Left Intentionally Blank

SCS Site Plan

See Overall Wastewater Plan in attached Cowan Creek Wastewater CC-1 construction plans.

Final Plan and Profile Sheets

See the attached Cowan Creek Wastewater construction plans for sewage collection system plan and profile sheets.

Location Map
1" = 3000'

CONSTRUCTION PLANS FOR COWAN CREEK WASTEWATER INTERCEPTOR CC-1 CITY OF GEORGETOWN, WILLIAMSON COUNTY, TEXAS GEORGETOWN PROJECT PRJ000761 TASK ORDER NO.SBE-25-001

SHEET LIST TABLE	
Sheet Number	Sheet Title
01	COVER SHEET
02	GENERAL NOTES (1 OF 2)
03	GENERAL NOTES (2 OF 2)
04	CC-1 TREE SURVEY - TREE SURVEY (1 OF 3)
05	CC-1 TREE SURVEY - TREE SURVEY (2 OF 3)
06	CC-1 TREE SURVEY - TREE SURVEY (3 OF 3)
07	EROSION & SEDIMENTATION CONTROL PLAN (1 OF 3)
08	EROSION & SEDIMENTATION CONTROL PLAN (2 OF 3)
09	EROSION & SEDIMENTATION CONTROL PLAN (3 OF 3)
10	EROSION & SEDIMENTATION DETAILS
11	CRITICAL ROOT ZONE PROTECTION PLAN (1 OF 5)
12	CRITICAL ROOT ZONE PROTECTION PLAN (2 OF 5)
13	CRITICAL ROOT ZONE PROTECTION PLAN (3 OF 5)
14	CRITICAL ROOT ZONE PROTECTION PLAN (4 OF 5)
15	CRITICAL ROOT ZONE PROTECTION PLAN (5 OF 5)
16	OVERALL WASTEWATER PLAN
17	PLAN & PROFILE (1 OF 9)
18	PLAN & PROFILE (2 OF 9)
19	PLAN & PROFILE (3 OF 9)
20	PLAN & PROFILE (4 OF 9)
21	PLAN & PROFILE (5 OF 9)
22	PLAN & PROFILE (6 OF 9)
23	PLAN & PROFILE (7 OF 9)
24	PLAN & PROFILE (8 OF 9)
25	PLAN & PROFILE (9 OF 9)
26	WASTEWATER DETAILS (1 OF 2)
27	WASTEWATER DETAILS (2 OF 2)
28	TRAFFIC CONTROL DETAILS

STEGER BIZZELL

ENGINEER / SURVEYOR:

Steger Bizzell
1978 S. Austin Avenue
Georgetown, TX 78626
512-930-9412
info@stegerbizzell.com
https://stegerbizzell.com/

BENCHMARKS:

Control Point # 94 1/2-inch iron rod with yellow cap marked "CONTROL POINT" set
Grid northing: 10237708.21
Grid easting: 3104195.86
Elevation: 879.86 (NAVD 88)

Control Point # 95 1/2-inch iron rod with yellow cap marked "CONTROL POINT" set
Grid northing: 10238676.35
Grid easting: 3101817.72
Elevation: 890.99 (NAVD 88)

Control Point # 96 Mag nail with washer marked "CONTROL POINT" set
Grid northing: 10238670.89
Grid easting: 3098886.22
Elevation: 910.22 (NAVD 88)

See Erosion & Sedimentation Control Plan Sheets for benchmark locations.

General Notes:

1. The construction portion of these plans were prepared, sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the Standard Construction Specifications and Details Manual and all other applicable City, State and Federal Requirements and Codes.
2. This project is subject to all City Standard Construction Specifications and Details in effect at the time of submittal of the project to the City of Georgetown.
3. The properties subject to this application is subject to the Water Quality Regulations of the City of Georgetown.
4. Geologic Assessments, in accordance with the City of Georgetown Water Quality Regulations, were completed on 6/12/2025, 9/30/2025, and 10/15/2025. Any springs and streams as identified in the Geologic Assessment are shown herein.
5. The project limits of construction is 13.13 acres.
6. All bearings and coordinates are referenced to the Texas Coordinate System, Central Zone. NAD 83 horizontal control datum and NGVD 29 vertical control datum. All distances and coordinates are surface and may be converted to grid by multiplying by the combined scale factor of 0.999856056.

Submitted By:

STATE OF TEXAS
CHAD WILLIAM JONES
44783
LICENSED
PROFESSIONAL ENGINEER
12/3/25

Chad W. Jones, P.E. Date

APPROVED for the City of Georgetown:

David Munk, P.E. Development Engineer Date

BEFORE YOU DIG Texas811.com

TEXAS ONE-CALL 800-344-8377

NOTE:
CONTRACTOR IS TO FURNISH A SET OF CONSTRUCTION PLANS BACK TO THE ENGINEER AT THE END OF THE PROJECT WITH ALL DEVIATIONS NOTED IN RED INK ON THE PLAN SHEETS. CONTRACTOR SHALL NOT RECEIVE FINAL PAYMENT UNTIL COMPLETE "AS-BUILT" SET IS RETURNED TO ENGINEER.

STEGER BIZZELL

1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 | TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
>>ENGINEERS >>PLANNERS >>SURVEYORS

There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The Contractor shall contact all appropriate companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer who shall revise the design as necessary.

Project Number: 23030

SHEET 01 of 28

GENERAL CONSTRUCTION NOTES

1. All construction shall be in accordance with the latest City of Georgetown Technical Specifications and Details.

2. Prior to beginning construction, the Owner or his authorized representative shall convene a Pre-Construction Conference between the City of Georgetown, Engineer, Contractor, County Engineer (if applicable), Texas Commission on Environmental Quality Field Office, and any other affected parties. Notify all such parties at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, the name of the prime contractor and the name and telephone number of the contact person.

3. The Contractor shall give the City a minimum of 48 hours notice before beginning each phase of construction, call 512-930-3555.

4. No blasting will be permitted on this project.

5. Any existing utilities, pavement, curbs, and/or sidewalks damaged or removed will be repaired by the Contractor at his expense before acceptance of the project.

6. The location of any existing water and/or wastewater lines shown on the plans must be verified by the Georgetown Utility Systems Department.

8. The Contractor is responsible for any damages to any public improvements.

SEQUENCE OF CONSTRUCTION

Note: Other contractors could be working on this site. Coordinate all activities with the activities of others.

1. Call all affected parties at least 48 hours prior to beginning any construction to schedule a pre-construction conference and secure all required permits.
2. Install temporary erosion controls prior to any clearing and grubbing. Notify the City of Georgetown when installed.
3. Clear and grub site.
4. Install all utility mains & services.
5. Ensure that all underground utility installations are complete.
6. Complete final site grading and revegetation.
7. Remove and dispose of temporary erosion controls.
8. Complete any necessary final dress-up.

PERMANENT EROSION CONTROL NOTES

1. All disturbed areas shall be restored as noted below:
   - 1.a. A minimum of six inches of imported sandy loam topsoil or approved equal shall be placed in all drainage channels (except rock) and on all cleared areas.
   - 1.b. The seeding for permanent erosion control shall be applied over areas disturbed by construction as follows, unless specified elsewhere:
     - 1.b.a. From September 15 to March 1, seeding shall be with a combination of 1 pound per 1,000 square feet of unhulled Bermuda and 7 pounds per 1,000 square feet of Winter Rye with a purity of 95% with 90% germination.
     - 1.b.b. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 3 pounds per 1,000 square feet with a purity of 95% with 85% germination.
   - 1.c. Fertilizer shall be slow release granular or pelleted type and shall have an analysis of 15-15-15 and shall be applied at the rate of 23 pounds per acre once at the time of planting and again once during the time of establishment.
   - 1.d. The planted area shall be irrigated or sprinkled in a manner that will not erode the top soil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at ten-day intervals during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week.
   - 1.e. Mulch type used shall be Mulch, applied at a rate of 1,500 pounds per acre.

TEMPORARY EROSION CONTROL NOTES

1. The Contractor shall install erosion/sedimentation controls and tree protective fencing prior to any site preparation work (clearing, grubbing or excavation).

2. The placement of erosion/sedimentation controls shall be in accordance with the PLANS.

3. Any significant variation in materials or locations of controls or fences from those shown on the approved plans must be approved by the City Engineer.

4. The Contractor is required to inspect all controls and fences at weekly intervals and after significant rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.

5. Prior to final acceptance, haul roads and waterway crossings constructed for temporary Contractor access must be removed, accumulated sediment removed from the waterway, and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved spoil disposal sites.

6. Field revisions to the EROSION & SEDIMENTATION CONTROL PLANS may be required by the Engineer or field inspector with the Texas Commission on Environmental Quality (TCEQ) during the course of construction to correct control inadequacies. Major revisions must be approved by the TCEQ.

CITY OF GEORGETOWN GENERAL NOTES

1. These construction plans were prepared, sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the standard Construction Specifications and Details Manual and all other applicable City, State and Federal Requirements and Codes.
2. This project is subject to all City Standard Specifications and Details in effect at the time of submittal of the project to the City.
3. The site construction plans shall meet all requirements of the approved site plan.
4. Wastewater mains and service lines shall be SDR 26 PVC.
5. Wastewater mains shall be installed without horizontal or vertical bends.
6. Maximum distance between wastewater manholes is 500 feet.
7. Wastewater mains shall be low pressure air tested and mandrel tested by the contractor according to the City of Georgetown and TCEQ requirements.
8. Wastewater manholes shall be vacuum tested and coated by the contractor according to City of Georgetown and TCEQ requirements.
9. Wastewater mains shall be camera tested by the contractor and submitted to the City on DVD format prior to paving the streets.
10. Water and Sewer main crossings shall meet all requirements of the TCEQ and the City.
11. A maintenance bond is required to be submitted to the City prior to acceptance of the public improvements. This bond shall be established for 2 years in the amount of 10% of the cost of the public improvements and shall follow the City format.
12. Record drawings of public improvements shall be submitted to the City by the design engineer prior to acceptance of the project. These drawings shall be a pdf emailed to the City Development engineer.

CITY OF GEORGETOWN HERITAGE TREE PROTECTION DURING CONSTRUCTION

1. Prior to the commencement of any development, a tree protection fence constructed of approved materials shall encompass the Critical Root Zone (CRZ) of any Heritage Tree. Said tree protection fence must be maintained throughout the construction process, and must also comply with Chapter 11 of this Code.
2. During construction, no materials including but not limited to excess soil, vehicles, equipment, liquids, trash, or construction debris may be placed inside of the tree protection fence, nor shall the tree protection fence be altered in any way so as to increase the encroachment of the construction.
3. Excavation, grading, soil deposit, impervious covering, drainage and leveling within the CRZ of Heritage Trees is prohibited unless approved by the Urban Forester. Any impervious cover proposed within the CRZ of a Heritage Tree will be reviewed on a case by case basis by the Urban Forester upon field inspections and or plan reviews. In any case, generally no more than 50% of the CRZ of any Heritage Tree can be covered with impervious cover. Any protective fencing being used around Heritage Trees may only be reduced while impervious cover activity is being done. The remainder of the protective fencing must stay intact for the duration of the project.
4. Disposal or depositing of oil, gasoline, chemicals, paints, solvents or other materials is prohibited within the CRZ of Heritage Trees.
5. The attachment of wires, signs and ropes to any Heritage Tree is prohibited.
6. The location of utility service and irrigation lines inside the CRZ of Heritage Trees is only allowed when approved by the Urban Forester. If boring is used to provide underground utility access, the minimum length of the bore shall be the width of the tree's mature canopy. The minimum depth of the bore shall be specified by the Urban Forester, but in no event be less than 24" below the natural grade existing prior to any development activity within the CRZ.
7. Soil disturbance or other injurious and detrimental activity within the CRZ of Heritage Trees is prohibited.
8. At applicant's expense, an ISA Certified Arborist or their employee(s) shall be present whenever activities occur which will pose a potential threat to the health of the Heritage Tree such as pruning, or whenever any work needs to be done within the CRZ of such tree.
9. Should the area within the CRZ become compacted during excavation or grading, the affected area shall be aerated. The Urban Forester shall be notified whenever any Damage or injury occurs to a Heritage Tree during construction so that proper treatment may be administered.
10. The Urban Forester shall be notified whenever any Damage or injury occurs to a Heritage Tree during construction so that proper treatment may be administered.
11. Contact the City of Georgetown's Urban Forester (512-930-6113) when tree protection is installed and prior to any fencing being removed.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.
2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.
4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.
6. 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).
7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.
8. 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).
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 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 temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    - A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
    - B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
    - C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office
12100 Park 35 Circle
Building A, 1st Floor
Austin, Texas 78753
Phone (512) 339-2929
Fax (512) 339-3795

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 147195 · LICENSED PROFESSIONAL ENGINEER · 11/3/25

STEGER BIZZELL

ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

GENERAL NOTES (1 OF 2)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999
Sheet Number: 02 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 GENERAL NOTES.dwg By: Chad Jones Date: 12/19/2025 1:43 PM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

1. This Organized Sewage Collection System must be designed and constructed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules 30 Texas Administrative Code (TAC) §§213.5(c) and 217.51 - 217.70 and 30 TAC Chapter 217, Subchapter D, and the City of Georgetown Standard Specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the Sewage Collection System plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. No later than 48 hours prior to commencing any regulated activity, the applicant or his agent must notify the Austin Regional Office, in writing, of the date on which the regulated activity will begin.

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. All temporary erosion and sedimentation controls must be installed prior to construction, must be maintained during construction, and must be removed when sufficient vegetation is established to control the erosion and sedimentation and the construction area is stabilized.

6. The sewer line trench details showing the cross section with the dimensions, pipe placement, and backfill instructions are included on Sheet 26 of these plans. All sewer pipes joints must meet the requirements in 30 TAC §217.53(c) an 217.65.

7. Gravity lines must be SN 46 or greater. Pressurized sewer systems must have pipe with a minimum working pressure rating of 150 psi.

   The ASTM, ANSI, or AWWA specification numbers for the pipe(s) and joints are: ASTM D 3262, D4161.

   The pipe material, the pressure classes, and the SDR and/or DR designations are: FRP, SN 46.

8. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the Texas Commission on Environmental Quality of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing within two working days. The applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

9. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of six (6) inches.

10. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

11. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

    The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet 26.

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

12. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

13. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer:
    NOT APPLICABLE.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: NOT APPLICABLE.

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

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

    If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet --. (For potential future laterals). NOT APPLICABLE

    The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet --, and marked after backfilling as shown in the detail on Plan Sheet --. NOT APPLICABLE

15. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

16. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

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

    17.a. For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:

    17.a.1. Low Pressure Air Test.

    17.a.1.A. A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragrap or Equation C.3 in subparagraph (B)(ii) of this paragraph.

    17.a.1.B. For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.

    17.a.1.B.a. A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.

    17.a.1.B.b. Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

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

    Where:

    T = time for pressure to drop 1.0 pound per square inch gauge in seconds
    K = 0.000419 X D X L, but not less than 1.0
    D = average inside pipe diameter in inches
    L = length of line of same size being tested, in feet
    Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

    Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

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

    17.a.1.C. An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.

    17.a.1.D. If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.

    17.a.1.E. Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.

    17.a.1.F. A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

    17.a.2. Infiltration/Exfiltration Test.

    17.a.2.A. The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.

    17.a.2.B. An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.

    17.a.2.C. The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.

    17.a.2.D. For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subpargraph (C) of this paragraph.

    17.a.2.E. If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

    17.b. If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:

    17.b.1. For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.

    17.b.1.A. Mandrel Sizing.

    17.b.1.A.a. A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.

    17.b.1.A.b. If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.

    17.b.1.A.c. All dimensions must meet the appropriate standard.

    17.b.1.B. Mandrel Design.

    17.b.1.B.a. A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.

    17.b.1.B.b. A mandrel must have nine or more odd number of runners or legs.

    17.b.1.B.c. A barrel section length must equal at least 75% of the inside diameter of a pipe.

    17.b.1.B.d. Each size mandrel must use a separate proving ring.

    17.b.1.C. Method Options.

    17.b.1.C.a. An adjustable or flexible mandrel is prohibited.

    17.b.1.C.b. A test may not use television inspection as a substitute for a deflection test.

    17.b.1.C.c. If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.

    17.b.2. For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.

    17.b.3. A deflection test method must be accurate to within plus or minus 0.2% deflection.

    17.b.4. An owner shall not conduct a deflection test until at least 30 days after the final backfill.

    17.b.5. Gravity collection system pipe deflection must not exceed five percent (5%).

    17.b.6. If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

18. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.

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

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

MANHOLE TESTING

All manholes must pass a leakage test. An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

HYDROSTATIC TESTING

The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour. To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water and maintain the test for at least one hour. A test for concrete manholes may use a 24 hour wetting period before testing to allow saturation of the concrete.

VACUUM TESTING

To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole. No grout must be placed in horizontal joints before testing. Stub outs, manhole boots and pipe plugs must be secured to prevent movement while a vacuum is drawn. An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole. A test head must be placed at the inside of the top of a cone section and the seal inflated in accordance with the manufacturer's recommendations. There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test. A test does not begin until after the vacuum pump is off. A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is a least 9.0 inches of mercury.

ADDITIONAL WASTEWATER NOTES

1. If a conflict exists between the various documents, the documents will take precedence in the following order:
   a. Municipal Utility Specifications
   b. Change Orders
   c. Addenda Issue During Bidding
   d. Construction Plans
   e. Project Specifications

2. The following pipe diameters, pipe material and national standard specifications are proposed for this project:

PIPE DIAMETER (IN)	LINEAR FEET (FT)	PIPE MATERIAL	NATIONAL STANDARD FOR PIPE MATERIAL	NATIONAL STANDARD FOR PIPE JOINTS
30	8651	FRP SN 46	ASTM D3262	ASTM D 4161
30	60	FRP C150-C	ASTM D3754	ASTM D4161

3. Watertight, size on size resilient connectors conforming to ASTM C 923 must be used for connecting pipe to manholes.

4. The bedding class for each diameter of flexible pipe and each flexible pipe material is as follows:

PIPE DIAMETER (IN)	PIPE MATERIAL	BEDDING CLASS
30	FRP SN 46	1B
30	FRP C150-C	1B

5. Brick manhole construction is not allowed. Use of brick for adjusting manhole covers to grade is also prohibited.

6. All manholes shall be of precast concrete construction.

7. The structural integrity of the collection line due to high soil P.I.'s will require the bedding around the pipe to be 6" minimum below the pipe, 6" minimum on each side of the pipe, and 12" minimum above the pipe.

8. If faults, caverns, or subsidence are discovered during construction, construction shall be halted to allow the features to be inspected by the design engineer or a geological or geotechnical engineer. Based on this inspection, revisions approval to the design may be required.

9. The trench walls shall be vertical to at least one foot above the pipe.

10. The trench backfill shall be free of stones greater than 6 inches in diameter and free of organic or any other unstable material.

11. Manholes shown on the plans with sealed and gasketed covers are provided as protection against inflow for those manholes which lie 1) within a 100 year flood plain, 2) lie with a drainageway, 3) lie within a street subject to carrying drainage flows, and 4) additional locations as determined necessary by the Engineer.

12. The minimum allowable tensile strength and cell class for each flexible pipe shall be as follows:

PIPE MATERIAL	TENSILE STRENGTH
FRP	7,000

13. All gravity lines utilizing flexible pipe must be tested for deflection by pulling a rigid mandrel through the installed pipe. The test must be conducted at least 30 days after placement and compaction of final backfill. No pipe shall exceed a deflection of 5 rigid mandrel shall be used to measure deflection. The test must be performed without mechanical pulling devices. The mandrel's minimum outside diameter is 95 inside diameter. The mandrel must have an odd number of runners, totaling nine or more. The barrel section of the mandrel must have a length at least 75 inside diameter. A TV test cannot substitute for the deflection test.

14. A leakage test is required for all gravity lines. For line that is not horizontally curved, a hydrostatic test and/or a low pressure air test must be performed on all proposed gravity sanitary sewer collection piping. These tests must comply with Section 217.57(a) of the TCEQ's rules. The contractor shall have the option of utilizing either a hydrostatic test or a low pressure air test.

15. Manholes must be tested for leakage. Manholes will be tested with a hydrostatic test, or with a vacuum test, Contractor's Option.

16. The hydrostatic manhole test shall comply with the test requirements detailed in Section 217.58(b)(1) of the TCEQ's rules.

17. Each manhole shall be tested immediately after assembly and prior to backfilling. Manholes which have been backfilled shall either be excavated to expose the entire exterior prior to vacuum testing or the manhole shall be tested for leakage by means of a hydrostatic test.

18. All lift holes and exterior joints shall be plugged with an approved non-shrink grout.

19. No grout shall be placed in horizontal joints before testing.

20. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole.

21. Stubouts, manhole boots and pipe plugs shall be secured to prevent movement while the vacuum is drawn.

22. 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.

23. 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.

24. 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 which complies with Section 217.58(b)(1) of the TCEQ's rules. 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 outlined in Section 217.58(b)(1) of the TCEQ's rules, until it passes.

25. Inspection must be provided during critical phases of construction by a qualified inspector under the direction of a P.E. Critical phases of construction are deemed at a minimum to include testing of pipe and manholes for leakage, testing of flexible pipe for installed deflection, and any other as directed by the City. The City and design engineer shall provide inspection as appropriate.

26. 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 must certify that the construction was performed substantially in accordance with the approved plans and specifications. If flexible pipe was installed, a P.E. must also certify that all pipe was subjected to and passed the required deflection test. The design engineer, with concurrence of the City, will certify the installation.

27. The project plans and specifications must ensure that the pipe installation will adhere to the minimum separation distances allowed by 217.53 (d), TCEQ's rules.

    Separation Distances.
    The following rules apply to separation distances between potable water and wastewater treatment plants, and waterlines and sanitary sewers.

    (a) Water line/new sewer line separation. When new sanitary sewers are installed, they shall be installed no closer to waterlines than nine feet in all directions. Sewers that parallel waterlines must be installed in separate trenches. Where the nine foot separation distance cannot be achieved, the following guidelines will apply:
    (b) SDF

    (1) Where a sanitary sewer parallels a waterline, the sewer shall be constructed of cast iron, ductile iron or PVC meeting ASTM specifications with a pressure rating for both the pipe and joints of 150 psi. The vertical separation shall be a minimum of two feet between outside diameters and the horizontal separation shall be a minimum of four feet between outside diameters. The sewer shall be located below the waterline.
    (2) Where a sanitary sewer crosses a waterline and the sewer is constructed of cast iron, ductile iron or PVC with a minimum pressure rating of 150 psi, an absolute minimum distance of 6 inches between outside diameters shall be maintained. In addition the sewer shall be located below the waterline where possible and one length of the sewer pipe must be centered on the waterline.
    (3) Where a sewer crosses under a waterline and the sewer is con- structed of ABS truss pipe, similar semi-rigid plastic composite pipe, clay pipe or concrete pipe with gasketed joints, a minimum two foot separation distance shall be maintained. The initial backfill shall be cement stabilized sand (two or more bags of cement per cubic yard of sand) for all sections of sewer within nine feet of the waterline. This initial backfill shall be from one quarter diameter below the centerline of the pipe to one pipe diameter (but not less than 12 inches) above the top of the pipe.
    (4) Where a sewer crosses over a waterline all portions of the sewer within nine feet of the waterline shall be constructed of cast iron, ductile iron, or PVC pipe with a pressure rating of at least 150 psi using appropriate adapters. In lieu of this procedure the new conveyance may be encased in a joint of 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at 5 feet intervals with spacers or be filled to the springline with washed sand. The encasement pipe should be centered on the crossing and both ends sealed with cement grout or manufactured seal.

    b) Water line/manhole separation. Unless sanitary sewer manholes and the connecting sewer can be made watertight and tested for no leakage, they must be installed so as to provide a minimum of nine feet of horizontal clearance from an existing or proposed waterline. Where the nine foot separation distance cannot be achieved, a carrier pipe as des- cribed in subsection (a)(4) of this section may be used where appropriate.

The separation distance between any unknown water lines which are discovered during the installation phase of the project, and, the gravity sanitary sewer pipe which will be installed, shall be sufficient to comply with the minimum separation distances allowed by 217.53(d) of the TCEQ's rules as stated above.

29. AN EROSION AND SEDIMENTATION CONTROL PLAN is included with these plans. These provisions are intended to control erosion and sedimentation due to runoff during construction. These provisions must be installed prior to any other construction activities.

30. It is the intent of this project that portable ladders be used to access manholes during construction by the Contractor as well as for maintenance purposes after construction is complete by the City.

31. It is the intent of this project that personal gas detectors are required for wear by all personnel whose jobs require entering enclosed spaces (such as manholes and lift stations) capable of accumulations of hydrogen sulfide or other harmful gases. It shall be the responsibility of the Contractor to ensure these detectors are provided to the appropriate personnel during the construction of this project. It shall be the responsibility of the City to ensure these detectors are provided to the appropriate personnel during the maintenance of this project after construction.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147855 — LICENSED PROFESSIONAL ENGINEER — 11/4/25

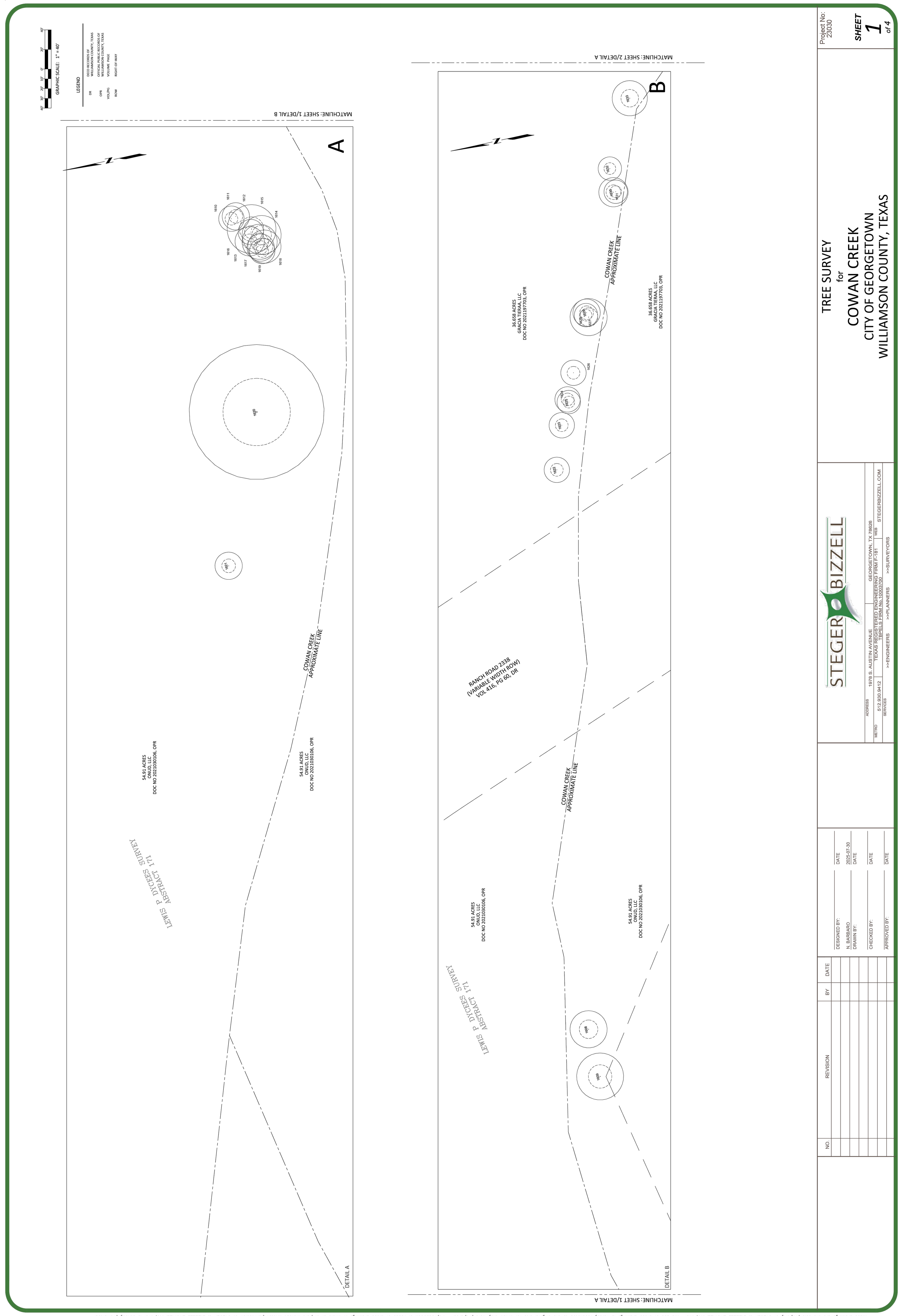
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

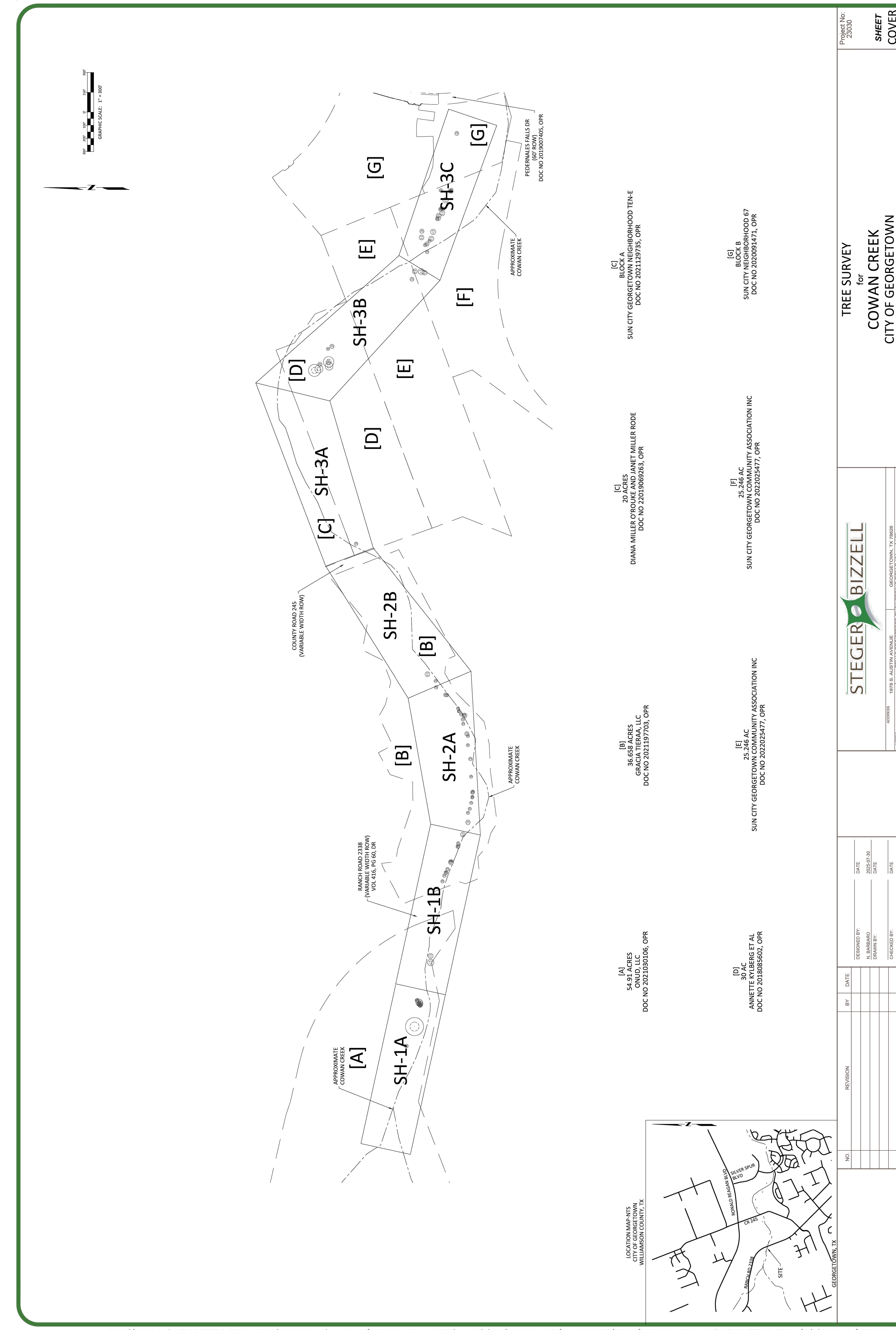
GENERAL NOTES (2 OF 2)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999

Sheet Number: 03 of 28 sheets





WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB DESIGNED BY:	9/1/2025 DATE
NIE, JKL DRAWN BY:	9/1/2025 DATE
CWJ CHECKED BY:	11/24/2025 DATE
APPROVED BY:	DATE

STATE OF TEXAS
CHAD WILLIAM JONES
44765
LICENSED
PROFESSIONAL ENGINEER
12/3/25

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

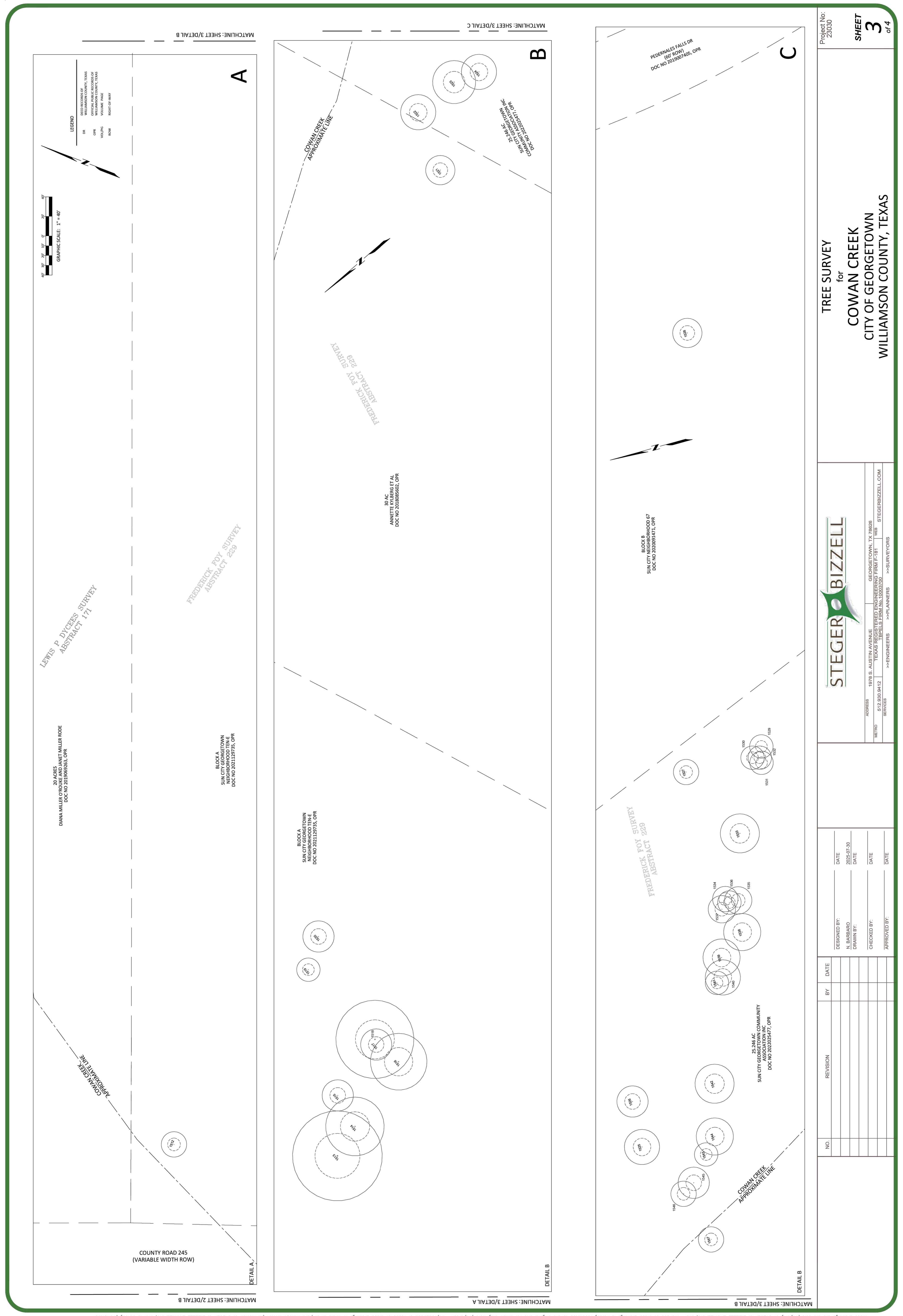
CC-1 TREE SURVEY - TREE SURVEY (1 OF 3)

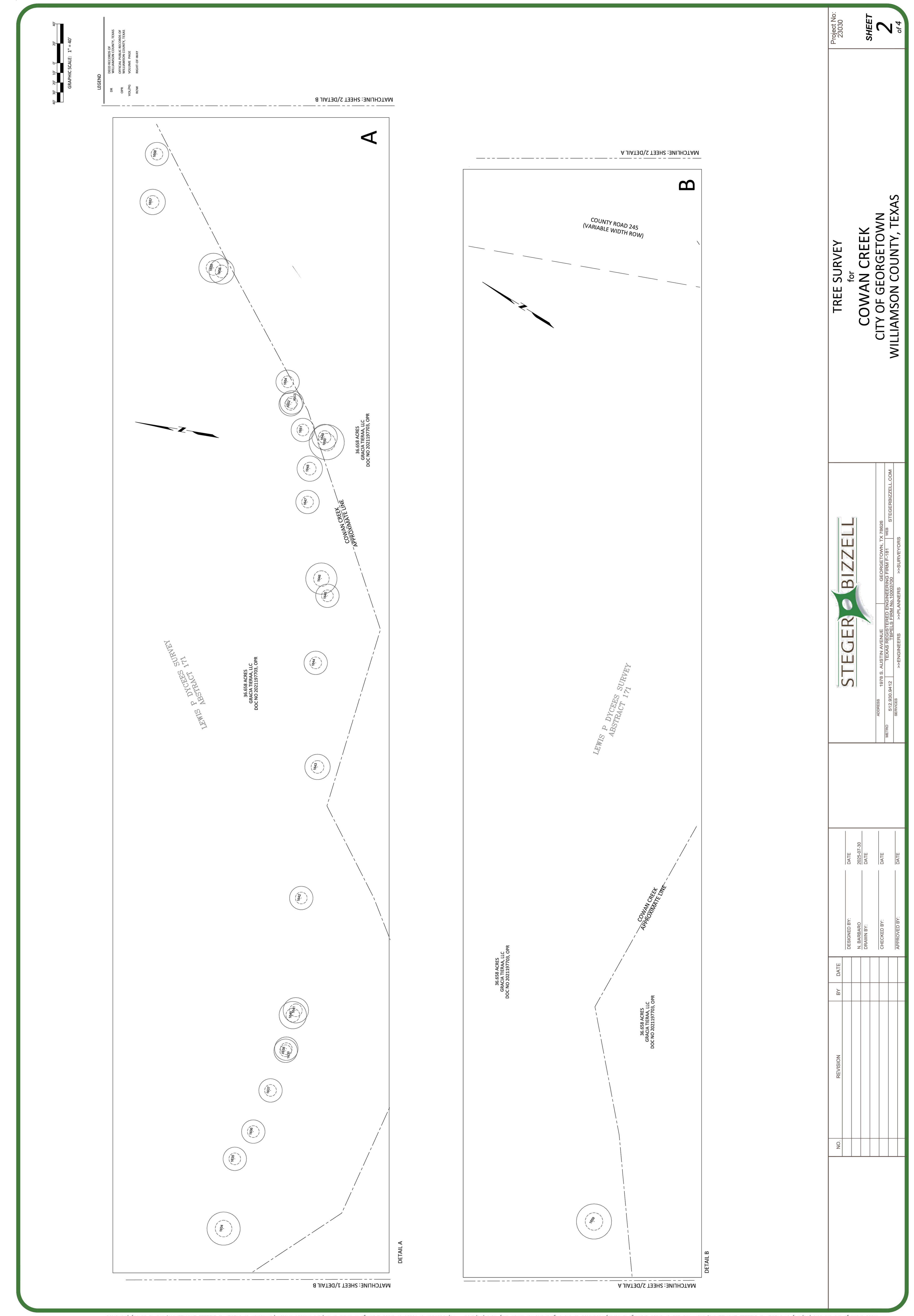
Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999

Sheet Number: 04 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 TREE SURVEY.dwg By: Chad Jones Date: 12/19/2025 1:43 PM





WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

DESIGNED BY: CWJ, CRB	DATE: 9/1/2025
DRAWN BY: NIE, JKL	DATE: 9/1/2025
CHECKED BY: CWJ	DATE: 11/24/2025
APPROVED BY:	DATE:

STATE OF TEXAS
CHAD WILLIAM JONES
144765
LICENSED
PROFESSIONAL ENGINEER
12/3/25

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

CC-1 TREE SURVEY - TREE SURVEY (2 OF 3)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999

Sheet Number: 05 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 TREE SURVEY.dwg By: Chad Jones Date: 12/19/2025 1:43 PM

Tree Tag #	Size-as Surveyed	Size in Whole Inches	Remove	KEY	Multi Stem (If Yes, Select "X")	Stem Measurements (Only if "Y" in Column I)	Half Critical Root Zone, Radius (in Feet)	Common Name	Latin Name
1512	13	13		P	X	9-7	6.5	Oak, Southern Live*	Quercus virginiana
1513	46	46		HT	X	27-20-17	23.0	Oak, Southern Live*	Quercus virginiana
1514	30	30		HT		18-12-12	15.0	Oak, Southern Live*	Quercus virginiana
1515	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1516	29	29		HT	X	20-18	14.5	Oak, Southern Live*	Quercus virginiana
1517	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1518	40	40		HT	X	18-13-12-11-7	20.0	Oak, Southern Live*	Quercus virginiana
1519	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1520	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1521	15	15		P			7.5	Oak, Pin	Quercus nigra
1522	18	18		P			9.0	Elm, Cedar	Ulmus crassifolia
1523	22	22		P			11.0	Oak, Pin	Quercus nigra
1524	18	18		P	X	14-7	9.0	Oak, Pin	Quercus nigra
1525	18	18		P			9.0	Oak, Pin	Quercus nigra
1526	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1527	13	13		P	X	9-8	6.5	Oak, Southern Live*	Quercus virginiana
1528	15	15		P			7.5	Oak, Southern Live*	Quercus virginiana
1529	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1530	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1531	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1532	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1533	20	20		P	X	11-10-8	10.0	Oak, Southern Live*	Quercus virginiana
1534	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1535	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1536	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1537	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1538	19	19		P	X	10-10-7	9.5	Oak, Southern Live*	Quercus virginiana
1539	17	17		P	X	13-8	8.5	Oak, Southern Live*	Quercus virginiana
1540	18	18		P	X	10-9-6	9.0	Oak, Southern Live*	Quercus virginiana
1541	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1542	20	20		P	X	15-10	10.0	Oak, Southern Live*	Quercus virginiana
1543	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1544	19	19		P			9.5	Oak, Southern Live*	Quercus virginiana
1545	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1546	13	13		P	X	9-8	6.5	Elm, Cedar	Ulmus crassifolia
1547	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1608	19	19		P			9.5	Oak, Southern Live*	Quercus virginiana
1609	24	24		P			12.0	Oak, Southern Live*	Quercus virginiana
1610	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1611	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1612	25	25		P	X	19-12	12.5	Oak, Southern Live*	Quercus virginiana
1613	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1614	20	20		P	X	13-13	10.0	Oak, Southern Live*	Quercus virginiana
1615	18	18		P			9.0	Oak, Southern Live*	Quercus virginiana
1616	15	15		P	X	10-9	7.5	Oak, Southern Live*	Quercus virginiana
1617	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1618	17	17		P			8.5	Oak, Southern Live*	Quercus virginiana
1619	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1620	69	69		HT			34.5	Oak, Southern Live*	Quercus virginiana
1621	14	14		P			7.0	Elm, Cedar	Ulmus crassifolia
1622	13	13		P	X	6-4-4-3	6.5	Elm, Cedar	Ulmus crassifolia
1623	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1624	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1625	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1626	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1627	19	19		P	X	15-8	9.5	Oak, Southern Live*	Quercus virginiana
1628	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1629	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1630	15	15		P	X	9-8-7	7.5	Elm, Cedar	Ulmus crassifolia
1631	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1632	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1633	18	18		P			9.0	Elm, Cedar	Ulmus crassifolia
1634	17	17		P	X	12-10	8.5	Elm, Cedar	Ulmus crassifolia
1635	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1636	12	12		P	X	9-6	6.0	Elm, Cedar	Ulmus crassifolia
1637	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1638	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1639	12	12		P	X	9-5	6.0	Elm, Cedar	Ulmus crassifolia
1640	14	14		P			7.0	Elm, Cedar	Ulmus crassifolia
1641	13	13		P	X	11-3	6.5	Elm, Cedar	Ulmus crassifolia
1642	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1643	13	13		P	X	10-6	6.5	Elm, Cedar	Ulmus crassifolia
1644	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1645	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1646	16	16		P	X	11-9	8.0	Elm, Cedar	Ulmus crassifolia
1647	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1648	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1649	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1650	18	18		P	X	12-11	9.0	Elm, Cedar	Ulmus crassifolia
1651	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1652	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1653	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1654	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1655	15	15		P			7.5	Elm, Cedar	Ulmus crassifolia
1656	13	13		P	X	9-7	6.5	Elm, Cedar	Ulmus crassifolia
1657	13	13		P	X	9-7	6.5	Elm, Cedar	Ulmus crassifolia
1658	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1659	18	18		P	X	8-8-7-5	9.0	Elm, Cedar	Ulmus crassifolia

TREE TAGS NOT USED:
#1000-1511, #1548-1607

P = PROTECTED
HT = HERITAGE

NOTES:

1. THE SYMBOLS REFLECTED IN THE LEGEND AND ON THIS SURVEY MAY HAVE BEEN ENLARGED FOR CLARITY. THE SYMBOLS HAVE BEEN PLOTTED AT THE CENTER OF THE FIELD LOCATION AND MAY NOT REPRESENT THE ACTUAL SIZE OR SHAPE OF THE FEATURE.

2. THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE OR TITLE COMMITMENT. THERE MAY BE EASEMENTS, OR OTHER MATTERS, NOT SHOWN HEREON, THAT MAY AFFECT THE PROPERTY. SURVEYOR HAS MADE NO INDEPENDENT INQUIRY AS TO EASEMENTS AND RESTRICTIONS AFFECTING THE PROPERTY.

3. TREE DIAMETER OF MULTI-TRUNK TREE DETERMINED BY ADDING THE DIAMETER OF THE LARGEST TRUNK TO 1/2 THE DIAMETER OF EACH ADDITIONAL TRUNK

4. TREE CROWNS SHOWN HERE ON ARE A GRAPHICAL DEPICTION OF THE PROBABLE EXTENTS OF THE TREE CANOPY BASED ON THE TRUNK SIZE USING THE FORMULA OF ONE (1) FOOT OF RADIUS FOR EVERY ONE (1) INCH OF TRUNK DIAMETER AND MAY NOT REPRESENT THE ACTUAL SIZE OR SHAPE OF THE TREE CANOPY.

5. TREES SHOWN HERE ON WERE LOCATED AND MEET THE STANDARDS SET FORTH IN THE CITY OF GEORGETOWN UNIFIED DEVELOPMENT CODE, CHAPTER 8: TREE PRESERVATION, LANDSCAPING AND FENCING, SECTION 8.02 TREE PRESERVATION AND PROTECTION. OTHER TREES AND VEGETATION MAY EXIST ON SITE.

6. BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE (NAD_83 (2011)). ALL DISTANCES SHOWN HEREON ARE ARE SURFACE VALUES REPRESENTED IN U.S. SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.000143964722858.

DATE OF LAST FIELD WORK: JULY 2025

THIS IS TO CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND JULY 2025, BY ME OR UNDER MY SUPERVISION, THAT THIS SURVEY PLAT REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY.

STEGER BIZZELL

8-21-25

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784

STATE OF TEXAS REGISTERED PATRICK J. STEVENS 5784 PROFESSIONAL LAND SURVEYOR

NO.	REVISION	BY	DATE

DESIGNED BY: DATE
N. BARBARO 2025-07-30
DRAWN BY: DATE
CHECKED BY: DATE
APPROVED BY: DATE

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

TREE SURVEY
for
COWAN CREEK
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

Project No: 23030
SHEET 4 of 4

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS CHAD WILLIAM JONES 144785 LICENSED PROFESSIONAL ENGINEER 12/3/25

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

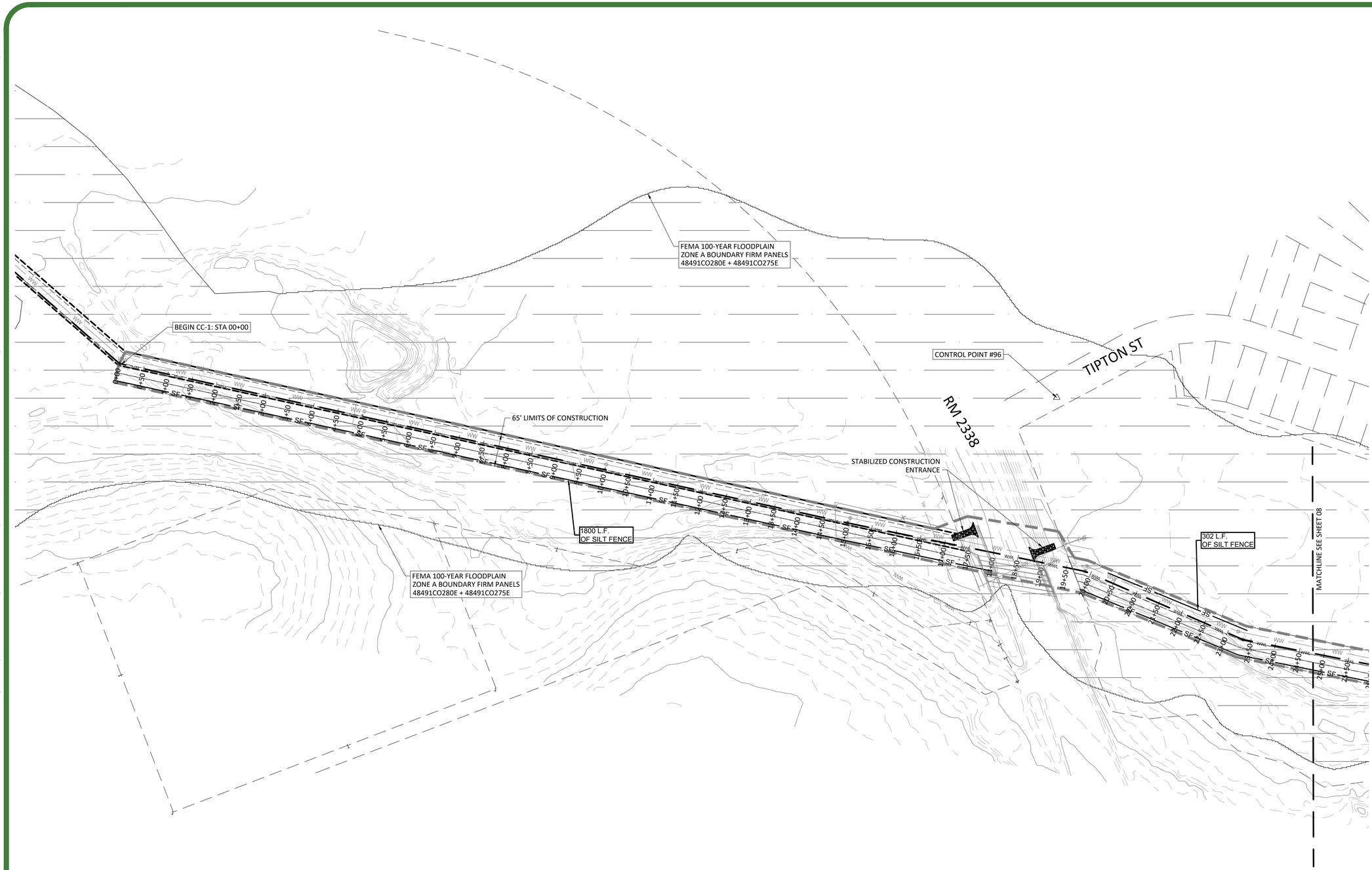
CC-1 TREE SURVEY - TREE SURVEY (3 OF 3)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999

Sheet Number: 06 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 TREE SURVEY.dwg By: Chad Jones Date: 12/19/2025 1:43 PM



LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- SILT FENCE
- ROCK BERM

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY — 9/1/2025 DATE
NIE, JKL — DRAWN BY — 9/1/2025 DATE
CWJ — CHECKED BY — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147857 — LICENSED PROFESSIONAL ENGINEER — 11/25

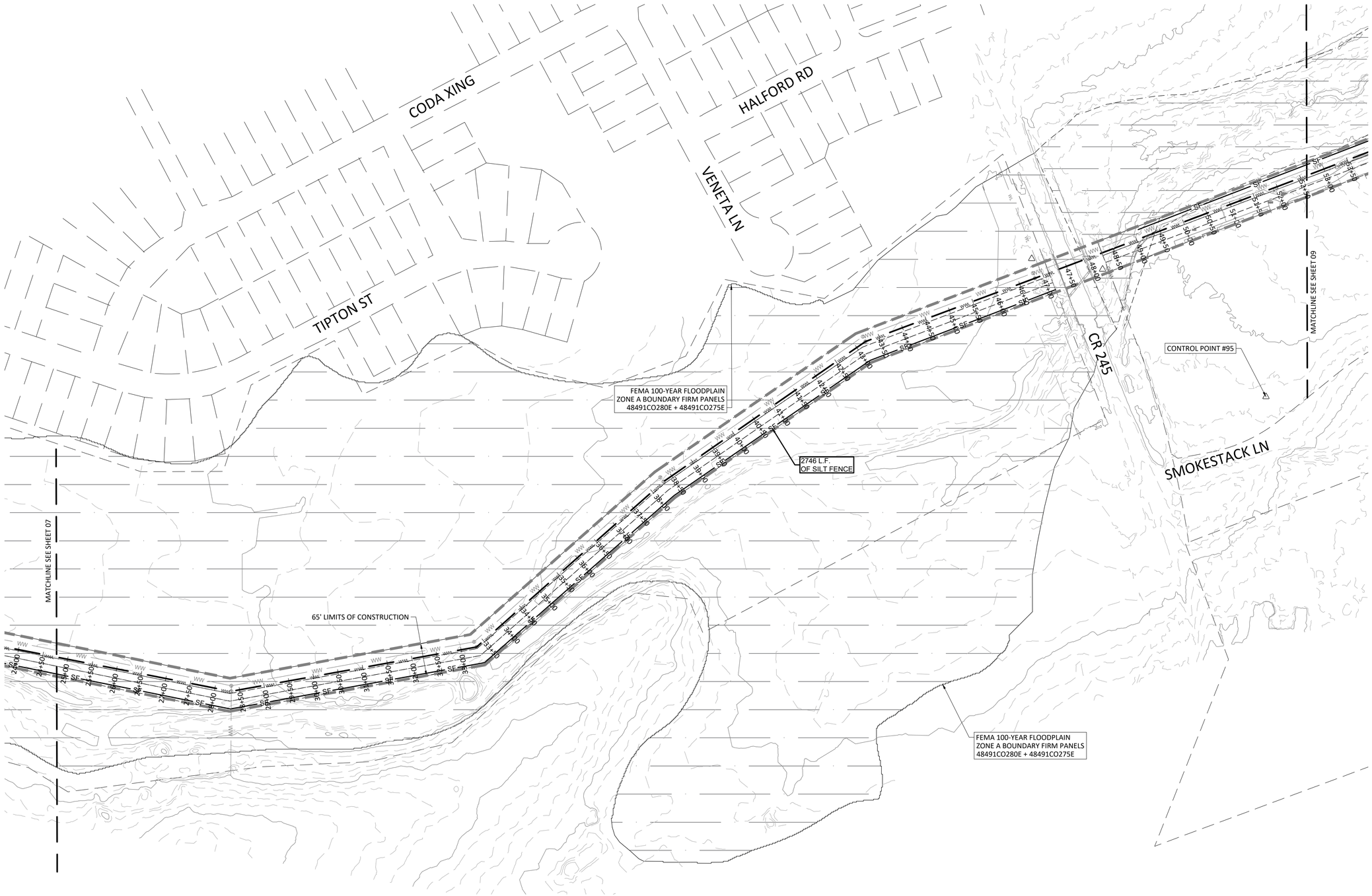
STEGER BIZZELL
ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412
TEXAS REGISTERED ENGINEERING FIRM F-181
TBPELS FIRM No.10003700
WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

EROSION & SEDIMENTATION CONTROL PLAN (1 OF 3)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P:\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P:\23000-23999
Sheet Number:	07 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 E & S PLANS & DETAILS.dwg By: Chad Jones Date: 12/19/2025 1:44 PM



0 100 200 Feet

LEGEND

- PROPOSED SEWER LINE (WWL)
- EXISTING FENCE (X)
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR (100)
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE (WW)
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES (OU)
- PROPOSED SEWER MANHOLE (S)
- EXISTING SEWER MANHOLE (S)
- SILT FENCE (SF)
- ROCK BERM (RB)

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147857 — LICENSED PROFESSIONAL ENGINEER — 11/3/25

STEGER BIZZELL

ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181, TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

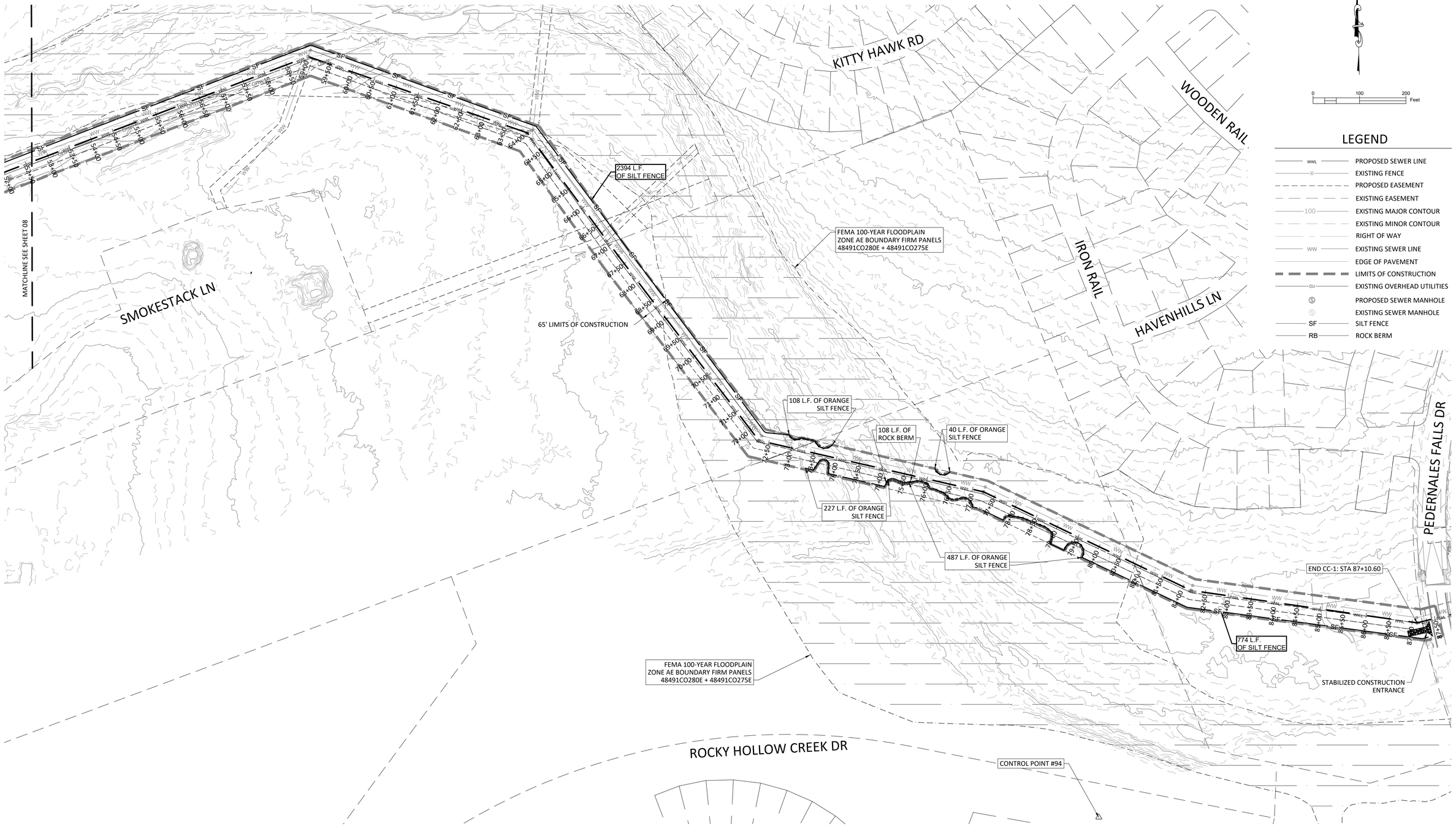
EROSION & SEDIMENTATION CONTROL PLAN (2 OF 3)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999

Sheet Number: 08 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 E & S PLANS & DETAILS.dwg By: Chad Jones Date: 12/19/2025 1:44 PM



LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- SILT FENCE
- ROCK BERM

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 147857 · LICENSED PROFESSIONAL ENGINEER · 11/3/25

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No. 10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

EROSION & SEDIMENTATION CONTROL PLAN (3 OF 3)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999

Sheet Number: 09 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 E & S PLANS & DETAILS.dwg By: Chad Jones Date: 12/19/2025 1:44 PM

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

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

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

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

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

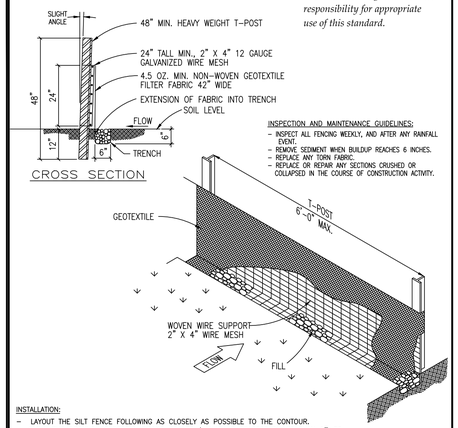
REVISION NOTE: ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
DRAWING NAME: EC01
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

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

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 80% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, CRUSE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH *95% COVERAGE*, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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

REVISION NOTE: ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
DRAWING NAME: EC01A
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

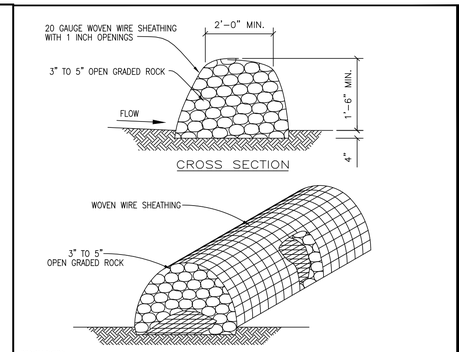


INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

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

REVISION NOTE: ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
DRAWING NAME: EC02
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

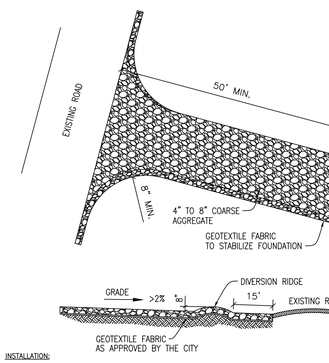


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

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

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

REVISION NOTE: ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL
DRAWING NAME: EC03
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



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

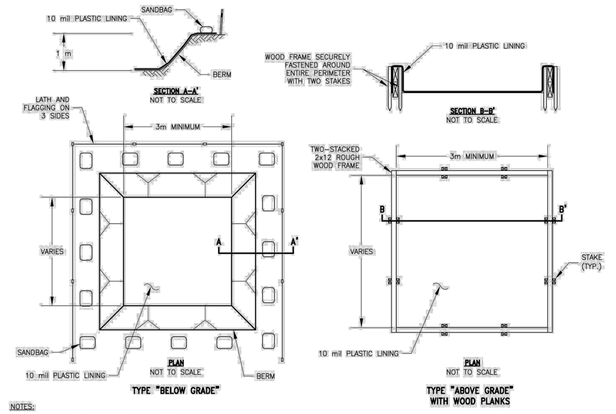
INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO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

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

REVISION NOTE: ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
DRAWING NAME: EC06
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

Concrete Waste Management

WM-8



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT AREA DETAIL

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

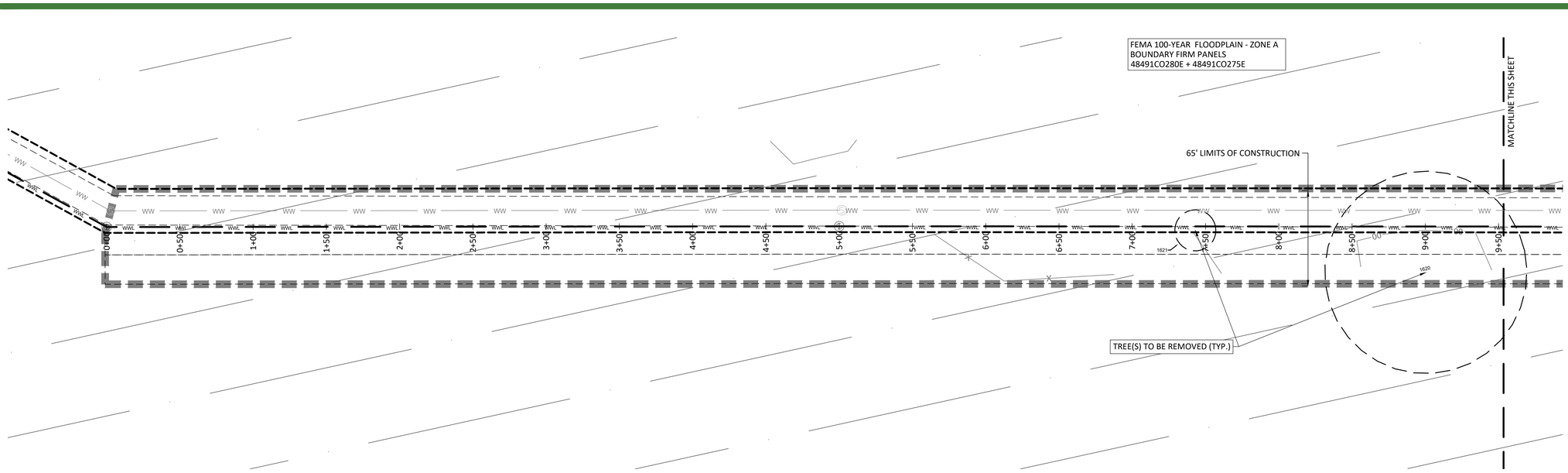
STATE OF TEXAS — CHAD WILLIAM JONES — 144785 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

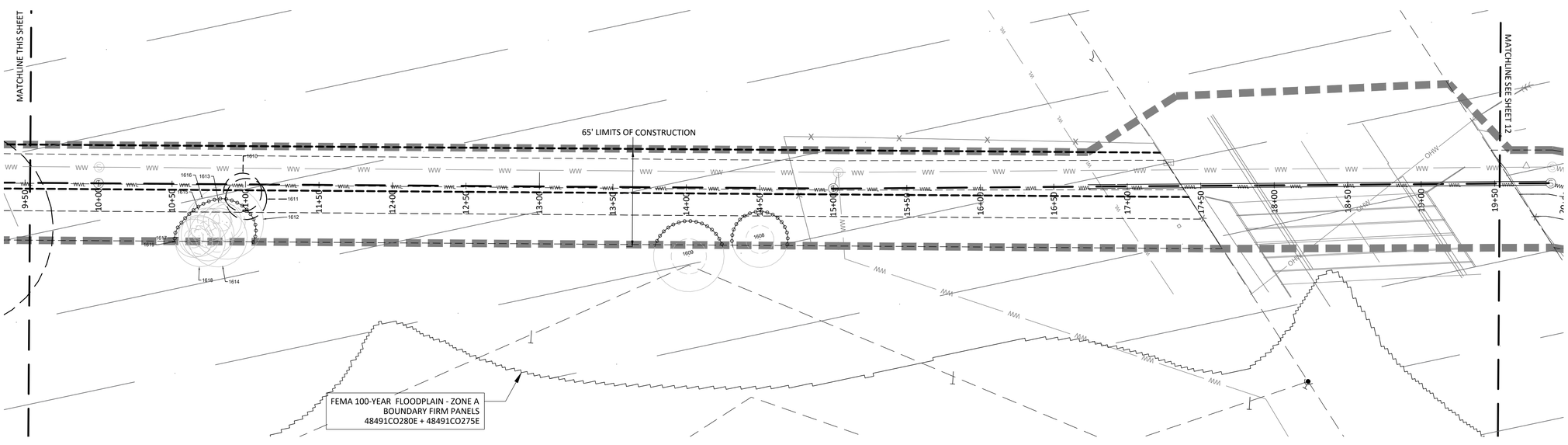
STEGER BIZZELL
ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181, TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

EROSION & SEDIMENTATION DETAILS

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999
Sheet Number: 10 of 28 sheets





0 40 80 Feet

LEGEND

- TREE PROTECTIVE FENCING
- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- #### TREE (TO REMAIN)
- #### TREE (TO REMOVE)

TREE FENCING NOTES:

1. IF AN EXISTING FENCE IS PRESENT ALONG BOUNDARY OF UTILITY EASEMENTS, TREE PROTECTIVE FENCING SHALL TERMINATE AT THE EXISTING FENCE.
2. FOR TREES WITH CRITICAL ROOT ZONE OUTSIDE OF UTILITY EASEMENTS WHERE NO FENCES EXIST ALONG THE EASEMENT BOUNDARY, CONTRACTOR IS TO COORDINATE WITH ADJACENT PROPERTY TO INSTALL TREE PROTECTIVE FENCING OUTSIDE OF EASEMENT. IF ADJACENT PROPERTY OWNER DOES NOT AUTHORIZE INSTALLATION OF TREE PROTECTIVE FENCING OUTSIDE EASEMENT, TREE PROTECTIVE FENCING IS TO WRAP AROUND TREE ALONG EASEMENT BOUNDARY. IN SUCH CASES, ALL TREE FENCING INSTALLATION ACTIVITY THAT OCCURS WITHIN THE HALF CRITICAL ROOT ZONE, FOR THE PURPOSE OF ENCLOSING THE TREE, SHALL BE PERFORMED BY HAND AND NOT BY MECHANIZED EQUIPMENT.
3. IF FENCE MUST BE ADJUSTED TO PROVIDE ROOM FOR TRENCHING EQUIPMENT, FENCE SHALL BE REINSTALLED PRIOR TO TRENCHING EQUIPMENT ENTERING THE CRITICAL ROOT ZONE. IN NO CASE (OTHER THAN THE CASE ADDRESSED IN NOTE 2) SHALL THE TREE PROTECTIVE FENCING BE PLACED WITHIN THE HALF CRITICAL ROOT ZONE. FENCES SHALL NOT BE RELOCATED TO MAKE ROOM FOR VEHICLE PARKING, MATERIAL STORAGE, OR ANY ACTIVITY OTHER THAN ACCOMMODATING WIDTH OF TRENCHING EQUIPMENT.
4. ANY TREE TO BE REMOVED THAT CONTAINS ROOTS WITHIN THE HALF CRITICAL ROOT ZONE OF A TREE THAT IS TO BE PRESERVED SHALL BE REMOVED BY CUTTING THE TRUNK AT THE GROUND LEVEL, AND NOT BY BULLDOZER. CUT SURFACE OF TRUNK SHALL BE PAINTED TO PREVENT THE SPREAD OF OAK WILT.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY — 9/1/2025 DATE
NIE, JKL — DRAWN BY — 9/1/2025 DATE
CWJ — CHECKED BY — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 144765 · LICENSED PROFESSIONAL ENGINEER · 11/3/25

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

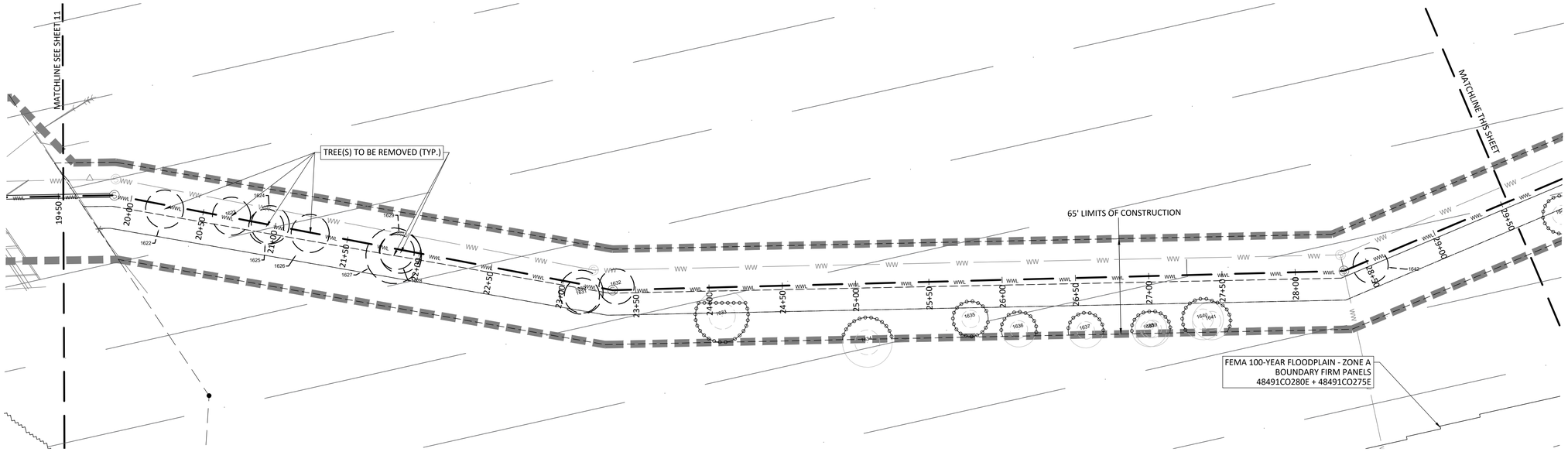
CRITICAL ROOT ZONE PROTECTION PLAN (1 OF 5)

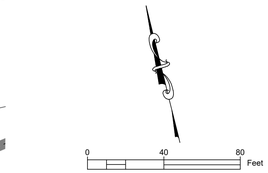
Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

Sheet Number: 11 of 28 sheets

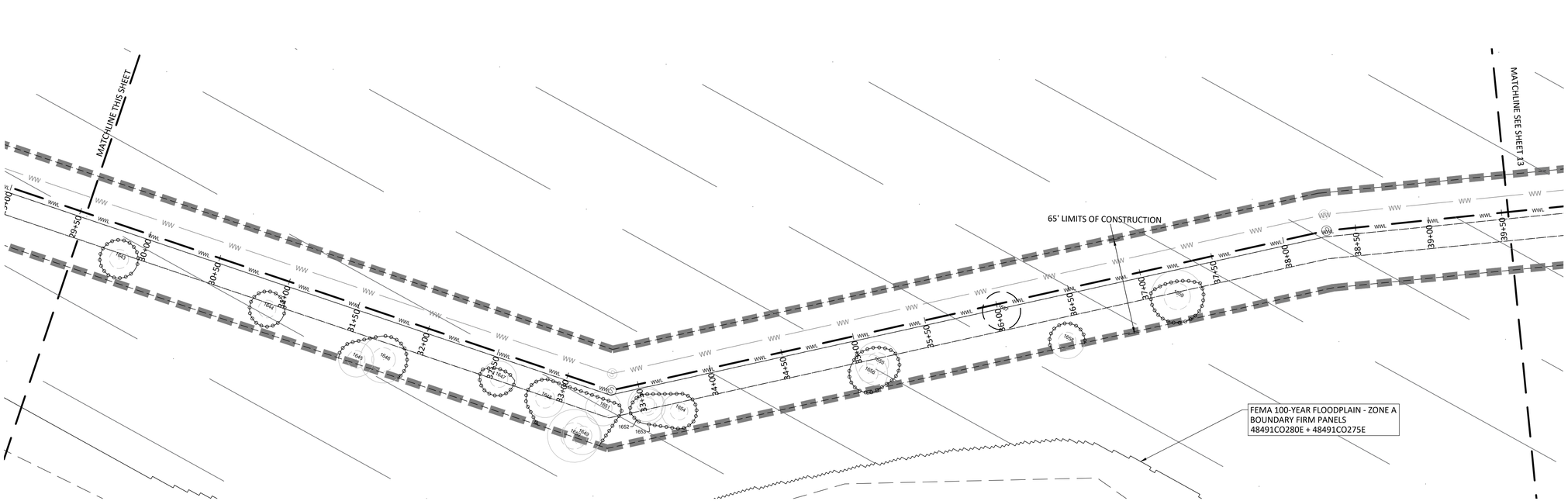
File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 CRZ PROTECTION PLAN.dwg By: Chad Jones Date: 12/19/2025 2:07 PM

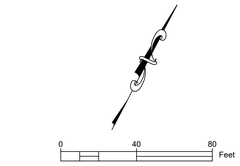




LEGEND

- TREE PROTECTIVE FENCING
- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- #### TREE (TO REMAIN)
- #### TREE (TO REMOVE)





TREE FENCING NOTES:

1. IF AN EXISTING FENCE IS PRESENT ALONG BOUNDARY OF UTILITY EASEMENTS, TREE PROTECTIVE FENCING SHALL TERMINATE AT THE EXISTING FENCE.
2. FOR TREES WITH CRITICAL ROOT ZONE OUTSIDE OF UTILITY EASEMENTS WHERE NO FENCES EXIST ALONG THE EASEMENT BOUNDARY, CONTRACTOR IS TO COORDINATE WITH ADJACENT PROPERTY TO INSTALL TREE PROTECTIVE FENCING OUTSIDE OF EASEMENT. IF ADJACENT PROPERTY OWNER DOES NOT AUTHORIZE INSTALLATION OF TREE PROTECTIVE FENCING OUTSIDE EASEMENT, TREE PROTECTIVE FENCING IS TO WRAP AROUND TREE ALONG EASEMENT BOUNDARY. IN SUCH CASES, ALL TREE FENCING INSTALLATION ACTIVITY THAT OCCURS WITHIN THE HALF CRITICAL ROOT ZONE, FOR THE PURPOSE OF ENCLOSING THE TREE, SHALL BE PERFORMED BY HAND AND NOT BY MECHANIZED EQUIPMENT.
3. IF FENCE MUST BE ADJUSTED TO PROVIDE ROOM FOR TRENCHING EQUIPMENT, FENCE SHALL BE REINSTALLED PRIOR TO TRENCHING EQUIPMENT ENTERING THE CRITICAL ROOT ZONE. IN NO CASE (OTHER THAN THE CASE ADDRESSED IN NOTE 2) SHALL THE TREE PROTECTIVE FENCING BE PLACED WITHIN THE HALF CRITICAL ROOT ZONE. FENCES SHALL NOT BE RELOCATED TO MAKE ROOM FOR VEHICLE PARKING, MATERIAL STORAGE, OR ANY ACTIVITY OTHER THAN ACCOMMODATING WIDTH OF TRENCHING EQUIPMENT.
4. ANY TREE TO BE REMOVED THAT CONTAINS ROOTS WITHIN THE HALF CRITICAL ROOT ZONE OF A TREE THAT IS TO BE PRESERVED SHALL BE REMOVED BY CUTTING THE TRUNK AT THE GROUND LEVEL, AND NOT BY BULLDOZER. CUT SURFACE OF TRUNK SHALL BE PAINTED TO PREVENT THE SPREAD OF OAK WILT.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY — 9/1/2025 DATE
NIE, JKL — DRAWN BY — 9/1/2025 DATE
CWJ — CHECKED BY — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147866 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

STEGER BIZZELL

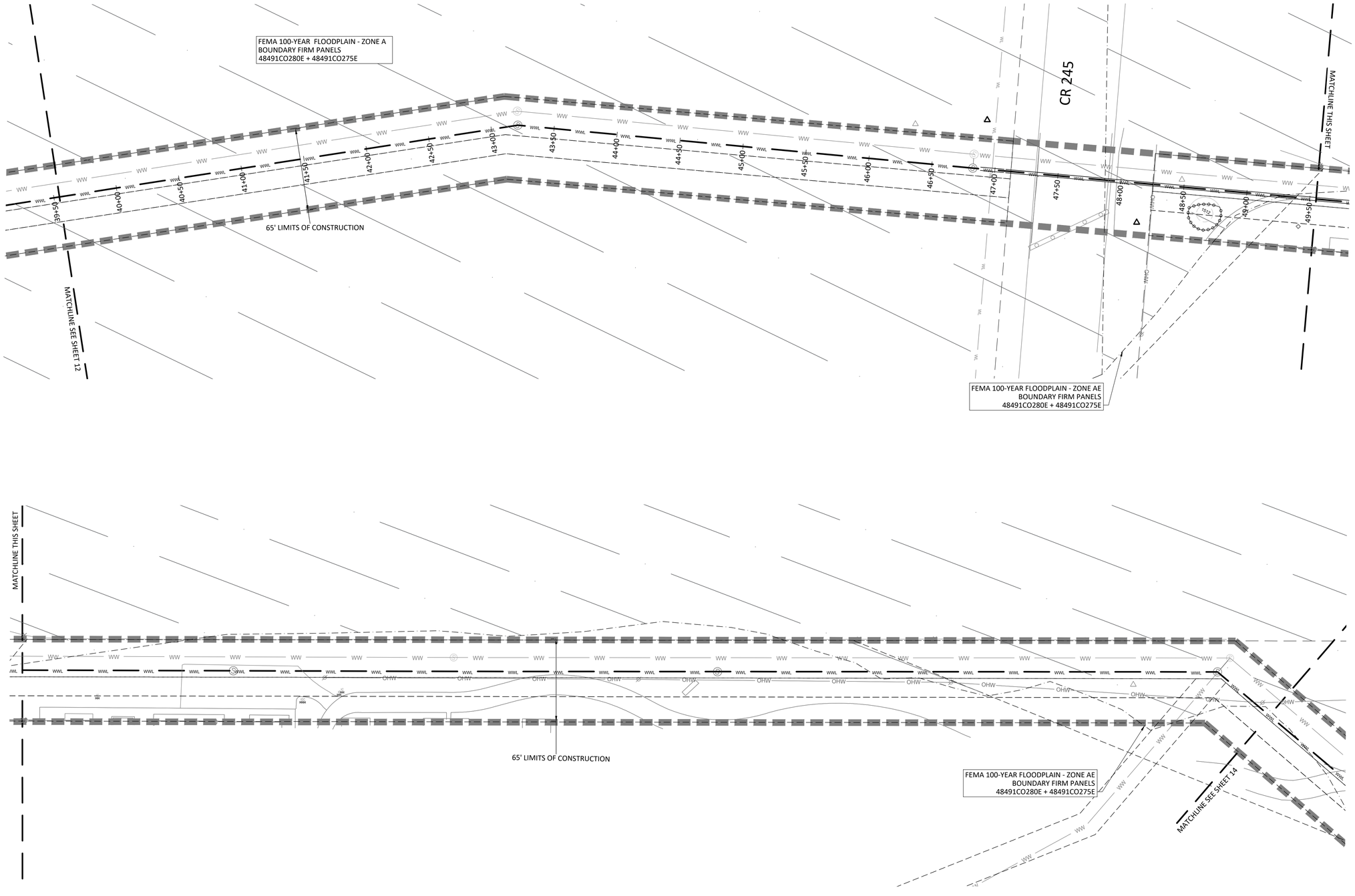
ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

CRITICAL ROOT ZONE PROTECTION PLAN (2 OF 5)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

Sheet Number: 12 of 28 sheets



0 40 80 Feet

LEGEND

- TREE PROTECTIVE FENCING
- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- TREE (TO REMAIN)
- TREE (TO REMOVE)

TREE FENCING NOTES:

1. IF AN EXISTING FENCE IS PRESENT ALONG BOUNDARY OF UTILITY EASEMENTS, TREE PROTECTIVE FENCING SHALL TERMINATE AT THE EXISTING FENCE.
2. FOR TREES WITH CRITICAL ROOT ZONE OUTSIDE OF UTILITY EASEMENTS WHERE NO FENCES EXIST ALONG THE EASEMENT BOUNDARY, CONTRACTOR IS TO COORDINATE WITH ADJACENT PROPERTY TO INSTALL TREE PROTECTIVE FENCING OUTSIDE OF EASEMENT. IF ADJACENT PROPERTY OWNER DOES NOT AUTHORIZE INSTALLATION OF TREE PROTECTIVE FENCING OUTSIDE EASEMENT, TREE PROTECTIVE FENCING IS TO WRAP AROUND TREE ALONG EASEMENT BOUNDARY. IN SUCH CASES, ALL TREE FENCING INSTALLATION ACTIVITY THAT OCCURS WITHIN THE HALF CRITICAL ROOT ZONE, FOR THE PURPOSE OF ENCLOSING THE TREE, SHALL BE PERFORMED BY HAND AND NOT BY MECHANIZED EQUIPMENT.
3. IF FENCE MUST BE ADJUSTED TO PROVIDE ROOM FOR TRENCHING EQUIPMENT, FENCE SHALL BE REINSTALLED PRIOR TO TRENCHING EQUIPMENT ENTERING THE CRITICAL ROOT ZONE. IN NO CASE (OTHER THAN THE CASE ADDRESSED IN NOTE 2) SHALL THE TREE PROTECTIVE FENCING BE PLACED WITHIN THE HALF CRITICAL ROOT ZONE. FENCES SHALL NOT BE RELOCATED TO MAKE ROOM FOR VEHICLE PARKING, MATERIAL STORAGE, OR ANY ACTIVITY OTHER THAN ACCOMMODATING WIDTH OF TRENCHING EQUIPMENT.
4. ANY TREE TO BE REMOVED THAT CONTAINS ROOTS WITHIN THE HALF CRITICAL ROOT ZONE OF A TREE THAT IS TO BE PRESERVED SHALL BE REMOVED BY CUTTING THE TRUNK AT THE GROUND LEVEL, AND NOT BY BULLDOZER. CUT SURFACE OF TRUNK SHALL BE PAINTED TO PREVENT THE SPREAD OF OAK WILT.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NJE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 144780 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

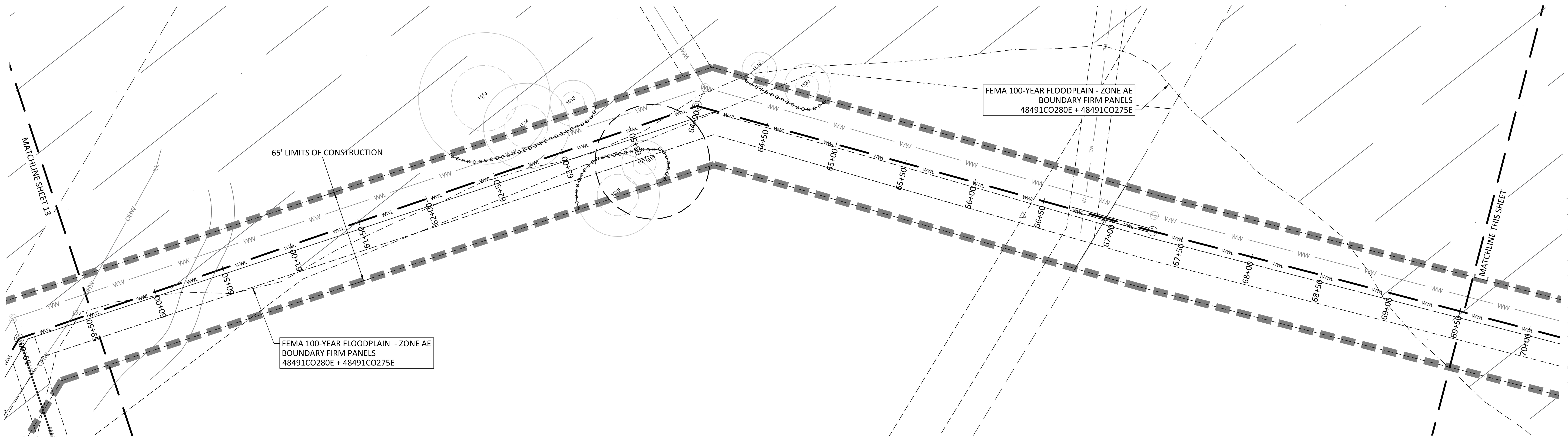
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

CRITICAL ROOT ZONE PROTECTION PLAN (3 OF 5)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

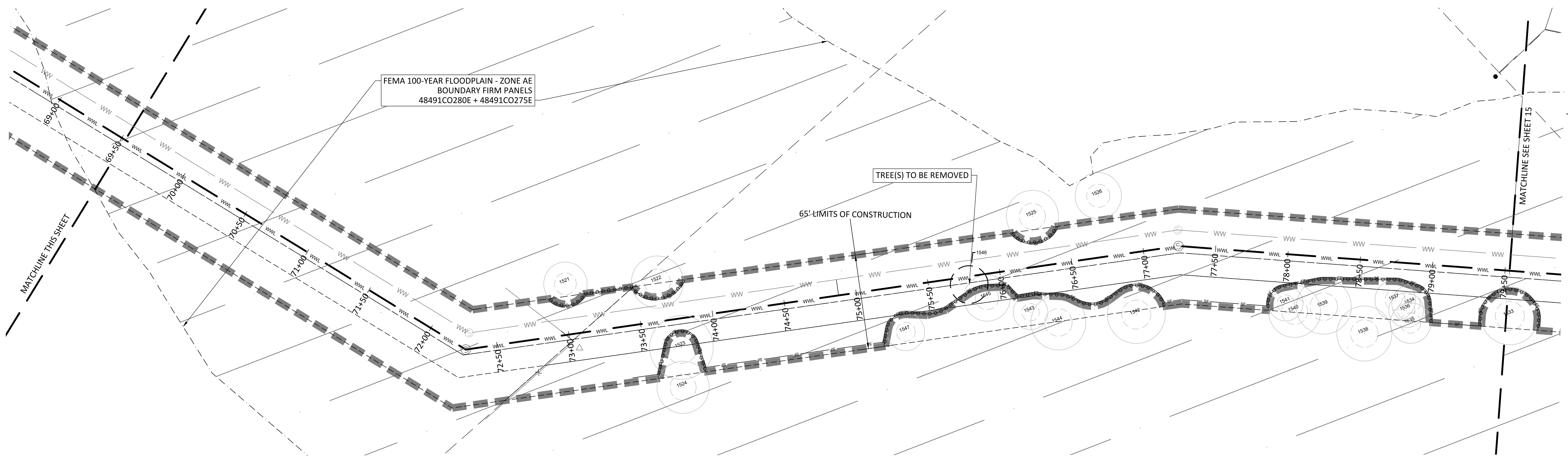
Sheet Number: 13 of 28 sheets



0 40 80 Feet

LEGEND

- TREE PROTECTIVE FENCING
- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- TREE (TO REMAIN)
- TREE (TO REMOVE)



0 40 80 Feet

TREE FENCING NOTES:

1. IF AN EXISTING FENCE IS PRESENT ALONG BOUNDARY OF UTILITY EASEMENTS, TREE PROTECTIVE FENCING SHALL TERMINATE AT THE EXISTING FENCE.
2. FOR TREES WITH CRITICAL ROOT ZONE OUTSIDE OF UTILITY EASEMENTS WHERE NO FENCES EXIST ALONG THE EASEMENT BOUNDARY, CONTRACTOR IS TO COORDINATE WITH ADJACENT PROPERTY TO INSTALL TREE PROTECTIVE FENCING OUTSIDE OF EASEMENT. IF ADJACENT PROPERTY OWNER DOES NOT AUTHORIZE INSTALLATION OF TREE PROTECTIVE FENCING OUTSIDE EASEMENT, TREE PROTECTIVE FENCING IS TO WRAP AROUND TREE ALONG EASEMENT BOUNDARY. IN SUCH CASES, ALL TREE FENCING INSTALLATION ACTIVITY THAT OCCURS WITHIN THE HALF CRITICAL ROOT ZONE, FOR THE PURPOSE OF ENCLOSING THE TREE, SHALL BE PERFORMED BY HAND AND NOT BY MECHANIZED EQUIPMENT.
3. IF FENCE MUST BE ADJUSTED TO PROVIDE ROOM FOR TRENCHING EQUIPMENT, FENCE SHALL BE REINSTALLED PRIOR TO TRENCHING EQUIPMENT ENTERING THE CRITICAL ROOT ZONE. IN NO CASE (OTHER THAN THE CASE ADDRESSED IN NOTE 2) SHALL THE TREE PROTECTIVE FENCING BE PLACED WITHIN THE HALF CRITICAL ROOT ZONE. FENCES SHALL NOT BE RELOCATED TO MAKE ROOM FOR VEHICLE PARKING, MATERIAL STORAGE, OR ANY ACTIVITY OTHER THAN ACCOMMODATING WIDTH OF TRENCHING EQUIPMENT.
4. ANY TREE TO BE REMOVED THAT CONTAINS ROOTS WITHIN THE HALF CRITICAL ROOT ZONE OF A TREE THAT IS TO BE PRESERVED SHALL BE REMOVED BY CUTTING THE TRUNK AT THE GROUND LEVEL, AND NOT BY BULLDOZER. CUT SURFACE OF TRUNK SHALL BE PAINTED TO PREVENT THE SPREAD OF OAK WILT.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

DESIGNED BY: CWJ, CRB	DATE: 9/1/2025
DRAWN BY: NIE, JKL	DATE: 9/1/2025
CHECKED BY: CWJ	DATE: 11/24/2025
APPROVED BY:	DATE:

STATE OF TEXAS — CHAD WILLIAM JONES — 144785 — LICENSED PROFESSIONAL ENGINEER — 12/3/25

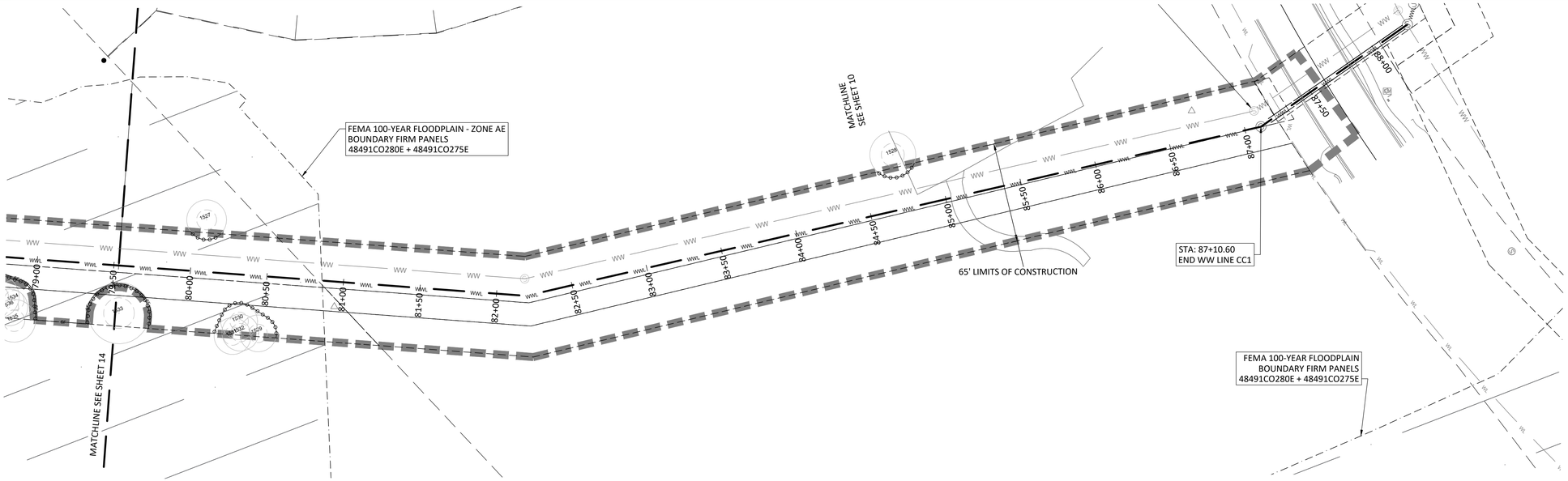
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

CRITICAL ROOT ZONE PROTECTION PLAN (4 OF 5)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

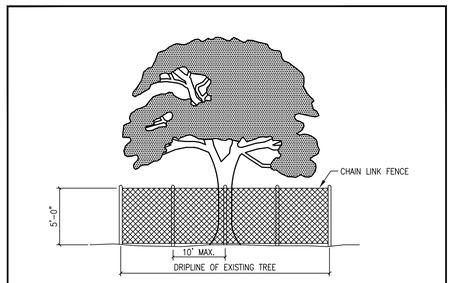
Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999
Sheet Number: 14 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 CRZ PROTECTION PLAN.dwg By: Chad Jones Date: 12/19/2025 2:08 PM



LEGEND

- TREE PROTECTIVE FENCING
- WWL — PROPOSED SEWER LINE
- X — EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- 100 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- WW — EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- OU — EXISTING OVERHEAD UTILITIES
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE
- #### TREE (TO REMAIN)
- #### TREE (TO REMOVE)



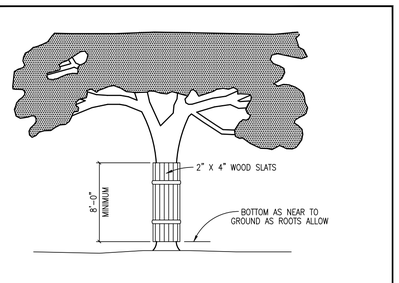
NOTES:

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

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

REVISION NOTE: ADOPTED 6/21/2006	
DRAWING NAME: EC09	
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE



NOTES:

1. WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'–0") TO A TREE TRUNK; PROTECT THE TRUNK WITH STRAPPED–ON–PLANKING TO A HEIGHT OF EIGHT FEET (8'–0"), OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REDUCED FENCING PROVIDED.
2. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO (2) DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE, AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
3. PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
4. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
6. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
7. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

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

REVISION NOTE: ADOPTED 6/21/2006	
DRAWING NAME: EC10	
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – WOOD SLATS

Tree Tag #	Size as Surveyed	Size in Whole Inches	Remove	HEY	Multi Stem (If Yes, Select "X")	Stem Measurements (Only If "Y" in Column I)	Half Critical Root Zone Radius (in Feet)	Common Name	Latin Name
1512	13	13		P	X	9-7	6.5	Oak, Southern Live*	Quercus virginiana
1513	46	46		HT	X	27-20-17	23.0	Oak, Southern Live*	Quercus virginiana
1514	30	30		HT		18-12-12	15.0	Oak, Southern Live*	Quercus virginiana
1515	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1516	29	29		HT	X	20-18	14.5	Oak, Southern Live*	Quercus virginiana
1517	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1518	40	40	X	HT	X	18-13-12-11-7	20.0	Oak, Southern Live*	Quercus virginiana
1519	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1520	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1521	15	15		P			7.5	Oak, Pin	Quercus nigra
1522	18	18		P			9.0	Elm, Cedar	Ulmus crassifolia
1523	22	22		P			11.0	Oak, Pin	Quercus nigra
1524	18	18		P	X	14-7	9.0	Oak, Pin	Quercus nigra
1525	18	18		P			9.0	Oak, Pin	Quercus nigra
1526	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1527	13	13		P	X	9-6	6.5	Oak, Southern Live*	Quercus virginiana
1528	15	15		P			7.5	Oak, Southern Live*	Quercus virginiana
1529	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1530	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1531	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1532	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1533	20	20		P	X	11-10-8	10.0	Oak, Southern Live*	Quercus virginiana
1534	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1535	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1536	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1537	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1538	19	19		P	X	10-10-7	9.5	Oak, Southern Live*	Quercus virginiana
1539	17	17		P	X	13-8	8.5	Oak, Southern Live*	Quercus virginiana
1540	18	18		P	X	10-9-6	9.0	Oak, Southern Live*	Quercus virginiana
1541	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1542	20	20		P	X	15-10	10.0	Oak, Southern Live*	Quercus virginiana
1543	12	12		P			6.0	Oak, Southern Live*	Quercus virginiana
1544	19	19		P			9.5	Oak, Southern Live*	Quercus virginiana
1545	16	16		P			8.0	Oak, Southern Live*	Quercus virginiana
1546	13	13	X	P	X	9-8	6.5	Elm, Cedar	Ulmus crassifolia
1547	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1608	19	19		P			9.5	Oak, Southern Live*	Quercus virginiana
1609	24	24		P			12.0	Oak, Southern Live*	Quercus virginiana
1610	13	13	X	P			6.5	Oak, Southern Live*	Quercus virginiana
1611	14	14	X	P			7.0	Oak, Southern Live*	Quercus virginiana
1612	25	25		P	X	19-12	12.5	Oak, Southern Live*	Quercus virginiana
1613	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1614	20	20		P	X	13-13	10.0	Oak, Southern Live*	Quercus virginiana
1615	18	18		P			9.0	Oak, Southern Live*	Quercus virginiana
1616	15	15		P	X	10-9	7.5	Oak, Southern Live*	Quercus virginiana
1617	14	14		P			7.0	Oak, Southern Live*	Quercus virginiana
1618	17	17		P			8.5	Oak, Southern Live*	Quercus virginiana
1619	13	13		P			6.5	Oak, Southern Live*	Quercus virginiana
1620	69	69	X	HT			34.5	Oak, Southern Live*	Quercus virginiana
1621	14	14	X	P			7.0	Elm, Cedar	Ulmus crassifolia
1622	13	13	X	P	X	6-4-4-3	6.5	Elm, Cedar	Ulmus crassifolia
1623	13	13	X	P			6.5	Elm, Cedar	Ulmus crassifolia
1624	13	13	X	P			6.5	Oak, Southern Live*	Quercus virginiana
1625	12	12	X	P			6.0	Oak, Southern Live*	Quercus virginiana
1626	13	13	X	P			6.5	Oak, Southern Live*	Quercus virginiana
1627	19	19	X	P	X	15-8	9.5	Oak, Southern Live*	Quercus virginiana
1628	12	12	X	P			6.0	Oak, Southern Live*	Quercus virginiana
1629	14	14	X	P			7.0	Oak, Southern Live*	Quercus virginiana
1630	15	15	X	P	X	9-8-7	7.5	Elm, Cedar	Ulmus crassifolia
1631	12	12	X	P			6.0	Elm, Cedar	Ulmus crassifolia
1632	12	12	X	P			6.0	Elm, Cedar	Ulmus crassifolia
1633	18	18		P			9.0	Elm, Cedar	Ulmus crassifolia
1634	17	17		P	X	12-10	8.5	Elm, Cedar	Ulmus crassifolia
1635	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1636	12	12		P	X	9-6	6.0	Elm, Cedar	Ulmus crassifolia
1637	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1638	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1639	12	12		P	X	9-5	6.0	Elm, Cedar	Ulmus crassifolia
1640	14	14		P			7.0	Elm, Cedar	Ulmus crassifolia
1641	13	13		P	X	11-3	6.5	Elm, Cedar	Ulmus crassifolia
1642	12	12	X	P			6.0	Elm, Cedar	Ulmus crassifolia
1643	13	13		P	X	10-6	6.5	Elm, Cedar	Ulmus crassifolia
1644	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1645	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1646	16	16		P	X	11-9	8.0	Elm, Cedar	Ulmus crassifolia
1647	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1648	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1649	13	13		P			6.5	Elm, Cedar	Ulmus crassifolia
1650	18	18		P	X	12-11	9.0	Elm, Cedar	Ulmus crassifolia
1651	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1652	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1653	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1654	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1655	15	15		P			7.5	Elm, Cedar	Ulmus crassifolia
1656	13	13		P	X	9-7	6.5	Elm, Cedar	Ulmus crassifolia
1657	13	13	X	P	X	9-7	6.5	Elm, Cedar	Ulmus crassifolia
1658	12	12		P			6.0	Elm, Cedar	Ulmus crassifolia
1659	18	18		P	X	8-8-7-5	9.0	Elm, Cedar	Ulmus crassifolia

Tree Mitigation Data	*See "Calcs"*
Total Inches Surveyed	1431
Total Trees Surveyed	88
Total Acres, Site	13.28
Replacement Trees, Inches	0
On-Site Credit, Total Inches	0
Protected Fee-In-Lieu	$11,730
Heritage Tree Inches Removed	327
Heritage Tree Fee-In-Lieu Due	$73,575
Total Fee-in-Lieu Due	$85,305

TREE FENCING NOTES:

1. IF AN EXISTING FENCE IS PRESENT ALONG BOUNDARY OF UTILITY EASEMENTS, TREE PROTECTIVE FENCING SHALL TERMINATE AT THE EXISTING FENCE.
2. FOR TREES WITH CRITICAL ROOT ZONE OUTSIDE OF UTILITY EASEMENTS WHERE NO FENCES EXIST ALONG THE EASEMENT BOUNDARY, CONTRACTOR IS TO COORDINATE WITH ADJACENT PROPERTY TO INSTALL TREE PROTECTIVE FENCING OUTSIDE OF EASEMENT. IF ADJACENT PROPERTY OWNER DOES NOT AUTHORIZE INSTALLATION OF TREE PROTECTIVE FENCING OUTSIDE EASEMENT, TREE PROTECTIVE FENCING IS TO WRAP AROUND TREE ALONG EASEMENT BOUNDARY. IN SUCH CASES, ALL TREE FENCING INSTALLATION ACTIVITY THAT OCCURS WITHIN THE HALF CRITICAL ROOT ZONE, FOR THE PURPOSE OF ENCLOSING THE TREE, SHALL BE PERFORMED BY HAND AND NOT BY MECHANIZED EQUIPMENT.
3. IF FENCE MUST BE ADJUSTED TO PROVIDE ROOM FOR TRENCHING EQUIPMENT, FENCE SHALL BE REINSTALLED PRIOR TO TRENCHING EQUIPMENT ENTERING THE CRITICAL ROOT ZONE. IN NO CASE (OTHER THAN THE CASE ADDRESSED IN NOTE 2) SHALL THE TREE PROTECTIVE FENCING BE PLACED WITHIN THE HALF CRITICAL ROOT ZONE. FENCES SHALL NOT BE RELOCATED TO MAKE ROOM FOR VEHICLE PARKING, MATERIAL STORAGE, OR ANY ACTIVITY OTHER THAN ACCOMMODATING WIDTH OF TRENCHING EQUIPMENT.
4. ANY TREE TO BE REMOVED THAT CONTAINS ROOTS WITHIN THE HALF CRITICAL ROOT ZONE OF A TREE THAT IS TO BE PRESERVED SHALL BE REMOVED BY CUTTING THE TRUNK AT THE GROUND LEVEL, AND NOT BY BULLDOZER. CUT SURFACE OF TRUNK SHALL BE PAINTED TO PREVENT THE SPREAD OF OAK WILT.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NJE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS
CHAD WILLIAM JONES
147857
LICENSED PROFESSIONAL ENGINEER
12/19/25

STEGER BIZZELL

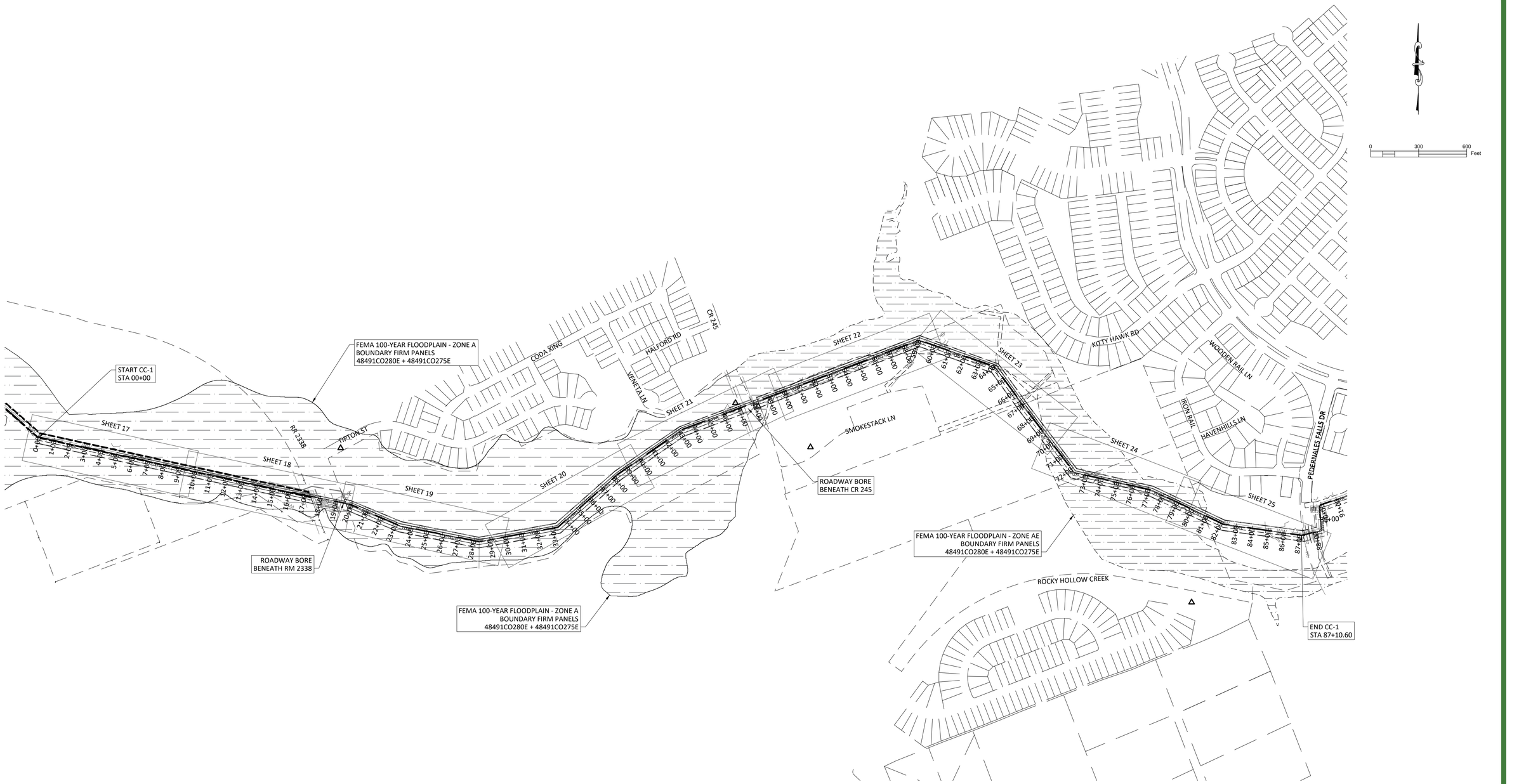
ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412
TEXAS REGISTERED ENGINEERING FIRM F-181
TBPELS FIRM No. 10003700
WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

CRITICAL ROOT ZONE PROTECTION PLAN (5 OF 5)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999
Sheet Number:	15 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 CRZ PROTECTION PLAN.dwg By: Chad Jones Date: 12/19/2025 2:08 PM



WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS
CHAD WILLIAM JONES
44795
LICENSED
PROFESSIONAL ENGINEER
11/3/25

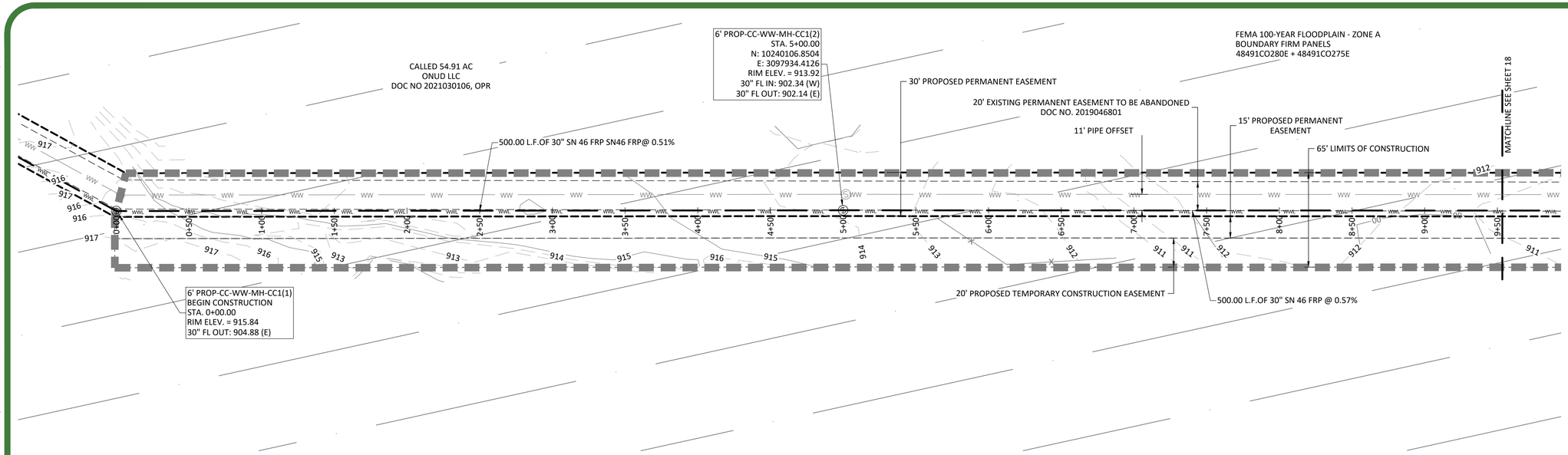
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

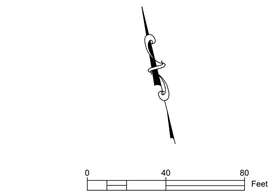
OVERALL WASTEWATER PLAN

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999

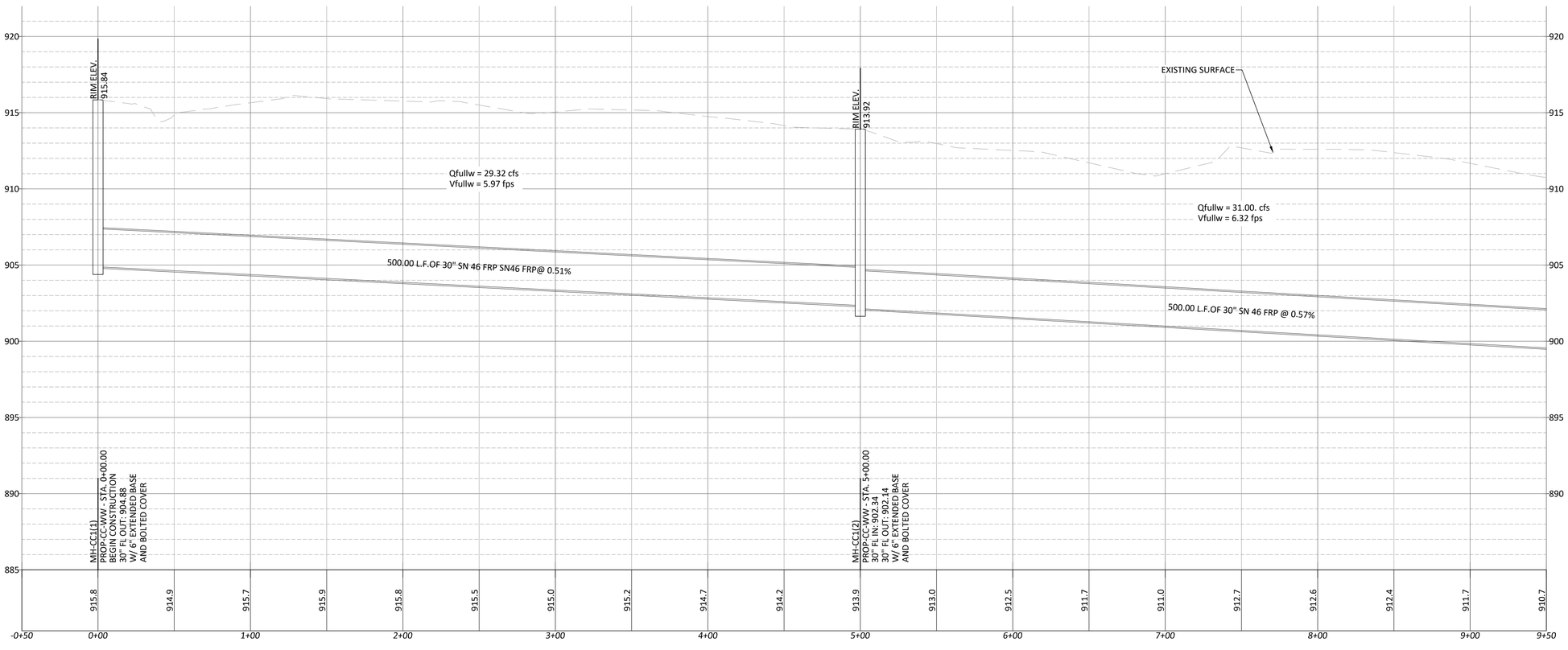
Sheet Number: 16 of 28 sheets





LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING STORM LINE
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE



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

NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS
CHAD WILLIAM JONES
147805
LICENSED
PROFESSIONAL ENGINEER
11/12/25

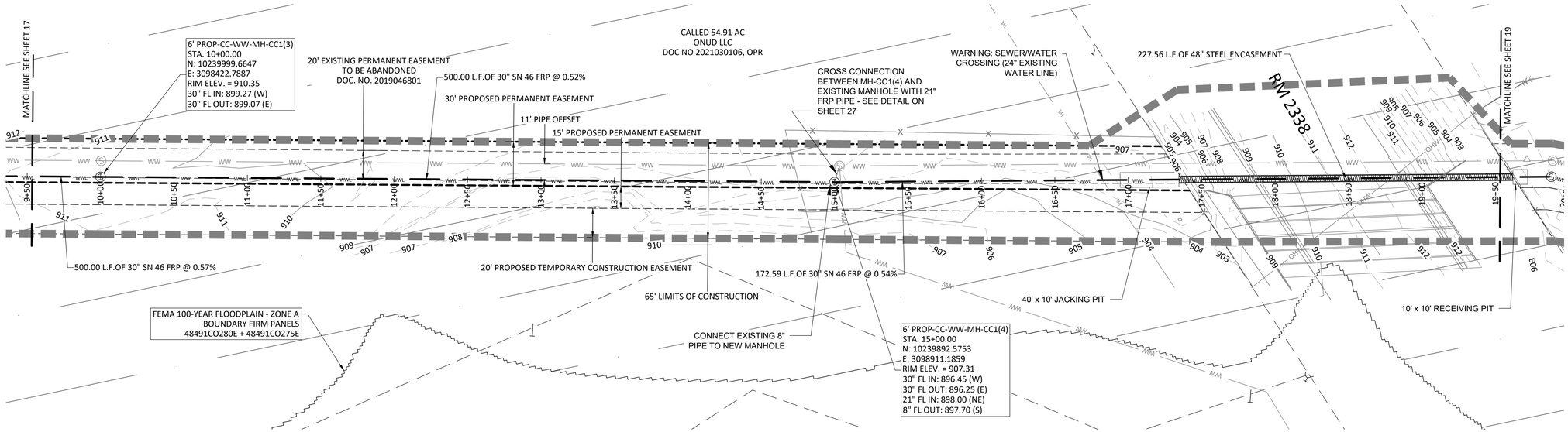
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

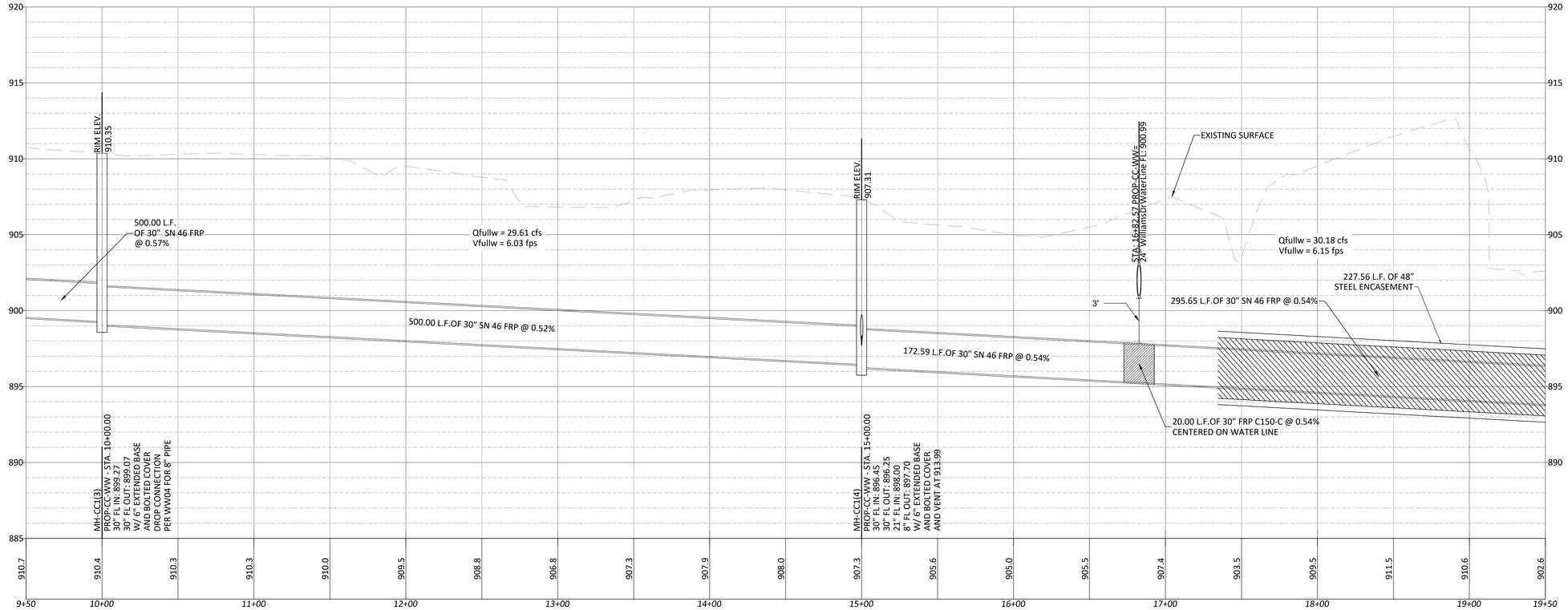
PLAN & PROFILE (1 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P:\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P:\23000-23999
Sheet Number:	17 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM





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

NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147895 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

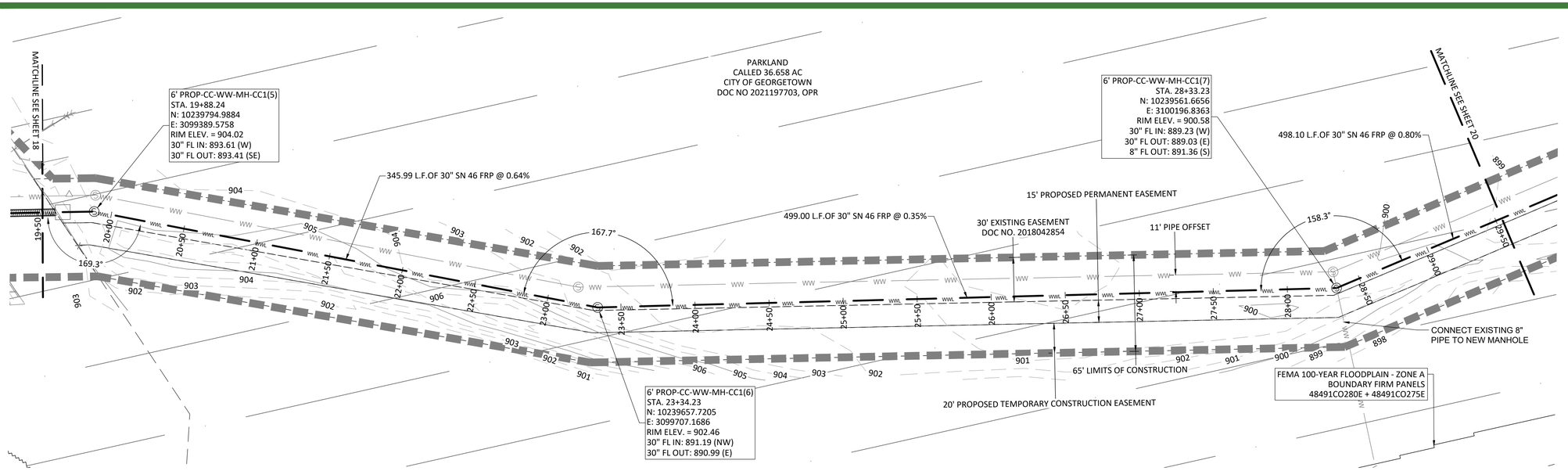
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

PLAN & PROFILE (2 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

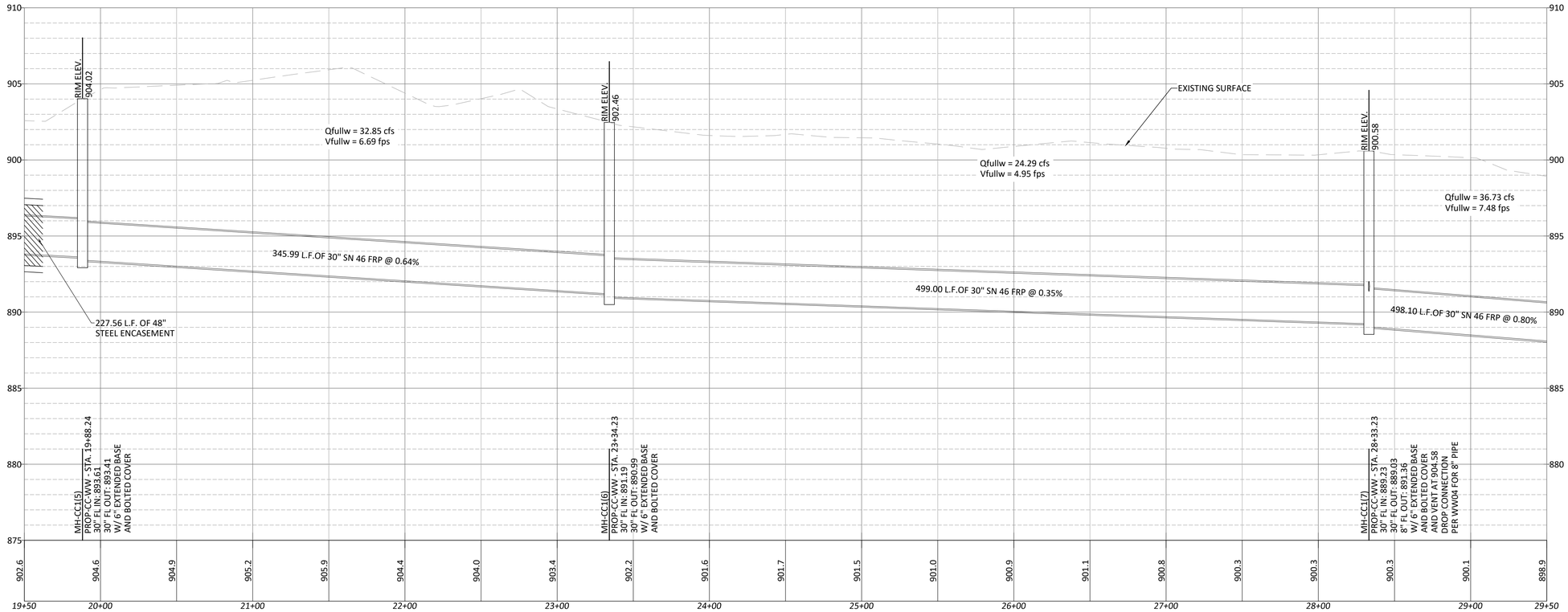
Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999
Sheet Number:	18 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM



LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING STORM LINE
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE



NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY — 9/1/2025 DATE
NIE, JKL — DRAWN BY — 9/1/2025 DATE
CWJ — CHECKED BY — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147867 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

STEGER BIZZELL

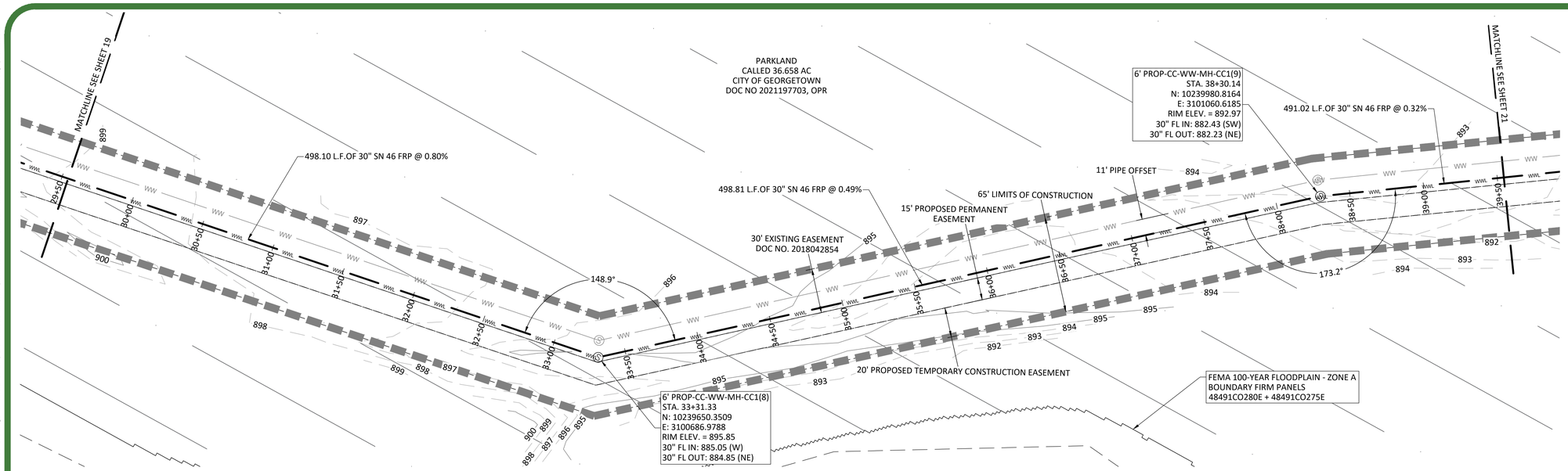
ADDRESS: 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

PLAN & PROFILE (3 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

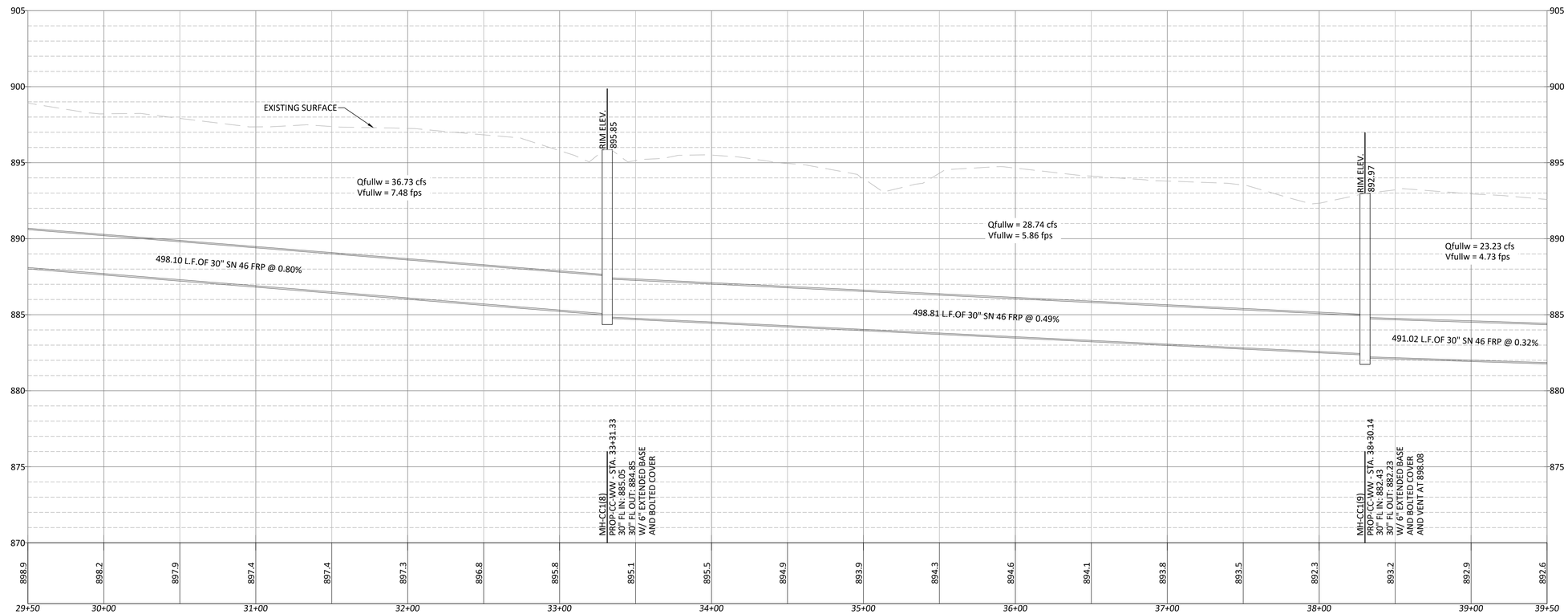
Project Number:	23030
SCALE:	AS NOTED
Project Path:	P:\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P:\23000-23999
Sheet Number:	19 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM



LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING STORM LINE
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE



NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 147857 · LICENSED PROFESSIONAL ENGINEER · 12/19/25

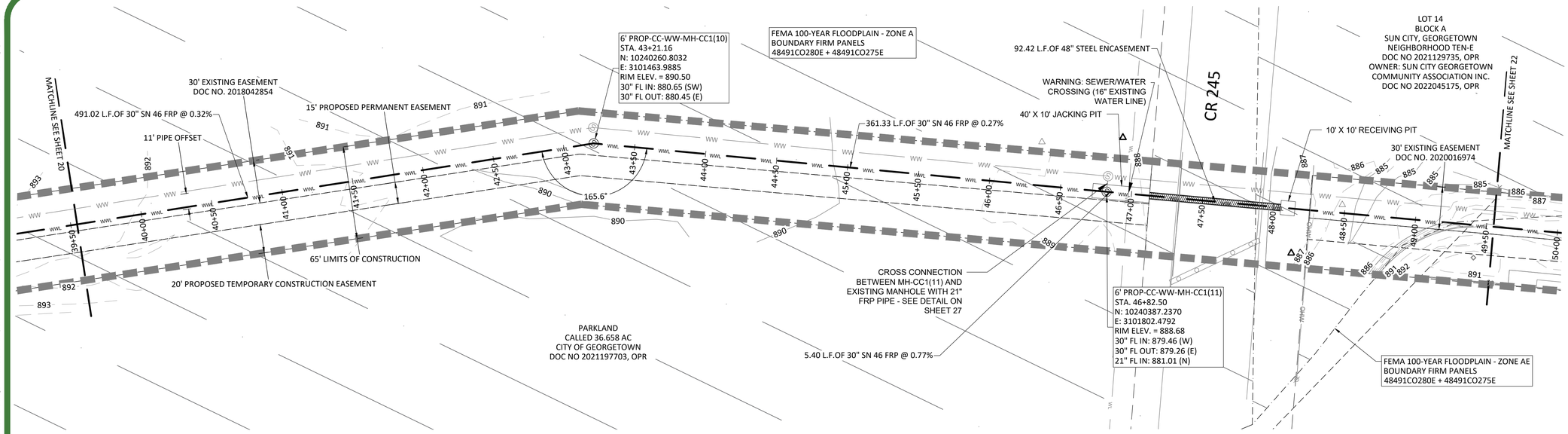
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

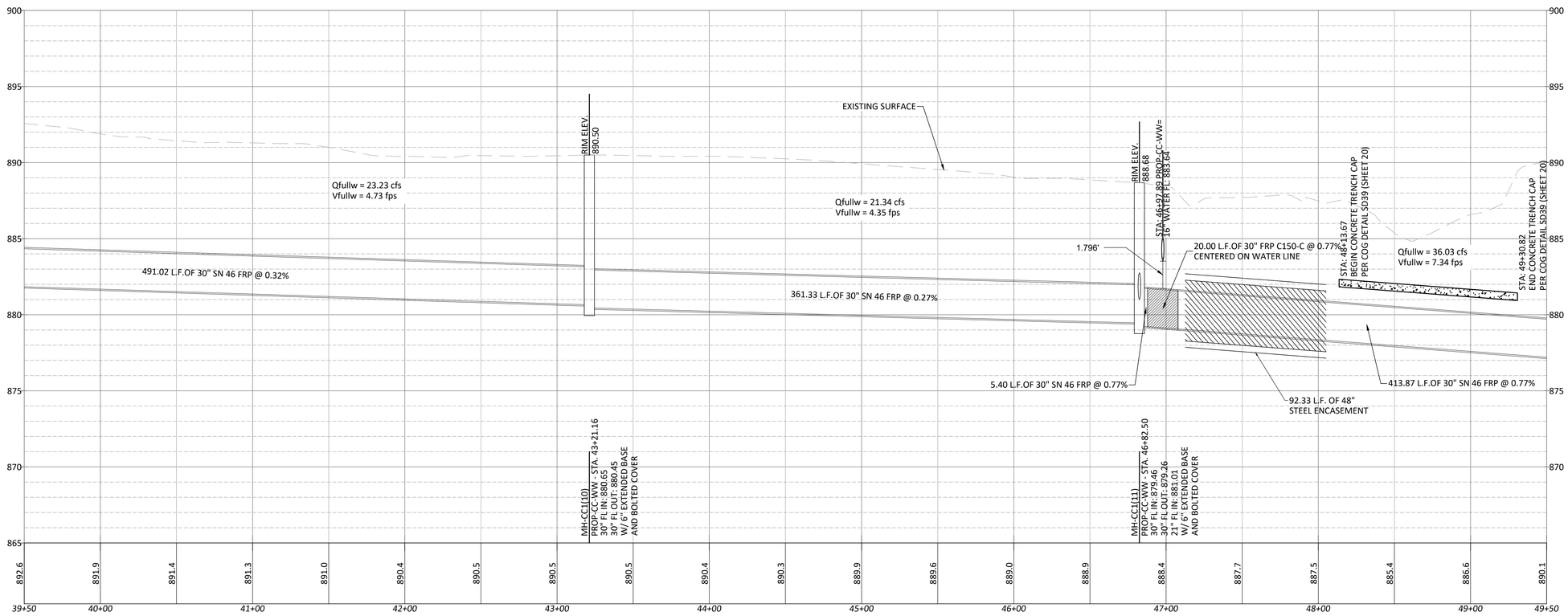
PLAN & PROFILE (4 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P:\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P:\23000-23999
Sheet Number:	20 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM





NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147915 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

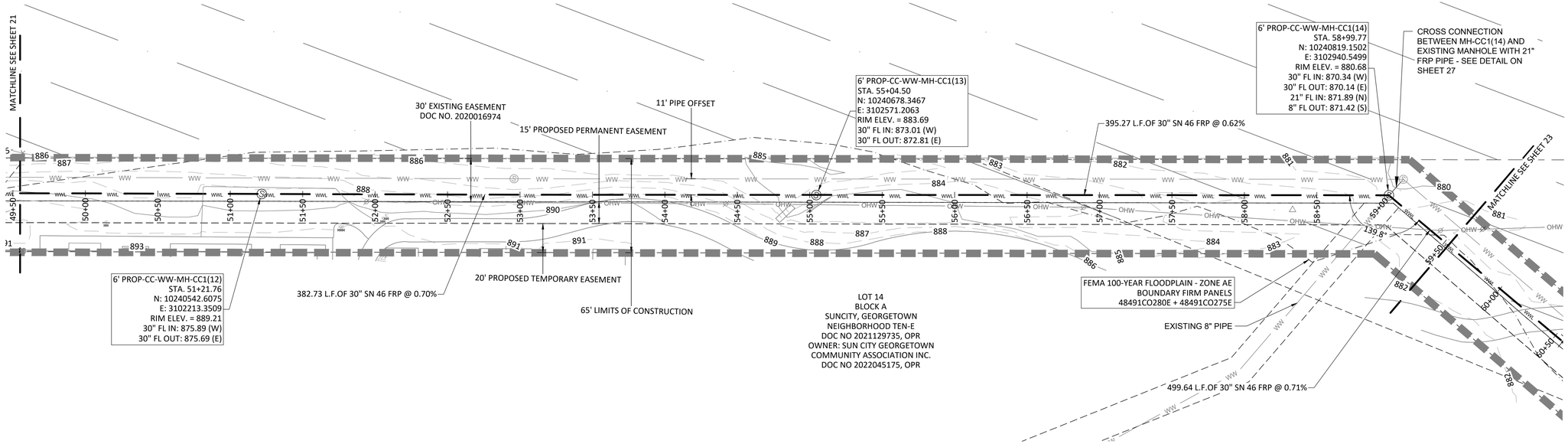
STEGER BIZZELL
ADDRESS: 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

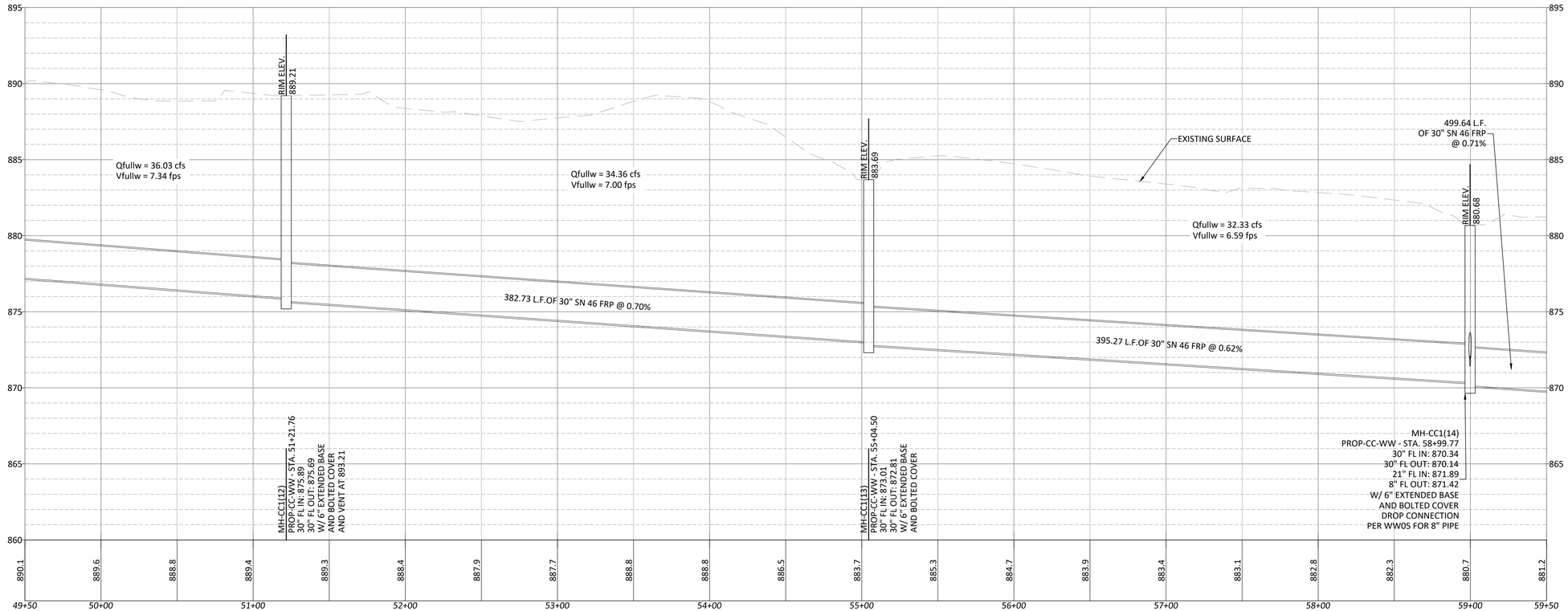
PLAN & PROFILE (5 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999
Sheet Number: 21 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM





NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS
CHAD WILLIAM JONES
147857
LICENSED
PROFESSIONAL ENGINEER
12/19/25

STEGER BIZZELL

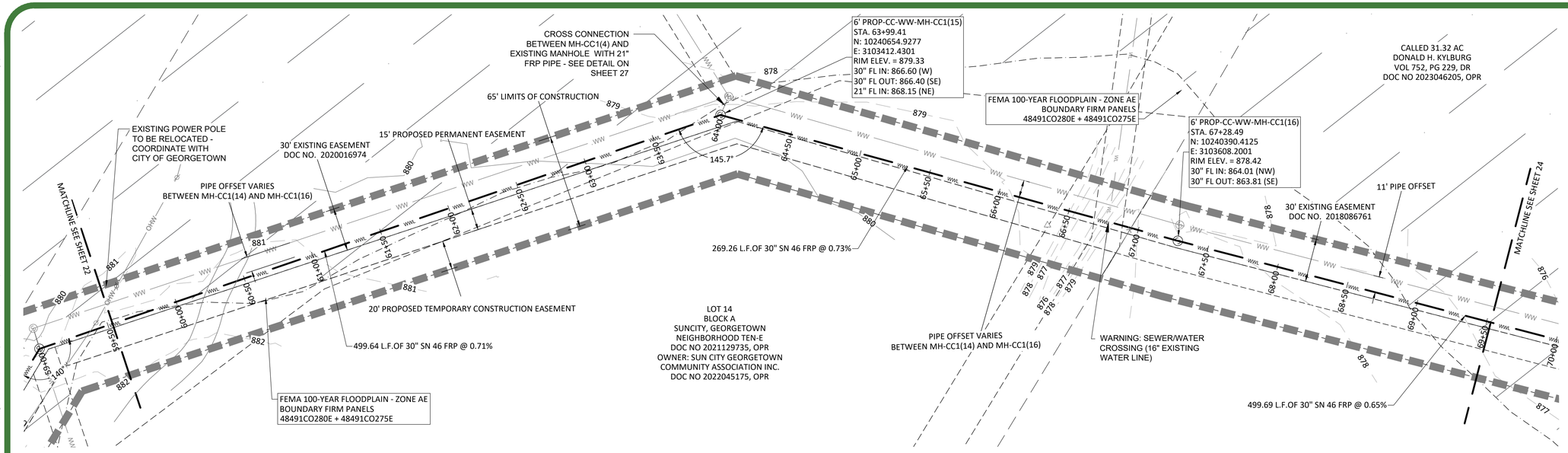
ADDRESS	1978 S. AUSTIN AVENUE	GEORGETOWN, TX 78626	
METRO	512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No. 10003700	WEB STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

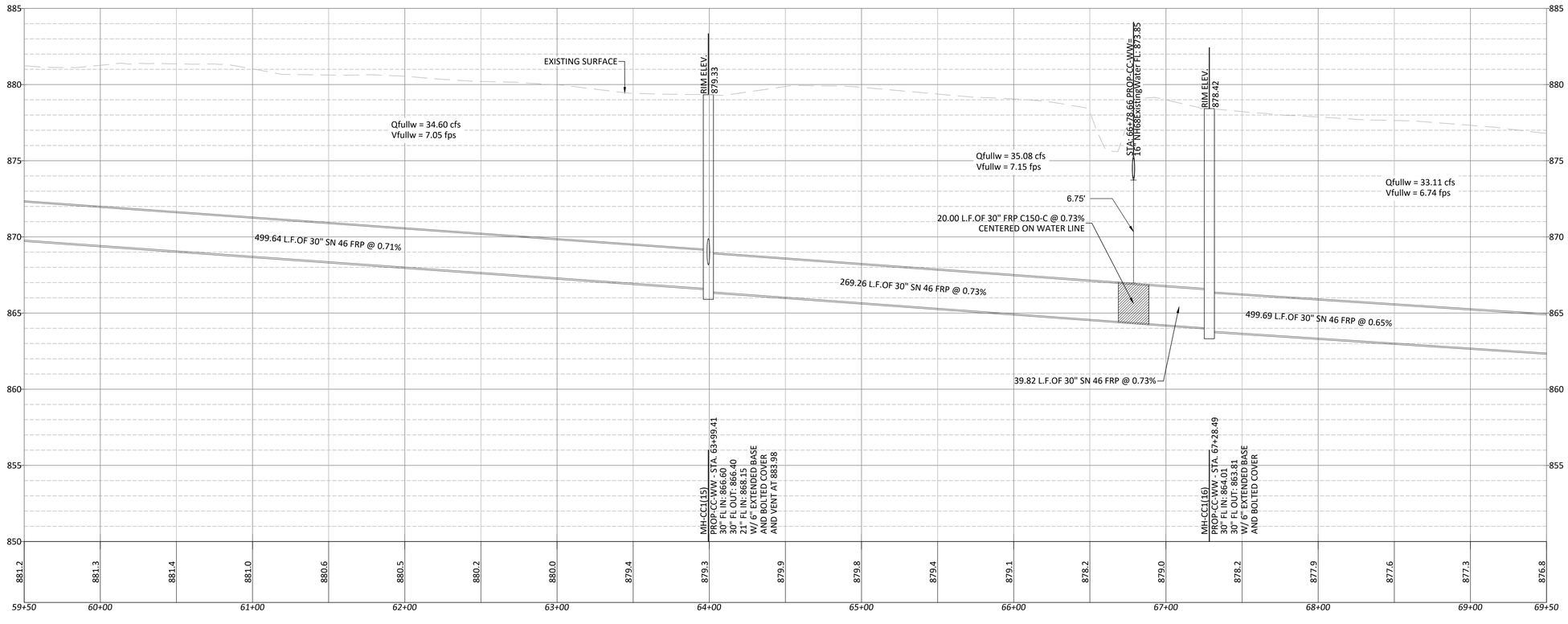
PLAN & PROFILE (6 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999
Sheet Number:	22 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM





NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 147765 · LICENSED PROFESSIONAL ENGINEER · 11/3/25

STEGER BIZZELL

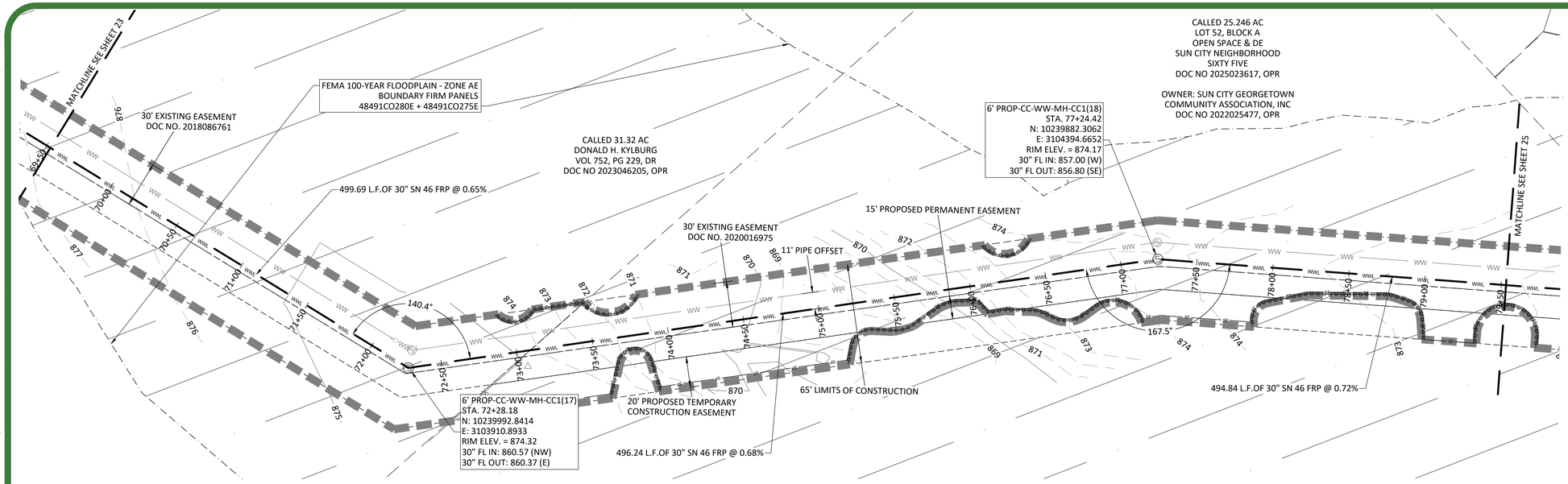
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

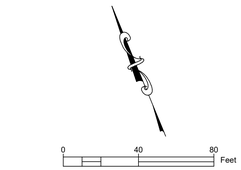
PLAN & PROFILE (7 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P\23000-23999
Sheet Number: 23 of 28 sheets

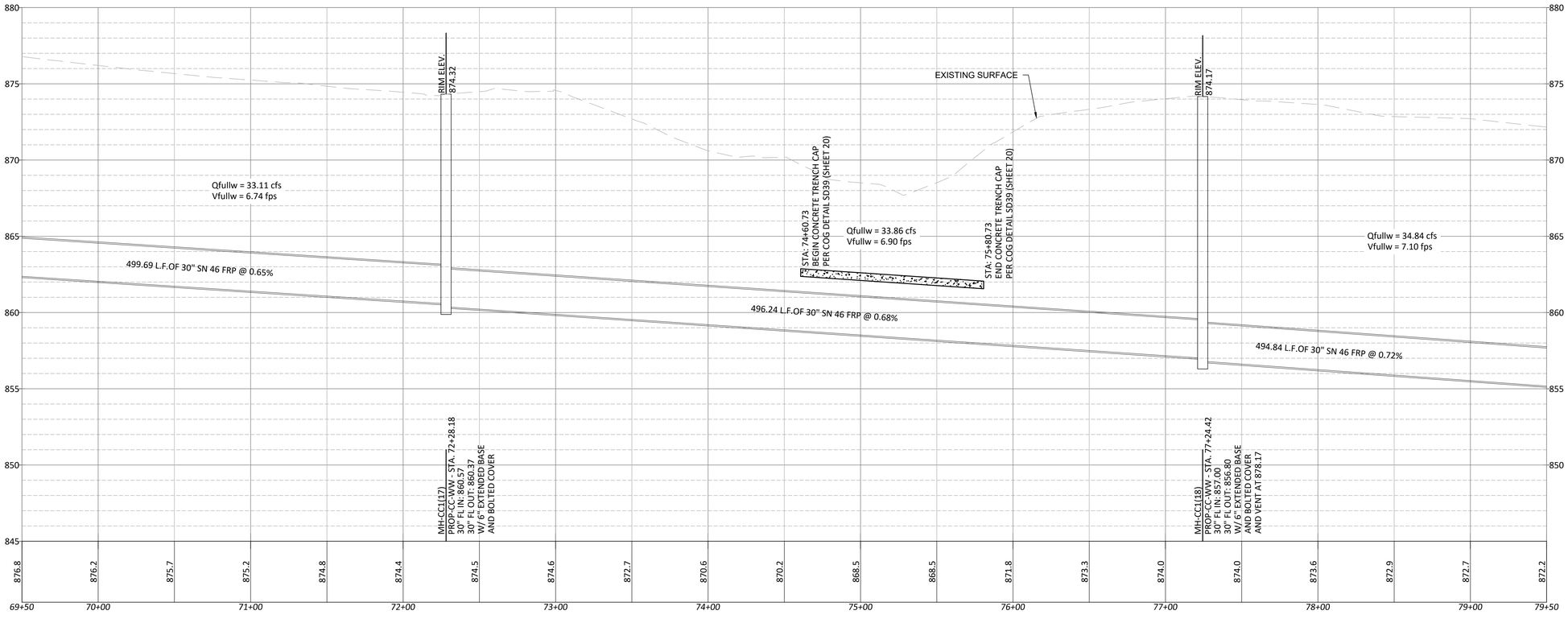
File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:09 PM





LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING STORM LINE
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE



NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS
CHAD WILLIAM JONES
LICENSED
PROFESSIONAL ENGINEER
14795
12/19/25

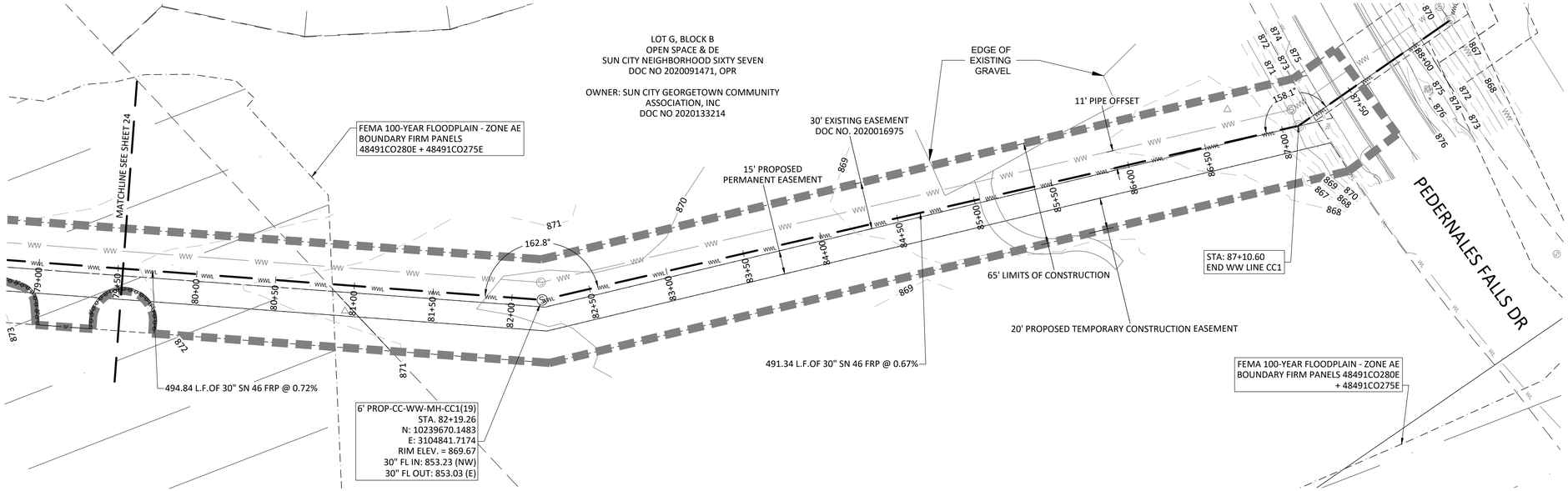
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

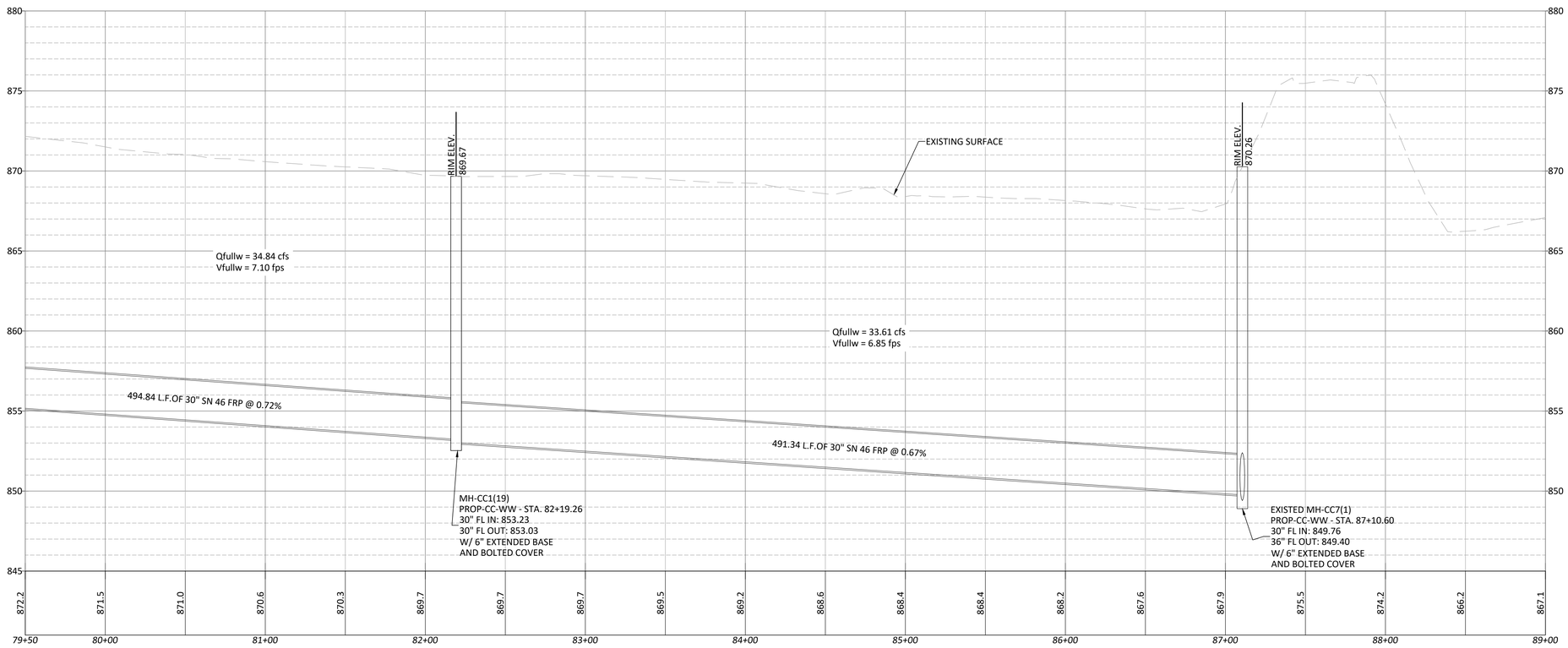
PLAN & PROFILE (8 OF 9)

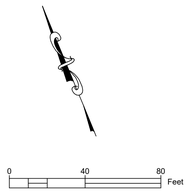
Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999
Sheet Number:	24 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:10 PM







LEGEND

- PROPOSED SEWER LINE
- EXISTING FENCE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- RIGHT OF WAY
- EXISTING STORM LINE
- EXISTING SEWER LINE
- EDGE OF PAVEMENT
- LIMITS OF CONSTRUCTION
- EXISTING OVERHEAD UTILITIES
- EXISTING GUARDRAIL
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE

NOTES:
1. PIPE TO BE 30" SN 46 FIBERGLASS-REINFORCED POLYMER PIPE BY HOBAS, OR EQUIVALENT.
2. ALL MANHOLES WHICH REQUIRE VENTS SHALL BE PER COG STANDARD DETAIL WW19.
3. ALL MANHOLES NOTED TO BE BOLTED SHALL BE BOLTED AND GASKETED AS REQUIRED IN COG STANDARD DETAIL WW03.

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

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147915 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

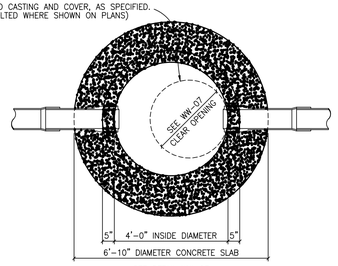
STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

PLAN & PROFILE (9 OF 9)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number:	23030
SCALE:	AS NOTED
Project Path:	P\23000-23999
Project Name:	COG Cowan Creek WW
Drawing Path:	P\23000-23999
Sheet Number:	25 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 PLAN & PROFILE.dwg By: Chad Jones Date: 12/19/2025 2:10 PM



SEE DETAIL WW-03

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

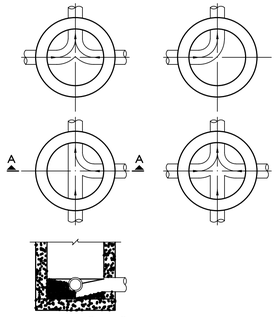
A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1").
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW02
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – PLAN

FLOW PATTERNS FOR INVERT CHANNELS



SECTION "A–A"

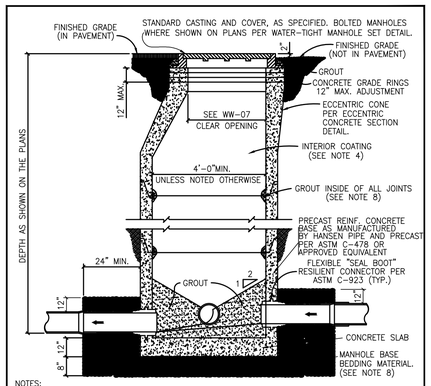
NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW06
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLOW PATTERNS FOR INVERT CHANNELS



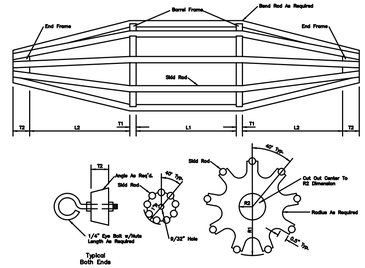
NOTES:

1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:
   SIEVE SIZE 2", PERCENT (%) RETAINED: 0
   SIEVE SIZE 1 1/2", % RETAINED 0–10
   SIEVE SIZE 1", % RETAINED 45–80
   SIEVE SIZE 3/4", % RETAINED 85–100
   SIEVE SIZE 3/8", % RETAINED 95–100

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW03
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – SECTION



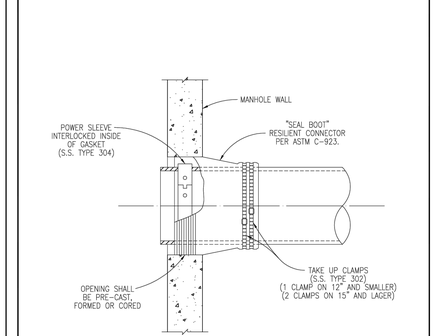
Note: Weld All Rods To Frame

Mandrel Shall Be Constructed From Metal That Can Withstand 250 PSI Without Being Deformed.

Mandrel Dimensions
5% Deflection
For O.D. Controlled PVC Pipe
(All Dimensions In Inches)

	Size	Type	O.D. Average	Min. Wall Thickness	L1	L2	R1	R2	T1	T2	Rod Diameter	MANDREL O.D.
	6"	D3034 SDR35	6.275	0.180	4.50	6	2.81	0.75	0.375	1.0	0.375	5.62
	6"	D3034 SDR26	6.275	0.241	4.50	6	2.75	0.75	0.375	1.0	0.375	5.50
(160 PSI)	6"	D2241 DR26	6.625	0.271	4.50	6	2.89	0.75	0.375	1.0	0.375	5.71
	8"	D3034 SDR35	8.400	0.240	6.00	6	3.96	1.25	0.375	1.0	0.375	7.52
	8"	D3034 SDR26	8.400	0.323	6.00	6	3.68	1.25	0.375	1.0	0.375	7.37
(160 PSI)	8"	D2241 DR26	8.625	0.352	6.00	6	3.76	1.25	0.375	1.0	0.375	7.525
	10"	D3034 SDR35	10.500	0.300	7.50	6	4.70	1.50	0.375	1.0	0.375	9.40
	10"	D3034 SDR26	10.500	0.404	7.50	6	4.60	1.50	0.375	1.0	0.375	9.21
	12"	D3034 SDR35	12.500	0.360	9.00	6	5.60	1.75	0.375	1.0	0.375	11.20
	12"	D3034 SDR26	12.500	0.481	9.00	6	5.48	1.75	0.375	1.0	0.375	10.96
	15"	D3034 SDR35	15.300	0.437	11.25	6	6.85	2.00	0.375	1.0	0.375	13.70
	21"	F679 T-1	21.071	0.538	15.75	9	9.43	3.00	0.50	1.5	0.50	18.74
	21"	F679 T-1	21.071	0.538	15.75	9	9.37	3.00	0.50	1.5	0.50	18.74
	24"	F679 T-1	24.853	0.711	18.00	9	11.11	3.00	0.50	1.5	0.50	22.22
	27"	F679 T-1	27.553	0.801	20.25	9	12.52	4.00	0.50	1.5	0.50	25.04
	6"	CL350 D.A.	6.9	0.25	4.50	6	3.04	0.75	0.375	1.0	0.375	6.08
	8"	CL350 D.A.	9.05	0.25	6.00	6	4.06	1.25	0.375	1.0	0.375	8.12

Typical Mandrel Details
No Scale

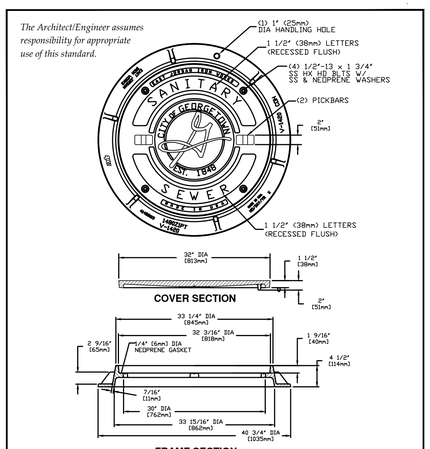


The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW10
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLEXIBLE "SEAL BOOT" CONNECTOR

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

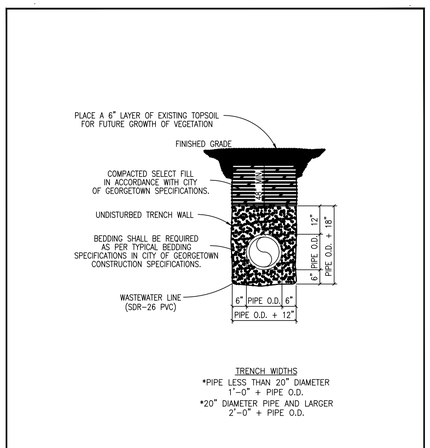


NOTES:

1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW07A
SCALE: NTS	DATE: 1/2006
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
BOLTED WASTEWATER MANHOLE SET

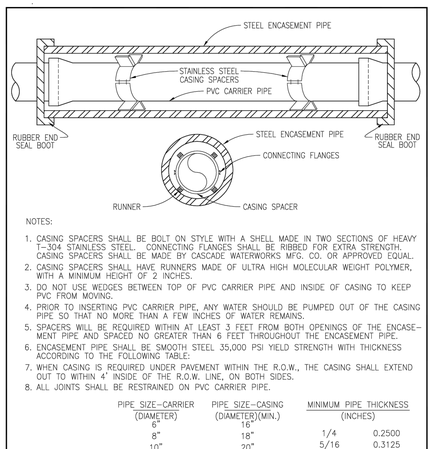


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW16
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS



NOTES:

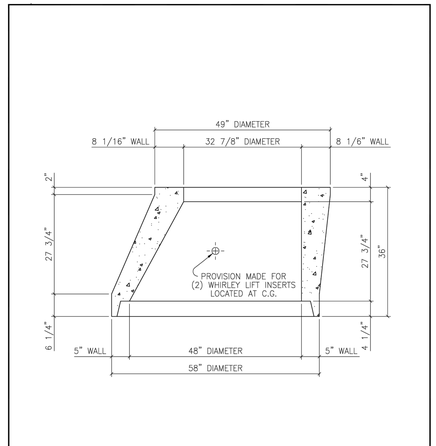
1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T–304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR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

PIPE SIZE–CARRIER (DIAMETER)	PIPE SIZE–CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"		
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" – 14"	24"	3/8	0.3750
16" – 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	W14
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

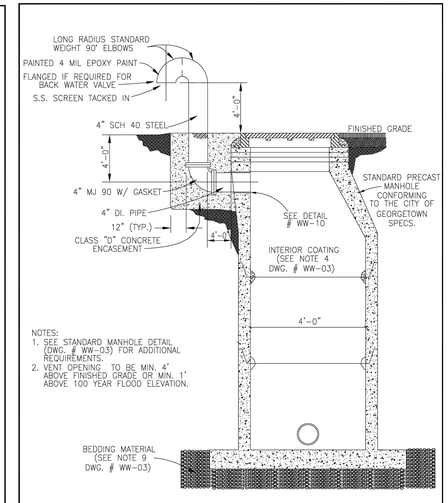
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
INSTALLATION OF P.V.C. PIPE THROUGH CASING



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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW08
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
48"X5" TO 33"X8"X36" TALL ECCENTRIC CONCRETE SECTION



NOTES:
1. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.
2. VENT OPENING TO BE MIN. 4' ABOVE FINISHED GRADE OR MIN. 1' ABOVE 100 YEAR FLOOD ELEVATION.

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

REVISION NOTE:	ADOPTED 6/21/2006
DRAWING NAME:	WW19
SCALE: NTS	DATE: 11/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL MANHOLE WITH VENT

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147657 — LICENSED PROFESSIONAL ENGINEER — 12/19/25

STEGER BIZZELL

ADDRESS: 1978 S. AUSTIN AVENUE, GEORGETOWN, TX 78626
METRO: 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181, TBPELS FIRM No.10003700 | WEB: STEGERBIZZELL.COM
SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

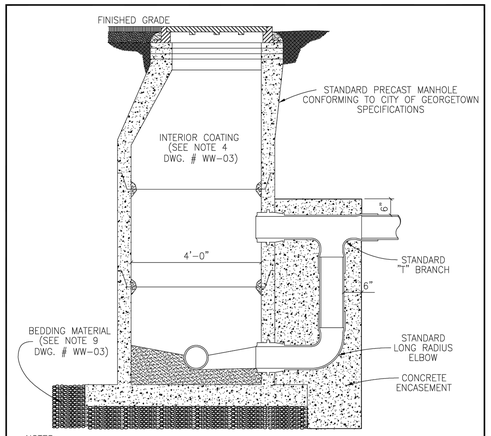
WASTEWATER DETAILS (1 OF 2)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

Sheet Number: 26 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 WASTEWATER DETAILS.dwg By: Chad Jones Date: 12/19/2025 2:10 PM



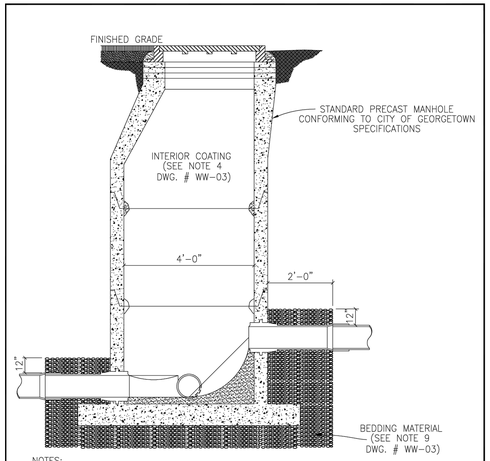
NOTES:

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS DROP CONNECTION–PRECAST MANHOLE TYPE "A"	DRAWING NAME: WW04 SCALE: NTS · DATE: 1/2003 DRAWN BY: MRS · APPROVED BY: TRB

GEORGETOWN TEXAS — Georgetown Utility Systems — Your Community Owned Utility



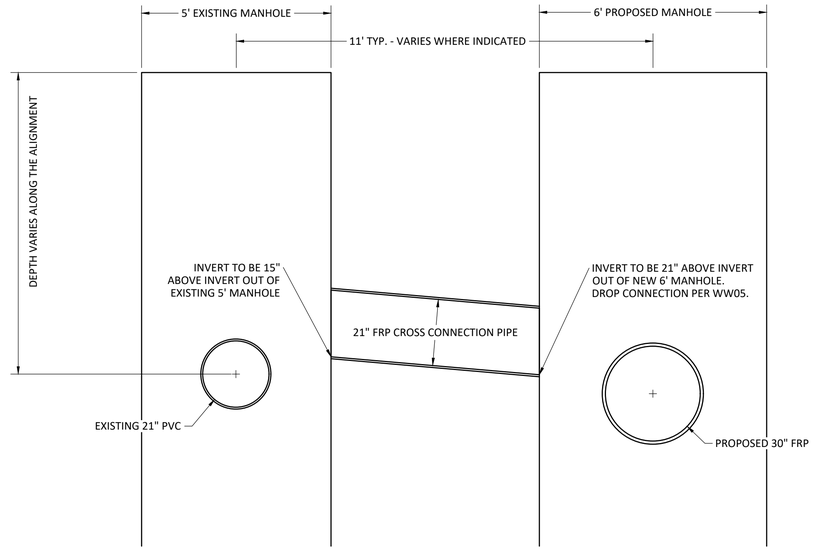
NOTES:

1. TO BE USED WHERE DROP IS SIX INCHES (6") TO TWO FEET (2'-0").
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
5. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS DROP CONNECTION–PRECAST MANHOLE TYPE "B"	DRAWING NAME: WW05 SCALE: NTS · DATE: 1/2003 DRAWN BY: MRS · APPROVED BY: TRB

GEORGETOWN TEXAS — Georgetown Utility Systems — Your Community Owned Utility



CROSS CONNECTION DETAIL

0 2 4 Feet

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NIE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS — CHAD WILLIAM JONES — 147895 — LICENSED PROFESSIONAL ENGINEER — 11/3/25

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

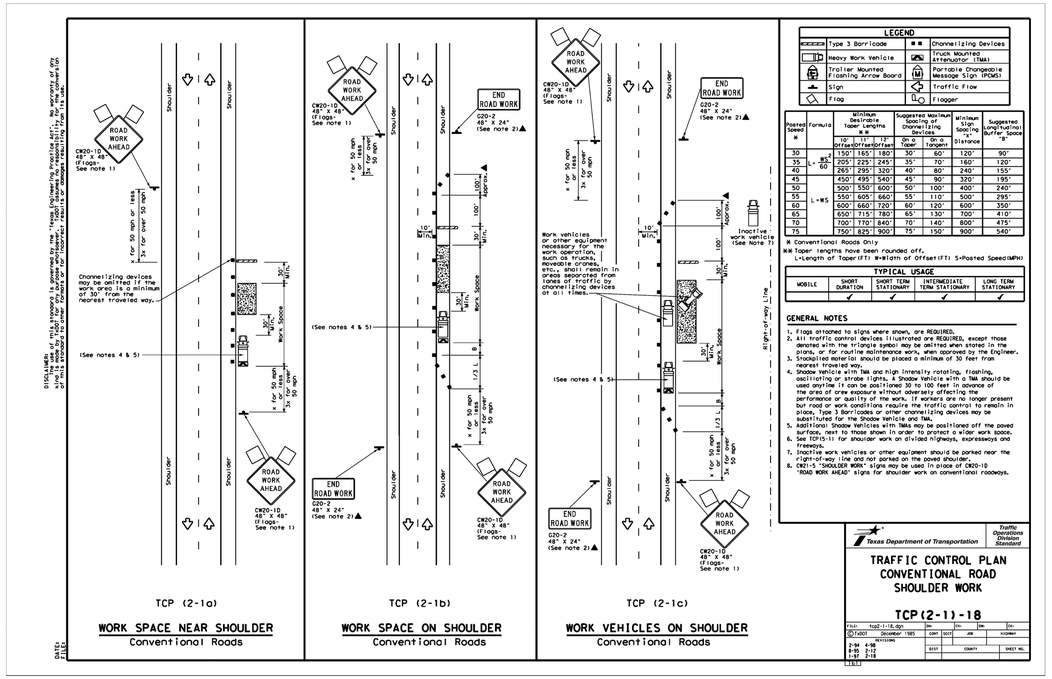
WASTEWATER DETAILS (2 OF 2)

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

Sheet Number: 27 of 28 sheets

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 WASTEWATER DETAILS.dwg By: Chad Jones Date: 12/19/2025 2:10 PM



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed S	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	L= WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45		450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55	L=WS	550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Shadowed material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation | Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
CONVENTIONAL ROAD
SHOULDER WORK

TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS				
2-94 4-98				
8-95 2-12	DIST	COUNTY		SHEET NO.
1-97 2-18				

WARNING!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO.	REVISION	BY	DATE

CWJ, CRB — DESIGNED BY: — 9/1/2025 DATE
NJE, JKL — DRAWN BY: — 9/1/2025 DATE
CWJ — CHECKED BY: — 11/24/2025 DATE
APPROVED BY: — DATE

STATE OF TEXAS · CHAD WILLIAM JONES · 147895 · LICENSED PROFESSIONAL ENGINEER · 12/19/25

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

TRAFFIC CONTROL DETAILS

Cowan Creek Wastewater Interceptor CC-1
City of Georgetown
Williamson County, Texas

Project Number: 23030
SCALE: AS NOTED
Project Path: P:\23000-23999
Project Name: COG Cowan Creek WW
Drawing Path: P:\23000-23999

File Name: P:\23000-23999\23030 COG Cowan Creek WW\CAD\Plans\CC-1\CC-1 TRAFFIC CONTROL DETAILS.dwg By: Chad Jones Date: 12/19/2025 2:10 PM

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: Chad Jones, P.E.

Date: 12/22/2025

Signature of Customer/Agent:

Regulated Entity Name: Cowan Creek Wastewater Interceptor CC-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: Cowan Creek

Temporary Best Management Practices (TBMPs)

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

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

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Attachment A – Spill Response Actions

Because fuels and hazardous substances will be provided by an off-site facility, no on-site containment procedures are provided for in this SCS.

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. The following steps will help reduce the stormwater impacts of leaks and spills:

Education

1. Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spills must be reported to the TCEQ. Information is available in 30 TAC 327.4 and 40 CFR 302.4.
2. Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
3. Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
4. Establish a continuing education program to indoctrinate new employees.
5. Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2. Store hazardous materials and wastes in covered containers and protect from vandalism.
3. Place a stockpile of spill cleanup materials where it will be readily accessible.
4. Train employees in spill prevention and cleanup.
5. Designate responsible individuals to oversee and enforce control measures.
6. Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn't compromise clean-up activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

11. Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
12. Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

1. Clean up leaks and spills immediately.
2. 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.
3. 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

1. 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.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
5. Contain the spread of the spill.
6. Recover spilled materials.
7. 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:

1. Contain spread of the spill.
2. Notify the project foreman immediately.
3. 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.
4. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
5. 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:

1. 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.

2. 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.
3. Notification should first be made by telephone and followed up with a written report.
4. 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.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tceq.texas.gov/response/

Vehicle and Equipment Maintenance

1. If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
2. Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
3. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
4. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
5. Place drip pans or absorbent materials under paving equipment when not in use.
6. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
7. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
8. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
9. Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

1. If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
2. Discourage "topping off" of fuel tanks.
3. Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

If a spill should occur, the person responsible for the spill should contact the TCEQ at (512) 339-2929 or call 911. Soil contaminated by spills that occur on-site will be removed and disposed at an approved disposal site.

Attachment B – Potential Sources of Contamination

- Hydraulic and diesel
- Portable toilet systems (Sanitary Waste)
- Trash from construction workers
- Paints, Paint Solvents, glues, concrete and other building materials
- Plant fertilizers and Pesticides
- Inadequate maintenance of temporary water pollution abatement measures
- Stockpiles or spoils of materials

Attachment C – Sequence of Major Activities

The following sequence of activities is suggested. The actual sequence may vary slightly depending on the contractor or weather conditions.

1. Construction activities will commence with the installation of the required erosion and sedimentation control measures and stabilized construction entrance. **Silt fence and rock berm are the control measures. (13.13 acres)**
2. Clearing and grubbing will take place along the alignment where the wastewater line will be situated. Spoils of this material may be placed at a location on the project site as directed by the contractor or hauled off-site. These spoils and any other loose granular material will be enclosed by a silt fence. **(13.13 acres)**
3. The installation of the **30-inch FRP** wastewater collection system will follow. **(13.13 acres)**
4. Subsequent to construction, disturbed areas will be hydro-mulched or seeded. **(13.13 acres)**
5. Once vegetation is established on the site, Temporary BMPs will be removed as allowed by the engineer. **(13.13 acres)**

Attachment D – Temporary Best Management Practices and Measures

The following sequence of activities is suggested. The sequence of construction will take place in one phase. The actual sequence may vary slightly depending on the contractor or weather conditions.

1. Construction activities will commence with the installation of the required **erosion and sedimentation control measures.**
2. The installation of the utilities will disturb a portion of the site. Proposed utility improvements include the construction of a wastewater collection system. **Silt fence and rock berm will be utilized as the control measures.**
3. Subsequent to the construction of the utilities, disturbed areas will be hydro-mulched or seeded. **Silt fence and rock berm will be utilized as the control measures.**
4. Once vegetation is established on the site, Temporary BMPs will be removed as allowed by the engineer.

All surface runoff originating up-gradient or on site will be contained within the proposed silt fence and rock berm. The silt fence and rock berm will trap most pollutants and prevent them from entering off-site surface streams, sensitive features or the aquifer.

Attachment E – Request to Temporarily Seal a Feature

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

Attachment F – Structural Practices

No structural practices will be utilized to divert flows away from exposed soils or to store flows. Silt fences and construction entrances will be used to limit the runoff discharge of sediments from exposed areas on the site during construction. Drainage off the site is typically in a sheet flow or shallow concentrated flow condition.

Attachment G – Drainage Area Map

See the attached Cowan Creek Wastewater construction plans for the overall wastewater plan.

Attachment I – Inspection and Maintenance for BMPs

Silt Fence

1. Inspect all fences weekly and after any rainfall.
2. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
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.

Temporary Construction Entrance/Exit

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.

Rock Berm

1. Inspection should be made weekly and after each rainfall event 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 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.

The following sample forms should be utilized to document the inspection and maintenance of the proposed temporary BMPs as described above. This form shall be kept on site with the SCS until the project is completed. A report documenting the Temporary BMPs maintenance activities, sediment removal and modifications to the sedimentation and erosion controls is required.

Temporary BMP Logs – Silt Fence

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

<u>**Temporary BMP Logs – Rock Berm**</u>

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Temporary BMP Logs – Temporary Construction Entrance

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Vehicular traffic should be limited to areas of the project site where construction will take place. The contractor should endeavor to preserve existing vegetation as much as practicable to reduce erosion and lower the cost associated with stabilization. **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.**

All disturbed areas shall be stabilized as described below.

Except as provided for below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

A. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
B. Where construction activity on a portion of the site has temporarily ceased, and earth-disturbing activities will be resumed with 21 days, temporary stabilization measures do not have to be initiated on that portion of the site.
C. In areas experiencing drought, where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Stabilization measures as described as follows:

All disturbed grass areas should be planted in drought resistant species normally grown as permanent lawns, such as Zoysia, Bermuda and Buffalo. Grass areas may be sodded, plugged, sprigged or seeded except that solid sod shall be used in swales or other areas subject to erosion. All planted areas shall be provided with a readily available water supply and watered as necessary to ensure continuous healthy growth and development. Maintenance shall include the replacement of all dead plant material if that material was used to meet the requirements of this section.

This Page Left Intentionally Blank

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

I David Herzog,
Print Name

CIP Manager,
Title - Owner/President/Other

of City of Georgetown,
Corporation/Partnership/Entity Name

have authorized Chad Jones, P.E.
Print Name of Agent/Engineer

of Steger & Bizzell Engineering, Inc.
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

11/18/25
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared David Herzog 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 18 day of November, 2025.

Christopher Brian Mays
NOTARY PUBLIC

CHRISTOPHER BRIAN MAYS
Notary Public, State of Texas
Comm. Expires 08-02-2028
Notary ID 135021722

Christopher Brian Mays
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8-2-2028

This Page Left Intentionally Blank

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Cowan Creek Wastewater Interceptor CC-1
Regulated Entity Location: Georgetown, TX
Name of Customer: City of Georgetown Georgetown Utility Systems
Contact Person: David Herzog Phone: 512-930-6576
Customer Reference Number (if issued):CN 602532327
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	8711 L.F.	$ 4,355.50
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: _____ Date: 12/22/2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 602532327		**RN**

SECTION II: Customer Information

4. General Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*

If new Customer, enter previous Customer below:

City of Georgetown Georgetown Utility Systems

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

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

12. Number of Employees

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

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

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

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☒ Responsible Party ☐ VCP/BSA Applicant
☐ Other:

15. Mailing Address:

P.O. Box 409

City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
n/a	david.herzog@georgetowntexas.gov

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 930-6569		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Cowan Creek Wastewater Interceptor CC-1

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	Williamson						

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

25. Description to Physical Location:	Travelling North on I-35, take exit 240B to US-183 N toward Research Blvd. Follow US-183 N for approximately 12.5 miles. Continue onto 183A toll road N. Follow 183A toll road N for approximately 17.6 miles. Turn right onto FM 3405. Follow FM 3405 for approximately 1.7 miles. Turn left onto Ronald Reagan Blvd. Follow Ronald Reagan Blvd for approximately 3.7 miles. Take exit to Ranch Rd 2338. Follow Ranch Rd 2338 for 1.4 miles. An SCE will be on your right.

26. Nearest City	State	Nearest ZIP Code
Georgetown	TX	78633

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

27. Latitude (N) In Decimal:	30.897606		28. Longitude (W) In Decimal:	97.785442	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	43	51.38	97	47	7.59

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)
6552	1521	n/a	

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

Land Development and Residential Homes

34. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**

35. E-Mail Address:	**david.herzog@georgetowntexas.gov**

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*

(512) 930-6576	**n/a**	**( ) -**

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

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

SECTION IV: Preparer Information

40. Name:	Steger Bizzell - Chad W. Jones	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 930-9412	n/a	**(** n/a **)** -	chad.jones@stegerbizzell.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:	Steger Bizzell	**Job Title:**	Project Manager
Name *(In Print):*	Chad W. Jones, P.E.	**Phone:**	**(** 512 **)** 930- **9412**
Signature:		**Date:**	12/22/2025

DESCRIPTION OF 0.494 ACRES (PART 1)

DESCRIPTION OF A 0.494 ACRE TRACT OF LAND LOCATED IN THE FREDERICK FOY SURVEY, ABSTRACT NO. 226, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF LOT 52, BLOCK A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2025023617, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS (O.P.R.W.C.T.), CONVEYED IN A DEED WITHOUT WARRANTY TO SUN CITY GEORGETOWN COMMUNITY ASSOCIATION, INC., IN DOCUMENT NUMBER 2022025477, O.P.R.WC.T., AND BEING A PORTION OF LOT G, BLOCK B, SUN CITY NEIGHBORHOOD SIXTY-SEVEN, A SUBDIVISON RECORDED IN DOCUMENT NUMBER 2020091471, O.P.R.W.C.T., CONVEYED IN A DEED WITHOUT WARRANTY TO SUN CITY GEORGETOWN COMMUNITY ASSOCIATION, INC., IN DOCUMENT NUMBER 2020133214, O.P.R.W.C.T., SAID 0.494 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the south line of a called 31.32 acre tract of land, conveyed in a Relinquishment of Life Estate to Jeffrey Earl Kylberg and Pattrick Elton Kylberg, recorded in Document No. 2023046205, O.P.R.W.C.T. and further described in Volume 752, Page 229, Deed Records of Williamson County, Texas, (D.R.W.C.T.), for the northernmost northwest corner and **POINT OF BEGINNING** of the herein described tract, from which point a 1/2-inch iron rod found on the west line of Lot 9, Block B, of said SUN CITY NEIGHBORHOOD SIXTY-SEVEN, bears North 69°38’20” East, 590.71 feet;

THENCE, over and across said Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE and said Lot G, Block B, SUN CITY NEIGHBORHOOD SIXTY-SEVEN, the following three (3) courses and distances:

1. South 76°59'03" East, a distance of 421.28 feet, to a calculated point;

2. South 64°37'53" East, a distance of 495.72 feet, to a calculated point; and

3. South 82° 23' 06" East, a distance of 502.72' feet, to a calculated point on the west right-of-way line of Pedernales Falls Drive, a 60-foot right-of-way, recorded in Document No. 2017098643, O.P.R.W.C.T., being the east line of said Lot G, Block B, SUN CITY NEIGHBORHOOD SIXTY-SEVEN and at the beginning of a curve to the right having a radius of 1240.00 feet, for the northernmost northeast corner of the herein described tract;

THENCE, with said curve to the right, with an arc distance of 15.82 feet, a central angle of 000°43’52” and a chord that bears South 10°55’03” East, a distance of 15.82 feet to a calculated point on said curve, for the southernmost southeast corner of the herein described tract, from which point a 1/2-inch iron rod in water found on a southerly line of said Lot G, Block B, SUN CITY NEIGHBORHOOD SIXTY-SEVEN and an easterly line of said Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, bears South 60°59’05” West, 528.17 feet;

THENCE, leaving the west right-of-way line of said Pedernales Falls Drive and over and across said Lot G Block B, SUN CITY NEIGHBORHOOD SIXTY-SEVEN, and Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, the following three (3) courses and distances:

1. North 82° 23' 06" West, a distance of 510.09 feet, to a calculated point;

2. North 64° 37' 53" West, a distance of 496.44 feet, to a calculated point; and

3. North 76° 59' 03" West, a distance of 442.62 feet, to a calculated point on the south line of said 31.32 acre tract, same being the north line of said Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, for the southernmost southwest corner of the herein described tract, from which point a 1/2–inch iron rod with cap stamped “MCKIM AND CREED” found on the northeast corner of Lot 51, Block A, of said SUN CITY NEIGHBORHOOD SIXTY-FIVE, bears South 69°38’20” West, 756.11 feet;

THENCE, North 69° 38' 20" East, with the south line of said 31.32 acre tract, same being the north line of said Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, a distance of 27.27 feet to the **POINT OF BEGINNING**, and containing 0.494 acres of land, more or less, within these metes and bounds.

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83'	= NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49'	= EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35'	= ELEVATION (NAD 83 / 93 HARN)

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

Steger & Bizzell

11/20/2025

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412
TBPELS Firm No. 10003700

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-WWE-0.494AC.docx

DESCRIPTION OF 1.722 ACRES (PART 2)

DESCRIPTION OF A 1.722 ACRE TRACT OF LAND LOCATED IN THE FREDERICK FOY SURVEY, ABSTRACT NO. 226, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF LOT A, BLOCK A, SUN CITY NEIGHBORHOOD SEVENTY-TWO, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2019007405, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS (O.P.R.W.C.T.), CONVEYED IN A DEED WITHOUT WARRANTY TO SUN CITY GEORGETOWN COMMUNITY ASSOCIATION, INC., IN DOCUMENT NUMBER 2020057092, O.P.R.WC.T., BEING A PORTION OF LOT A, BLOCK E, SUN CITY NEIGHBORHOOD SEVENTY-SIX, A SUBDIVISON RECORDED IN DOCUMENT NUMBER 2020106404, O.P.R.W.C.T., CONVEYED IN A DEED WITHOUT WARRANTY TO SUN CITY GEORGETOWN COMMUNITY ASSOCIATION, INC., IN DOCUMENT NUMBER 2020131979, O.P.R.W.C.T., AND BEING A PORTION OF LOT B, BLOCK A, SUN CITY NEIGHBORHOOD SEVENTY-SEVEN, A SUBDIVISON RECORDED IN DOCUMENT NUMBER 2022044748, O.P.R.W.C.T., CONVEYED IN A DEED WITHOUT WARRANTY TO SUN CITY GEORGETOWN COMMUNITY ASSOCIATION, INC., IN DOCUMENT NUMBER 2022049130, O.P.R.W.C.T., SAID 1.722 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the east right-of-way line of Pedernales Falls Drive, a 60 foot right-of-way recorded in Document No. 2017098643, O.P.R.W.C.T., and the west line of said Lot A, Block A, SUN CITY NEIGHBORHOOD SEVENTY-TWO, for the southernmost northwest corner and **POINT OF BEGINNING** of the herein described tract,

THENCE, leaving the east right-of-way line of said Pedernales Falls Drive and over and across said Lot A, Block A, SUN CITY NEIGHBORHOOD SEVENTY-TWO, said Lot A, Block E, SUN CITY NEIGHBORHOOD SEVENTY-SIX and said Lot B, Block A, SUN CITY NEIGHBORHOOD SEVENTY-SEVEN the following thirty-three (33) courses and distances:

1. North 76° 17' 15" East, a distance of 33.96 feet, to a calculated point;
2. North 03° 38' 47" West, a distance of 157.66 feet, to a calculated point;
3. North 71° 06' 38" East, a distance of 167.59 feet, to a calculated point;
4. North 61° 13' 40" East, a distance of 220.28 feet, to a calculated point;
5. North 70° 13' 43" East, a distance of 229.86 feet, to a calculated point;
6. North 77° 40' 56" East, a distance of 357.83 feet, to a calculated point;
7. North 84° 13' 47" East, a distance of 213.96 feet, to a calculated point;
8. North 89° 18' 07" East, a distance of 407.35 feet, to a calculated point;

9. North 64° 26' 35" East, a distance of 676.99 feet, to a calculated point;

10. North 27° 39' 46" East, a distance of 319.97 feet, to a calculated point;
11. North 12° 58' 04" East, a distance of 361.34 feet, to a calculated point;
12. North 50° 33' 15" East, a distance of 488.67 feet, to a calculated point;
13. North 59° 53' 20" East, a distance of 492.93 feet, to a calculated point;
14. North 66° 22' 24" East, a distance of 487.55 feet, to a calculated point, from which point a 1/2-inch iron rod with cap stamped " MCKIM AND CREED" found on the southeast corner of Lot 19, Block E of said SUN CITY NEIGHBORHOOD SEVENTY-SIX and an angle point of said Lot A, Block E, SUN CITY NEIGHBORHOOD SEVENTY-SIX, bears North 06°32'11" East, 130.96 feet ;
15. South 81° 49' 52" East, a distance of 351.27 feet, to a calculated point;
16. South 77° 58' 59" East, a distance of 37.01 feet, to a calculated point;
17. South 11° 22' 30" West, a distance of 15.00 feet, to a calculated point;
18. North 77° 58' 59" West, a distance of 36.68 feet, to a calculated point;
19. North 81° 49' 52" West, a distance of 346.49 feet, to a calculated point, from which point a 1/2-inch iron rod with a cap disturbed found on the north line of Lot G, Block 3, SUN CITY NEIGHBORHOOD FORTY-SIX, a subdivision recorded in Cabinet DD, Slide 248, O.P.R.W.C.T., at the southwest corner of said Lot B, Block A, SUN CITY NEIGHBORHOOD SEVENTY-SEVEN, and a southerly corner of Lot A, Block E, SUN CITY NEIGHBORHOOD SEVENTY-SIX, bears South 26°28'11" East, 176.40 feet ;
20. South 66° 22' 24" West, a distance of 482.43 feet, to a calculated point;
21. South 59° 53' 20" West, a distance of 490.86 feet, to a calculated point;
22. South 50° 33' 15" West, a distance of 482.34 feet, to a calculated point;
23. South 12° 58' 04" West, a distance of 358.17 feet, to a calculated point;
24. South 27°39'46" West, a distance of 326. 89 feet, to a calculated point;
25. South 64° 26' 35" West, a distance of 685.28 feet, to a calculated point;
26. South 89° 18' 07" West, a distance of 409.99 feet, to a calculated point;
27. South 84° 13' 47" West, a distance of 212.44 feet, to a calculated point;
28. South 77° 40' 56" West, a distance of 355.99 feet, to a calculated point;
29. South 70° 13' 43" West, a distance of 227.70 feet, to a calculated point;
30. South 61° 13' 40" West, a distance of 220.40 feet, to a calculated point;
31. South 71° 06' 38" West, a distance of 157.43 feet, to a calculated point;
32. South 03° 38' 47" East, a distance of 158.77 feet, to a calculated point; and
33. South 76° 16' 52" West, a distance of 47.34 feet, to a calculated point on the east right-of-way line of said Pedernales Falls Drive, same being the west line of said Lot A, Block A, SUN CITY NEIGHBORHOOD SEVENTY-TWO, and at the beginning of a curve to the right having a radius of 1160 feet, for the southernmost southwest corner of the herein described tract, from which point a 1/2-inch iron rod with a cap stamped " SURVCON" found for an angle point on the north line of Lot A, Block 1, SUN CITY GEORGETOWN NEIGHBORHOOD FORTY-EIGHT, a subdivision recorded in Document No. 2014020573, O.P.R.W.C.T., bears North 83°50'47" East, 802.91 feet;

THENCE, with said curve to the right with an arc distance of 15.03 feet, a central angle of 000°44'32", and a chord that bears North 10°37'54" West, a distance of 15.03 feet to the **POINT OF BEGINNING**, and containing 1.722 acres of land, more or less, within these metes and bounds.

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83'	= NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49'	= EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35'	= ELEVATION (NAD 83 / 93 HARN)

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

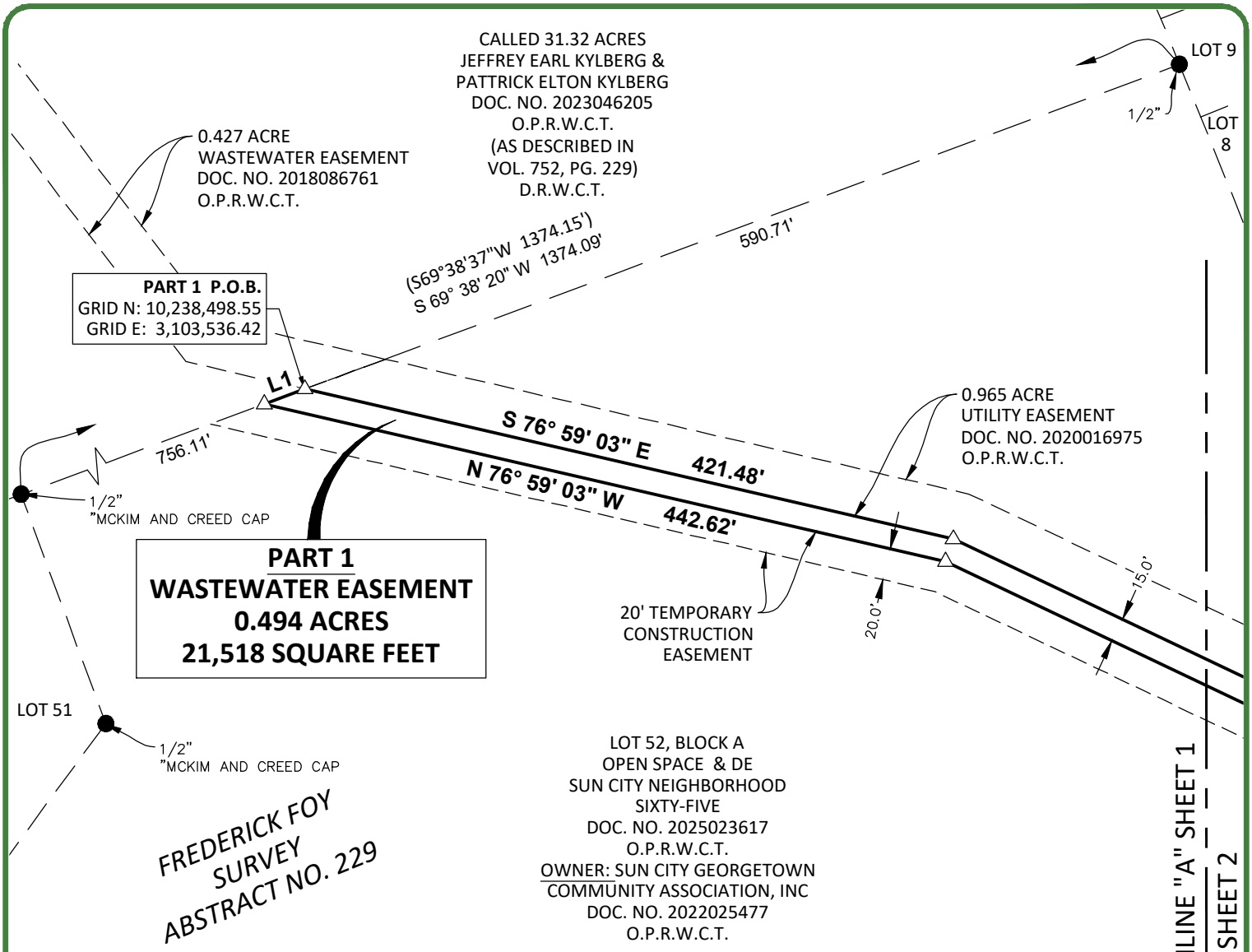
I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

Steger & Bizzell

11/20/2025

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412
TBPELS Firm No. 10003700

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-WWE-1.722AC.docx



1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' = ELEVATION (NAD 83 / 93 HARN)

2. SEE ATTACHED METES AND BOUNDS DESCRIPTION.

3. NO MONUMENTS SET FOR EASEMENT HEREON.

100' 80' 60' 40' 20' 0' 50' 100'

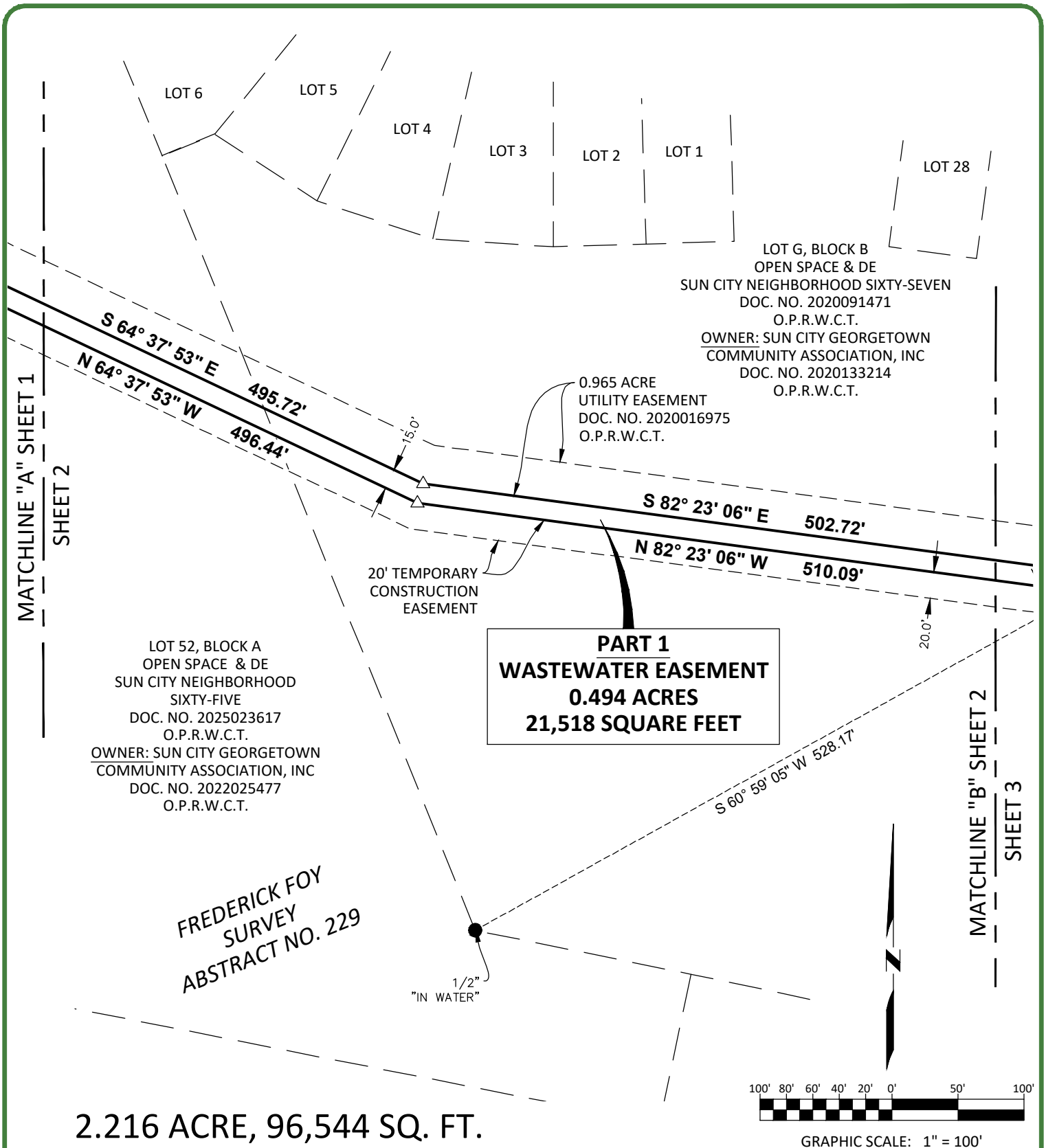
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 1 OF 10



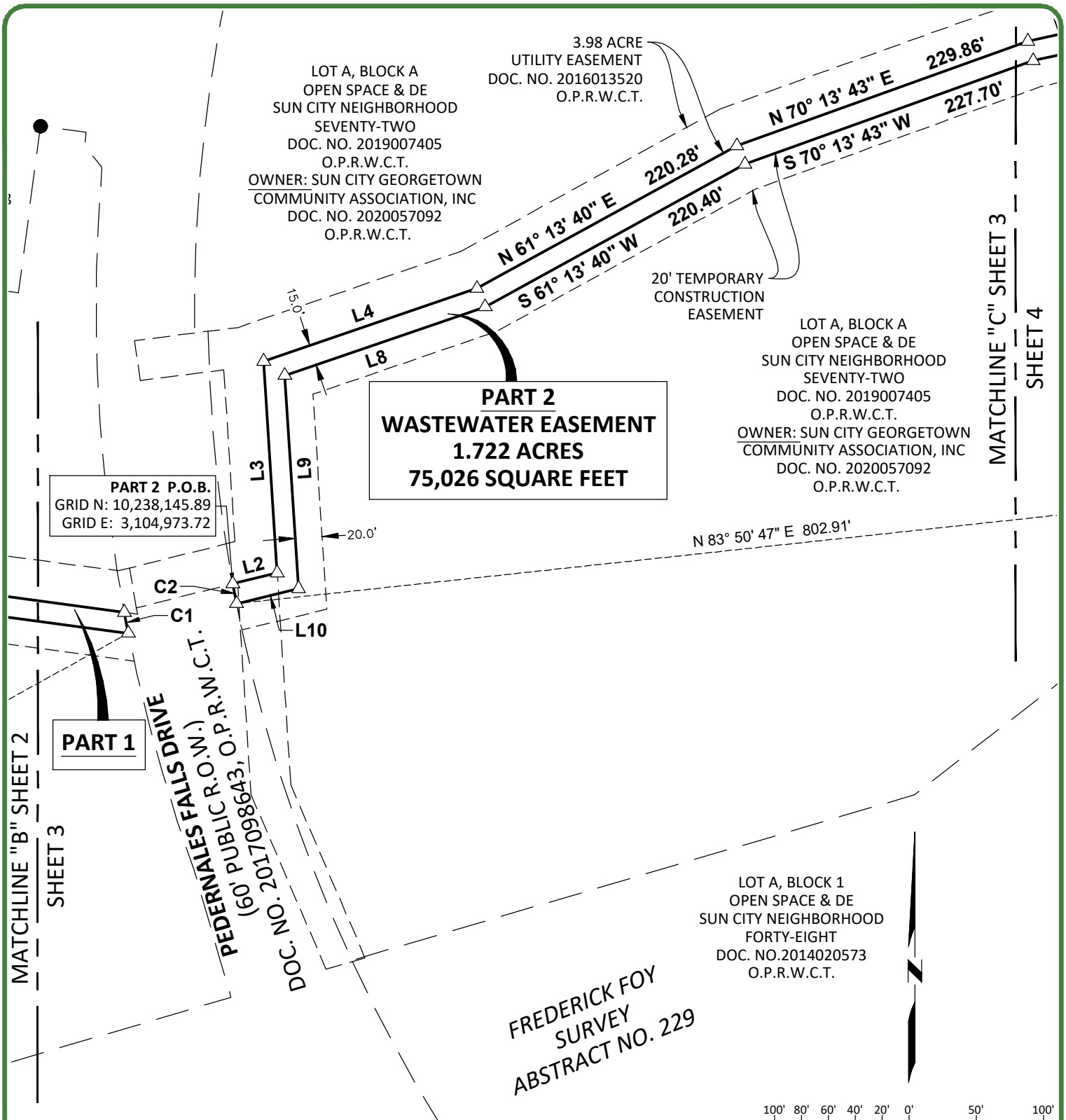
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 2 OF 10

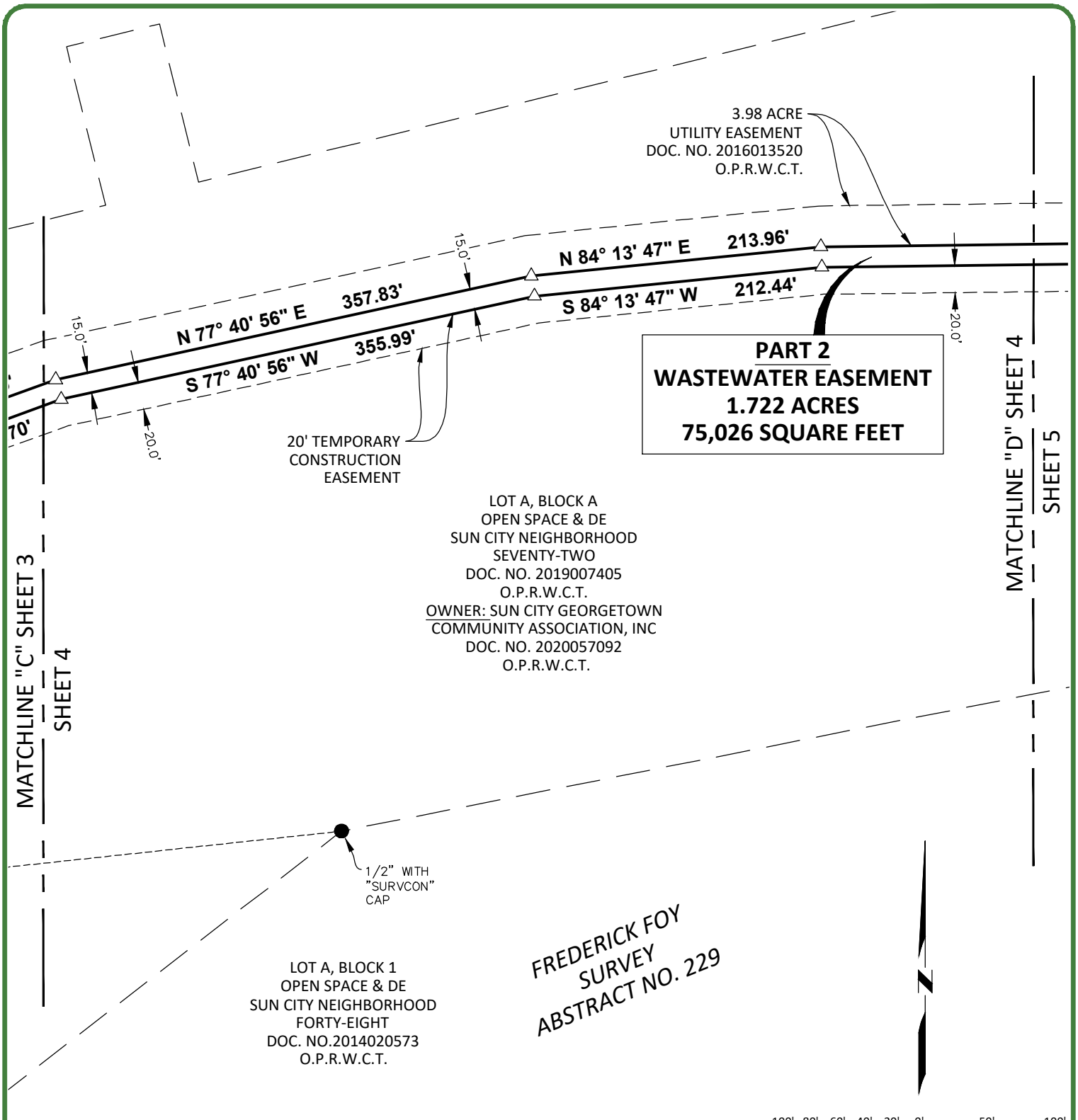


2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO	512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 11/19/2025 JOB NO. 23030 SHEET 3 OF 10



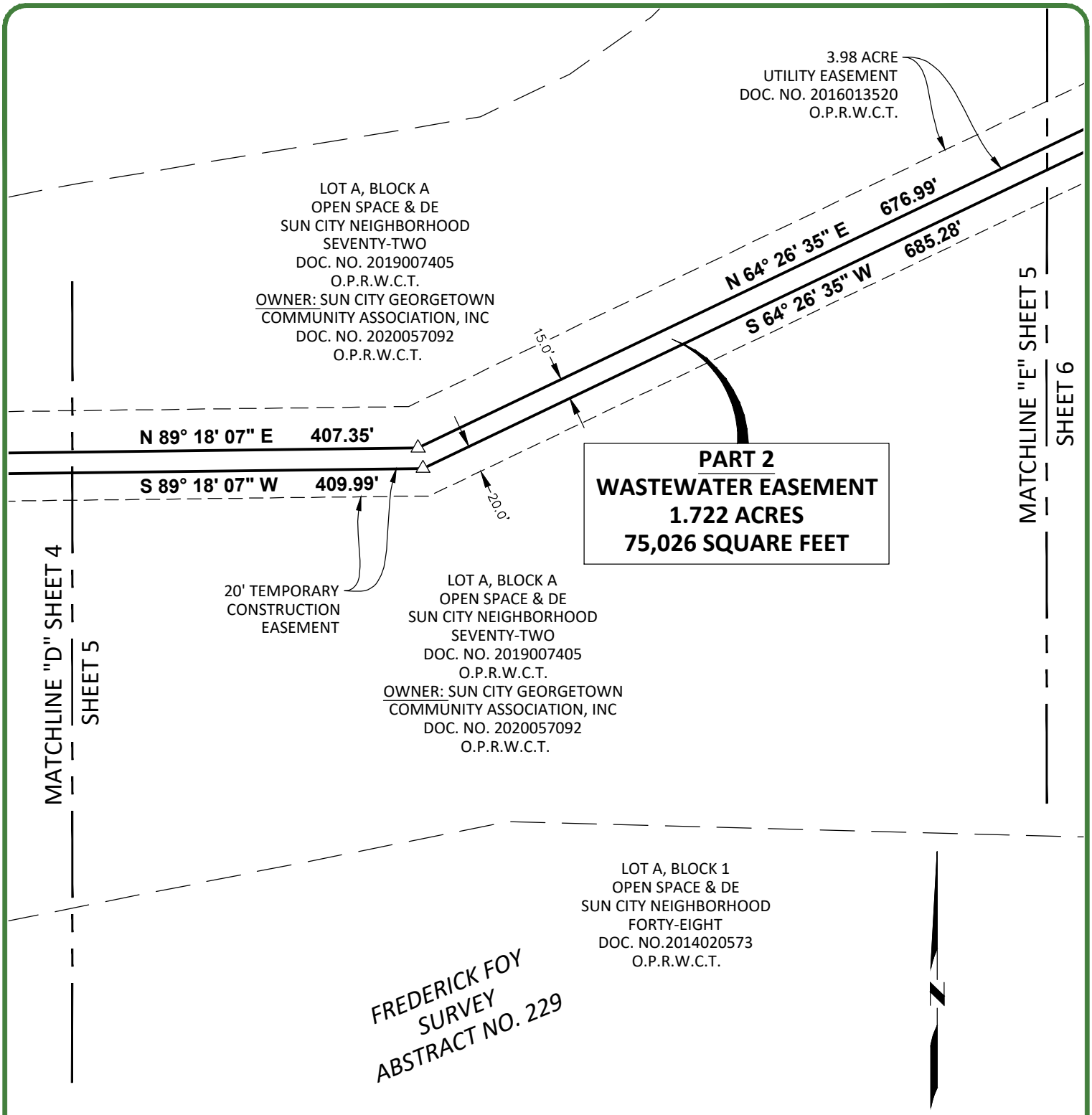
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 4 OF 10

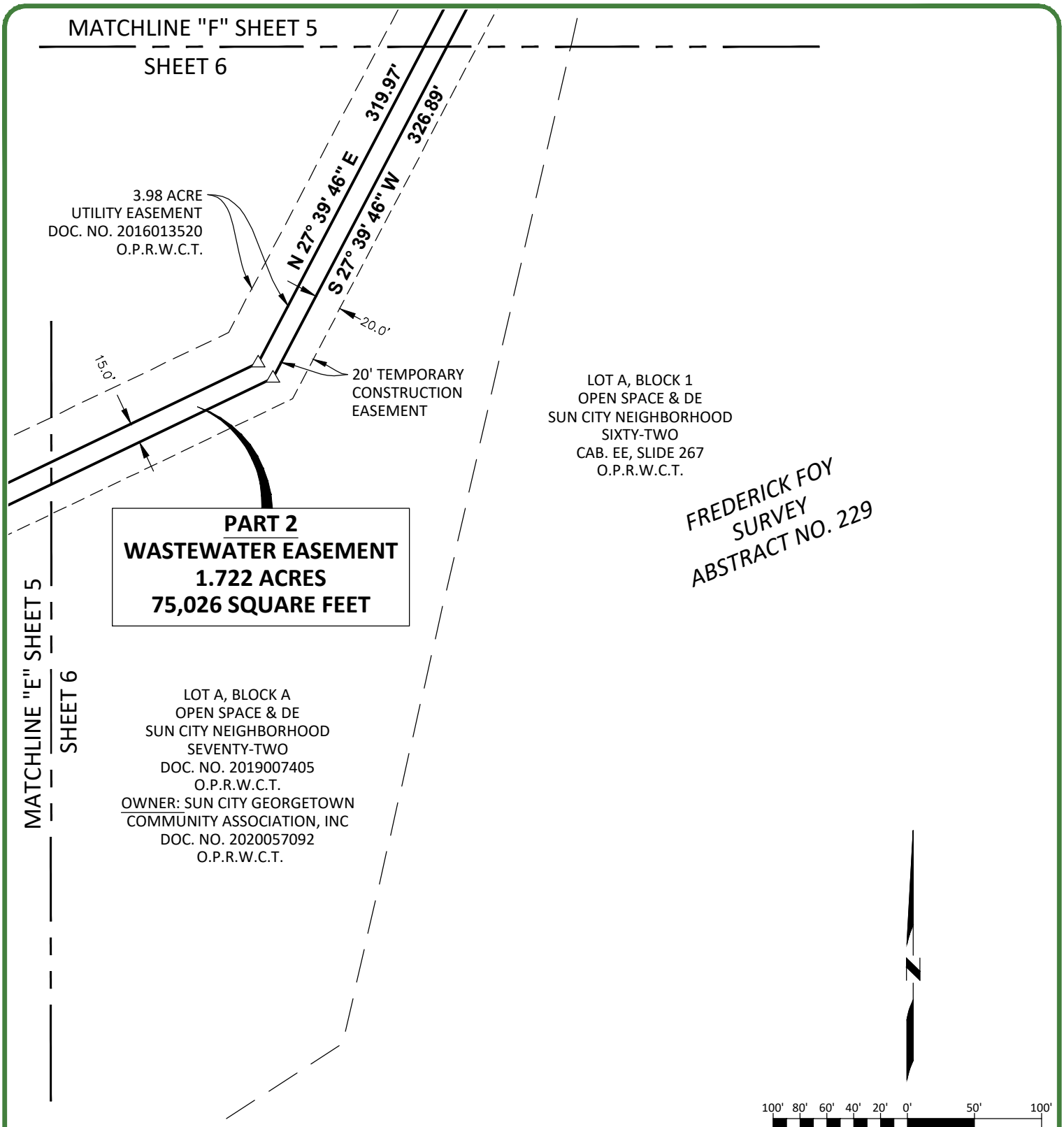


2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 5 OF 10



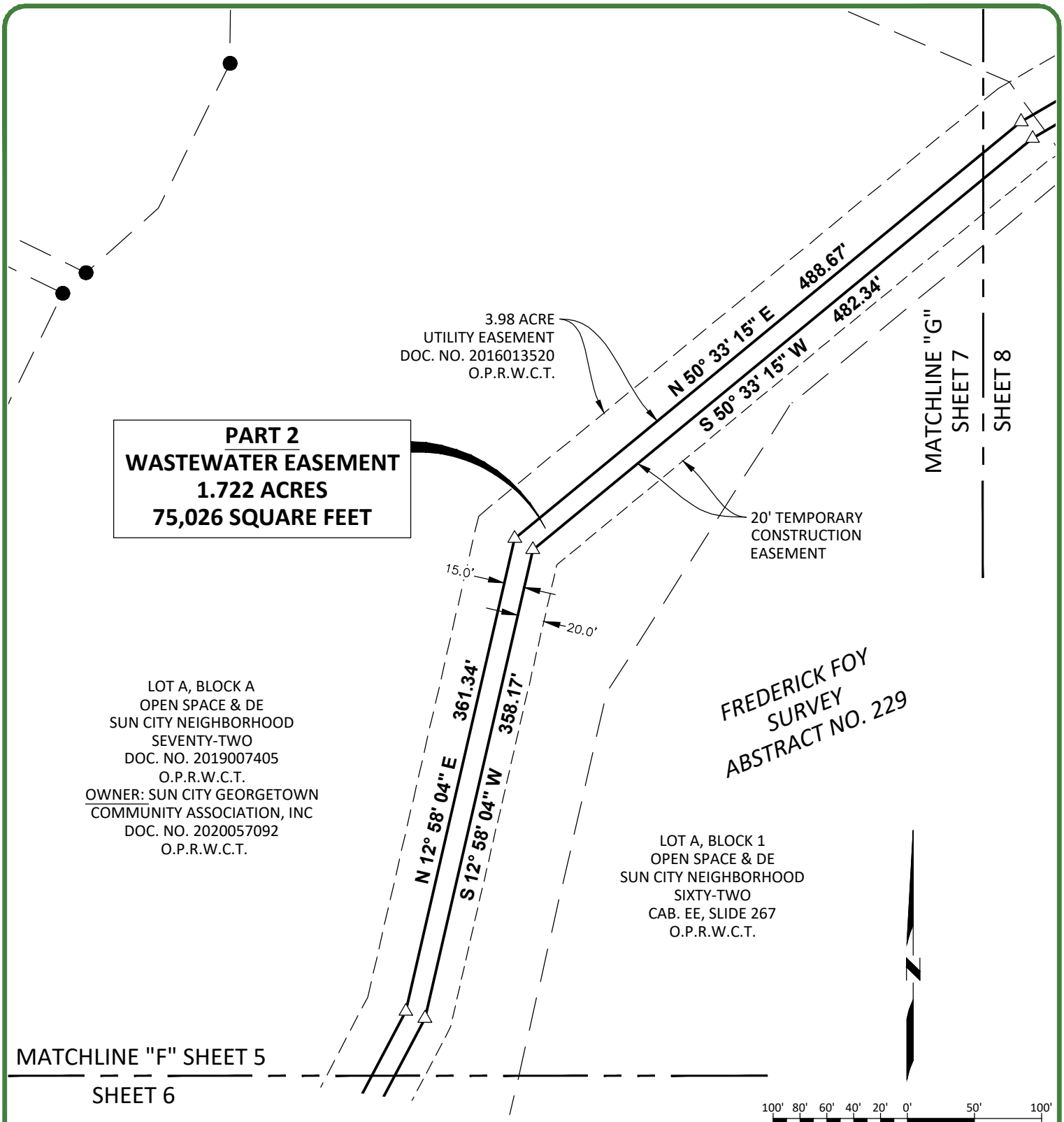
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 6 OF 10



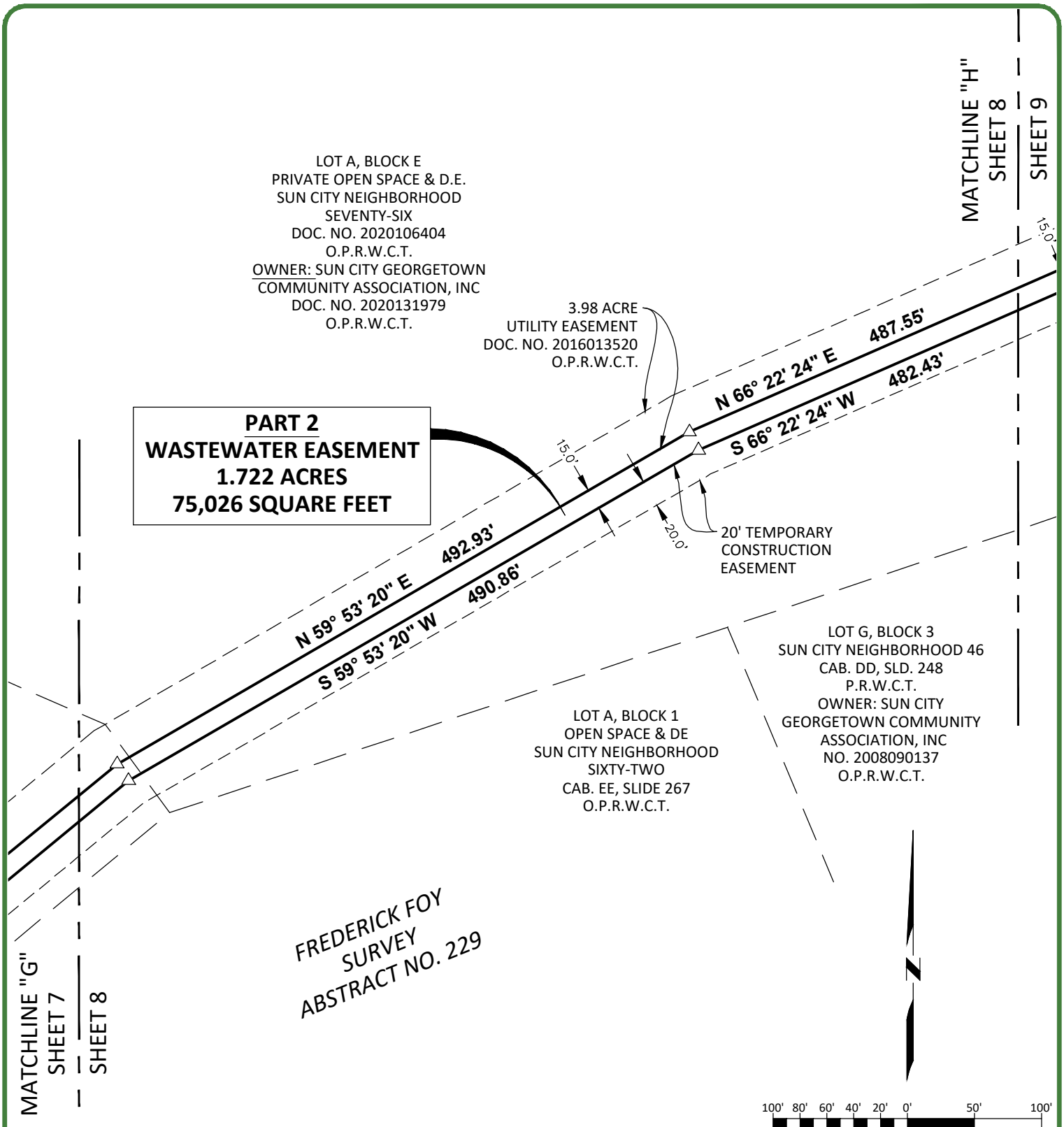
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 7 OF 10



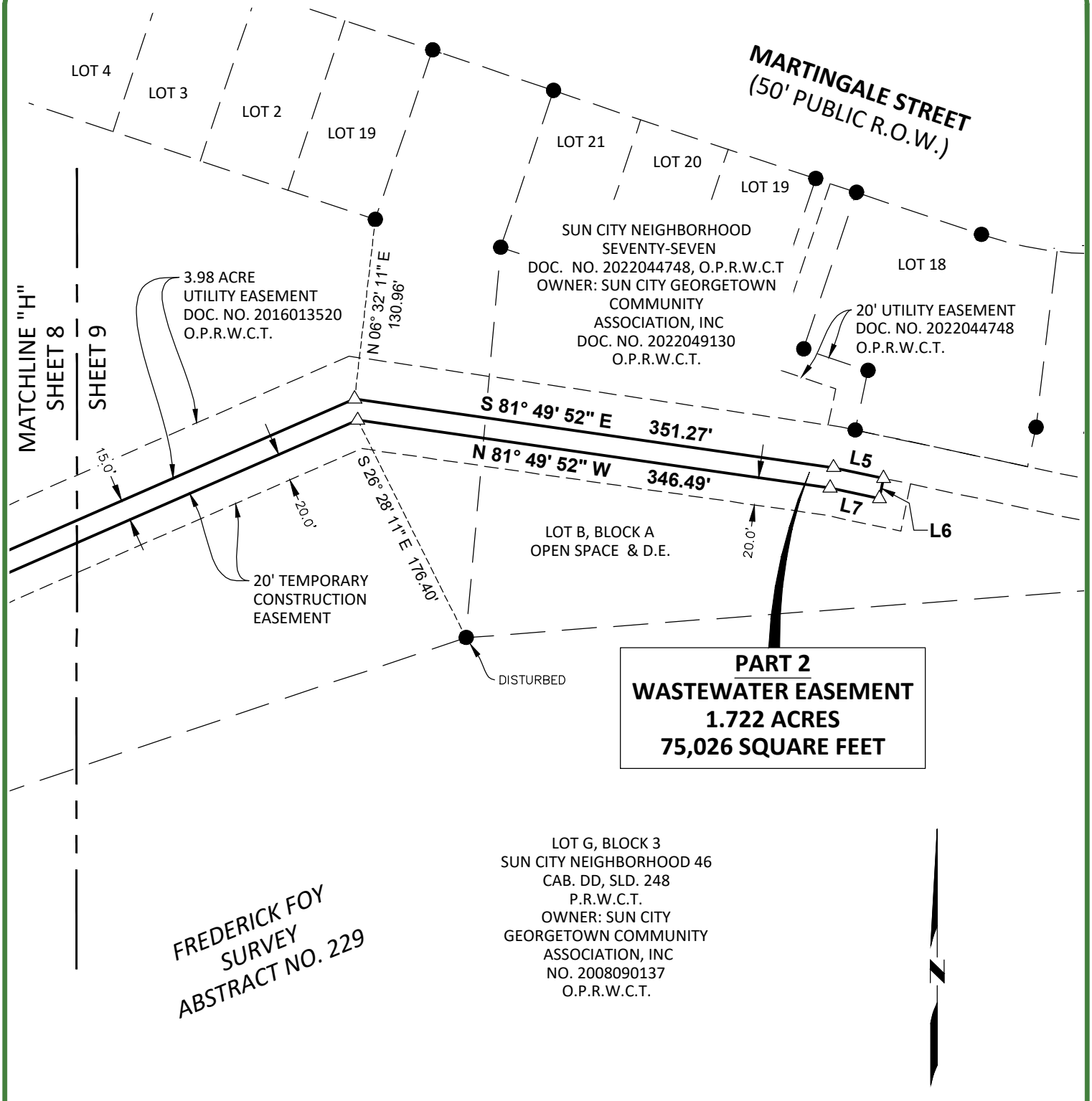
GRAPHIC SCALE: 1" = 100'

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 8 OF 10



GRAPHIC SCALE: 1" = 100'

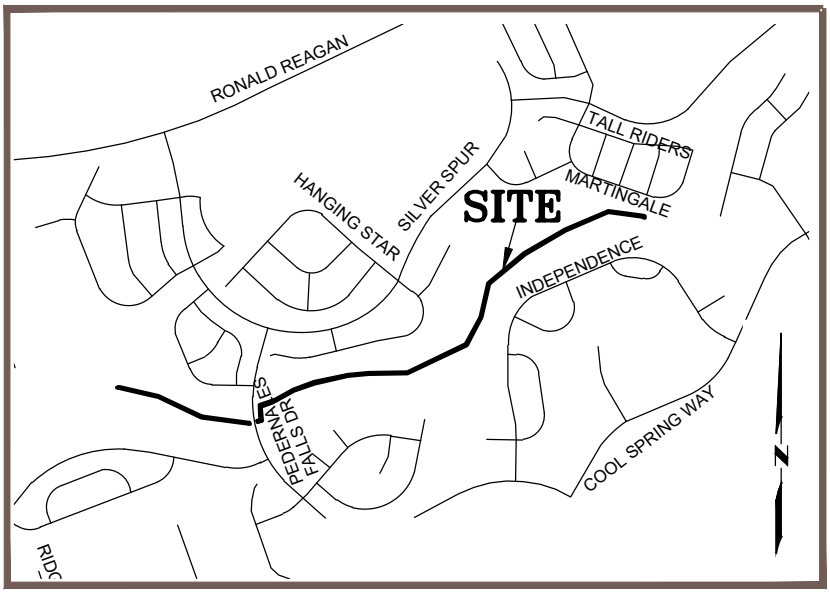
2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO	512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 11/19/2025 JOB NO. 23030 SHEET 9 OF 10

LOCATION MAP 1" = 2000'



Line Table		
Line #	Direction	Length
L1	N 69°38'20" E	27.27'
L2	N 76°17'15" E	33.96'
L3	N 03°38'47" W	157.66'
L4	N 71°06'38" E	167.59'
L5	S 77°58'59" E	37.01'
L6	S 11°22'30" W	15.00'
L7	N 77°58'59" W	36.68'
L8	S 71°06'38" W	157.43'
L9	S 03°38'47" E	158.77'
L10	S 76°16'52" W	47.34'

LEGEND

———	PROPERTY BOUNDARY LINE
— — — —	PROPERTY ADJOINER LINE
●	1/2" IRON ROD WITH "McKIM & CREED" CAP FOUND (UNLESS NOTED)
▲	NAIL FOUND (TYPE AS NOTED)
△	CALCULATED POINT
(....)	RECORD INFORMATION FOR ADJACENT PROPERTIES
CAB./SLD.	CABINET, SLIDE
R.P.R.W.C.T.	REAL PROPERTY RECORDS OF WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.W.C.T.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING
D.E.	DRAINAGE EASEMENT
R.O.W.	RIGHT-OF-WAY

Curve Table					
Curve #	Length	Radius	Delta	Bearing	Chord
C1	15.82'	1240.00'	000°43'52"	S 10°55'03" E	15.82'
C2	15.03'	1160.00'	000°44'32"	N 10°37'54" W	15.03'

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS ACTUALLY MADE UPON THE GROUND UNDER MY DIRECTION AND SUPERVISION. THE FIELD WORK WAS COMPLETED ON NOVEMBER 13, 2025.

DATE OF PLAT OR MAP: NOVEMBER 18, 2025

STEGER BIZZELL

11/20/2025

STATE OF TEXAS REGISTERED PATRICK J. STEVENS 5784 PROFESSIONAL LAND SURVEYOR

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784
1978 S. AUSTIN AVE
GEORGETOWN, TEXAS
PHONE 512.930.9412
TBPELS FIRM REG. # 10003700

2.216 ACRE, 96,544 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 11/19/2025 JOB NO. 23030 SHEET 10 OF 10

DESCRIPTION OF 0.210 ACRES

DESCRIPTION OF A 0.210 ACRE TRACT OF LAND LOCATED IN THE FREDERICK FOY SURVEY, ABSTRACT NO. 226, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 31.32 ACRE TRACT OF LAND, CONVEYED IN A RELINQUISHMENT OF LIFE ESTATE TO JEFFREY EARL KYLBERG AND PATTRICK ELTON KYLBERG, RECORDED IN DOCUMENT NO. 2023046205, OFFICIAL PUBLIC RECORDS WILLIAMSON COUNTY TEXAS (O.P.R.W.C.T.), AS DESCRIBED IN VOLUME 752, PAGE 229 DEED RECORDS WILLIAMSON COUNTY TEXAS (D.R.W.C.T.) SAID 0.210 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the south line of said 31.32 acre tract, and the north line of Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, recorded in Document No. 2025023617 (O.P.R.W.C.T.) for the southeast corner and **POINT OF BEGINNING** of the herein described tract, from which point a 1/2-inch iron rod found on the west line of Lot 9, Block B, of SUN CITY NEIGHBORHOOD SIXTY-SEVEN, recorded in Document No. 2020091471 (O.P.R.W.C.T.), bears North 69°38'20" East, 590.71 feet;

THENCE, along the south line of said 31.32 acre tract and north line of said Lot 52, Block A, SUN CITY NEIGHBORHOOD SIXTY-FIVE, South 69°38'20" West, a distance of 27.27 feet, to a calculated point for the southwest corner of the herein described tract, from which point a 1/2–inch iron rod with cap stamped "MCKIM AND CREED" found for the northeast corner of Lot 51, Block A, of said SUN CITY NEIGHBORHOOD SIXTY-FIVE, bears South 69°38'20" West, 756.11 feet;

THENCE, over and across said 31.32 acre tract, the following three (3) courses and distances;

1. North 76°58'19" West, a distance of 59.93 feet, to a calculated point;

2. North 37°22'38" West, a distance of 505.95 feet, to a calculated point; and

3. North 35°50'18" West, a distance of 39.24' feet, to a calculated point in the north line of the said 31.32 acre tract, the south line of Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E recorded in Document No. 2021129735 (O.P.R.W.C.T.) and said point being the northwest corner of the herein described tract, from which point a 1/2–inch iron rod found for the southwest corner of said Lot 14, Block A, and the southeast corner of lot 13, Open Space and Drainage Easement VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E, bears South 69°31'00" West, 524.96 feet;

THENCE, with said north line of said 31.32 acre tract and south line of said Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E North 69°30'58" East, a distance of 15.56 feet, to a calculated point being the northeast corner of the herein described tract.

THENCE, over and across said 31.32 acre tract, the following three (3) courses and distances;

1. South 35°50'18" East, a distance of 34.92 feet, to a calculated point;

2. South 37°22'38" East, a distance of 500.35 feet, to a calculated point;

3. South 76°58'31" East, a distance of 77.30 feet to the **POINT OF BEGINNING**, and containing 0.210 acres of land, more or less, within these metes and bounds.

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING -1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING -1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION +0.35' = ELEVATION (NAD 83 / 93 HARN)

0.210 Acres
Frederick Foy Survey
Abstract No. 226
Williamson County, Texas

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

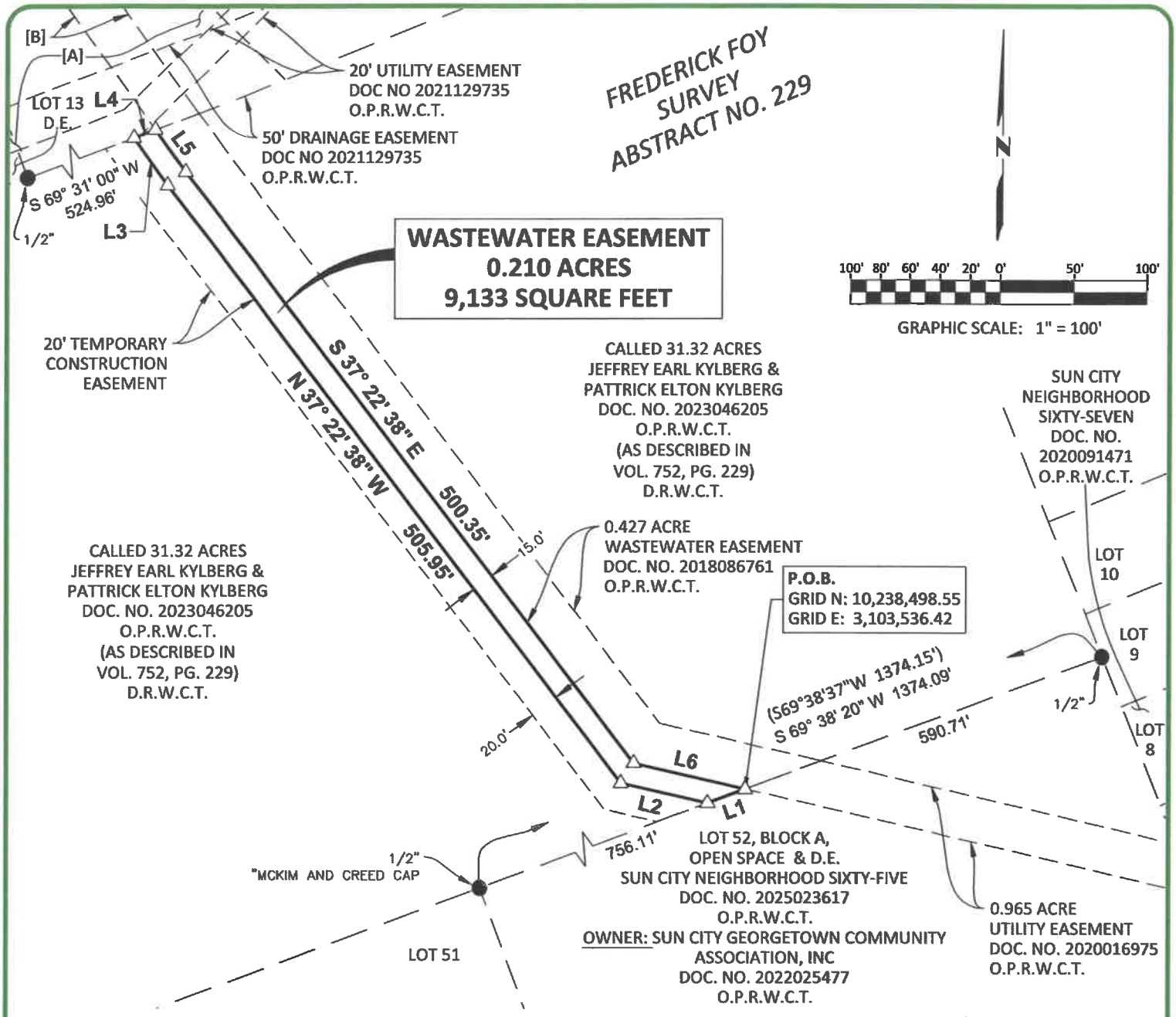
I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

Steger & Bizzell Engineering Inc.

12-3-25

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412
TBPELS Firm No. 10003700

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-W.W.E. 2 -0.210AC.docx



1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' = ELEVATION (NAD 83 / 93 HARN)

2. SEE ATTACHED METES AND BOUNDS DESCRIPTION.

3. NO MONUMENTS SET FOR EASEMENT HEREON.

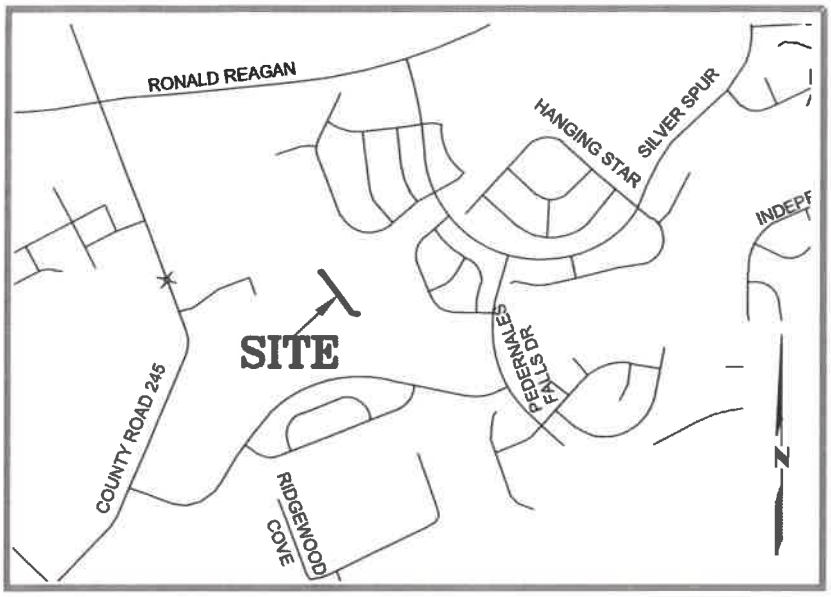
0.210 ACRE, 9,133 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No. 10003700 | STEGERBIZZELL.COM
>>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 1 OF 2

LOCATION MAP 1" = 2000'



Line Table		
Line #	Direction	Length
L1	S 69°38'20" W	27.27'
L2	N 76°58'19" W	59.93'
L3	N 35°50'18" W	39.24'
L4	N 69°30'58" E	15.56'
L5	S 35°50'18" E	34.92'
L6	S 76°58'31" E	77.30'

[A]
LOT 14, BLOCK A
VACATION AND RESUBDIVISION
ESTABLISHING REPLAT OF PLANNED UNIT
DEVELOPMENT OF SUNCITY GEORGETOWN
NEIGHBORHOOD TEN-E
DOC NO 2021129735,
O.P.R.W.C.T.
OWNER: SUN CITY GEORGETOWN
COMMUNITY ASSOCIATION INC.
DOC NO 2022045175
O.P.R.W.C.T.

[B]
30' UTILITY EASEMENT
DOC NO 2020016974
O.P.R.W.C.T.

LEGEND

———	PROPERTY BOUNDARY LINE
— — — —	PROPERTY ADJOINER LINE
●	1/2" IRON ROD FOUND (UNLESS NOTED)
△	CALCULATED POINT
(....)	RECORD INFORMATION FOR ADJACENT PROPERTIES
D.E.	DRAINAGE EASEMENT
CAB./SLD.	CABINET, SLIDE
VOL./PG.	VOLUME, PAGE
DOC. NO.	DOCUMENT NUMBER
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.W.C.T.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS ACTUALLY MADE UPON THE GROUND UNDER MY DIRECTION AND SUPERVISION. THE FIELD WORK WAS COMPLETED ON NOVEMBER 13, 2025.

DATE OF PLAT OR MAP: NOVEMBER 18, 2025

STEGER BIZZELL

12-3-25

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784
1978 S. AUSTIN AVE
GEORGETOWN, TEXAS
PHONE 512.930.9412
TBPELS FIRM REG. # 10003700

STATE OF TEXAS
REGISTERED
PATRICK J. STEVENS
5784
PROFESSIONAL
LAND SURVEYOR

0.210 ACRE, 9,133 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No. 10003700 WEB STEGERBIZZELL.COM
>>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 2 OF 2

DESCRIPTION OF 0.637 ACRES

DESCRIPTION OF A 0.637 ACRE TRACT OF LAND LOCATED IN THE FREDERICK FOY SURVEY, ABSTRACT NO. 226, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF LOT 14, BLOCK A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E RECORDED IN DOCUMENT NO. 2021129735 OFFICAL PUBLIC RECORD WILLIAMSON COUNTY TEXAS (O.P.R.W.C.T.), SAID 0.637 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the north line of called 31.32 acre tract of land conveyed in a relinquishment of life estate to Jeffrey Earl Kylberg and Pattrick Elton Kylberg, recorded in Document No. 2023046205, (O.P.R.W.C.T.) as described in Volume 752, Page 229 Deed Record Williamson County (D.R.W.C.T.), and the South line of said Lot 14, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E for the southwest corner and **POINT OF BEGINNING** of the herein described tract, from which point a 1/2–inch iron rod found for the southwest corner of said Lot 14, Block A and the southeast corner of Lot 13, Open Space and Drainage Easement of said VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E, bears South 69°31'00" West, 524.96 feet;

THENCE, over and across said Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E, the following three (3) courses and distances;

1. North 35°49'53" West, a distance of 273.53 feet, to a calculated point;

2. North 70°11'37" West, a distance of 492.71 feet, to a calculated point; and

3. South 69°12'31" West, a distance of 1071.71' feet, to a calculated point in the west line of said Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN

NEIGHBORHOOD TEN-E, the east line of County Road 245 (Right-of-Way varies) as recorded in Document No. 1995053392 and 2003082496 (O.P.R.W.C.T.), also being the east line of a called 0.5097 acre tract conveyed to Williamson County, Texas in Document No. 2021168134 and said point being a corner of the herein described tract;

THENCE, with the west line of said Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E, and the east line of said County Road 245, North 21°12'16" West, a distance of 15.00' feet, to a calculated point for the northwest corner of the herein described tract, from which point a 1/2–inch iron rod with "McGray & McGray" cap found for the northwest corner of said Lot 14, Block A and the southwest corner of a remainder of a called 20 acre tract conveyed to Diane Miller O'Rourke and Janet Miller Rode in Document No. 2019069263 (O.P.R.W.C.T.), bears North 21°12'16" West, 29.88 feet;

THENCE, over and across said Lot 14, Block A, VACATION AND RESUBDIVISION ESTABLISHING REPLAT OF PLANNED UNIT DEVELOPMENT OF SUNCITY GEORGETOWN NEIGHBORHOOD TEN-E, the following three (3) courses and distances

1. North 69°12'31" East, a distance of 1077.37 feet, to a calculated point;

2. South 70°11'37" East, a distance of 502.90 feet, to a calculated point;

3. South 35°49'53" East, a distance of 282.28 feet to the **POINT OF BEGINNING**, and containing 0.637 acres of land, more or less, within these metes and bounds.

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' =	NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' =	EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' =	ELEVATION (NAD 83 / 93 HARN)

0.637 Acres
Frederick Foy Survey
Abstract No. 226
Williamson County, Texas

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

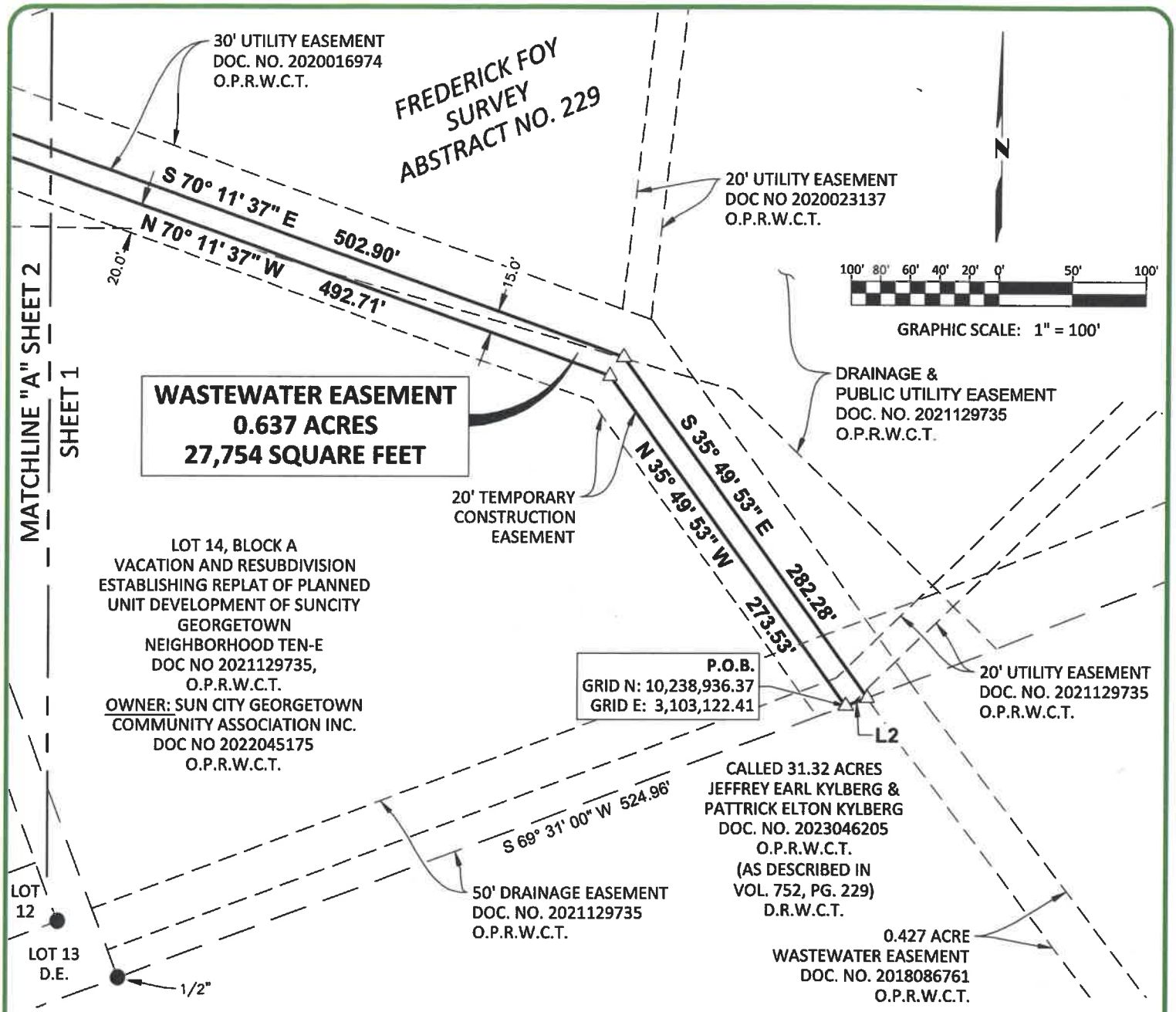
I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

Steger & Bizzell Engineering Inc.

12-3-25

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412
TBPELS Firm No. 10003700

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-W.W.E 3 - 0.637AC.docx



1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' = ELEVATION (NAD 83 / 93 HARN)

2. SEE ATTACHED METES AND BOUNDS DESCRIPTION.

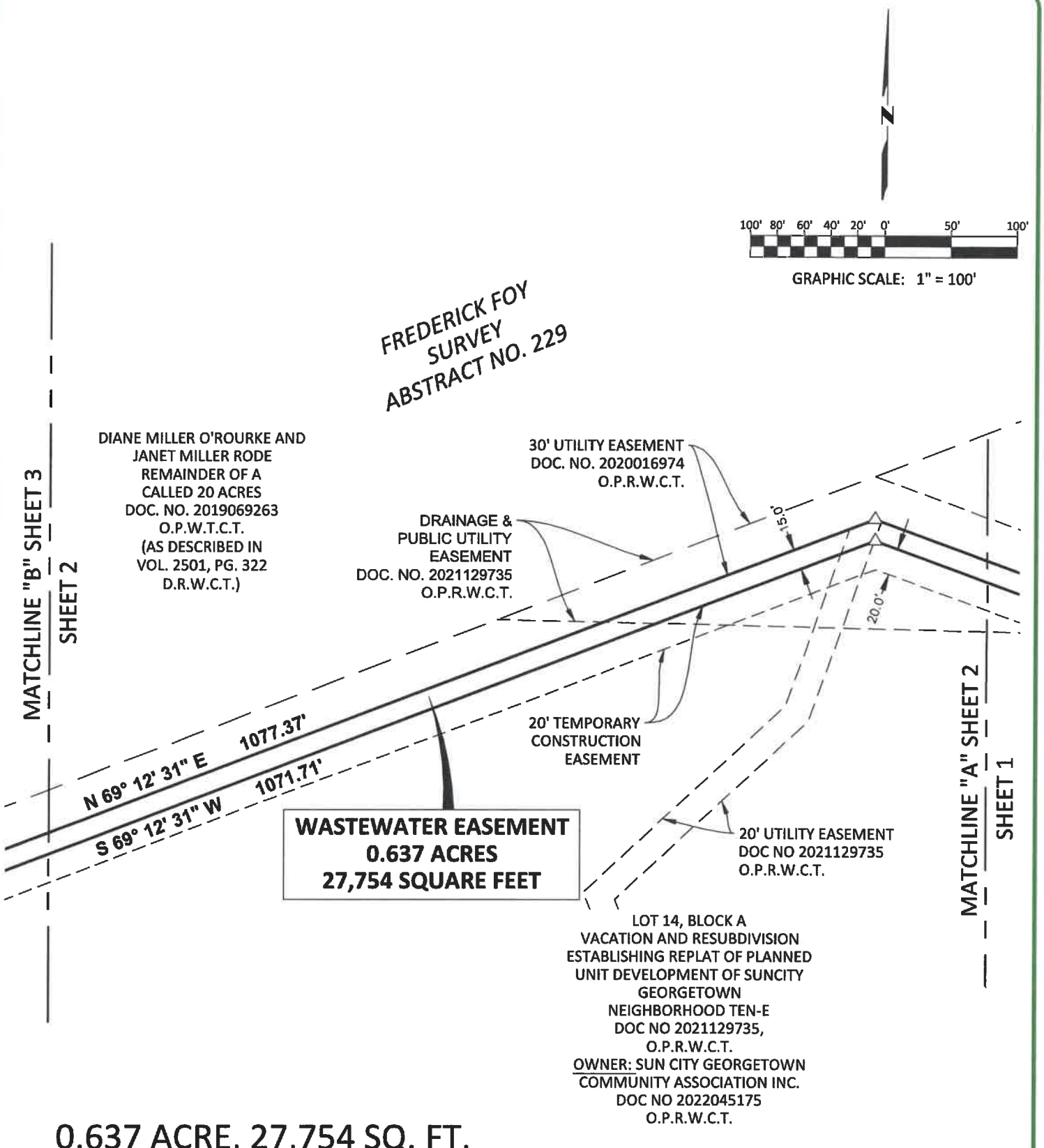
3. NO MONUMENTS SET FOR EASEMENT HEREON.

0.637 ACRE, 27,754 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 1 OF 4

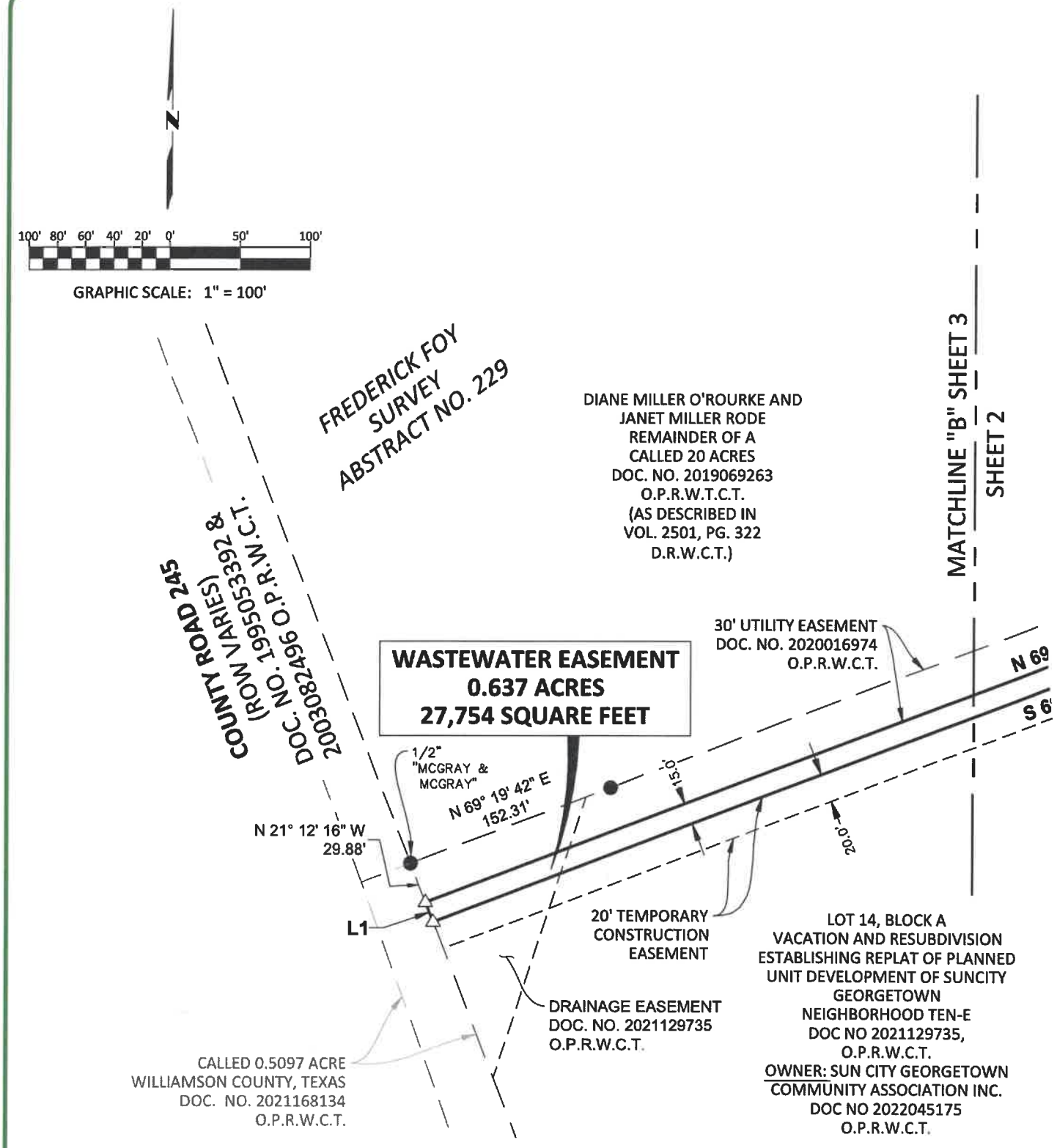


0.637 ACRE, 27,754 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO 512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB	STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 12/1/2025 JOB NO. 23030 SHEET 2 OF 4



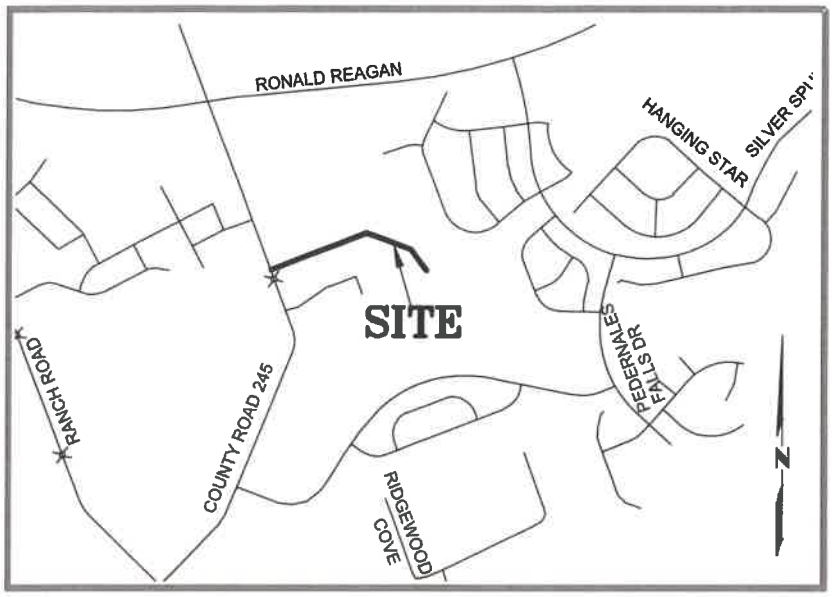
0.637 ACRE, 27,754 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO 512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB	STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 12/1/2025 JOB NO. 23030 SHEET 3 OF 4

LOCATION MAP 1" = 2000'



Line Table		
Line #	Direction	Length
L1	N 21°12'16" W	15.00'
L2	S 69°30'58" W	15.56'

LEGEND

———	PROPERTY BOUNDARY LINE
— — — —	PROPERTY ADJOINER LINE
●	1/2" IRON ROD FOUND (UNLESS NOTED)
△	CALCULATED POINT
(....)	RECORD INFORMATION FOR ADJACENT PROPERTIES
D.E.	DRAINAGE EASEMENT
R.O.W.	RIGHT-OF-WAY
CAB./SLD.	CABINET, SLIDE
VOL./PG.	VOLUME, PAGE
DOC. NO.	DOCUMENT NUMBER
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.W.C.T.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS ACTUALLY MADE UPON THE GROUND UNDER MY DIRECTION AND SUPERVISION. THE FIELD WORK WAS COMPLETED ON NOVEMBER 13, 2025.

DATE OF PLAT OR MAP: NOVEMBER 18, 2025

STEGER BIZZELL

12-3-25

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784
1978 S. AUSTIN AVE
GEORGETOWN, TEXAS
PHONE 512.930.9412
TBPELS FIRM REG. # 10003700

STATE OF TEXAS
REGISTERED
PATRICK J. STEVENS
5784
PROFESSIONAL
LAND SURVEYOR

0.637 ACRE, 27,754 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO	512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 12/1/2025 JOB NO. 23030 SHEET 4 OF 4

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\CAD\23030_W.W.E.3.dwg, 12/2/2025 1:41:20 PM

0.945 Acres
Frederick Foy Survey
Abstract No. 229 &
Lewis P. Dyches Survey
Abstract No. 171
Williamson County, Texas

DESCRIPTION OF 0.945 ACRES

DESCRIPTION OF A 0.945 ACRE TRACT OF LAND LOCATED IN THE FREDERICK FOY SURVEY, ABSTRACT NO. 229 AND THE LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 36.658 ACRE TRACT CONVEYED TO CITY OF GEORGETOWN, TEXAS, A TEXAS HOME RULE MUNICIPAL CORPORATION RECORDED IN DOCUMENT NO. 2021197703 OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY TEXAS (O.P.R.W.C.T.), SAID 0.945 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the east line of said 36.658 acre tract and the west line of County Road 245 (Right-of-Way varies) as recorded in Document No. 1995053392 and 2003082496 (O.P.R.W.C.T.), for the southeast corner and **POINT OF BEGINNING** of the herein described tract, from which point a 1/2–inch iron rod found for the northeast corner of a remainder of a called 20 acre tract conveyed to Adele Perriello and John A. Luzius in Document No. 2025054271 (O.P.R.W.C.T.) and being further described in Document No. 2007019684 (O.P.R.W.C.T.), bears South 15°57'53" East, 295.69 feet;

THENCE, over and across said 36.658 acre tract the following seven (7) courses and distances;

1. South 69°08'21" West, a distance of 399.01 feet, to a calculated point;
2. South 55°26'26" West, a distance of 478.99 feet, to a calculated point;
3. South 48°37'10" West, a distance of 501.56' feet, to a calculated point;
4. South 79°41'21" West, a distance of 509.10' feet, to a calculated point;
5. North 78°34'36" West, a distance of 503.68' feet, to a calculated point;

6. North 67°28'49" West, a distance of 344.24' feet, to a calculated point; and

7. North 78°10'03" West, a distance of 8.63' feet, to a calculated point in the west line of said 36.658 acre tract and the east line of Ranch Road 2338 (right-of-way varies) being recorded in Volume 416, Page 60 Deed Record Williamson County Texas (D.R.W.C.T.), Document No. 2010033821 and Document No. 2010031466 (O.P.R.W.C.T.) and being the southwest corner herein, from which point a TxDot type III found for an angle point in the west line of said 36.658 acre tract and an angle point in said the east right-of-way line of said Ranch Road 2338, bears South 21°02'31" East, 136.99 feet;

THENCE, with the west line of said 36.658 acre tract, and the east line of said Ranch Road 2338, North 21°02'31" West, a distance of 17.86' feet, to a calculated point for the northwest corner of the herein described tract, from which point a TxDot type III found for an angle point in the west line of said 36.658 acre tract and the east right-of-way line of said Ranch Road 2338, bears North 21°02'31" West, 226.74 feet;

THENCE, over and across said 36.658 acre tract the following seven (7) courses and distances;

1. South 78°10'03" East, a distance of 19.73 feet, to a calculated point;

2. South 67°28'49" East, a distance of 344.19 feet, to a calculated point;

3. South 78°34'36" East, a distance of 499.34' feet, to a calculated point;

4. North 79°41'21" East, a distance of 502.05 feet, to a calculated point;

5. North 48°37'10" East, a distance of 498.28 feet, to a calculated point;

6. North 55°26'26" East, a distance of 481.69' feet, to a calculated point; and

7. North 69°08'21" East, a distance of 400.71' feet, to a calculated point in the east line of said 36.658 acre tract, west line of said County Road 245 and the Northeast corner of the herein described tact;

0.945 Acres
Frederick Foy Survey
Abstract No. 229 &
Lewis P. Dyches Survey
Abstract No. 171
Williamson County, Texas

THENCE, with the east line of said 36.658 acre tract and west line of said County Road 245 South 21°16'08" East, a distance of 15.00 feet to the **POINT OF BEGINNING**, and containing 0.945 acres of land, more or less, within these metes and bounds.

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' =	NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' =	EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' =	ELEVATION (NAD 83 / 93 HARN)

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

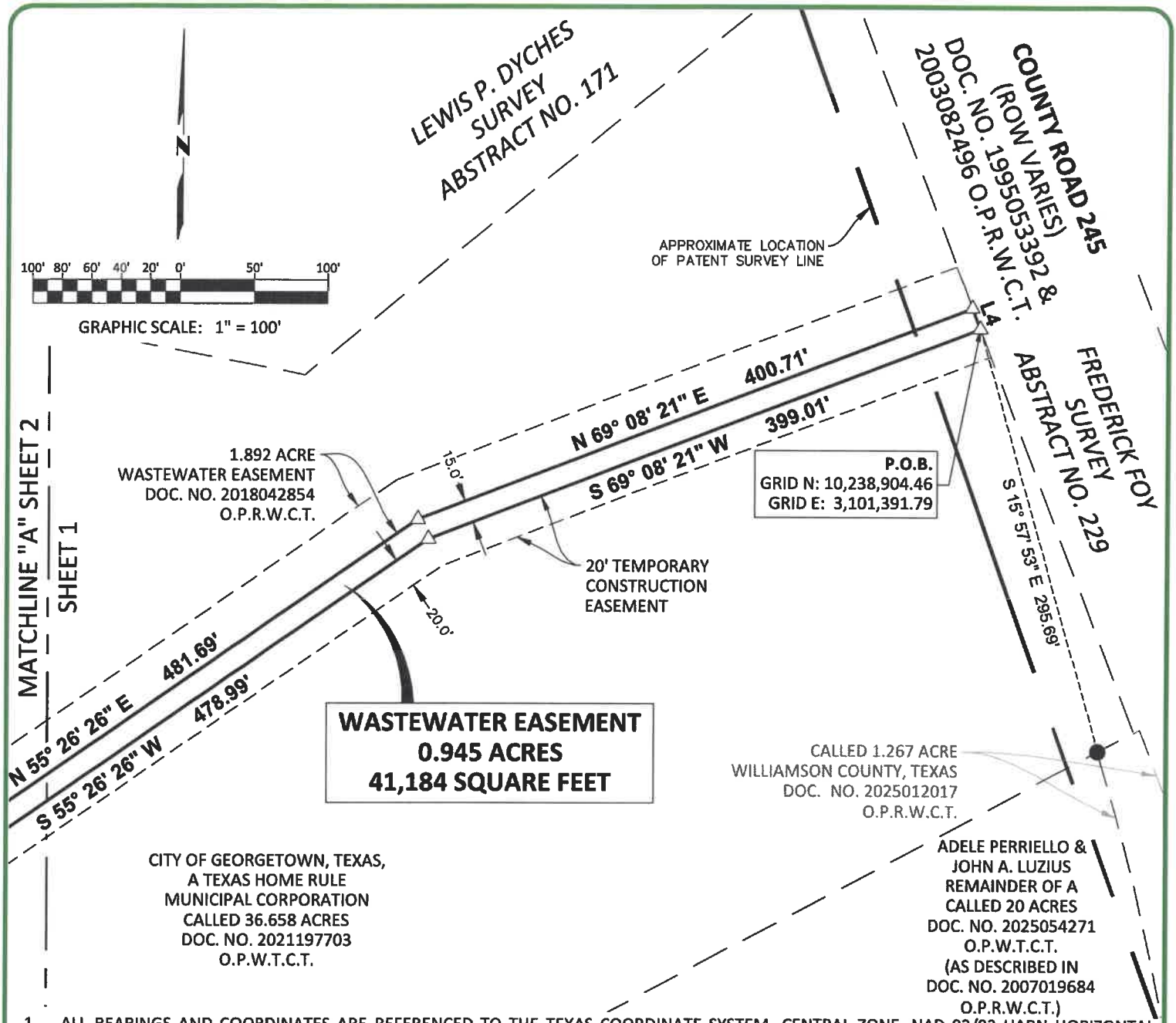
I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

Steger & Bizzell Engineering Inc.

12-3-25

STATE OF TEXAS
REGISTERED
PATRICK J. STEVENS
5784
PROFESSIONAL
LAND SURVEYOR

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412, TBPELS Firm No. 10003700
P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-W.W.E 4 - 0.945AC.docx



1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' = ELEVATION (NAD 83 / 93 HARN)

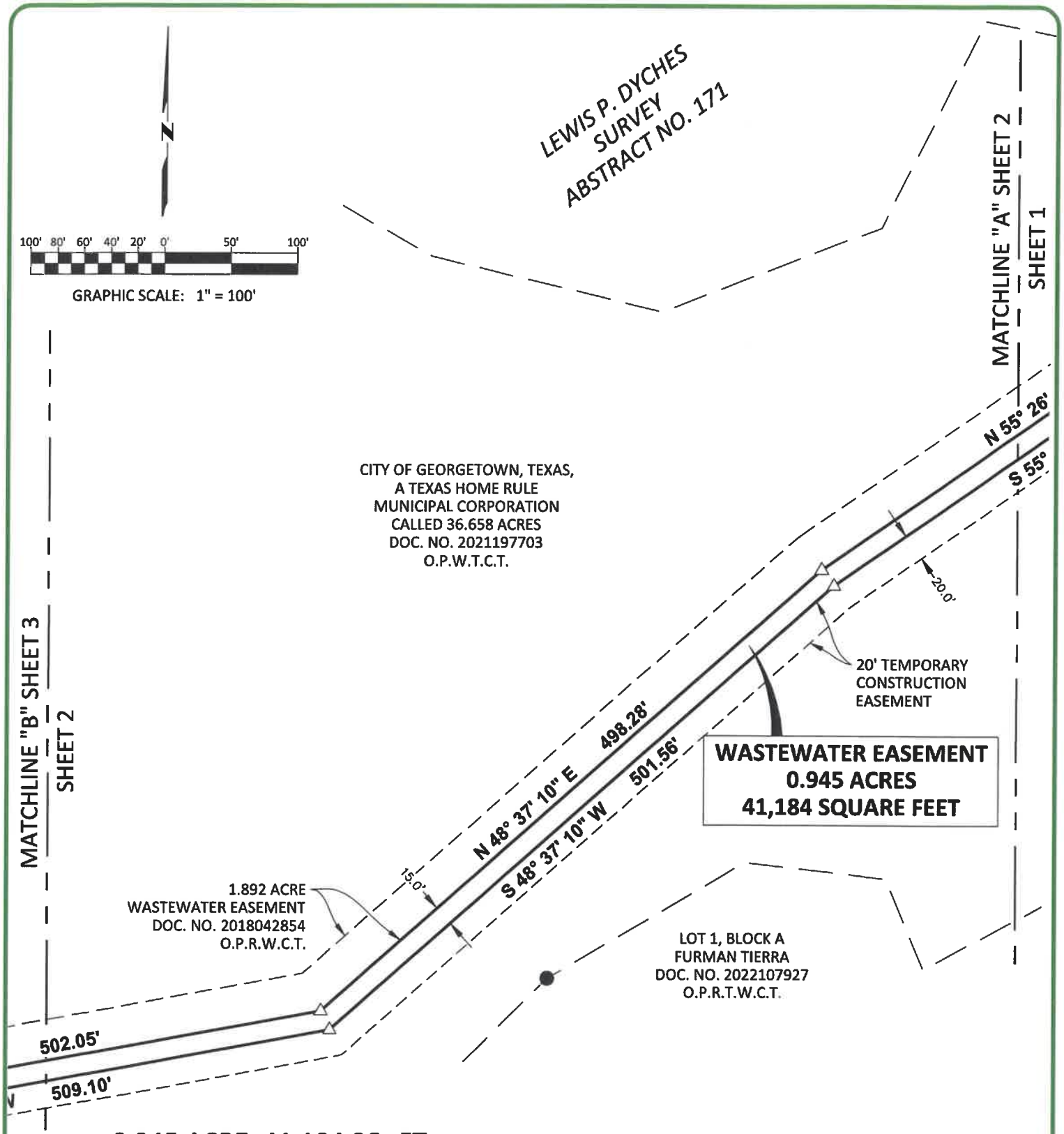
2. SEE ATTACHED METES AND BOUNDS DESCRIPTION.

3. NO MONUMENTS SET FOR EASEMENT HEREON.

0.945 ACRE, 41,184 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 & LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-161 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 1 OF 5

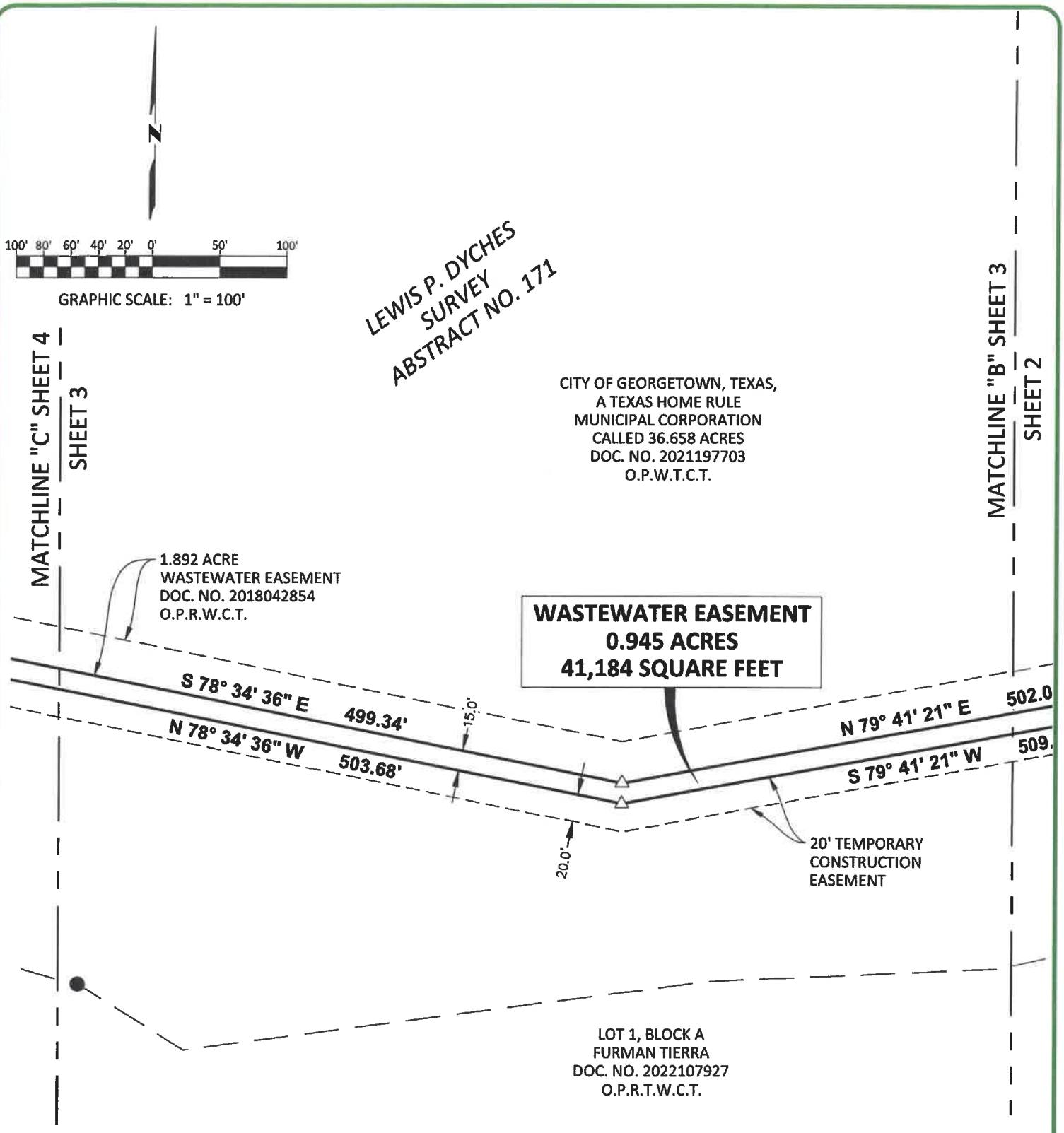


0.945 ACRE, 41,184 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 & LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO 512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB	STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 12/1/2025 JOB NO. 23030 SHEET 2 OF 5

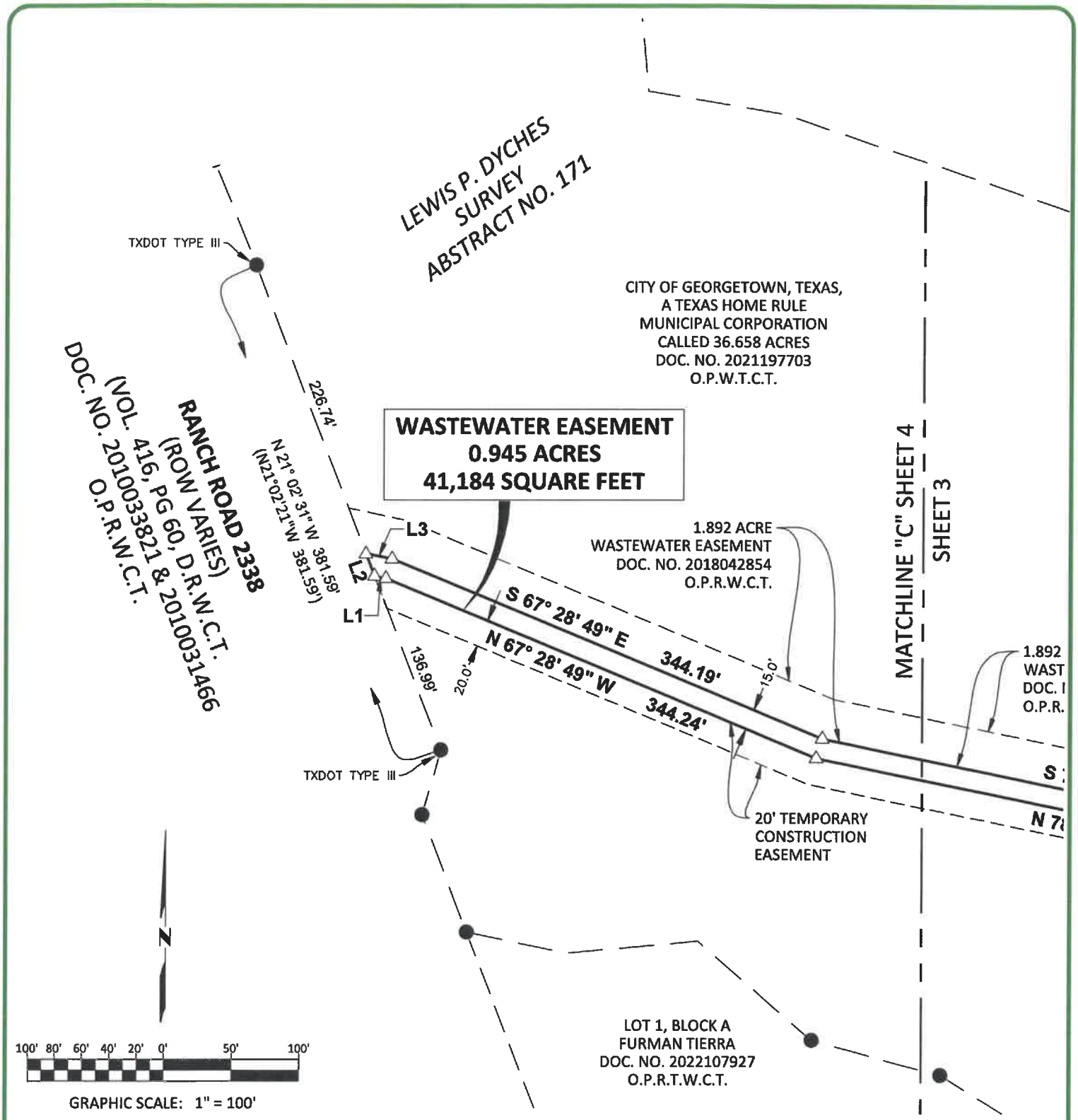


0.945 ACRE, 41,184 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 & LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 3 OF 5



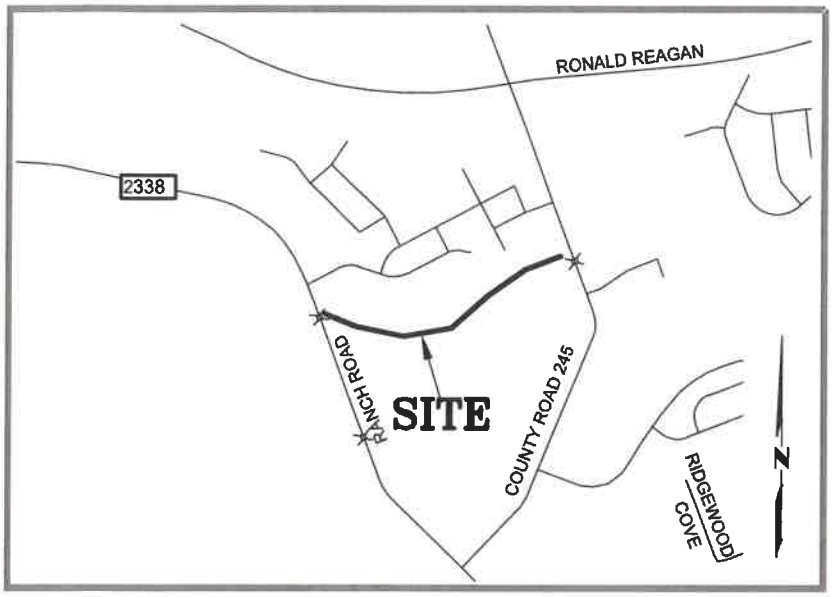
0.945 ACRE, 41,184 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 & LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO 512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700	WEB	STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE 12/1/2025 JOB NO. 23030 SHEET 4 OF 5

LOCATION MAP 1" = 2000'



Line Table		
Line #	Direction	Length
L1	N 78°10'03" W	8.63'
L2	N 21°02'31" W	17.86'
L3	S 78°10'03" E	19.73'
L4	S 21°16'08" E	15.00'

LEGEND

———	PROPERTY BOUNDARY LINE
— — — —	PROPERTY ADJOINER LINE
●	1/2" IRON ROD FOUND (UNLESS NOTED)
△	CALCULATED POINT
(....)	RECORD INFORMATION FOR ADJACENT PROPERTIES
D.E.	DRAINAGE EASEMENT
R.O.W.	RIGHT-OF-WAY
CAB./SLD.	CABINET, SLIDE
VOL./PG.	VOLUME, PAGE
DOC. NO.	DOCUMENT NUMBER
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.W.C.T.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS ACTUALLY MADE UPON THE GROUND UNDER MY DIRECTION AND SUPERVISION. THE FIELD WORK WAS COMPLETED ON NOVEMBER 13, 2025.

DATE OF PLAT OR MAP: NOVEMBER 18, 2025

STEGER BIZZELL

12-3-25

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784
1978 S. AUSTIN AVE
GEORGETOWN, TEXAS
PHONE 512.930.9412
TBPELS FIRM REG. # 10003700

0.945 ACRE, 41,184 SQ. FT. WASTEWATER EASEMENT FREDERICK FOY SURVEY, ABSTRACT NO. 229 & LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 5 OF 5

DESCRIPTION OF 0.801 ACRES

DESCRIPTION OF A 0.801 ACRE TRACT OF LAND LOCATED IN THE LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 54.91 ACRE TRACT CONVEYED TO ONUD LLC, RECORDED IN DOCUMENT NO. 2021030106 OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY TEXAS (O.P.R.W.C.T.), SAID 0.801 ACRE TRACT OF LAND BEING SURVEYED ON THE GROUND IN NOVEMBER, 2025, UNDER THE SUPERVISION OF PATRICK J. STEVENS, RPLS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a calculated point on the west line of Ranch Road 2338 (right-of-way varies) being recorded in Volume 416, Page 60 Deed Record Williamson County Texas (D.R.W.C.T.), Document No. 2010033821 and Document No. 2010031466 (O.P.R.W.C.T.), the east line of said 54.91 acre tract for the southeast corner and **POINT OF BEGINNING** of the herein described tract, from which point a 1/2–inch iron rod with "McGray & McGray" cap found for the northeast corner of a called 11.59 acre tract conveyed to Douglas and Rachel Meadow in Document No. 2014042121 (O.P.R.W.C.T.), bears South 20°59'45" East, 131.53 feet;

THENCE, over and across said 54.91 acre tract the following five (5) courses and distances;

1. North 78°06'17" West, a distance of 249.16 feet, to a calculated point;
2. North 77°33'37" West, a distance of 1503.08 feet, to a calculated point for the southwest corner herein;
3. North 13°33'58" East, a distance of 20.00 feet, to a calculated point for the northwest corner of the herein described tract;
4. South 77°33'37" East, a distance of 1502.59 feet, to a calculated point; and
5. South 78°06'17" East, a distance of 236.13 feet, to a calculated point in the east line of said 54.91 acre tract, in the west right-of-way line of said Ranch Road 2338, from which point a TxDot Type III Monument found for the point of curvature in said Ranch road 2338 and said 54.91 acre tract, bears North 20°59'45" West, 109.95 feet;

THENCE, with the east line of said 54.91 acre tract and west line of said Ranch Road 2338, South 20°59'50" East, a distance of 23.82 feet to the **POINT OF BEGINNING**, and containing 0.801 acres of land, more or less, within these metes and bounds.

0.801 Acres
Lewis P. Dyches Survey
Abstract No. 171
Williamson County, Texas

ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' =	NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' =	EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' =	ELEVATION (NAD 83 / 93 HARN)

The foregoing metes and bounds description and survey on which it is based is accompanied by and a part of a survey map of the subject tract.

The subject tract is an easement, monuments were not set for corners.

I certify that this description was prepared from a survey made on the ground in November, 2025, under my supervision.

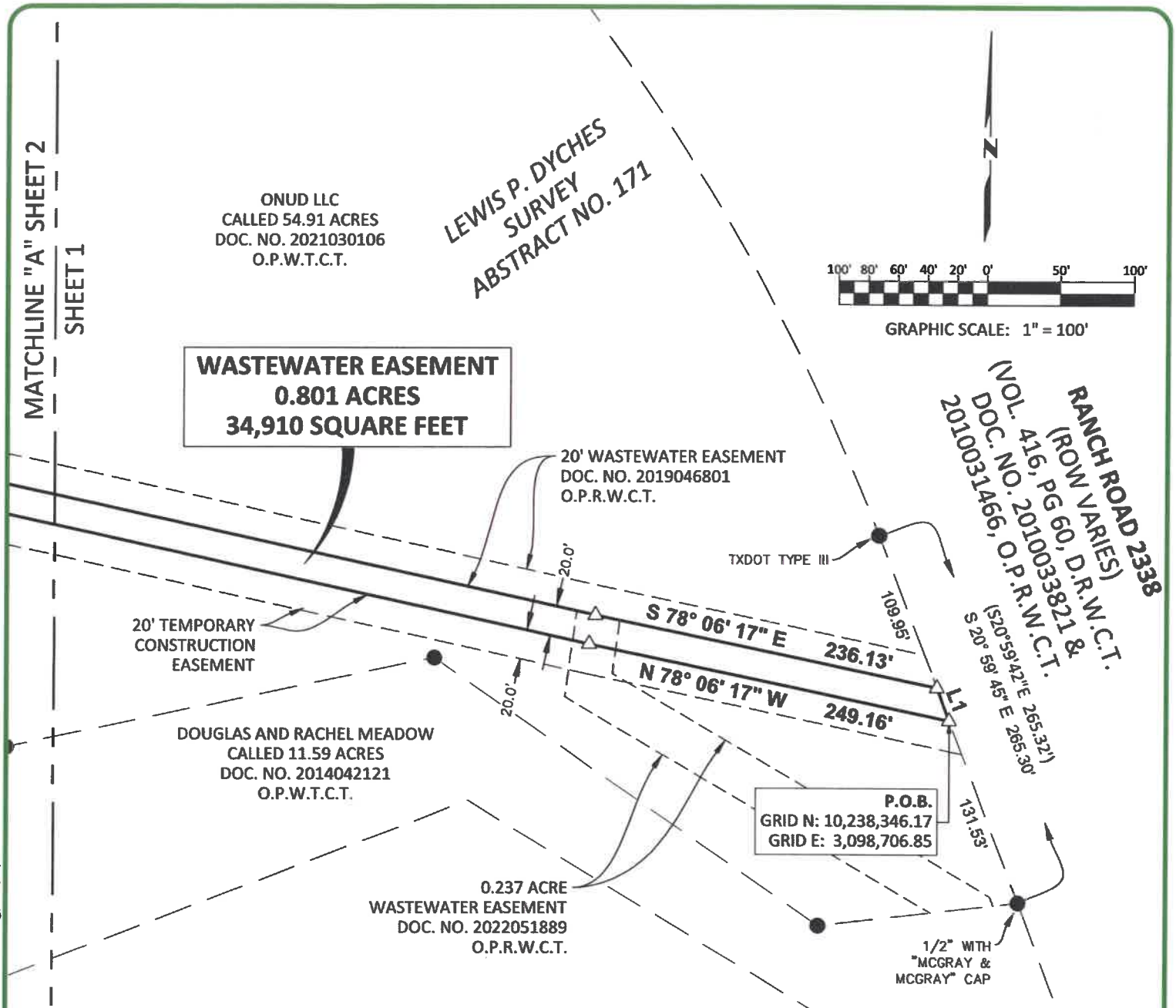
Steger & Bizzell Engineering Inc.

12-4-25

STATE OF TEXAS
REGISTERED
PATRICK J. STEVENS
5784
PROFESSIONAL
LAND SURVEYOR

Patrick J. Stevens, RPLS
Texas Reg. No. 5784
1978 South Austin Avenue
Georgetown, Texas 78626
(512) 930-9412
TBPELS Firm No. 10003700

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\Descriptions\DESC-W.W.E 5 - 0.801AC.docx



1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE. NAD 83/93 HARN HORIZONTAL CONTROL DATUM AND NAVD 88 VERTICAL CONTROL DATUM. ALL COORDINATES ARE GRID. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999856056. THE TRANSLATION OF THE SUN CITY COORDINATE SYSTEM TO NAD 83 / 93 HARN COORDINATE SYSTEM AND THE NAVD 88 VERTICAL DATUM ARE AS FOLLOWS:

(NAD83) NORTHING	-1.83' = NORTHING (NAD 83 / 93 HARN)
(NAD83) EASTING	-1.49' = EASTING (NAD 83 / 93 HARN)
(NGVD29) ELEVATION	+0.35' = ELEVATION (NAD 83 / 93 HARN)

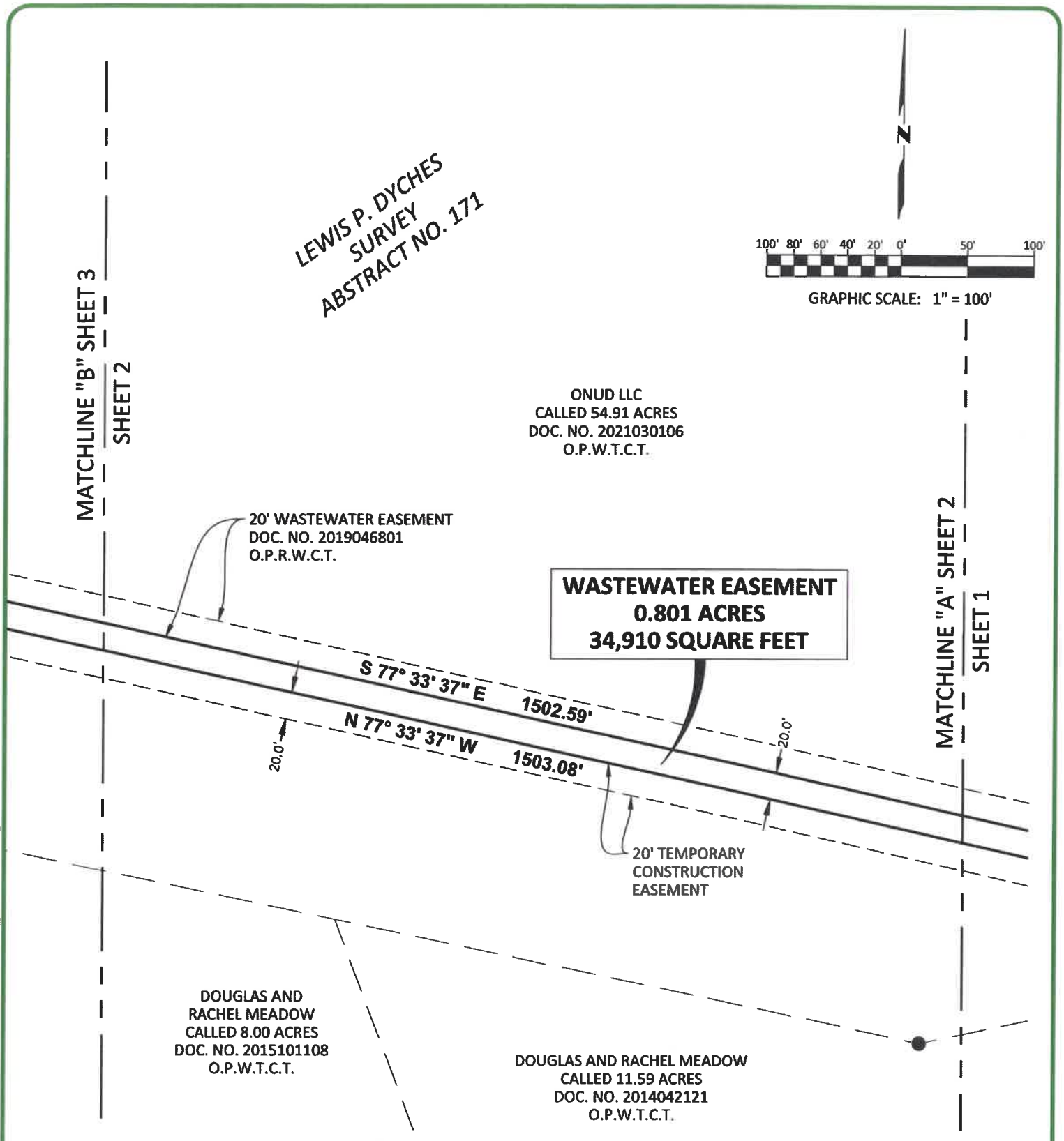
2. SEE ATTACHED METES AND BOUNDS DESCRIPTION.

3. NO MONUMENTS SET FOR EASEMENT HEREON.

0.801 ACRE, 34,910 SQ. FT. WASTEWATER EASEMENT LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 1 OF 4



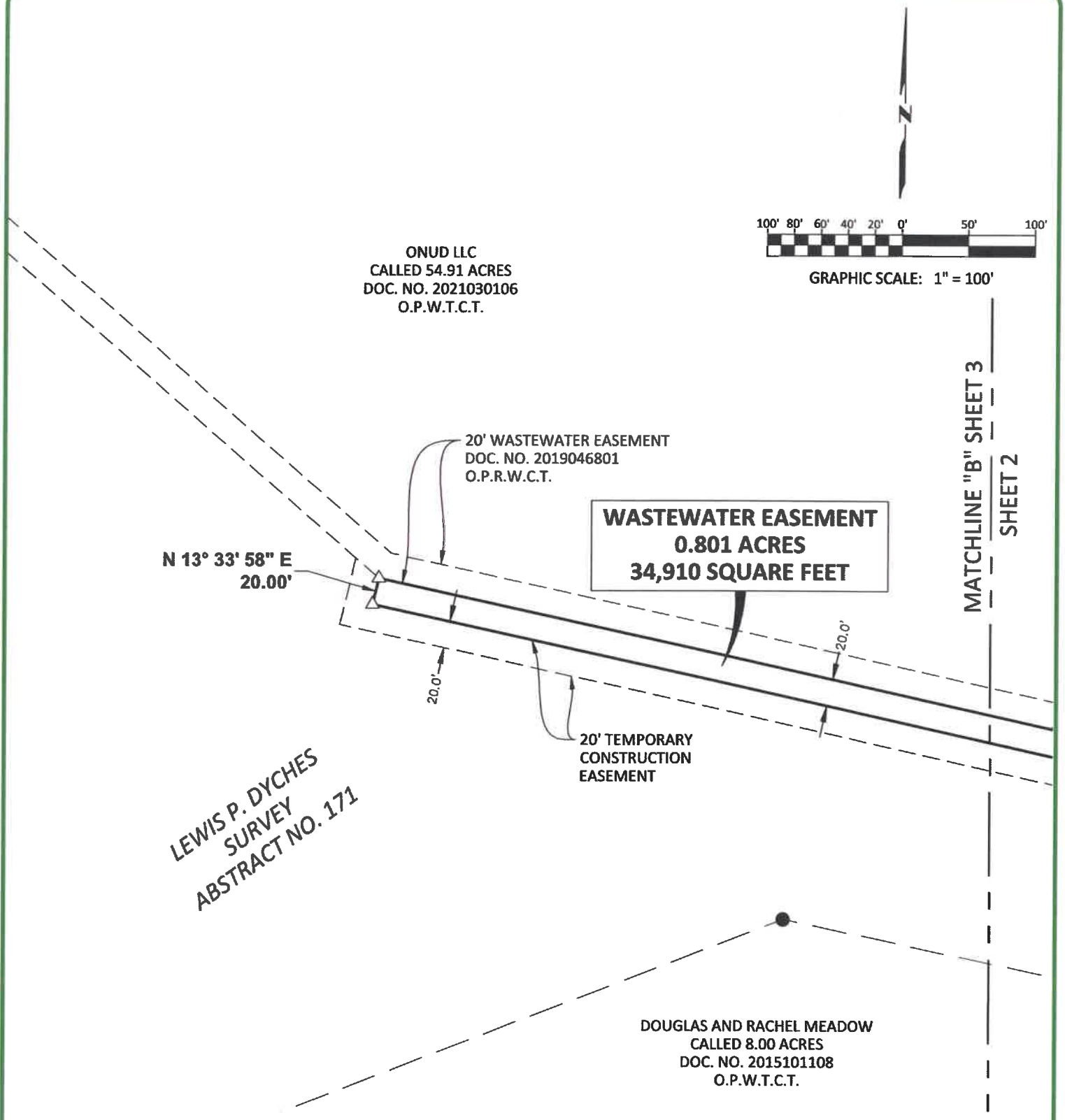
0.801 ACRE, 34,910 SQ. FT. WASTEWATER EASEMENT LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
SERVICES >>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 2 OF 4

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\CAD\23030_W.W.E.5.dwg, 12/4/2025 12:06:11 PM



0.801 ACRE, 34,910 SQ. FT. WASTEWATER EASEMENT LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

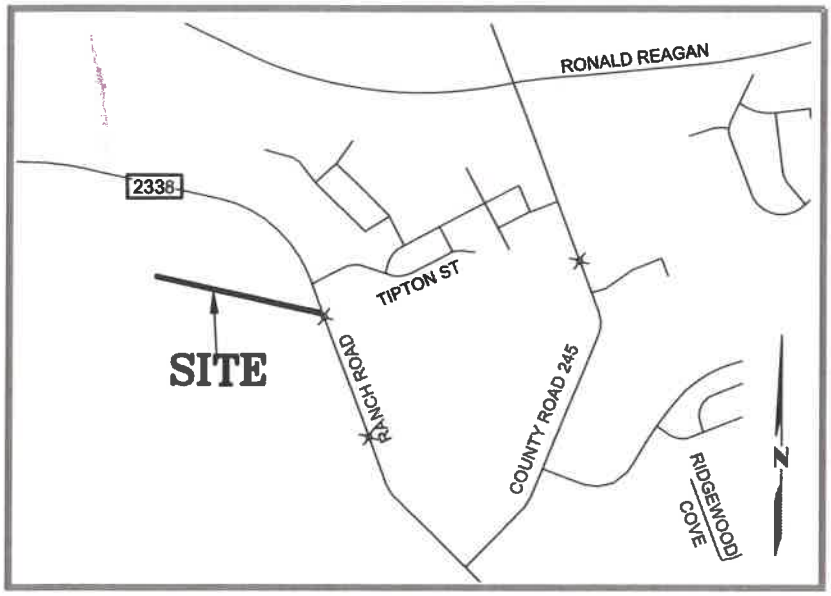
STEGER BIZZELL

ADDRESS 1978 S. AUSTIN AVENUE | GEORGETOWN, TX 78626
METRO 512.930.9412 | TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 | WEB STEGERBIZZELL.COM
>>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 3 OF 4

P:\23000-23999\23030 COG Cowan Creek WW\Survey Data\CAD\23030_W.W.E.5.dwg, 12/4/2025 12:06:14 PM

LOCATION MAP 1" = 2000'



Line Table		
Line #	Direction	Length
L1	S 20°59'50" E	23.82'

LEGEND

———	PROPERTY BOUNDARY LINE
— — — —	PROPERTY ADJOINER LINE
●	1/2" IRON ROD FOUND (UNLESS NOTED)
△	CALCULATED POINT
(....)	RECORD INFORMATION FOR ADJACENT PROPERTIES
R.O.W.	RIGHT-OF-WAY
VOL./PG.	VOLUME, PAGE
DOC. NO.	DOCUMENT NUMBER
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.W.C.T.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS ACTUALLY MADE UPON THE GROUND UNDER MY DIRECTION AND SUPERVISION. THE FIELD WORK WAS COMPLETED ON NOVEMBER 13, 2025.

DATE OF PLAT OR MAP: NOVEMBER 18, 2025

STEGER BIZZELL

12-4-25

STATE OF TEXAS REGISTERED PATRICK J. STEVENS 5784 PROFESSIONAL LAND SURVEYOR

PATRICK J. STEVENS, R.P.L.S.
TEXAS REG. NO. 5784
1978 S. AUSTIN AVE
GEORGETOWN, TEXAS
PHONE 512.930.9412
TBPELS FIRM REG. # 10003700

0.801 ACRE, 34,910 SQ. FT. WASTEWATER EASEMENT LEWIS P. DYCHES SURVEY, ABSTRACT NO. 171 City of Georgetown Williamson County, Texas

STEGER BIZZELL
ADDRESS 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626
METRO 512.930.9412 TEXAS REGISTERED ENGINEERING FIRM F-181 TBPELS FIRM No.10003700 WEB STEGERBIZZELL.COM
>>ENGINEERS >>PLANNERS >>SURVEYORS

DATE 12/1/2025 JOB NO. 23030 SHEET 4 OF 4