Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 04/30/2024
Facility Name: City of Copperas Cove Transfer Station
Permit or Registration No.: 40145

Nature of Correspondence:
☒ Initial/New
☐ Response/Revision to TCEQ Tracking No.: _____ (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☒ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☐ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☐ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☐ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☐ Other:	

City of Copperas Cove

"The City Built for Family Living" Public Works

April 30, 2024

Kelly Keel
Executive Director
Texas Commission on Environmental Quality
12100 Park 35 Circle, MC-109
Austin, Texas 78753

Re: City of Copperas Cove Transfer Station
Type V Permit Application
Coryell County, Texas

Dear Kelly Keel:

Please find enclosed a Type V Permit Application to revise the layout of the existing City of Copperas Cove Transfer Station. Included are three copies of the application for your technical review.

The City of Copperas Cove Transfer Station (TS) is an existing Type V municipal solid waste (MSW) processing facility located at 2605 S. FM 116, Copperas Cove, Texas 76522 in Coryell County. The City of Copperas Cove TS provides and will continue to provide an efficient means to transfer MSW that is generated in the City of Copperas Cove, Coryell County, and the surrounding areas to a Texas Commission on Environmental Quality (TCEQ) permitted MSW landfill. Following the proposed site revisions, the transfer station will have an estimated capacity of 1,100 tons per day.

It is requested that this permit application be processed per Title 30 TAC §330.9(b)(3). The City of Copperas Cove is fully committed to operating the City of Copperas Cove Transfer Station consistent with TCEQ rules and regulations in order protect human health and the environment.

We appreciate your technical review of this permit application. If you have any questions, please do not hesitate to contact me.

Sincerely,

Scott Osburn
Director of Public Works

Enclosures: Registration Application (3 copies)

cc: Charles R. Marsh, Weaver Consultants Group, LLC
TCEQ, Region 9

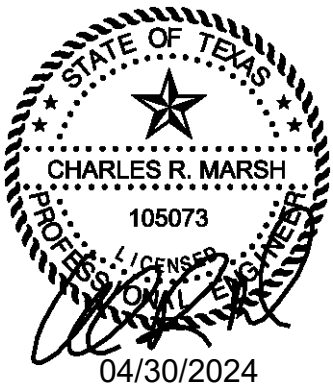
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TCEQ PERMIT NO. MSW-40145

TYPE V PERMIT APPLICATION

Prepared for

The City of Copperas Cove

April 2024



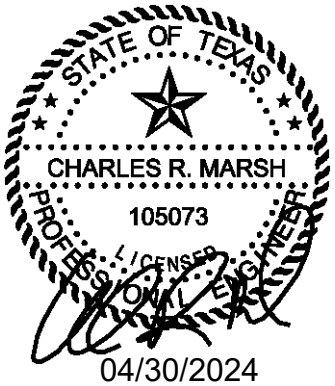
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



Texas Commission on Environmental Quality

Part I Application Form for New Permit, Permit Amendment, or Registration for a Municipal Solid Waste Facility

A plication Tracking Information

Facility Name: City of Copperas Cove

Permittee or Registrant Name: RN102668464

MSW Authorization Number: 40145

Initial Submission Date: 05/2024

Revision Date: _____

Instructions for completing this Part I Application Form are provided in TCEQ 00650-instr[1]. Include a Core Data Form (TCEQ 10400)[2] with the application for the facility owner, and another Core Data Form for the operator if different from the owner. If you have questions, contact the Municipal Solid Waste Permits Section by email to mswper@tceq.texas.gov, or by phone at 512-239-2335.

Application Data

1. Submission Type	
☒ Initial Submission	☐ Notice of Deficiency (NOD) Response

2. Authorization Type	
☒ Permit	☐ Registration

3. Application Type	
☒ New Permit	
☐ Permit Major Amendment	☐ Permit Limited Scope Major Amendment
☐ New Registration	

[1] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf
[2] www.tceq.texas.gov/goto/coredata

4. Application Fee

Amount

☐ $2,050—New Landfill Permits, and Landfill Permit Major Amendments Described in 30 TAC 305.62(j)(1)

■ $150—Other Permits, Landfill Limited Scope Major Amendments, Permit Amendments for Storage and Processing Facilities, and Registrations

Payment Method

☐ Check

■ Online through ePay portal www3.tceq.texas.gov/epay/

If paid online, enter ePay Trace Number: 582EA000608091

5. Application URL

For applications other than those for arid exempt landfills, provide the URL address of a publicly accessible internet web site where the application and all revisions to the application will be posted.

https://ftwweaverboos.com/

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

☐ Applicant ☐ Agent in Service ■ Consultant

Contact Name: Charles Marsh

Title: Project Director

Email Address: cmarsh@wcgrp.com

7. Alternative Language Notice

Use the Alternative Language Checklist on Public Notice Verification Form TCEQ-20244-Waste-NORI, TCEQ-20244-Waste-NAPD, or TCEQ-20244-Waste-NAORPM available at www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_notice.html to determine if an alternative language notice is required.

Is an alternative language notice required for this application?

☐ Yes ☐ No

Indicate the alternative language: Spanish

8. Public Place for Copy of Application

Name of the Public Place: Copperas Cove Public Library

Physical Address: 501 S. Main St

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-3826

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

☐ Yes ■ No

If "Yes", indicate the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ■ No

If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."

11. Permits and Construction Approvals

Mark the following table to indicate status of other permits or approvals.

Table 1. Permits and Construction Approvals.

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under Texas Solid Waste Disposal Act			x
Underground Injection Control Program under Texas Injection Well Act			x
National Pollutant Discharge Elimination System Program under Clean Water Act; Waste Discharge Program under Texas Water Code, Chapter 26	x		
Prevention of Significant Deterioration Program under Federal Clean Air Act (FCAA); Nonattainment Program under the FCAA			x
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA			x

Permit or Approval	Received	Pending	Not Applicable
Ocean Dumping Permits under Marine Protection Research and Sanctuaries Act			x
Dredge or Fill Permits under Clean Water Act			x
Licenses under the Texas Radiation Control Act			x
Other (describe):			
Other (describe):			

12. Facility General Information

Facility Name: City of Copperas Cove Transfer Station

Contact Name: Larry Scott Title: Director of Solid Waste

MSW Authorization Number (if existing): 40145

Regulated Entity Reference Number: **RN** 102668464

Physical or Street Address (if available): 2605 S. FM116

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-5245

Latitude (Degrees, Minutes Seconds): 97° 54' 06" W

Longitude (Degrees, Minutes Seconds): 31° 05' 38" N

Benchmark Elevation (above mean sea level): 1073.54 feet

Description of facility location with respect to known or easily identifiable landmarks:
Facility is located north of Crestview Christian Church on FM 116 Road, approximately 0.25 miles southeast of U.S. Highway 190.

Access routes from the nearest United States or state highway to the facility:
From U.S. Highway 190, exit FM 116 and go approximately 0.25 miles to the south and proceed to TS entrance.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ■ No

13. Facility Types

☐ Type I ☐ Type IV ☒ Type V

☐ Type IAE ☐ Type IVAE ☐ Type VI

14. Activities Conducted at the Facility

☒ Storage ☒ Processing ☐ Disposal

15. Facility Waste Management Units

Check the box for each type of waste management unit proposed.

☐ Landfill Unit(s)
☒ Container(s)
☐ Incinerator(s)
☒ Roll-off Boxes
☐ Class 1 Landfill Unit(s)
☐ Surface Impoundment
☐ Process Tank(s)
☐ Autoclave(s)
☐ Storage Tank(s)
☐ Refrigeration Unit(s)
☒ Tipping Floor
☐ Mobile Processing Unit(s)
☒ Storage Area
☐ Compost Pile(s) or Vessel(s)
☐ Other (specify):

16. Description of Proposed Facility or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or permit conditions if the application is for an amendment.

The existing facility accepts approximately 125 tons of waste per day; this permit application proposes to increase the daily waste intake capacity to 1,100 tons per day. Additional tipping floor area, a recycling building, new scales and scalehouse, a wash rack, and various land improvements will be developed per this application.

17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: City of Copperas Cove Transfer Station

Customer Reference Number: **CN** 600260467

Contact Name: Larry Scott Title: Director of Solid Waste

Mailing Address: 507 S Main St.

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-5245

Email Address: lscott@copperascovetx.gov

Texas Secretary of State (SOS) Filing Number: _____

Operator (if different from *Site Operator*)

Name: _____

Customer Reference Number: **CN** _____

Contact Name: _____ Title: _____

Mailing Address: _____

City: _____ County: _____ State: ____ Zip Code: _____

Phone Number: _____

Email Address: _____

Texas Secretary of State (SOS) Filing Number: _____

Consultant (if applicable)

Firm Name: Weaver Consultants Group, LLC

Consultant Name: Charles R. Marsh

Texas Board of Professional Engineers Firm Registration Number: F-3727

Contact Name: Charles Marsh Title: Project Director

Mailing Address: 6420 Southwest Blvd. Suite 6420

City: Fort Worth County: Tarrant State: TX Zip Code: 76109

Phone Number: 817-735-9770

Email Address: cmarsh@wcgrp.com

Agent in Service (required for out-of-state applicants)

Name: _____

Mailing Address: _____

City: _____ County: _____ State: TX Zip Code: _____

Phone Number: _____

Email Address: _____

18. Facility Supervisor License

Indicate the level of Municipal Solid Waste Facility Supervisor license, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, Subchapter F that the individual who supervises or manages the operations will obtain prior to commencing operations.

☐ Class A Supervisor License ■ Class B Supervisor License

19. Ownership Status of the Facility

Business Type

☐ Corporation
☐ Individual
☐ Sole Proprietorship
☐ General Partnership
☐ Limited Partnership
■ City Government
☐ County Government
☐ State Government
☐ Federal Government
☐ Other Government
☐ Military
☐ Other (specify): _____

Facility Owner

Does the Site Operator (Permittee or Registrant) own all the facility units and all the facility property?

■ Yes ☐ No

If "No", provide the following information for other owners.

Owner Name: _____

Mailing Address: _____

City: _____ County: _____ State: TX Zip Code: _____

Phone Number: _____

Email Address: _____

20. Other Government Entities Information

Texas Department of Transportation

District: Waco

District Engineer's Name: Stanley Swiatek, P.E.

Mailing Address: 100 S. Loop Drive

City: Waco County: McLennan State: TX Zip Code: 76704

Phone Number: 254-867-2700

Email Address: stan.swiatek@txdot.gov

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: Copperas Cove Public Works

Contact Person's Name: Scott Osburn

Mailing Address: 1601 N. First St.

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-0751

Email Address: sosburn@copperascovetx.gov

City Mayor Information

City Mayor's Name: Dan Yancey

Mailing Address: 914 S. Main St.

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-4221

Email Address: dyancey@copperascovetx.gov

City Health Authority

Authority Name: Copperas Cove Health Department

Contact Person's Name: Brandy Varner

Mailing Address: 312 S. Main St. Suite 102

City: Copperas Cove County: Coryell State: TX Zip Code: 76522

Phone Number: 254-547-8383

Email Address: bvarner@copperascovetx.gov

County Judge Information

County Judge's Name: Roger A. Miller

Mailing Address: 800 E. Main Street, Suite A

City: Gatesville County: Coryell State: TX Zip Code: 76528

Phone Number: 254-865-5911

Email Address: cojudge.asst@coryellcountytx.gov

County Health Authority

Agency Name: Coryell Health

Contact Person's Name: Kathy Lee

Mailing Address: 1507 W. Main St.

City: Gatesville County: Coryell State: TX Zip Code: 76528

Phone Number: 254-865-2166

Email Address: kathy.lee@coryellhealth.org

State Representative Information

District Number: 59

State Representative's Name: Shelby Slawson

District Office Mailing Address: P.O. Box 2910

City: Austin County: Travis State: TX Zip Code: 78768

Phone Number: 512-463-0628

Email Address: shelby.slawson@house.texas.gov

State Senator Information

District Number: 24

State Senator's Name: Pete Flores

District Office Mailing Address: 2180 North Main Street, H1 & H2

City: Belton County: Bell State: TX Zip Code: 76513

Phone Number: 254-939-3854

Email Address: peter.flores@senat.texas.gov

Council of Governments (COG)

COG Name: Central Texas Council of Governments

COG Representative's Name: Jim Reed

COG Representative's Title: Executive Director

Mailing Address: 2180 North Main Street

City: Belton County: Bell State: TX Zip Code: 76153

Phone Number: 254-770-2235

Email Address: jim.reed@ctcog.org

River Basin Authority

Authority Name: Brazos River Authority

Contact Person's Name: David Collinsworth

Watershed Sub-Basin Name: Brazos River Central Region

Mailing Address: 4600 Cobbs Drive

City: Waco County: McLennan State: TX Zip Code: 76710

Phone Number: 254-761-3100

Email Address: david.collinsworth@brazos.org

U.S. Army Corps of Engineers District

Indicate the U.S. Army Corps of Engineers district in which the facility is located:

☐ Albuquerque, NM ☐ Galveston, TX

☒ Ft. Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: Copperas Cove

Within Extraterritorial Jurisdiction of: N/A

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing, or disposal of municipal or industrial solid waste?

☐ Yes ■ No

If "Yes", provide a copy of the ordinance or order as an attachment.

Signature Page

Site Operator or Authorized Signatory

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

Name: Ryan D. Haverlah Title: City Manager

Email Address: rhaverlah@copperascovetx.gov

Signature: _____ Date: 04/30/2024

Operator or Principal Executive Officer Designation of Authorized Signatory

To be completed by the operator if the application is signed by an authorized representative for the operator.

I hereby designate _____ as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Operator or Principal Executive Officer Name: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said Ryan Haverlah

On this 30th day of April, 24

My commission expires on the 1 day of Jan, 2025

Ashley Osborn

Notary Public in and for

Coryell County, Texas

ASHLEY OSBORN
Notary Public, State of Texas
Comm. Expires 01-27-2025
Notary ID 130211563

Note: Application Must Bear Signature & Seal of Notary Public

Part I Attachments

Refer to instruction document 00650-instr for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Supplementary Technical Report	Parts I/II, Section 2
Property Legal Description	Parts I/II, Section 13
Property Metes and Bounds Description	Parts I/II, Section 13
Facility Legal Description	Parts I/II, Section 13
Facility Metes and Bounds Description	Parts I/II, Section 13
Metes and Bounds Drawings	Parts I/II, Section 13
On-Site Easements Drawing	Parts I/II, Section 13
Land Ownership Map	Parts I/II, Section 5
Landowners List	Provided Electronically
Mailing Labels (printed and electronic)	Parts I/II, Section 5
Texas Department of Transportation (TxDOT) County Map	Parts I/II, Section 4
General Location Map	Parts I/II, Section 4
General Topographic Map	Parts I/II, Section 4
Verification of Legal Status	Parts I/II, Section 15
Property Owner Affidavit	Parts I/II, Section 14
Evidence of Competency	Parts I/II, Section 16

Attachments Table 2. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
☒ TCEQ Core Data Form(s)	
☒ Signatory Authority Delegation	
☒ Fee Payment Receipt	
☐ Confidential Documents	
☐ Waste Storage, Processing and Disposal Ordinances	
☐ Final Plat Record of Property	

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
☐ Certificate of Fact (Certificate of Incorporation)	
☐ Assumed Name Certificate	
Other (describe):	
Other (describe):	
Other (describe):	

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 600260467		**RN 102668464**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	10/13/2023

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

The Customer Name 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:*

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	**13. Independently Owned and Operated?**
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **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:							
	City		**State**		**ZIP**		**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

( ) -		( ) -

SECTION III: Regulated Entity Information

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

☐ 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.)*

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

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

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

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:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)

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

34. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**
35. E-Mail Address:							

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

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☒ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
40145				
☐ Sludge	☒ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
	TXR05AV48			
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

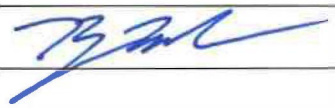
SECTION IV: Preparer Information

40. Name:	Charles R. Marsh, P.E.	41. Title:	Project Director

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 735-9770		(817) 735-9775	cmarsh@wcgrp.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:	City of Copperas Cove	Job Title:	City Manager
Name *(In Print)*:	Ryan Haverlah	Phone:	(254) 547- 4221
Signature:		Date:	04/30/2024

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☒ New Permit or Registration Application

☐ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☐ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☐ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☒ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

The proposed project is an expansion of a Registered Type V Municipal Solid Waste Transfer Station (TS) that will collect waste from collection vehicles and consolidate that waste into larger vehicles to be sent to a permitted landfill. The TS facility will include a 135' x 103' building, paved roads, fencing, utilities, and stormwater management facilities. The proposed project also includes the construction of a Recycling Center, Office Building, and additional infrastructure.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

Copperas Cove

(City)

Coryell

(County)

108.03

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☐ City ☒ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

According to the U.S. Census Bureau, the percentage of people over 25 years of age who at least graduated from high school in Coryell County, Texas was 90% from 2018-2022.

(b) Per capita income for population near the specified location

According to the U.S. Census Bureau, The per capita income for the population in Coryell County, Texas was $26,699 between 2018-2022.

(c) Percent of minority population and percent of population by race within the specified location

According to the U.S. Census Bureau, White: 56.2%, Hispanic or Latino: 20.3%, Black or African American: 17.7%, American Indian and Alaska Native: 1.3%, Asian: 2.4%, Native Hawaiian and other Pacific Islander: 1.0%, Two or more races: 4.5%

(d) Percent of Linguistically Isolated Households by language within the specified location

Per the 2022 Census, Spanish: 10.8%, Other Indo-European languages: 2.2%, Asian and Pacific Island languages: 1.7%, Other languages: 0.3%

(e) Languages commonly spoken in area by percentage

Per the 2022 Census, English: 85.0%, Spanish: 10.8%, Other Indo-European languages: 2.2%, Asian and Pacific Island languages: 1.7%, Other languages: 0.3%

(f) Community and/or Stakeholder Groups

Chamber of Commerce, Keep Copperas Cove Beautiful Commission.

(g) Historic public interest or involvement

None at this site

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☒ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☒ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☒ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☑ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☒ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☒ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☑ Public Place (specify) Copperas Cove Public Library

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

Texas Commission on Environmental Quality

Plain Language Summary of Municipal Solid Waste Permit or Permit Amendment Application

Applicants are required by public notice rules in Title 30 Texas Administrative Code, Chapter 39, Section 39.405(k)[1] to provide this summary of an application.

A. Purpose of the Proposed Facility

Transferring solid waste from collection vehicles to larger vehicles with more capacity for transfer to a permitted landfill.

B. Information About the Applicant

Name: The City of Copperas Cove

Applicant Type: Type V

Facility Name: City of Copperas Cove Transfer Station

Permit Application Number: 40145

Customer Number (CN): CN600260467

Regulated Entity Reference Number (RN): RN102668464

C. Location of the Proposed Facility

Facility Address (or description of site location if no address):

2605 S. FM 116, Copperas Cove, TX 76522

Link to Map of Facility Location (TCEQ Location Mapper[2]): https://arcg.is/1b51vP1

D. Information about Facility Operation

What types of waste would be received?

Household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste.

What geographical area would the wastes come from?

Service Area consists of the City of Copperas Cove, Killeen, Fort Hood, and Lampassas and rural areas of Coryell, Lampasas, Bell, and Burnett Counties.

[1] www.tceq.texas.gov/goto/view-30tac
[2] www.tceq.texas.gov/gis/hb-610-viewer

What days and hours would the facility operate?

Waste acceptance hours and days are between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.
Heavy equipment operation, transfer trailer loading, and transportation of materials off the site may occur between 5:00 a.m. and 9:00 p.m., Monday through Friday.

At what rate would wastes be accepted?

A maximum of 1,100 tons per day.

How would wastes be managed?

The TS facility currently is and will be a steel-framed and roofed structure with corrugated metal walls and an open concrete tipping floor. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill. The tipping floor will have an area of approximately 13,500 square feet (135 feet by 100 feet).

E. Pollution Control Methods

What methods would the facility use for containing wastes and odors, and monitoring for releases?

All waste processing and storage currently does and will occur within the building. Storage of waste will not exceed 72 hours and will average 24 hours. To control odors, routine tipping, sorting and transfer operations currently are and will continue to be confined within the building. The following measures currently are and will be employed to assist in air pollution/odor control:

- Buffer zones onsite; Odor mister system as necessary;
- Covering transfer trucks; No liquid waste or sludges accepted;
- Special procedures for odorous loads as described in Part III 2.2.3;
- Cleaning all working surfaces that come in contact with waste at least weekly as described in Part IV 7:11.

What methods would the facility use or require for preventing litter or spills, and for cleanup of litter and spills?

Policing of litter and fugitive debris at the facility entrance area currently is and will be performed as part of a scheduled routine. Any litter scattered throughout the site, including along fences and access roads, and at the gate currently is and will be collected at least daily on the days the facility is in operation. Any spills currently are and will be contained within the building, analyzed as appropriate, and properly handled.

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TCEQ PERMIT NO. MSW-40145

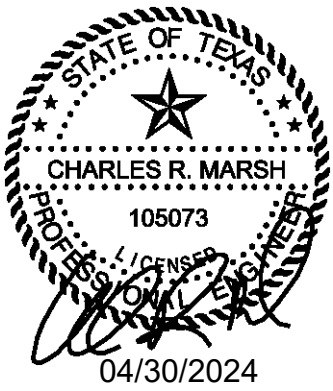
TYPE V PERMIT APPLICATION

PARTS I/II
GENERAL APPLICATION REQUIREMENTS

Prepared for

The City of Copperas Cove

April 2024



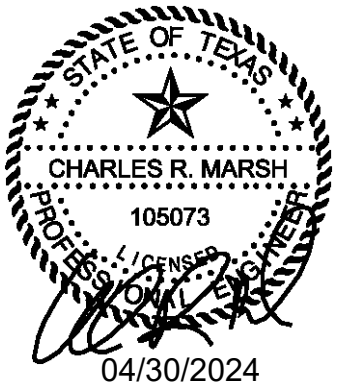
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

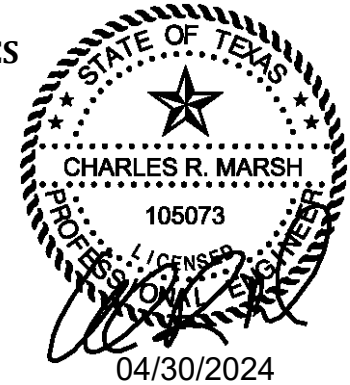
WCG Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



CONTENTS (Continued)



1 INTRODUCTION

Parts I/II address §330.59, §330.61, and §305.45.

The City of Copperas Cove Transfer Station (TS) is an existing registered Type V municipal solid waste (MSW) TS facility located within the city limits of Copperas Cove, Texas, currently permitted under TCEQ Permit No. 40145. The existing facility is located at 2605 S. FM 116, Copperas Cove, 76522 in Coryell County. The proposed improvements will provide enhanced operations and a more efficient means to transfer MSW and recyclable materials that are generated in the City of Copperas Cove, Coryell County, and the surrounding areas to an area landfill. The purpose of this Type V Permit Application is to amend the existing TCEQ permit for the site to allow for the expansion of the facility.

The General Application Requirements section (Parts I and II) of this permit application for the City of Copperas Cove TS has been prepared consistent with the applicable State of Texas requirements set forth in Title 30 Texas Administrative Code (TAC). Section 2, Supplementary Technical Report, presents an overview of the project and a detailed facility description as well as the types of waste that will be accepted at the facility. The remaining portions of the General Application Requirements section of the permit application present information on specific existing conditions on and around the TS and legal matters of the entities involved in the application process. The General Application Requirements have been combined in accordance with Title 30 TAC §330.57(c)(2).

2 SUPPLEMENTARY TECHNICAL REPORT

2.1 Facility Description and Project Overview

This report addresses §305.45(a)(7), §305.45(a)(8), §330.59(b)(2), §330.61(b), §330.61(l), §330.61(o), and §330.61(p).

The City of Copperas Cove TS is an existing permitted municipal solid waste TS facility located within the city limits of Copperas Cove, Texas. The existing facility is located at 2605 S. FM 116, Copperas Cove, Texas 76522 in Coryell County, Texas. The longitudinal and latitudinal geographic coordinates for the City of Copperas Cove TS are shown in Section 4.

The proposed improvements will establish a permit boundary of 14.63 acres, providing enhanced operations and a more efficient means to transfer MSW and recyclable materials that are generated in the service area to an area landfill. The TS also provides services to contractors and self-haulers (i.e., cars and pickups). This service area is based on economic conditions, and the facility may accept waste from areas other than those identified above.

The quantity and types of waste to be transferred at the proposed facility, as well as the site design and site operations, are discussed in the following subsections.

2.1.1 Waste Acceptance Plan

The existing transfer station facility consists of an approximate 12,000 square foot steel-framed building (approximately 8,500 square feet of tipping floor) with corrugated metal walls and concrete foundation. The steel building is about 130 feet long and 90 feet wide. The existing Type V transfer station facility includes a concrete tipping floor, push walls, a grapple loader, and the top-loading tunnel.

The major classifications of solid waste to be accepted at the improved City of Copperas Cove TS include household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste. Each classification of waste is defined in Title 30 TAC §330.3 and summarized below:

- **Household Waste:** Any solid waste (including garbage, trash) derived from households (including single family and multi-family residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas); does not include brush.
- **Brush:** Cuttings or trimming from trees, shrubs, or lawns and similar materials.
- **Yard Waste:** Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than six inches in diameter, that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls.
- **Commercial Solid Waste:** All types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.
- **Industrial Waste (Nonhazardous):** Solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations, classified as follows:
  - Class 2 Industrial Solid Waste – Any individual solid waste or combination of industrial solid wastes that are not described as Hazardous, Class 1, or Class 3, as defined in Title 30 TAC §335.506 (relating to Class 2 Waste Determination).
  - Class 3 Industrial Solid Waste – Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable as further defined in Title 30 TAC §335.507 (relating to Class 3 Waste Determination).
- **Construction-Demolition Waste:** Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.
- **Special Waste:** Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment. Only the following special wastes will be accepted at this facility:
  - used cooking oil (for recycling only);
  - whole used or scrap tires or tire pieces (for recycling only); and
  - white goods.

Consistent with Title 30 TAC §330.15(e), the facility will not accept the following:

- Regulated Hazardous Waste other than from Conditionally Exempt Small Quantity Generators (CESQG). Municipal hazardous waste from a CESQG may be accepted provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- Polychlorinated Biphenyl (PCB) wastes, as defined under 40 Code of Federal Regulations, Part 761.
- Items containing chlorinated fluorocarbons (CFCs), such as refrigerators, freezers, and air conditioners, unless the generator or transporter provides written certification that the CFCs have been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. These appliances may be accepted without certification at the discretion of NTMWD staff and stored until removed from the facility by a third party recycler who will engage a certified operator to properly remove the CFC's.
- Liquid waste which does not pass EPA Method 9095 Paint Filter Test unless it is bulk or non-containerized liquid waste that is:
    - household waste other than septic waste;
    - contained liquid waste and the container is a small container similar in size to that normally found in the household waste; or
    - in a container designated to hold liquids for use other than storage.
- Regulated Asbestos Containing Materials.
- Lead acid storage batteries.
- Used oil filters from internal combustion engines.
- Whole or used scrap tires (if not for recycling).
- Radioactive materials.
- Associated hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes);
- Class 1 industrial nonhazardous waste;
- Untreated medical waste;
- Septic tank pumpings;
- Grease and grit trap wastes;
- Wastes from commercial or industrial wastewater treatment plants, air pollution control facilities, and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR, Part 261, Appendix VIIII but has not been listed as a commercial chemical product in 40 CFR, Section 261.33(e) or (f);

- Incinerator ash;
- Sludges.

2.1.2 Projected Transfer Rate

The City of Copperas Cove TS will serve residences and businesses, including those in the Service Area. The TS received approximately 30,838 tons during the 2021 fiscal year beginning September 1, 2020 and ending August 31, 2021.

Waste will be transferred to a permitted facility on a daily basis except for extenuating circumstances such as inclement weather or mechanical breakdown. As economic conditions, population growth, and waste generation rates change, the volume of incoming waste may vary.

The estimated maximum annual waste acceptance rate for the facility for five years is shown in the following table.

NTMWD Fiscal Year[1]	Waste Acceptance Rate	
	Daily[2] (tons per day)	Annually (tons per year)
2021	84.5	30,838
2022	85.8	31,319
2023	87.1	31,808
2024	88.5	32,304
2025	89.9	32,808

[1] The fiscal year runs from September to August.
[2] Averaged over 365 days per year.

As shown below, the average population equivalent using the above projected maximum waste acceptance rates varies from 33,800 persons to 35,960 persons. As the transfer station Service Area conditions change, adjustments to the service area population may occur. The population equivalent of the areas served was calculated as follows:

$$\frac{(84.5 \text{ tons/day})(2{,}000 \text{ lbs/ton})}{(5 \text{ lbs/person/day})} = 33{,}800 \text{ persons}$$

$$\frac{(89.9 \text{ tons/day})(2{,}000 \text{ lbs/ton})}{(5 \text{ lbs/person/day})} = 35{,}960 \text{ persons}$$

A maximum of 1,100 tons of waste can be processed, transferred, and stored at the facility within the enclosed building. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating circumstances such as inclement weather or mechanical breakdown. Non-stored wastes will be transported daily to a permitted landfill.

2.1.3 Facility Design Report

The site plans included within this permit application set forth the overall design and operating characteristics of the improved TS facility. Figures showing the proposed Type V TS facility layout are presented in Appendix IIIA of the Facility Design Report (Part III). A summary of the proposed development to expand the existing facility is listed below.

- The TS building is an existing, pre-cast concrete tilt wall building with a tipping floor area of approximately 8,500 square feet.
- Transfer trucks, collection vehicles, and self-haul vehicles will all enter the site from an existing driveway off of FM 116 and two proposed driveways off of Commerce Street.
- The collection vehicles will enter the transfer station building through the east side entrance bay, and unload waste onto the tipping floor. Collection trucks will then exit the east side of the transfer station building and follow the route to exit the facility.
- Self-haul vehicles will utilize bays on the north side of the TS building to unload waste. Material on the north side will be pushed south into the main tipping floor before being loaded into transfer trailers.
- All tipping will occur within the transfer station building. The commercial vehicles will tip on the tipping floor away from the self-haul vehicles. All tipped material will be stored on the tipping floor and pushed by wheel loaders toward the tunnel located along the west wall of the building.

2.1.4 Site Operating Plan

The SOP for the proposed City of Copperas Cove TS is presented in Part IV of this permit application. The site will be operated by appropriately-trained personnel. The SOP details the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

2.2 Abandoned Oil and Water Wells

2.2.1 Water Wells

A water well search was conducted by ERIS, for an area within one mile of the permit boundary, including within the facility boundary. The results by ERIS revealed that there are 28 water wells within 1 mile of the permit boundary, and the nearest one is over 1,400 feet away. Refer to Appendix I/IIC for their locations and distance from the TS permit boundary.

No existing or abandoned water wells are known within the facility boundary. In accordance with §330.61(l)(1), if during the operations of the facility a water well is discovered within the facility, the City of Copperas Cove shall, within 30 calendar days after discovery, provide written certification to the TCEQ that all such wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the TCEQ or other state agency.

2.2.2 Oil and Gas Wells

An oil and gas well search was conducted by ERIS, for an area within 500 feet of the permit boundary including within the facility boundary. The results by ERIS revealed that there were no producing well locations or plugged wells located within the study area. Refer to Appendix I/II C for excerpts from the ERIS report.

2.3 Texas Historical Commission Review

A Texas Historical Commission coordination letter is included in Appendix I/IIA. The Historical Commission concluded that two recorded siles are located within 5 miles of the transfer station tract. Clear Creek Baptist Church is located approximately 1.7 miles southwest of the site. The Ogletree stageshop and post office is located approximately 1.8 miles northwest of the site.

2.4 Central Texas Council of Governments

The proposed Type V facility is consistent with the Regional Solid Waste Management Plan for the Central Texas Council of Governments (CTCOG). A letter documenting coordination with the CTCOG is included in Appendix I/IIA.

In addition, this application was submitted to the CTCOG on April 22, 2024.

2.5 Internet Posting

In accordance with Title 30 TAC §330.57(i), a complete copy of this permit application will be posted to the internet at the following publicly accessible website: https://www.ftwweaverboos.com
All future revisions or supplements to this permit application will also be posted at the same location. This internet posting is for informational purposes only. The TCEQ website will also contain information regarding the filing of this permit application along with a link to the above-mentioned web address.

2.6 Other Permits/Authorizations

In accordance with Title 30 TAC §305.45(a)(7), the related permits and authorizations for the facility are summarized in Table 2-1.

Table 2-1
Other Permits/Authorizations

Description	Status
Hazardous Waste Management program under the Texas Solid Waste Disposal Act	No submittal is required nor been applied for under the Hazardous Waste Management Program under the Texas Solid Waste Disposal Act.
Underground Injection Control (UIC) program under the Texas Injection Well Act	No submittal is required nor been applied for under the Underground Injection Control Program under the Texas Injection Well Act.
Texas Pollutant Discharge Elimination System (TPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26	The City of Copperas Cove TS will maintain the current Notice of Intent (NOI) for the City of Copperas Cove TS. The facility SWPPP will be revised and implemented prior to operating the improved facility. The current TCEQ TPDES MSGP Authorization Number for this site is TXR05AN48.
Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act	No submittal for a Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA) is required or has been applied for.
Nonattainment Program under the Federal Clean Air Act (FCAA)	No submittal is required or has been applied for under the Nonattainment Program under the FCAA.
National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the FCAA	No submittal is required nor been applied for under the NESHAPS preconstruction approval under the FCAA.
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	No submittal is required nor have ocean dumping permits been applied for under the Marine Protection Research and Sanctuaries Act.
Dredge or fill permits under the Federal Clean Water Act	No submittal is required nor have dredge and fill permits been applied for under the Federal Clean Water Act.
Licenses under the Texas Radiation Control Act	No submittal is required nor have licenses been applied for under the Texas Radiation Control Act.
Subsurface area drip dispersal system permits under Texas Water Code, Chapter 32.	No submittal is required nor has a subsurface area drip dispersal system permits been applied for under Texas Water Code, Chapter 32.
Air Permit requirements in Title 30 TAC §116.110 and §106.534	Transfer stations operating in compliance with the Texas Solid Waste Disposal Act are permitted by rule. Documentation will be kept on site to demonstrate that the site will meet the requirements of Title 30 TAC §106.534 at the time the facility is constructed. If air pollution emission capture and abatement equipment is utilized, it will be properly maintained and operated consistent with Title 30 TAC §330.245(e).
Other environmental permits	No other submittal is required, nor have other environmental permits been applied for.

3 EXISTING CONDITIONS SUMMARY

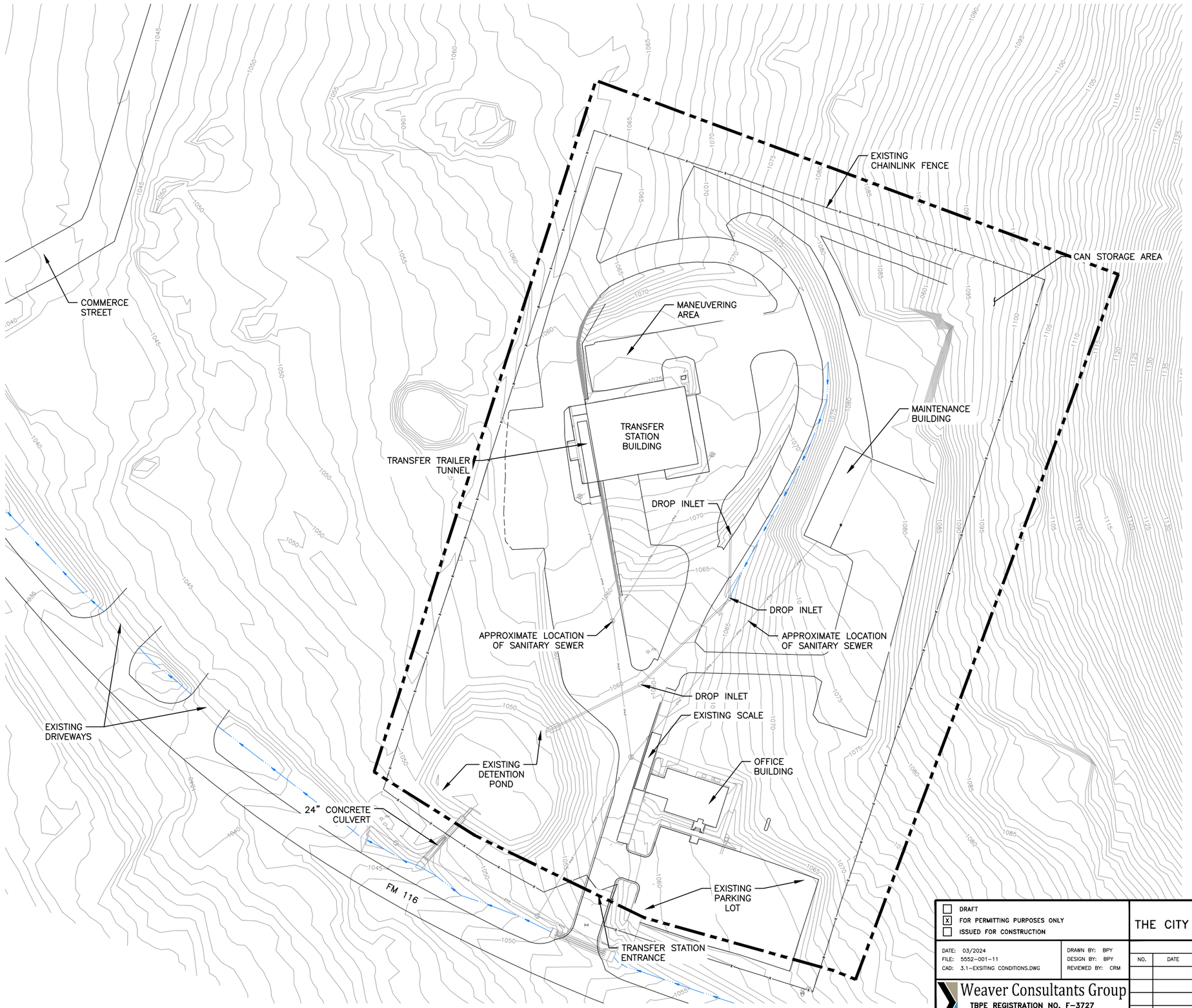
This section addresses §330.61(a).

The existing conditions of the site are shown on Figure I/II-3.1. The proposed City of Copperas Cove TS permit boundary encompasses 14.63-acres. The south boundary is formed by FM 116. The east, west, and north boundary is formed by industrial/commercial properties.

As shown on Figure I/II-3.1, the existing site topography is elevated along the north and east sides of the transfer station. The TS building is elevated near the middle of the property. The TS facility and other operations vary in elevation from approximately 1,049 to 1,115 feet above mean sea level (ft-msl). The surrounding area consists primarily of residential, light industrial property, transportation corridor, churches, retail/office property, and industrial/commercial property.

There are no site specific conditions that require special design considerations, possible mitigation of surrounding area land uses, transportation infrastructure improvements, soils and geology considerations, ground and surface water protection, abandoning oil and water wells, or impacting floodplains, wetlands, endangered species, significant archaeological or historic resources conditions, or sites with exceptional aesthetic qualities. Each of the criteria set forth in Title 30 TAC §330.61(h) through (o) are discussed in detail in Sections 7 through 13.

The existing registration boundary is surrounded by a 6-foot tall chain link fence and natural or manmade buffers/roadways that protect the public from exposure to potential health and safety hazards and discourage unauthorized or uncontrolled disposal of solid or hazardous material. The natural barriers include tree lines along the west, east, and north boundaries.



N

0 50 100

SCALE IN FEET

LEGEND

EXISTING REGISTRATION BOUNDARY

1070 EXISTING CONTOUR (SEE NOTE 1)

EXISTING CHANNEL

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: 3.1-EXSITING CONDITIONS.DWG

DRAWN BY: BPY
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION EXISTING SITE CONDITIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

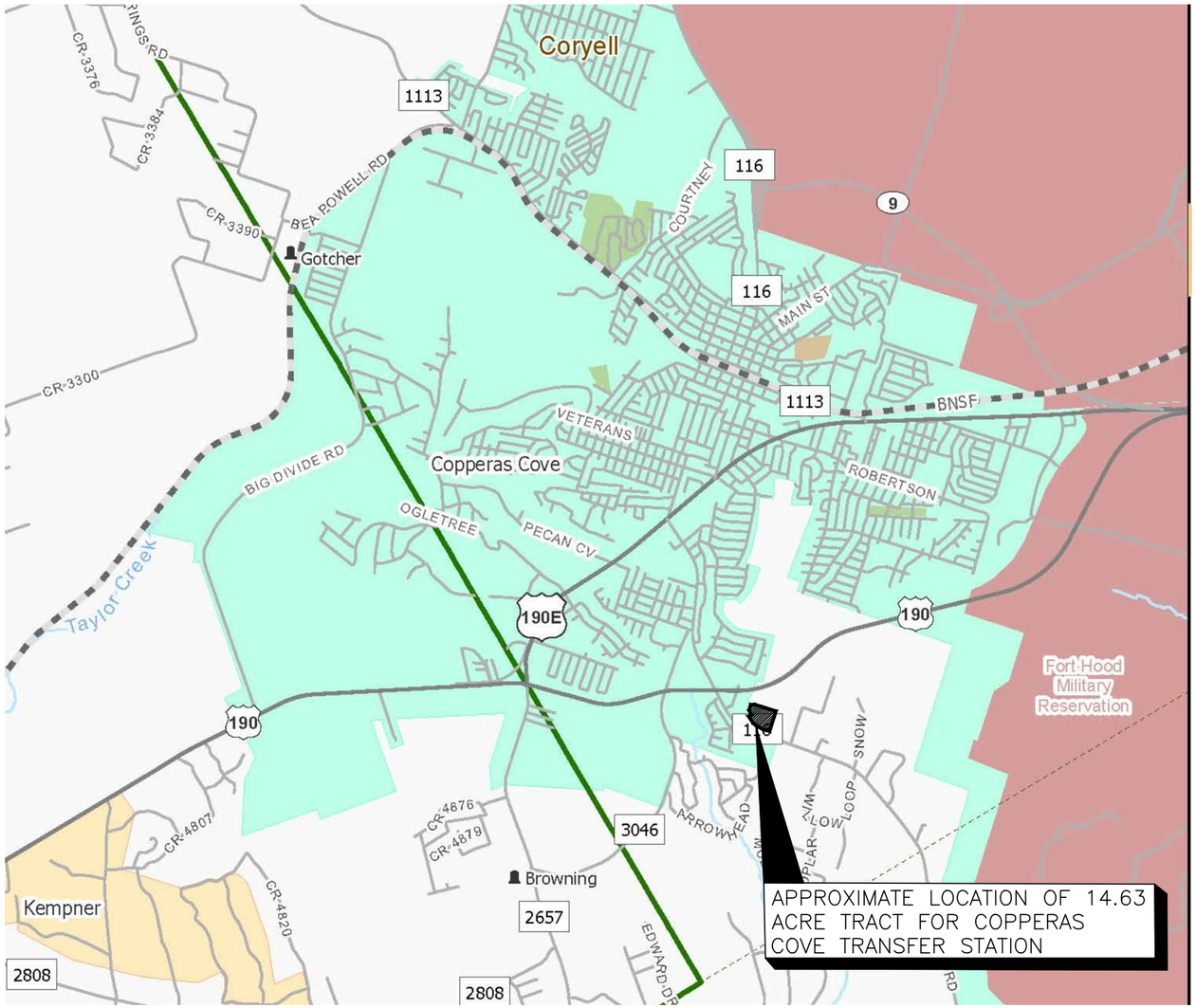
FIGURE I/II-3.1

4 MAPS

This section addresses §330.59(c), §330.61(c), §330.61(e), §305.45(a)(6)(A), and §305.45(a)(6)(C).

A site location map and general topographic map are presented on Figures I/II-4.1 and I/II-4.2. Structures and inhabitable buildings located within 500 feet are shown on Figure I/II-4.3. The longitudinal and latitudinal geographic coordinates for the City of Copperas Cove TS are 31°05'38"N, 97°54'06"W.

Figure I/II-4.1 and Figure I/II-4.2 show surface water bodies in accordance with Title 30 TAC §330.59(c)(1) and §305.45(a)(6)(A). Figure I/II-4.2 shows and/or indicates wells and springs in accordance with Title 30 TAC §330.59(c)(1) and §305.45(a)(6)(A). As noted in Figure I/II-4.2, no springs exist within a one-mile radius of the site.



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: 4.1-SITE LOCATION MAP.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

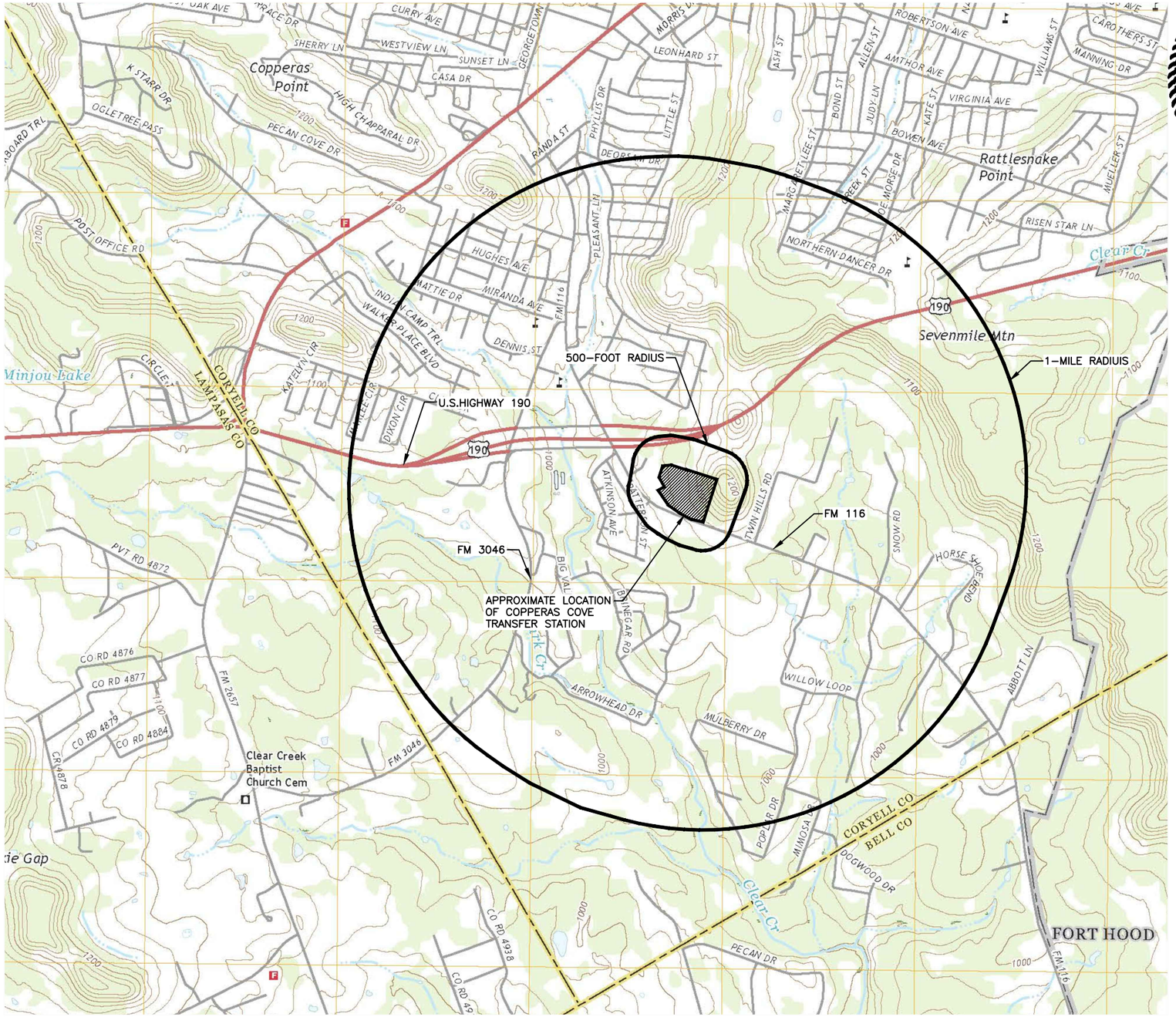
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II-4.1



STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

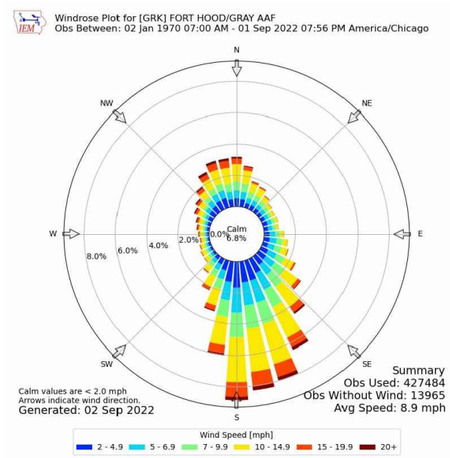
N

0 1000 2000
SCALE IN FEET

ROAD CLASSIFICATION

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

SITE LOCATION
N 31° 05' 38"
W 97° 54' 06"



NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)
2. NO SPRINGS EXIST WITHIN A 1-MILE RADIUS OF THE SITE.
3. NO WATER WELLS EXIST WITHIN 500 FEET OF THE PERMIT BOUNDARY. REFER TO APPENDIX I/IIC FOR WELL INFORMATION.

0:\5552\TYPE V TS APPLICATION\PARTS I-II\4.2-TOPO MAP.dwg, nhohmann, 1:2

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: 4.2-GENERAL TOPO MAP.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II-4.2

N

0 200 400

SCALE IN FEET

LEGEND

	PROPOSED PERMIT BOUNDARY
IC	INDUSTRIAL/COMMERCIAL INHABITABLE STRUCTURE
CH	CHURCH
R	RESIDENTIAL

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.
2. ALL STRUCTURES WITHIN 500 FEET OF THE PERMIT BOUNDARY ARE SHOWN ON THIS FIGURE. LAND USE WITHIN A 500–FOOT RADIUS OF THE SITE CONSISTS OF COMMERCIAL/INDUSTRIAL, CHURCHES, AND RESIDENTIAL.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: 4.3–AERIAL PHOTOGRAPH.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II–4.3

PROPOSED RECYCLING CENTER ENTRANCE
OFFICE (40'X25')
RECYCLING CENTER (75'X50')
PROPOSED FENCE
PROPOSED TRANSFER STATION ENTRANCE
CONTAINER STORAGE AREA
PROPOSED POND
CONTAINER SHOP (50'X50')
180' RETAINING WALL (SEE NOTE 3)
EXTEND MANEUVERING APRON
COMMERCE STREET
30' BUILDING EXTENSION
TRUCK WASH RACK (75'X20')
TRANSFER STATION BUILDING
PROPOSED PARKING LOT
25' BUILDING EXTENSION
285' RETAINING WALL (SEE NOTE 3)
SCALEHOUSE (8'X25')
INBOUND SCALE
OUTBOUND SCALE
BYPASS LANE
BYPASS LANE
FUTURE USE AREA
TRANSFER TRAILER TUNNEL
OUTGOING TRAILER STAGING AREA
ISLAND
STOP SIGN
PROPOSED POND
FM 116
EXISTING DRIVEWAYS
EXISTING DETENTION POND
OFFICE BUILDING
EXISTING PARKING LOT
FM 116
EXISTING TRANSFER STATION ENTRANCE

1047.5 1054.4 1057.2 1052.8 1057.2 1048.4 1053.2 1059.6 1058.4 1053.5 1052.5 1056.3 1053.7 1051.4 1058.6

0 50 100
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- ×1056.3 SPOT ELEVATION
- SITE BENCHMARK

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

BENCHMARK INFORMATION		
NORTHING	EASTING	ELEVATION (FT–MSL)
10370871.91	3058064.70	1073.54

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL LICENSED ENGINEER
04/30/2024

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: 4.4-PROPOSED SITE PLAN.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION PROPOSED SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE I/II-4.4

5 PROPERTY OWNERS LIST AND MAP

This section addresses §330.59(c)(3) and §305.45(a)(6)(D).

The following list (Table 5-1) and figure (Figure I/II-5.1) provide the names, mailing addresses, and locations of the "Adjacent and Potentially Affected Landowners" around the facility. The list is based on appraisal district records of the Coryell Central Appraisal District as of April 24, 2024 and includes tracts within 1/4 mile of the permit boundary. Refer to Figure I/II-5.1, Property Owners Map, for location of the properties. The numbers on the landowners list correspond to the numbers listed on Figure I/II-5.1. The Coryell Central Appraisal District records do not list mineral rights ownership records.

TABLE 5-1
PROPERTY OWNERS LIST

1. CLARK JAMES W II & WESLEY ATKINSON
PO BOX 280
KEMPNER, TX

2. FRAZIER MATHEW J & MEGAN E
2112 MILES STREET
COPPERAS COVE, TX 76522

3. MANNING JAY & JOAN
805 JONATHAN LN
COPPERAS COVE, TX 76522-4428

4. SHERINIAN STEPHEN J & BRENDA J
2653 TWIN HILLS RD
KEMPNER, TX 76539-6844

5. SWANNER JERRY W & PATRICIA A
2651 TWIN HILLS RD
KEMPNER, TX 76539

6. MANIGAND EMMANUEL H
2623 TWIN HILLS ROAD
KEMPNER, TX 76539

7. LITTON WESLEY
2617 TWIN HILLS RD
KEMPNER, TX 76539-6844

8. LITTON JOHN ETAL
2607 TWIN HILLS RD
KEMPNER, TX 76539-6844

9. KELLY WILLIAM JAMES
PO BOX 72
KEMPNER, TX 76539-6809

10. CLARK JAMES W II
PO BOX 727
COPPERAS COVE, TX 76522-0727

11. ROLL IN STORAGE LLC
814 S MAIN
COPPERAS COVE, TX 76522

12. ROLL IN STORAGE LLC
814 S MAIN
COPPERAS COVE, TX 76522

13. ROLL IN STORAGE LLC
814 S MAIN
COPPERAS COVE, TX 76522

14. CLARK JAMES W II & WESLEY ATKINSON
PO BOX 280
KEMPNER, TX 76539

15. CLARK JAMES W II & WESLEY ATKINSON
PO BOX 280
KEMPNER, TX 76539

16. CANTRELL VICKI
2750 S FM 116
KEMPNER, TX 76539-6808

17. GRISWOLD PAUL E & ELFRIEDE G
PO BOX 1798
COPPERAS COVE, TX 76522-5798

18. OHAMA DAN
2720 WILLOW LOOP
KEMPNER, TX 76539

19. MUNICH AUTO LLC
2702 S FM 116
COPPERAS COVE, TX 76522

20. CARR COLIN & ANN
2835 GILA BEND
COPPERAS COVE, TX 76522

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

21. CARR COLIN & ANN
2835 GILA BEND
COPPERAS COVE, TX 76522

22. CHIN JOELLE I & BLACK DONNIE J
2743 VIGILANTE RD
COPPERAS COVE, TX 76522-7216

23. CHIN JOELLE I & BLACK DONNIE J
2743 VIGILANTE RD
COPPERAS COVE, TX 76522-7216

24. MAY CHARLES R JR & SUSANNE STAECKER
2717 VIGILANTE RD
COPPERAS COVE, TX 76522

25. CRESTVIEW CHRISTIAN
CHURCH
PO BOX 1095
COPPERAS COVE, TX 76522-5095

26. HILLSIDE EVANGELICAL
METHODIST CHURCH
S FM 116
COPPERAS COVE, TX 76522

27. CRESTVIEW CHRISTIAN CHURCH
PO BOX 1095
COPPERAS COVE, TX 76522-5095

28. HILLSIDE EVANGELICAL
METHODIST CHURCH
S FM 116
COPPERAS COVE, TX 76522

29. MAY CHARLES R JR & SUSANNE
STAECKER
2717 VIGILANTE RD
COPPERAS COVE, TX 76522

30. MAY CHARLES R JR & SUSANNE STAECKER
2717 VIGILANTE RD
COPPERAS COVE, TX 76522

31. HILLSIDE EVANGELICAL
METHODIST CHURCH
2602 S FM 116
COPPERAS COVE, TX 76522-4200

32. COLBURN JOHN
1611 TOPAZ RD
KILLEEN, TX 76543

33. NEWELL JAMES WILLIAM & YOUN
221 PATTERSON STREET
COPPERAS COVE, TX 76522

34. HODGES HOWARD T JR
219 PATTERSON ST
COPPERAS COVE, TX 76522-4620

35. WOOD JAMES A & ELIZABETH V
217 PATTERSON ST
COPPERAS COVE, TX 76522-4620

36. PERRY DELLA R
215 PATTERSON ST
COPPERAS COVE, TX 76522-4620

37. HADDAD FAMILY REVOCABLE TRUST
215 PATTERSON STREET
COPPERAS COVE, TX 76522

38. HATFIELD DAVID P & VIRGINIA A
211 PATTERSON ST
COPPERAS COVE, TX 76522-4620

39. LAMPE CHRISTINA
209 PATTERSON STREET
COPPERAS COVE, TX 76522

40. TOSADO AMELIA
207 PATTERSON ST
COPPERAS COVE, TX 76522-4620

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

41. WOODS LANUOLA S & ROBERT
205 PATTERSON ST
COPPERAS COVE, TX 76522-4620

42. CORK ENTZMINGER
203 PATTERSON STREET
COPPERAS COVE, TX 76522

43. SIMS RONALD W & JACKIE L
201 PATTERSON ST
COPPERAS COVE, TX 76522-4620

44. BRINGHURST BECKY JO
129 PATTERSON STREET
COPPERAS COVE, TX 76522

45. FIGUEROA KRISTY L & CRISTIAN
127 PATTERSON STREET
COPPERAS COVE, TX 76522

46. CHUA DANILO FABULA & ADORACION D
125 PATTERSON ST
COPPERAS COVE, TX 76522

47. SMITH DONNIE RAY
123 PATTERSON STREET
COPPERAS COVE, TX 76522

48. SHELDON KEVIN M
121 PATTERSON ST
COPPERAS COVE, TX 76522-4618

49. SARGENT GEORGE C
119 PATTERSON ST
COPPERAS COVE, TX 76522-4618

50. TROENDLY FAMILY TRUST
TROENDLY JEFFREY MICHAEL& WENDY
2454 FLAGSTONE DRIVE
NAPA, CA 94558

51. MORRIS STEVEN Q & MARGARET
2419 NICKELBACK DR
HARKER HEIGHTS, TX 76548-2795

52 SEEFELDT DANIEL L & CHRISTINE A
704 ASH ST
COPPERAS COVE, TX 76522-3005

53. OLALDE MICHELLE & CRYSTAN E CALDERON
111 PATTERSON ST
COPPERAS COVE, TX 76522

54. DONELSON INGRID H
109 PATTERSON ST
COPPERAS COVE, TX 76522-4618

55. MASCOLL SYDNEY CREE
107 PATTERSON STREET
COPPERAS COVE, TX 76522

56. AKERS ZACHRY & ROBI
105 PATTERSON ST
COPPERAS COVE, TX 76522-4618

57. GIPSON BRENDA M
103 PATTERSON ST
COPPERAS COVE, TX 76522-4618

58. SERIES 101 PATTERSON STREET
2210 INTREPID DRIVE
BUDA, TX 78610

59. JENKINS CAROLYN L
706 ATKINSON AVE
COPPERAS COVE, TX 76522-4612

60. MURILLO JUAN
3114 LOIS LANE
KEMPNER, TX 76539-6871

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

61. CURTIN ERIC
702 ATKINSON AVE
COPPERAS COVE, TX 76522

62. BEHANNA JAMES W JR &
TORI K STOUT
632 ATKINSON AVE
COPPERAS COVE, TX 76522-4600

63. RIOS-IRIZARRY CARLOS R & SUN NIM
630 ATKINSON AVE
COPPERAS COVE, TX 76522-4600

64. LHCS LLC
1506 PASEO DEL PLATA SUITE 200
TEMPLE, TX 76502

65. HUNT BRIAN M
622 ATKINSON AVE
COPPERAS COVE, TX 76522

66. MENZIES KLINT & SAMANTHA
2844 S GRADE ROAD
ALPINE, CA 91901

67. MADISON KENNETH E & CLAUDETTE
613 ATKINSON AVE
COPPERAS COVE, TX 76522-4611

68. SARGENT SHANE & LINDSEY SILVA
615 ATKINSON AVENUE
COPPERAS COVE, TX 76522

69. SAYERS MICHAEL M
24418 183RD AVE E APT A
COVINGTON, WA 98042-4836

70. KOELLNER TIMOTHY J
2506 BIG DIVIDE RD
COPPERAS COVE, TX 76522

71. CROCKETT ISSAC B
264 BOSWELL AVENUE
NORWICH, CT 06360-3723

72. WILSON GEORGE L JR
623 ATKINSON AVE
COPPERAS COVE, TX 76522-4611

73. STROKLUND UH
146 PRIVATE ROAD 4924
COPPERAS COVE, TX 76522-6280

74. JACOBS MICHAEL T & DIANE M
627 ATKINSON AVE
COPPERAS COVE, TX 76522-4611

75. PECHIN DENNIS R & JOANNE L
629 ATKINSON AVE
COPPERAS COVE, TX 76522-4611

76. MCADAMS LATERRI LYNN
631 ATKINSON AVE
COPPERAS COVE, TX 76522

77. FLAKES REBA I & ALBERT J
216 PATTERSON ST
COPPERAS COVE, TX 76522-4619

78. TOM PHILLIP ROY & MALINDA K
214 PATTERSON STREET
COPPERAS COVE, TX 76522

79. BERTSCH OLUBUKOLA M
212 PATTERSON ST
COPPERAS COVE, TX 76522

80. INGRAM JANICE N
210 PATTERSON STREET
COPPERAS COVE, TX 76522

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

81. BLACK RICHARD A & JANELLE P
208 PATTERSON ST
COPPERAS COVE, TX 76522-4619

82. SCHMIDT BRONSON M & HANNAH L
6153 E MOMBASA LANE
HEREFORD, AZ 85615-1008

83. BERRY LEONARD B & CHAE S
204 PATTERSON ST
COPPERAS COVE, TX 76522-4619

84. MERROW CHRISTOPHER & EMILY
202 PATTERSON ST
COPPERAS COVE, TX 76522

85. SEEFELDT DANIEL L & CHRISTINE A
704 ASH ST
COPPERAS COVE, TX 76522-3005

86. WESTERBERG BRENT & SHANNON
203 PAULA STREET
COPPERAS COVE, TX 76522

87. BERRIER JOSHUA DILLON & JORDAN LEIGH
205 PAULA STREET
COPPERAS COVE, TX 76522

88. HARRIS ROBERT
207 PAULA STREET
COPPERAS COVE, TX 76522

89. JOHNSON CHRISTOPHER ALAN
209 PAULA STREET
COPPERAS COVE, TX 76522

90. PARKHAM LLC
4140 TAMWORTH RD
FORT WORTH, TX 76116

91. ASHCRAFT PATRICIA J
503 ATKINSON AVE
COPPERAS COVE, TX 76522

92. SANCHEZ MIGUELANGEL GREGORIO & AISLINN SELENA KNIGHT
103 BENJAMIN CIRCLE
COPPERAS COVE, TX 76522

93. LHCS LLC
1506 PASEO DEL PLATA SUITE 200
TEMPLE, TX 76502

94. HOWARD JAMES L JR ETAL
107 BENJAMIN CIR
COPPERAS COVE, TX 76522-4614

95. BRYANT REGINALD E & LAZELLE D
12213 REDWOOD CT
WOODBRIDGE, VA 22192-1611

96. CUMMINS HOLLIE
111 BENJAMIN CIRCLE
COPPERAS COVE, TX 76522

97. RUDD JARED D & ELYSHA K
113 BENJAMIN CIR
COPPERAS COVE, TX 76522-4614

98. RAMIREZ NORMA L & RAMIRO
115 BENJAMIN CIRCLE
COPPERAS COVE, TX 76522

99. BARNES WAYNE STUART
117 BENJAMIN CIRCLE
COPPERAS COVE, TX 76522

100. FLORA ALVIN E
119 BENJAMIN CIR
COPPERAS COVE, TX 76522-4614

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

101. DEBY RAFAL & GEETA
907 SARATOGA LANE
COPPERAS COVE, TX 76522

102. MJTJ LLC
13123 OPAL LANE
WOODBRIDGE, VA 22193

103. HIRSCH SHAWN & ANGELITA
604 ATKINSON AVE
COPPERAS COVE, TX 76522

104. RODRIGUEZ DORIS M
207 QUAIL TRAIL LN
ARLINGTON, TX 76002-3377

105. JOHNSON CHRISTOPHER ALAN
506 ATKINSON AVE
COPPERAS COVE, TX 76522-4624

106. MOORE ANDREE & STACY
504 ATKINSON AVE
COPPERAS COVE, TX 76522

107. HART VONYA R
1806 FREEDOM LN
COPPERAS COVE, TX 76522

108. WEEKES ASHLEY
406 ATKINSON AVE
COPPERAS COVE, TX 76522

109. LUNA NORMAL L
404 ATKINSON AVE
COPPERAS COVE, TX 76522-4604

110. MARTINEZ JUAN JR & DAVIDA A
402 ATKINSON AVE
COPPERAS COVE, TX 76522-4606

111. JOHNSON ALYSSA TRACY
14307 VANDEVER STREET
AUSTIN, TX 78725

112. WISNIEWSKI SHARON
PO BOX 505 24 LAKEVIEW DRIVE
ANNA MAIA, FL 34216

113. CECIL TINA M & CHARLES G
304 ATKINSON AVE
COPPERAS COVE, TX 76522-4604

114. CROCKETT DEREK A
PO BOX 697
COPPERAS COVE, TX 76522

115. DIXON MARILYN A
222 ATKINSON AVE
COPPERAS COVE, TX 76522-4623

116. MOORE MELVIN W & JENNIFER D
220 ATKINSON AVE
COPPERAS COVE, TX 76522

117. REIN TEJAS LLC
251 OAK BEND DR
LIBERTY HILL, TX 78642-4561

118. GARCIA EUGENIO G & JUANITA M
103 FRIAR TUCK COURT
EL PASO, TX 79924-5405

119. STOKESBARY GLENN H & DEBRA K
5225 BREAKER CIRVLE
TEMPLE, TX 76502

120. ORTIZ JOSE VIRGILIO SR &
TERESA DE JESUS GOMEZ
600 SHERIDAN
AUSTIN, TX 78745

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

121. DIETZ JASON E
210 ATKINSON AVE
COPPERAS COVE, TX 76522-4602

122. LHCS LLC
1506 PASEO DEL PLATA SUITE 200
TEMPLE, TX 76502

123. MELTON THOMAS
206 ATKINSON AVE
COPPERAS COVE, TX 76522

124. WHITE LINDA F & LAVERA R GODSIL
204 ATKINSON AVE
COPPERAS COVE, TX 76522-4602

125. BAKER BRITTANY E
202 ATKINSON AVE
COPPERAS COVE, TX 76522

126. HOME PLACE PROPERTIES LLC
PO BOX 745
COPPERAS COVE, TX 76522-4601

127. CARLILE MARK J & BRIANNA N
102 ATKINSON AVE
COPPERAS COVE, TX 76522

128. ATKINSON WESLEY
PO BOX 280
KEMPNER, TX 76539

129. CITY OF COPPERAS COVE
PO BOX 1449
COPPERAS COVE, TX 76522

130. DANIELS ZANE H
109 OLIVIA COURT
LEXINGTON, NC 27292

131. MOORE CLAUDIA
208 PAULA ST
COPPERAS COVE, TX 76522-4621

132. WILKERSON CORI R & AKIL J
206 PAULA ST
COPPERAS COVE, TX 76522-4621

133. TAYLOR MARY LYNN & BART
204 PAULA STREET
COPPERAS COVE, TX 76522

134. RIGGS JEREMY
202 PAULA STREET
COPPERAS COVE, TX 76522

135. MINGA GEORGE G & ANN
130 PATTERSON STREET
COPPERAS COVE, TX 76522

136. BREWINGTON MITCHELL
128 PATTERSON STREET
COPPERAS COVE, TX 76522

137. SIBILLE ANGELO R & CAITLIN M GRAHAM
126 PATTERSON ST
COPPERAS COVE, TX 76522

138. LOPEZ CHRIS O
124 PATTERSON ST
COPPERAS COVE, TX 76522-4617

139. MENADUE ALAN L & VERA L
2316 TIFFANY DR
COPPERAS COVE, TX 76522-4337

140. DECHERT ROBIN
120 PATTERSON ST
COPPERAS COVE, TX 76522-4617

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

141. MYERS PAUL V & KAREN A
401 WROUGHT IRON DRIVE
HARKER HEIGHTS, TX 76548

142. ST LOUIS DAVID & CADEEJAH
116 PATTERSON STREET
COPPERAS COVE, TX 76522

143. BATTLE LAWAN ROCHELLE
114 PATTERSON STREET
COPPERAS COVE, TX 76522

144. ARMSTRONG RICHARD H
112 PATTERSON ST
COPPERAS COVE, TX 76522-4617

145. MYERS PAUL V & KAREN
401 WROUGHT IRON DRIVE
HARKER HEIGHTS, TX 76548

146. FANO SOLOMONA S & ELENA FANO
108 PATTERSON ST
COPPERAS COVE, TX 76522-4617

147. RATTA KAREN T
106 PATTERSON STREET
COPPERAS COVE, TX 76522

148. BROWN LESLIE C
104 PATTERSON ST
COPPERAS COVE, TX 76522-4617

149. SHIN SEONG & MICHAEL ALAN GABOURY
2522 FOLSON COURT
COPPERAS COVE, TX 76522

150. AKUI DANIEL K
1411 PONY EXPRESS LN
COPPERAS COVE, TX 76522-3723

151. LAKEY ROSE M
209 ATKINSON AVE
COPPERAS COVE, TX 76522-4603

152. MULL DAVID & JESSICA
507 KUDU TRAIL
HARKER HEIGHTS, TX 76548

153. RAMIREZ JOSE M & MARGARITA V
101 MANDY CIRCLE
COPPERAS COVE, TX 76522-4616

154. WAIL LANCE & MERIAH
103 MANDY CIRCLE
COPPERAS COVE, TX 76522

155. ROBERTS BRYAN & RIDGET ARLENE
105 MANDY CIRCLE
COPPERAS COVE, TX 76522

156. OUSIP ELENA
381 MEMORY LANE
TURLOCK, CA 95382

157. COUSTE JON PIERRE & KARRI LYNN
1888 DIVOT ROAD
CARSON CITY, NV 89701

158. LAVER GARY W & ANN L
303 ATKINSON AVE
COPPERAS COVE, TX 76522

159. COSME VAZQUEZ EDWARD
103 JAMIE CIRCLE
COPPERAS COVE, TX 76522

160. MOSTELLER RONNIE D
105 JAMIE CIR
COPPERAS COVE, TX 76522-4615

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

161. HOUSE MICHAEL G & NATIVIDAD
107 JAIME CIRCLE
COPPERAS COVE, TX 76522

162. THAXTON ANDREW C
401 ATKINSON AVE
COPPERAS COVE, TX 76522

163. CITY OF COPPERAS COVE
PO BOX 1449
COPPERAS COVE, TX 76522-5449

164. SIROIS DEBORAH ANN
2719 PHYLLIS DR
COPPERAS COVE, TX 76522

165. LOYELACE JOHN M & LAVONNIE S
2717 PHYLLIS DR
COPPERAS COVE, TX 76522

166. SHELDON CRISPIN M ETUX
2715 PHYLIS DR
COPPERAS COVE, TX 76522

167. SHERMAN WILLIAM L & SUN CHA
2713 PHYLLIS DR
COPPERAS COVE, TX 76522

168. COLEMAN VIRGINIA L
2711 PHYLLIS DR
COPPERAS COVE, TX 76522

169. HOWELL DIANA A
2709 PHYLLIS DR
COPPERAS COVE, TX 76522

170. YOST THOMAS SAMUEL &
BRIDGET NICHOLE CARRIE
2707 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

171. BOBO JOHNNY L III & CRYSTAL L
2705 PHYLLIS DR
COPPERAS COVE, TX 76522-4312

172. BOND PAMELA
2703 OHYLLIS DRIVE
COPPERAS COVE, TX 76522

173. SMITH ROBERT S & BARBARA
2701 PHYLLIS DR
COPPERAS COVE, TX 76522-4312

174. ALLEN JUSTIN & KAITLYN
2627 PHYLLIS DR
COPPERAS COVE, TX 76522

175. CITY OF COPPERAS COVE
PO BOX 1449
COPPERAS COVE, TX 76522-5449

176. STATE OF TEXAS
00000

177. MANNING JAY & JOAN
805 JONATHAN LN
COPPERAS COVE, TX 76522-4428

178. MANNING JAY & JOAN
805 JONATHAN LN
COPPERAS COVE, TX 76522-4428

179. KEEFER JOHN L W & LISA A
2609 PHYLLIS DR
COPPERAS COVE, TX 76522-4328

180. BEAVERS SUSAN & CHARLIE E
776 COUNTY ROAD 4745
KEMPNER, TX 76539

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

181. SHEDD LARRY M & MALEE
2613 PHYLLIS DR
COPPERAS COVE, TX 76522-4328

182. MARTINEZ ROSALIA
2615 PHYLLIS DR
COPPERAS COVE, TX 76522-4328

183. KAUFFMAN RENITA K
2617 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

184. FOKSINSKI MIRIAM
13676 ANDORRA DRIVE
WOODBRIDGE, VA 22193

185. BOWDEN BRANDON & JORDAN ANN
2621 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

186. ROBINETTE JEFFREY B
1239 GRASS VALLEY DR
COLORADO SPRINGS, CO 80906-7712

187. MARTINEZ ERIC D
2625 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

188. MORENO SALVADOR & MARICELA
2708 PHYLLIS DR
COPPERAS COVE, TX 76522

189. HERMANN DOUGLAS CHARLES JR
& ERIS
2706 PHYLLIS DR
COPPERAS COVE, TX 76522

190. ROGER JASON ANTONIO
2704 PHYLLIS DR
COPPERAS COVE, TX 76522

191. YESTER JUSTIN C
1101 TIMMONS DRIVE
COPPERAS COVE, TX 76522

192. VEJAR CARLOS & LEDIS
1103 TIMMONS DRIVE
COPPERAS COVE, TX 76522

193. WILD CACTUS PROPERTIES LLC
PO BOX 223
JARRELL, TX 76537

194. ATKINSON OE SUK
2620 PHYLLIS DR
COPPERAS COVE, TX 76522-4333

195. KINDRED LARRY D
2618 PHYLLIS DR
COPPERAS COVE, TX 76522-4333

196. BLOME CASEY & WILLIAM
2616 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

197. LEE TERRY W & ELSIE
2614 PHYLLIS DR
COPPERAS COVE, TX 76522-4333

198. TILLMAN ARBRIA D & DAVID JOHNSON
2612 PHYLLIS DR
COPPERAS COVE, TX 76522

199. ORTEGA GABRIELA
2610 PHYLLIS DRIVE
COPPERAS COVE, TX 76522

200. WRIGHT WILLIAM A III
1106 TIMMONS DRIVE
COPPERAS COVE, TX 76522

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

201. LITTLE INES A
1104 TIMMONS DR
COPPERAS COVE, TX 76522

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL LICENSED ENGINEER
04/30/2024

N

0 200 400
SCALE IN FEET

LEGEND

PERMIT BOUNDARY

PROPERTY BOUNDARY LINES

(1) PROPERTY OWNER DESIGNATION

NOTE:

1. PROPERTY BOUNDARIES REPRODUCED FROM THE CORRELL COUNTY APPRAISAL DISTRICT WEBSITE.
2. (1) REFERS TO PROPERTY OWNERS LISTED ON PROPERTY OWNERS LIST IN SECTION 5, PROPERTY OWNERS LIST AND MAP.
3. THIS LINE REPRESENTS A 1/4–MILE DISTANCE FROM THE PERMIT BOUNDARY.
4. PROPERTY OWNERS LIST WAS DEVELOPED FROM CORYELL COUNTY APPRAISAL DISTRICT RECORDS AS OF APRIL 24, 2024.
5. * INDICATES THAT THE CORYELL COUNTY APPRAISAL DISTRICT HOLDS NO RECORDS OF THE OWNER OF THESE PROPERTIES.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 04/2024
FILE: 5552–001–11
CAD: FIG I/II–5.1–LAND OWNER MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
LAND OWNER MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

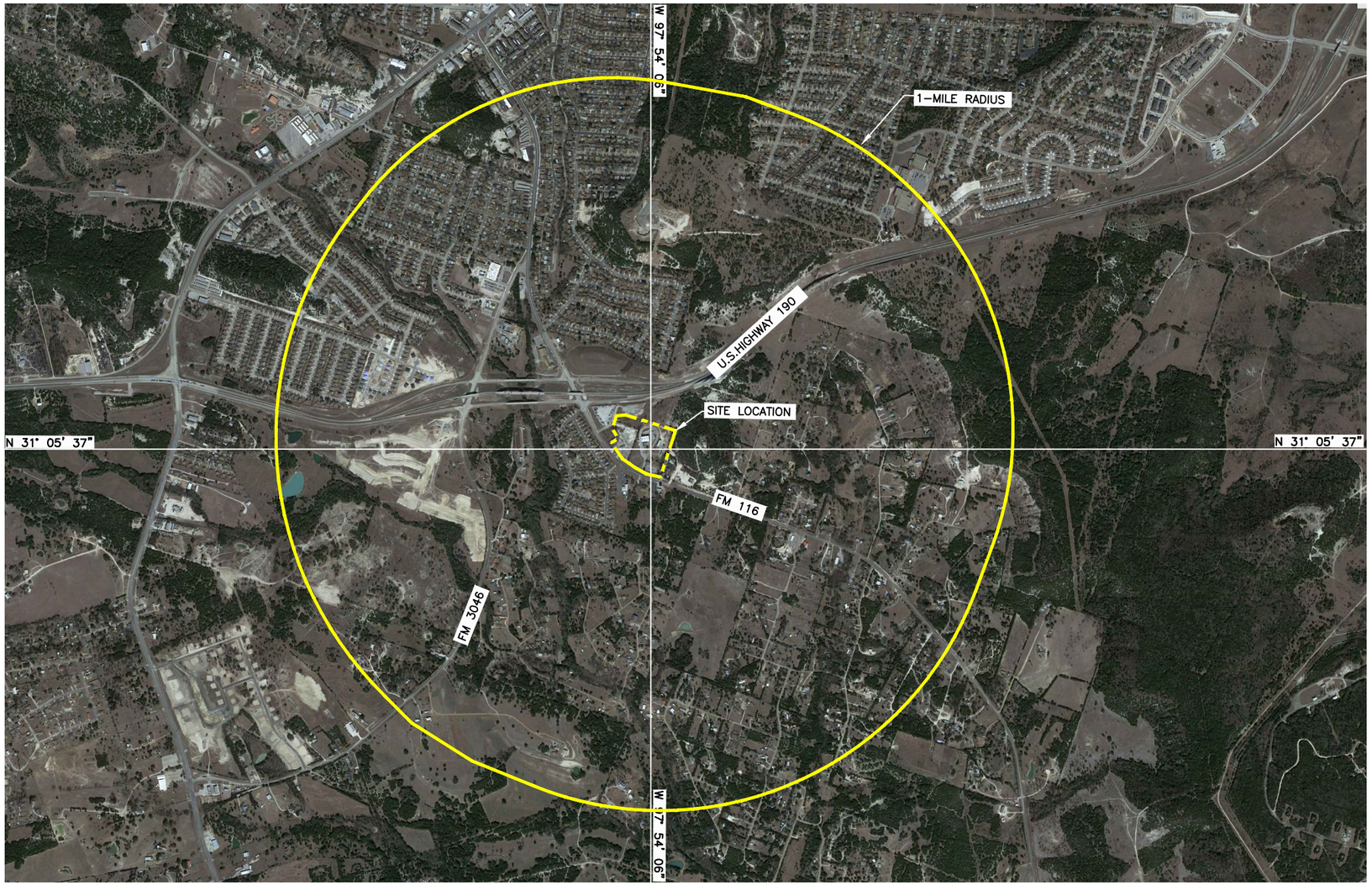
WWW.WCGRP.COM

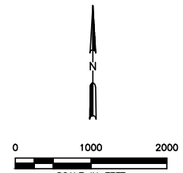
FIGURE I/II–5.1

6 AERIAL PHOTOGRAPH

An aerial photograph of the proposed Type V TS site and surrounding area (minimum of one-mile radius from the site) is presented on Figure I/II-6.1.

This section addresses §330.61(f).





LEGEND

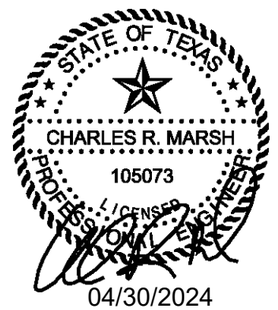
PROPOSED PERMIT BOUNDARY

1-MILE RADIUS

N 31°05'37" GEODETIC COORDINATE

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.



04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 6.1-AERIAL PHOTOGRAPH.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH-1 MILE

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE I/II-6.1

O:\5552\TYPE V TS APPLICATION\PARTS I-II\6.1-AERIAL PHOTOGRAPH.dwg, mbahmani, 1:2

7 LAND USE

7.1 Character of Surrounding Land and Land Use

This section addresses §330.61(g), §330.61(h), and §305.45(a)(6)(B).

A land use evaluation was performed for the area within one mile of the City of Copperas Cove TS permit boundary. Land use information is summarized in the following maps.

- Figure I/II-7.1 (Land Use Map – Aerial). This map highlights land use within a one-mile radius of the site on an aerial photograph.
- Figure I/II-7.2 (Zoning Map). This map indicates the City of Copperas Cove Zoning designations within two miles of site.
- Figure I/II-7.3 (Cities within 5 Miles – Aerial). This map is used to show area cities within 5 miles.

7.2 Location and Zoning

The City of Copperas Cove TS is located within the city limits of Copperas Cove, Texas. The site is located approximately 1.3 miles northwest of the Coryell-Bell County line and 1 mile northeast of the Coryell-Lampasas County line in Coryell County. Land use within a one mile radius is shown on Figure I/II-7.1 and consists of mostly residential areas, with open space/agriculture and industrial/commercial uses making up the remainder.

Zoning in the vicinity of the site is shown graphically on Figure I/II-7.2. As shown, the primary zoning designations around the TS site is residential and agricultural. Within 2 miles of the site, the majority of zoned properties are residential and open space/agricultural, with retail and commercial zones located along the Highway 190 corridor.

As shown on Figure I/II-7.2, the 14.63-acre permit boundary is presently zoned Manufacturing District, which provides for the continued operation of a transfer station.

7.3 Surrounding Land Use

Land use within a one-mile radius of the permit boundary is a mix of mainly residential and agricultural/openspace property. The properties located immediately northwest and west are industrial; immediately to the south is bounded by S. FM 116 Road, and beyond that are residential properties and a church. Properties to the northeast and east are primarily residential or undeveloped land.

Table 7-1
Zoning within 2 Miles of Permit Boundary

Zoning Name	Zoning ID	Acres	Percent
Public Facilities [1]	PF	412.0	11.5
Agricultural	AG	216.1	6.0
Low Density Residential	LR	2131.7	59.4
Medium Density Residential	MR	107.7	3.0
High Density Residential	HR	105.3	2.9
Alternative Residential	AR	27.8	0.8
Real Estate	RE	21.5	0.6
Neighborhood Commercial	NC	13.8	0.4
Business Park	BP	46.6	1.3
Downtown	DT	8.2	0.2
Retail and Commercial	RC	234.8	6.5
Heavy Commercial	HC	221.9	6.2
Light Industrial [2]	LI	39.1	1.1
	Total	3586.5	100.0%

1. Includes 9.11-acres of the transfer station permit boundary.
2. Includes 5.52-acres of the transfer station permit boundary.

The nearest residential building to the site is located approximately 24 feet east of the permit boundary. There are 3 schools and 4 churches within one mile of the permit boundary. There are no cemeteries within one mile of the permit boundary.

7.4 Growth Trends of the Nearest Community

The permit boundary is located completely within the city limits of the City of Copperas Cove. Census data and the projected population growth was used to determine the growth trend (or percent change in population) for the service area. The average annual growth rates are presented in Table 7-2. The population projections were calculated based on data obtained from the Texas Water Development Board (TWDB), 2021 Regional Water Plan.

Table 7-2 Growth Trends
Average Annual Growth Rate

Community	2020-2030	2030-2040	2040-2050	2050-2060
Service Area	1.56	1.41%	1.2%	1.07%

As shown on Table 7-2, growth in the area is anticipated to be fairly slow and consistent.

7.5 Proximity to Residences and Other Uses

The City of Copperas Cove TS is located in a predominately residential area and undeveloped area. The highest area land usage within 1-mile of the permit boundary is residential area. The nearest residence is approximately 24 feet east of the permit boundary.

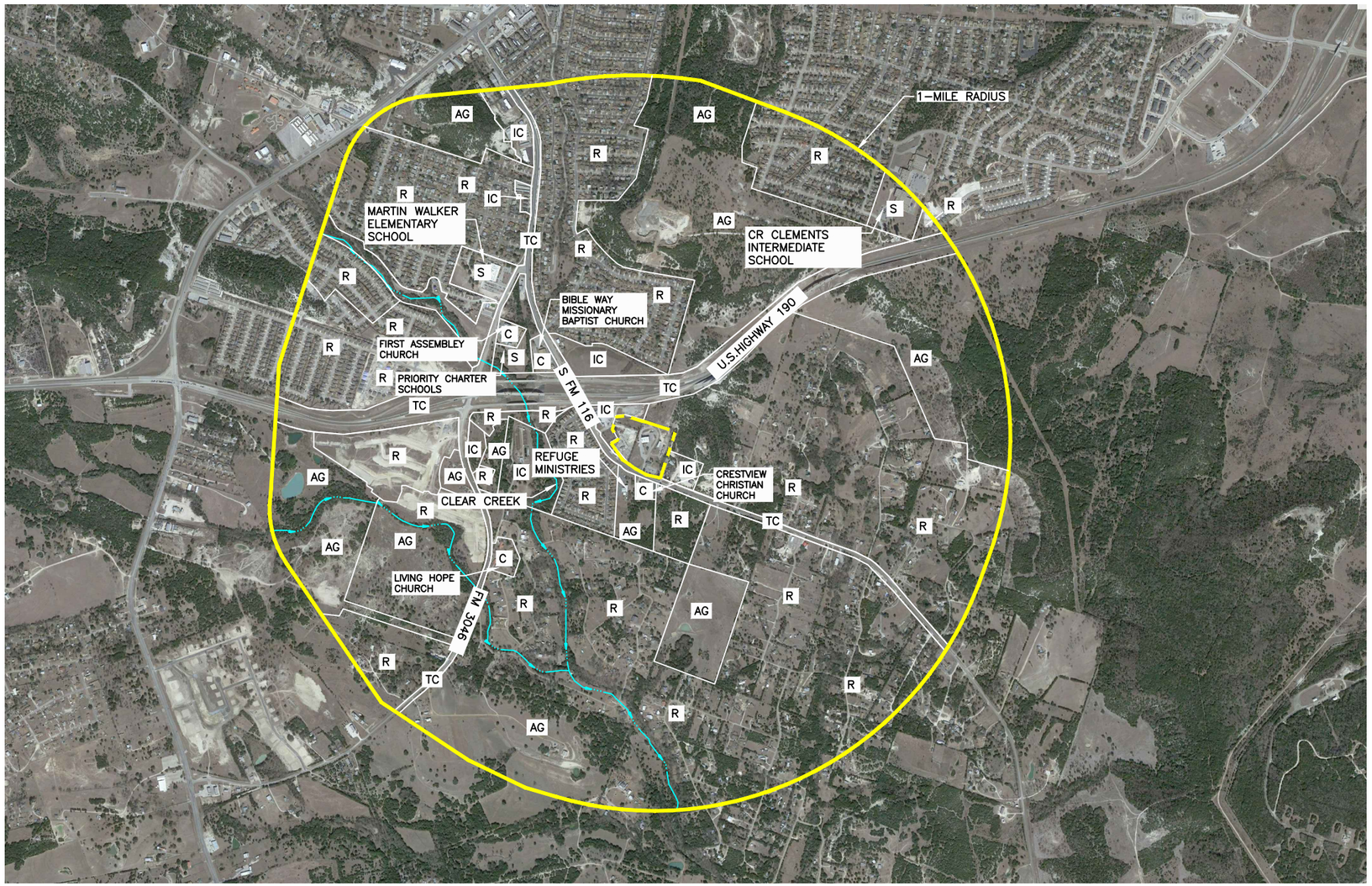
7.6 Impact on Surrounding Areas

The continued use of this land for the transfer station site represents a compatible land use for the following reasons.

- The Transfer Station received its registration and has been in operation since 1998.
- As discussed in Section 2.3, the TS is consistent with the Regional Solid Waste Management Plan for the CTCOG. A letter documenting coordination with the CTCOG is included in Appendix I/IIA.
- The TS is near other light industrial-zoned properties.
- All waste transfer operations will occur within the transfer station building.
- The TS is allowed by the current zoning classification.
- The TS will not adversely impact human health or environment.

7.7 Oil and Water Wells

According to a December 2022 report completed by ERIS, there are no known oil or gas wells located within 500 feet of the proposed TS site. A one-mile water well search was conducted for the TS site and identified 28 water wells within one mile of the proposed TS site. Excerpts from the ERIS report are included in Appendix I/IIC.



LEGEND

	PROPOSED PERMIT BOUNDARY
	1-MILE RADIUS
	EXISTING STREAM
R	RESIDENCE
IC	INDUSTRIAL/COMERCIAL INHABITABLE STRUCTURE
AG	AGRICULTURE/OPEN SPACE
TC	TRANSPORTATION CORRIDOR
S	SCHOOL
C	CHURCH

LAND USE WITHIN 1 MILE OF PERMIT BOUNDARY		
TRANSPORTATION CORRIDOR	TC	6.2%
AGRICULTURE/OPEN SPACE	AG	30.1%
RESIDENTIAL	R	48.9%
INDUSTRIAL/COMMERCIAL	IC	12.0%
CHURCH	C	0.6%
SCHOOL	S	1.6%
TRANSFER STATION	TS	0.6%
TOTAL		100.00%

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL LICENSED ENGINEER
04/30/2024

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.
2. LAND USE IS SHOWN ONLY WITHIN THE 1-MILE BOUNDARY.
3. REFER TO FIGURE I/II-7.2 FOR SITE ZONING INFORMATION.
4. THERE ARE NO KNOWN HOSPITALS, LAKES, ARCHAEOLOGICAL SITES OR SITES WITH EXCEPTIONAL AESTHETIC QUALITIES LOCATED WITHIN THE ONE MILE RADIUS. APPROXIMATELY 210 RESIDENTIAL AND 20 COMMERCIAL BUILDINGS ARE WITHIN THE ONE MILE RADIUS.
5. REFER TO FIGURE I/II-4.3 FOR INFORMATION REGARDING STRUCTURES AND INHABITABLE BUILDINGS LOCATED WITHIN 500 FEET OF THE PERMIT BOUNDARY.

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 7.1-LAND USE MAP.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

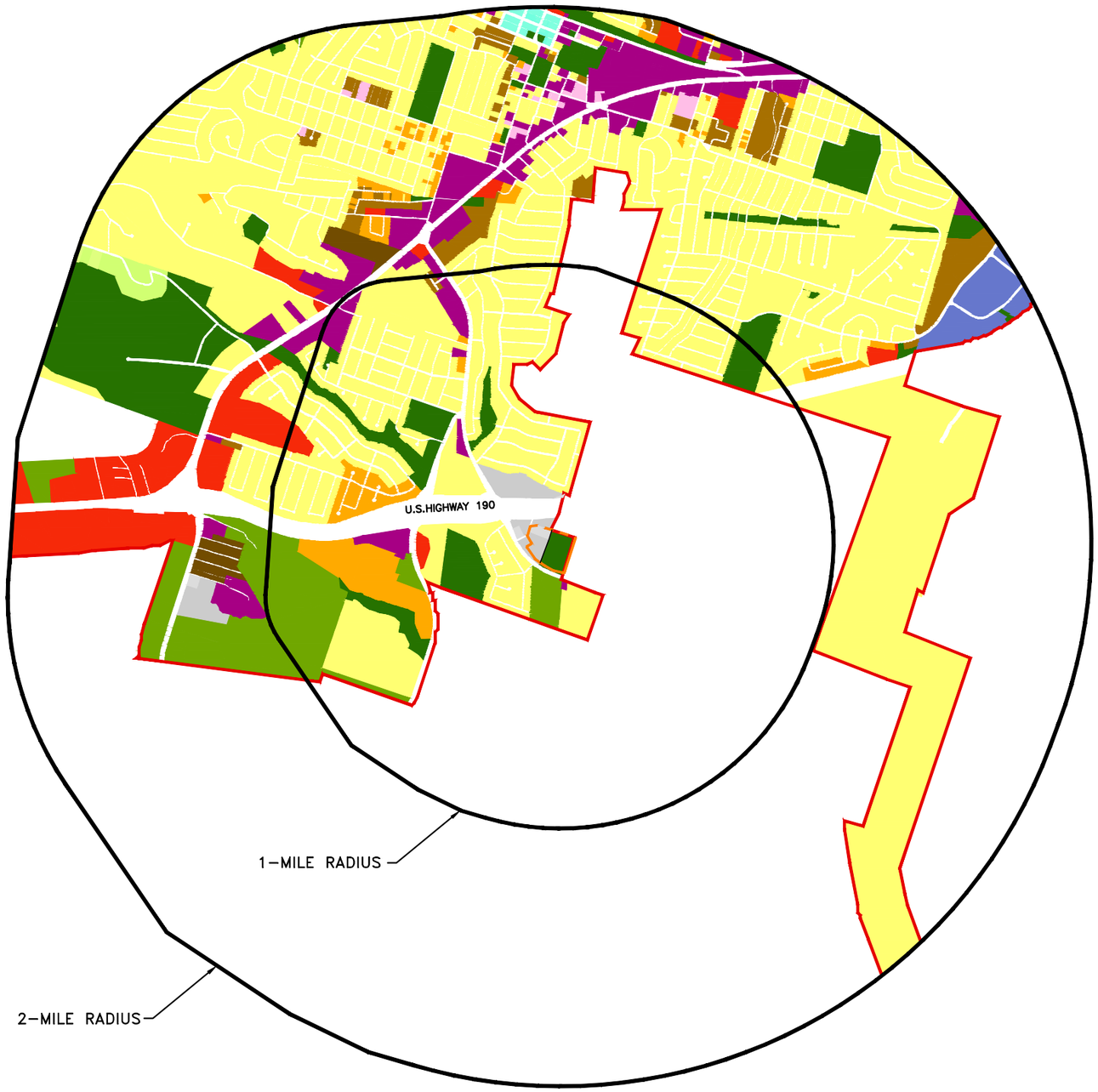
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
LAND USE MAP – AERIAL

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE I/II-7.1



STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

LEGEND

- PERMIT BOUNDARY
- COPPERAS COVE CITY LIMIT
- PF PUBLIC FACILITIES
- AG AGRICULTURAL
- LR LOW DENSITY RESIDENTIAL
- MR MEDIUM DENSITY RESIDENTIAL
- HR HIGH DENSITY RESIDENTIAL
- AR ALTERNATIVE RESIDENTIAL
- RE RURAL ESTATE
- NC NEIGHBORHOOD COMMERCIAL
- BP BUSINESS PARK
- DT DOWNTOWN
- RC RETAIL AND COMMERCIAL
- HC HEAVY COMMERCIAL
- LI LIGHT INDUSTRIAL

ZONING WITHIN 2 MILES OF PERMIT BOUNDARY		
PUBLIC FACILITIES[1]	PF	11.5%
AGRICULTURAL	AG	6.0%
LOW DENSITY RESIDENTIAL	LR	59.4%
MEDIUM DENSITY RESIDENTIAL	MR	3.0%
HIGH DENSITY RESIDENTIAL	HR	2.9%
ALTERNATIVE RESIDENTIAL	AR	0.8%
RURAL ESTATE	RE	0.6%
NEIGHBORHOOD COMMERCIAL	NC	0.4%
BUSINESS PARK	BP	1.3%
DOWNTOWN	DT	0.2%
RETAIL AND COMMERCIAL	RC	6.5%
HEAVY COMMERCIAL	HC	6.2%
LIGHT INDUSTRIAL[2]	LI	1.1%
TOTAL		**100.00%**

1. INCLUDES 9.11-ACRES OF THE TRANSFER STATION PERMIT BOUNDARY
2. INCLUDES 5.52-ACRES OF THE TRANSFER STATION PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH AND ZONING INFORMATION OBTAINED FROM CITY OF COPPERAS COVE GIS DATABASE, HTTPS://COCC.MAPS.ARCGIS.COM/ DATED OCTOBER 2023.
2. COPPERAS COVE TRANSFER STATION IS INCLUDED IN LI AND PF ZONINGS.

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 04/2024
FILE: 5552-001-11
CAD: FIG I/II-7.2-ZONING MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

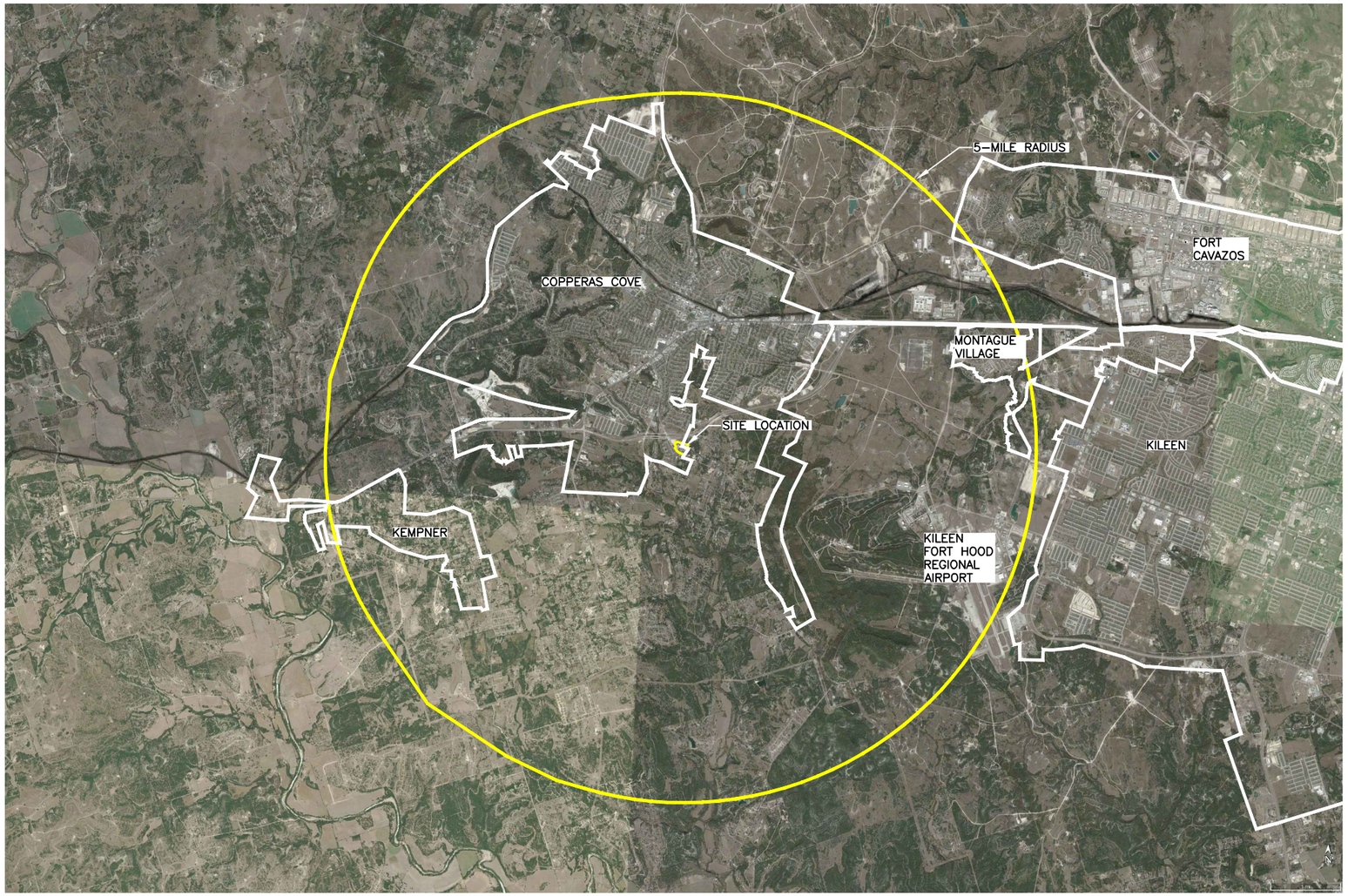
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION ZONING MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE I/II-7.2



N

0 3000 6000

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

1-MILE RADIUS

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG I/II-7.3-5 MILE RADIUS.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
CITIES WITHIN 5-MILE RADIUS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II-7.3

8 TRANSPORTATION

8.1 Traffic Information

Vehicles bound for the City of Copperas Cove TS will access the site using S. FM 116 Road and Commerce Street. U.S. Highway 190, S. FM 116 Road, FM 3042 Road, and Commerce Street are the only access roads within one mile of the site.

This section addresses §330.61(i).

Consistent with Title 30 TAC §330.61(i), a traffic study for the transfer station was completed and submitted to TxDOT in February 2024. The traffic study is included in Appendix I/IIA. Improvements to FM 116 (e.g., left turn lane, existing pavement replacement) will be constructed before the improved portions of the TS facility can accept waste.

8.2 Airport Impact

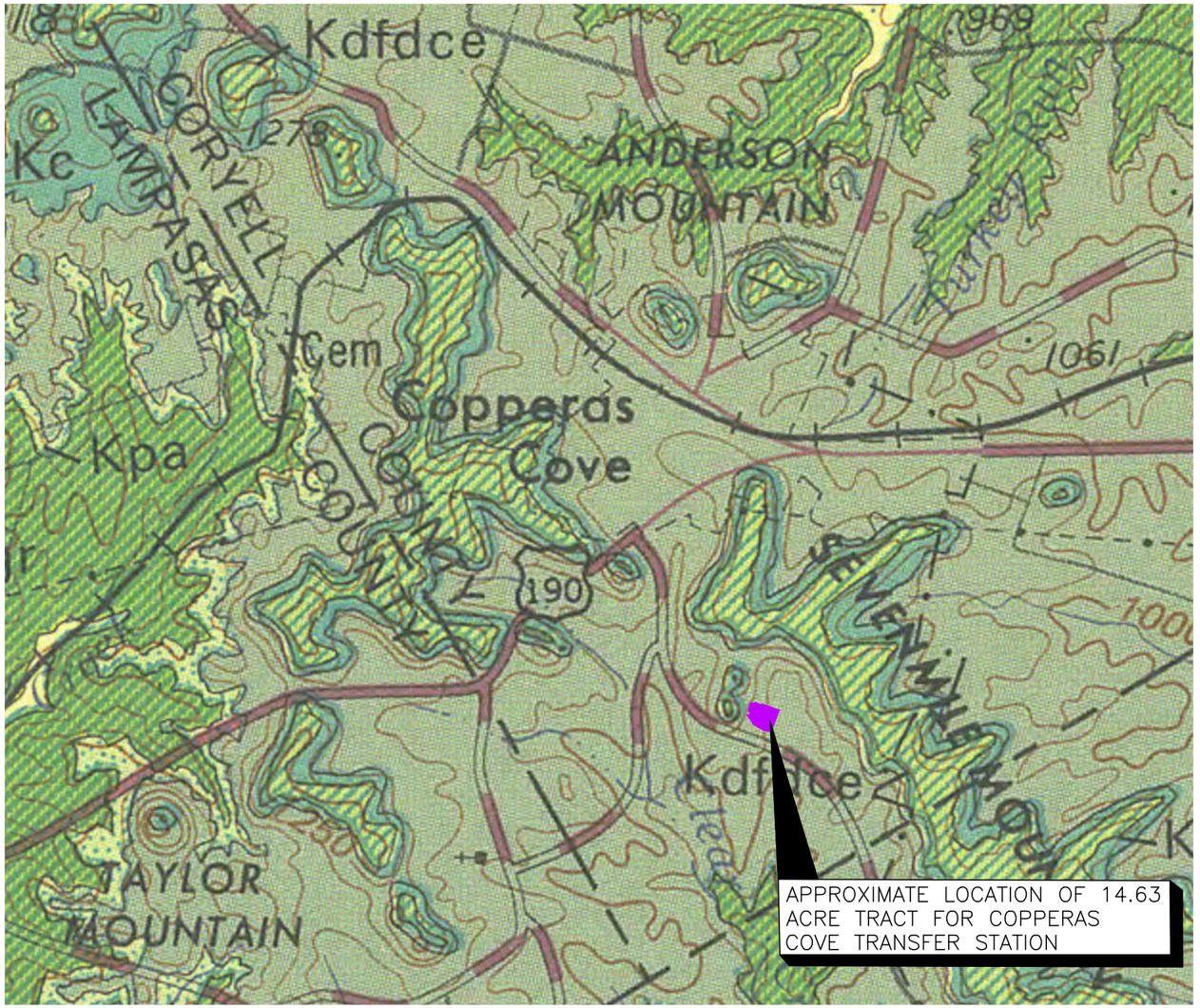
There is one public-use airport within six miles of the facility. Killeen Fort Hood Regional Airport is located approximately 5.2 miles southeast of the site. In accordance with Title 30 TAC §330.61(i)(5), an airport impact evaluation of the facility is required only for landfill units and landfill mining operations, and thus is not required for a transfer station.

9 GENERAL GEOLOGY AND SOILS STATEMENT

This section addresses §330.61(j).

According to the Waco Sheet of the Geologic Atlas of Texas, the majority of the City of Copperas Cove permit boundary is located in the walnut clay geologic unit. The age of this unit dates to the early cretaceous period. The primary rock type of this unit is clay or mud and the secondary type is limestone. The remainder of the permit boundary is located in undivided parts of Washita and Frederiksberg groups, which also date back to the early cretaceous period. The primary rock types of these groups are clay or mud and the secondary rock type is limestone.

The Web Soil Survey of Coryell County, Texas indicates the soils beneath the existing TS are classified as clay loam. The slopes for these soils range from 8 to 40 percent.



N

0 1/2 1
SCALE IN MILES

LEGEND

Formations Described in Separate Text

Recent / Pleistocene — QUATERNARY

- Qal — Alluvium
- Qta, Qtb, Qtc, Qtd, Qt, Qt1, Qt2, Qt3 — Fluviatile terrace deposits
- Qhg — High gravel deposits
- Qqa — Quartz arenite

Eocene — TERTIARY

- Fy — Yegua Formation
- Ecm, Esc — Cook Mountain and Stone City Formations
- Es — Sparta Sand
- Ew — Weches Formation
- Eqc — Queen City Sand
- Er — Reklaw Formation
- Ec — Carrizo Sand
- Ecb, Esb, Ewi, Eh — Calvert Bluff, Simsboro, and Hooper Formations and Wilcox Group undivided
- Emi, Ewp, Ekt, Ekpl — Wills Point Formation, Tehuacana Member of Kincaid Formation, Pisgah and Littig Members of Kincaid Formation undivided, and Midway Group undivided
- Ki — Cretaceous igneous rock
- K — Upper Cretaceous rocks undivided

Upper Cretaceous — CRETACEOUS

- Kke, Kknm, Kn, Knm — Kemp Clay, Nacatoch Sand, Neylandville Formation, and Marlbrook Marl ("Upper Taylor marl")
- Kpg, Kwc, Ko — Pecan Gap Chalk, Wolfe City Formation, and Ozan Formation ("lower Taylor marl")
- Kau — Austin Chalk
- Ksb — South Bosque Formation
- Klw — Lake Waco Formation
- Kpe, Kwb — Pepper Shale and Woodbine Formation
- Kbu — Buda Limestone
- Kgy — Grayson Marl ("Del Rio Clay")
- Kgt — Georgetown Formation
- Kms — Main Street Limestone
- Kpw — Pawpaw Formation and Weno Limestone undivided

Lower Cretaceous

- Kdfdc, Kdfdc, Ked, Kked — Denton Clay, Fort Worth Limestone, Duck Creek Limestone, Kiamichi Clay, and Edwards Limestone
- Kc — Comanche Peak Limestone
- Kwa — Walnut Clay
- Kpa — Paluxy Sand
- Kgr — Glen Rose Formation

U / D — Fault

U, upthrown; D, downthrown side; dotted where concealed; dashed where inferred

NOTES:

1. REPRODUCED FROM THE ARMY MAP SERVICE (AJSX), CORPS OF ENGINEERS, U.S. ARMY, WASHINGTON, D.C.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG I/II-9.1-GEOLOGY MAP.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GEOLOGY MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II-9.1

10 GROUNDWATER AND SURFACE WATER STATEMENT

10.1 Groundwater Statement

According to the Texas Water Development Board (TWDB), the Trinity Aquifer (outcrop) is near the TS Permit Boundary in parts of Coryell County. TWDB data indicate groundwater of the Trinity Aquifer is approximately 500 feet beneath the site.

This section addresses §330.61(k).

10.2 Surface Water Statement

The permit boundary for the TS is located in the drainage basin of Clear Creek. This creek drains southeast, eventually merging with The Lampasas River located approximately 7 miles to the south.

The majority of the onsite and offsite runoff that enters and exits the permit boundary drains south and southwest into roadside ditches along FM 116.

The TS improvements have been developed to achieve the following goals.

1. Prevent a discharge of solid wastes or pollutants adjacent to or into the water in Texas.
2. Prevent a discharge of pollutants into waters of the United States.
3. Prevent a discharge of dredged or fill material to waters of the United States.
4. Prevent a discharge of nonpoint source pollution to waters of the United States.
5. Avoid adverse alteration of existing drainage patterns.

Drainage from the permit boundary area is designed to maintain the current drainage patterns on the permit boundary and will prevent the offsite discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the TS facility will be controlled to minimize surface water running onto, into, and off the processing area.

The TS facility will operate in such a manner as to prevent discharge of pollutants into waters of the state or United States as defined by the Texas Water Code and the Federal Clean Water Act. The site is subject to the TCEQ's stormwater permit requirements and herby certifies that it will continue to operate under the TPDES General Permit for Stormwater Discharges, under Standard Industrial Code (SIC) 4212 (Transportation and Warehousing).

The site will maintain the current Notice of Intent (NOI). The facility SWPPP will be revised and implemented prior to operating the improved facility. The site's current TCEQ TPDES MSGP Authorization number is TXR05AV48.

11 FLOODPLAIN AND WETLANDS STATEMENT

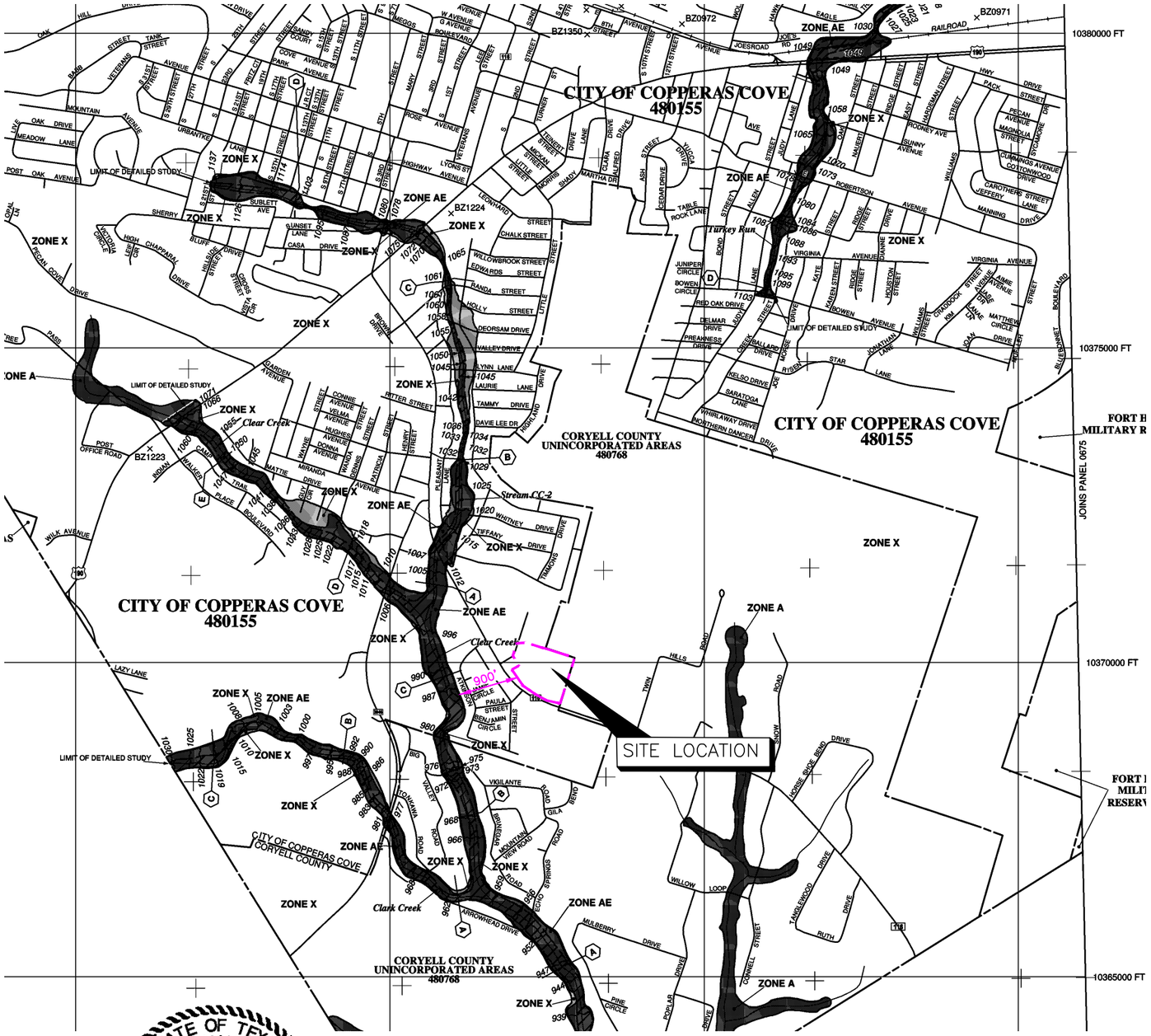
11.1 Floodplain Statement

As shown on Figure I/II-11.1, the TS facility is not located within the 100-year floodplain. The nearest FEMA defined floodplain is located over 900 feet southwest of the permit boundary, within Clear Creek.

This section addresses §330.61(m).

11.2 Wetlands Statement

WCG performed a determination of "waters of the US" (WOTUS) including wetlands for the TS facility. The jurisdictional determination consisted of a pre-field literature review and a site assessment. A copy of the report can be found in Appendix I/IIB. Based on the information included in the report, there are no WOTUS located within the permit boundary.



N

0 1000 2000

SCALE IN FEET

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	Floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A	Cross section line
23 — 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
$^{42}75^{000m}$N	1000-meter Universal Transverse Mercator grid ticks, zone 14
6000000 FT	5000-foot grid values: Texas State Plane coordinate system, central zone (FIPSZONE 4203), Lambert Conformal Conic
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

NOTE:

1. FLOODPLAIN INFORMATION PROVIDED BY FEMA FIRM PANEL 48099C0635F FOR CORYELL COUNTY, TEXAS AND INCORPORATED AREAS, EFFECTIVE DATE FEBRUARY 17, 2010.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG I/II-11.1-FIRM.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
FLOOD INSURANCE RATE MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE I/II-11.1

12 PROTECTION OF ENDANGERED SPECIES

This section addresses §330.61(n).

WCG conducted a threatened and endangered species study for the TS area to determine whether the project would have an adverse effect on threatened and endangered species and/or their habitat. Based on the information included in the report, the facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of an endangered or threatened species as described in TAC §330.61(n)(1). Therefore, this facility will be in compliance with all applicable federal, state and local laws regarding threatened and endangered species. A copy of the report can be found with the WOTUS determination in Appendix I/IIB.

13 LEGAL DESCRIPTION

A legal description of the 14.63-acre permit boundary is included on the following pages. The area within the permit boundary is owned by City of Copperas Cove. The current ownership records for the property may be found in Document 403, Volume 415, Page 305 and Document 362733 of the Coryell County Official Public Records.

This section addresses §330.59(d)(1).

EXHIBIT A

REGISTRATION BOUNDARY LEGAL DESCRIPTION

637,512 SQUARE FEET (14.63 ACRES) OUT OF THE FRED GRAHAM SURVEY, ABSTRACT NO. 1647, THE J.C. WALKER SURVEY, ABSTRACT NO. 1802, AND THE M.F. RICHARDSON SURVEY, ABSTRACT NO. 1361

COPPERAS COVE, CORYELL COUNTY, TEXAS

Being a 637,512 square foot (14.63 acre) tract of land situated in the Fred Graham Survey, Abstract No. 1647, the J.C. Walker Survey, Abstract No. 1802, and the M.F. Richardson Survey, Abstract No. 1361, City of Copperas Cove, Coryell County, Texas and being all of the remainder of a called 9.487 acre tract of land described in a Cash Warranty Deed to City of Copperas Cove, recorded in Instrument No. 107254, Deed Records, Coryell, County, Texas (D.R.C.C.T.) and all of Lot 1, Block 1, South Industrial Park Replat, an addition to the City of Copperas Cove according to the Final Plat recorded in Instrument No. 361904, Plat Records, Coryell County, Texas (P.R.C.C.T) and being all of a tract of land described in a Special Warranty Deed to City of Copperas Cove (hereafter referred to as the "City of Copperas Cove tract"), recorded in Instrument No. 362773, D.R.C.C.T. and being more particularly described as follows:

BEGINNING at a mag nail set in a concrete driveway in the north right-of-way (R.O.W.) line of F.M. Highway No. 116 (a variable width R.O.W.) and for the southwest corner of a called 0.287 acre tract of land described in a Revocable Transfer on Death Deed to William James Kelly, recorded in Instrument No. 290119, D.R.C.C.T. and for the southeast corner of the remainder of said 9.487 acre tract and having surface coordinates of Northing: 10,370,573.48, Easting: 3,058,122.71 relative to the Texas Coordinate System of 1983, Central Zone, NAD83(2011) epoch 2010.00;

THENCE along the common line of the north R.O.W. line of said F.M. Highway No. 116 and the remainder of said 9.487 acre tract, the following courses and distances:

North 70° 51' 03" West (called North 68° 11' 14" West), a distance of 24.88 feet to a 1/2" iron rod found;

North 77° 03' 29" West (called North 74° 23' 40" West), a distance of 200.69 feet to a 8" concrete monument found for the east corner of a called 0.110 acre tract of land described in a Deed to The State of Texas, recorded in Instrument No. 198295, D.R.C.C.T., from which a 1/2" iron rod found for a southerly corner of said 0.110 acre tract and said 9.487 acre tract bears North 66° 46' 35" West (called North 66° 45' 07" West) a distance of 192.52 feet;

THENCE along the common line of the north R.O.W. line of said F.M. Highway No. 116 and said 0.110 acre tract and the remainder of said 9.487 acre tract, the following courses and distances:

North 61° 01' 20" West (called South 60° 59' 58" East), a distance of 207.00 feet to a brass disc found;

North 55° 10' 03" West (called South 55° 12' 03" East), a distance of 112.74 feet (called 112.65 feet) to a point for the east corner of a called 0.521 acre tract of land described as a Save and Except in a General Warranty Deed to The State of Texas, recorded in Instrument No. 201679, D.R.C.C.T. and for the south corner of said Lot 1, Block 1 and said City of Copperas Cove tract and for the southwest corner of the remainder of said 9.487 acre tract and for the north corner of said 0.110 acre tract, from which a 1/2" iron rod with aluminum cap found bears South 14° 33' 30" East a distance of 0.30 feet;

THENCE along the common line of the north R.O.W. line of said F.M. Highway No. 116 and said 0.521 acre tract and said Lot 1, Block 1 and said City of Copperas Cove tract, the following courses and distances:

North 55° 11' 29" West (called North 55° 11' 38" West), a distance of 126.51 feet to a TxDOT type II concrete monument with 3" aluminum disc stamped "355+00 75.00" found;

North 34° 17' 28" West (called North 34° 17' 37" West), a distance of 309.51 feet to a 1/2" iron rod with aluminum cap found for the east corner of a called 0.361 acre tract of land described in Deed to The State of Texas, recorded in Instrument No. 198022, D.R.C.C.T. and for the south corner of the remainder of Lot 8, Block 1, South Industrial Park, an addition to the City of Copperas Cove, according to the plat recorded in Cabinet A, Slide 236, P.R.C.C.T. and a called 0.56 acre tract of land described in a General Warranty Deed to James W. Clark II, recorded in Instrument No. 362983, D.R.C.C.T. and for the southerly west corner of said Lot 1, Block 1 and said City of Copperas Cove tract and for the north corner of said 0.521 acre tract;

THENCE along the common line of the remainder of said Lot 8, Block 1 and said 0.56 acre tract and said Lot 1, Block 1 and said City of Copperas Cove tract, the following courses and distances:

North 61° 07' 40" East (called North 61° 07' 31" East), a distance of 121.12 feet to a 1/2" iron rod with yellow cap stamped "Quintero 10194111" found;

North 28° 53' 51" West (called North 28° 54' 00" West), a distance of 187.59 feet to a 3/8" iron rod found in the southeast R.O.W. line of Commerce Street (A.K.A. Industrial Circle, a 60 foot R.O.W. as described on said South Industrial Park Addition) and for the north corner of the remainder of said Lot 8, Block 1 and said 0.56 acre tract and for the northerly west corner of said Lot 1, Block 1 and said City of Copperas Cove tract;

THENCE North 17° 46' 08" East (called North 17° 45' 52" East), along the common line of the southeast R.O.W. line of said Commerce Street and said Lot 1, Block 1 and said City of Copperas Cove tract, a distance of 205.70 feet to a 1/2" iron rod with yellow cap stamped "WCG" set for the southwest corner of Lot 2, Block 1 of said South Industrial Park Replat and the remainder of a called 3.63 acre tract of land described in a General Warranty Deed to James W. Clark II and Westley Atkinson, recorded in Instrument No. 323813, D.R.C.C.T. and for the northwest corner of said Lot 1, Block 1 and said City of Copperas Cove tract;

THENCE along the common line of said Lot 2, Block 1 and the remainder of said 3.63 acre tract and said Lot 1, Block 1 and said City of Copperas Cove tract the following courses and distances:

North 84° 30' 35" East (called South 84° 30' 26" West), a distance of 147.38 feet to a 1/2" iron rod with yellow cap stamped "WCG" set;

South 72° 13' 53" East (called North 72° 14' 02" West), a distance of 283.36 feet to a 1/2" iron rod with yellow cap stamped "WCG" set in the west line of the remainder of said 9.487 acre tract and for the southeast corner of said Lot 2, Block 1 and the remainder of said 3.63 acre tract and for the northeast corner of said Lot 1, Block 1 and said City of Copperas Cove tract;

THENCE North 17° 48' 10" East (called North 17° 48' 01" East), along the common line of the remainder of said 9.487 acre tract and said Lot 2, Block 1 and the remainder of said 3.63 acre tract, a distance of 4.87 feet to a 1-1/2" iron pipe found for the southwest corner of a called 3.75 acre tract of land described as "Tract One" in a General Warranty Deed to James W. Clark II and Westley Atkinson, recorded in Instrument No. 310832, D.R.C.C.T. and for the northwest corner of the remainder of said 9.487 acre tract, and from which a 1/2" iron rod found bears South 43° 52' 52" West, a distance of 1.48 feet;

THENCE South 72° 11' 44" East (called South 69° 38' 33" East), along the common line of said "Tract One" and the remainder of said 9.487 acre tract, passing at a distance of 416.05 feet (called 415.93 feet), a 1-1/2" iron pipe found for the west corner of a called 18.61 acre tract of land described in Real Estate Deed of Trust to Mathew Frazier, recorded in Instrument No. 321518, D.R.C.C.T. and for the southeast corner of said "Tract One", continuing along the common line of said 18.61 acre tract and the remainder of said 9.487 acre tract for a total distance of 535.86 feet (called 535.99 feet) to a 1-1/2" iron pipe found for the inner ell corner of said 18.61 acre tract and for the northeast corner of the remainder of said 9.487 acre tract;

THENCE South 17° 48' 53" West (called South 20° 26' 11" East), along the common line of said 18.61 acre tract and a called 0.700 acre tract of land described in a Revocable Transfer on Death Deed to William James Kelly, recorded in Instrument No. 290119, D.R.C.C.T. and the remainder of said 9.487 acre tract, passing at a distance of 644.64 feet, a 1/2" iron rod found for the north corner of said 0.287 acre tract and for the west corner of said 0.700 acre tract, continuing along the common line of said 0.287 acre tract and the remainder of said 9.487 acre tract for a total distance of 769.61 feet (called 769.40 feet) to the **POINT OF BEGINNING** and containing **637,512 square feet (14.63 acres)** of land, more or less.

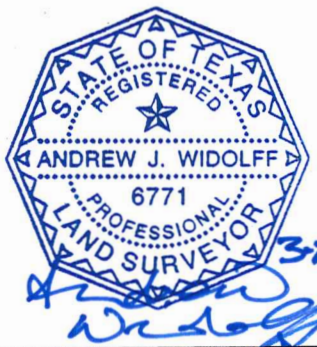
SURVEY NOTES:

1. A survey exhibit of even date accompanies this description, shown on sheet 5 of this document.

2. Basis of Bearings: Grid North, relative to the Texas Coordinate System of 1983, Central Zone, NAD83 (2011) epoch 2010.00, (Geoid18) based on real time kinematic observations utilizing Allterra's RTKNET VRS network. Distances and Coordinates shown hereon are surface and may be converted to grid by multiplying the combined project scale factor of 0.999880014 from an origin of 0,0.

3. This survey has been prepared based on field observations completed on May 31, 2023 and information provided by the client, if any, and was prepared without the benefit of a title commitment and is subject to any easements or encumbrances not visible on the ground which might be identified in a current title search.

Weaver Consultants Group
6420 Southwest Blvd | Suite 206
Fort Worth, TX 76109
817-735-9770
TBPLS REG# No. 10095400
TBPE REG# F- 3727



3-20-24

Andrew J. Widolff RPLS No. 6771

LOT 2, BLOCK 1
SOUTH INDUSTRIAL PARK REPLAT
INST. NO. 361904
P.R.C.C.T.

REMAINDER OF
JAMES W. CLARK II & WESTLEY ATKINSON
CALLED 3.63 ACRES
INST. NO. 323813
D.R.C.C.T.

IRS

IRS

N84°30'35"E
147.38'
(CALLED S84°30'26"W)

S72°13'53"E
283.36'
(CALLED N72°14'02"W)

SEE DETAIL "A"

"TRACT ONE"
JAMES W. CLARK II & WESTLEY ATKINSON
CALLED 3.75 ACRES
INST. NO. 310832
D.R.C.C.T.

(CALLED 415.93')
416.05'
S72°11'44"E
(CALLED S69°38'33"E 535.99')
535.86'

1-1/2" PIPE (CM)
(CALLED 119.78')
119.81'
1-1/2" PIPE

50.36'

8.14'

(CALLED N17°45'52"E)
N17°46'08"E
205.70'

3/8" IRF (CM)

(CALLED N28°54'00"W)
N28°53'51"W
187.59'

ADF

COMMERCE STREET
(A.K.A. INDUSTRIAL CIRCLE)
(60' R.O.W.)
CAB. A, SLIDE 236 P.R.C.C.T.

ADF

JAMES W. CLARK II
CALLED 0.56 ACRE
INST. NO. 362983 D.R.C.C.T.

REMAINDER OF
LOT 8, BLOCK 1
SOUTH INDUSTRIAL PARK
CAB. A PG. 236 P.R.C.C.T.

THE STATE OF TEXAS
CALLED 0.361 ACRES
INST. NO. 198022
D.R.C.C.T.

LOT 1, BLOCK 1
SOUTH INDUSTRIAL PARK REPLAT
INST. NO. 361904
P.R.C.C.T.

CITY OF COPPERAS COVE
INST. NO. 362773
D.R.C.C.T.

4.61'

1-1/2" IPF (CM)

L6

IRS

1/2" IRF
BEARS
S43°52'52"W
1.48'

DETAIL "A"

REMAINDER OF
CITY OF COPPERAS COVE
CALLED 9.487 ACRES
INST. NO. 107254
D.R.D.C.T.

MATHEW FRAZIER
CALLED 18.61 ACRES
INST. NO. 321518
D.R.C.C.T.

1/2" IRF W/ YCAP "QUINTERO
10194111" (CM)

(CALLED N61°07'31"E)
N61°07'40"E 121.12'

1/2" IRF W/ ALUM. CAP (CM)

(CALLED S20°26'11"E 769.40')
S17°48'53"W 769.61'
644.64'

FRED GRAHAM SURVEY
ABSTRACT NO. 1647

(CALLED N34°17'37"W)
N34°17'28"W 309.51'

ADF STAMPED
"335+00 75.0" (CM)

7.5' UTILITY, DRAINAGE, AND AERIAL EASEMENT
VOL. 408, PG. 534 D.R.C.C.T.

J.C. WALKER SURVEY
ABSTRACT NO. 1802

REGISTRATION BOUNDARY
637,512 SQUARE FEET
(14.63 ACRES)

M.F. RICHARDSON SURVEY
ABSTRACT NO. 1361

1/2" IRF

5.12'

MATHEW FRAZIER
CALLED 18.61 ACRES
INST. NO. 321518
D.R.C.C.T.

WILLIAM JAMES KELLY
CALLED 0.700 ACRES
INST. NO. 290119
D.R.C.C.T.

FM HIGHWAY NO. 116
(A VARIABLE
WIDTH R.O.W.)

1/2" IRF W/ ALUM. CAP (CM)
BEARS S14°33'30"E 0.30'

BRASS DISC FOUND (CM)

THE STATE OF TEXAS
CALLED 0.110 ACRES
INST. NO. 198295
D.R.C.C.T.

1/2" IRF (CM)

1/2" IRF

53.23'

124.97'

8" CONC. MON. FND. (CM)

2.23'

N66°46'35"W
192.52'
(CALLED N66°45'07"W)

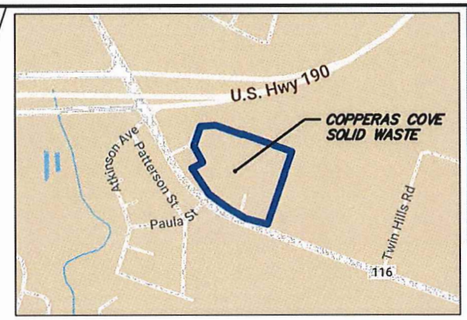
POB
MAG NAIL SET
N: 10,370,573.48
E: 3,058,122.71

WILLIAM JAMES KELLY
CALLED 0.287 ACRES
INST. NO. 290119 D.R.C.C.T.

WILLIAM JAMES KELLY
CALLED 0.090 ACRES
INST. NO. 290119 D.R.C.C.T.

1/2" IRF (CM)

L1 L2 L3 L4 L5



VICINITY MAP
NOT TO SCALE

LEGEND

	..... REGISTRATION BOUNDARY LINE
	..... LOT LINE
	..... OLD LOT LINE
	..... ABSTRACT LINE (APPROXIMATE)
	..... EASEMENT LINE
	..... PAVEMENT
	..... EXISTING BUILDING
X	..... EXISTING FENCE
POB	..... POINT OF BEGINNING
IRF	..... IRON ROD FOUND
ADF	..... TXDOT TYPE II CONC. MONUMENT W/ 3" ALUMINUM DISC FOUND
IRS	..... 1/2" IRON ROD W/ YELLOW CAP STAMPED "WCG"
(CM)	..... CONTROLLING MONUMENT
P.R.C.C.T.	..... PLAT RECORDS, CORYELL COUNTY, TX
D.R.C.C.T.	..... DEED RECORDS, CORYELL COUNTY, TX
INST. NO.	..... INSTRUMENT NUMBER
VOL.	..... VOLUME
PG.	..... PAGE

N

0 50 100 200
(FEET)
1 inch = 100 ft.

LINE TABLE			
LINE	BEARING	LENGTH	(CALLED)
L1	N70°51'03"W	24.88'	N68°11'14"W
L2	N77°03'29"W	200.69'	N74°23'40"W
L3	N61°01'20"W	207.00'	S60°59'58"E
L4	N55°10'03"W	112.74'	S55°12'03"E 112.65'
L5	N55°11'29"W	126.51'	N55°11'38"W
L6	N17°48'10"E	4.87'	N17°48'01"W

STATE OF TEXAS
REGISTERED
ANDREW J. WIDOLFF
6771
PROFESSIONAL
LAND SURVEYOR
3-20-24

Andrew J. Widolff RPLS No. 6771
Survey Firm: 10095400
Weaver Consultants Group, LLC

SURVEY NOTES:

1. BASIS OF BEARINGS: GRID NORTH, RELATIVE TO THE TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE, NAD83 (2011) EPOCH 2010.00, (GEOID18) BASED ON REAL TIME KINEMATIC OBSERVATIONS UTILIZING ALLTERRA'S RTKNET VRS NETWORK. DISTANCES AND COORDINATES SHOWN HEREON ARE SURFACE IN U.S. SURVEY FEET AND MAY BE CONVERTED TO GRID BY MULTIPLYING THE COMBINED PROJECT SCALE FACTOR OF 0.999880014 FROM AN ORIGIN OF 0,0.

2. THIS SURVEY HAS BEEN PREPARED BASED UPON ON FIELD OBSERVATIONS COMPLETED ON MAY 31, 2023 AND INFORMATION PROVIDED BY THE CLIENT, IF ANY, AND WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND IS SUBJECT TO ANY EASEMENTS OR ENCUMBRANCES NOT VISIBLE ON THE GROUND WHICH MIGHT BE IDENTIFIED IN A CURRENT TITLE SEARCH.

3. IMPROVEMENTS SHOWN HEREON ARE BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 6, 2022 – JULY 8, 2022.

4. A LEGAL DESCRIPTION OF EVEN DATE ACCOMPANIES THIS EXHIBIT ON SHEETS 1–4.

I/II-13-6

PREPARED FOR:
CITY OF COPPERAS COVE

"EXHIBIT A" REGISTRATION BOUNDARY
637,512 SQUARE FEET (14.63 ACRES) OUT OF THE FRED GRAHAM SURVEY, ABSTRACT NO. 1647, THE J.C. WALKER SURVEY, ABSTRACT NO. 1802, AND THE M.F. RICHARDSON SURVEY, ABSTRACT NO. 1361
COPPERAS COVE SOLID WASTE
CITY OF COPPERAS COVE, CORYELL COUNTY, TX

No.	DATE	REVISION DESCRIPTION

Weaver Consultants Group
WEAVER CONSULTANTS GROUP
4400 SOUTHWEST BLVD SUITE #206
FORT WORTH, TEXAS 76109
(817)-735-9770
www.wcgrp.com

DRAWN BY: CSS
REVIEWED BY: AJW
DATE: 03/20/2024
FILE: 5552-001-11-00
CAD: SEE PLOT STAMP
SHEET 5 OF 5

P:\SBI Survey\Projects\5552-001-11-00 Cooperas Cove Permit Boundary\2.0 Drawings\2.1 CAD\5552-001-11-00 Permit Boundary Exhibit.dwg;cesmith;March 20, 2024

14 PROPERTY OWNER AFFIDAVIT

The property owner affidavit is included on the following pages.

This section addresses §330.59(d)(2).

PROPERTY OWNER AFFIDAVIT

STATE OF TEXAS §
§
COUNTY OF CORYELL §

On this day, April 30 2024, on behalf of the City of Copperas Cove, appeared before me, the undersigned notary public, and after I administered an oath to him upon his oath he said:

"My name is Ryan Haverlah. I am more than 21 years of age and capable of making this affidavit."

The City of Copperas Cove, hereafter referred to as the site owner, acknowledges that:

- The City of Copperas Cove is filing with the Texas Commission on Environmental Quality a Permit Request for a Type V municipal solid waste transfer station on real property located in Coryell County, Texas, being more particularly described in Parts I/II – Section 13 of the permit application (the Site).
- The City of Copperas Cove acknowledges that the State of Texas may hold the property owner of record, either jointly or severally responsible for the operation, maintenance, and closure and postclosure care of the facility.
- The City of Copperas Cove acknowledges that the owner or operator of the site and the State of Texas shall have access to the Site during the active life and postclosure care period, if required, after closure for the purpose of inspection and maintenance.

Ryan Haverlah (name)
City Manager (title)

Signature

04/30/2024
Date

SWORN TO AND SUBSCRIBED BEFORE ME by Ryan Haverlah on the 30th day of April, 2024, which witness my hand and seal of office.

ASHLEY OSBORN
Notary Public, State of Texas
Comm. Expires 01-27-2025
Notary ID 130211563

Notary Public in and for the State of Texas

Ashley Osborn
Printed Name

My Commission Expires 1-27-2025

15 LEGAL AUTHORITY

The certificates provided on the following pages document the legal status of the applicant.

This section addresses §330.59(e).

ARTICLE I. - INCORPORATION: FORM OF GOVERNMENT: CORPORATE POWERS

Sec. 1.01. - Incorporation.

The inhabitants of the City of Copperas Cove, within the corporate limits as now established or to be established in the future by law as directed by this charter, shall be a municipal body politic and corporate in continued growth under the name of the City of Copperas Cove.

Sec. 1.02. - Form of government.

The municipal government provided by this charter shall be of the type known as the council-manager government. The municipal government provided by this charter shall consist of a mayor and council members, elected by the people and responsible to the people, and a city manager, appointed by and responsible to the council for proper administration of the affairs of the city.

Sec. 1.03. - Home rule.

(a) The City of Copperas Cove shall have the power of local self government to the fullest extent permitted by law. The city shall have all the powers granted to cities by the Constitution and Laws of the State of Texas together with all of the implied powers necessary to carry into execution those powers and those express and implied powers necessary for the government, interests, health, welfare and good order of the city and its inhabitants. All powers shall be exercised and enforced in the manner prescribed by the laws of the State of Texas, in this charter and the city's ordinances.

(b) All powers of the city shall be vested in the city council, except as otherwise provided by law or this charter, and the council shall provide for the exercise thereof and for the performance of all duties and obligations imposed on the city by law.

(c) The powers of the city under this charter shall be construed liberally in favor of the city, and the specific mention of particular powers in the charter shall not be construed as limiting in any way the general power granted by the state or this charter.

Sec. 1.04. - Change of boundaries.

(a) *Annexation.* The boundaries of the City of Copperas Cove may be enlarged and extended by the annexation of additional territory in any of the methods and in any manner and by any procedure that may now be provided by state law, or that may be hereafter provided by such law. Any territory annexed shall become a part of the city, and said land and its residents and future residents shall be entitled to all the rights and privileges of other citizens of the city subject to federal, state and local laws and regulations.

(b) *Disannexation.* Whenever there exists within the corporate limits of the City of Copperas Cove any territory not suitable or necessary for city purposes, or for the purpose of effectuating common boundary line agreements between the City of Copperas Cove and adjoining cities, the city council may, by ordinance duly passed, disannex said territory as a part of the city; said ordinance shall accurately describe the territory sought to be eliminated from the city and shall contain a plat designating such territory so that the same can be definitely ascertained, and when said ordinance has been duly passed the territory shall cease to be a part of said city, but said territory shall remain liable for its pro rata share of any debts incurred while said area was a part of the city, and the city shall continue to levy, assess and collect taxes on the property within said territory to pay the indebtedness incurred while said area was a part of the city as though the same had not been excluded from the boundaries of the city.

(c) *Agreement.* Upon mutual agreement between the City of Copperas Cove and any other adjacent municipality may, by ordinance duly passed, exchange territory with the other adjoining municipality for the purpose of effectuating a common boundary line agreement.

Sec. 1.05. - Eminent domain.

The city shall have the full authority to exercise the right of eminent domain for public use when necessary or desirable to carry out any of the powers conferred upon it by this charter, or by the constitution or laws of the State of Texas.

ARTICLE II. - THE COUNCIL

Sec. 2.01. - Composition and terms of office.

(a) *Composition.* The council shall be composed of a mayor and seven (7) council members. The mayor and all council members shall be elected from the city at large, and each council member shall occupy a position on the council, such positions being numbered one (1) through seven (7) consecutively. The mayor will not be designated as a numbered position on the ballot but shall be designated as "MAYOR."

(b) *Terms of office.* At the first general election held under this charter, and each three (3) years thereafter, the mayor and two (2) council members shall be elected, with the mayor filling the office of mayor and the two (2) council members filling the office of numbered positions one (1) and two (2). The following year, and each three (3) years thereafter, three (3) council members shall be elected, to fill the office of numbered positions three (3), four (4) and five (5). The following year, and each three (3) years thereafter, two (2) council members shall be elected to fill the office of numbered positions six (6) and seven (7). A council member, unless sooner removed

from office under the provisions of this charter, shall serve for a term of three (3) years, and shall serve not more than two (2) terms in succession in the office to which elected. Section 2.07(c) also applies.

Sec. 2.02. - Restrictions.

If any member of the city council desires to run for a different council office other than that which he/she holds, he/she must resign and vacate his/her present office at least sixty (60) days prior to the next election for the desired office. The resignation shall be effective on the date of such resignation. For the purposes of this provision there shall be only two (2) offices; the office of mayor and the office of numbered council member.

Sec. 2.03. - Presiding officer: mayor and mayor pro tempore.

(a) The mayor shall be elected in the manner provided by this charter to serve for a term of three (3) years and shall not serve more than two (2) terms in succession. The mayor shall preside at all meetings of the city council and shall be recognized as head of the city government for all ceremonial purposes, by the governor for purposes of martial law, and shall serve as the emergency management director in times of an emergency as provided by state law, but shall have no day-to-day administrative duties other than signatory duties where the mayor signs a variety of documents to give them official legal effect. The mayor shall vote at council meetings only to break a tie.

(b) At the city council's second regular meeting following each yearly regular election of council members, or runoff election if required, the council shall elect one (1) of its members as mayor pro tem, for a period of one (1) year. The mayor pro tem shall act as mayor during the absence or disability of the mayor and, when so acting, shall have the same powers, duties, and restrictions as set forth for the office of mayor, except that he/she shall not lose the right to vote.

(c) In the event that both the mayor and mayor pro tem are absent from a council meeting, if there be a quorum as elsewhere stated in this charter, the council members present shall elect a chairperson who shall have the authority to conduct the meeting as if he/she were the mayor except that he/she shall not lose the right to vote.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14)

Sec. 2.04. - Qualifications.

A candidate for office must:

(1) Be a United States citizen;

(2) Be 18 years of age or older on the first day of the term to be filled at the election or on the date of appointment, as applicable;

(3) Be registered to vote by the regular filing deadline for a candidate's application for a place on the ballot or on the date of appointment, as applicable;

(4) Have resided continuously in the corporate limits of the city for twelve (12) months immediately preceding the regular filing deadline for a candidate's application for a place on the ballot or on the date of appointment, as applicable;

(5) Not have been convicted of a felony for which he or she has not been pardoned or otherwise released from the resulting disabilities;

(6) Not have been determined by a final judgment of a court exercising probate jurisdiction to be:

(a) Totally mentally incapacitated; or

(b) Partially mentally incapacitated without the right to vote;

(7) Not be disqualified by reason of any section of this charter or by state or federal law; and

(8) Satisfy any other eligibility requirements prescribed by law for the office.

(Amd. of 11-2-21(A), approved 11-10-21)

Sec. 2.05. - Judge of qualifications.

The city council is the final judge of all elections and the qualifications of its members and of any other elected officials of the city.

Sec. 2.06. - Compensation of council members and mayor.

The mayor shall receive [fifty dollars] ($50.00) and all other council members shall receive [twenty-five dollars] ($25.00) for each regular and specially called meeting attended. No council member shall receive any compensation for attendance at any workshop meeting, except for any workshop meeting that is conducted on a date separate from a regular or special called meeting. In addition, city council shall establish by ordinance methods of reimbursement for all actual and necessary expenses incurred by the mayor and council members in the performance of their duties.

Sec. 2.07. - Vacancies, forfeitures, filling of vacancies.

(a) *Vacancies.* The office of a council member or office of the mayor shall become vacant upon death, resignation, removal from office by recall, or forfeiture of his/her office.

(b) *Forfeiture.*

1. A council member or the mayor shall forfeit his/her office if he/she:

(1) Lacks at any time during the term of office any qualification for the office prescribed by this charter or by law,

(2) Violates any express prohibition of this charter,

(3)

Is convicted of a misdemeanor involving moral turpitude, felony or is assessed a deferred adjudication or probation for a felony,

(4) Fails to attend two (2) consecutive regular meetings unless excused by city council (said excusal may be obtained before or after the absence occurs) caused by sickness or emergency, or

(5) Moves his/her permanent residence outside the city limits.

2. If a council member is alleged to have violated any provision of this section and does not immediately resign, the council and mayor may conduct a hearing to determine if the office holder has forfeited and should vacate his/her office. The hearing shall be held within 30 days of the council, as a body, learning of the alleged forfeiture. The council may, by an affirmative vote of five (5) members, declare the office of said office holder to be forfeited and vacant. Disposition of the matter under this charter is final. Further relief may be sought in a court of law. The office holder subject to the forfeiture shall not have a vote. The mayor shall vote unless he/she is the office holder subject to the forfeiture.

(c) [*Filling of vacancies.*] Any city council member or mayoral vacancy shall be filled as follows:

1. If the vacancy(s) results in an unexpired term of greater than twelve (12) months and within 120 days of the city's general election then the vacancy(s) shall be filled at the general election consistent with state law. Said term of office to be for the unexpired term of the office vacated.
2. If the vacancy(s) results in an unexpired term of greater than twelve (12) months and outside of 120 days of the city's general election then the vacancy(s) shall be filled at a special election within one hundred and twenty (120) days after such vacancy(s) occur consistent with state law. Said term of office to be for the unexpired term of the office vacated.
3. If the vacancy(s) results in an unexpired term of twelve (12) months or less and outside of 350 days of the city's general election then the vacancy(s) shall be filled by appointment of the city council upon a two-thirds vote of all city council members. Said term of office to be for the unexpired term of the office vacated.
4. If the vacancy(s) results in an unexpired term of twelve (12) months or less and within 68 days of the city's general election then the vacancy(s) shall be filled at the general election consistent with state law. Said term of office to be for the unexpired term of the office vacated.

After a vacancy in office is filled by election, if the unexpired term is one (1) year or less, that council member may seek re-election for two (2) additional consecutive terms. If the unexpired term exceeds one (1) year that council member may succeed himself/herself only once. For the purposes of this section the period from one [(1)] annual general election to the next annual general election shall be considered as one [(1)] year or less regardless of the number of calendar days involved.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14; Res. No. 2018-45, 11-13-18, approved 11-6-18; Amd. of 11-2-21(C), (G) approved 11-10-21)

Sec. 2.08. - Prohibitions.

(a) *Holding other office.* Except where authorized by law, no mayor or council member shall hold any other city office or city employment during his/her term as mayor or council member, and no former mayor or council member shall hold any compensated appointive city office or city employment until two (2) years after the expiration of his/her term as mayor or council member.

(b) *Reserved.*

(c) *Appointments and removals.* Neither the council nor any of its individual members, including the mayor, shall in any manner dictate the appointment or removal of any city administrative officer or employee whom the city manager or any of his/her subordinates are empowered to appoint, however, the council may express its views and fully and freely discuss with the city manager anything pertaining to appointment and removal of such officers and employees.

(d) *Interference with administration.* Neither the council nor its individual members, including the mayor, shall give any orders or direction, public or private, to any officer or employee who is subject to the direction and supervision of the city manager. Council members, including the mayor, shall not give orders or direction to the city secretary, city judge, city attorney or city manager unless acting as a council as a whole. This is not to preclude the council or its individual members, including the mayor, from conducting a dialog with city staff where the spirit and intent is not to interfere with the management and administration of the city. The mayor is not prohibited from performing administrative duties under a Declaration of Emergency Disaster per section 2.13 or when performing administrative duties as the Emergency Management Director per section 2.15.

(Ord. No. 2012-34, § 1, 8-14-12, approved 11-6-12; Ord. No. 2023-33, § 2(B), 8-15-23, approved 11-7-23)

Sec. 2.09. - Meetings of council.

The council shall hold at least two (2) regular meetings each month with the exception of December, which shall have a minimum of one (1) regular meeting, and as many additional meetings as it deems necessary to transact the business of the city and its citizens. The council shall fix, by ordinance, the days, time and place of the regular meetings. Special meetings of the council may be held at any time during the year.

(Amd. of 11-2-21(D), approved 11-10-21)

Sec. 2.10. - Rules of procedure.

The council shall, by ordinance, determine its own rules and order of business and the rules shall provide that citizens of the city shall have a reasonable opportunity to be heard at all regular and special council meetings in regard to any matter under consideration. The council shall provide for minutes being taken and recorded of all meetings, and such minutes shall be a public record. Voting, except on unanimous votes, shall be by roll call and the yeas, nays, and abstentions shall be recorded in the minutes. Four (4) council members shall constitute a quorum for the purpose of transaction of business. Unless otherwise required by law, no actions of council shall be valid and binding unless adopted by the affirmative vote of four (4) or more members of the council.

(Ord. No. 2012-34, § 2, 8-14-12, approved 11-6-12)

Sec. 2.11. - Investigative power of the council.

The council shall have the power to inquire into or investigate the official conduct of any department, agency, office, officer, employee, council members and mayor of the city and for that purpose shall have the power to administer oaths, subpoena witnesses, compel the production of books, papers, records or other evidence, and as it shall provide by ordinance, to punish and fix penalties for contempt for failure or refusal to obey any such subpoena or to produce any such books, papers, records, or other evidence, unless otherwise stated by state law.

Sec. 2.12. - Reserved.

Editor's note— Ord. No. 2014-48, § 2, adopted Nov. 17, 2014, ratifying the results of a special election held on Nov. 4, 2014, repealed § 2.12, which pertained to city secretary and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010. The user's attention is directed to § 4.05 of this charter for relevant provisions.

ARTICLE III. - ELECTIONS, INITIATIVE, REFERENDUM AND RECALL

Sec. 3.01. - Municipal elections.

(a) *Schedule.* The general municipal election shall be held annually on a day established by the city council and compliant with state law. The runoff election date will be held in accordance with state election law. The city council shall be responsible to specify places for holding all elections.

(b) *Special elections.* The city council may order a special election for ordinances, bond issues, charter amendments, recall or other purposes deemed appropriate. Special elections must be held on a uniform election date in accordance with state election law.

(Ord. No. 2012-34, § 3, 8-14-12, approved 11-6-12)

Sec. 3.02. - Filing for office.

Any qualified person may have his or her name placed on the official ballot as a candidate for mayor or council member at any election held for such purpose and in accordance with state law.

(Ord. No. 2012-34, § 4, 8-14-12, approved 11-6-12)

Sec. 3.03. - Official ballots.

Official ballots shall be prepared consistent with the requirements of state law.

(Amd. of 11-2-21(E), approved 11-10-21)

Sec. 3.04. - Elections.

(a) To be elected for the office of council member or mayor, the candidate must receive a majority vote of qualified voters who voted in the general election. If no candidate receives a majority vote, the two (2) candidates with the highest number of votes will participate in a runoff election.

(b) *Canvassing elections.* Returns of elections shall be accomplished according to state law.

(c) *Notification and taking office.* It shall be the duty of the city secretary to notify all persons elected. Those elected shall take office and enter upon their duties after qualifying by taking and subscribing to their oath of office at a time an[d] in the manner as required by state law.

(Amd. of 11-2-21(E), approved 11-10-21)

Sec. 3.05. - Oath of office.

Every officer of the city, whether elected or appointed, before entering upon the duties of office, shall take and subscribe to the appropriate oath or affirmation prescribed by the secretary of state of the State of Texas. The oath shall also contain a statement affirming that the officer will uphold and comply with the Charter of the City of Copperas Cove, Texas. Oaths of office shall be kept in the office of the city secretary.

Sec. 3.06. - Power of initiative.

The voters of this city shall have the power to propose any ordinance, or reject the same at the polls. An initiated ordinance may be submitted to the council by a petition signed by qualified voters of the city, equal in number to two and one-half percent (2.50%) of qualified voters registered to vote at the last general city election.

Sec. 3.07. - Power of referendum.

The voters of this city shall have the power to repeal at the polls any ordinance enacted by the city council which is subject to the initiative process under this charter, except for bonds and all other property tax backed debt obligations that have been legally awarded to a successful bidder or other legal obligations. The petition for referendum shall require the same number and qualification of signers as required by this charter for an initiative petition.

(Ord. No. 2012-34, § 5, 8-14-12, approved 11-6-12)

Sec. 3.08. - Requirements of petition.

Any five (5) qualified voters may begin initiative or referendum proceedings by filing with the city secretary an affidavit stating they constitute the petitioners committee and will be responsible for circulating the petition and filing it in proper form, stating their names and addresses, and setting out in full the proposed initiative ordinance or the ordinance sought to be considered. Petitions shall contain, or have attached to them, the full texts of the ordinance proposed or sought to be considered. The signatures to the initiative or referendum need not all be appended to one paper, but each signer shall sign his/her name in ink, shall add his/her place of residence by street and number, shall include his/her date of birth or voter registration number, and shall state his/her county of residence. The circulators of each petition page shall make an affidavit that he/she, and he/she only, personally circulated that page of the petition, and that each signature is the genuine signature of the person as is written, and further, that no signatures shall have been placed there more than forty-five (45) days prior to the filing of such petition. Petitions shall be returned to the city secretary for filing within forty-five (45) days after filing of the affidavit of petitioners committee.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14; Amd. of 11-2-21(F), approved 11-10-21)

Sec. 3.09. - Filing, examination and certification of petition.

Within twenty (20) business days after an initiative, referendum or recall petition is filed, the city secretary shall determine whether such petition is signed by a sufficient number of qualified voters and has proper affidavit(s). After completing examination of the petition, the city secretary shall certify the results to the city council at its next regular meeting. If such petition is insufficient, the city secretary shall set forth in a certificate the particulars in which it is insufficient, and an additional ten (10) days shall be allowed in which to file an amendment or supplement which will correct the deficiency. No petition, once amended, may be amended again.

Sec. 3.10. - Effect of certification of referendum petition.

When a referendum petition or amended petition has been certified as sufficient by the city secretary, the ordinance specified in the petition shall not go into effect, or further action shall be suspended if it shall have gone into effect, until and unless it is approved by the voters.

Sec. 3.11. - Council consideration and submission to voters.

(a) When the council receives a petition for initiative which has been certified by the city secretary to be sufficient, the council shall either enact the proposed ordinance within thirty (30) days, or after certification the proposed ordinance shall be submitted to a vote of the qualified voters of the city on the city's first next general election in accordance with state election law.

(b) When the council receives a referendum petition certified by the city secretary to be sufficient, the council shall reconsider the referred ordinance within thirty (30) days; and if not repealed, it shall submit that ordinance to the qualified voters of the on the city's next general election in accordance with state election law.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14)

Sec. 3.12. - Ballot form and results of elections.

(a) The ballot used in voting upon an initiated or referred ordinance shall state the caption of the ordinance and below the caption shall set forth on separate lines the words: "For the Ordinance" "Against the Ordinance." Any number of ordinances may be voted upon at the same election in accordance with the provisions of this charter. An ordinance submitted, and receiving an affirmative majority of the votes cast, shall then become effective as an ordinance of the city. An ordinance so adopted may be repealed or amended at any time after the expiration of two (2) years by a majority vote of the entire city council.

(b) If conflicting ordinances are approved at the same election, the ordinance receiving the greatest number of affirmative votes shall prevail to the extent of such conflict.

Sec. 3.13. - Power to recall.

(a) *Power to recall.* The voters of the City of Copperas Cove shall have the power to recall any elected officer of this city for the reasons of incompetency and official misconduct and upon conviction of a crime of moral turpitude.

(1) Incompetency means gross ignorance of official duties; gross carelessness in the discharge of official duties; or inability or unfitness to promptly and properly discharge official duties because of a serious mental or physical defect that did not exist at the time of the officer's election.

(2)

Official misconduct means intentional unlawful behavior relating to official duties and includes intentional or corrupt failure, refusal, or neglect to perform a duty imposed on the officer by law.

(b) *Requirements of a recall petition.*

(1) A petition for recall shall specifically state the grounds alleged for the removal of the officer in plain and intelligible language and must cite the time and place of the occurrence of each act alleged as a ground for removal with as much certainty as the nature of the case permits.

(2) The petition shall be signed by qualified voters of the city equal in number two and one-half percent (2.50%) of the number of qualified voters registered to vote at the last general city election. The petition shall be verified by the same number of signers, with the same qualifications, and in the same manner required in the charter for an initiative petition.

(c) *Ordering of an election.* If the petition is certified by the city secretary to be sufficient, the council shall order and hold, or cause to be held, on the next feasible date for such, an election as specified under state law, to determine whether such officer shall be recalled.

(d) *Limitation for removal.* An officer may not be removed for an act the officer committed before election to office.

Sec. 3.14. - Results of recall election.

If the majority of the votes cast at a recall election shall be for the removal from office of the elected officer named on the petition and ballot, upon the canvas of said election, his/her office shall immediately be declared vacant and shall be filled as vacancies in the city council are filled, as provided in this charter. An elected officer who has been so removed from office shall not be eligible to succeed himself/herself.

Sec. 3.15. - Limitation on recall.

No petition shall be filed against an elected officer within [one hundred eighty] (180) days after he/she has taken office. A recall election need not be ordered by the council if the term of office of the elected officer against whom a petition is filed is to expire within [one hundred eighty] (180) days after the petition is filed with the city secretary. An elected officer previously the subject of a recall election, shall not be listed on a recall petition within [three hundred sixty-five] (365) days of the previous recall election.

Sec. 3.16. - [Public hearing.]

The officer whose removal is sought may, within five (5) days after such recall petition has been presented to the council, request that a public hearing be held to permit him/her to present facts pertinent to the charges specified in the recall petition. In this event, the council shall order such public hearing to be held, not less than five (5) days nor more than fifteen (15) days after receiving such requests for a public hearing.

Sec. 3.17. - Ballots in recall election.

Ballots used at recall elections shall conform to the following requirements:

(1) With respect to each person whose removal is sought, the question shall be submitted "Shall (name of person) be removed from the office of (mayor) (council member) by recall?"

(2) Immediately below the question, there shall be printed the two (2) following propositions, one above the other, in the order indicated: "YES." "NO".

Sec. 3.18. - Reserved.

Editor's note— Ord. No. 2023-33, § 2, adopted August 15, 2023, approved November 7, 2023, repealed § 3.18, which pertained to failure of council to call a recall election and derived from Ord. No. 2010-21, § 3 May 18, 2010.

ARTICLE IV. - ADMINISTRATIVE SERVICES

Sec. 4.01. - City manager.

(a) *Appointment and qualifications.*

(1) The council shall appoint a city manager, who shall be the chief administrative and executive officer of the city. He/she shall be chosen solely on the basis of his/her executive and administrative training, experience and ability. He/she need not be a resident of the city when appointed; however, during his/her tenure of office he/she shall reside in the city.

(2) No mayor or council member shall receive such appointment during the term for which he/she shall have been elected or within two (2) years after the expiration of his/her term.

(b) *Term and salary.* The city manager shall serve at the discretion of the city council and shall receive such salary as may be fixed by the council.

(c) *Powers and duties.* The city manager shall be responsible to the council for the administration of all the affairs of the city. The powers and duties conferred upon the city manager shall include, but shall not be limited by the following:

(1) He/she shall see that all laws, provisions of this charter, and acts of the city council, subject to enforcement by him/her, or by officers subject to his/her direction and supervision, are faithfully executed.

(2) Appoint, suspend or remove any employee of the city, including department heads, not appointed by council.

(3) Attend all meetings of the council unless an approved absence is authorized by council.

(4)

Prepare the annual budget and submit it to the council and be responsible for its administration after its adoption.

(5) Prepare and submit to council at the end of the fiscal year a complete report on the finances and administrative activities of the city for the preceding year.

(6) Keep the council advised of the financial condition and future needs of the city and make such recommendations as may seem necessary.

(7) Perform such other duties as may be prescribed by this charter or required of him/her by the council.

(8) Manage, as administrative head, all employees of the city. However, the city manager may not lower, change or alter in any manner the salary and/or the compensation package of personnel directly responsible to the city council.

(9) The city council, including the mayor, shall evaluate the city manager annually in accordance with the city's personnel policies manual, and each council member shall sign the evaluation.

(10) Prescribe the forms of receipts, vouchers, bills or claims to be used by all the offices, departments or agencies of the city government.

(11) Examine and sign all contracts, orders and other documents by which the city government incurs financial obligations, having previously ascertained that monies have been appropriated and allotted and will be available when the obligations shall become due and payable.

(12) Audit and approve, before payment, all bills, invoices, payrolls, and other evidence of claims, demands or charges against the city government and with the advice of the city attorney determine the regularity, legality and correctness of such claims, demands or charges.

(13) Inspect and audit any accounts or records of financial transactions which may be maintained in any office, department or agency of the city government apart from or subsidiary to the accounts kept in his/her office.

(Ord. No. 2012-34, §§ 6, 7, 8-14-12, approved 11-6-12; Amd. of 11-2-21(H), approved 11-10-21)

Sec. 4.02. - Acting city manager.

The city manager within sixty (60) days after taking office, shall designate by letter filed with the city secretary, a qualified administrative officer of the city to perform the duties of the city manager in his/her absence or disability. Such designation shall be approved by council.

Sec. 4.03. - Department heads.

The head of each department, except those specifically mentioned in this charter, shall be appointed by, responsible to, and removed by the city manager, and shall be directly responsible for the administration of his or her department. The city manager shall determine the salary of the head of each department under

his or her supervision.

No department or office established by this charter shall be discontinued by the city council, and no duties of any such departments shall be transferred therefrom or added thereto.

Sec. 4.04. - Participation of city manager and other department heads in meetings.

The city manager shall have the right to participate in the discussion of all matters coming before the council. Other department heads shall take part in all discussions of the council relating to their respective offices, departments or agencies, subject to the provisions of the Open Meetings Act.

Sec. 4.05. - City secretary.

(a) The city manager shall appoint a city secretary.

(b) The city secretary shall be responsible for giving notices of city council meetings, keeping a record of city council proceedings, authenticating by signature and recording, in full in a book kept and indexed for that purpose, all ordinances and resolutions, be responsible for all city elections, and shall perform such other duties as the city manager may assign.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14)

ARTICLE V. - LEGAL DEPARTMENTS AND MUNICIPAL COURT

Sec. 5.01. - City attorney.

The city council shall appoint a competent attorney, licensed by the State of Texas, who shall be its "city attorney". The city attorney shall serve at the discretion of the city council. The city attorney shall designate assistant(s) city attorney and submit the name(s) to the city council for concurrence, if the council appropriates sufficient funds for that position. The city attorney shall receive for his/her services such compensation as may be fixed by the council. The city attorney shall appear, in any court, on behalf of the city.

The city attorney, such designated assistant city attorney or other authorized attorney shall represent the city in all litigation. He/she, such designated assistant city attorney or other authorized attorney shall be the legal advisor, counsel for the city, and counsel for the departments of the city.

The city attorney shall review any and all ordinances considered suspect for change or deletion and cause said ordinance to be brought before the city council with his/her recommendations. The city council and the mayor shall evaluate the city attorney annually, and each council member and the mayor shall sign the evaluation.

The city attorney shall review all contracts as to legal sufficiency prior to their approval and execution.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14; Ord. No. 2023-33, § 2(C), 8-15-23, approved 11-7-23)

Sec. 5.02. - Municipal court.

There shall be a court for the trial of misdemeanor offenses known as the "Municipal Court of Copperas Cove, Texas," with such powers and duties as are given and prescribed by laws of the State of Texas and this charter.

The municipal court shall be presided over by a magistrate, who shall be known as "the judge of the municipal court."

The court shall be served by a clerk, to be known as the "municipal court administrator", who shall be a city employee.

All fines imposed by the municipal court, or by any court in cases appealed from judgments of the municipal court, shall be paid into the city treasury for the use and benefit of the city.

(Amd. of 11-2-21(G), approved 11-10-21)

Sec. 5.03. - Municipal judge.

There shall be a magistrate of the municipal court known as the "judge of the municipal court", appointed and removed by the city council in accordance with state law. He/she shall receive such compensation as may be fixed by the city council.

The city council and the mayor shall evaluate the municipal judge annually, and each council member and the mayor shall sign the evaluation.

Further, the city council may appoint an associate municipal judge to serve in the absence of the municipal judge. The associate judge shall serve at the discretion of the city council, who shall fix his/her compensation.

(Ord. No. 2012-34, § 8, 8-14-12, approved 11-6-12)

ARTICLE VI. - THE BUDGET

Footnotes:

*--- (**2**) ---*

***Editor's note—** Ord. No. 2012-34, § 9, adopted Aug. 14, 2012 and approved at a special election held on Nov. 6, 2012, repealed sections 6.02—6.11, which pertained to preparation and submission of proposed budget; anticipated revenue compared with other years in budget; proposed expenditures compared with other years; proposed budget: a public record; public hearing amending or supplementing proposed budget; vote required for adoption; date of final adoption; effective date and distribution of budget; contingent appropriations and amending the budget, respectively, which derived from Ord. No. 2010-21, § 3, adopted May 18, 2010 and included new provisions as herein set out.*

Sec. 6.01. - Fiscal year.

The fiscal year of the City of Copperas Cove shall begin the first day of October and shall end on the last day of September of each calendar year. Such fiscal year shall also constitute the budget and accounting year.

Sec. 6.02. - Preparation and submission of proposed operating budget.

The city manager shall submit to the city council annually a proposed operating budget in accordance with state law and supporting the qualifying budget application criteria of the Government Finance Officers Association.

(Ord. No. 2012-34, § 9, 8-14-12, approved 11-6-12)

Sec. 6.02.1. - Amending the operating budget.

The Cities operating budget shall be amended as provided for in state law and the rules and policies adopted by City Council.

(Ord. No. 2023-33, § 2(D), 8-15-23, approved 11-7-23)

Sec. 6.02.2.—6.05.1. - Reserved.

Editor's note— Ord. No. 2023-33, § 2(D), adopted August 15, 2023, approved November 7, 2023, repealed §§ 6.02.2—6.05.1, which pertained to transfers of appropriations, preparation and submission of the capital improvement plan, amending the capital improvement plan, preparation and submission of the capital outlay plan, amending the capital outlay plan, preparation and submission of the personnel plan, amending the personnel plan and derived from Ord. No. 2012-34, §§ 1, 13, August 14, 2012, approved November 6, 2012; Amd. of November 2, 2021(G)—(K), approved November 10, 2021.

ARTICLE VII. - ISSUANCE AND SALE OF BONDS

Sec. 7.01. - Power to borrow.

The City of Copperas Cove shall have the right and power to issue its general obligation bonds on the full faith and credit of the city, payable from ad valorem taxes not to exceed the maximum rate permitted by the Texas constitution, for the purpose of providing permanent public improvements or for any other public purpose. The city shall also have the right and power to issue its revenue bonds payable from the revenues of any municipally owned utility or utilities, and may secure such revenue bonds by a mortgage or deed of

trust on the physical properties of such utility or utilities. The city shall also have the right and power to issue interest bearing time warrants pursuant to Article 2368a., Vernon's Annotated Civil Statutes as amended, may be amended or disposed of in the future and interest bearing certificates of obligation pursuant to Acquisition, Sale or Lease of Property, V.T.C.A., Local Government Code, Chap. 271, Subchapter C, as amended, may be amended or disposed of in the future.

Sec. 7.02. - Reserved.

Editor's note— Ord. No. 2012-34, § 10, adopted Aug. 14, 2012 and approved at a special election on Nov. 6, 2012, repealed § 7.02, which pertained to issuance of bonds, time warrants and certificates of obligation and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010.

ARTICLE VIII. - FINANCE ADMINISTRATION

Sec. 8.01. - Director of finance.

(a) *Appointment.* The council may set up a department of finance, the head of which shall be the director of finance, who shall be appointed by the city manager.

(b) *Qualifications.* The director of finance shall have the proper knowledge of municipal accounting and sufficient experience in budgeting and financial control to properly perform the duties of the office.

(c) *Power and duties.* Under the direction of the city manager, the director of finance shall have charge of the administration of the financial affairs of the city, and to that end he/she shall have the authority and shall be required to:

(1) Supervise and be responsible for the disbursement of all monies and have control over all expenditures to ensure that budget appropriations as established or changed by the city council are not exceeded.

(2) Maintain a general accounting system for the city government each of its offices, departments, and agencies; keep books for and exercise financial budgetary control over each office, department and agency; keep separate accounts for the items of appropriation contained in the city budget, each of which accounts shall show the amount of the appropriation, the amounts paid therefrom, the unpaid obligations against it and the unencumbered balance; require reports of receipts and disbursements from each receiving and spending agency of the city government to be made daily or at such intervals as may be deemed expedient.

(3) Submit to the council through the city manager a monthly statement of all receipts and disbursements in sufficient detail to show the exact financial condition of the city.

(4) Collect license fees and other revenues of the city, or for whose collection the city is responsible, and receive all money receivable by the city from state or federal government, or from any court, or from any office, department or agency of this city.

(5) Supervise and be responsible for the purchase, storage and distribution of all supplies, materials, equipment and other articles used by any office, department or agency of the city government.

(6) Approve all proposed expenditures; provided that there is an unencumbered balance of appropriated and available funds.

(7) Supervise and be responsible for the sale or disposal of surplus or obsolete supplies, materials and equipment belonging to the city.

(d) *Acting.* In the absence of a director of finance, the city manager's designee will serve in the capacity of director of finance.

(Ord. No. 2012-34, §§ 11, 12, 8-14-12, approved 11-6-12)

Sec. 8.02. - Reserved.

Editor's note— Amd. of 11-2-21(G), approved November 10, 2021, renumbered former § 8.02 as § 6.02.2.

Sec. 8.03. - Reserved.

Editor's note— Amd. of 11-2-21(G), approved November 10, 2021, repealed § 8.03, which pertained to accounting supervision and control and derived from the Prior Code.

Sec. 8.04. - Lapse of appropriations.

All appropriations shall lapse at the end of the fiscal year to the extent that they shall not have been expended or lawfully encumbered. The finance director shall transfer such lapsed appropriations to the reserve account of the fund to which the lapsed appropriation belongs.

Sec. 8.05. - Fees shall be paid to city.

All fees received by any officer or employee shall belong to the city government and shall be paid to the department of finance at such times as required by the director of finance.

Sec. 8.06. - Sale of city property.

Any sale, gift, or contract for the sale of any real property belonging to the city, either in form of land, real estate or other real properties, shall be in accordance with the Texas Constitution, Texas Local Government Code, Chapters 253 and 263, and the acts amendatory thereof and supplementary thereto, now or hereafter

enacted, and all other applicable state law. Personal property shall be disposed of according to ordinance.

Sec. 8.07. - Purchase procedure.

The director of finance shall have authority to make expenditures from one [(1)] or more municipal funds without the approval of the city council for all budgeted items up to that amount which, under state law, triggers the competitive procurement process. Within sixty (60) days from the date this section becomes effective, city council shall adopt an ordinance to provide all contracts, purchases and other procurements comply with the statutory competitive procurement process and other relevant laws. Said ordinance shall be reviewed within sixty (60) days from the date each legislative session ends, and shall be amended as necessary to comply with any changes to the statutory competitive procurement process, or other relevant laws adopted in that legislative session. Said ordinance may be reviewed and amended at any other times, as deemed expedient and necessary by city council or if required by amendment to the Texas Constitution.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14)

Sec. 8.08. - Contract for improvements.

Any city contract requiring an expenditure by, or imposing an obligation or liability on the city shall be made in accordance with the requirements of the Constitution and statutes of the State of Texas. These contracts shall include, but are not limited to, contracts for the construction of public works or the purchase of materials, equipment, supplies, or machinery. Within sixty (60) days from the date this section becomes effective city council shall adopt an ordinance to provide all expenditures falling under the purview of this section comply with the requirements of the Constitution and statutes of the State of Texas. Said ordinance shall be reviewed within sixty (60) days from the date each legislative session ends, and shall be amended as necessary to comply with any changes to the statutory requirements adopted in that legislative session. Said ordinance may be reviewed and amended at any other times, as deemed expedient and necessary by city council or if required by amendment to the Texas Constitution.

(Ord. No. 2014-48, § 2, 11-17-14, approved 11-4-14)

Sec. 8.09. - Disbursement of funds.

All checks, vouchers or warrants for the withdrawal of money from the city depository shall be signed by the director of finance, or his/her deputy, and countersigned by the city manager. In the event the city manager is the director of finance, all checks signed by him/her shall be countersigned by the director of budget.

(Amd. of 11-2-21(L), approved 11-10-21)

Sec. 8.10. - Accounting control of purchases.

All purchases made shall be pursuant to a written requisition from the head of the office, department or agency whose appropriation will be charged, and no contract or order shall be issued to any seller unless and until the director of finance certifies that there is to the credit of such office, department or agency a sufficient unencumbered balance to pay for the supplies, materials, equipment or contractual services for which the contract or order is to be issued.

Sec. 8.11. - Reserved.

Editor's note— Ord. No. 2012-34, § 14, adopted Aug. 14, 2012 and approved at a special election held on Nov. 6, 2012, repealed § 8.11, which pertained to borrowing in anticipation of property taxes and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010.

Sec. 8.12. - Reserved.

Editor's note— Ord. No. 2012-34, § 15, adopted Aug. 14, 2012 and approved at a special election held on Nov. 6, 2012, repealed § 8.12, which pertained to sale of notes: report of sale and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010.

Sec. 8.13. - Surety bonds.

The directors of all administrative departments whose duties include the handling of monies and all employees whose duties include the handling of monies belonging to the City of Copperas Cove shall, before entering upon the duties of this office or employment, be bonded with a responsible surety company acceptable to the city council for such amount as the council may prescribe, the premium of which bond shall be paid by the city; and the city council may also require any such surety bond to be further conditioned that the principal thereon will faithfully perform and/or discharge the duties of his/her office, and if there are provisions of state law bearing upon the functions of his/her office under which the execution of a surety bond is required, it shall be further conditioned to comply therewith.

ARTICLE IX. - TAX ADMINISTRATION

Sec. 9.01. - Power to tax.

The city shall have all the same powers of taxation granted by the constitution and the general laws of the State of Texas governing cities with a population in excess of five thousand (5,000) inhabitants and by virtue of this charter shall have the power to:

(a)

Authorize the granting and issuance of licenses and direct the manner of issuing and registering the same and fix the fees therefor; but no license shall be issued for a longer period than one (1) year and shall not be assignable except by permission of the governing authority of the city; and may adopt such measures as may be deemed necessary to enforce the registration requirements;

(b) Assessing the penalty and interest rate and the method of determining the amount of collector's cost to be charged to delinquent tax accounts;

(Ord. No. 2023-33, § 2(B), 8-15-23, approved 11-7-23)

ARTICLE X. - FRANCHISES AND PUBLIC UTILITIES

Sec. 10.01. - Powers of the city.

The city shall have the power to buy, construct, lease, maintain, operate and regulate public utilities and to manufacture, distribute and sell the output of such utility operations. In addition, the city shall have additional powers as granted by the constitution and the laws of the State of Texas. The city shall not provide any utility services outside the city limits except by a written contract with the prospective customer requesting such services.

Sec. 10.02. - Power to grant franchise.

The council shall have the power, by ordinance, to grant, renew, extend and amend by mutual agreement, all franchises of all public utilities operating within the city. To the extent authorized by law no franchise shall be granted, renewed or extended for an indeterminate period or for a term of more than twenty (20) years.

(Ord. No. 2023-33, § 2(E), 8-15-23, approved 11-7-23)

Secs. 10.03—10.09. - Reserved.

Editor's note— Ord. No. 2023-33, § 2(E), adopted August 15, 2023, approved November 7, 2023, repealed §§ 10.03—10.08, which pertained to ordinance granting franchise, grant not to be exclusive, transfer of franchise, franchise value not to be allowed, right of regulation, regulation of rates and derived from Ord. No. 2010-21, § 3 May 18, 2010. Section 10.09 was repealed by Amendment of 11-2-21(E) approved November 10, 2021, which pertained to submiession of annual reports and derived from the Prior Code.

Sec. 10.10. - Municipally owned utilities.

An account will be maintained by the city manager for each public utility owned or operated. Each account will show the true and complete financial results of the city ownership and operation including assets and liabilities by classes, depreciation reserve, other reserves and surplus, revenues, operating expenses, depreciation, interest payments, rental and disposition of annual income, capital cost of each city-owned utility, cost of and service rendered to any city department, and other information required by the council. Annually, a certified public accountant will prepare, and the council will cause to be published, a financial report for each public utility owned or operated by the city. Each report will contain the information specified in this section and such other information as required by the council. The council will establish, by ordinance, the submission and inclusive dates of each report.

Sec. 10.11. - Records.

The city shall compile and maintain a public record of city-owned and operated public utilities, public utility franchises and related annual reports.

ARTICLE XI. - GENERAL PROVISIONS

Sec. 11.01. - Publicity of records.

All records of the city shall be open for inspection by any citizen or by any representative of a citizen's organization or the press during normal business hours subject only to the provisions and limitations of the Texas Public Information Act as now exists or hereafter amended.

Sec. 11.02. - Conflict of interest.

For purposes of this section the term "City Official" means any individual subject to the requirements of Texas Local Government Code, Chapter 171.

It is hereby prohibited for members of city council or a city official to violate the rules and regulations regarding conflicts of interests as set out in the Texas Local Government Code, Chapter 171.

(Amd. of 11-2-21(M), approved 11-10-21)

Sec. 11.03. - Reserved.

Editor's note— Ord. No. 2012-34, § 16, adopted Aug. 14, 2012 and approved at a special election held on Nov. 6, 2012, repealed § 11.03, which pertained to gratuities and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010.

Sec. 11.04. - Reserved.

Editor's note— Ord. No. 2012-34, § 17, adopted Aug. 14, 2012 and approved at a special election held on Nov. 6, 2012, repealed § 11.04, which pertained to equal employment opportunities and derived from Ord. No. 2010-21, § 3, adopted May 18, 2010.

Sec. 11.05. - Reserved.

Editor's note— Amd. of 11-2-21(D), approved November 10, 2021, repealed § 11.05, which pertained to employee relations and derived from the Prior Code.

Sec. 11.06. - Reserved.

Editor's note— Amd. of 11-2-21(D), approved November 10, 2021, repealed § 11.06, which pertained to damage suits and derived from the Prior Code.

Sec. 11.07. - Power to settle claims.

The city council, and only the city council, shall have the power to compromise and settle any and all claims and lawsuits of every kind and character in favor of or against the city, including suits by the city to recover delinquent taxes.

Sec. 11.08. - Service of process against the city.

All legal process against the city shall be served upon the mayor or city secretary.

Sec. 11.09. - City not required to give security or execute bond.

It shall not be necessary in any action, suit or preceding in which the City of Copperas Cove is a party, for any bond, undertaking or security to be demanded, executed by or on behalf of said city in any of the state courts, but in all such actions, suits, appeals or proceedings, same shall be conducted in the same manner as if such bond, undertaking or security had been given as required by law, and said city shall be just as liable as if security of bond had been duly executed.

Sec. 11.10. - Liens against city property.

No lien of any kind shall ever exist against any property, real or personal, owned by the city except that the same be created by this charter.

Sec. 11.11. - Reserved.

Editor's note— Amd. of 11-2-21(D), approved November 10, 2021, repealed § 11.11, which pertained to

provisions relating to assignment, execution and garnishment and derived from the Prior Code.

Sec. 11.12. - Reserved.

Editor's note— Amd. of 11-2-21(D), approved November 10, 2021, repealed § 11.12, which pertained to power to remit penalties and derived from the Prior Code.

Sec. 11.13. - Churches and school property not exempt from special assessments.

No property of any kind, church, school, or otherwise, in the City of Copperas Cove shall be exempt from any of the special taxes and assessments authorized by this charter for local improvements unless the exemption is required by state law.

Sec. 11.14. - Sale or lease of property other than public utilities or acquired by tax sale.

Any real property owned by the City of Copperas Cove may be sold or leased by the city council when in its judgment such sale or lease will be for the best interests of the city; provided, however, a sale or a lease for more than five (5) years shall never become effective until thirty (30) days after passage of the ordinance or resolution affecting same. If, during such thirty (30) day period, a referendum petition is presented to the city secretary which in all respects conforms to the referendum provisions of article II of this charter, and same is found sufficient, then the secretary shall certify the sufficiency of same to the city council, and an election shall be called submitting the question of whether or not the sale or lease shall be consummated. Provided, further, however, the provisions of this section shall not apply to public utilities nor to property purchased by the city at tax sales.

Sec. 11.15. - Effect of this charter on existing law.

All ordinances, resolutions, rules and regulations now in force under the city government of Copperas Cove, and not in conflict with the provisions of this charter, shall remain in force under this charter until altered, amended or repealed by the council after this charter takes effect; and all rights of the City of Copperas Cove under existing franchises and contracts are preserved in full force and effect to the City of Copperas Cove. Upon adoption of this charter, it shall constitute the charter of the City of Copperas Cove.

Sec. 11.16. - Continuance of contracts and succession of rights.

All contracts entered into by the city or for its benefit, prior to the taking effect of this charter, shall continue in full force and effect. Public improvements for which legislative steps have been taken under laws or ordinances existing at the time this charter takes effect may be carried to completion in accordance with the provisions of such existing laws or ordinances. All suits, taxes, penalties, forfeitures and all other rights, claims and demands, which have accrued under the laws heretofore in force governing the City of Copperas

Cove, shall belong to and be vested in and shall be prosecuted by and for the use and benefit of the corporation hereby created, and shall not in any way be diminished, effected or prejudiced by the adoption and taking effect of this charter.

Sec. 11.17. - Construction and separability clause.

The charter shall be liberally construed to carry out its intents and purposes. If any section or part of section of this charter shall be held invalid by a court of competent jurisdiction, such holding shall not affect the remainder of this charter nor the context in which such section or part of section may be inseparably connected in meaning and effect with the section or part of section to which such holding shall directly apply.

Sec. 11.18. - Amending the charter.

Amendments to this charter may be framed and submitted to the qualified electors of the city by a charter commission in the manner provided by law for framing and submitting a new charter.

Amendments may also be proposed and submitted by ordinance, passed by a majority vote of the full membership of the council, or by a petition signed by not less than two and one-half percent (2.50%) of the number of qualified voters registered to vote at the last general city election.

When a charter amendment petition shall have been filed with the council in conformity with the provisions of this charter as to petitions for initiated ordinances, the council shall forth with provide by ordinance for submitting such proposed amendment to a vote of the qualified electors. Any ordinance for submitting a charter amendment to the qualified electors shall provide that such amendment be submitted at the next general municipal election if one shall occur not less than thirty (30) days nor more than ninety (90) days after the passage of the ordinance; otherwise it shall provide for the submission of the amendment at a special election held on a uniform election date in accordance with state law.

Notice of the election for the submission of said amendment or amendments shall be given by publication thereof, in some newspaper of general circulation in said city, on the same day in each of two (2) successive weeks; the date of the first publication to be not less than fourteen (14) days prior to the date set for said election. If a proposed amendment be approved by a majority of the qualified electors voting thereon, it shall become a part of the charter at the time fixed therein. Each amendment shall be confined to one subject; and when more than one amendment shall be submitted at the same time, they shall be so submitted as to enable the qualified electors to vote on each amendment separately.

(Ord. No. 2012-34, § 18, 8-14-12, approved 11-6-12)

Sec. 11.19. - Rules of construction.

As used in this charter, a word importing the masculine gender only shall extend to, and be applied to, females as well as males. A word importing the singular number shall include the plural, and a word importing the plural number shall include the singular.

Sec. 11.20. - Regulation of alcohol.

The sale of liquor and beer is prohibited in all residential sections or areas of the city, as designated by any zoning ordinance or Comprehensive Plan of the city. The city council may enact any and all other regulations regarding the sale, consumption, distribution, etc. of alcoholic beverages, as permitted by law.

Section 11.21. - Rearrangement and renumbering.

The city council shall have the power, by ordinance, to renumber and rearrange all articles, sections and paragraphs of this charter or any amendments thereto, as it deems appropriate, and upon the passage of such ordinance, a copy thereof certified by the city secretary shall be forwarded to the Secretary of State for filing.

CHARTER COMPARATIVE TABLE

Home Rule Charter Section	Disposition this Charter
1.01—1.15	1.01—1.15
2.01—2.12	2.01—2.12
3.01—3.18	3.01—3.18
4.01—4.06	4.01—4.06
5.01—5.03	5.01—5.03
6.01—6.16	6.01—6.16
7.01, 7.02	7.01, 7.02
8.01—8.13	8.01—8.13
9.01	9.01
10.01—10.11	10.01—10.11
11.01—11.20	11.01—11.20

Date	Amendment Number	Disposition
4- 2-83	1	2.06
	2	2.12
	3	4.01(c)(8)
	4	4.02
	5	5.03
	6	6.09

	7	6.14
4- 5-88	2	3.01(a)
	3	3.04(a)
	6	9.01[1], [2]
	7	10.08
5- 1-93	1	See Note*
	2	1.03
	3	1.04
	4	1.05
	5	1.07
	6	1.16
	7	2.01
	8	2.02
	9—11	2.03
	12	2.05
	14, 15	2.07
	16	2.08
	17	2.10
	18	2.12
	19, 20	3.02
	21	3.03
	22	3.05
	23	3.06
	24—26	3.13
	27, 28	4.01
	29	4.04
	30	5.01
	31	5.02
	32	5.03
	33	6.02
	34	6.02, 6.05, 6.06, 6.07, 6.08
	35	6.11
	36	6.14
	37	6.16
	38	7.02
	39	8.02
	40	8.04
	41, 42	8.06
	43	8.09
	44	10.07
	45	11.02

	46	11.04
	47, 48	11.05
	49	11.07
	50	11.08
5- 3-97	1	1.04
	2	2.03
	3	2.05
	4	2.07
	5	2.08
	6	2.12
	7	4.01
	8	5.01
	9	5.03
	10	8.06
	11	8.07
	12	8.08
5- 8-01 (Res.)	1—3	1.04
	4	2.07
	5	2.08(c)
	6	2.06
	7	2.10
	8—11	2.13—2.16
4- 2-83	1	2.06
	12	3.03(d)
	13	3.04(b)
	14, 15	3.13
	16, 17	4.01
	18	4.03
	19, 20	4.04
	21	4.05
	22	4.06
	23	2.12
	24, 25	8.07, 8.08
	26	8.12
	27	10.03
	28	10.07
	29, 30	11.01, 11.02
	31	11.04
	32	11.22

Ord. No.	Adoption Date	Election Date	Section	Charter Section

2003-03	2- 4-03	5- 3-03	1	Art. II, § 2.12
				art. IV, § 4.01
				Art. V, §§ 5.01, 5.03
				Art. VIII, § 8.06
2003-09	5- 6-03	5- 3-03	1—3	Art. II, § 2.12
				Art. IV, § 4.01
				Art. V, §§ 5.01, 5.03
				Art. VIII, § 8.06
2005-08	6-21-05	9-10-05	1	Art. II, § 2.07
				Art. III, § 3.04
2005-15	9-20-05	9-10-05	2(Prop. 5)	Art. II, § 2.07
			(Prop. 7)	Art. III, § 3.04
2008-17	5-20-08	5-10-08	3	Arts. I—XI, §§ 1.01—11.21
2010-21	5-18-10	5- 8-10	3	Arts. I—XI, §§ 1.01—11.21
2012-34	8-14-12	11- 6-12	1	Art. II, § 2.08(a)
			2	Art. II, § 2.10
			3	Art. III, § 3.01(a)
			4	Art. III, § 3.02
			5	Art. III, § 3.07
			6	Art. IV, § 4.01(a)(2)
			7 Added	Art. IV, § 4.01(c)(10)—(c)(13)
			8	Art. V, § 5.03
			9 Rpld	Art. VI, §§ 6.02—6.11
			Added	Art. VI, §§ 6.02—6.05.1
			10 Rpld	Art. VII, § 7.02
			11 Rpld	Art. VIII, § 8.01(c)(4), (c)(6), (c)(7)
			Rnbd	Art. VIII, § 8.01(c)(5)
			as	Art. VIII, § 8.01(c)(4)
			Rnbd	Art. VIII, § 8.01(c)(8)—(c)(10)
			as	Art. VIII, § 8.01(c)(5)—(c)(7)
			12	Art. VIII, § 8.01(d)
			13	Art. VIII, § 8.02
			14, 15 Rpld	Art. VIII, §§ 8.11, 8.12

			16, 17 Rpld	Art. XI, §§ 11.03, 11.04
			18	Art. XI, § 11.18
2014-48	11-17-14	11- 4-14	2	Art. II, §§ 2.03(c), 2.07(c)
			Rpld	Art. II, § 2.12
				Art. III, §§ 3.08, 3.11
			Added	Art. IV, § 4.05
				Art. V, § 5.01
				Art. VIII, §§ 8.07, 8.08
2018-45(Res.)	11-13-18	11- 6-18		Art. II, § 2.07(b)
Amd. of	11-10-21	11-2-21	(A)	2.04
			(C)	2.07(b)2.
			(D)	2.09
			Rpld	11.05, 11.06
			Rpld	11.11, 11.12
			(E)	3.03
				3.04(c)
			Rpld	10.09
			(F)	3.08
			(G)	2.07(b)2.
				5.02
			Rnbd	8.02
			as	6.02.2
			Rpld	8.03
			(H)	4.01(c)(3)
			(I)	6.03
			(J)	6.04
			(K)	6.05
			(L)	8.09
			(M)	11.02
2023-33	8-15-23	11- 7-23	2(B) Rpld	2.08(b)
			Rpld	3.18
				9.01

			(C)	5.01
			(D)	6.02.1
			Rpld	6.02.2—6.05.1
			(E)	10.02
			Rpld	10.03—10.08

Footnotes:

*--- (**1**) ---*

***Note—** Charter Amendment No. 1 of 5-1-93 amended the charter by correcting spelling, punctuation, grammatical errors; by correcting legal references; and by changing masculine pronouns to masculine/feminine or gender free forms.*

16 EVIDENCE OF COMPETENCY

16.1 Solid Waste Sites

This section addresses §330.59(e) and (f).

The City of Copperas Cove has operated City of Copperas Cove Transfer Station for over 25 years. The TS is registered by the TCEQ under Registration Number 40145, (issued on December 10, 1998). The City has no financial interest in any other solid waste sites.

16.2 The City of Copperas Cove Transfer Station Key Personnel

The key personnel that will be involved in the management and operations of the improved TS facility are listed below:

Scott Osburn, Director of Public Works

Mr. Osburn has worked as the Director of Public Works for the City of Copperas Cove for approximately 4 years. Scott is a licensed attorney and prior to his current position served as a consultant to the city as its City Attorney through the law firm of Denton, Navarro, Rocha, Bernal & Zech. Scott's municipal experience also includes serving 6 years as the Deputy City Attorney in Killeen, Texas, and 3 years as its Director of Public Works prior to rejoining private practice. In total, Scott has over 16 years of municipal law and management experience, primarily focused in the areas of Public Works, Planning and Development and Regulatory Compliance. Scott has provided executive leadership over Solid Waste Operations in excess of 7 years.

Larry Scott, Solid Waste Director

Mr. Scott has been in the solid waste industry for 8 years as a Commercial Supervisor and as a Director of Solid Waste. Larry currently manages the operations for a Type V Transfer Station, as well as residential, commercial, brush and recycling collections for the City of Copperas Cove. Mr. Scott currently maintains a MBW-B License.

Victor Williams, Commercial Superintendent

Mr. Williams has been in the solid waste industry for 10 years as a collections driver, Recycling and Residential Supervisor and a Commercial Superintendent.

Victor oversees the operations of a Type V Transfer Station and Commercial collections for the City of Copperas Cove. Victor currently maintains a MSW-B License.

Michael Ahart, Transfer Station Supervisor

Mr. Ahart has been in the solid waste industry for one year and has over 15 years heavy equipment experience. Michael is currently the Supervisor of a Type V Transfer Station for the City of Copperas Cove and maintains a Class A Commercial Drivers License.

17 APPOINTMENTS

The appointment prepared for this permit application meets the requirements of Title 30 TAC §330.59(g) and §305.44. The Notice of Appointment is provided on the following page.

This section addresses §330.59(g).

NOTICE OF APPOINTMENT
Agent for the Applicant

Kelly Keel
Interim Executive Director
Texas Commission on Environmental Quality
MC 109
P.O. Box 13087
Austin, Texas 78711-3087

Dear Ms. Keel

I am an Authorized Agent of the City of Copperas Cove in matters concerning this Type V Permit Application.

ATTEST:

City of Copperas Cove

Signature

Ryan Haverlah, City Manager
Name, Title

04/30/2024
Date

SWORN TO AND SUBSCRIBED BEFORE ME by Ryan Haverlah on the 30th day of April, 2024, which witness my hand and seal of office.

Notary Public in and for the State of Texas

ASHLEY OSBORN
Notary Public, State of Texas
Comm. Expires 01-27-2025
Notary ID 130211563

Ashley Osborn
Printed Name

My Commission Expires 1-27-2025

APPENDIX I/IIA

DEMONSTRATION OF COORDINATION

- Coordination with Texas Department of Transportation
- Coordination with Texas Historical Commission
- Coordination with Texas Parks and Wildlife Department
- Coordination with Central Texas Council of Governments (CTCOG)

COORDINATION WITH
TEXAS DEPARTMENT OF TRANSPORTATION

SEPTEMBER 27, 2023 SUBMITTAL TO TxDOT

City of Copperas Cove

"The City Built for Family Living" Public Works

September 27, 2023

Mr. Stanley Swiatek, P.E.
District Engineer
Texas Department of Transportation, Waco District
100 S. Loop Drive
Waco, Texas 76704

Re: Traffic Study
City of Copperas Cove Type V Transfer Station
Coryell County, Texas

Dear Mr. Swiatek:

The purpose of this letter is to demonstrate coordination with the Texas Department of Transportation (TxDOT), consistent with Title 30 Texas Administrative Code (TAC) §330.61(i)(4). This regulation requires that a permit applicant for a municipal solid waste (MSW) facility coordinate with TxDOT regarding the adequacy of access roads and any potential traffic or location restrictions.

The purpose of this permit application, prepared by Weaver Consultants Group (WCG), is to construct improvements and expand operations of the existing City of Copperas Cove Transfer Station located in the City of Copperas Cove, Coryell County, Texas. The facility address is 2605 S. FM 116, Copperas Cove, Texas 76522. The proposed facility improvements will provide the city with the ability to collect, load, and transport solid waste more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

To assist you in your review, a project summary and site location maps have been provided as an overview of the improved transfer station.

The attached traffic study has been prepared to show that the site access roads will provide excellent access to the site throughout the life of the facility and will safely accommodate the additional volumes and weights of traffic expected to be generated at the improved transfer station. No public roadway improvements such as turning lanes, storage lanes, etc. are needed or proposed.

To verify compliance with §330.61(i)(4), we will need to include a letter from TxDOT in the permit application regarding the adequacy of the site access roads and any traffic or location restrictions at or near the site.

If you need further information, please do not hesitate to contact Mr. Chuck Marsh, P.E. with Weaver Consultants Group at (817) 735-9770 or myself directly. Kindly provide all written correspondence regarding this matter to City of Copperas Cove at the physical address indicated on this letterhead.

Sincerely,

Scott Osburn, Director of Public Works
sosburn@copperascovetx.gov

Attachment: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – Traffic Study

cc: Scott Osburn, City of Copperas Cove
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

City of Copperas Cove Transfer Station
The City of Copperas Cove
Coryell County, Texas

Introduction

Weaver Consultants Group, LLC is in the process of developing a Type V municipal solid waste (MSW) transfer station permit application for the City of Copperas Cove Transfer Station (TS) on behalf of the City of Copperas Cove (City). The proposed TS improvements will provide the City with the ability to collect, load, and transport solid waste from the City, Coryell County, and the surrounding areas more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

As shown on Figure 3, the proposed entrance to the TS is located off of FM 116 approximately 1,500 feet southeast of U.S. Highway 190. The existing TS has been in operation since 2001, and the traffic patterns created by the solid waste collection vehicles that use area access roads are well established. The TS will be accessed by three existing driveways off of FM 116.

The purpose of this application is to permit the TS facility to process up to a maximum daily rate of 1,100 tons per day (tpd) of MSW from the City, Coryell County, and surrounding areas, and to transfer this waste to a TCEQ-permitted landfill. The facility's application will undergo a thorough technical review by the TCEQ before obtaining authorization to operate.

The proposed TS structure will be expanded on the North and South sides by 30 feet and 25 feet respectively. The total expanded area of the TS building will be approximately 5,500 sq. ft for a total building area of approximately 14,000 sq. ft. The TS will consist of a 135-foot by 100-foot tipping floor (where incoming waste will be unloaded and transferred to waste transfer trailers) and a tunnel where transfer trailers will park during loading from the tipping floor. Waste deposited on the tipping floor within the building will be pushed into the transfer trailers which will be parked in the TS tunnel and hauled to permitted landfill. The site will have three new buildings: a 75-ft by 50-ft recycling center located on the west side of the site, a 40-ft by 24-ft office southwest of the new recycling center and a 50-ft by 50-ft container shop located west of the existing TS building. The facility is proposed to have a permitted maximum rate of waste acceptance of 1,100 tpd of MSW. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The Copperas Cove Transfer Station has been in operation since 2001, and is owned and operated by the City of Copperas Cove. The existing TS is the primary facility to receive solid waste and recyclable material from the City, Coryell County and surrounding areas. The City of Copperas Cove provides additional services by accepting waste delivered by contractors and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Coryell County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a United States Geological Survey map.
- Aerial Photograph (Figure 3). This figure shows the existing conditions of the site location on an aerial photograph.
- Improved Site Map (Figure 4). This figure shows the improved site plan for the TS.

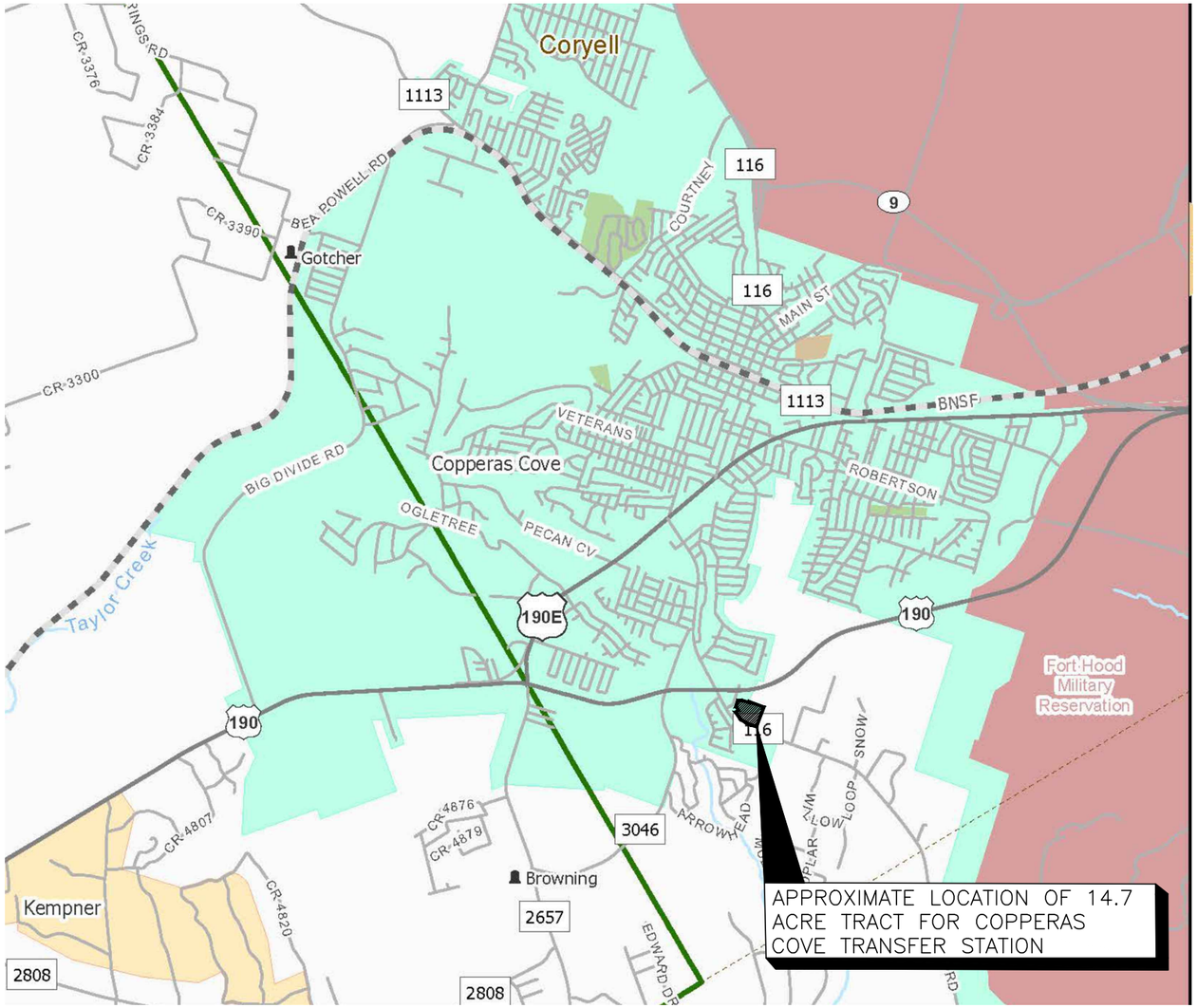
The TS is located within the city limits of Copperas Cove and is accessed from FM - 116. The service area includes the City, Coryell County, and other surrounding areas.

Design Summary

The following information presents a summary of the design and operations for the improved City of Copperas Cove Transfer Station.

- The TS building improvements will be a steel-framed structure which will increase the capacity to transfer up to 1,100 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the transfer area for transfer operations. The TS area for waste collection vehicles will consist of a well-lighted (overhead lighting) tipping floor where transfer operations from collection vehicles to transfer trailers will occur. Waste transfer operations will occur completely within the building. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, non-hazardous industrial waste and recyclable materials as permitted by the TCEQ.
- Access to the TS will be provided via three existing driveways on the south side of the site via FM-116. From U.S. Highway 190, vehicles will travel southeast on FM-116 for approximately 1,500 feet to the proposed site entrance. The existing access roads are suitable to handle the projected traffic load associated with the TS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the TS and the City will staff the facility based on the personnel needs to effectively serve the community. A detailed site operating plan will be included in the transfer station permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The TS will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

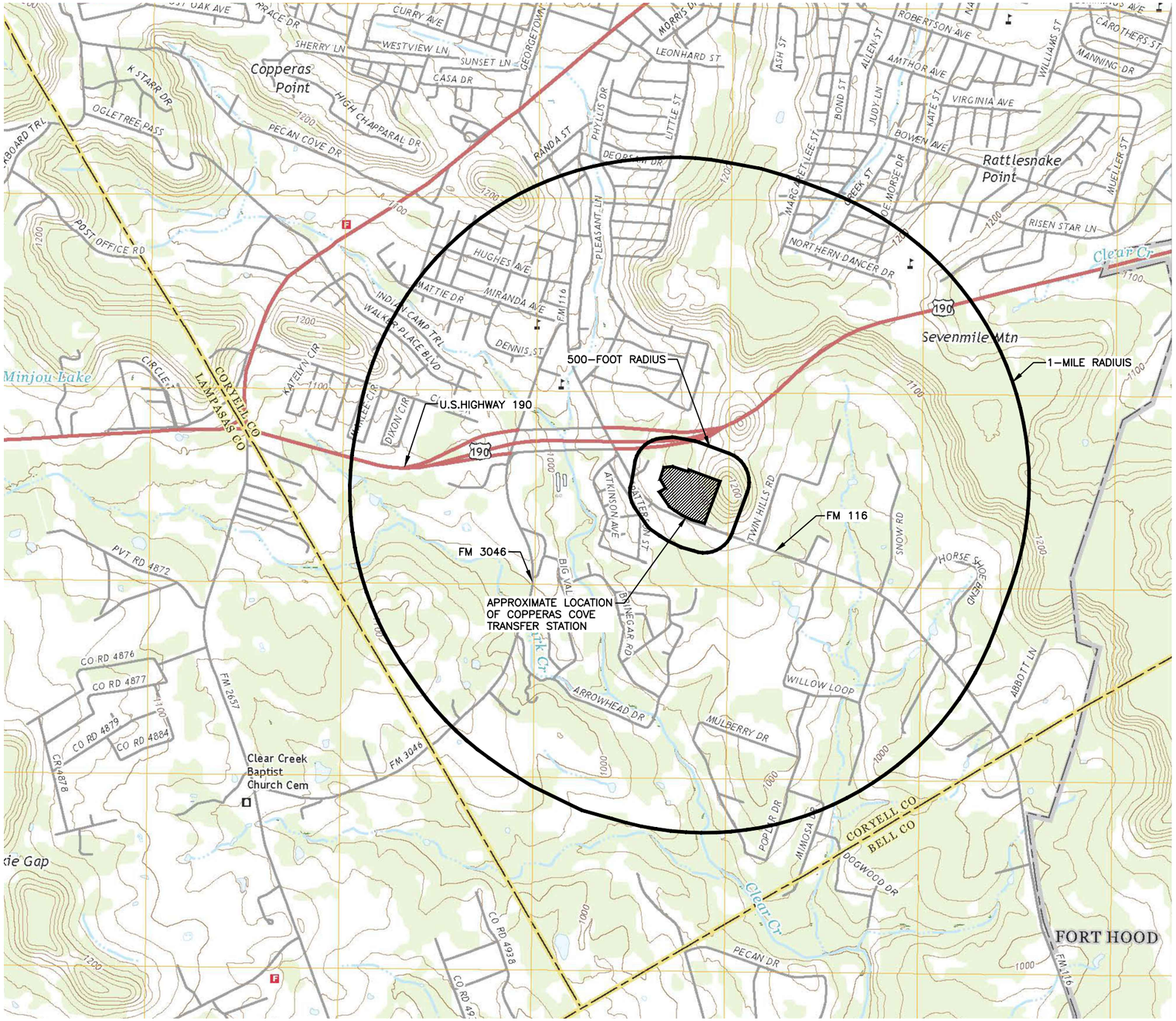
NO.	DATE	DESCRIPTION

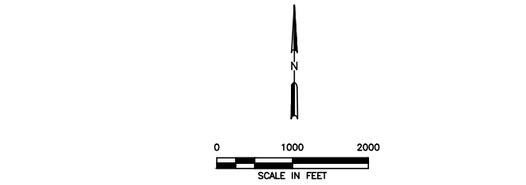
TYPE V PERMIT APPLICATION SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1





ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route | US Route | State Route

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

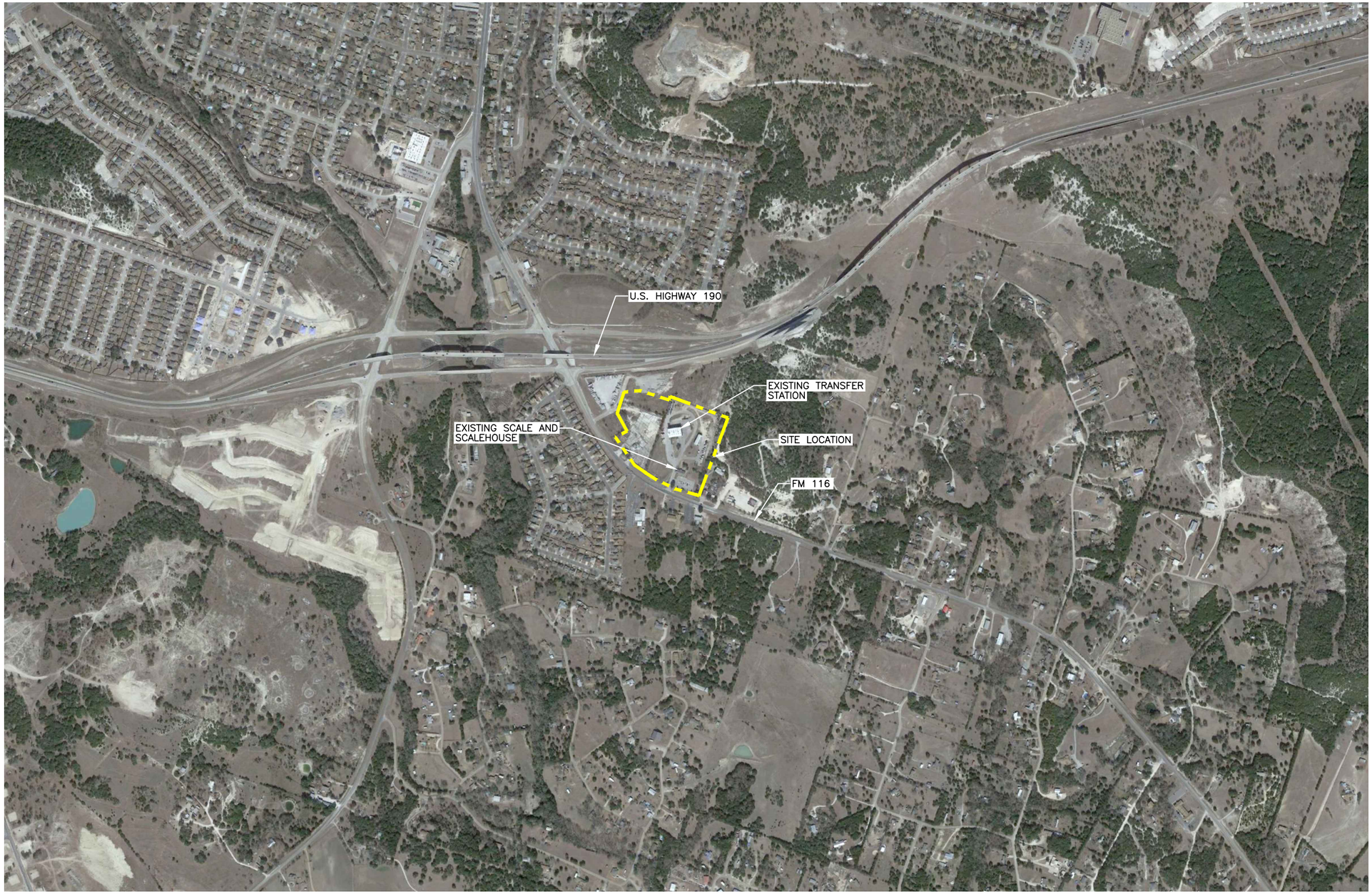
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3

FUTURE USE AREA
CONTAINER STORAGE AREA
CONTAINER SHOP (50'X50')
RECYCLING CENTER (75'X50')
OFFICE (40'X25')
RECYCLING CENTER ENTRANCE
TRUCK WASH RACK (75'X20')
SCALE HOUSE (8'X25')
BYPASS LANE
OUTBOUND SCALE
INBOUND SCALE
BYPASS LANE
TRANSFER STATION ENTRANCE
FM 116
180' RETAINING WALL (SEE NOTE 3)
EXTEND MANEUVERING APRON
30' BUILDING EXTENSION
TRANSFER STATION BUILDING
25' BUILDING EXTENSION
TRANSFER TRAILER TUNNEL
OUTGOING TRAILER STAGING AREA
STOP SIGN
PROPOSED PARKING LOT
285' RETAINING WALL (SEE NOTE 3)
REMOVE EXISTING SCALE
EXISTING DETENTION POND
OFFICE BUILDING
EXISTING PARKING LOT
1052.9
1057.3
1058.5
1054.5
1053.3
1051.8+
1051.8
1052.0
1048.5
1049.0
1057.5
1042.5
1049.5
1056.0
1046.5
1047.0
1050.5
1056.5
1043.0
1080.5
1082.0
1080.7
1081.1

N

0 50 100
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1081.1 SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: BPY
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

TRAFFIC STUDY

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

TRAFFIC STUDY

Prepared for

The City of Copperas Cove

August 2023

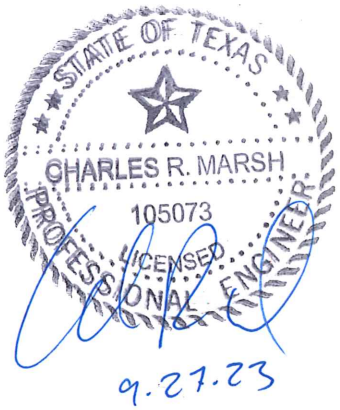
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 5552-001-11-00

I/II-A-14

CONTENTS



1 INTRODUCTION

1.1 Purpose

The City of Copperas Cove (City) is in the process of developing a Type V Permit Application for the City of Copperas Cove Transfer Station. The improved transfer station will provide enhanced operations to transfer municipal solid waste (MSW) and recyclable materials generated in the City of Copperas Cove, Coryell County, and the surrounding areas to an area landfill.

The purpose of this study is to show that the existing access roads will continue to provide excellent access and the proposed improved transfer station will not adversely impact the existing or future traffic patterns of the facility access roads. The study is completed consistent with the requirements listed in 30 TAC §330.61(i), which requires the following information.

- Provide data on the availability and adequacy of roads that the owner or operator will use to access the site;
- Provide data on the volume of vehicular traffic on access roads within one mile of the proposed facility, both existing and expected, during the expected life of the proposed facility;
- Project the volume of traffic expected to be generated by the facility on the access roads within one mile of the proposed facility; and
- Submit documentation of coordination of all designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved. In addition, the owner or operator shall submit documentation of coordination with the Texas Department of Transportation for traffic and location restrictions.

1.2 Summary of Proposed Transfer Station

The proposed transfer station building will be an expansion of an existing pre-engineered metal building with concrete sidewalls with a total area of approximately 15,500 square feet. All transfer station vehicles (i.e., transfer trailers, collection vehicles, and self-haul vehicles) will enter the site from existing driveways off of FM 116.

Incoming loads will be weighed and directed to the transfer area for transfer operations. The transfer station area for waste collection vehicles will be an indoor concrete tipping floor where transfer operations from collection vehicles to transfer trailers will occur completely within the building. Materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

The proposed facility includes three existing driveways off of FM 116. Recyclable materials will be received on the west side of the permit boundary inside a new recyclables storage and processing building. Facility staff and visitors will access the site using the eastern driveway. The central driveway will be used by citizens and commercial haulers bound for the MSW transfer station building. Public and private haulers of recyclable materials will utilize the west driveway to access the recycling building and office facilities.

All vehicles (except for city-owned hauling trucks) bound for the transfer station will be weighed at the scalehouse before proceeding into the facility.

The facility will accept MSW, recyclable material, construction and demolition wastes, special wastes, and non-hazardous industrial waste as permitted by the TCEQ. Properly trained personnel will operate the transfer station. A detailed site operating plan (SOP) will be included in the transfer station permit application. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The City of Copperas Cove Transfer Station will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations. Additional general information about the site and proposed facility is included in the project summary and site location maps in Appendix A.

2 TRAFFIC INFORMATION

2.1 Availability and Adequacy of Roads

As shown on Figure 2-1, the access roads within one mile of the site are U.S. Highway 190, FM 116 and FM 3048. Other roads within one mile of the site may be periodically used by collection vehicles to serve residences and businesses located along or near these roadways; however, these roads are not main access roads that collection vehicles will use to access the site.

The three existing City of Copperas Cove Transfer Station site entrance driveways connect to FM 116. No new driveways are proposed to be constructed as a part of this project. U.S. Highway 190 is a two-lane asphalt paved highway with a posted maximum speed of 70 mph. FM 116 and FM 3042 are two-lane asphalt paved-roads, each with a posted maximum speed of 55 mph.

Figure 2-2 shows the existing entrance to the facility and provides an overview of the intersection of FM 116 and the site entrance driveways. As shown on Figure 2-2, the east site entrance is 27-feet wide, asphalt-paved driveway from FM 116. The central driveway is 45-feet wide and includes 130 feet of 2-lane queuing space between FM 116 and the entrance scale. The 130 feet of queuing space allows for 5-7 waste hauling vehicles to queue, without causing a disturbance to FM 116. The west driveway is 52-feet wide and provides 200 feet of queuing space between FM 116 and the recycling center. This layout provides sufficient queuing area for waste vehicles, as noted in Section 2.4.

2.2 Volume of Vehicular Traffic

The volumes of vehicle traffic for the access roads are summarized on Table 2.1. As noted on Table 2.1, TxDOT traffic counts from 2021 were available for U.S. Highway 190, FM 116 and FM 3046. The 2021 TxDOT traffic counts were adjusted to account for the additional traffic created by area growth between 2021 and 2023 to establish existing traffic volumes. Existing traffic volumes were projected to the year 2043 to evaluate the future level of service of the site access roads.

Traffic associated with the transfer station is estimated as shown on Table 2.1. At this time, the transfer station capacity is 125 tons/day. However, the proposed improvement of the transfer station will increase the capacity to 1,100 tons/day. Therefore, traffic projections were developed for traffic patterns that will occur at the transfer station permitted capacities of 125 tons/day and 1,100 tons/day.

Table 2.2 presents a summary of the estimated traffic patterns and vehicle counts for the access roads within 1 mile of the site. A list of the various assumptions that were used to derive the estimates is also presented in Table 2.2.

The traffic volume impact assessment is summarized in Table 2.2. As shown, there is a minimal impact on all transfer station access roads at the permitted capacity of 125 tons/day and the proposed capacity of 1,100 tons/day. The level of service for each access road was calculated using road characteristics, road capacities, and formulas obtained from the Highway Capacity Manual, 2016. As shown on Table 2.2, all access roads operate at a Level of Service (LOS) of C or better, for 125 tons/day and 1,100 tons/day, under the traffic conditions projected for the year 2023. Only one road, U.S. Highway 190 (north of facility), decreases in LOS from 2023 to 2043, and this decrease is from C to E. This decrease in LOS is due to the increase in background traffic (i.e., traffic not related to the TS facility) and not due to the proposed improvements to the TS. In addition, the traffic associated with the transfer station only utilizes a small percentage of the capacity of the access roads (less than 2 percent in all cases).

2.3 Queuing

As shown on Figure 2-2, approximately 130 feet of two-lane queuing space within the facility gate provides room for 5-7 waste hauling vehicles between the scale and FM 116. There is 200 feet of queuing space within the recycling center gate, which provides for 8 to 10 waste hauling vehicles. Therefore, the available queuing area is sufficient to avoid disturbance along FM 116.

Table 2-1
2-Way Traffic Volumes

Facility Capacity (Tons/Day)	Road	2-Way Traffic Volumes		Existing Traffic Volume 2023						Projected Traffic Volume[2] 2043					
				Daily			Peak Hour[3]			Daily			Peak Hour[3]		
		Daily	Peak Hour[3]	TS Trips[4]	Non-TS Trips	Total[1]	TS Trips	Non-TS Trips	Total	TS Trips	Non-TS Trips	Total	TS Trips	Non-TS Trips	Total
125	U.S. Highway 190	17,588	1,759	96	18,043	18,139	10	1,804	1,814	96	23,959	24,055	10	2,396	2,406
	FM 116	5,703	570		5,786	5,882		579	588		7,704	7,800		780	780
	FM 3046	1,309	131		1,254	1,350		125	135		1,694	1,790		169	179
1,100	U.S. Highway 190	17,588	1,759	682	17,457	18,139	68	1,746	1,814	682	23,373	24,055	68	2,337	2,406
	FM 116	5,703	570		5,200	5,882		520	588		7,118	7,800		780	780
	FM 3046	1,309	131		1,337	1,350		67	135		1,108	1,790		179	179

Notes:

1. Traffic count data was obtained from City of Copperas Cove 2021 Traffic Volume Map for U.S. Highway 190 and FM 116, and FM 3046.
2. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2021 Regional Water Plan. The annual population increase for 2021-2030 is 1.56%, for 2031-2040 is 1.41%, for 2041-2043 is 1.20%.
3. Peak hour volumes are assumed to be ten percent of total daily traffic.
4. One-way transfer station trips are estimated in the table below, then doubled to account for incoming and outgoing traffic.

24-Hour One-Way Transfer Station Vehicle Estimates[5]

Facility Capacity (Tons/Day)	Vehicle Type						Totals
	Rear Loader	Front	Roll-Off	Low-	Facility Personal/ Misc. Vehicles	Transfer Trailers	
125	10	5	5	7	16	5	48
1,100	88	44	42	55	66	46	341

Notes:

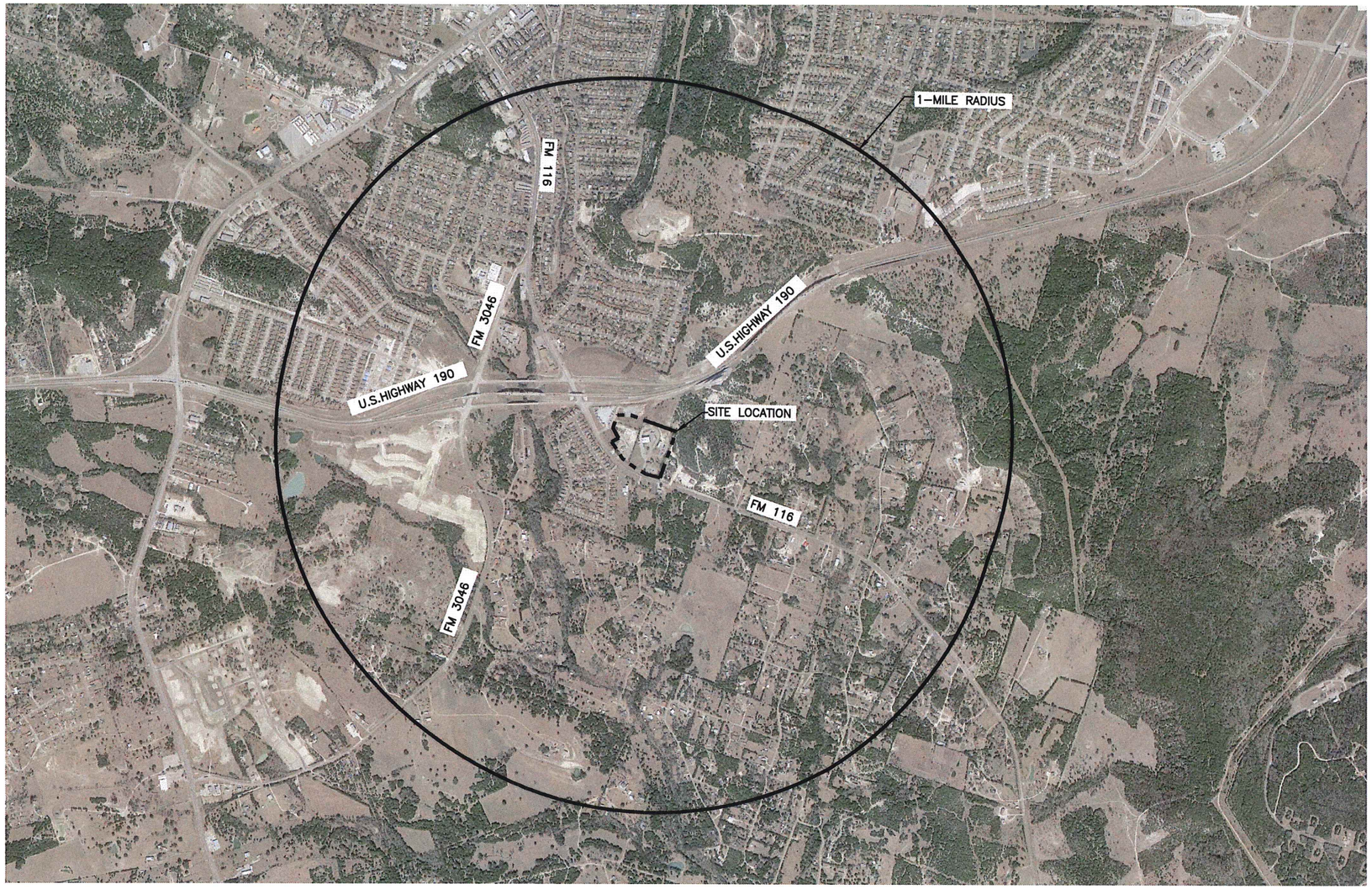
5. The number of vehicles per day was calculated based on truck capacity, density, and tonnage then doubled to account for all trucks entering and leaving the transfer station.

Table 2-2
Traffic Impact Assessment[1]

Facility Capacity (Tons/Day)	Road	Roadway Capacity[4] (Vehicles/ Day)	2023 Traffic Conditions[2,3]					Projected 2043 Traffic Conditions[2,3]				
			Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles	Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles
125	U.S. Highway 190	115,200	96	18,139	15.7%	C	0.1%	96	23,801	20.7%	E	0.1%
	FM 116	86,400		5,882	6.8%	B	0.1%		7,718	8.9%	B	0.1%
	FM 3046	86,400		1,350	1.6%	A	0.1%		1,771	2.0%	A	0.1%
1,100	U.S. Highway 190	115,200	682	18,139	15.7%	C	0.6%	682	23,801	20.7%	E	0.6%
	FM 116	86,400		5,882	6.8%	B	0.8%		7,718	8.9%	B	0.8%
	FM 3046	86,400		1,350	1.6%	A	0.8%		1,771	2.0%	A	0.8%

Notes:

1. Traffic volumes listed in this table include two-way traffic volumes.
2. Traffic count data was obtained from City of Copperas Cove 2021 Traffic Volume Map for U.S. Highway 190 and FM 116, and FM 3046.
3. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2021 Regional Water Plan. The annual population increase for 2021-2030 is 1.56%, for 2031-2040 is 1.41%, for 2041-2043 is 1.20%.
   One-way trip generation estimates for transfer station vehicles are listed below.
4. Capacities were obtained or estimated using the Highway Capacity Manual, 2016.



N

0 1000 2000

SCALE IN FEET

LEGEND

PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.
2. ACCESS ROADS WITHIN 1-MILE OF THE SITE ARE U.S. HIGHWAY 190, FM 116, AND FM 3046.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
9.27.23

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 08/2023
FILE: 5552-001-11
CAD: FIG 2.1-1 MILE RADIUS.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

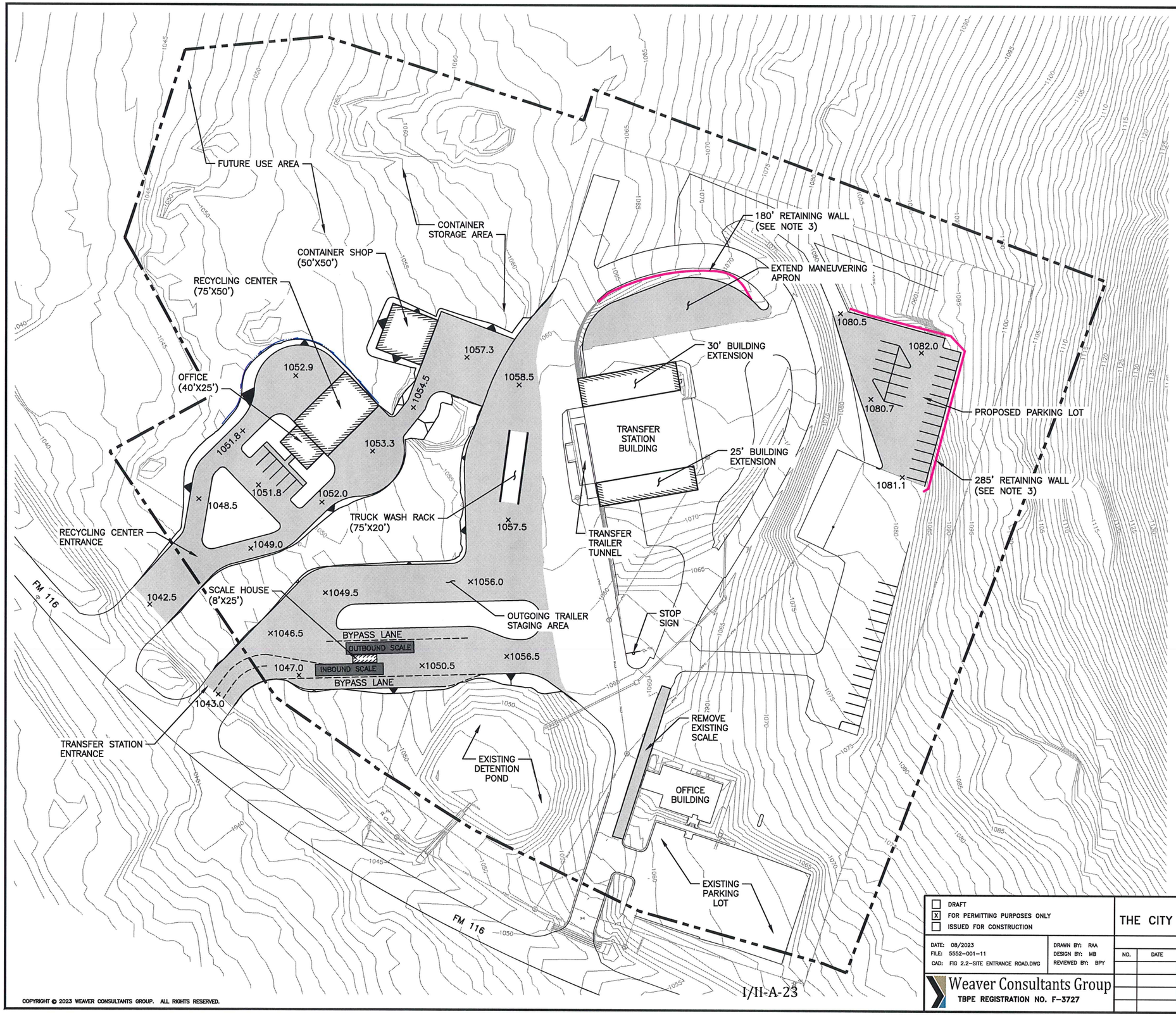
NO.	DATE	DESCRIPTION

PUBLIC ROADS WITHIN 1-MILE RADIUS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 2-1



I/II-A-23

N

0 50 100
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1081.1 SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
9.27.23

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 08/2023
FILE: 5552-001-11
CAD: FIG 2.2-SITE ENTRANCE ROAD.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

FM 116 AND SITE ENTRANCE ROAD

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 2-2

3 SUMMARY

In summary, the area roadway system providing access to the City of Copperas Cove Transfer Station is adequate. The existing access roads, U.S. Highway 190, FM 116 and FM 3046, provide sufficient and safe access to the transfer station and are capable of handling the projected traffic load associated with the proposed improvements.

NOVEMBER 1, 2023 TxDOT RESPONSE

Texas Department of Transportation

100 SOUTH LOOP DRIVE, WACO, TEXAS 76704 | 254.867.2700 | WWW.TXDOT.GOV

November 1, 2023

Scott Osburn
Director of Public Works
City of Copperas Cove
1601 N 1st Street
Copperas Cove, TX 76522

Dear Mr. Osburn,

TxDOT has received the information provided by the City on September 28, 2023, and confirms that the City has begun coordination with TxDOT for the proposed transfer station improvements, including traffic and location restrictions. Upon reviewing the Traffic Impact Analysis (TIA) and site plans developed by Weaver Consultants Group, LLC, TxDOT is requesting the following changes to be made regarding the access infrastructure.

- The proposed site plan shows to utilize 3 driveway access points on FM 116. TxDOT recommends consolidating the 2 driveway access points labeled "Recycling Center Entrance" and "Transfer Station Entrance" into 1 driveway access point.

- The TIA states the existing roadway facility can accommodate the increased traffic generated by the facility, but TxDOT is concerned that the TIA doesn't correctly account for the type of vehicles that make up the increased volume which are slow moving heavy loaded trucks. Therefore, TxDOT is recommending the addition of a right turn lane into the facility, a right turn acceleration lane out of the facility, and a center left turn lane into the facility.

- With the added volume of heavy loaded vehicles accelerating, decelerating, and tuning in and out of this facility increased pavement wear will occur near the facility's driveway locations. TxDOT would prefer some pavement "armoring" improvements proposed at these locations to mitigate the premature wear and prolong the pavement life in these areas.

Once the listed changes above are incorporated, I can then follow back up with the official TxDOT coordination letter that you are needing for TCEQ compliance.

Please don't hesitate to reach out if you have further questions.

Sincerely,

Stan Swiatek, P,E.
District Engineer – Waco District

Cc: Victor Goebel, P.E. – Director of Transportation Planning and Development
Jeff Jackson, P.E. – Gatesville Area Engineer

FEBRUARY 16, 2024 TxDOT RE-SUBMITTAL

Marsh, Chuck

From: Marsh, Chuck
Sent: Friday, February 16, 2024 8:57 AM
To: Jeff Jackson
Cc: Duane Cowart
Subject: RE: TIA Data
Attachments: 2023 Site Plan.pdf; 2024 Site Plan.pdf; Traffic Study.pdf

Good morning Jeff and Duane,

Back around Thanksgiving, we had a call about a proposed solid waste transfer station in Copperas Cove. One of the issues you identified for us was the proposed use of three existing driveways off of FM 116 (see attached 2023 Site Plan.pdf). To mitigate these issues, you suggested reconfiguring the facility to have driveway off of the nearby Commerce Street, instead of FM 116.

After some back-and-forth, we believe we have a facility layout that utilizes driveways off of Commerce Street (see attached 2024 Site Plan.pdf). Using this site plan as a base, we have updated our traffic information for the access roads to the facility in the attached Traffic Study PDF.

What I would like to ask you for is two things:

- First, with the revisions made to the site plan, will TxDOT be requiring any improvements to FM 116?
- Second, We need to demonstrate coordination with TxDOT to TCEQ as a part of our application. This typically takes the form of a "no objection" or "no impact" letter indicating that TxDOT has reviewed our coordination efforts. Please let me know if that is something you can provide to us for our records.

Thank you again for your help with this project!

Chuck

From: Jeff Jackson <Jeff.Jackson@txdot.gov>
Sent: Monday, November 20, 2023 3:55 PM
To: Marsh, Chuck <cmarsh@wcgrp.com>
Cc: Duane Cowart <Duane.Cowart@txdot.gov>
Subject: TIA Data

Chuck,

Here's a general list and study format of what we typically need to see with incoming developments:

Introduction

- Project description, location, proposed access

Methodology

- Determination of traffic volume projections
- Trip Generation
    - Pass-by trips, modal split, internal capture as applicable
- Trip Distribution
- Trip Assignment

Traffic Analysis to include Level of Service, delay and capacity for each scenario

- Existing conditions
- Opening year without project
- Opening year with project
- Long range without project (depends on project size)
- Long range with project (depends on project size)
- Table summarizing LOS analysis
- Review of potential impacts

Other

- Coordination with other planned TxDOT projects
- Construction traffic issues (for major developments)
- Review of adjacent development projects and area TIA's

Site Access Analysis

- Driveway spacing
- Sight distance
- Queuing
- Left / right turn lane review
- Crash data
- Proposed driveway lane configurations
- Identify potential weave issues

Conclusions
Recommendations
Appendix

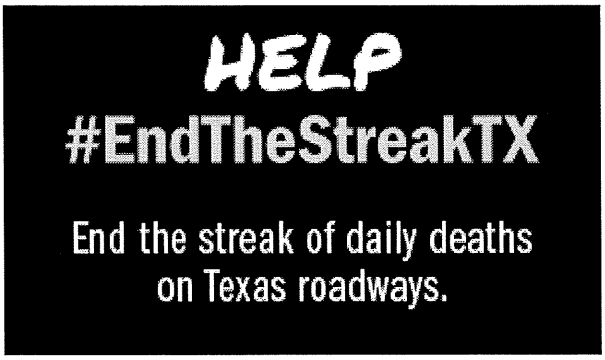
Additionally, if you could provide the drainage study showing your plan meets pro rata requirements and some kind of loading analysis to shows the additional ESAL loading your site plans to add to FM 116.

Feel free to reach out with any questions you've got.

Thanks,

Jeff Jackson, P.E.
Gatesville Area Engineer
Texas Dept. of Transportation
(254) 865-7115

A Texas Department of Transportation message



City of Copperas Cove

"The City Built for Family Living"

Public Works

February 14, 2024

Mr. Stanley Swiatek, P.E.
District Engineer
Texas Department of Transportation, Waco District
100 S. Loop Drive
Waco, Texas 76704

Re: Traffic Study
City of Copperas Cove Type V Transfer Station
Coryell County, Texas

Dear Mr. Swiatek:

The purpose of this letter is to demonstrate coordination with the Texas Department of Transportation (TxDOT), consistent with Title 30 Texas Administrative Code (TAC) §330.61(i)(4). This regulation requires that a permit applicant for a municipal solid waste (MSW) facility coordinate with TxDOT regarding the adequacy of access roads and any potential traffic or location restrictions.

The purpose of this permit application, prepared by Weaver Consultants Group (WCG), is to construct improvements and expand operations of the existing City of Copperas Cove Transfer Station located in the City of Copperas Cove, Coryell County, Texas. The facility address is 2605 S. FM 116, Copperas Cove, Texas 76522. The proposed facility improvements will provide the city with the ability to collect, load, and transport solid waste more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

To assist you in your review, a project summary and site location maps have been provided as an overview of the improved transfer station.

The attached traffic study has been prepared to show that the site access roads will provide excellent access to the site throughout the life of the facility and will safely accommodate the additional volumes and weights of traffic expected to be generated at the improved transfer station. No public roadway improvements such as turning lanes, storage lanes, etc. are needed or proposed.

To verify compliance with §330.61(i)(4), we will need to include a letter from TxDOT in the permit application regarding the adequacy of the site access roads and any traffic or location restrictions at or near the site.

If you need further information, please do not hesitate to contact Mr. Chuck Marsh, P.E. with Weaver Consultants Group at (817) 735-9770 or myself directly. Kindly provide all written correspondence regarding this matter to City of Copperas Cove at the physical address indicated on this letterhead.

Sincerely,

Scott Osburn, Director of Public Works
sosburn@copperascovetx.gov

Attachment: Attachment 1 – Project Summary and Location Maps
Attachment 2 – Traffic Study

cc: Scott Osburn, City of Copperas Cove
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

PROJECT SUMMARY AND LOCATION MAPS

Project Summary

City of Copperas Cove Transfer Station
The City of Copperas Cove
Coryell County, Texas

Introduction

Weaver Consultants Group, LLC is in the process of developing a Type V municipal solid waste (MSW) transfer station permit application for the City of Copperas Cove Transfer Station (TS) on behalf of the City of Copperas Cove (City). The proposed TS improvements will provide the City with the ability to collect, load, and transport solid waste from the City, Coryell County, and the surrounding areas more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

As shown on Figure 3, the proposed entrance to the TS is located off of Commerce Street approximately 1,500 feet southeast of U.S. Highway 190. The existing TS has been in operation since 2001, and the traffic patterns created by the solid waste collection vehicles that use area access roads are well established. The TS will be accessed by an existing driveway off of FM 116, and two proposed driveways off of Commerce Street.

The purpose of this application is to permit the TS facility to process up to a maximum daily rate of 1,100 tons per day (tpd) of MSW from the City, Coryell County, and surrounding areas, and to transfer this waste to a TCEQ-permitted landfill. The facility's application will undergo a thorough technical review by the TCEQ before obtaining authorization to operate.

The proposed TS structure will be expanded on the North and South sides by 30 feet and 25 feet respectively. The total expanded area of the TS building will be approximately 5,500 sq. ft for a total building area of approximately 14,000 sq. ft. The TS will consist of a 135-foot by 100-foot tipping floor (where incoming waste will be unloaded and transferred to waste transfer trailers) and a tunnel where transfer trailers will park during loading from the tipping floor. Waste deposited on the tipping floor within the building will be pushed into the transfer trailers which will be parked in the TS tunnel and hauled to permitted landfill. The site will have three new buildings: a 75-ft by 50-ft recycling center located on the west side of the site, a 40-ft by 24-ft office southwest of the new recycling center and a 50-ft by 50-ft container shop located west of the existing TS building. The facility is proposed to have a permitted maximum rate of waste acceptance of 1,100 tpd of MSW. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The Copperas Cove Transfer Station has been in operation since 2001, and is owned and operated by the City of Copperas Cove. The existing TS is the primary facility to receive solid waste and recyclable material from the City, Coryell County and surrounding areas. The City of Copperas Cove provides additional services by accepting waste delivered by contractors and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Coryell County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a United States Geological Survey map.
- Aerial Photograph (Figure 3). This figure shows the existing conditions of the site location on an aerial photograph.
- Improved Site Map (Figure 4). This figure shows the improved site plan for the TS.

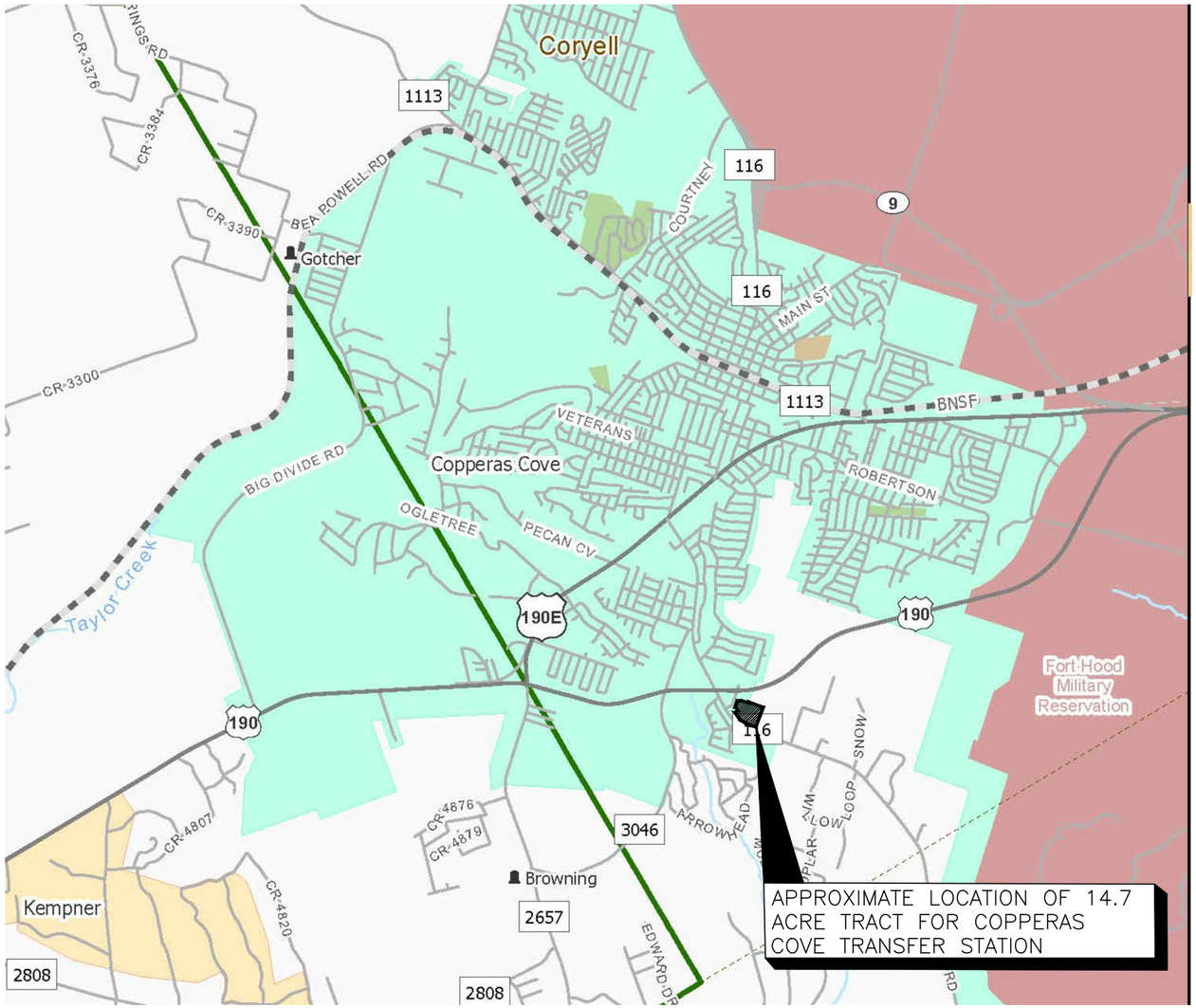
The TS is located within the city limits of Copperas Cove and is accessed from FM - 116, and Commerce Street. The service area includes the City, Coryell County, and other surrounding areas.

Design Summary

The following information presents a summary of the design and operations for the improved City of Copperas Cove Transfer Station.

- The TS building improvements will be a steel-framed structure which will increase the capacity to transfer up to 1,100 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the transfer area for transfer operations. The TS area for waste collection vehicles will consist of a well-lighted (overhead lighting) tipping floor where transfer operations from collection vehicles to transfer trailers will occur. Waste transfer operations will occur completely within the building. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, non-hazardous industrial waste and recyclable materials as permitted by the TCEQ.
- Access to the TS will be provided via an existing driveway on the south side of the site via FM-116 and two proposed driveways west of the site from Commerce Street. From U.S. Highway 190, vehicles will travel southeast on FM-116 for approximately 1,500 feet and then 250 feet to the proposed site entrance. The existing access roads are suitable to handle the projected traffic load associated with the TS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the TS and the City will staff the facility based on the personnel needs to effectively serve the community. A detailed site operating plan will be included in the transfer station permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The TS will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

02/14/2024

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

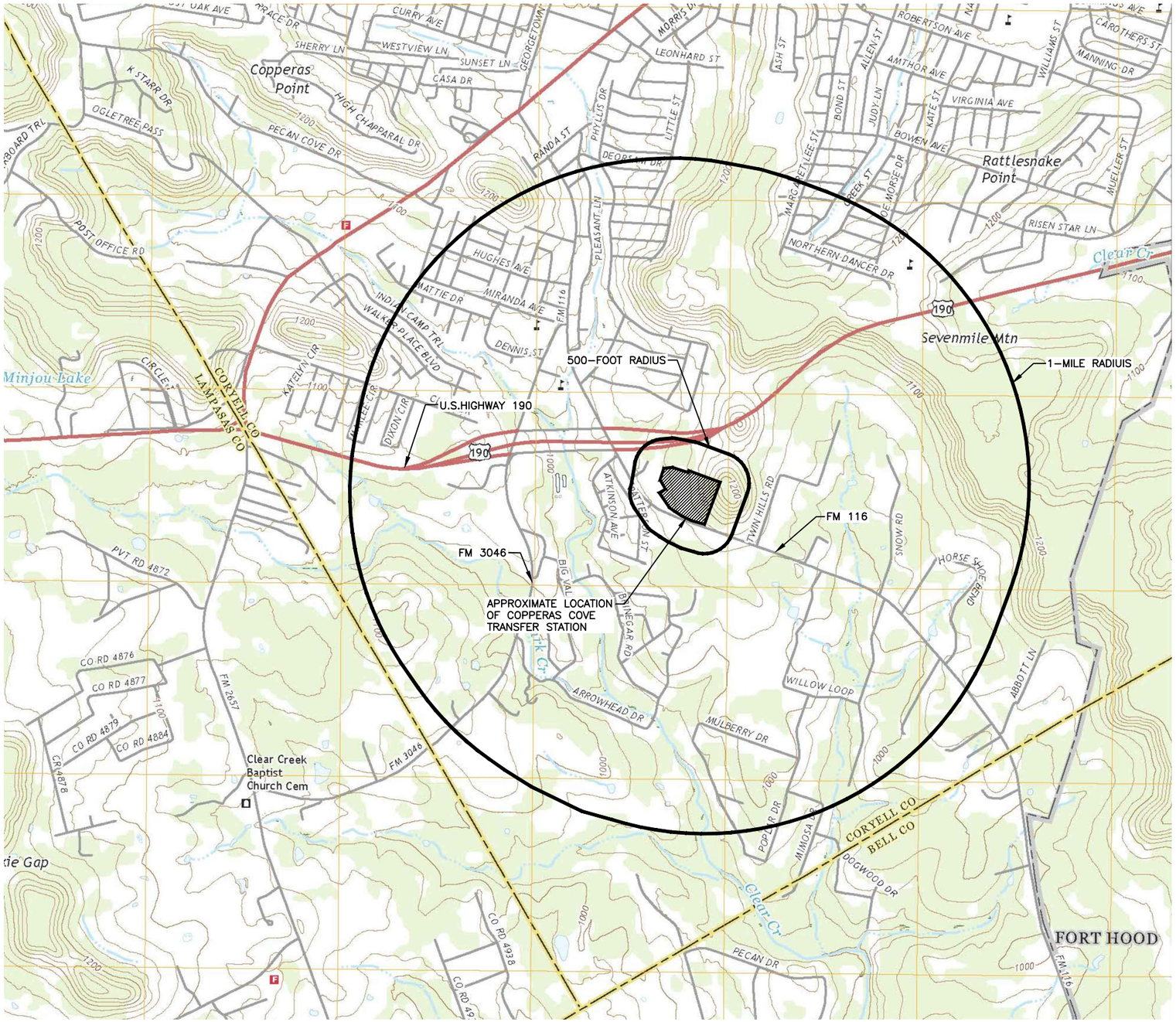
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1



0 1000 2000
SCALE IN FEET

ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route | US Route | State Route

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

02/14/2024

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

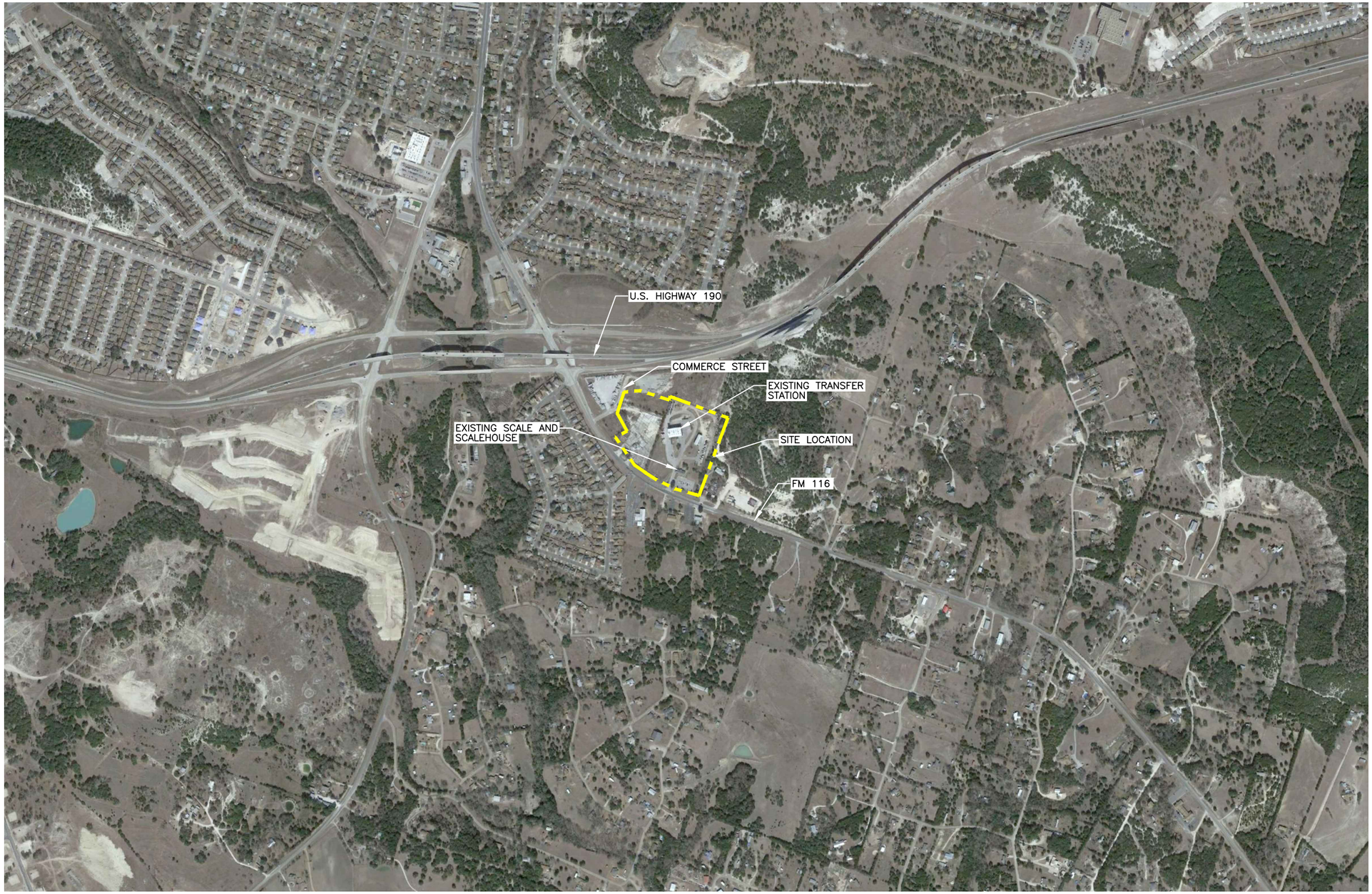
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

02/14/2024

0:\5552\TYPE V TS APPLICATION\PARTS I-II\PROJECT SUMMARY\FIG 3-AERIAL PHOTOGRAPH.dwg, mbohmann, 1:2

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3

PROPOSED RECYCLING CENTER ENTRANCE
OFFICE (40'X25')
RECYCLING CENTER (75'X50')
PROPOSED FENCE
1047.5
50'
1054.4
1057.2
1052.8
CONTAINER STORAGE AREA
PROPOSED TRANSFER STATION ENTRANCE
PROPOSED POND
1057.2
CONTAINER SHOP (50'X50')
180' RETAINING WALL (SEE NOTE 3)
1048.4
40'
1053.2
1059.6
EXTEND MANEUVERING APRON
COMMERCE STREET
1053.5
1058.4
30' BUILDING EXTENSION
TRUCK WASH RACK (75'X20')
TRANSFER STATION BUILDING
PROPOSED PARKING LOT
25' BUILDING EXTENSION
INBOUND SCALE
BYPASS LANE
OUTBOUND SCALE
BYPASS LANE
285' RETAINING WALL (SEE NOTE 3)
SCALEHOUSE (8'X25')
1052.5
1056.3
FUTURE USE AREA
TRANSFER TRAILER TUNNEL
1053.7
OUTGOING TRAILER STAGING AREA
FM 116
50'
1051.4
ISLAND
1058.6
STOP SIGN
PROPOSED POND
40'
EXISTING DRIVEWAYS
EXISTING DETENTION POND
OFFICE BUILDING
EXISTING PARKING LOT
27'
FM 116
EXISTING TRANSFER STATION ENTRANCE

N

0 50 100
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1056.3 SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
02/14/2024

I/II-A-40

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

TRAFFIC STUDY

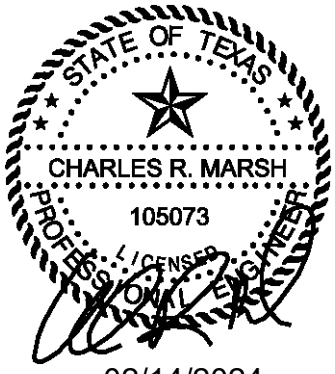
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

TRAFFIC STUDY

Prepared for

The City of Copperas Cove

February 2024



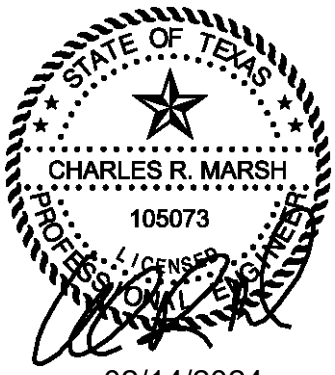
02/14/2024

Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 5552-001-11-00

CONTENTS



02/14/2024

1 INTRODUCTION

1.1 Purpose

The City of Copperas Cove (City) is in the process of developing a Type V Permit Application for the City of Copperas Cove Transfer Station. The improved transfer station will provide enhanced operations to transfer municipal solid waste (MSW) and recyclable materials generated in the City of Copperas Cove, Coryell County, and the surrounding areas to an area landfill.

The purpose of this study is to show that the existing access roads will continue to provide excellent access and the proposed improved transfer station will not adversely impact the existing or future traffic patterns of the facility access roads. The study is completed consistent with the requirements listed in 30 TAC §330.61(i), which requires the following information.

- Provide data on the availability and adequacy of roads that the owner or operator will use to access the site;
- Provide data on the volume of vehicular traffic on access roads within one mile of the proposed facility, both existing and expected, during the expected life of the proposed facility;
- Project the volume of traffic expected to be generated by the facility on the access roads within one mile of the proposed facility; and
- Submit documentation of coordination of all designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved. In addition, the owner or operator shall submit documentation of coordination with the Texas Department of Transportation for traffic and location restrictions.

1.2 Summary of Proposed Transfer Station

The proposed transfer station building will be an expansion of an existing pre-engineered metal building with concrete sidewalls with a total area of approximately 14,000 square feet. All transfer station vehicles (i.e., transfer trailers, collection vehicles, and self-haul vehicles) will enter the site from proposed driveways off of Commerce Street.

Incoming loads will be weighed and directed to the transfer area for transfer operations. The transfer station area for waste collection vehicles will be an indoor concrete tipping floor where transfer operations from collection vehicles to transfer trailers will occur completely within the building. Materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

The proposed facility includes two proposed driveways off of Commerce Street. Recyclable materials will be received on the northwest side of the permit boundary inside a new recyclables storage and processing building. Recycling facility staff and visitors will access the site using the northwestern driveway. The south driveway off of Commerce Street will be used by citizens and commercial haulers bound for the MSW transfer station building. All vehicles bound for the transfer station will be weighed at the scalehouse before proceeding into the facility. All vehicles except city-owned hauling trucks will be weighed again before exiting the facility.

The facility will accept MSW, recyclable material, construction and demolition wastes, special wastes, and non-hazardous industrial waste as permitted by the TCEQ. Properly trained personnel will operate the transfer station. A detailed site operating plan (SOP) will be included in the transfer station permit application. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The City of Copperas Cove Transfer Station will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations. Additional general information about the site and proposed facility is included in the project summary and site location maps in Appendix A.

2 TRAFFIC INFORMATION

2.1 Availability and Adequacy of Roads

As shown on Figure 2-1, the access roads within one mile of the site are U.S. Highway 190, FM 116, FM 3046, and Commerce Street. Other roads within one mile of the site may be periodically used by collection vehicles to serve residences and businesses located along or near these roadways; however, these roads are not main access roads that collection vehicles will use to access the site.

The one existing City of Copperas Cove Transfer Station site entrance driveway connects to FM 116. This entrance will only be used by employees, visitors, and city-owned waste hauling trucks. Two new driveways are proposed to be constructed off of Commerce Street as a part of this project. U.S. Highway 190 is a two-lane asphalt paved highway with a posted maximum speed of 70 mph. FM 116 and FM 3046 are two-lane asphalt paved-roads, each with a posted maximum speed of 55 mph. Commerce Street is a local street with a maximum speed of 30 mph.

Figure 2-2 shows the existing entrance to the facility and provides an overview of the intersection of the proposed driveways at Commerce Street. As shown on Figure 2-2, the existing site entrance is 27-feet wide, asphalt-paved driveway from FM 116. The south driveway is 45-feet wide and includes over 350 feet of 2-lane queuing space between Commerce Street and the entrance scale. The 350 feet of queuing space allows for 12 to 13 waste hauling vehicles to queue, without causing a disturbance to Commerce Street. This layout provides sufficient queuing area for waste vehicles, as noted in Section 2.4. The north driveway is 52-feet wide and provides 200 feet of queuing space between Commerce Street and the recycling center.

2.2 Volume of Vehicular Traffic

The volumes of vehicle traffic for the access roads are summarized on Table 2.1. As noted on Table 2.1, TxDOT traffic counts from 2022 were available for U.S. Highway 190, FM 116 and FM 3046. The 2022 TxDOT traffic counts were adjusted to account for the additional traffic created by area growth between 2022 and 2024 to establish existing traffic volumes. Existing traffic volumes were projected to the year 2044 to evaluate the future level of service of the site access roads. It is assumed there is minimal current traffic on Commerce Street (i.e. 20 vehicles per day) as it dead-ends north of the proposed driveways and has only one business with a driveway onto Commerce Street.

Traffic associated with the transfer station is estimated as shown on Table 2.1. At this time, the transfer station capacity is 125 tons/day. However, the proposed improvement of the transfer station will increase the capacity to 1,100 tons/day. Therefore, traffic projections were developed for traffic patterns that will occur at the transfer station permitted capacities of 125 tons/day and 1,100 tons/day.

Table 2.2 presents a summary of the estimated traffic patterns and vehicle counts for the access roads within 1 mile of the site. A list of the various assumptions that were used to derive the estimates is also presented in Table 2.2.

The traffic volume impact assessment is summarized in Table 2.2. As shown, there is a minimal impact on all transfer station access roads at the permitted capacity of 125 tons/day and the proposed capacity of 1,100 tons/day. The level of service for each access road was calculated using road characteristics, road capacities, and formulas obtained from the Highway Capacity Manual, 2016. As shown on Table 2.2, all access roads operate at a Level of Service (LOS) of C or better, for 125 tons/day and 1,100 tons/day, under the traffic conditions projected for the year 2024. Only one road, U.S. Highway 190 (north of facility), decreases in LOS from 2024 to 2044, and this decrease is from C to E. This decrease in LOS is due to the increase in background traffic (i.e., traffic not related to the TS facility) and not due to the proposed improvements to the TS. In addition, the traffic associated with the transfer station only utilizes a small percentage of the capacity of the access roads (less than 2 percent in all cases).

2.3 Queuing

As shown on Figure 2-2, approximately 350 feet of two-lane queuing space within the facility gate provides room for approximately 13 waste hauling vehicles between the scale and Commerce Street. There is 200 feet of queuing space within the recycling center gate, which provides for 8 to 10 waste hauling vehicles. Therefore, the available queuing area is sufficient to avoid disturbance along Commerce Street.

Table 2-1
2-Way Traffic Volumes

Facility Capacity (Tons/Day)	Road	2-Way Traffic Volumes		Existing Traffic Volume 2024						Projected Traffic Volume[2] 2044					
				Daily			Peak Hour[3]			Daily			Peak Hour[3]		
		Daily	Peak Hour[3]	TS Trips[4]	Non-TS Trips	Total[1]	TS Trips	Non-TS Trips	Total	TS Trips	Non-TS Trips	Total	TS Trips	Non-TS Trips	Total
125	U.S. Highway 190	17,437	1,744	96	17,341	17,437	10	1,734	1,744	96	22,889	22,985	10	2,289	2,299
	FM 116	6,194	619		5,910	6,006		591	601		8,069	8,165		817	817
	FM 3046	1,049	105		921	1,017		92	102		1,287	1,383		129	138
	Commerece St.[5]	0	0		0	96		0	10		0	96		0	10
1,100	U.S. Highway 190	17,437	1,744	682	16,755	17,437	68	1,676	1,744	682	22,303	22,985	68	2,230	2,299
	FM 116	6,194	619		5,324	6,006		532	601		7,483	8,165		748	817
	FM 3046	1,049	105		335	1,017		34	102		701	1,383		70	138
	Commerece St.[5]	20	2		20	702		2	70		25	707		3	71

Notes:

1. Traffic count data was obtained from City of Copperas Cove 2022 Traffic Volume Map for U.S. Highway 190 and FM 116, and FM 3046.
2. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2021 Regional Water Plan. The annual population increase for 2021-2030 is 1.56%, for 2031-2040 is 1.41%, for 2041-2044 is 1.20%.
3. Peak hour volumes are assumed to be ten percent of total daily traffic.
4. One-way transfer station trips are estimated in the table below, then doubled to account for incoming and outgoing traffic.
5. Existing traffic on Commerce Street is estimated to be only traffic to/from the existing storage yard.

24-Hour One-Way Transfer Station Vehicle Estimates[5]

Facility Capacity (Tons/Day)	Vehicle Type						Totals
	Rear Loader	Front	Roll-Off	Low-	Facility Personal/ Misc. Vehicles	Transfer Trailers	
125	10	5	5	7	16	5	48
1,100	88	44	42	55	66	46	341

Notes:

5. The number of vehicles per day was calculated based on truck capacity, density, and tonnage then doubled to account for all trucks entering and leaving the transfer station.

Table 2-2
Traffic Impact Assessment[1]

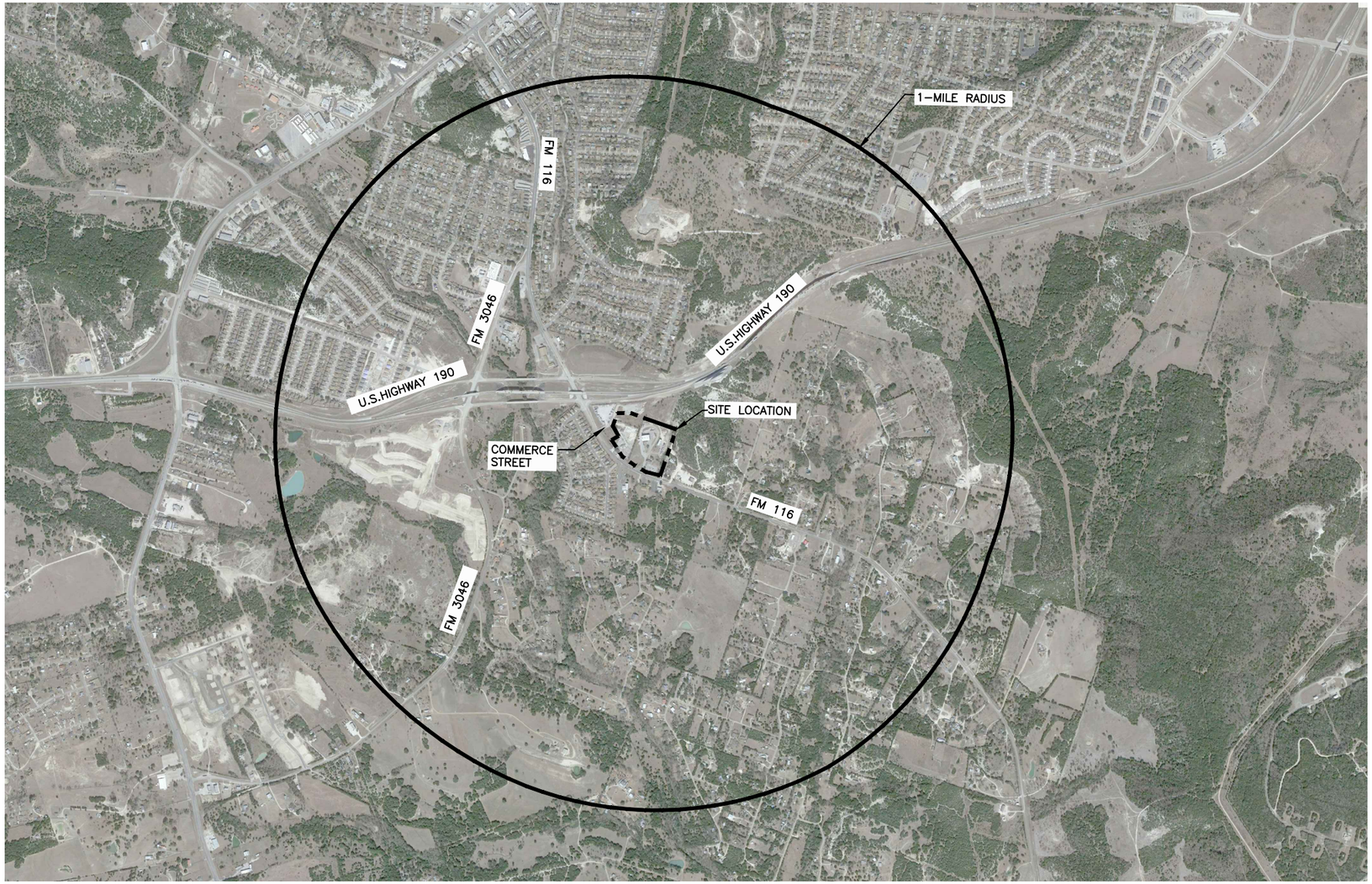
Facility Capacity (Tons/Day)	Road	Roadway Capacity[4] (Vehicles/ Day)	2024 Traffic Conditions[2,3]					Projected 2044 Traffic Conditions[2,3]				
			Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles	Transfer Station Traffic (vpd)	Total Traffic (vpd)	% of Roadway Capacity Used	Level of Service	% of Roadway Capacity Used by Transfer Station Vehicles
125	U.S. Highway 190	115,200	96	17,437	15.1%	C	0.1%	96	22,985	20.0%	E	0.1%
	FM 116	86,400		6,006	7.0%	B	0.1%		8,165	9.5%	B	0.1%
	FM 3046	86,400		1,017	1.2%	A	0.1%		1,383	1.6%	A	0.1%
	Commerce St.[5]	57,600		96	0.2%	A	0.2%		96	0.2%	A	0.2%
1,100	U.S. Highway 190	115,200	682	17,437	15.1%	C	0.6%	682	22,985	20.0%	E	0.6%
	FM 116	86,400		6,006	7.0%	B	0.8%		8,165	9.5%	B	0.8%
	FM 3046	86,400		1,017	1.2%	A	0.8%		1,383	1.6%	A	0.8%
	Commerce St.[5]	57,600		702	1.2%	A	1.2%		707	1.2%	A	1.2%

Notes:

1. Traffic volumes listed in this table include two-way traffic volumes.
2. Traffic count data was obtained from City of Copperas Cove 2021 Traffic Volume Map for U.S. Highway 190 and FM 116, and FM 3046.
3. The projected traffic volumes were obtained using projected growth rates for the surrounding area growth rate (non-Transfer Station vehicles). The growth rates were obtained from the Texas Water Development Board, 2021 Regional Water Plan. The annual population increase for 2021-2030 is 1.56%, for 2031-2040 is 1.41%, for 2041-2044 is 1.20%.
   One-way trip generation estimates for transfer station vehicles are listed below.
4. Capacities were obtained or estimated using the Highway Capacity Manual, 2016.
5. Existing traffic on Commerce Street is estimated to be only traffic to/from the existing storage yard.

3 SUMMARY

In summary, the area roadway system providing access to the City of Copperas Cove Transfer Station is adequate. The existing access roads, U.S. Highway 190, FM 116, FM 3046, and Commerce Street provide sufficient and safe access to the transfer station and are capable of handling the projected traffic load associated with the proposed improvements.



N

0 1000 2000

SCALE IN FEET

LEGEND

PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.
2. ACCESS ROADS WITHIN 1-MILE OF THE SITE ARE U.S. HIGHWAY 190, FM 116, FM 3046, AND COMMERCE STREET.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

02/14/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 2.1-1 MILE RADIUS.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

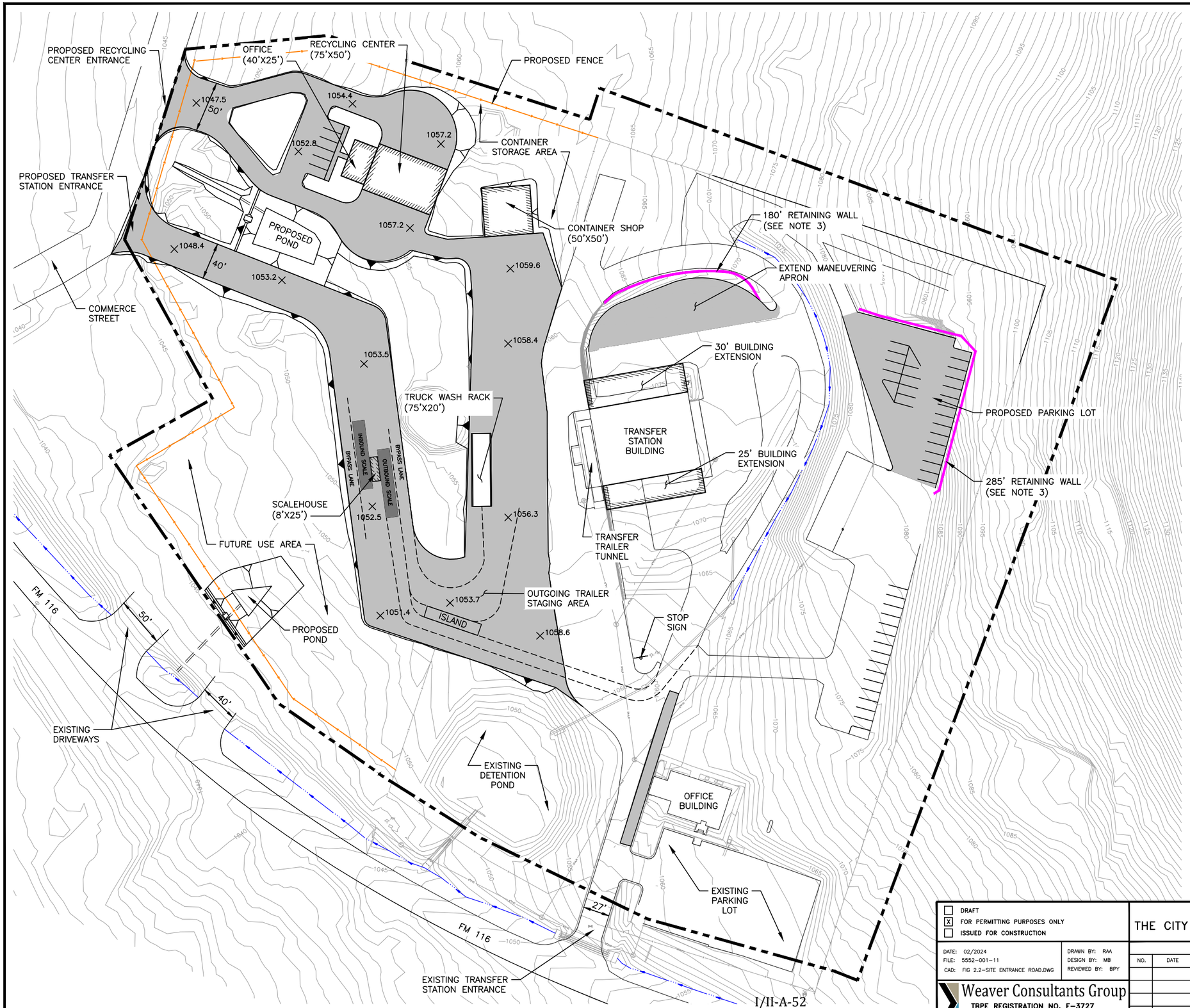
REVISIONS		
NO.	DATE	DESCRIPTION

PUBLIC ROADS WITHIN 1-MILE RADIUS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 2-1



LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1056.3 — SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER

02/14/2024

I/II-A-52

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 02/2024
FILE: 5552-001-11
CAD: FIG 2.2-SITE ENTRANCE ROAD.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

FM 116 AND SITE ENTRANCE ROAD

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 2-2

MARCH 6, 2024 TxDOT NO OBJECTION EMAIL

Marsh, Chuck

From: Jeff Jackson <Jeff.Jackson@txdot.gov>
Sent: Wednesday, March 6, 2024 1:49 PM
To: Marsh, Chuck
Cc: Duane Cowart
Subject: RE: TIA Data

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

TxDOT takes no exception to the proposed facility site plan as it pertains to environmental/drainage issues. Let me know if you need anything else from my office to satisfy the TCEQ requirement on your end.

From: Marsh, Chuck <cmarsh@wcgrp.com>
Sent: Wednesday, March 6, 2024 1:27 PM
To: Jeff Jackson <Jeff.Jackson@txdot.gov>
Cc: Duane Cowart <Duane.Cowart@txdot.gov>
Subject: RE: TIA Data

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Jeff,

the link below can be used to download a signed/sealed drainage report for the proposed facility. Let me know if you need anything else to complete your response to our request for coordination per TCEQ requirements.

https://wcgrp.sharefile.com/public/share/web-s165d89c56663427d97fda1b81468e5c2

Thank you for your assistance with this project!

Charles Marsh, PE
Project Director

Weaver Consultants Group
6420 Southwest Blvd. | Suite 206
Fort Worth, TX 76109
O: 817-735-9770 | F: 817-735-9775
cmarsh@wcgrp.com | www.wcgrp.com

Weaver
COMPANIES
SAFETY FIRST, TRUSTED ADVISORS, 12:1 CULTURE

COORDINATION WITH TEXAS HISTORICAL COMMISSION

SEPTEMBER 27, 2023 REQUEST FOR DETERMINATION

City of Copperas Cove

"The City Built for Family Living" Public Works

September 27, 2023

Mr. Mark Wolfe
Texas Historical Commission
Archeology Division
P.O. Box 12276
Austin, Texas 78711-2276

Re: Impact to Cultural Resources Determination
City of Copperas Cove Transfer Station Permit Application
Coryell County, Texas

Dear Mr. Wolfe:

The purpose of this letter is to demonstrate coordination with the Texas Historical Commission (THC), consistent with Title 30 Texas Administrative Code (TAC) §330.61(o). This regulation requires that a permit applicant for a municipal solid waste (MSW) facility coordinate with the THC to document compliance with the Texas Natural Resources Code, Chapter 191, Texas Antiquities Code.

The purpose of this permit application, prepared by Weaver Consultants Group (WCG) is to construct improvements and expand operations of the existing City of Copperas Cove Transfer Station located in the City of Copperas Cove, Coryell County, Texas. The facility address is 2605 S. FM 116, Copperas Cove, Texas 76522. The proposed facility improvements will provide the city with the ability to collect, load, and transport solid waste more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

To assist you in your determination regarding the project's impact on the state's cultural resources, please find attached a project summary and site location maps.

As shown on the attached aerial photograph (Figure 3 in the attachments), the site has been used as a transfer station since 2001. In addition, a review of the THC Atlas website, which contains over 100,000 sites recorded at the Texas Archeological Research Laboratory in Austin, was performed. Based on information included in the THC website, two recorded sites are located within 3 miles of the transfer station tract. Clear Creek Baptist Church is located approximately 1.7 miles southwest of the site. The Ogletree Stageshop and Post Office is located approximately 1.8 miles northwest of the site.

Please note that the transfer station permit documents will include a requirement that if material that may have a cultural resource value is uncovered during site development, the THC will be notified and construction immediately stopped in that area until proper investigations can be completed.

To verify compliance with Title 30 TAC §330.61(o), we will need to include a letter from the THC within the TCEQ application. A determination of the potential impact of the project to the historical and cultural resources of the state of Texas, in compliance with the Code, is respectfully requested.

If you need further information, please do not hesitate to contact Mr. Chuck Marsh, P.E. with Weaver Consultants Group at 817-735-9770 or myself directly. Kindly provide all written correspondence regarding this matter to City of Copperas Cove at the physical address indicated on this letterhead.

Sincerely,

Scott Osburn, Director of Public Works
sosburn@copperascovetx.gov

Attachment: Attachment 1 - Project Summary and Site Location Maps

cc: Scott Osburn, City of Copperas Cove
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

City of Copperas Cove Transfer Station
The City of Copperas Cove
Coryell County, Texas

Introduction

Weaver Consultants Group, LLC is in the process of developing a Type V municipal solid waste (MSW) transfer station permit application for the City of Copperas Cove Transfer Station (TS) on behalf of the City of Copperas Cove (City). The proposed TS improvements will provide the City with the ability to collect, load, and transport solid waste from the City, Coryell County, and the surrounding areas more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

As shown on Figure 3, the proposed entrance to the TS is located off of FM 116 approximately 1,500 feet southeast of U.S. Highway 190. The existing TS has been in operation since 2001, and the traffic patterns created by the solid waste collection vehicles that use area access roads are well established. The TS will be accessed by three existing driveways off of FM 116.

The purpose of this application is to permit the TS facility to process up to a maximum daily rate of 1,100 tons per day (tpd) of MSW from the City, Coryell County, and surrounding areas, and to transfer this waste to a TCEQ-permitted landfill. The facility's application will undergo a thorough technical review by the TCEQ before obtaining authorization to operate.

The proposed TS structure will be expanded on the North and South sides by 30 feet and 25 feet respectively. The total expanded area of the TS building will be approximately 5,500 sq. ft for a total building area of approximately 14,000 sq. ft. The TS will consist of a 135-foot by 100-foot tipping floor (where incoming waste will be unloaded and transferred to waste transfer trailers) and a tunnel where transfer trailers will park during loading from the tipping floor. Waste deposited on the tipping floor within the building will be pushed into the transfer trailers which will be parked in the TS tunnel and hauled to permitted landfill. The site will have three new buildings: a 75-ft by 50-ft recycling center located on the west side of the site, a 40-ft by 24-ft office southwest of the new recycling center and a 50-ft by 50-ft container shop located west of the existing TS building. The facility is proposed to have a permitted maximum rate of waste acceptance of 1,100 tpd of MSW. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The Copperas Cove Transfer Station has been in operation since 2001, and is owned and operated by the City of Copperas Cove. The existing TS is the primary facility to receive solid waste and recyclable material from the City, Coryell County and surrounding areas. The City of Copperas Cove provides additional services by accepting waste delivered by contractors and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Coryell County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a United States Geological Survey map.
- Aerial Photograph (Figure 3). This figure shows the existing conditions of the site location on an aerial photograph.
- Improved Site Map (Figure 4). This figure shows the improved site plan for the TS.

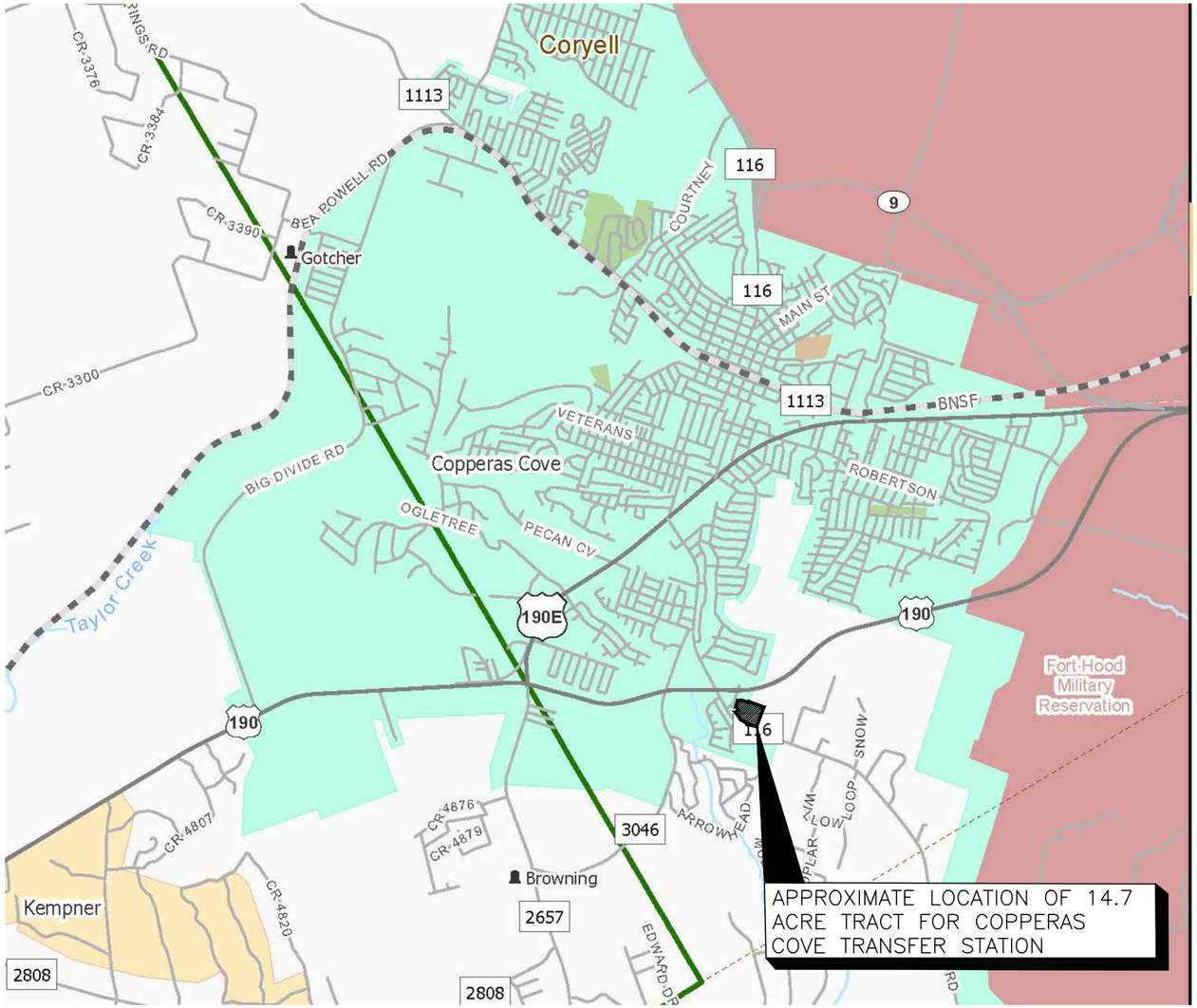
The TS is located within the city limits of Copperas Cove and is accessed from FM - 116. The service area includes the City, Coryell County, and other surrounding areas.

Design Summary

The following information presents a summary of the design and operations for the improved City of Copperas Cove Transfer Station.

- The TS building improvements will be a steel-framed structure which will increase the capacity to transfer up to 1,100 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the transfer area for transfer operations. The TS area for waste collection vehicles will consist of a well-lighted (overhead lighting) tipping floor where transfer operations from collection vehicles to transfer trailers will occur. Waste transfer operations will occur completely within the building. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, non-hazardous industrial waste and recyclable materials as permitted by the TCEQ.
- Access to the TS will be provided via three existing driveways on the south side of the site via FM-116. From U.S. Highway 190, vehicles will travel southeast on FM-116 for approximately 1,500 feet to the proposed site entrance. The existing access roads are suitable to handle the projected traffic load associated with the TS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the TS and the City will staff the facility based on the personnel needs to effectively serve the community. A detailed site operating plan will be included in the transfer station permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The TS will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

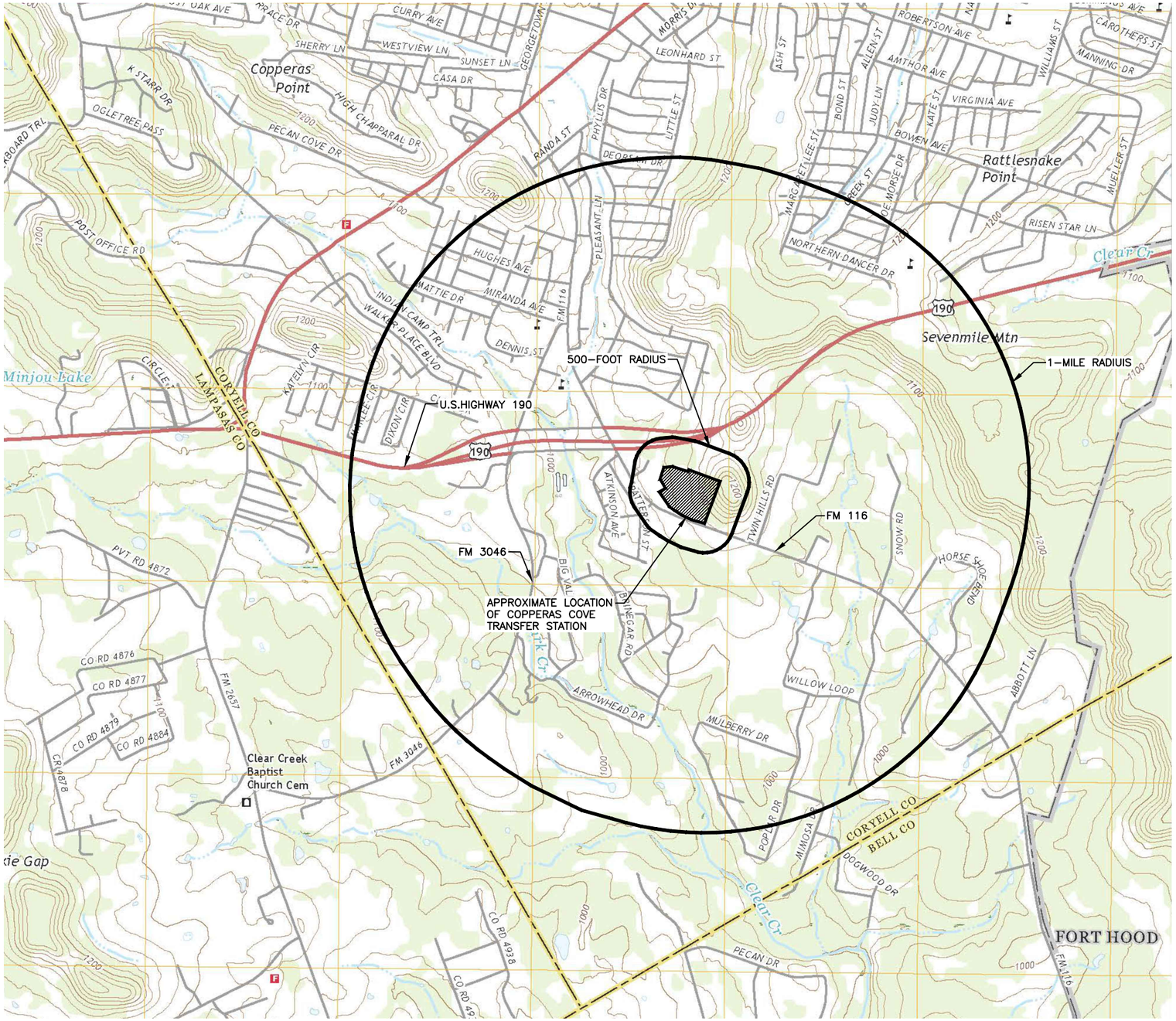
REVISIONS		
NO.	DATE	DESCRIPTION

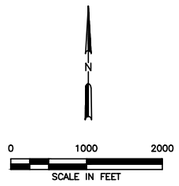
TYPE V PERMIT APPLICATION SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1





ROAD CLASSIFICATION

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

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

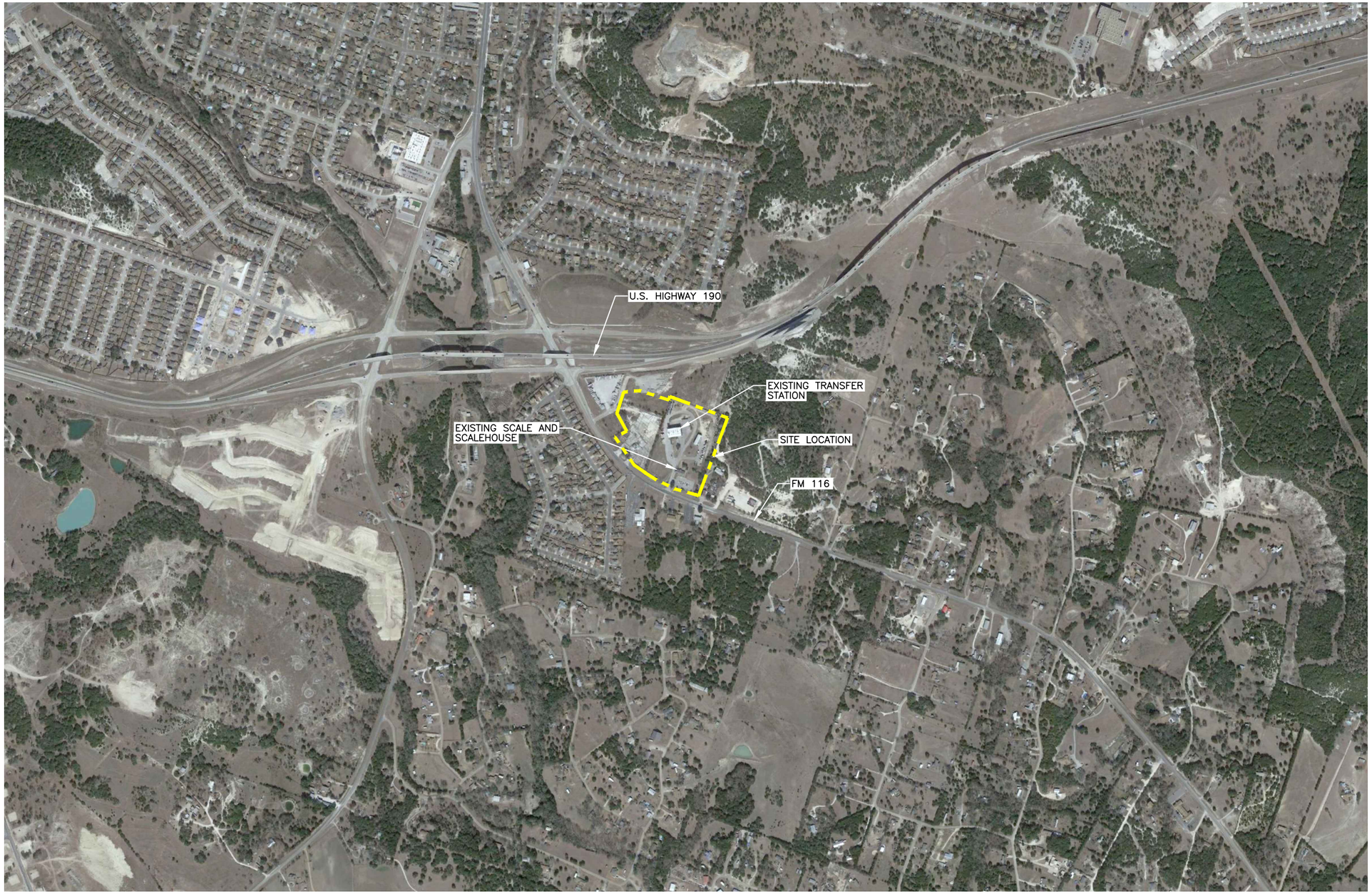
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

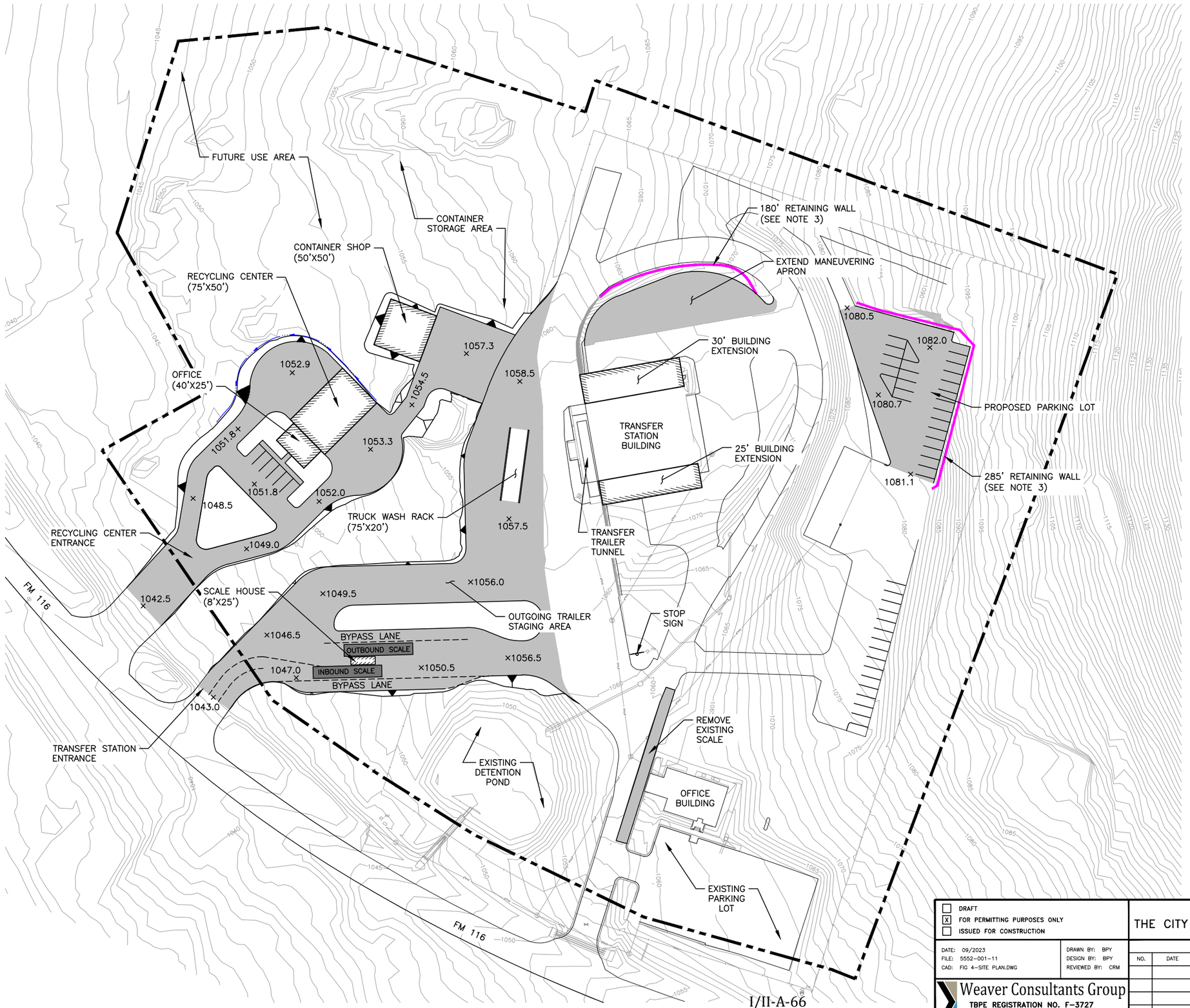
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3



N

0 50 100

SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1081.1 SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

I/II-A-66

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: BPY
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4

OCTOBER 17, 2023 THC RESPONSE

Marsh, Chuck

From: noreply@thc.state.tx.us
Sent: Tuesday, October 17, 2023 3:01 PM
To: Marsh, Chuck; reviews@thc.state.tx.us; matthew.udenenwu@tceq.texas.gov
Subject: City of Copperas Cove Transfer Station

TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202400678
Date: 10/17/2023
City of Copperas Cove Transfer Station
2605 S F.M. 116
Copperas Cove,TX 76522

Description: TCEQ requires coordination with THC to modify solid waste processing facilities. This project includes the expansion of an existing solid waste transfer station in Copperas Cove.

Dear Charles Marsh:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Rebecca Shelton and Caitlin Brashear, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no

cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: rebecca.shelton@thc.texas.gov, caitlin.brashear@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

cc: matthew.udenenwu@tceq.texas.gov</p

COORDINATION WITH TEXAS PARKS AND WILDLIFE DEPARTMENT

SEPTEMBER 27, 2023 ASSESSMENT REQUEST

City of Copperas Cove

"The City Built for Family Living" Public Works

September 27, 2023

Mr. John Silovsky
Director of Wildlife
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: Request for Threatened or Endangered Species Assessment
City of Copperas Cove Transfer Station Permit Application
Coryell County, Texas

Dear Mr. Silovsky:

The purpose of this letter is to demonstrate coordination with the Texas Parks and Wildlife Department (TPWD), at the request of the Texas Commission on Environmental Quality (TCEQ). The TCEQ requires that a permit applicant for a municipal solid waste (MSW) facility consider the impact on threatened or endangered species and not result in the destruction or adverse modification of the critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.

The purpose of this permit application, prepared by Weaver Consultants Group (WCG), is to construct improvements and expand operations of the existing City of Copperas Cove Transfer Station located in the City of Copperas Cove, Coryell County, Texas. The facility address is 2605 S. FM 116, Copperas Cove, Texas 76522. The proposed facility improvements will provide the city with the ability to collect, load, and transport solid waste more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

To assist you in your determination regarding threatened or endangered species or their critical habitat within or near the referenced project, please find attached a project summary and site location maps.

WCG completed the attached site-specific Biological Report (BR) for the proposed transfer station site based on available species data and a field visit completed on May 22, 2023. The BR reported that the United States Fish and Wildlife Service lists 4 species as federally threatened/endangered in Coryell County, and the Texas Parks and Wildlife Department lists 8 species as threatened or endangered in the same area. As noted in the BR, no critical habitat for any threatened or endangered species occurs within the Project Site.

A request for rare species occurrences information was submitted to the Texas Parks and Wildlife Department Natural Diversity Database. No rare species or ecosystems were mapped within the vicinity of the Project Site.

Based on the research and field observations, there are no threatened/endangered species or their critical habitat within the Project Site. Based on the BR, the proposed transfer station will not result in the destruction or adverse

modification to any critical habitat of any endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. It is WCG's opinion that the proposed expansion would have no effect on federally or state-listed Threatened and Endangered (T&E) species.

To verify compliance with TCEQ; this letter is to request concurrence from the TPWD that the proposed transfer station will have no effect on any federal or state-listed T&E species to include with the permit application.

If you need further information, please do not hesitate to contact Mr. Chuck Marsh, P.E. with Weaver Consultants Group at 817-735-9770 or myself directly. Kindly provide all written correspondence regarding this matter to City of Copperas Cove at the physical address indicated on this letterhead.

Sincerely,

Scott Osburn, Director of Public Works
sosburn@copperascovetx.gov

Attachment: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – T&E Study by Weaver Consultants Group

cc: Scott Osburn, City of Copperas Cove
Chuck Marsh, P.E., Weaver Consultants Group, LLC

ATTACHMENT 1

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

City of Copperas Cove Transfer Station
The City of Copperas Cove
Coryell County, Texas

Introduction

Weaver Consultants Group, LLC is in the process of developing a Type V municipal solid waste (MSW) transfer station permit application for the City of Copperas Cove Transfer Station (TS) on behalf of the City of Copperas Cove (City). The proposed TS improvements will provide the City with the ability to collect, load, and transport solid waste from the City, Coryell County, and the surrounding areas more efficiently by allowing the MSW collection vehicles to transfer MSW into large transfer trailers before shipment to permitted MSW landfills.

As shown on Figure 3, the proposed entrance to the TS is located off of FM 116 approximately 1,500 feet southeast of U.S. Highway 190. The existing TS has been in operation since 2001, and the traffic patterns created by the solid waste collection vehicles that use area access roads are well established. The TS will be accessed by three existing driveways off of FM 116.

The purpose of this application is to permit the TS facility to process up to a maximum daily rate of 1,100 tons per day (tpd) of MSW from the City, Coryell County, and surrounding areas, and to transfer this waste to a TCEQ-permitted landfill. The facility's application will undergo a thorough technical review by the TCEQ before obtaining authorization to operate.

The proposed TS structure will be expanded on the North and South sides by 30 feet and 25 feet respectively. The total expanded area of the TS building will be approximately 5,500 sq. ft for a total building area of approximately 14,000 sq. ft. The TS will consist of a 135-foot by 100-foot tipping floor (where incoming waste will be unloaded and transferred to waste transfer trailers) and a tunnel where transfer trailers will park during loading from the tipping floor. Waste deposited on the tipping floor within the building will be pushed into the transfer trailers which will be parked in the TS tunnel and hauled to permitted landfill. The site will have three new buildings: a 75-ft by 50-ft recycling center located on the west side of the site, a 40-ft by 24-ft office southwest of the new recycling center and a 50-ft by 50-ft container shop located west of the existing TS building. The facility is proposed to have a permitted maximum rate of waste acceptance of 1,100 tpd of MSW. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The Copperas Cove Transfer Station has been in operation since 2001, and is owned and operated by the City of Copperas Cove. The existing TS is the primary facility to receive solid waste and recyclable material from the City, Coryell County and surrounding areas. The City of Copperas Cove provides additional services by accepting waste delivered by contractors and self-haulers (i.e., cars and pickups).

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Texas Department of Transportation Coryell County highway map.
- General Topographic Map (Figure 2). This figure shows the site location on a United States Geological Survey map.
- Aerial Photograph (Figure 3). This figure shows the existing conditions of the site location on an aerial photograph.
- Improved Site Map (Figure 4). This figure shows the improved site plan for the TS.

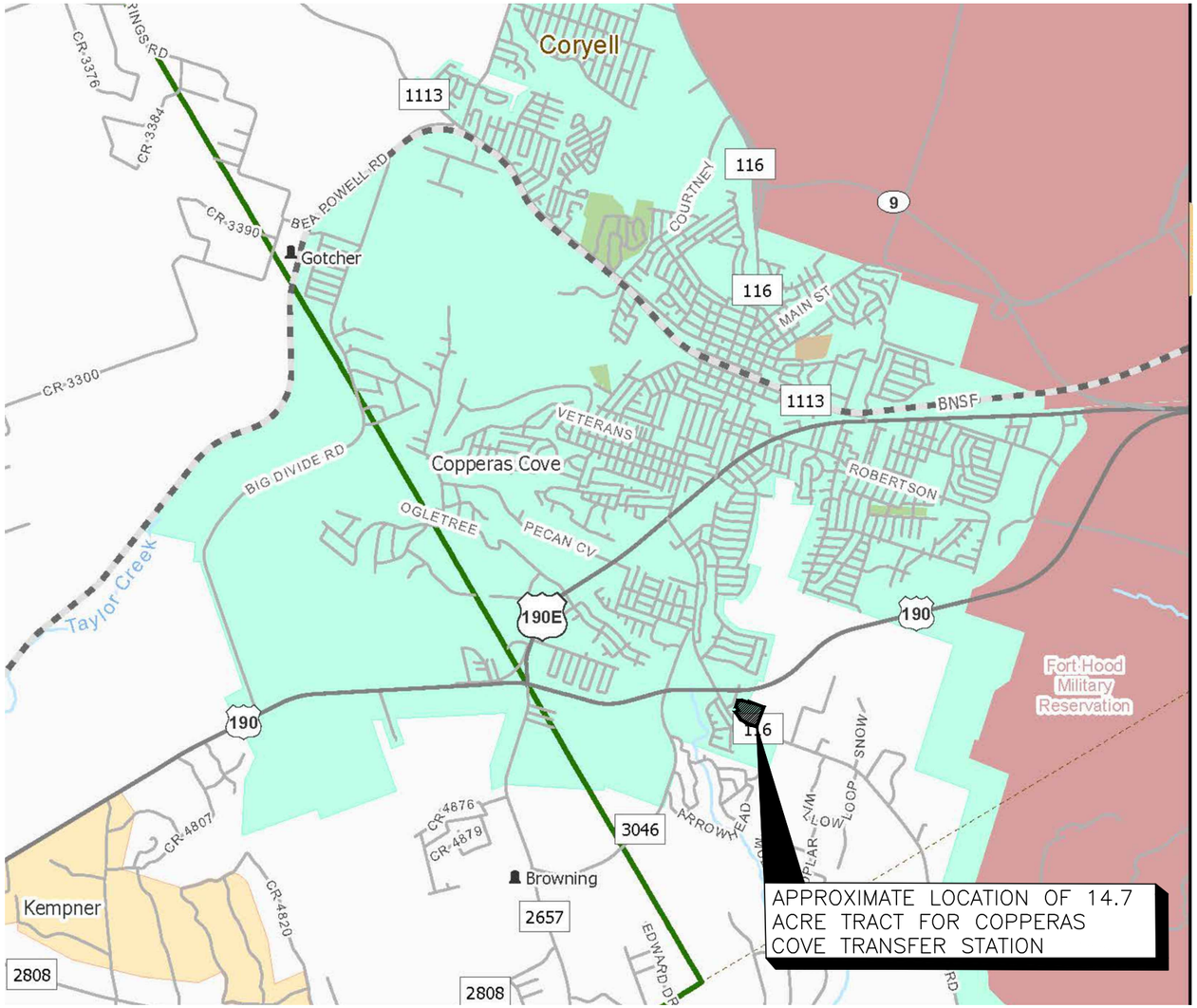
The TS is located within the city limits of Copperas Cove and is accessed from FM - 116. The service area includes the City, Coryell County, and other surrounding areas.

Design Summary

The following information presents a summary of the design and operations for the improved City of Copperas Cove Transfer Station.

- The TS building improvements will be a steel-framed structure which will increase the capacity to transfer up to 1,100 tons/day of municipal solid waste. Incoming loads will be weighed and directed to the transfer area for transfer operations. The TS area for waste collection vehicles will consist of a well-lighted (overhead lighting) tipping floor where transfer operations from collection vehicles to transfer trailers will occur. Waste transfer operations will occur completely within the building. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill.

- The facility will accept municipal solid waste, construction and demolition wastes, special wastes, non-hazardous industrial waste and recyclable materials as permitted by the TCEQ.
- Access to the TS will be provided via three existing driveways on the south side of the site via FM-116. From U.S. Highway 190, vehicles will travel southeast on FM-116 for approximately 1,500 feet to the proposed site entrance. The existing access roads are suitable to handle the projected traffic load associated with the TS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the TS and the City will staff the facility based on the personnel needs to effectively serve the community. A detailed site operating plan will be included in the transfer station permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The TS will be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

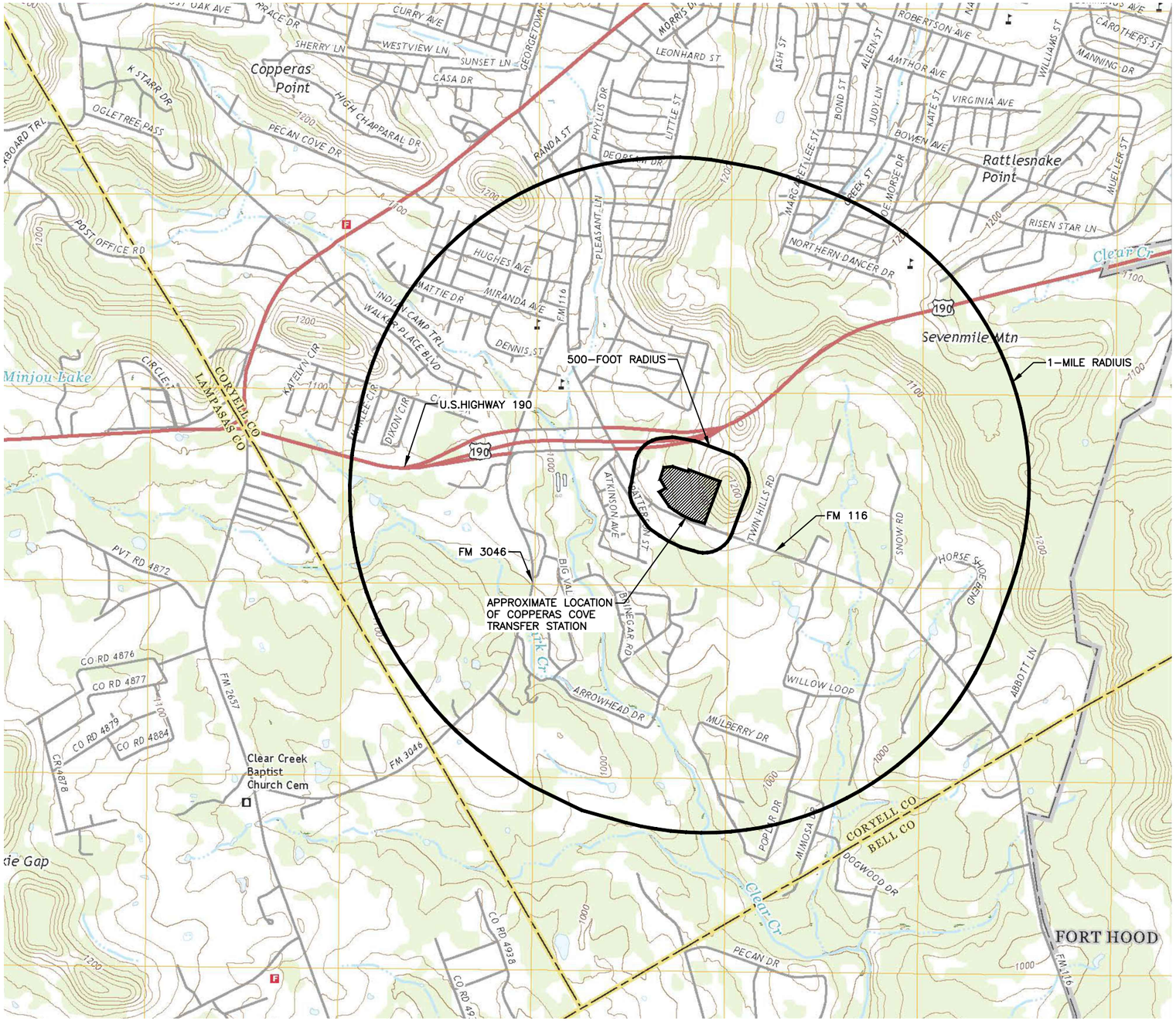
NO.	DATE	DESCRIPTION

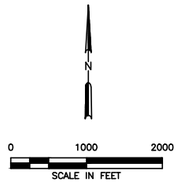
TYPE V PERMIT APPLICATION SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1





ROAD CLASSIFICATION

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

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

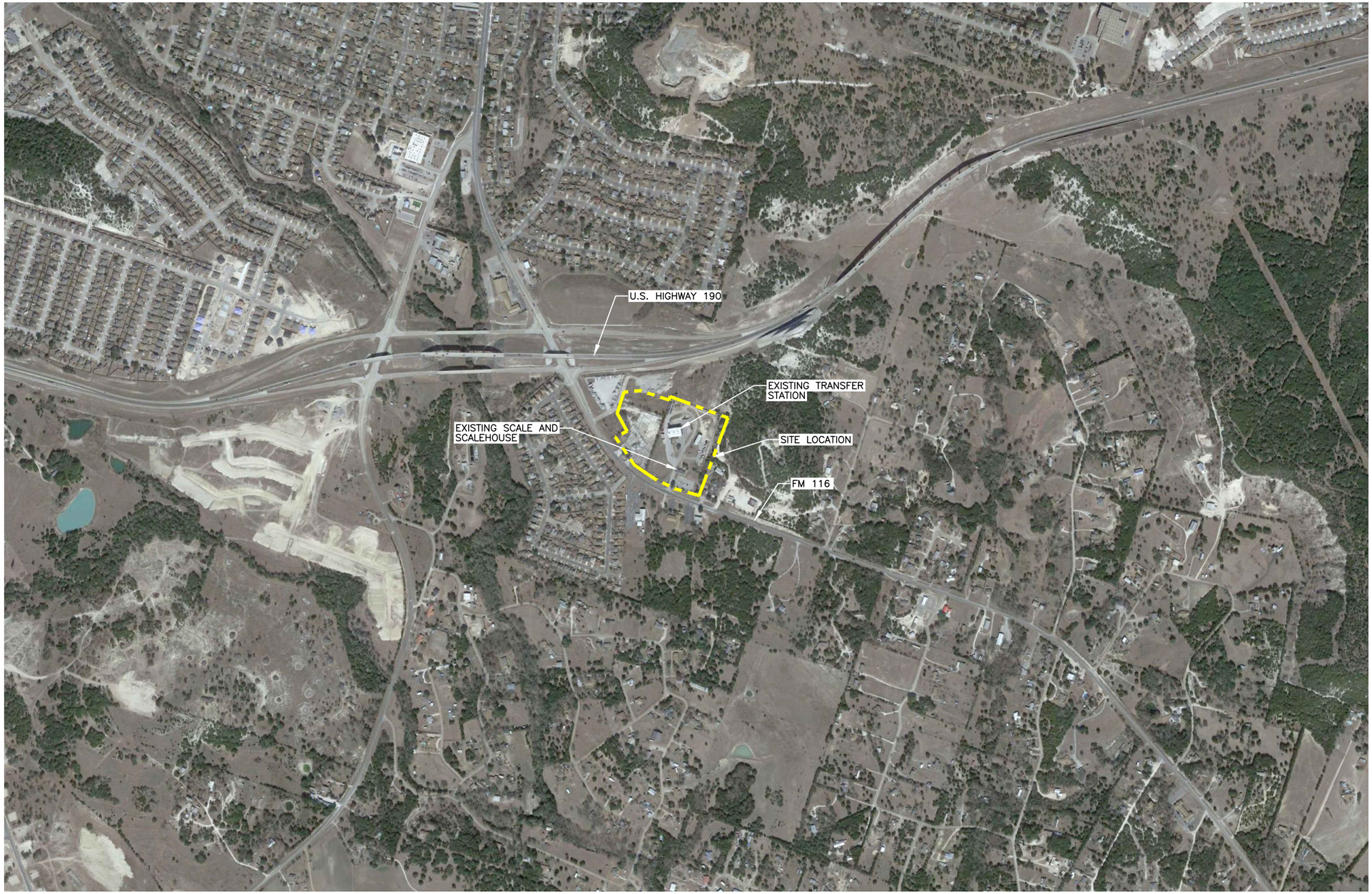
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

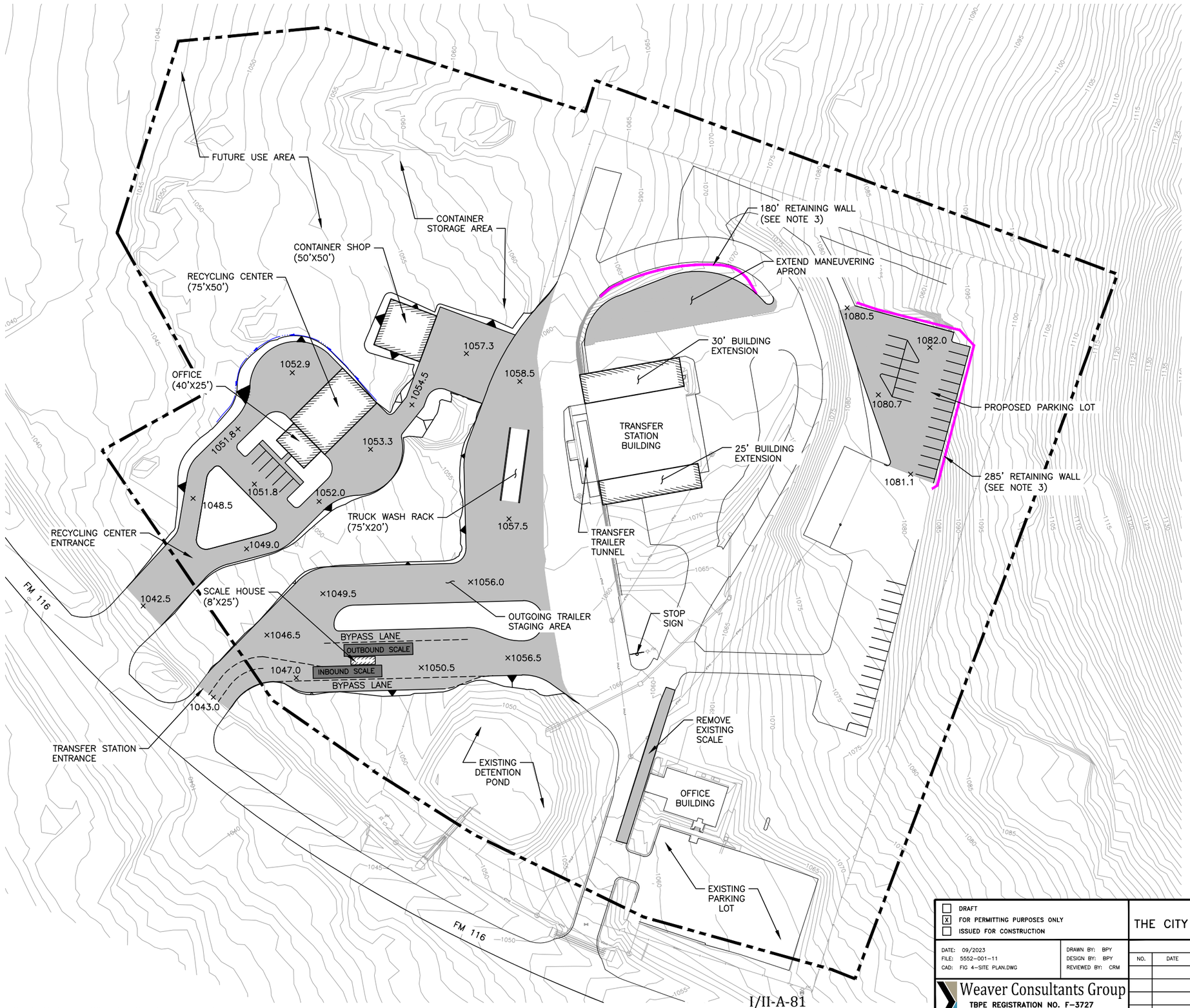
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3



LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1081.1 — SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: BPY
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

T&E STUDY BY WEAVER CONSULTANTS

July 2023
5552-001-11-00-03

ENVIRONMENTAL REPORT

City of Copperas Cove

Transfer Station
Copperas Cove, Texas

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Project Description

The City of Copperas Cove contracted Weaver Consultants Group, LLC (WCG) to perform a biological assessment of the proposed transfer station in Coryell County, Texas. The proposed project site will be in an area with a current solid waste operation consisting of a building, associated parking lot, and operations area. The site is located Farm-to-Market 116 on the south side of Copperas Cove (**Attachment 1**). Site photos are located in **Attachment 2**.

The purpose of this biological assessment is to characterize the ecological conditions at the proposed project location and provide a review of the potential presence threatened and endangered species, migratory birds, and other sensitive species.

2 ECOLOGICAL SITE CHARACTERIZATION

2.1 EPA Ecoregion Description

Ecoregions are areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Based on U.S. Environmental Protection Agency (EPA) Level III and Level IV Ecoregions the proposed project is located within the Limestone Cut Plain of the Cross Timbers (*EPA, 2013*).

The Cross Timbers Level III ecoregion is a transition area between the prairie and forested low mountains, or hills, of eastern Oklahoma and Texas. This region is not known for its suitability to grow crops. Transitional cross timber consists of little bluestem (*Schizachyrium scoparium*) mixed with post oak (*Quercus stellata*) and blackjack oaks (*Q. marilandica*). Pastureland and rangeland, with some woodlands mixed in, comprise the vast majority of this ecoregion (*EPA, 2013*).

The Limestone Cut Plain Level IV ecoregion is more highly eroded than the Edwards Plateau. Its grasslands have elements of the eastern tallgrass prairie. The Limestone Cut Plain exists within the convergence of four ecoregions, the Cross Timbers oak woodland, Balcones Escarpment, Blackland Prairie, Grand Prairie, and Balcones Canyonlands. Increased precipitation and runoff within the Limestone Cut Plain has resulted in increased erosion and dissolution of the limestone layer. Soils are generally shallow with grasslands dominating on the Walnut Clay (*Griffith, et al., 2007*).

2.2 Topography

The United States Department of the Interior Geologic Survey (USGS) 7.5-Minute Topographic Maps of the Site were reviewed to identify drainages or suspect Waters of the United States (WOTUS) within the Site. No streams or other drainages were observed within the project site.

2.3 Vegetation

Typical vegetation in the Limestone Cut Plain includes plateau live oak (*Quercus fusiformis*), cedar elm (*Ulmus crassifolia*), Texas ash (*Fraxinus texensis*), big tooth maple (*Acer grandidentatum*), and bur oak (*Q. macrocarpa*). White shin oak (*Q. sinuate* var. *breviloba*), sumac (*Rhus* spp.), and Ashe juniper (*Juniperus asheii*) occur on dry rocky slopes. Historic vegetation regimes included big bluestem (*Andropogon*

gerardii), little bluestem (*Schizachyrium scoparium*), yellow Indiangrass (*Sorghastrum nutans*), tall dropseed (*Sporobolus asper* var. *asper*), and sideoats grama (*Bouteloua curtipendula*). Grazing pressure has caused a reduction in historic vegetation and an increase in species such as silver bluestem (*Bothriochloa laguroides spp. torreyana*), Texas wintergrass (*Stipa leucotricha*), and purple threeawn (*Aristida purpurea*) (*Griffith, G. et al, 2007*).

2.4 Soils

The general soil orders within the ecoregion include mollisols, inceptisols, entisols, alfisols, and vertisols. The two soil types within the proposed project area included the Doss-Real complex, 1 to 8 percent slopes and Real-Rock outcrop complex, 8 to 40 percent slopes. The Doss-Real complex soils consist of well drained soils that formed in ridges weathered from loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Shallow, Adobe, Loamy Slope, and Clayey Swale.

The Real-Rock outcrop complex soils consist of well drained soils that formed in ridges in loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Steep Adobe and Low Stony Hill.

2.5 Geology

The proposed site's geology is comprised of the Quaternary and Tertiary stony calcareous clay solution residuum and silty clay decomposition residuum. The bedrock geology includes Lower Cretaceous limestone, marl, and claystone (*Griffith, G., et al., 2007*).

2.6 Climate

The area has average January minimum temperature of 31˚F and maximum of 55˚F and July temperature minimum of 72˚F and maximum of 96˚F, and this ecoregion has between 220 to 245 annual frost free days *(Griffith, G., et al, 2007).* This ecoregion receives 33-37 inches of rainfall on an annual basis.

3 ENVIRONMENTAL IMPACTS DESKTOP REVIEW

3.1 Waters of the United States

3.1.1 Legal Background

The 1972 amendments to the Clean Water Act established federal jurisdiction over "navigable waters," defined in the Act as the "waters of the United States" (CWA Section 502(7)). Many Clean Water Act programs apply only to "waters of the United States." (WOTUS). The Clean Water Act provides discretion for EPA and the U.S. Department of the Army Corps of Engineers to define "waters of the United States" in regulations.

The Clean Water Act requires enforceable water quality standards to maintain overall water quality. Standards for bodies of water are based on the water's designated use; such uses include industrial water supplies, swimming, fishing, agricultural irrigation, and more. States establish water quality standards for waterways within their borders, though the EPA may disapprove and replace state standards with its own if they do not meet the act's minimum requirements. The act also requires that standards outline the maximum allowable concentrations of various pollutants that would not inhibit a waterway's designated use

The U.S. Army Corps of Engineers (USACE) regulates certain activities occurring in waters of the U.S. (WOTUS) per Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (RHA). Under Section 404 of the CWA, authorization must be obtained from the USACE for discharges of dredged and fill material into WOUS. Under Section 10 of the RHA, the USACE regulates work in, or affecting, navigable WOUS.

Federal agencies that regulate impacts to the nation's water resources located within Texas include the USACE, U.S. Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (USFWS). Jurisdictional waters, or WOUS, are protected under guidelines outlined in Executive Order 11990 (Protection of Wetlands) in Sections 401 and 404 of the CWA and by the state's water quality review process. The USACE has primary regulatory authority for enforcing Section 404 requirements for WOTUS, including wetlands.

Like other federal environmental statutes, the Clean Water Act includes provisions to address civil and criminal violations. Enforcement is shared by the EPA and states, though states generally have primary responsibility given their role in enforcing the

discharge permit program and water quality standards. Additionally, the EPA has oversight authority over states and can intervene to bring direct action against private individuals, businesses, and organizations for violations if the agency believes a state has failed to take the necessary and appropriate action or if a state requests EPA involvement. Civil enforcement involves EPA or state-initiated legal action to compel compliance with federal law and may involve fines or penalties leveled against private parties. Criminal enforcement, which is the sole purview of the federal government, involves criminal investigation and prosecution of deliberate and/or severe violations of federal environmental law.

Under Section 10 of the RHA, the USACE regulates navigable WOTUS. Navigable waters are defined at 33 CFR 329 as those waters that are subject to the ebb and flow of the tide and/or are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody and is not extinguished by later actions or events that impede or destroy navigability. Navigable WOUS include many coastal waters, including bays and portions of major rivers.

The limit of USACE jurisdiction for non-tidal WOTUS in the absence of adjacent wetlands is the ordinary high-water mark (OHWM). The OHWM is defined as that line on the shore established by the fluctuations of water and indicated by physical characteristics such as the following:

- Clear, natural line impressed on the bank,
- Shelving,
- Changes in the character of the soil,
- Destruction of terrestrial vegetation,
- Presence of litter and debris, or
- Other appropriate means that consider the characteristics of the surrounding areas.

Jurisdictional wetlands are a category of WOTUS and are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Delineations of wetlands must be conducted using the "Corps of Engineers Wetland Delineation Manual" USACE Waterways Experiment Station Wetlands Research Program Technical Report Y-87-1, dated January 1987, including the supplemental guidance. Coryell County, Texas is located within the region covered by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), dated March 2010 (USACE 2010).

In January 2001, the U.S. Supreme Court decided the Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. case. This case centered on how isolated wetlands would be regulated. In its decision, the court ruled that the USACE does not have jurisdiction over intrastate isolated waters that have no nexus to interstate commerce other than use by migratory birds. In the Western U.S., the ruling mostly affected regulation/protection of playa lakes, abandoned mining and borrow pits, hillside seeps, and other potentially isolated waters.

On June 19, 2006, the U.S. Supreme Court decided the Rapanos et ux., et al v. U.S. case. Following this decision, the USACE and EPA issued joint guidance on delineation of WOTUS based on the Supreme Court decision. Under this guidance, potential WOUS have been classified as traditional navigable waters (TNW), relatively permanent waters (RPW) (having flow most of the year at least seasonally), or non-RPWs. Based on the guidance, TNWs and their adjacent wetlands and RPWs and their adjacent wetlands are WOTUS. Wetlands that are bordering, contiguous, or neighboring another WOTUS are considered adjacent. Additionally, wetlands that are within the 100-year floodplain of another WOTUS are considered adjacent. Non-RPWs, wetlands contiguous or adjacent to non-RPWs, and wetlands adjacent to but that do not directly abut an RPW must demonstrate significant nexus on a case-by-case basis to determine the jurisdictional nature of these water features. The significant nexus test requires that a waterbody must have a substantial connection to a TNW by direct flow or have a biological, chemical, and/or hydrological influence on a TNW. This guidance did not void the SWANCC decision. Currently, the EPA and USACE are administering the 404 permit program under the Rapanos definition for WOTUS. The U.S. Supreme Court recently heard a case (Sackett, October 2022) and issued a decision on May 25, 2023. The Supreme Court decision focused on relatively permanent waters and surface connections. Guidance from the regulatory agencies has not been issued and it is currently unclear how they will proceed on jurisdictional determinations.

Observations

A field investigation was conducted of the proposed project site on May 22, 2023. The project site was occupied by the current solid waste operation, an abandoned operation, and oldfield. The dominant vegetation was comprised of mainly herbaceous species with some woody species including Carolina buckthorn (*Frangula caroliniana*), Engelmann daisy (*Engelmannia peristenia*), yucca (*Yucca filamentosa*), saw greenbriar (*Smilax bona-nox*), Texas live oak (*Quercus fusiformis*), sugarberry (*Celtis laevigata*), Virginia pepperweed (*Lepidium virginicum*), prostrate lawnflower (*Calyptocarpus vialis*), rescuegrass (*Bromus catharticus*), box elder (*Acer negundo*), prairie verbena (*Glandularia bipinnatifida*), blackfoot daisy (*Melampodium leucanthum*), stiff greenthread (*Thelesperma filifolium*), antelope horns milkweed (*Asclepias asperula*), woollywhite (*Hymenopappus scabiosaeus*), buffalo gourd (*Cucurbita foetidissima*), centaury (*Centaurium pulchellum*), Missouri evening primrose (*Oenothera macrocarpa*), Ashe's juniper (*Juniperus ashei*), white milkwhort (*Polygala alba*), purple three-awn (*Aristida purpurea*), prairie sumac (*Rhus lanceolata*), Texas toothleaf (*Stillingia texana*), Indian mallow (*Abutilon fruticosum*),

trailing krameria (*Krameria lanceolata*), Bradford pear (*Pyrus calleryana*), prickly pear (*Opuntia* spp.), mesquite (*Prosopis glandulosa*), cottonwood (*Populus deltoides*), mustang grape vine (*Vitis mustangensis*), western ragweed (*Ambrosia psilostachya*), baccharis (*Baccharis* spp.), hedge parsley (*Torilis arvensis*), gum bumelia (*Sideroxylon lanuginosum*), gumweed (*Grindelia squarrosa*), Virginia wildrye (*Elymus virginicus*), Johnson grass (*Sorghum halepense*), KR bluestem (*Bothriochloa ischaemum*), false ragweed (*Parthenium* spp.), lemon beebalm (*Monarda citriodora*), giant ragweed (*Ambrosia trifida*), and foxtail (*Setaria viridis*).

4 RESULTS AND RECOMMENDATIONS

4.1 Summary of Results and Recommendations

The proposed project site is dominated by a previous operation and oldfield. Based on field observations and research, there were no waters of the U.S. on the project site.

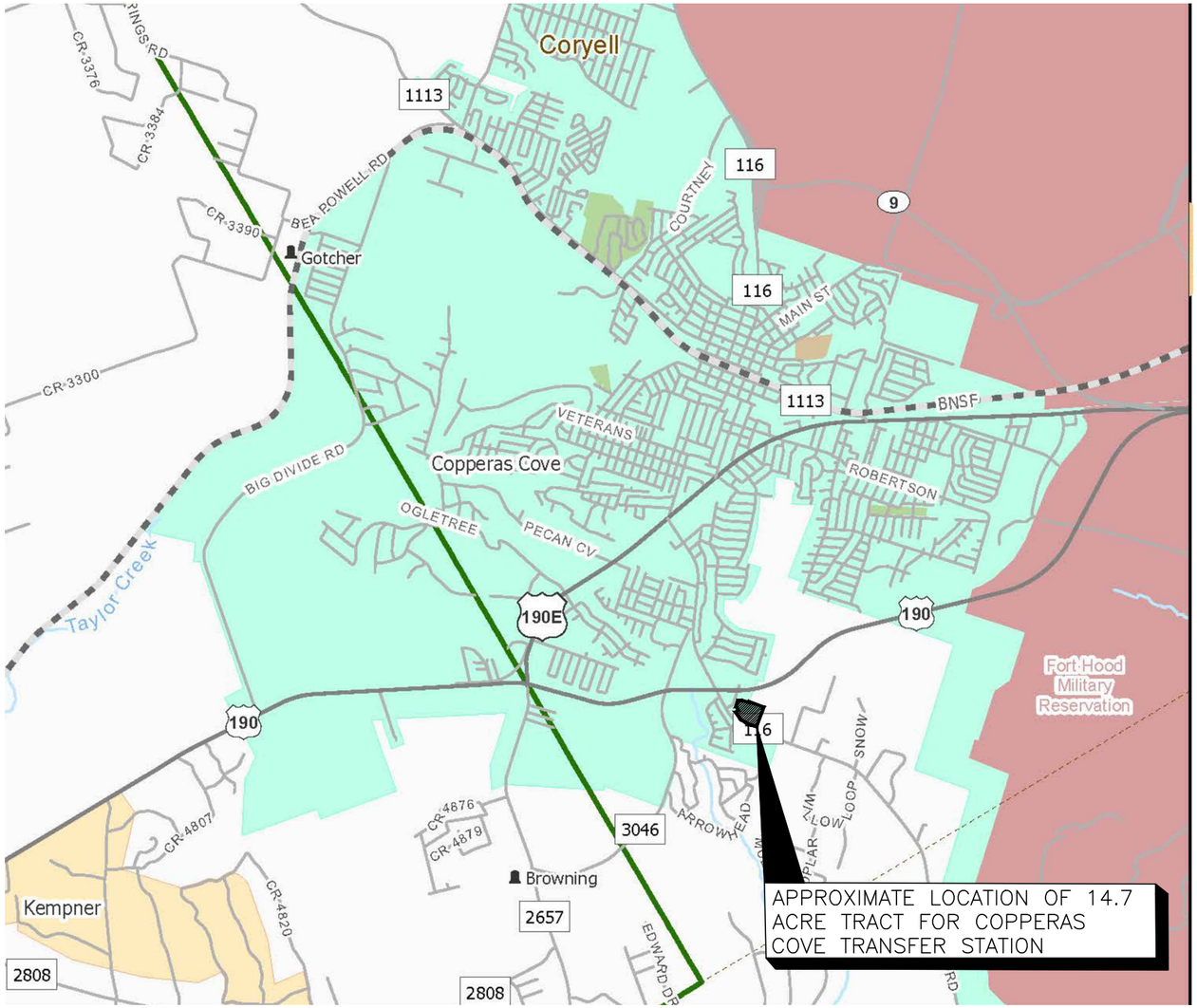
5 REFERENCES

Environmental Protection Agency (EPA), 2013, Level III and IV ecoregions of the continental United States: Corvallis, Oregon, U.S. EPA, National Health and Environmental Effects Research Laboratory, map scale 1:3,000,000, https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

Griffith, G., Griffith, S., Omernick, J., and Rogers, A., 2007, Ecoregions of Texas: Texas Commission on Environmental Quality.

ATTACHMENT 1

FIGURES



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

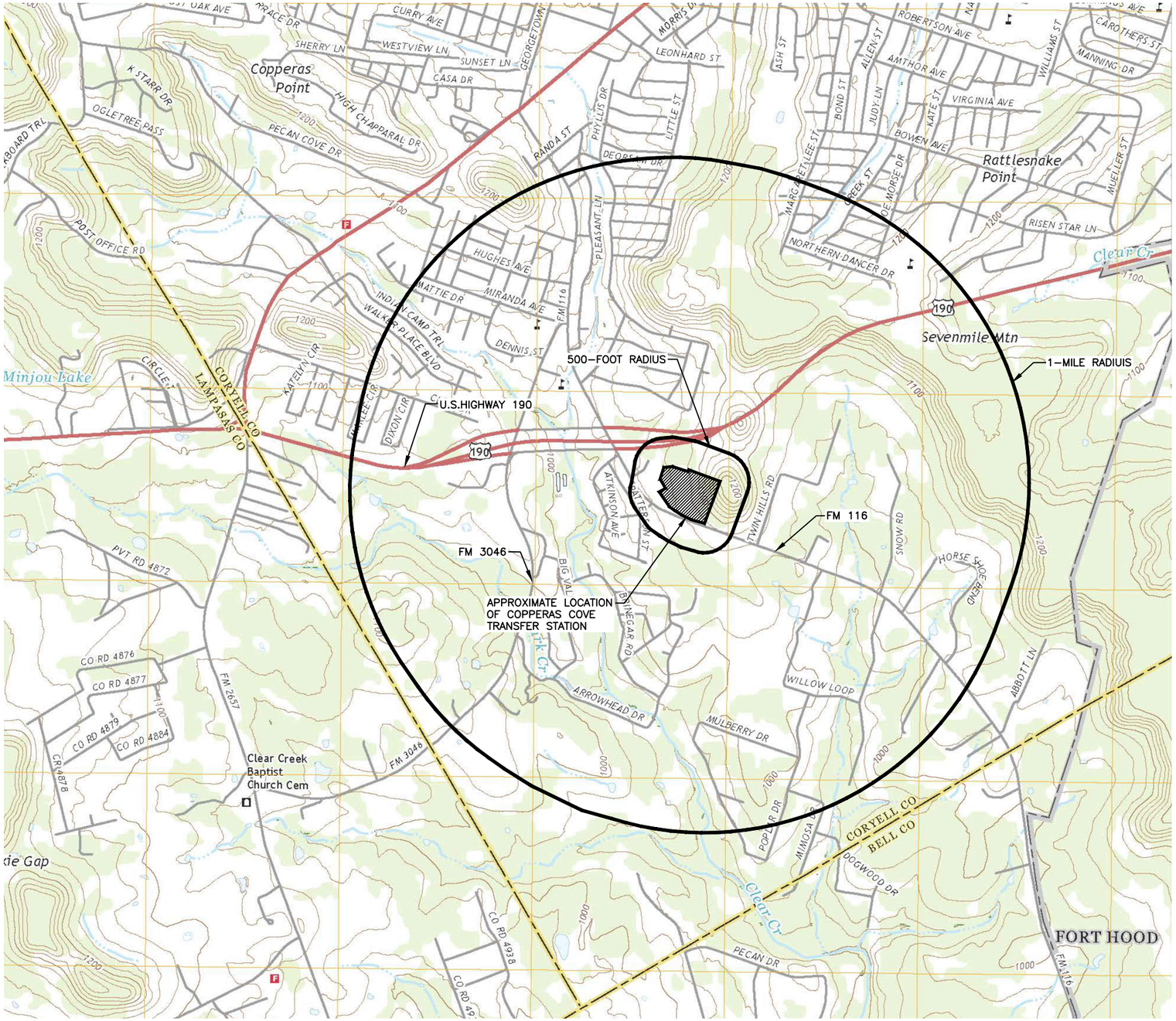
NO.	DATE	DESCRIPTION

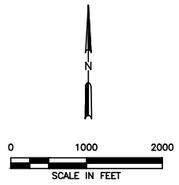
TYPE V PERMIT APPLICATION SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1





ROAD CLASSIFICATION

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

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

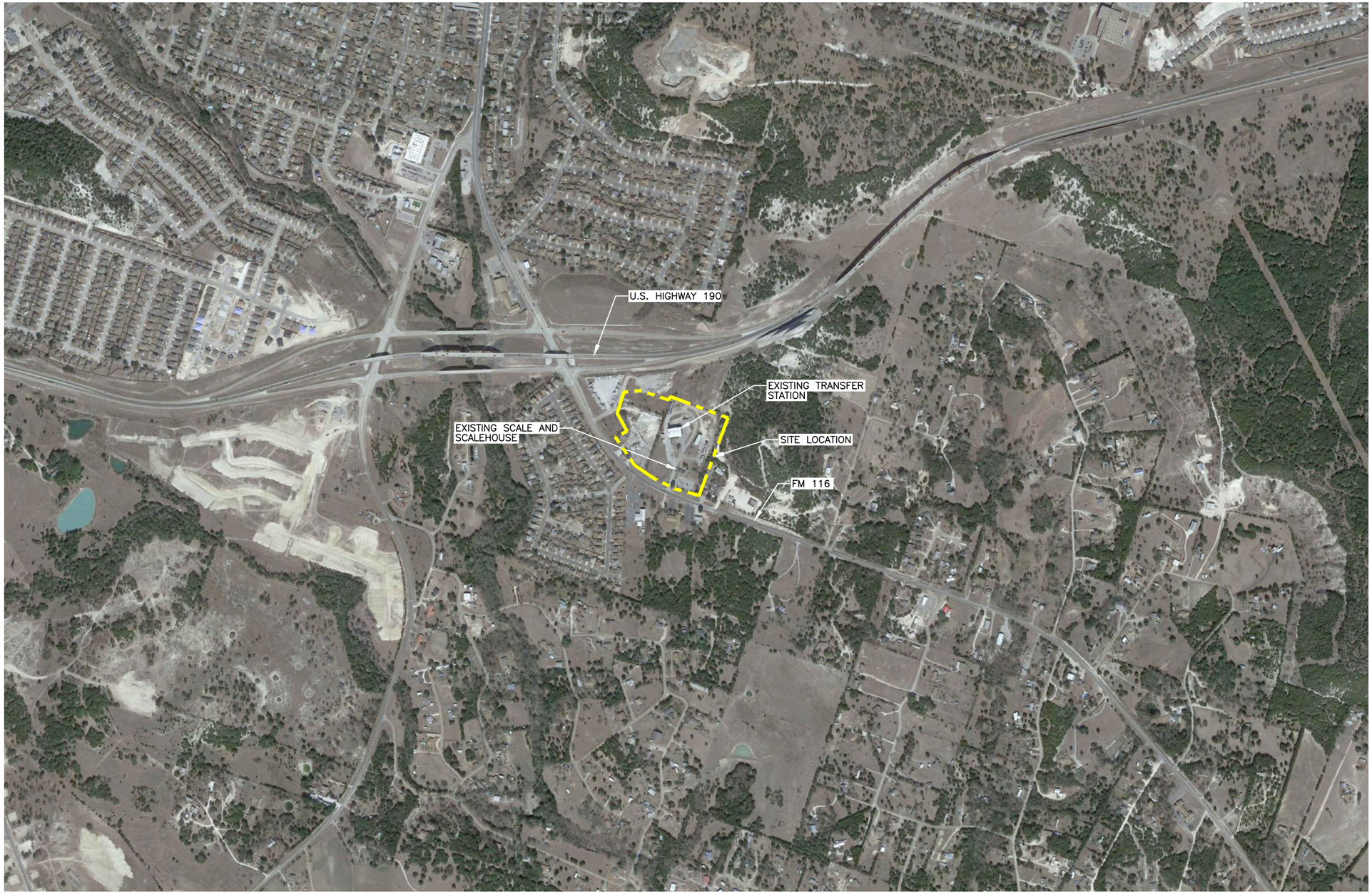
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3

FUTURE USE AREA

CONTAINER STORAGE AREA

CONTAINER SHOP (50'X50')

RECYCLING CENTER (75'X50')

OFFICE (40'X25')

1052.9

1057.3

1058.5

1054.5

1053.3

1051.8+

1051.8

1052.0

1048.5

TRUCK WASH RACK (75'X20')

1057.5

RECYCLING CENTER ENTRANCE

1049.0

FM 116

1042.5

SCALE HOUSE (8'X25')

1049.5

1056.0

OUTGOING TRAILER STAGING AREA

1046.5

BYPASS LANE

OUTBOUND SCALE

INBOUND SCALE

1047.0

1050.5

1056.5

BYPASS LANE

1043.0

TRANSFER STATION ENTRANCE

180' RETAINING WALL (SEE NOTE 3)

EXTEND MANEUVERING APRON

30' BUILDING EXTENSION

TRANSFER STATION BUILDING

25' BUILDING EXTENSION

TRANSFER TRAILER TUNNEL

1080.5

1082.0

1080.7

PROPOSED PARKING LOT

1081.1

285' RETAINING WALL (SEE NOTE 3)

STOP SIGN

REMOVE EXISTING SCALE

EXISTING DETENTION POND

OFFICE BUILDING

EXISTING PARKING LOT

FM 116

N

0 50 100

SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1081.1 SPOT ELEVATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

I/II-A-98

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 09/2023
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: BPY
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

SITE PHOTOGRAPHS

Photo 1 – View from southeast corner looking north along eastern edge.

Photo 2 – View looking south along the east boundary.

Photo 3 – View looking north along the eastern boundary.

Photo 4 – View from northeast corner looking west.

Photo 5 – View from northeast corner looking southwest.

Photo 6 – View from northeast corner looking south.

Photo 7 – View looking south at existing facility.

Photo 8 – View from southwest corner looking northeast at existing facility.

Photo 9 – View looking north at abandoned facility.

Photo 10 – View looking west at abandoned facility.

Photo 11 – View of oldfield in northwest portion of the project site.

Photo 12 – View looking north from northwest corner of oldfield.

ATTACHMENT 3

USFWS/TPWD THREATENED AND ENDANGERED SPECIES LIST

Last Update: 1/4/2023

CORYELL COUNTY

AMPHIBIANS

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

ARACHNIDS

No accepted common name *Tartarocreagris hoodensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Cicurina coryelli*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Cicurina caliga*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Cicurina hoodensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Cicurina mixmaster*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

CORYELL COUNTY

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

black rail *Laterallus jamaicensis*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

black-capped vireo *Vireo atricapilla*

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

chestnut-collared longspur *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Franklin's gull *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

CORYELL COUNTY

BIRDS

golden-cheeked warbler *Setophaga chrysoparia*

Ashe juniper in mixed stands with various oaks (Quercus spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2S3B

lark bunting *Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

mountain plover *Charadrius montanus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

CORYELL COUNTY

BIRDS

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

whooping crane *Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

No accepted common name *Amblycorypha uhleri*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2G3	State Rank: SNA

CORYELL COUNTY

INSECTS

No accepted common name *Rhadine reyesi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Batrisodes wartoni*

It is only known from caves in Coryell Co., Texas (Chandler and Reddell, 2001).

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: SNR

No accepted common name *Tortopus circumfluus*

Mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G3	State Rank: S2?

Texas willowfly *Taeniopteryx starki*

Habitat not described in detail, but apparently breeds in rivers; several members of this genus are known to use warm lotic environments, while others use cold lotic environments

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

MAMMALS

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

cave myotis bat *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

CORYELL COUNTY

MAMMALS

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

swamp rabbit *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

CORYELL COUNTY

MAMMALS

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

MOLLUSKS

Brazos heelsplitter *Potamilus streckersoni*

Reported from streams, but not far into the headwaters, to large rivers, and some reservoirs. In riverine systems occurs most often in nearshore habitats such as banks and backwater pools but occasionally in mainchannel habitats such as riffles. Typically found in standing to slow-flowing water in soft substrates consisting of silt, mud or sand but occasionally in moderate flows with gravel and cobble substrates (Randklev et al. 2014b,c; Tsakiris and Randklev 2016b; Smith et al. 2019) [Mussels of Texas 2020]

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: SNR

false spike *Fusconaia mitchelli*

Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble (Howells 2010; Randklev et al. 2012; Sowards et al. 2013; Tsakiris and Randklev 2016). [Mussels of Texas 2019]

Federal Status: PE	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S1

Texas fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: PT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

CORYELL COUNTY

REPTILES

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

CORYELL COUNTY

PLANTS

canyon sedge *Carex edwardsiana*

Dry-mesic decidous and deciduous-juniper woodlands in canyons and ravines, usually in clay loams very high in calcium on rocky banks and slopes just above streams and stream beds. Carex edwardsiana usually grows near C. planostachys. Fruiting spring (Ball, Reznicek, and 2003).

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3G4 State Rank: S3S4

Glass Mountains coral-root *Hexalectris nitida*

Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under Juniperus ashei in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3

Hall's prairie clover *Dalea hallii*

In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S2

Osage Plains false foxglove *Agalinis densiflora*

Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

plateau milkvine *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S3

Reverchon's scurfpea *Pediomelum reverchonii*

Mostly in prairies on shallow rocky calcareous substrates and limestone outcrops; Perennial; Flowering Jun-Sept; Fruiting June-July

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3

scarlet leather-flower *Clematis texensis*

Usually in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams; Perennial; Flowering March-July; Fruiting May-July

Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G3G4 State Rank: S3S4

sycamore-leaf snowbell *Styrax platanifolius ssp. platanifolius*

CORYELL COUNTY

PLANTS

Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T3	State Rank: S3

Texabama croton *Croton alabamensis var. texensis*

In duff-covered loamy clay soils on rocky slopes in forested, mesic limestone canyons; locally abundant on deeper soils on small terraces in canyon bottoms, often forming large colonies and dominating the shrub layer; scattered individuals are occasionally on sunny margins of such forests; also found in contrasting habitat of deep, friable soils of limestone uplands, mostly in the shade of evergreen woodland mottes; flowering late February-March; fruit maturing and dehiscing by early June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T2	State Rank: S2

tree dodder *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

turnip-root scurfpea *Pediomelum cyphocalyx*

Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S2S3

Wright's milkvetch *Astragalus wrightii*

On sandy or gravelly soils; April (Diggs et al. 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

IPaC **U.S. Fish & Wildlife Service**

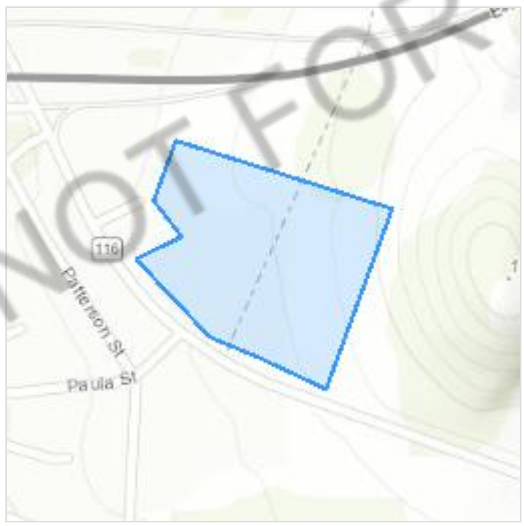
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Coryell County, Texas



Local office

Austin Ecological Services Field Office

(512) 937-7371

1505 Ferguson Lane

Austin, TX 78754-4501

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Golden-cheeked Warbler *Setophaga chrysoparia* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/33	Endangered
Piping Plover *Charadrius melodus* This species only needs to be considered if the following condition applies: • Wind Energy Projects There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* Wherever found This species only needs to be considered if the following condition applies: • Wind Energy Projects There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/758	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Black-capped Vireo Vireo atricapilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5716	Breeds Apr 1 to Sep 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Meadowlark Sturnella magna This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 31
Field Sparrow Spizella pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Aug 15
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

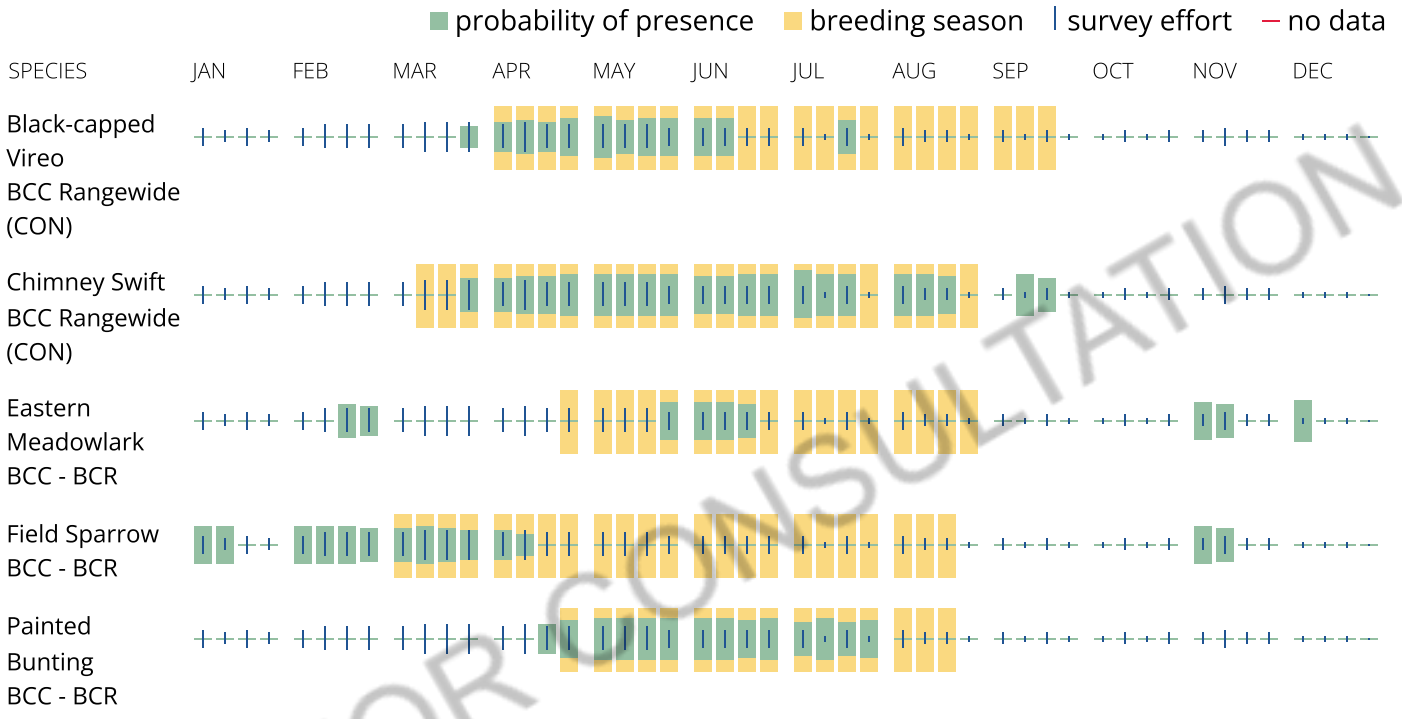
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to

you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOVEMBER 1, 2023 TPWD RESPONSE

Marsh, Chuck

From: Richard Hanson <Richard.Hanson@tpwd.texas.gov>
Sent: Wednesday, November 1, 2023 9:14 AM
To: Marsh, Chuck
Subject: Copperas Cove Transfer Station - T&E Assessment Request (TPWD #51507)

Hi Chuck,

Thank you for submitting the proposed Copperas Cove Transfer Station expansion project for review. Based on review of the documentation and description provided, the Environmental Review Team does not anticipate significant adverse impacts to rare, threatened, or endangered species, or other fish and wildlife resources. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect fish and wildlife. Provided the project plans do not change, TPWD considers coordination to be complete.

Rick Hanson
Environmental Review Biologist
Ecological & Environmental Planning Program
Texas Parks & Wildlife Department
(806) 761-4930 ext. 4936

COORDINATION WITH
CENTRAL TEXAS COUNCIL OF GOVERNMENTS

[CTCOG RESPONSE TO BE INSERTED]

APPENDIX I/IIB

WETLANDS DETERMINATION AND THREATENED AND ENDANGERED SPECIES STUDY

July 2023
5552-001-11-00-03

ENVIRONMENTAL REPORT

City of Copperas Cove

Transfer Station
Copperas Cove, Texas

PREPARED BY

Weaver Consultants Group

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Project Description

The City of Copperas Cove contracted Weaver Consultants Group, LLC (WCG) to perform a biological assessment of the proposed transfer station in Coryell County, Texas. The proposed project site will be in an area with a current solid waste operation consisting of a building, associated parking lot, and operations area. The site is located Farm-to-Market 316 on the south side of Copperas Cove (**Attachment 1**). Site photos are located in **Attachment 2**.

The purpose of this biological assessment is to characterize the ecological conditions at the proposed project location and provide a review of the potential presence threatened and endangered species, migratory birds, and other sensitive species.

2 ECOLOGICAL SITE CHARACTERIZATION

2.1 EPA Ecoregion Description

Ecoregions are areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Based on U.S. Environmental Protection Agency (EPA) Level III and Level IV Ecoregions the proposed project is located within the Limestone Cut Plain of the Cross Timbers (*EPA, 2013*).

The Cross Timbers Level III ecoregion is a transition area between the prairie and forested low mountains, or hills, of eastern Oklahoma and Texas. This region is not known for its suitability to grow crops. Transitional cross timber consists of little bluestem (*Schizachyrium scoparium*) mixed with post oak (*Quercus stellata*) and blackjack oaks (*Q. marilandica*). Pastureland and rangeland, with some woodlands mixed in, comprise the vast majority of this ecoregion (*EPA, 2013*).

The Limestone Cut Plain Level IV ecoregion is more highly eroded than the Edwards Plateau. Its grasslands have elements of the eastern tallgrass prairie. The Limestone Cut Plain exists within the convergence of four ecoregions, the Cross Timbers oak woodland, Balcones Escarpment, Blackland Prairie, Grand Prairie, and Balcones Canyonlands. Increased precipitation and runoff within the Limestone Cut Plain has resulted in increased erosion and dissolution of the limestone layer. Soils are generally shallow with grasslands dominating on the Walnut Clay (*Griffith, et al., 2007*).

2.2 Topography

The United States Department of the Interior Geologic Survey (USGS) 7.5-Minute Topographic Maps of the Site were reviewed to identify drainages or suspect Waters of the United States (WOTUS) within the Site. No streams or other drainages were observed within the project site.

2.3 Vegetation

Typical vegetation in the Limestone Cut Plain includes plateau live oak (*Quercus fusiformis*), cedar elm (*Ulmus crassifolia*), Texas ash (*Fraxinus texensis*), big tooth maple (*Acer grandidentatum*), and bur oak (*Q. macrocarpa*). White shin oak (*Q. sinuate* var. *breviloba*), sumac (*Rhus* spp.), and Ashe juniper (*Juniperus asheii*) occur

on dry rocky slopes. Historic vegetation regimes included big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), yellow Indiangrass (*Sorghastrum nutans*), tall dropseed (*Sporobolus asper* var. *asper*), and sideoats grama (*Bouteloua curtipendula*). Grazing pressure has caused a reduction in historic vegetation and an increase in species such as silver bluestem (*Bothriochloa laguroides spp. torreyana*), Texas wintergrass (*Stipa leucotricha*), and purple threeawn (*Aristida purpurea*) (*Griffith, G. et al, 2007*).

2.4 Soils

The general soil orders within the ecoregion include mollisols, inceptisols, entisols, alfisols, and vertisols. The two soil types within the proposed project area included the Doss-Real complex, 1 to 8 percent slopes and Real-Rock outcrop complex, 8 to 40 percent slopes. The Doss-Real complex soils consist of well drained soils that formed in ridges weathered from loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Shallow, Adobe, Loamy Slope, and Clayey Swale.

The Real-Rock outcrop complex soils consist of well drained soils that formed in ridges in loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Steep Adobe and Low Stony Hill.

2.5 Geology

The proposed site's geology is comprised of the Quaternary and Tertiary stony calcareous clay solution residuum and silty clay decomposition residuum. The bedrock geology includes Lower Cretaceous limestone, marl, and claystone (*Griffith, G., et al., 2007*).

2.6 Climate

The area has average January minimum temperature of 31˚F and maximum of 55˚F and July temperature minimum of 72˚F and maximum of 96˚F, and this ecoregion has between 220 to 245 annual frost free days *(Griffith, G., et al, 2007).* This ecoregion receives 33-37 inches of rainfall on an annual basis.

3 ENVIRONMENTAL IMPACTS DESKTOP REVIEW

3.1 Waters of the United States

3.1.1 Legal Background

The 1972 amendments to the Clean Water Act established federal jurisdiction over "navigable waters," defined in the Act as the "waters of the United States" (CWA Section 502(7)). Many Clean Water Act programs apply only to "waters of the United States." (WOTUS). The Clean Water Act provides discretion for EPA and the U.S. Department of the Army Corps of Engineers to define "waters of the United States" in regulations.

The Clean Water Act requires enforceable water quality standards to maintain overall water quality. Standards for bodies of water are based on the water's designated use; such uses include industrial water supplies, swimming, fishing, agricultural irrigation, and more. States establish water quality standards for waterways within their borders, though the EPA may disapprove and replace state standards with its own if they do not meet the act's minimum requirements. The act also requires that standards outline the maximum allowable concentrations of various pollutants that would not inhibit a waterway's designated use

The U.S. Army Corps of Engineers (USACE) regulates certain activities occurring in waters of the U.S. (WOTUS) per Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (RHA). Under Section 404 of the CWA, authorization must be obtained from the USACE for discharges of dredged and fill material into WOUS. Under Section 10 of the RHA, the USACE regulates work in, or affecting, navigable WOUS.

Federal agencies that regulate impacts to the nation's water resources located within Texas include the USACE, U.S. Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (USFWS). Jurisdictional waters, or WOUS, are protected under guidelines outlined in Executive Order 11990 (Protection of Wetlands) in Sections 401 and 404 of the CWA and by the state's water quality review process. The USACE has primary regulatory authority for enforcing Section 404 requirements for WOTUS, including wetlands.

Like other federal environmental statutes, the Clean Water Act includes provisions to address civil and criminal violations. Enforcement is shared by the EPA and states,

though states generally have primary responsibility given their role in enforcing the discharge permit program and water quality standards. Additionally, the EPA has oversight authority over states and can intervene to bring direct action against private individuals, businesses, and organizations for violations if the agency believes a state has failed to take the necessary and appropriate action or if a state requests EPA involvement. Civil enforcement involves EPA or state-initiated legal action to compel compliance with federal law and may involve fines or penalties leveled against private parties. Criminal enforcement, which is the sole purview of the federal government, involves criminal investigation and prosecution of deliberate and/or severe violations of federal environmental law.

Under Section 10 of the RHA, the USACE regulates navigable WOTUS. Navigable waters are defined at 33 CFR 329 as those waters that are subject to the ebb and flow of the tide and/or are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody and is not extinguished by later actions or events that impede or destroy navigability. Navigable WOUS include many coastal waters, including bays and portions of major rivers.

The limit of USACE jurisdiction for non-tidal WOTUS in the absence of adjacent wetlands is the ordinary high-water mark (OHWM). The OHWM is defined as that line on the shore established by the fluctuations of water and indicated by physical characteristics such as the following:

- Clear, natural line impressed on the bank,
- Shelving,
- Changes in the character of the soil,
- Destruction of terrestrial vegetation,
- Presence of litter and debris, or
- Other appropriate means that consider the characteristics of the surrounding areas.

Jurisdictional wetlands are a category of WOTUS and are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Delineations of wetlands must be conducted using the "Corps of Engineers Wetland Delineation Manual" USACE Waterways Experiment Station Wetlands Research Program Technical Report Y-87-1, dated January 1987, including the supplemental guidance. Coryell County, Texas is located within the region covered by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), dated March 2010 (USACE 2010).

In January 2001, the U.S. Supreme Court decided the Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. case. This case centered on how isolated wetlands would be regulated. In its decision, the court ruled that the USACE does not have jurisdiction over intrastate isolated waters that have no nexus to interstate commerce other than use by migratory birds. In the Western U.S., the ruling mostly affected regulation/protection of playa lakes, abandoned mining and borrow pits, hillside seeps, and other potentially isolated waters.

On June 19, 2006, the U.S. Supreme Court decided the Rapanos et ux., et al v. U.S. case. Following this decision, the USACE and EPA issued joint guidance on delineation of WOTUS based on the Supreme Court decision. Under this guidance, potential WOUS have been classified as traditional navigable waters (TNW), relatively permanent waters (RPW) (having flow most of the year at least seasonally), or non-RPWs. Based on the guidance, TNWs and their adjacent wetlands and RPWs and their adjacent wetlands are WOTUS. Wetlands that are bordering, contiguous, or neighboring another WOTUS are considered adjacent. Additionally, wetlands that are within the 100-year floodplain of another WOTUS are considered adjacent. Non-RPWs, wetlands contiguous or adjacent to non-RPWs, and wetlands adjacent to but that do not directly abut an RPW must demonstrate significant nexus on a case-by-case basis to determine the jurisdictional nature of these water features. The significant nexus test requires that a waterbody must have a substantial connection to a TNW by direct flow or have a biological, chemical, and/or hydrological influence on a TNW. This guidance did not void the SWANCC decision. Currently, the EPA and USACE are administering the 404 permit program under the Rapanos definition for WOTUS. The U.S. Supreme Court recently heard a case (Sackett, October 2022) and issued a decision on May 25, 2023. The Supreme Court decision focused on relatively permanent waters and surface connections. Guidance from the regulatory agencies has not been issued and it is currently unclear how they will proceed on jurisdictional determinations.

Observations

A field investigation was conducted of the proposed project site on May 22, 2023. The project site was occupied by the current solid waste operation, an abandoned operation, and oldfield. The dominant vegetation was comprised of mainly herbaceous species with some woody species including Carolina buckthorn (*Frangula caroliniana*), Engelmann daisy (*Engelmannia peristenia*), yucca (*Yucca filamentosa*), saw greenbriar (*Smilax bona-nox*), Texas live oak (*Quercus fusiformis*), sugarberry (*Celtis laevigata*), Virginia pepperweed (*Lepidium virginicum*), prostrate lawnflower (*Calyptocarpus vialis*), rescuegrass (*Bromus catharticus*), box elder (*Acer negundo*), prairie verbena (*Glandularia bipinnatifida*), blackfoot daisy (*Melampodium leucanthum*), stiff greenthread (*Thelesperma filifolium*), antelope horns milkweed (*Asclepias asperula*), woollywhite (*Hymenopappus scabiosaeus*), buffalo gourd (*Cucurbita foetidissima*), centaury (*Centaurium pulchellum*), Missouri evening primrose (*Oenothera macrocarpa*), Ashe's juniper (*Juniperus ashei*), white milkwhort (*Polygala alba*), purple three-awn (*Aristida purpurea*), prairie sumac (*Rhus lanceolata*), Texas toothleaf (*Stillingia texana*), Indian mallow (*Abutilon fruticosum*),

trailing krameria (*Krameria lanceolata*), Bradford pear (*Pyrus calleryana*), prickly pear (*Opuntia* spp.), mesquite (*Prosopis glandulosa*), cottonwood (*Populus deltoides*), mustang grape vine (*Vitis mustangensis*), western ragweed (*Ambrosia psilostachya*), baccharis (*Baccharis* spp.), hedge parsley (*Torilis arvensis*), gum bumelia (*Sideroxylon lanuginosum*), gumweed (*Grindelia squarrosa*), Virginia wildrye (*Elymus virginicus*), Johnson grass (*Sorghum halepense*), KR bluestem (*Bothriochloa ischaemum*), false ragweed (*Parthenium* spp.), lemon beebalm (*Monarda citriodora*), giant ragweed (*Ambrosia trifida*), and foxtail (*Setaria viridis*).

4 RESULTS AND RECOMMENDATIONS

4.1 Summary of Results and Recommendations

The proposed project site is dominated by a previous operation and oldfield. Based on field observations and research, there were no waters of the U.S. on the project site.

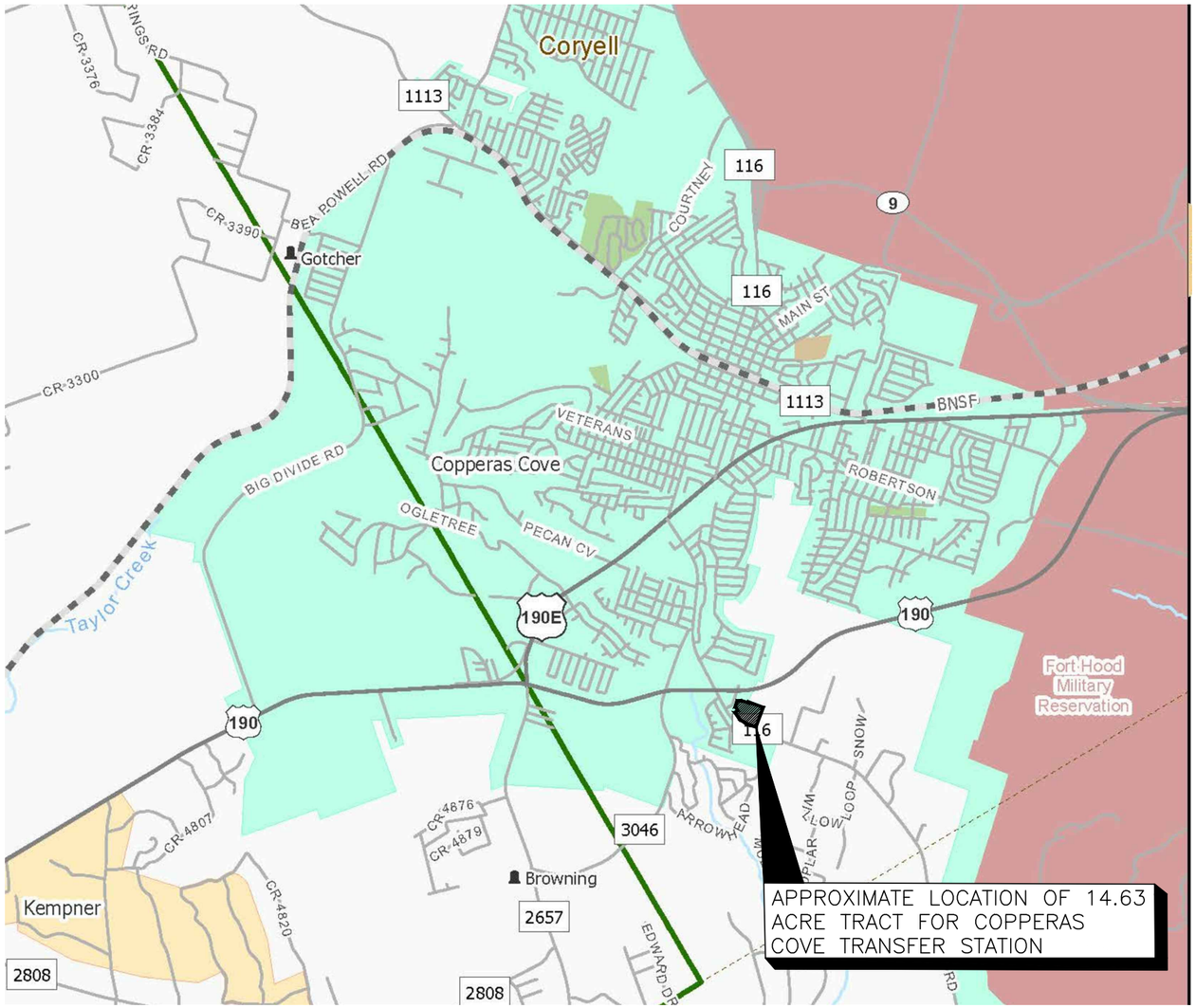
5 REFERENCES

Environmental Protection Agency (EPA), 2013, Level III and IV ecoregions of the continental United States: Corvallis, Oregon, U.S. EPA, National Health and Environmental Effects Research Laboratory, map scale 1:3,000,000, https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

Griffith, G., Griffith, S., Omernick, J., and Rogers, A., 2007, Ecoregions of Texas: Texas Commission on Environmental Quality.

ATTACHMENT 1

FIGURES



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

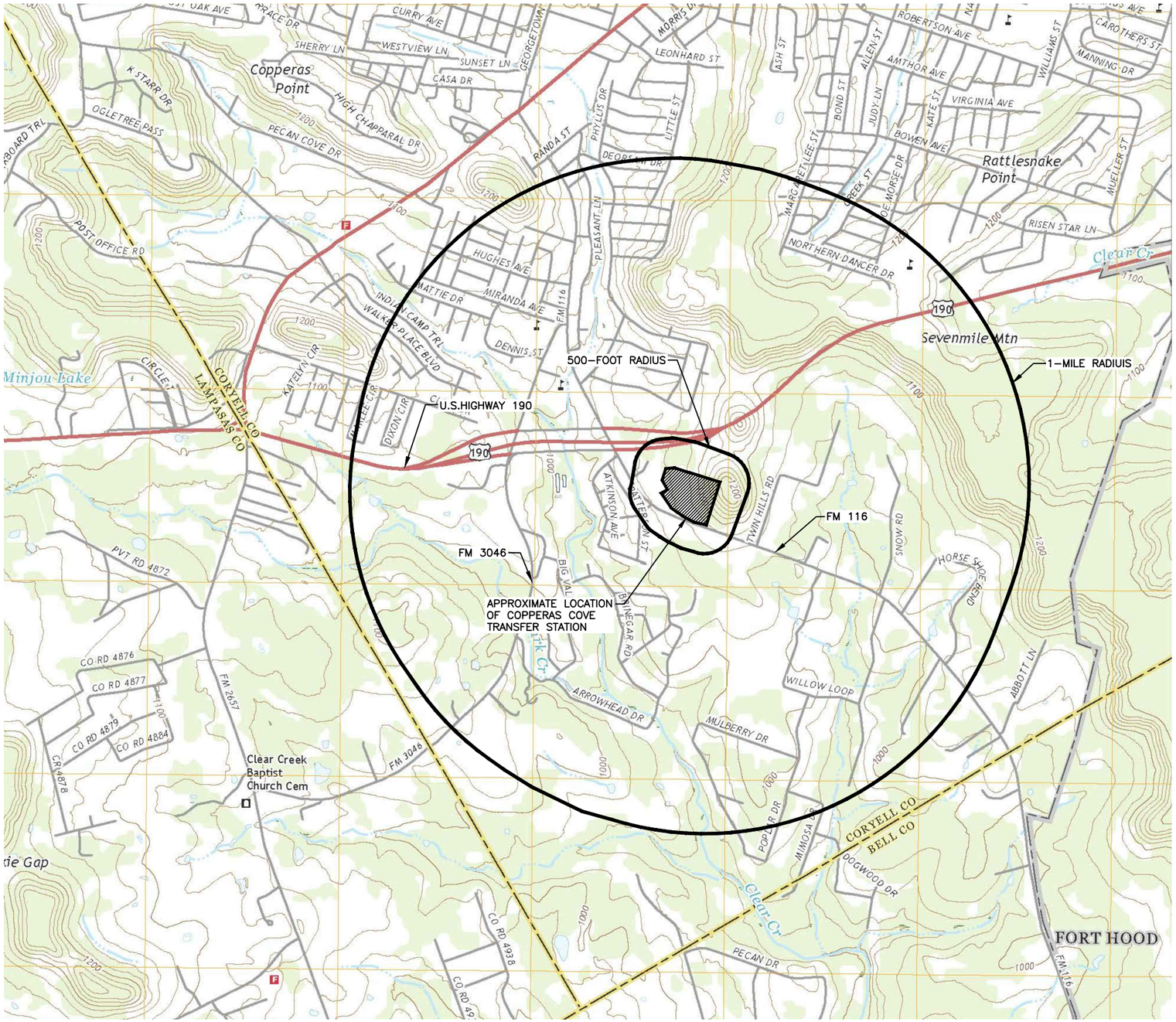
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

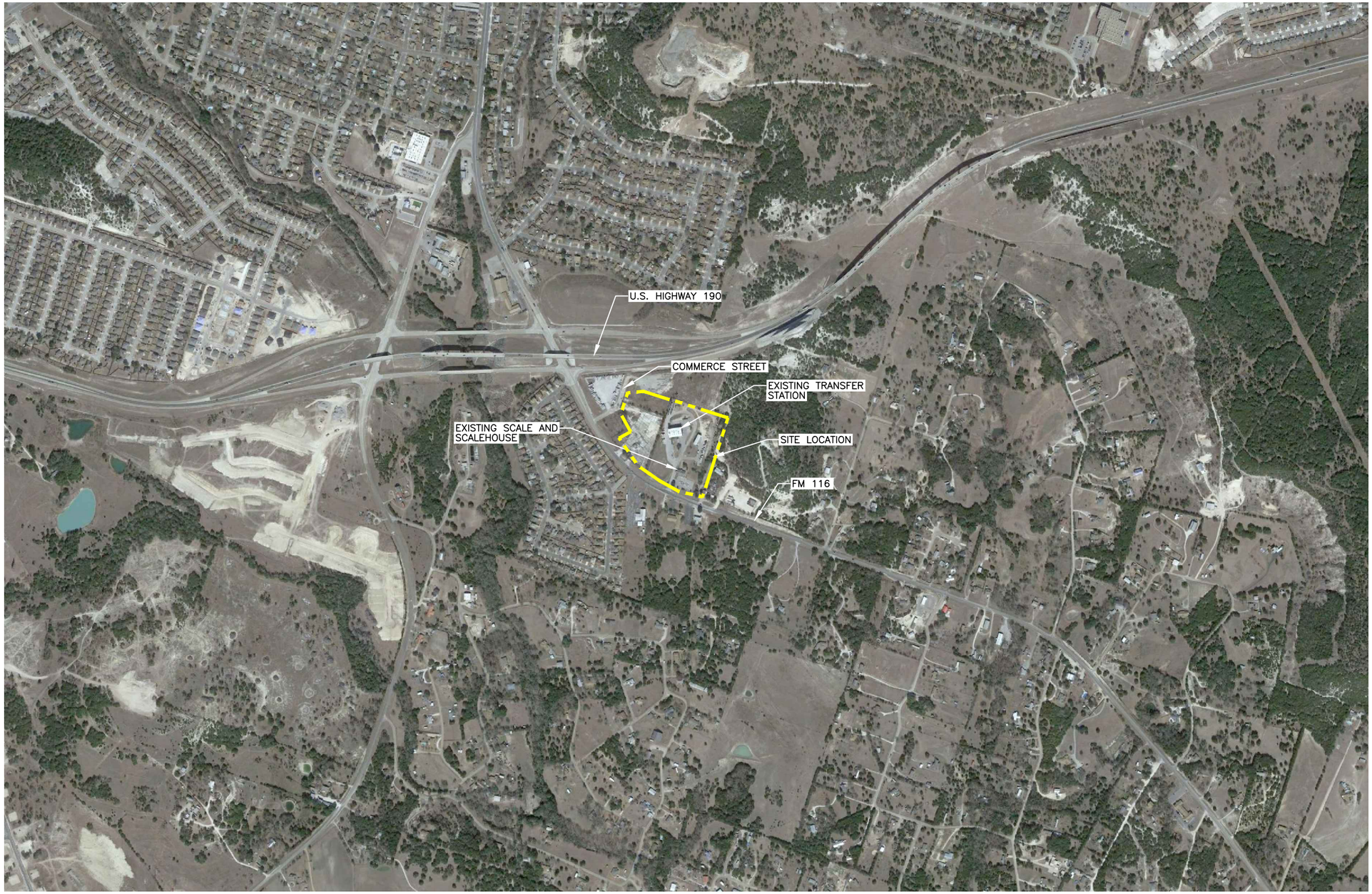
FIGURE 1



NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

☐ DRAFT ☒ FOR PERMITTING PURPOSES ONLY ☐ ISSUED FOR CONSTRUCTION	PREPARED FOR THE CITY OF COPPERAS COVE	TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP
DATE: 03/2024 FILE: 5552-001-11 CAD: FIG 2-GENERAL TOPO MAP.DWG DRAWN BY: RAA DESIGN BY: MB REVIEWED BY: CRM	REVISIONS NO. / DATE / DESCRIPTION	CITY OF COPPERAS COVE TRANSFER STATION CORYELL, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

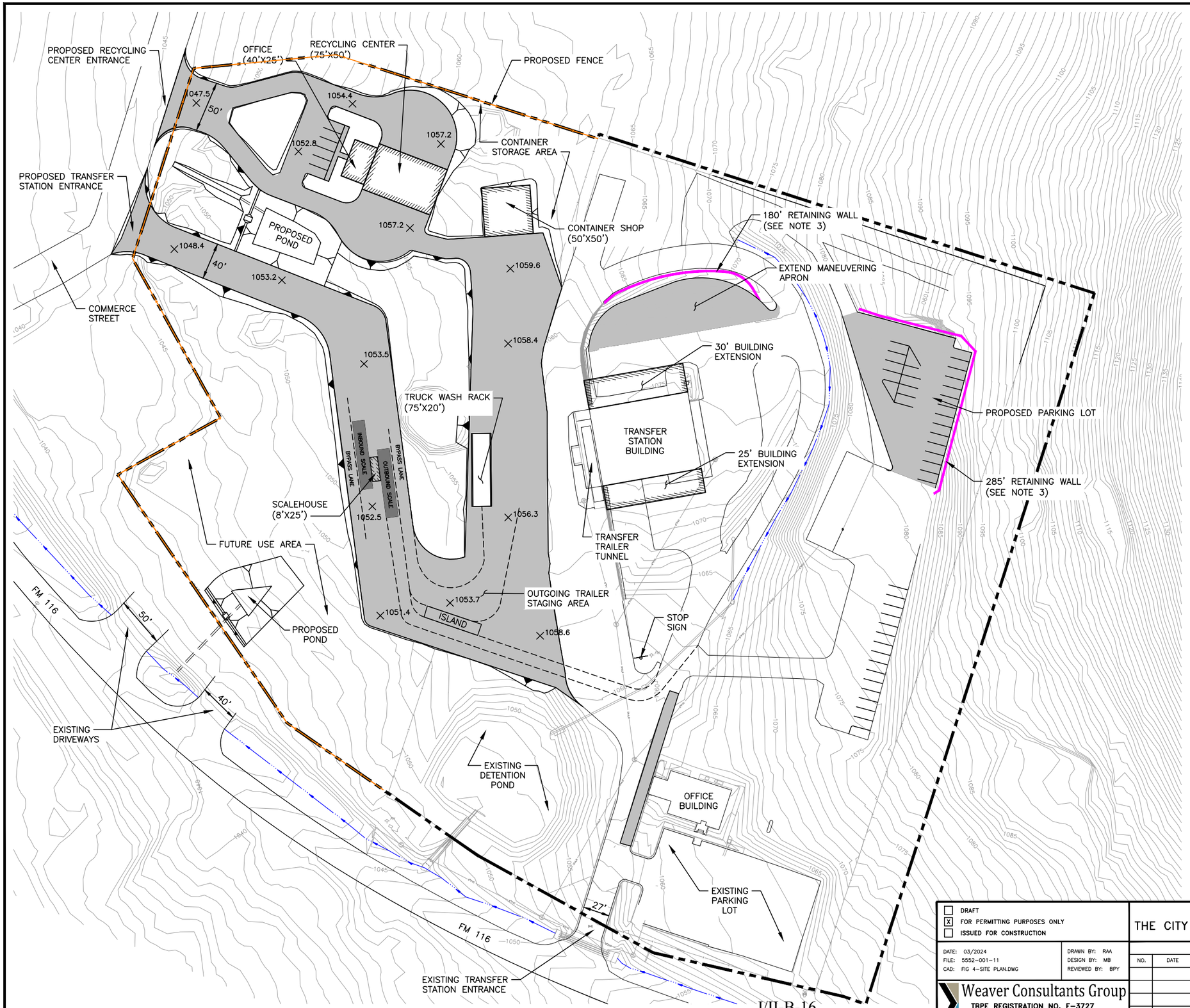
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3



N

0 50 100

SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1056.3 — SPOT ELEVATION
- PROPOSED FENCE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

SITE PHOTOGRAPHS

Photo 1 – View from southeast corner looking north along eastern edge.

Photo 2 – View looking south along the east boundary.

Photo 3 – View looking north along the eastern boundary.

Photo 4 – View from northeast corner looking west.

Photo 5 – View from northeast corner looking southwest.

Photo 6 – View from northeast corner looking south.

Photo 7 – View looking south at existing facility.

Photo 8 – View from southwest corner looking northeast at existing facility.

Photo 9 – View looking north at abandoned facility.

Photo 10 – View looking west at abandoned facility.

Photo 11 – View of oldfield in northwest portion of the project site.

Photo 12 – View looking north from northwest corner of oldfield.

July 2023
5552-001-11-00-03

BIOLOGICAL REPORT

City of Copperas Cove

Transfer Station
Copperas Cove, Texas

PREPARED BY

Weaver Consultants Group

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Project Description

The City of Copperas Cove contracted Weaver Consultants Group, LLC (WCG) to perform a biological assessment of the proposed transfer station in Coryell County, Texas. The proposed project site will be in an area with a current solid waste operation consisting of a building, associated parking lot, and operations area. The site is located Farm-to-Market 316 on the south side of Copperas Cove (**Attachment 1**). Site photos are located in **Attachment 2**.

The purpose of this biological assessment is to characterize the ecological conditions at the proposed project location and provide a review of the potential presence threatened and endangered species, migratory birds, and other sensitive species.

2 ECOLOGICAL SITE CHARACTERIZATION

2.1 EPA Ecoregion Description

Ecoregions are areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Based on U.S. Environmental Protection Agency (EPA) Level III and Level IV Ecoregions the proposed project is located within the Limestone Cut Plain of the Cross Timbers (*EPA, 2013*).

The Cross Timbers Level III ecoregion is a transition area between the prairie and forested low mountains, or hills, of eastern Oklahoma and Texas. This region is not known for its suitability to grow crops. Transitional cross timber consists of little bluestem (*Schizachyrium scoparium*) mixed with post oak (*Quercus stellata*) and blackjack oaks (*Q. marilandica*). Pastureland and rangeland, with some woodlands mixed in, comprise the vast majority of this ecoregion (*EPA, 2013*).

The Limestone Cut Plain Level IV ecoregion is more highly eroded than the Edwards Plateau. Its grasslands have elements of the eastern tallgrass prairie. The Limestone Cut Plain exists within the convergence of four ecoregions, the Cross Timbers oak woodland, Balcones Escarpment, Blackland Prairie, Grand Prairie, and Balcones Canyonlands. Increased precipitation and runoff within the Limestone Cut Plain has resulted in increased erosion and dissolution of the limestone layer. Soils are generally shallow with grasslands dominating on the Walnut Clay (*Griffith, et al., 2007*).

2.2 Vegetation

Typical vegetation in the Limestone Cut Plain includes plateau live oak (*Quercus fusiformis*), cedar elm (*Ulmus crassifolia*), Texas ash (*Fraxinus texensis*), big tooth maple (*Acer grandidentatum*), and bur oak (*Q. macrocarpa*). White shin oak (*Q. sinuate* var. *breviloba*), sumac (*Rhus* spp.), and Ashe juniper (*Juniperus asheii*) occur on dry rocky slopes. Historic vegetation regimes included big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), yellow Indiangrass (*Sorghastrum nutans*), tall dropseed (*Sporobolus asper* var. *asper*), and sideoats grama (*Bouteloua curtipendula*). Grazing pressure has caused a reduction in historic vegetation and an increase in species such as silver bluestem (*Bothriochloa laguroides spp. torreyana*), Texas wintergrass (*Stipa leucotricha*), and purple threeawn (*Aristida purpurea*) (*Griffith, G. et al, 2007*).

2.3 Soils

The general soil orders within the ecoregion include mollisols, inceptisols, entisols, alfisols, and vertisols. The two soil types within the proposed project area included the Doss-Real complex, 1 to 8 percent slopes and Real-Rock outcrop complex, 8 to 40 percent slopes. The Doss-Real complex soils consist of well drained soils that formed in ridges weathered from loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Shallow, Adobe, Loamy Slope, and Clayey Swale.

The Real-Rock outcrop complex soils consist of well drained soils that formed in ridges in loamy residuum weathered from limestone. The runoff class is high and there is no frequency of ponding or flooding. These soils are not considered prime farmland. These soils are not considered hydric nor are their minor components. Their ecological site classifications are Steep Adobe and Low Stony Hill.

2.4 Geology

The proposed site's geology is comprised of the Quaternary and Tertiary stony calcareous clay solution residuum and silty clay decomposition residuum. The bedrock geology includes Lower Cretaceous limestone, marl, and claystone (*Griffith, G., et al., 2007*).

2.5 Climate

The area has average January minimum temperature of 31˚F and maximum of 55˚F and July temperature minimum of 72˚F and maximum of 96˚F, and this ecoregion has between 220 to 245 annual frost free days *(Griffith, G., et al, 2007).* This ecoregion receives 33-37 inches of rainfall on an annual basis.

3 ENVIRONMENTAL IMPACTS DESKTOP REVIEW

3.1 Potential Impacted Species and Migratory Birds

3.1.1 Threatened/Endangered Species

The Endangered Species Act (ESA) aims to conserve endangered and threatened species and the ecosystems they depend on. To implement the ESA, NOAA works with U.S. Fish and Wildlife Service (USFWS) and other federal, tribal, state, and local agencies, as well as nongovernmental organizations and private citizens.

The USFWS IPaC tool (*IPAC, n.d.*) lists four bird species, two as endangered and two as threatened (**Attachment 3**). The Texas Parks and Wildlife Department (TPWD) lists two birds as threatened and two as endangered, three mollusk species as threatened, and one reptile species as threatened.

The golden-cheeked warbler (*Setophaga chrysoparia*) is an endangered species that nests in mixed Ashe-juniper and oak woodlands in ravines and canyons. They use long strips of cedar bark and spider webs to build their nests. Sufficient habitat was not present on the project site.

The whooping crane (*Grus americana*) is an endangered species that prefers small ponds, marshes, and flooded grain fields for both roosting and foraging. This species is a migrant throughout most of the state. Sufficient habitat was not present within the project site.

The piping plover (*Charadrius melodus*) is a threatened species that prefers sand flats and algal flats. Optimal sites appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat and with limited human disturbance. This species is not expected to occur within the project site.

The red knot (*Calidris canutus rufa*) is a threatened species that prefers seacoast on tidal flats and beaches and herbaceous wetlands. This species is not expected to occur within the project site.

The white-faced ibis (*Plegadis chihi*) is a state-listed species that prefers freshwater marshes, sloughs, and irrigated rice fields. This species currently resided in near-coastal rookeries. This species is not expected to occur within the project site.

The black rail (Laterallus jamaicensis) is a federal- and state-listed threatened species. This species prefers salt, brackish, and freshwater marshes, pond borders,

wet meadows, and grassy swamps. Suitable habitat was not observed within the project site.

The Brazos heelsplitter (*Potamilus streckersoni*), false spike (*Fusconaia mitchelli*), and Texas fawnsfoot (*Truncilla macrodon*) are state-listed threatened species. The USFWS is proposing to list the false spike as endangered and the Texas fawnsfoot as threatened. These species occur in small streams to medium-sized rivers in habitats such as riffles and runs with flowing water. Suitable habitat for these species is not present within the project site.

The Texas horned lizard (*Phrynosoma cornutum*) is a state-listed threatened reptile. This species prefers open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush, or scrubby trees. The proposed project is not expected to impact the species overall. Should a Texas horned lizard be observed on the site during construction, work will immediately stop in the area and the TPWD will be notified as to next steps.

3.1.2 Candidate Species

The USFWS also lists the Monarch Butterfly (*Danaus plexippus*)#as a potential candidate species. Candidate species are species that are being considered for possible addition to the threatened and endangered species list. They currently have no legal protection under the ESA. If you find you have potential project impacts to these species the USFWS can provide technical assistance to help avoid or minimize any adverse impacts.

Candidate Conservation Agreements (CCAs) are voluntary conservation agreements between the U.S. Fish and Wildlife Service (Service) and one or more public or private parties. The Service works with its partners to identify threats to candidate species, plan the measures needed to address the threats and conserve these species, identify willing landowners, develop agreements, and design and implement conservation measures and monitor their effectiveness. Candidate Conservation Agreements with Assurances (CCAAs) expand on the success of traditional CCAs by providing non-federal landowners with additional incentives for engaging in voluntary proactive conservation through assurances that limit future conservation obligations. One of the primary reasons for developing the CCAA program was to address landowner concerns about the potential regulatory implications of having a listed species on their land. The CCAA program specifically targets non-federal landowners and provides them with the assurance that if they implement various conservation activities, they will not be subject to additional restrictions if the species becomes listed under the ESA. These assurances are only available to non-federal entities for actions on non-federal lands.

If a candidate species is found at the proposed Site, implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. For additional information

regarding CCAs and CCAAs please contact the U. S. Fish and Wildlife Service Ecological Services Program or please see the below link for additional information:

https://www.fws.gov/endangered/esa-library/pdf/CCAs.pdf.

3.1.3 Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). The Migratory Bird Treaty Act of 1918 provides protection for a large number of migratory bird species. The MBTA specifically is a treaty between the U.S., Japan, Canada, Mexico, and Russia which protect birds that migrate across international borders. The take of all migratory birds, including bald eagles, is governed by the MBTA regulations.

The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except as authorized under a valid permit. Additionally, the MBTA authorizes and directs the Secretary of the Interior to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take (for example, hunting seasons for ducks and geese). The bald eagle is protected by the BGEPA even though it has been delisted under the Endangered Species Act. This law, originally passed in 1940, provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures. The birds in the below table are of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in the project location.

Please note, this is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area:

Table 1. Potential Birds of Conservation Concern

Migratory Bird Species Name	Breeding Season	Level of Concern (BCC or ESA Status)
Black-capped Vireo (*Vireo atricapilla)*	Breeds April 1 to Sep 15	BCC Rangewide
Chimney Swift *(Chaetura pelagica)*	Breeds March 15 to Aug 25	BCC Rangewide
Eastern Meadowlark *(Sturnella magna)*	Breeds April 25 to Aug 31	BCC in BCRs
Field Sparrow (*Sizella pusilla*)	Breeds Mar 1 to Aug 15	BCC in BCRs
Painted Bunting (*Passerina ciris*)	Breeds Apr 25 to Aug 15	BCC in BCRs

When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. Additional measures or permits may be advisable depending on the type of activity you are conducting, and the type of infrastructure or bird species present on your project site. If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Nationwide Conservation Measures (NCM) describes measures that can help avoid and minimize impacts to all birds at any location year-round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. These measures are grouped into three categories: General, Habitat Protection, and Stressor Management. These measures may be updated through time. We recommend checking the USFWS NCM website regularly for the most up-to-date list:

https://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Please note, if one of the birds in Table 1 is found at the proposed project site the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. The MBTA is regulated by the USFWS. If a species is found, or an active nest is found, a permit from the USFWS must be obtained before take of the species can occur. The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13.

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present under the BGEPA, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts

normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment. A violation of the Act can result in a fine of $100,000 ($200,000 for organizations), imprisonment for one year, or both, for a first offense. Penalties increase substantially for additional offenses, and a second violation of this Act is a felony.

3.2 Observations

A field investigation was conducted of the proposed project site on May 22, 2023. The project site was occupied by the current solid waste operation, an abandoned operation, and oldfield. The dominant vegetation was comprised of mainly herbaceous species with some woody species including Carolina buckthorn (*Frangula caroliniana*), Engelmann daisy (*Engelmannia peristenia*), yucca (*Yucca filamentosa*), saw greenbriar (*Smilax bona-nox*), Texas live oak (*Quercus fusiformis*), sugarberry (*Celtis laevigata*), Virginia pepperweed (*Lepidium virginicum*), prostrate lawnflower (*Calyptocarpus vialis*), rescuegrass (*Bromus catharticus*), box elder (*Acer negundo*), prairie verbena (*Glandularia bipinnatifida*), blackfoot daisy (*Melampodium leucanthum*), stiff greenthread (*Thelesperma filifolium*), antelope horns milkweed (*Asclepias asperula*), woollywhite (*Hymenopappus scabiosaeus*), buffalo gourd (*Cucurbita foetidissima*), centaury (*Centaurium pulchellum*), Missouri evening primrose (*Oenothera macrocarpa*), Ashe's juniper (*Juniperus ashei*), white milkwhort (*Polygala alba*), purple three-awn (*Aristida purpurea*), prairie sumac (*Rhus lanceolata*), Texas toothleaf (*Stillingia texana*), Indian mallow (*Abutilon fruticosum*), trailing krameria (*Krameria lanceolata*), Bradford pear (*Pyrus calleryana*), prickly pear (*Opuntia* spp.), mesquite (*Prosopis glandulosa*), cottonwood (*Populus deltoides*), mustang grape vine (*Vitis mustangensis*), western ragweed (*Ambrosia psilostachya*), baccharis (*Baccharis* spp.), hedge parsley (*Torilis arvensis*), gum bumelia (*Sideroxylon lanuginosum*), gumweed (*Grindelia squarrosa*), Virginia wildrye (*Elymus virginicus*), Johnson grass (*Sorghum halepense*), KR bluestem (*Bothriochloa ischaemum*), false ragweed (*Parthenium* spp.), lemon beebalm (*Monarda citriodora*), giant ragweed (*Ambrosia trifida*), and foxtail (*Setaria viridis*).

4 RESULTS AND RECOMMENDATIONS

4.1 Summary of Results and Recommendations

The proposed project site had an existing solid waste operation, and abandoned operation with parking area, and oldfield. No threatened or endangered species, nor their suitable habitat, were observed within the project site.

The proposed project will not result in the destruction or adverse modification of any federally designated critical habitat for any threatened or endangered species, nor cause or contribute to the taking of any listed threatened or endangered species. Please note, Table 1 provides a list of the Potential Birds of Conservation Concern list or warrant special attention in the project location and the Nationwide Conservation Measures (NCM) can help avoid and minimize impacts to all birds at any location year-round. If any birds listed in Table 1 or any other threatened/endangered species are found at the project location, the U. S. Fish and Wildlife Service Ecological Services Program and Texas Parks and Wildlife Department should be contacted. Based on this environmental review, no further investigation for threatened and endangered species is recommended at this time.

5 REFERENCES

Environmental Protection Agency (EPA), 2013, Level III and IV ecoregions of the continental United States: Corvallis, Oregon, U.S. EPA, National Health and Environmental Effects Research Laboratory, map scale 1:3,000,000, https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states.

U.S. Environmental Protection Agency, 2013, Level III ecoregions of the continental United States: Corvallis, Oregon, U.S. EPA – National Health and Environmental Effects Research Laboratory, map scale 1:7,500,000, http://www.epa.gov/wed/pages/ecoregions/level_iii_iv.htm.

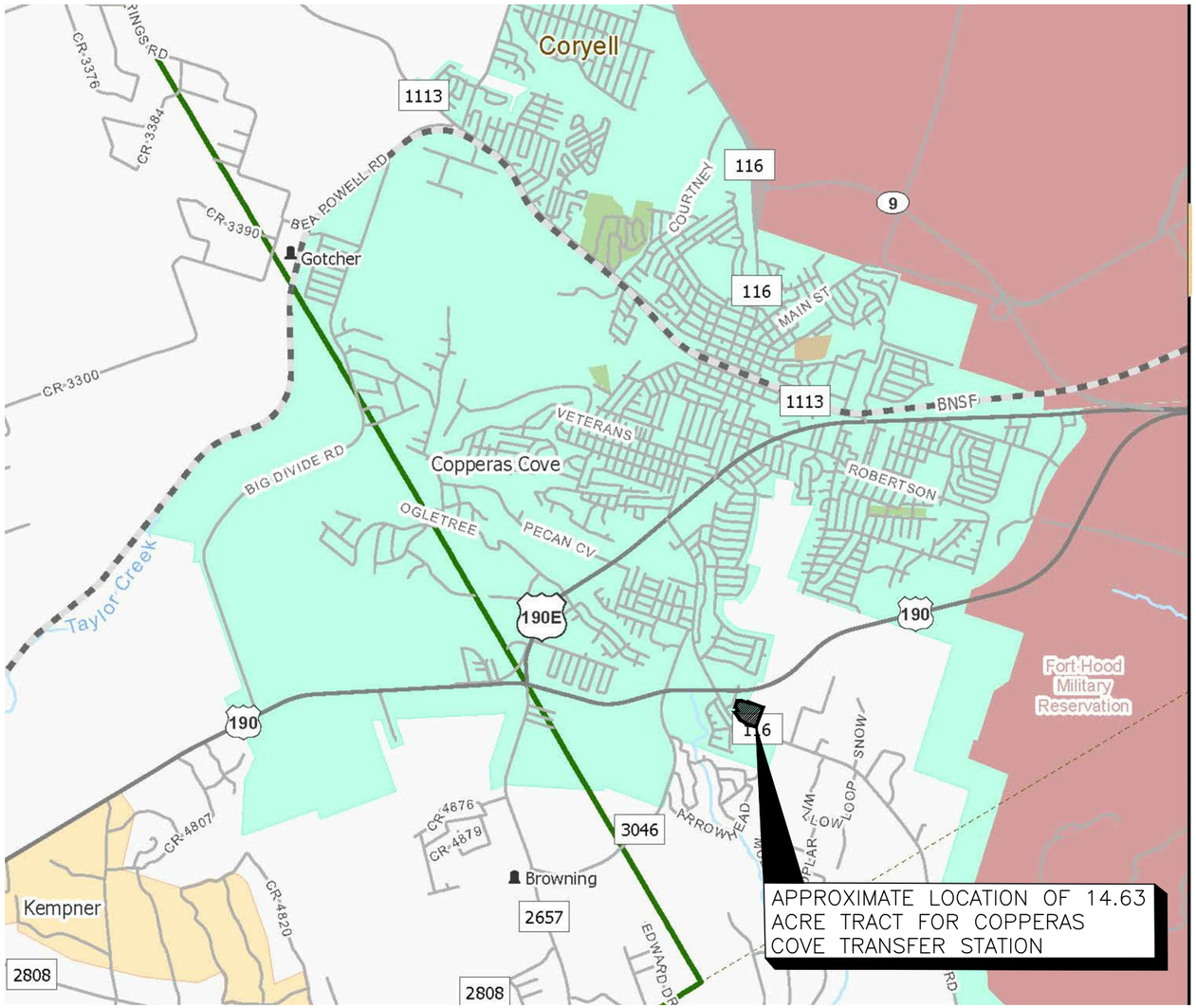
Griffith, G., Griffith, S., Omernick, J., and Rogers, A., 2007, Ecoregions of Texas: Texas Commission on Environmental Quality.

IPaC - Information for Planning and Consultation, n.d., https://ecos.fws.gov/ipac/

Texas Parks and Wildlife Department, Accessed 4 January 2023, Coryell County: Annotated County Lists of Rare Species

ATTACHMENT 1

FIGURES



N

0 1/2 1
SCALE IN MILES

LEGEND

- Unincorporated Community
- County Seat
- Border Crossing
- Cemetery
- Cemetery (Inside City)
- Deep Draft Port
- Shallow Draft Port
- Railroad
- Dam
- River or Stream
- TXDOT District
- Lakes
- Education
- Military
- Airport Runway
- Airport
- Prison
- Parks and Other Public Land

NOTES:

1. REPRODUCED FROM THE COUNTY MAPBOOK 2018 (TEXAS DEPARTMENT OF TRANSPORTATION, TRANSPORTATION PLANNING, AND PROGRAMMING DIVISION).

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 1-SITE LOCATION MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

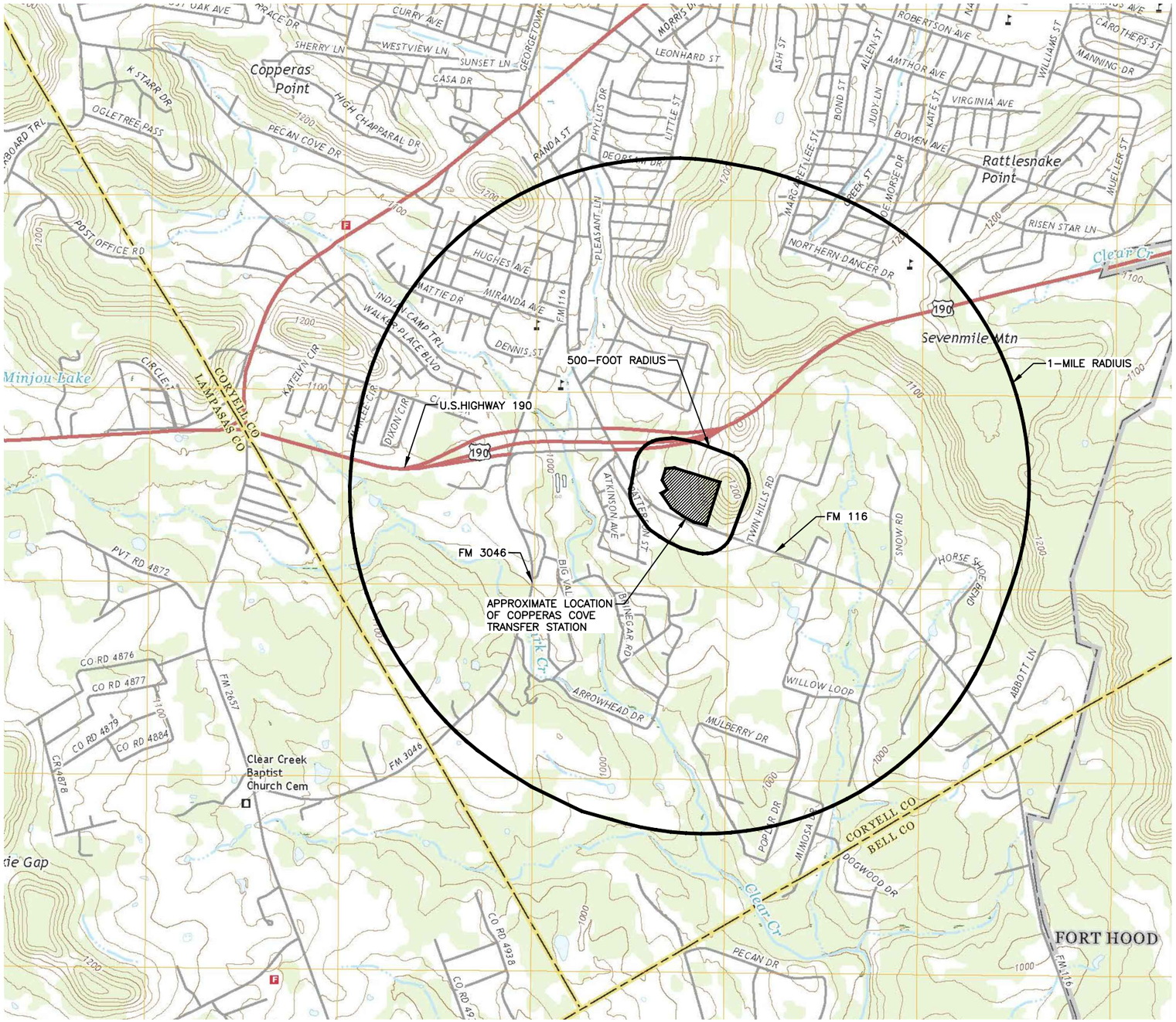
NO.	DATE	DESCRIPTION

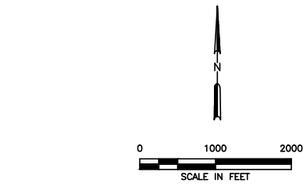
TYPE V PERMIT APPLICATION
SITE LOCATION MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 1





ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route | US Route | State Route

1-MILE RADIUS

NOTES:

1. ADAPTED FROM THE USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAPS (COPPERAS COVE, TEXAS, 2022)

I/II-B-38

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 2-GENERAL TOPO MAP.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

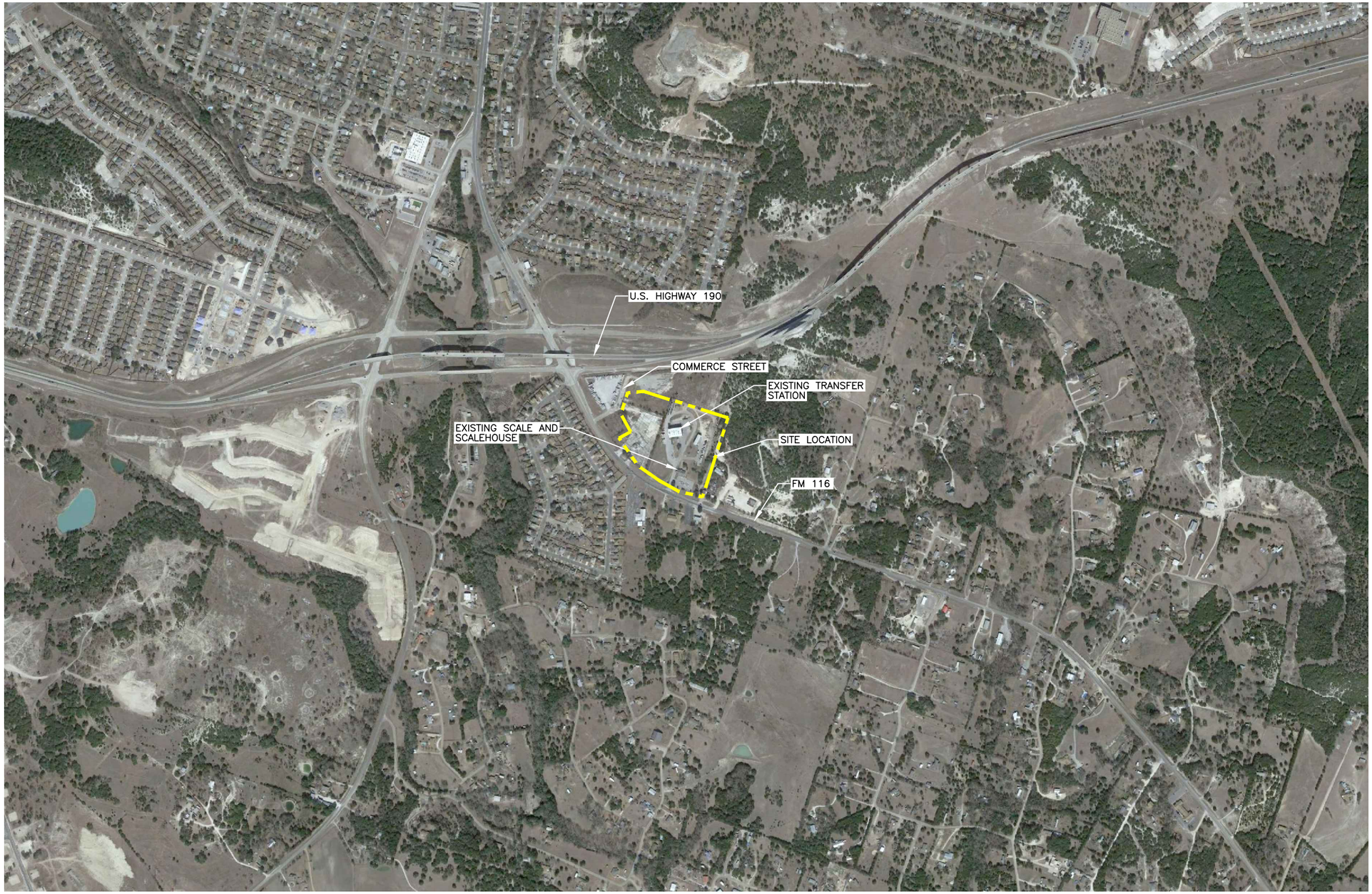
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL TOPOGRAPHIC MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 2



N

0 500 100

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

NOTE:

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH DATED JANUARY 2022.

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 3-AERIAL PHOTOGRAPH.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

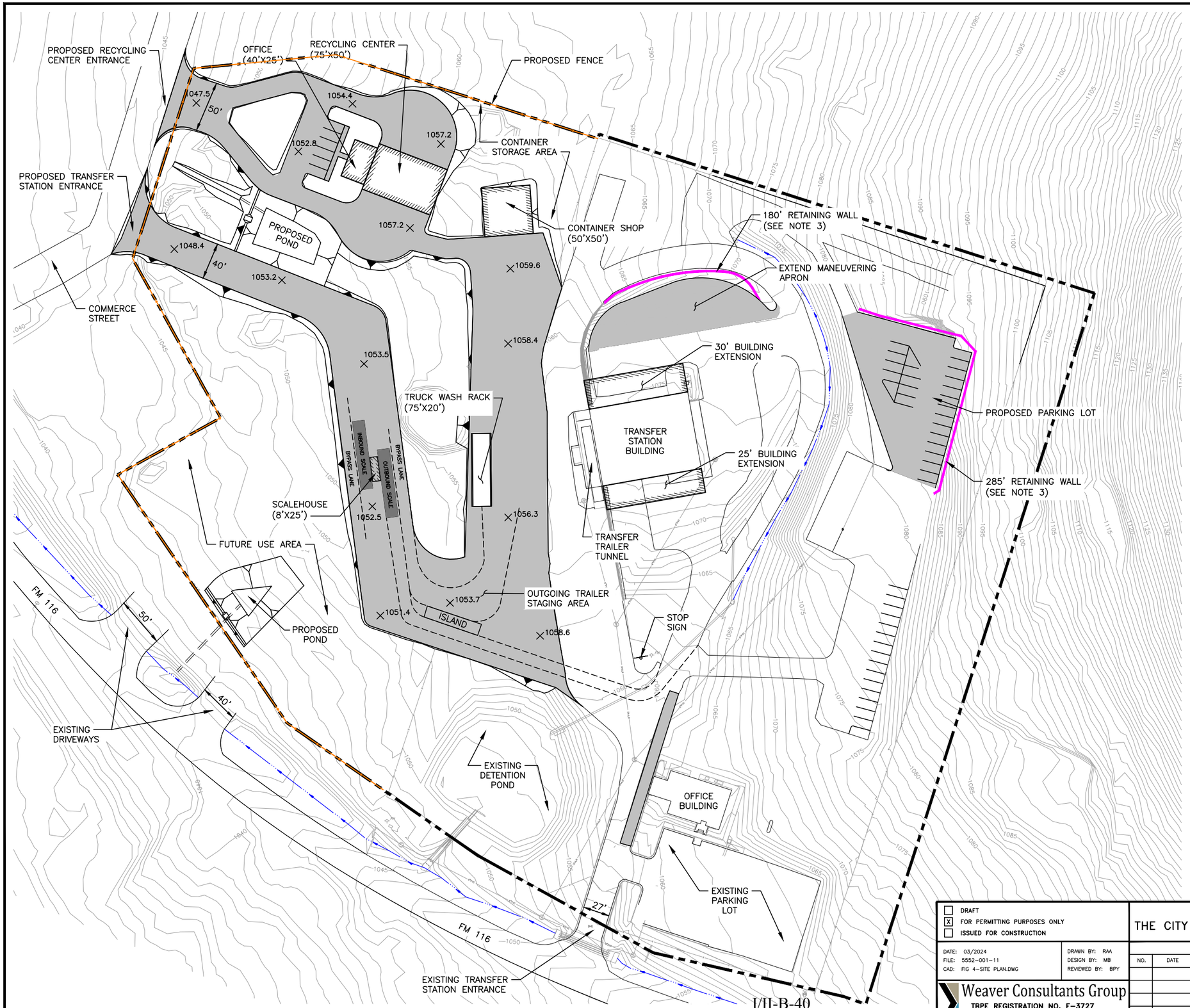
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
AERIAL PHOTOGRAPH

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 3



N

0 50 100

SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1056.3 — SPOT ELEVATION
- PROPOSED FENCE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 4-SITE PLAN.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE 4

ATTACHMENT 2

SITE PHOTOS

Photo 1 – View from southeast corner looking north along eastern edge.

Photo 2 – View looking south along the east boundary.

Photo 3 – View looking north along the eastern boundary.

Photo 4 – View from northeast corner looking west.

Photo 5 – View from northeast corner looking southwest.

Photo 6 – View from northeast corner looking south.

Photo 7 – View looking south at existing facility.

Photo 8 – View from southwest corner looking northeast at existing facility.

Photo 9 – View looking north at abandoned facility.

Photo 10 – View looking west at abandoned facility.

Photo 11 – View of oldfield in northwest portion of the project site.

Photo 12 – View looking north from northwest corner of oldfield.

ATTACHMENT 3

USFWS/TPWD THREATENED AND ENDANGERED SPECIES LISTS

Last Update: 1/4/2023

CORYELL COUNTY

AMPHIBIANS

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

ARACHNIDS

No accepted common name *Tartarocreagris hoodensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Cicurina coryelli*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Cicurina caliga*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Cicurina hoodensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Cicurina mixmaster*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

CORYELL COUNTY

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

black rail *Laterallus jamaicensis*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

black-capped vireo *Vireo atricapilla*

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

chestnut-collared longspur *Calcarius ornatus*

Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Franklin's gull *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

CORYELL COUNTY

BIRDS

golden-cheeked warbler *Setophaga chrysoparia*

Ashe juniper in mixed stands with various oaks (Quercus spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2S3B

lark bunting *Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

mountain plover *Charadrius montanus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

CORYELL COUNTY

BIRDS

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

whooping crane *Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

No accepted common name *Amblycorypha uhleri*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2G3	State Rank: SNA

CORYELL COUNTY

INSECTS

No accepted common name *Rhadine reyesi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Batrisodes wartoni*

It is only known from caves in Coryell Co., Texas (Chandler and Reddell, 2001).

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: SNR

No accepted common name *Tortopus circumfluus*

Mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G3	State Rank: S2?

Texas willowfly *Taeniopteryx starki*

Habitat not described in detail, but apparently breeds in rivers; several members of this genus are known to use warm lotic environments, while others use cold lotic environments

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

MAMMALS

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

cave myotis bat *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

CORYELL COUNTY

MAMMALS

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

swamp rabbit *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

CORYELL COUNTY

MAMMALS

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

MOLLUSKS

Brazos heelsplitter *Potamilus streckersoni*

Reported from streams, but not far into the headwaters, to large rivers, and some reservoirs. In riverine systems occurs most often in nearshore habitats such as banks and backwater pools but occasionally in mainchannel habitats such as riffles. Typically found in standing to slow-flowing water in soft substrates consisting of silt, mud or sand but occasionally in moderate flows with gravel and cobble substrates (Randklev et al. 2014b,c; Tsakiris and Randklev 2016b; Smith et al. 2019) [Mussels of Texas 2020]

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: SNR

false spike *Fusconaia mitchelli*

Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble (Howells 2010; Randklev et al. 2012; Sowards et al. 2013; Tsakiris and Randklev 2016). [Mussels of Texas 2019]

Federal Status: PE	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S1

Texas fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: PT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

CORYELL COUNTY

REPTILES

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

CORYELL COUNTY

PLANTS

canyon sedge *Carex edwardsiana*

Dry-mesic decidous and deciduous-juniper woodlands in canyons and ravines, usually in clay loams very high in calcium on rocky banks and slopes just above streams and stream beds. Carex edwardsiana usually grows near C. planostachys. Fruiting spring (Ball, Reznicek, and 2003).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Glass Mountains coral-root *Hexalectris nitida*

Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under Juniperus ashei in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Hall's prairie clover *Dalea hallii*

In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

Osage Plains false foxglove *Agalinis densiflora*

Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

plateau milkvine *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Reverchon's scurfpea *Pediomelum reverchonii*

Mostly in prairies on shallow rocky calcareous substrates and limestone outcrops; Perennial; Flowering Jun-Sept; Fruiting June-July

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

scarlet leather-flower *Clematis texensis*

Usually in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams; Perennial; Flowering March-July; Fruiting May-July

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

sycamore-leaf snowbell *Styrax platanifolius ssp. platanifolius*

CORYELL COUNTY

PLANTS

Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T3	State Rank: S3

Texabama croton *Croton alabamensis var. texensis*

In duff-covered loamy clay soils on rocky slopes in forested, mesic limestone canyons; locally abundant on deeper soils on small terraces in canyon bottoms, often forming large colonies and dominating the shrub layer; scattered individuals are occasionally on sunny margins of such forests; also found in contrasting habitat of deep, friable soils of limestone uplands, mostly in the shade of evergreen woodland mottes; flowering late February-March; fruit maturing and dehiscing by early June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T2	State Rank: S2

tree dodder *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

turnip-root scurfpea *Pediomelum cyphocalyx*

Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S2S3

Wright's milkvetch *Astragalus wrightii*

On sandy or gravelly soils; April (Diggs et al. 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

IPaC **U.S. Fish & Wildlife Service**

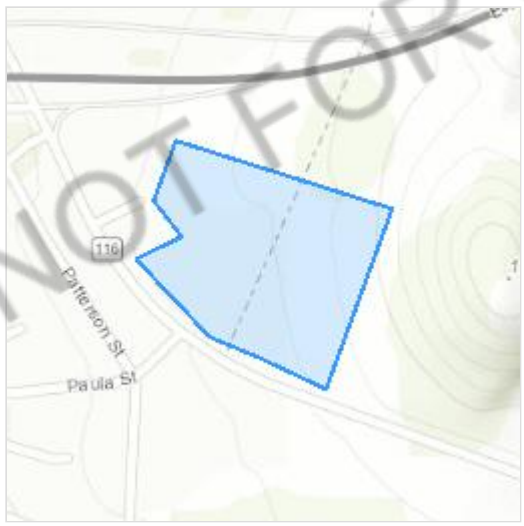
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Coryell County, Texas



Local office

Austin Ecological Services Field Office

(512) 937-7371

1505 Ferguson Lane

Austin, TX 78754-4501

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Golden-cheeked Warbler *Setophaga chrysoparia* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/33	Endangered
Piping Plover *Charadrius melodus* This species only needs to be considered if the following condition applies: • Wind Energy Projects There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* Wherever found This species only needs to be considered if the following condition applies: • Wind Energy Projects There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/758	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Black-capped Vireo Vireo atricapilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5716	Breeds Apr 1 to Sep 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Meadowlark Sturnella magna This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 31
Field Sparrow Spizella pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Aug 15
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

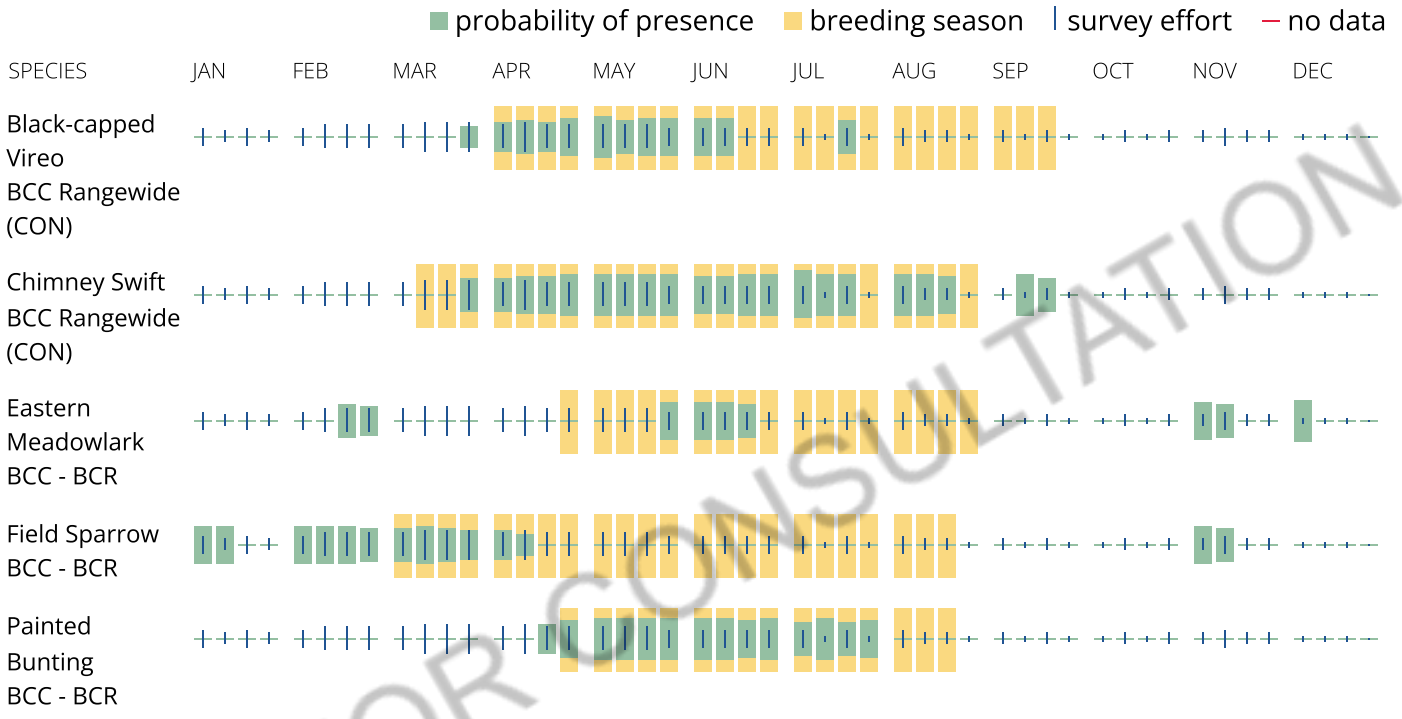
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to

you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX I/IIC

OIL AND WATER WELL INFORMATION

TEXAS WATER WELL REPORT

Project Property:	*Type V Permit Amendment Application City of Copperas Cove Transfer Station Copperas Cove Solid Waste Transfer Station TX 76539*
Project No:	*5552-001-11-00*
Order No:	*22110300060*
Requested by:	*Weaver Consultants Group*
Date Completed:	*November 18, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:	*Type V Permit Amendment Application* *City of Copperas Cove Transfer Station Copperas Cove Solid Waste Transfer Station* *TX 76539*
Project No:	*5552-001-11-00*

Coordinates:

Latitude:	*31.09358711*
Longitude:	*-97.90163927*
UTM Northing:	*3,440,492.40*
UTM Easting:	*604,756.65*
UTM Zone:	*14R*
Target Property Geometry:	*POLYGON*

County/Parish Covered:	*Bell (TX), Coryell (TX), Lampasas (TX)*
Zipcode(s) Covered:	*Copperas Cove TX: 76522* *Kempner TX: 76539* *Killeen TX: 76549*
State(s) Covered:	*TX*

Executive Summary: Report Summary

Database	Searched	Project Property	Within 1.00mi	Total
Federal	***No Federal databases were selected to be included in the search.***			
FED USGS	*Y*	*0*	*0*	*0*
State				
TCEQ WELL LOGS	*Y*	*0*	***27***	***27***
SDRW WELLS	*Y*	*0*	***1***	***1***
GWDB	*Y*	*0*	*0*	*0*
WW HIGH PLAINS	*Y*	*0*	*0*	*0*
WW HARRIS GAL	*Y*	*0*	*0*	*0*
WUD	*Y*	*0*	*0*	*0*
Total:		*0*	***28***	***28***

**** PO – Property Only***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Page Number

No records found in the selected databases for the project property.

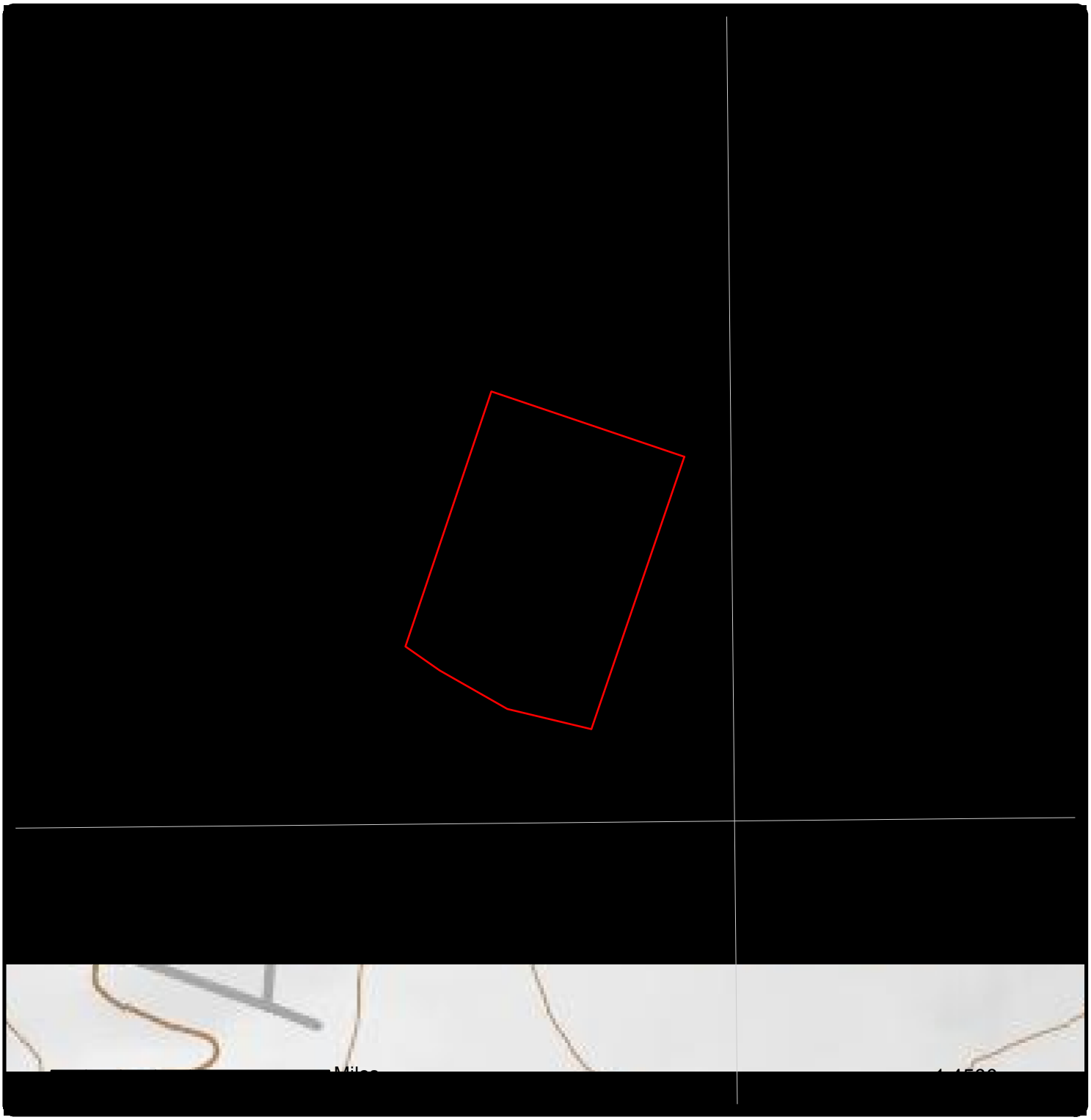
Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Page Number
1	TCEQ WELL LOGS		TX	SSE	0.27 / 1,437.98	14
			***Grid No*	*Owners Name:*** 40-57-3 | PAUL GRISWALD		
2	TCEQ WELL LOGS		TX	S	0.29 / 1,512.80	14
			***Grid No*	*Owners Name:*** 40-57-3S | W. E. MORRISON		
3	TCEQ WELL LOGS		TX	WSW	0.29 / 1,541.65	14
			***Grid No*	*Owners Name:*** 40-57-3S | GILBERT NOACK		
4	TCEQ WELL LOGS		TX	ENE	0.40 / 2,122.88	14
			***Grid No*	*Owners Name:*** 40-57-3 | MAC C. MACIEL		
5	TCEQ WELL LOGS		TX	SW	0.41 / 2,189.98	15
			***Grid No*	*Owners Name:*** 40-57-3s | FLOYD ALLEN		
6	TCEQ WELL LOGS		TX	SW	0.44 / 2,340.71	15
			***Grid No*	*Owners Name:*** 40-57-3S | FLOYD ALLEN		
7	TCEQ WELL LOGS		TX	S	0.45 / 2,364.07	15
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
8	TCEQ WELL LOGS		TX	SW	0.47 / 2,472.12	15
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD D ALLEN		
9	TCEQ WELL LOGS		TX	SW	0.50 / 2,661.29	15
			***Grid No*	*Owners Name:*** 40-57-3 | LOUIS WINSMAN		
10	TCEQ WELL LOGS		TX	SW	0.54 / 2,859.60	16
			***Grid No*	*Owners Name:*** 40-57-3 | LLOYD ALLEN		
11	TCEQ WELL LOGS		TX	SW	0.54 / 2,865.82	16
			***Grid No*	*Owners Name:*** 40-57-3 | S. T. TAFFINDER		
12	SDRW WELLS		2811 S. FM 116 KEMPNER TX 76539	ESE	0.56 / 2,960.38	16
			Well Rpt Track No: 336792			
13	TCEQ WELL LOGS		TX	S	0.56 / 2,980.38	17

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Page Number
			***Grid No*	*Owners Name:*** 40-57-3 | GERALD CUMMINGS		
14	TCEQ WELL LOGS		TX	SW	0.57 / 3,021.98	17
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
15	TCEQ WELL LOGS		TX	SSW	0.59 / 3,102.19	17
			***Grid No*	*Owners Name:*** 40-57-3 | LLOYD ALLEN		
16	TCEQ WELL LOGS		TX	SW	0.60 / 3,158.95	17
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
17	TCEQ WELL LOGS		TX	SW	0.60 / 3,188.70	18
			***Grid No*	*Owners Name:*** 40-57-3 | HERALD CUMMINS		
18	TCEQ WELL LOGS		TX	S	0.62 / 3,265.86	18
			***Grid No*	*Owners Name:*** 40-57-3 | GERALD CUMMINS		
19	TCEQ WELL LOGS		TX	SW	0.63 / 3,300.75	18
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
20	TCEQ WELL LOGS		TX	SSW	0.65 / 3,429.93	18
			***Grid No*	*Owners Name:*** 40-57-3 | SERGEN J. PHILLIPS		
21	TCEQ WELL LOGS		TX	S	0.67 / 3,547.17	19
			***Grid No*	*Owners Name:*** 40-57-3 | JOHN BOWEN		
22	TCEQ WELL LOGS		TX	SSW	0.69 / 3,653.30	19
			***Grid No*	*Owners Name:*** 40-57-3 | MELLOR C GARLICK		
23	TCEQ WELL LOGS		TX	SW	0.69 / 3,666.78	19
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
24	TCEQ WELL LOGS		TX	S	0.71 / 3,740.93	19
			***Grid No*	*Owners Name:*** 40-57-3 | GERALD CUMMINS		
25	TCEQ WELL LOGS		TX	SW	0.71 / 3,745.04	19
			***Grid No*	*Owners Name:*** 40-57-3 | FLOYD ALLEN		
26	TCEQ WELL LOGS		TX	SW	0.74 / 3,899.47	20
			***Grid No*	*Owners Name:*** 40-57-3 | LUSS RUMMEL		

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Page Number
27	TCEQ WELL LOGS		TX	ESE	0.91 / 4,797.95	20
			Grid No* | *Owners Name: 40-57-3 | A. J. MOSSAKOWSKI			
28	TCEQ WELL LOGS		TX	SE	0.92 / 4,839.81	20
			Grid No* | *Owners Name: 40-57-3 | W. K. LIGHTFOOT			

97°54'W



31°5'30"N

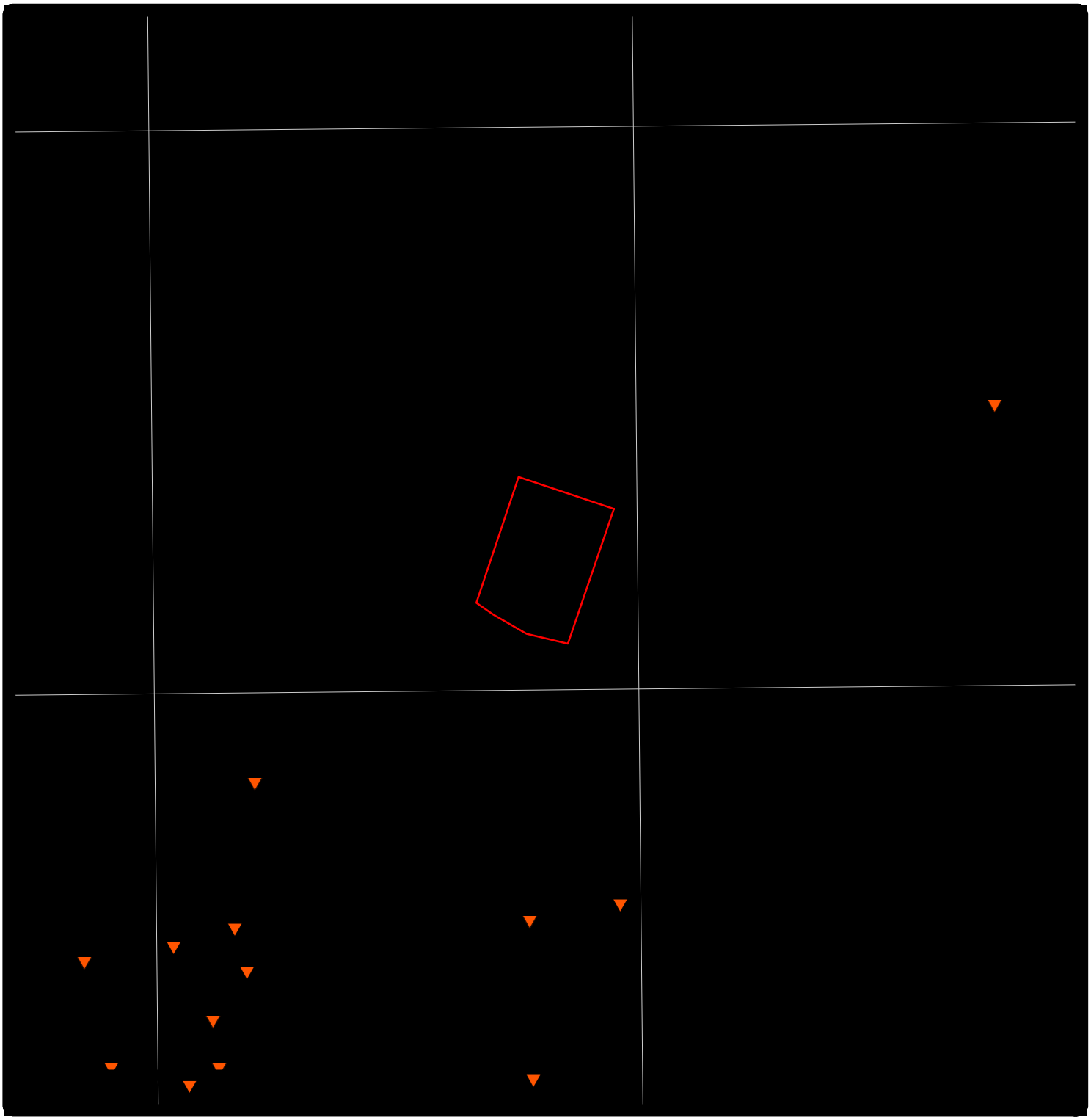
31°5'30"N

Map: 1.0 Mile Radius | Zoom Level: 3
Order Number: 22110300060
Address: City of Copperas Cove Transfer Station, Copperas Cove Solid Waste Transfer Station, T

ERIS

Plotted Water Wells

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation

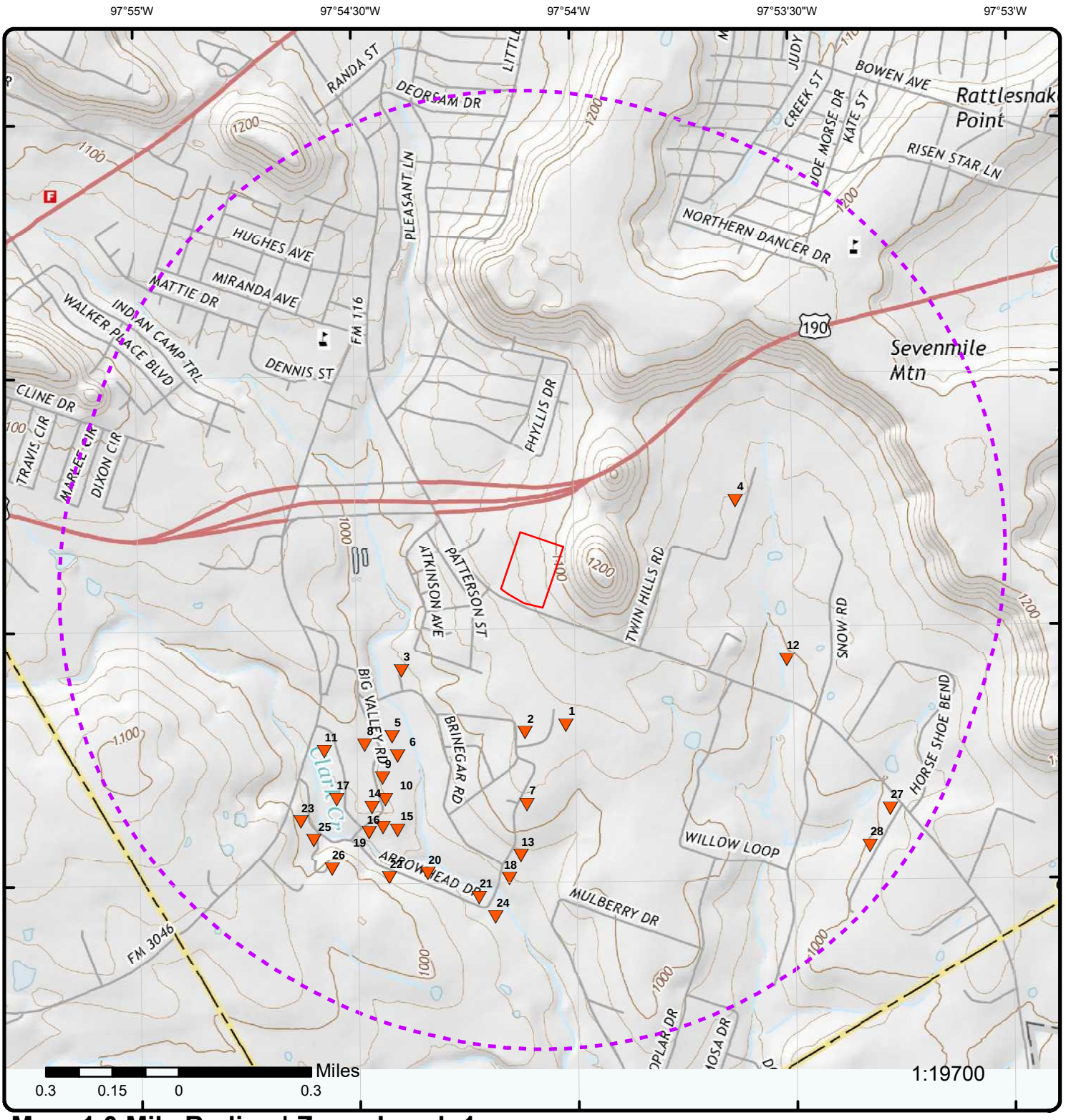


Map: 1.0 Mile Radius | Zoom Level: 2
Order Number: 22110300060
Address: City of Copperas Cove Transfer Station, Copperas Cove Solid Waste Transfer Station, T

ERIS

Plotted Water Wells

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation



Map: 1.0 Mile Radius | Zoom Level: 1

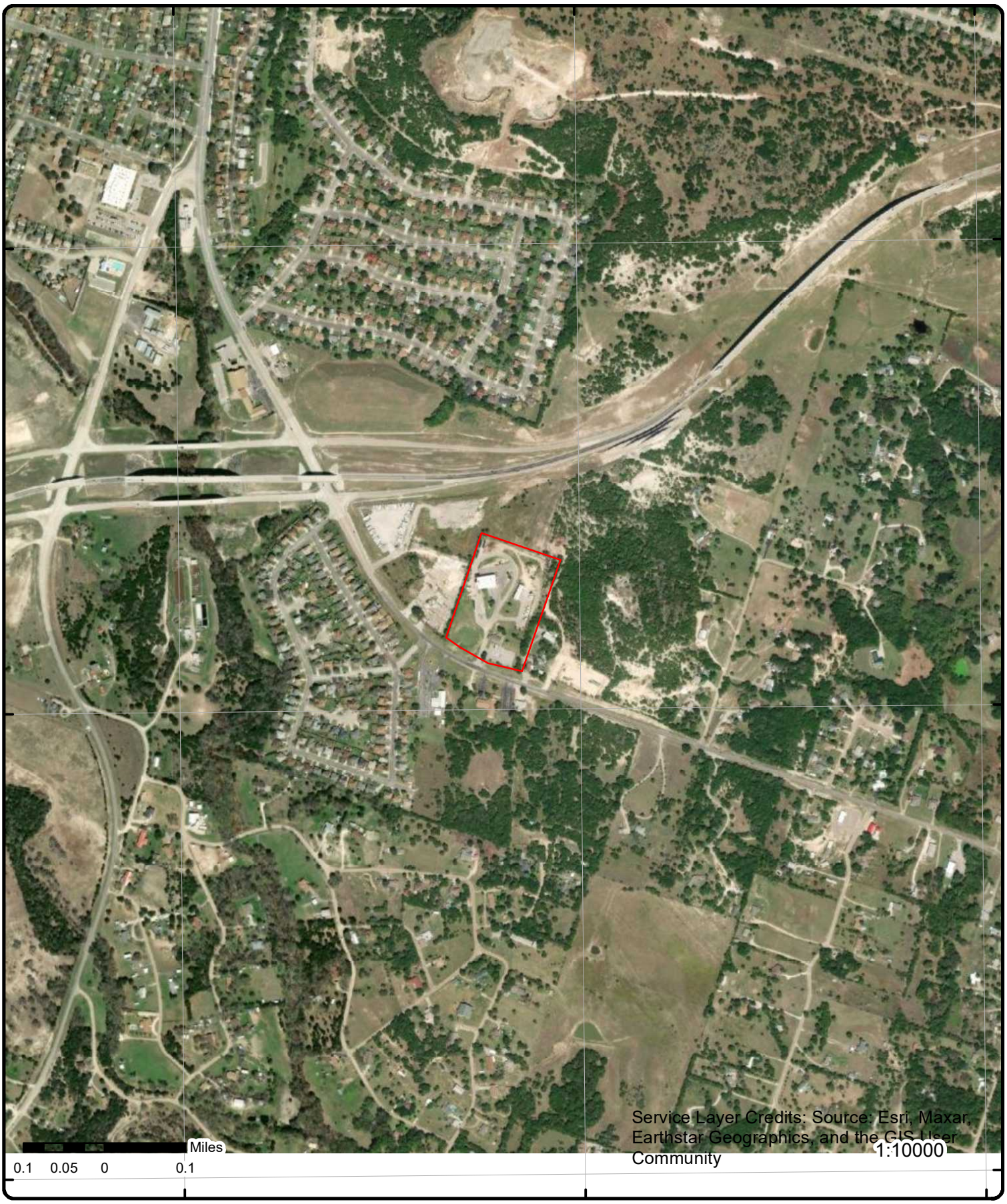
Order Number: 22110300060

Address: City of Copperas Cove Transfer Station, Copperas Cove Solid Waste Transfer Station, T.

ERIS

Plotted Water Wells

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation



Aerial **Year: 2021**

Order Number: 22110300060

Address: City of Copperas Cove Transfer Station, Copperas Cove Solid Waste Trar

Source: ESRI World Imagery

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
1	1 of 1	SSE	0.27 / 1,437.98	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 09/05/1969
Owners Name: PAUL GRISWALD
County: CORYELL
Water Usage: DOMESTIC
Static Level: 80
Depth Drilled: 420
Longitude: -97.90038303630296
Latitude: 31.088465093492555

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
2	1 of 1	S	0.29 / 1,512.80	TX	TCEQ WELL LOGS

Grid No: 40-57-3S
Date Drilled: 07/19/1969
Owners Name: W. E. MORRISON
County: CORYELL
Water Usage: DOMESTIC
Static Level: 260
Depth Drilled: 412
Longitude: -97.90194675197164
Latitude: 31.08823451510381

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
3	1 of 1	WSW	0.29 / 1,541.65	TX	TCEQ WELL LOGS

Grid No: 40-57-3S
Date Drilled: 10/01/1973
Owners Name: GILBERT NOACK
County: CORYELL
Water Usage: DOMESTIC
Static Level: 370
Depth Drilled: 494
Longitude: -97.90665134658417
Latitude: 31.090308311602794

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
4	1 of 1	ENE	0.40 / 2,122.88	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 03/11/1978
Owners Name: MAC C. MACIEL
County: CORYELL
Water Usage: DOMESTIC
Static Level: 385
Depth Drilled: 500
Longitude: -97.89386042563012

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
Latitude:		31.095799870248708			

5 **1 of 1** **SW** **0.41 / 2,189.98** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3s
Date Drilled: 06/22/1970
Owners Name: FLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 24
Depth Drilled: 360
Longitude: -97.90702135348675
Latitude: 31.088154936471533

6 **1 of 1** **SW** **0.44 / 2,340.71** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3S
Date Drilled: 09/18/1969
Owners Name: FLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 225
Depth Drilled: 342
Longitude: -97.90681593339735
Latitude: 31.0875163617362

7 **1 of 1** **S** **0.45 / 2,364.07** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3
Date Drilled: 10/24/1969
Owners Name: FLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 260
Depth Drilled: 402
Longitude: -97.90190608452819
Latitude: 31.085874276661638

8 **1 of 1** **SW** **0.47 / 2,472.12** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3
Date Drilled: 06/25/1967
Owners Name: FLOYD D ALLEN
County: CORYELL
Water Usage: NOT REPORTED
Static Level: 210
Depth Drilled: 355
Longitude: -97.90744493547147
Latitude: 31.089159319824578

9 **1 of 1** **SW** **0.50 /** **TCEQ WELL LOGS**

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
			2,661.29	TX	

Grid No: 40-57-3
Date Drilled: 06-26-1967
Owners Name: LOUIS WINSMAN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 230
Depth Drilled: 380
Longitude: -97.90520770920125
Latitude: 31.086996473917335

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
10	1 of 1	SW	0.54 / 2,859.60	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 06/05/1963
Owners Name: LLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 210
Depth Drilled: 355
Longitude: -97.90731248348352
Latitude: 31.08609064941378

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
11	1 of 1	SW	0.54 / 2,865.82	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 09/11/1966
Owners Name: S. T. TAFFINDER
County: CORYELL
Water Usage: DOMESTIC
Static Level: 270
Depth Drilled: 351
Longitude: -97.90960913239775
Latitude: 31.08768396206353

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
12	1 of 1	ESE	0.56 / 2,960.38	2811 S. FM 116 KEMPNER TX 76539	SDRW WELLS

License No:	52485	**PWS No:**	
Plug Rpt Track No:		**Well Rpt Track No:**	336792
Orig Well Rpt Trk No:		**Owner Well No:**	1
Owner Name:	JIM CLARK	**No of Wells Drill:**	
Owner Addr1:	2811 FM 116 S	**Owner Addr2:**	
Type of Work:	New Well	**Owner City:**	KEMPNER
Typ of Wrk Oth Descr:		**Owner State:**	TX
Seal Method:	Other	**Owner Zip:**	76539
Seal Mthd Oth Desc:	GRAVITY FEED	**Driller Name:**	David Cowen
Drilling Start Dt:	2011-04-12	**Driller Address1:**	
Drilling End Dt:	2011-04-14	**Driller Addr2:**	
Proposed Use:	Domestic	**Driller City:**	
Prop Use Oth Descr:		**Driller State:**	
TCEQ Approve Plans:		**Driller Zip:**	
Loc Vfy by Driller:	No	**Driller Country:**	
Dist to Sep Contam:	100+	**Dist to Septic Tk:**	
Driller Signed:	DAVID COWEN	**Dist to Prop Line:**	100+
Apprentice Signed:		**Dist Verifi Method:**	OWNER
Surface Compl:	Surface Sleeve Installed	**Surf Comp Oth Desc:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB

Complt by Driller:		**Latitude:**	31.090556
Chemical Analysis:	No	**Longitude:**	-97.891945
County:	Coryell	**Grid No:**	40-57-3
Company Name:	DAVID COWEN		
Well Location Description:			
Comments:	USED GOOGLE EARTH FOR COORDINATES AS THE NUMBER DRILLER SHOWED FOR LONG WAS INCORRECT. ^KM		
Data Source:	Full SDR Database; SDRDB Well Location (Map)		
Drillers Well Report:	https://www3.twdb.texas.gov/apps/waterdatainteractive/GetReports.aspx?Num=336792&Type=SDR-Well		

---

13 ***1 of 1*** ***S*** ***0.56 / 2,980.38*** ***TX*** ***TCEQ WELL LOGS***

Grid No:	40-57-3
Date Drilled:	10/26/1970
Owners Name:	GERALD CUMMINGS
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	260
Depth Drilled:	475
Longitude:	-97.90215006620977
Latitude:	31.084191698525743

---

14 ***1 of 1*** ***SW*** ***0.57 / 3,021.98*** ***TX*** ***TCEQ WELL LOGS***

Grid No:	40-57-3
Date Drilled:	06/14/1971
Owners Name:	FLOYD ALLEN
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	245
Depth Drilled:	350
Longitude:	-97.907820801902
Latitude:	31.085839624892902

---

15 ***1 of 1*** ***SSW*** ***0.59 / 3,102.19*** ***TX*** ***TCEQ WELL LOGS***

Grid No:	40-57-3
Date Drilled:	08/10/1968
Owners Name:	LLOYD ALLEN
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	220
Depth Drilled:	444
Longitude:	-97.90684007327773
Latitude:	31.08507922511841

---

16 ***1 of 1*** ***SW*** ***0.60 / 3,158.95*** ***TX*** ***TCEQ WELL LOGS***

Grid No:	40-57-3
Date Drilled:	08/14/1970
Owners Name:	FLOYD ALLEN
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	245
Depth Drilled:	370

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
Longitude:		-97.90739797275388			
Latitude:		31.085177998131645			

17	**1 of 1**	**SW**	**0.60 / 3,188.70**	**TX**	**TCEQ WELL LOGS**

Grid No:	40-57-3
Date Drilled:	07/14/1970
Owners Name:	HERALD CUMMINS
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	235
Depth Drilled:	350
Longitude:	-97.9091640257571
Latitude:	31.08610966179525

18	**1 of 1**	**S**	**0.62 / 3,265.86**	**TX**	**TCEQ WELL LOGS**

Grid No:	40-57-3
Date Drilled:	05/14/1970
Owners Name:	GERALD CUMMINS
County:	CORYELL
Water Usage:	NOT REPORTED
Static Level:	260
Depth Drilled:	475
Longitude:	-97.90259483596095
Latitude:	31.083445157769884

19	**1 of 1**	**SW**	**0.63 / 3,300.75**	**TX**	**TCEQ WELL LOGS**

Grid No:	40-57-3
Date Drilled:	06/18/1971
Owners Name:	FLOYD ALLEN
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	270
Depth Drilled:	387
Longitude:	-97.90793859740026
Latitude:	31.08499872201201

20	**1 of 1**	**SSW**	**0.65 / 3,429.93**	**TX**	**TCEQ WELL LOGS**

Grid No:	40-57-3
Date Drilled:	02/10/1971
Owners Name:	SERGEN J. PHILLIPS
County:	CORYELL
Water Usage:	DOMESTIC
Static Level:	280
Depth Drilled:	460
Longitude:	-97.90570383607105
Latitude:	31.083638885299646

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
21	1 of 1	S	0.67 / 3,547.17	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 07/23/1971
Owners Name: JOHN BOWEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 270
Depth Drilled: 400
Longitude: -97.90375993745273
Latitude: 31.082839656846758

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
22	1 of 1	SSW	0.69 / 3,653.30	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 11/02/1968
Owners Name: MELLOR C GARLICK
County: CORYELL
Water Usage: DOMESTIC
Static Level: 200
Depth Drilled: 370
Longitude: -97.90717803775642
Latitude: 31.083517510998234

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
23	1 of 1	SW	0.69 / 3,666.78	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 03/28//1968
Owners Name: FLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 240
Depth Drilled: 388
Longitude: -97.91052862850476
Latitude: 31.08537800078447

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
24	1 of 1	S	0.71 / 3,740.93	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 01/27/1971
Owners Name: GERALD CUMMINS
County: CORYELL
Water Usage: DOMESTIC
Static Level: 275
Depth Drilled: 390
Longitude: -97.90313459852321
Latitude: 31.082192773557082

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB
25	1 of 1	SW	0.71 / 3,745.04	TX	TCEQ WELL LOGS

Grid No: 40-57-3
Date Drilled: 10/01/1969

Map Key	Number of Records	Direction	Distance (mi/ft)	Site	DB

Owners Name: FLOYD ALLEN
County: CORYELL
Water Usage: DOMESTIC
Static Level: 240
Depth Drilled: 360
Longitude: -97.90934204908572
Latitude: 31.08380894907999

---

26 **1 of 1** **SW** **0.74 / 3,899.47** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3
Date Drilled: 01/17/1973
Owners Name: LUSS RUMMEL
County: CORYELL
Water Usage: DOMESTIC
Static Level: 570
Depth Drilled: 675
Longitude: -97.90936403196122
Latitude: 31.083825028629278

---

27 **1 of 1** **ESE** **0.91 / 4,797.95** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3
Date Drilled: 08/11/1991
Owners Name: A. J. MOSSAKOWSKI
County: CORYELL
Water Usage: DOMESTIC
Static Level: NOT REPORTED
Depth Drilled: 460
Longitude: -97.88804047029225
Latitude: 31.08563970318004

---

28 **1 of 1** **SE** **0.92 / 4,839.81** **TX** **TCEQ WELL LOGS**

Grid No: 40-57-3
Date Drilled: 02/17/1972
Owners Name: W. K. LIGHTFOOT
County: CORYELL
Water Usage: DOMESTIC
Static Level: 270
Depth Drilled: 441
Longitude: -97.88881995895694
Latitude: 31.084421007775656

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update.

Federal

Wells from NWIS: FED USGS

The U.S. Geological Survey's National Water Information System (NWIS) is the nation's principal repository of water resources data. The NWIS includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data. This NWIW dataset contains select Site Types from the overall NWIS Sites data, limited to the following Group Site Types only: Groundwater Group Site Types: Well, Collector or Ranney type well, Hyporheic-zone well, Interconnected Wells, Multiple wells; Spring Group Site Type: Spring; and Other Group Site Types: Aggregate groundwater use, Cistern.

Government Publication Date: Mar 21, 2022

No Federal databases were selected to be included in the search.

State

Well Log Reports from Plotted Water Wells: TCEQ WELL LOGS

Locations of TCEQ Water Wells as derived from well logs in the Texas Commission on Environmental Quality (TCEQ) Water Well Report Viewer, which includes unnumbered water wells and those plotted to 2.5 minute grid locations (2-3 miles). In this collection of Well Log Reports, locations have been manually verified.

Government Publication Date: Jul 26, 2022

Select Wells from SDR: SDRW WELLS

Locations of wells from the Submitted Drillers Report (SDR) Database with select proposed usage: Domestic, Fracking Supply, Industrial, Irrigation, Other, Public Supply, Rig Supply, Stock, Unknown. SDR is populated from the online Texas Well Report Submission and Retrieval System (TWRSRS), a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application requiring registered water-well drillers to submit reports. Excludes SDR records with the following proposed usage: Closed-Loop Geothermal, De-watering, Environmental Soil Boring, Extraction, Injection, Monitor, Test Well.

Government Publication Date: Sep 6, 2022

Groundwater Database: GWDB

The Texas Water Development Board (TWDB) Groundwater Database (GWDB) contains information on selected water wells, springs, oil/gas tests (that were originally intended to be or were converted to water wells), water levels and water quality.

Government Publication Date: Oct 19, 2022

High Plains Water Wells: WW HIGH PLAINS

Inventory of water wells in the High Plains Underground Water Conservation District No. 1 (HPUWCD), which was created in 1951. As a political subdivision of Texas, HPUWCD is charged with protecting, preserving and conserving aquifers within the District's 16-county service area.

Government Publication Date: Apr 20, 2022

Harris Galveston Subsidence District Water Wells: WW HARRIS GAL

List of water wells in the Harris-Galveston Subsidence District (HGSD). The HGSD was created by the 64th Texas Legislature as an underground water conservation district in 1975 to provide regulation of groundwater withdrawal to control subsidence.

Government Publication Date: May 18, 2022

Water Utility Database: WUD

The Water Utility Database is defined as a collection of data from Texas Water Districts, Public Drinking Water Systems and Water and Sewer Utilities who submit information to the TCEQ. This database is an integrated database designed and developed to replace over 160 stand alone legacy systems representing over 5 million records of the former Texas Water Commission and the Texas Department of Health.

Government Publication Date: Oct 1, 2020

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

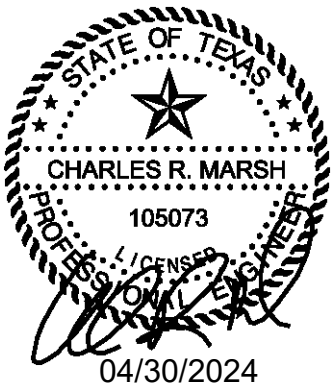
TYPE V PERMIT AMENDMENT APPLICATION

PART III
SITE DEVELOPMENT PLAN

Prepared for

The City of Copperas Cove

April 2024



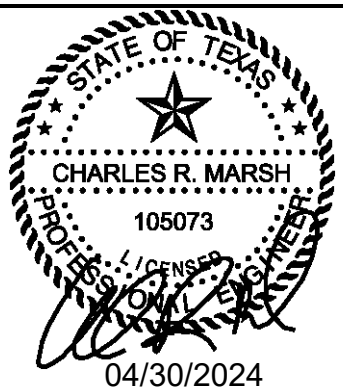
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

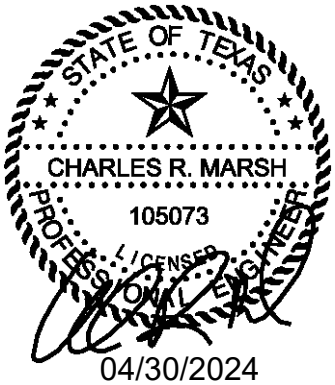
WCG Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



CONTENTS (Continued)



1 INTRODUCTION

The Part III – Site Development Plan (SDP) has been prepared for the improved City of Copperas Cove Transfer Station (TS) consistent with Title 30 Texas Administrative Code (TAC) §330.63. Part III – SDP addresses the general facility design, closure plan, and cost estimate for closure. Site design plans are included in Appendix IIIA – General Facility Design Drawings.

This section addresses §330.63. Additional specific regulatory cites addressed by each section of Part III are listed in the heading.

1.1 Background

The City of Copperas Cove TS is owned and operated by the City of Copperas Cove. The TS accepts household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste (refer to Section 2.1 of the Site Operating Plan (SOP) for types of recyclables and special waste) from the surrounding area. The TS facility transfers the MSW to a permitted landfill.

Support facilities for the City of Copperas Cove TS include site entrance roads, scalehouse, recycling center, container shop, and the existing transfer station building.

1.2 Site Location

The City of Copperas Cove TS is located in the city limits of Copperas Cove, Texas. The existing entrance to the site is located on the north side of FM 116 approximately 1,600 feet southeast of the intersection of U.S. Highway 190 and FM 116 in Coryell County, Texas. The TS can be accessed via the existing site entrance road that connects to FM 116. This entrance will only be used by employees, visitors, and city owned waste hauling trucks. Two new driveways are proposed to be constructed off of Commerce Street as a part of this project. The site location is shown on Parts I/II, Figures I/II-4.1 through 4.4.

1.3 Land Use and Zoning §330.63(a)

The Parkway TS is located within the city limits of Copperas Cove, Texas. A detailed discussion of area land use and zoning for the site is presented in Section 7 of Parts I/II. As noted in Section 7 of Parts I/II, the proposed 14.63-acre permit boundary is currently located in two zones, "Public Facilities" and "Light Industrial". Both of these zones

allow for the current and proposed future operation of a TS by the City of Copperas Cove.

2 GENERAL FACILITY DESIGN

2.1 Facility Access

2.1.1 Adequacy of Access Roads and Highways §330.63(a)

Vehicles bound for the City of Copperas Cove TS will access the TS facility via an existing entrance from FM 116 and two driveways on Commerce Street. The FM 116 entrance will only be used by employees, visitors, and city-owned waste hauling trucks. The two new driveways proposed to be constructed off of Commerce Street as a part of this project will be used by MSW and recyclable material haulers, including private citizens. U.S. Highway 190, FM 116, FM 3048, and Commerce Street are other access roads within one mile of the site. U.S. Highway 190, FM 116, FM 3048 and Commerce Street are public roads maintained by the City of Copperas Cove and TxDOT.

As noted in Parts I/II, in Section 8, and in the Traffic Study included in Appendix I/IIA, the site access roads will provide adequate access to the site throughout the life of the facility.

In accordance with §330.6l(i)(4), TxDOT was contacted to determine if any traffic or location restrictions apply to the facility. Improvements to FM 116 will be constructed and accepted by TxDOT before any proposed improvements to the facility can accept waste.

2.1.2 Fences and Access Control §330.63(b)(1)

Vehicle access to the TS facility will be controlled by the scalehouse attendant during operating hours. Outside operating hours, the inbound access will be controlled by gates located at the facility entrance. As shown on Figure IIIA-1 in Appendix IIIA, access to the site at points other than the entry gate is prevented by a 6-foot high chain link or barbed wire fence and natural barriers (including tree lines along the west, east, and north boundaries) located around the perimeter of the TS site in a manner so as to prevent the entry of livestock, to protect the public from exposure to potential health and safety hazards, and to discourage unauthorized entry or uncontrolled disposal of solid waste or hazardous materials.

City of Copperas Cove's policy will restrict entry to the site only to designated site operations personnel, solid waste haulers authorized to use the facility, TCEQ personnel, and properly identified persons whose entry is authorized by City of Copperas Cove's Solid Waste employees. City of Copperas Cove's reserves the right

to restrict access to the site to persons not demonstrating a legitimate purpose for visiting.

2.2 Waste Movement §330.63(b)(2)

2.2.1 Waste and Recyclable Flow Diagram §330.63(b)(2)(A)

A municipal solid waste and recyclable flow diagram indicating the processing, storage, and disposal sequences for various types of municipal solid wastes and recyclables received is shown on Figure III-2.1.

2.2.2 Waste Process Schematic View §330.63(b)(2)(B)

A schematic view indicating the MSW processing and storage area(s), as applicable, is shown on Figures IIIA-1 through IIIA-5 in Appendix IIIA. These drawings include the layout of the TS facility within the 14.63-acre permit boundary and the traffic flow patterns.

2.2.3 Ventilation and Odor Control §330.63(b)(2)(C)

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act. No liquid or solid wastes are stored outside of the buildings. The buildings provide the odor containment for solid wastes.

If installed, constructed air pollution abatement devices will obtain authorization, under 30 TAC Chapter 116 (relating to Control of Air Pollution By Permits for New Construction or Modifications) or Subchapter U of this chapter (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations), as applicable, from the Air Permits Division prior to the start of construction, except as authorized in Texas Health and Safety Code, §382.004, Construction While Permit Application Pending.

To control odors, routine tipping, sorting and transfer operations will be confined within the TS building. The facility will be operated to provide adequate ventilation for employee safety.

If any air pollution, capture and abatement equipment is utilized, it will be maintained and operated per manufacturer's requirements during the facility operation in order to adequately maintain its efficiency. The following measures will be employed to assist in air pollution/odor control:

- Buffer zones onsite;
- Odor mister system;
- Covering transfer trailers;
- Operations within a building;

- Special procedures for odorous loads as described in Part IV 7.12;
- Cleaning all working surfaces that come in contact with waste weekly as described in Part IV 7.11; and
- No overnight storage of waste except for extenuating circumstances such as inclement weather or mechanical breakdown.

Reporting of emission events will be made in accordance with Title 30 TAC §101.210 and reporting of scheduled maintenance of air pollution control equipment will be made in accordance with Title 30 TAC §101.211.

2.2.4 Generalized Construction Details §330.63(b)(2)(D) through (H)

The TS and recycling center buildings are corrugated metal buildings. The proposed improvements will consist of a transfer station expansion, and additional operations area. All tipping will occur completely within the TS building. Push walls in the building will aid in storing the received MSW material.

No storage of sludge is authorized at the transfer station.

Do-it-yourself used oil filters and used oil from internal combustion engines (to include filters which have been crushed and/or processed to remove free-flowing used oil) will not be intentionally and knowingly sent for disposal to a landfill. The TCEQ has authorized this facility to accept this material under TCEQ Registration C81092. These items will be stored for removal by a recycler until there is a full load, but no longer than six months, and manifests for this method of removal will be kept on file at the facility in accordance with §330.219 – Record Keeping and Reporting Requirements.

Wastewater generated by the TS facility from managing the MSW or from cleaning and washing will be managed in accordance with §330.207, Contaminated Water Management.

2.2.5 Noise Pollution Control and Visual Screening §330.63(b)(2)(I)

The nearest residences are located approximately 24 feet east of the permit boundary. To minimize noise resulting from the operations of the transfer station, operations will primarily be conducted within the enclosed building. In addition, existing vegetation will assist in minimizing the noise and providing visual screening to minimize adverse visual impacts.

2.3 Sanitation and Water Pollution Control §330.63(b)(3) & (4)

The TS structure includes a roof that covers the waste processing area and the waste storage area. Waste will be unloaded and processed on top of the concrete tipping floor that is raised above surrounding ground. All walls and floors in operating areas are constructed of concrete that can be washed down and scrubbed.

Spray nozzles attached to washdown hoses will be used to hose down the concrete tipping floor. Trench drains will collect contaminated water in the transfer truck loading pit and will then be conveyed to the City of Copperas Cove sanitary sewer system. As discussed in Appendix IIIB, the TS site will be graded to prevent run-on drainage and flow of stormwater into the building. Stormwater that contacts vehicle maneuvering areas outside the transfer station building will not be considered contaminated water and will be discharged in accordance with City of Copperas Cove Ordinances.

2.4 Protection of Endangered Species §330.63(b)(5)

WCG conducted a threatened and endangered species study for the TS area to determine whether the project would have an adverse effect. A copy of the WCG report can be found in Appendix I/IIB of Parts I/II. Based on the information included in the WCG report, neither the TS facility nor its operation will result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of an endangered or threatened species as described in TAC §330.61(n)(1).

3 SURFACE WATER DRAINAGE REPORT §330.63(c)

3.1 Drainage Design §330.63(c)(1)

The TS will be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year, 24-hour storm event and will prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to minimize surface water running onto, into, and off the processing area. Therefore, the facility design complies with 30 TAC §330.303. Details of the drainage system and associated design demonstrations are included in Appendix IIIB, Surface Water Drainage Report.

3.2 Floodplain Considerations §330.63(c)(2)

As shown on Figure I/II-11.1 in Parts I/II, the proposed TS development area is located over 1,200 feet from the nearest 100-year floodplain, as defined by FEMA. No waste storage or processing will occur within the 100-year floodplain. Therefore, no washout of waste will occur during a 100-year storm event.

4 WASTE MANAGEMENT UNIT DESIGN §330.63(d)(1)

4.1 Waste Operations §330.63(d)(1)(A)

The TS facility has been designed for efficient MSW processing. All solid waste capable of creating public health hazards or nuisances will be stored within the building, processed or transferred promptly, and shall not be allowed to result in a nuisance or public health hazard.

The transfer station is limited by the Application to receive a maximum of 1,100 tons of waste per day. This throughput is not a limit of design. A maximum of approximately 1,100 tons of waste could be stored at the facility within the enclosed building.

4.2 Spill Prevention and Control §330.63(d)(1)(B)

MSW staging and processing areas at this facility are located within the TS building. The unloading areas have been designed to control and contain spills and contaminated water. Contaminated water generated by the TS facility will consist of washdown water applied to the tipping floor. The tipping floor has been designed to control and contain spills and contaminated water. All contaminated water will be discharged to the City of Copperas Cove sanitary sewer system as shown on Figures IIIA-1 and IIIA-2. All discharges to the City of Copperas Cove sanitary sewer system will be done in accordance with the applicable pretreatment ordinances.

4.3 Waste Storage Period §330.63(d)(1)(C)

The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harborage of other vectors. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating emergency circumstances such as inclement weather or mechanical breakdown. Non-stored wastes will be transported daily to a permitted landfill.

5 CLOSURE PLAN §330.63(h)

A closure plan is included in Appendix IIIC.

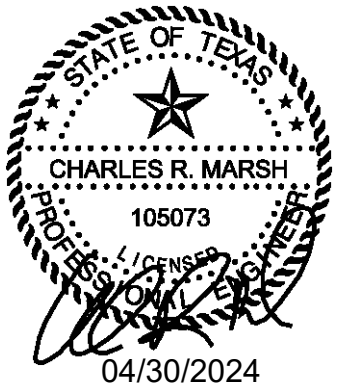
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

PART III
SITE DEVELOPMENT PLAN
APPENDIX IIIA
GENERAL FACILITY DESIGN DRAWINGS

Prepared for

The City of Copperas Cove

April 2024



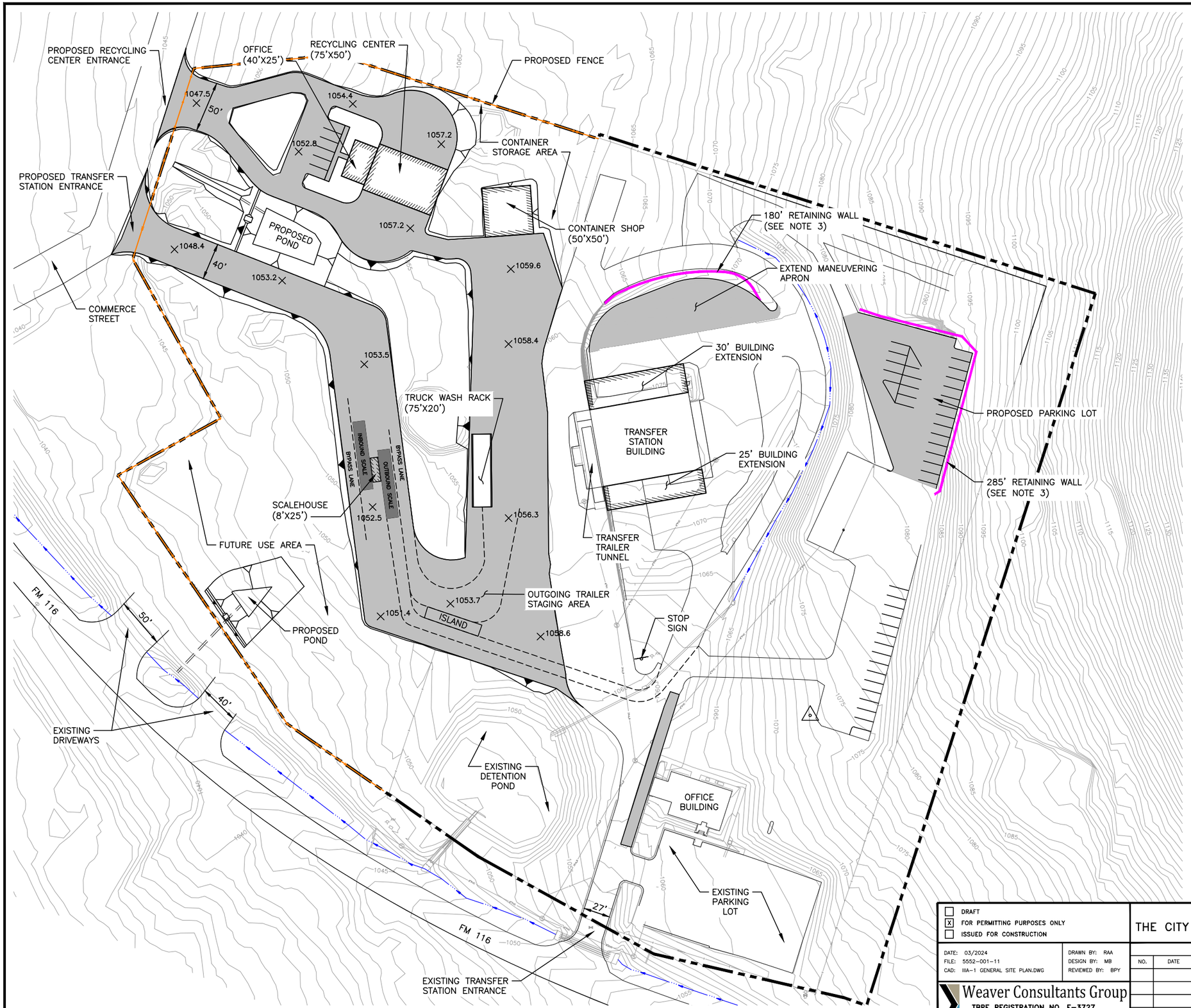
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



0 50 100
SCALE IN FEET

LEGEND

- PERMIT BOUNDARY
- 1070 EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- × 1056.3 SPOT ELEVATION
- PROPOSED FENCE
- SITE BENCHMARK

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

BENCHMARK INFORMATION		
NORTHING	EASTING	ELEVATION (FT–MSL)
10370871.91	3058064.70	1073.54

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-1 GENERAL SITE PLAN.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: BPY

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

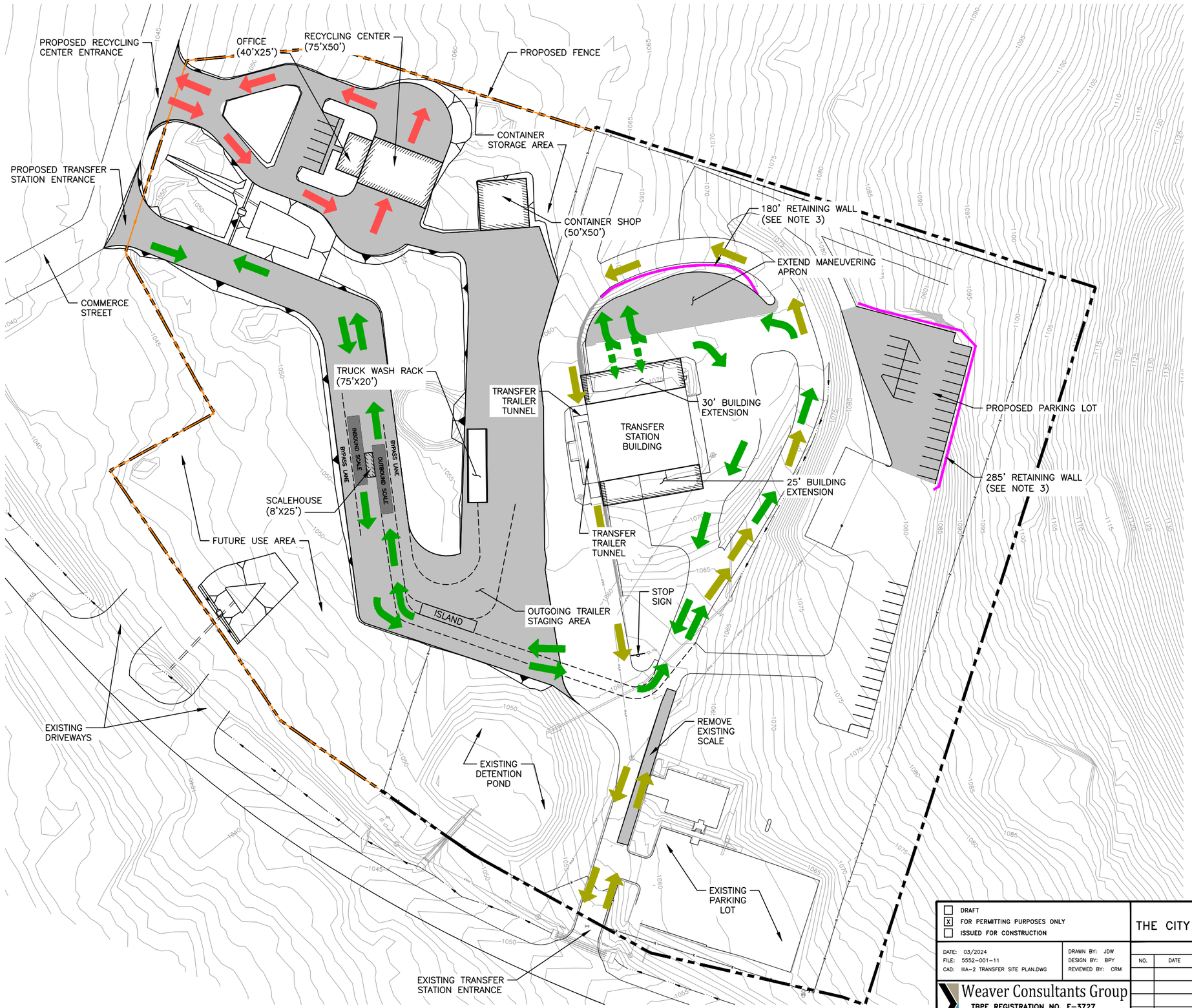
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION GENERAL SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-1



LEGEND

- PERMIT BOUNDARY (SEE NOTE 1)
- 1070 EXISTING CONTOUR (SEE NOTE 2)
- PROPOSED RETAINING WALL (SEE NOTE 3)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- TRANSFER TRAILER ROUTE
- ROUTE TRUCK/UNLOADING ROUTE
- RECYCLING CENTER ROUTE
- EXISTING SEWER LINE AND MANHOLE
- PROPOSED FENCE

NOTES:

1. THE PERMIT BOUNDARY IS REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY WEAVER CONSULTANTS GROUP AND QUINTERO ENGINEERING ON JUNE 19, 2023 AND MARCH 10, 2023 RESPECTIVELY.
2. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
3. THE PROPOSED RETAINING WALLS VARY FROM 2 TO 15 FEET IN HEIGHT.
4. ALL WASTE ACCEPTED AT THE FACILITY WILL BE STORED AND PROCESSED IN THE TRANSFER STATION BUILDING.
5. NO SOLID WASTE OPERATIONS WILL OCCUR WITHIN ANY EASEMENT, BUFFER ZONE, OR RIGHT-OF-WAY.
6. WASTE TRANSFER OPERATIONS WILL OCCUR INSIDE THE TRANSFER STATION. WATER THAT COMES INTO CONTACT WITH OPERATIONS INSIDE THE BUILDING WILL BE DISCHARGED TO THE CITY OF COPPERAS COVE SANITARY SEWER SYSTEM. STORMWATER THAT DOES NOT COME INTO CONTACT WITH WASTE TRANSFER OPERATIONS WILL BE DISCHARGED IN ACCORDANCE WITH THE SITES SWPPP.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-2 TRANSFER SITE PLAN.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

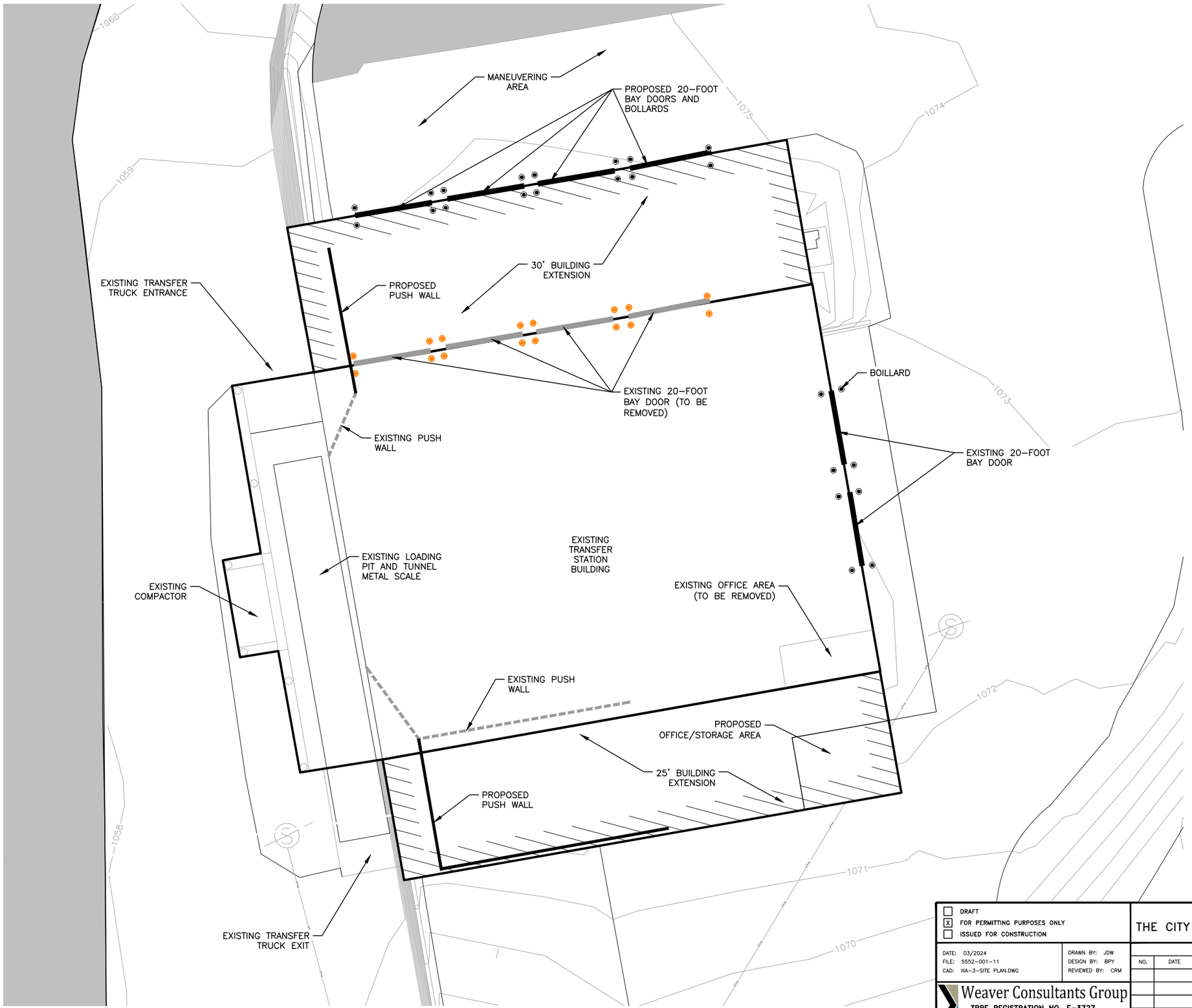
REVISIONS		
NO.	DATE	DESCRIPTION

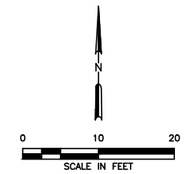
TYPE V PERMIT APPLICATION TRANSFER AREA SITE PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-2



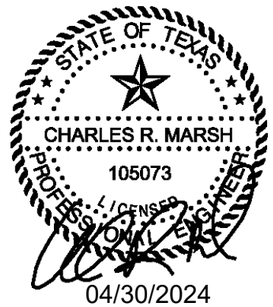


LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED PAVEMENT SURFACING
- × 1081.1 — SPOT ELEVATION
- EXISTING PUSH WALL
- PROPOSED PUSH WALL
- BOLLARD
- BOLLARD (TO BE REMOVED)

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.



04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-3-SITE PLAN.DWG
DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

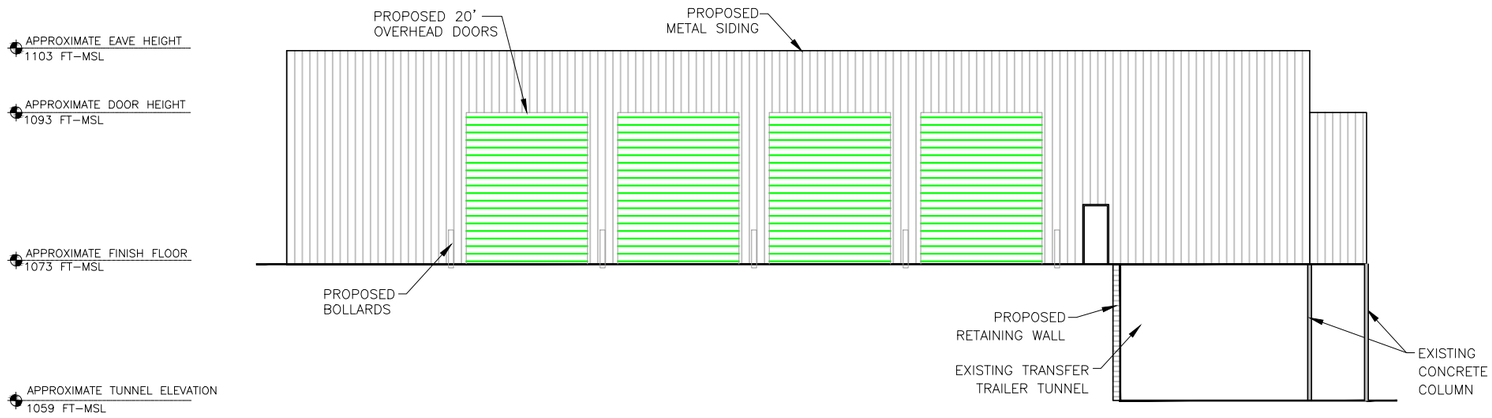
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION TRANSFER STATION BUILDING PLAN

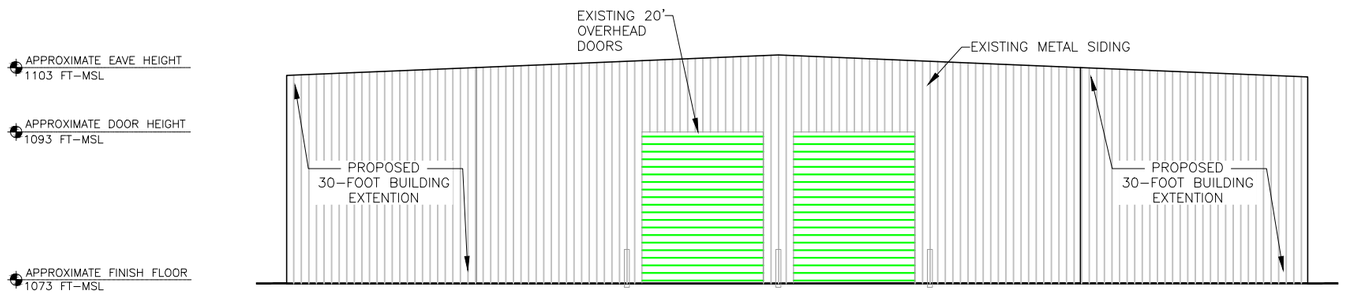
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-3



TRANSFER STATION ELEVATION LOOKING SOUTH



TRANSFER STATION ELEVATION LOOKING WEST

0 10 20
SCALE IN FEET

NOTE:

ELEVATIONS LISTED ARE APPROXIMATE.

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL ENGINEER
LICENSED
04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-4-BUILDING ELEVATIONS.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

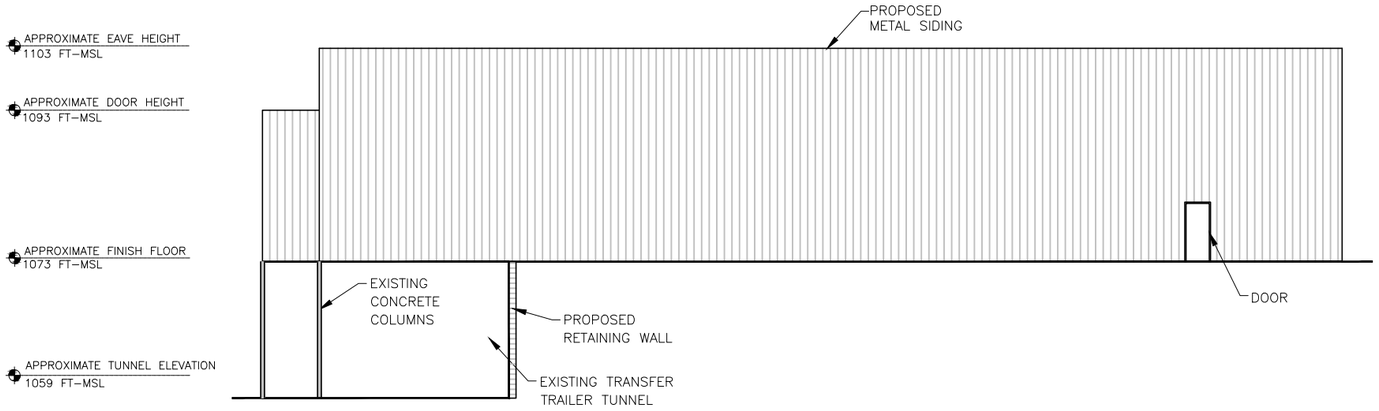
NO.	DATE	DESCRIPTION

TYPE V PERMIT AMENDMENT APPLICATION
TRANSFER STATION BUILDING ELEVATIONS

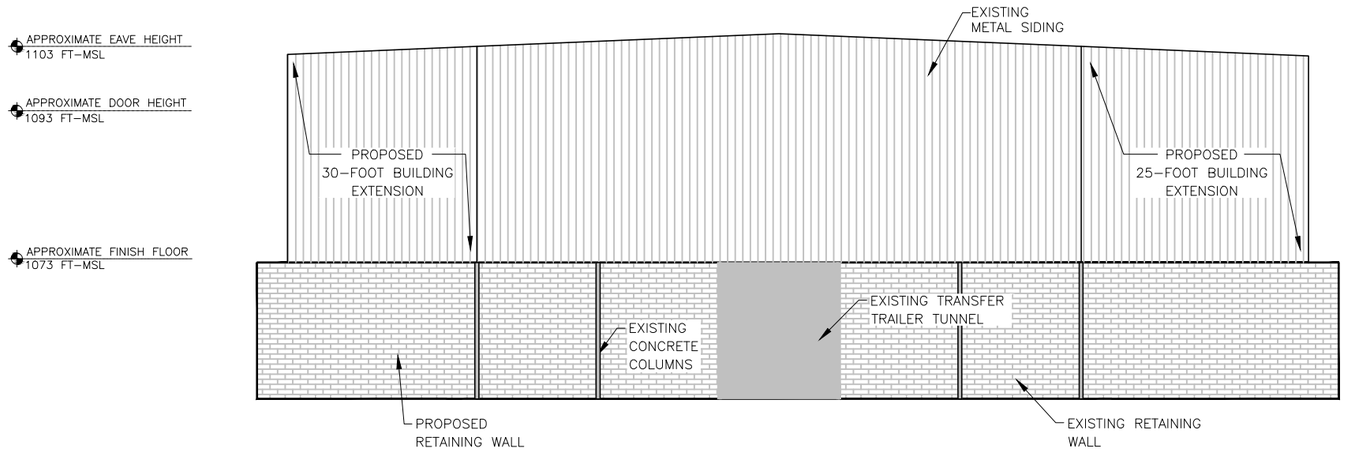
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-4



TRANSFER STATION ELEVATION LOOKING NORTH



TRANSFER STATION ELEVATION LOOKING EAST

0 10 20
SCALE IN FEET

NOTE:

ELEVATIONS LISTED ARE APPROXIMATE.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-5-BUILDING ELEVATIONS.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT AMENDMENT APPLICATION
TRANSFER STATION BUILDING ELEVATIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

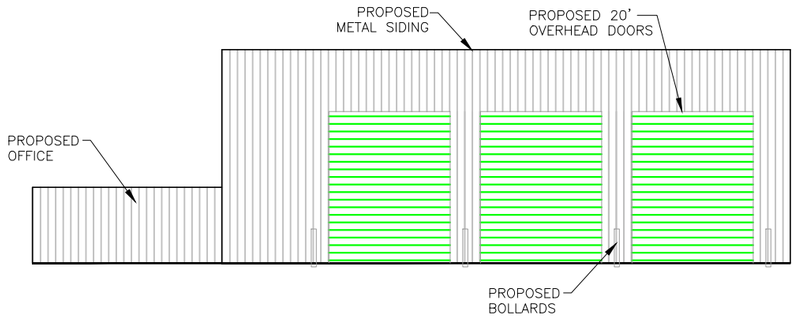
FIGURE IIIA-5

APPROXIMATE EAVE HEIGHT
1088 FT–MSL

APPROXIMATE DOOR HEIGHT
1078 FT–MSL

APPROXIMATE BUILDING HEIGHT
1068 FT–MSL

APPROXIMATE FINISH FLOOR
1057.5 FT–MSL

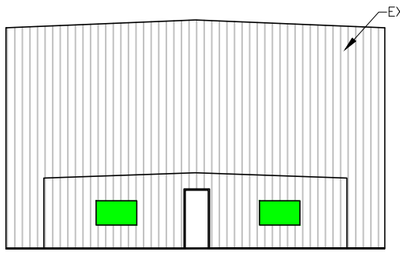


RECYCLING CENTER ELEVATION LOOKING NORTH

APPROXIMATE EAVE HEIGHT
1088 FT–MSL

APPROXIMATE BUILDING HEIGHT
1068 FT–MSL

APPROXIMATE FINISH FLOOR
1057.5 FT–MSL



RECYCLING CENTER ELEVATION LOOKING EAST

0 10 20
SCALE IN FEET

NOTE:

ELEVATIONS LISTED ARE APPROXIMATE.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-6-BUILDING ELEVATIONS.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

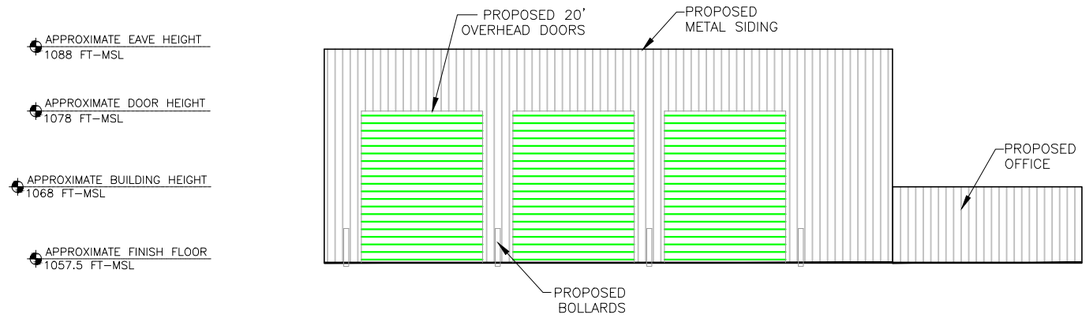
NO.	DATE	DESCRIPTION

TYPE V PERMIT AMENDMENT APPLICATION
RECYCLING CENTER BUILDING ELEVATIONS

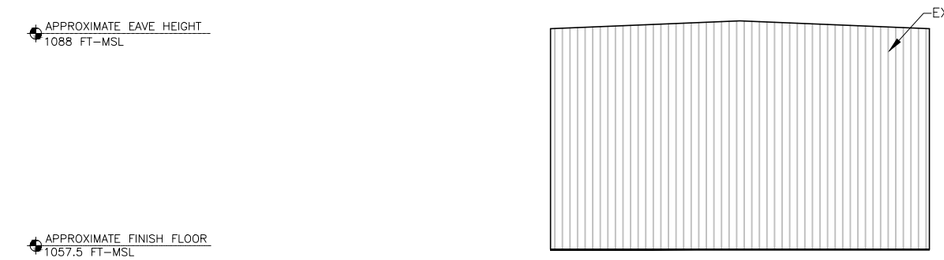
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-6



RECYCLING CENTER ELEVATION LOOKING SOUTH



RECYCLING CENTER ELEVATION LOOKING WEST

0 10 20
SCALE IN FEET

NOTE:

ELEVATIONS LISTED ARE APPROXIMATE.

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED PROFESSIONAL ENGINEER
04/30/2024

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIA-7-BUILDING ELEVATIONS.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

TYPE V PERMIT AMENDMENT APPLICATION
RECYCLING CENTER BUILDING ELEVATIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE IIIA-7

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TYPE V PERMIT APPLICATION

PART III
SITE PLAN AND DESIGN CRITERIA
APPENDIX IIIB
FACILITY SURFACE WATER DRAINAGE REPORT

Prepared for

The City of Copperas Cove

April 2024

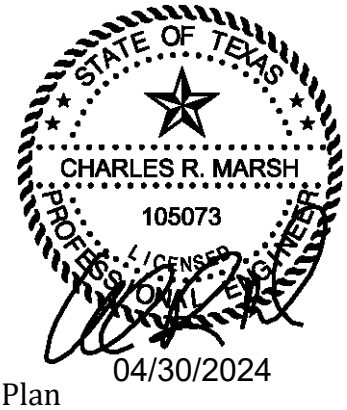
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

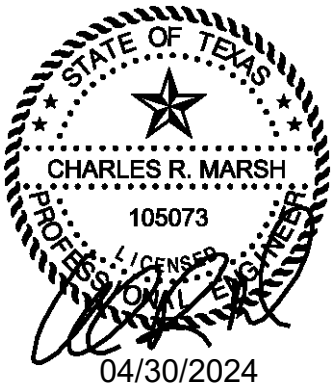
WCG Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



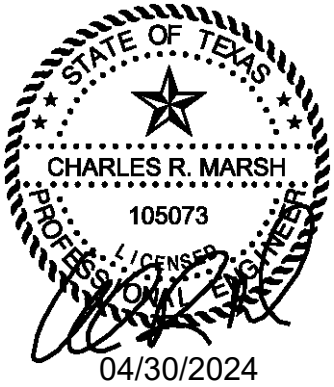
CONTENTS (Continued)



TABLES AND FIGURES

Tables **Page**

Figures



1 INTRODUCTION

This section addresses §330.63(c) and §330.303.

This Facility Surface Water Drainage Report is prepared as part of the Municipal Solid Waste (MSW) Type V Permit Application for the City of Copperas Cove Transfer Station (TS) consistent with Title 30 Texas Administrative Code (TAC) §330.63(c) and §330.303. This plan addresses surface water drainage design and erosion control. Permit level plans and details are presented for the TS in Appendix IIIA.

Consistent with Title 30 TAC §330.63(c) and §330.303, the facility will be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year, 24-hour rainfall event and will prevent the off-site discharge of waste and in-process and/or processed materials. Surface water drainage in and around a facility shall be controlled to prevent surface water running onto, into, and off the transfer station processing area. Although not specifically required by the rules, the drainage analysis for a 25-year, 24-hour storm event is used to demonstrate that the existing drainage of the TS site will not be adversely altered. The supporting hydrologic demonstrations are included in Appendices IIIB-A and IIIB-C.

As shown on Figure 4.4 and discussed in Parts I/II, Section 11 – Floodplain and Wetlands Statement, no portion of the site is located within the 100-year floodplain. The TS is located over 900 feet from the nearest 100-year floodplain, as defined by the Federal Emergency Management Administration (FEMA).

Section 2 of this report includes a discussion of the regional drainage, stormwater management system, and TPDES compliance. Section 3 discusses the detailed drainage design methodology. Section 4 demonstrates that the TS development will not adversely alter the existing drainage patterns.

2 STORMWATER MANAGEMENT

2.1 Regional Drainage Information

According to the USGS Watershed Boundary Dataset, the City of Copperas Cove Transfer Station is located in the Clear Creek Watershed (HUC: 120702030506). The facility drains to an unnamed tributary of Clear Creek Watershed in Copperas Cove, which then flows South to Lampasas River and then flows east to Stillhouse Hollow Lake.

2.2 Surface Water Protection

The TS has been designed to achieve the following goals.

1. Prevent a discharge of solid wastes or pollutants adjacent to or into waters of the state.
2. Prevent a discharge of pollutants into waters of the United States.
3. Prevent a discharge of dredged or fill material to waters of the United States.
4. Prevent a discharge of nonpoint source pollution to waters of the United States.
5. Avoid adverse alteration of existing drainage patterns.

The TS facility consists of a building with a reinforced concrete slab foundation with a transfer truck tunnel located below the grade of the slab. Drainage from the facility is designed to maintain the existing drainage patterns at the permit boundary and will prevent the offsite discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to prevent surface water running onto, into, and off the processing area. For example:

- Uncontaminated stormwater run-on and runoff will be directed away from the transfer station building entrances by site grading. The inside of the transfer station building will not result in any storm-generated contaminated water since the transfer station building is completely covered. Stormwater

will be managed by maintaining the existing stormwater patterns in areas outside of the transfer station building footprint.

- There are six discharge points along the southwest side of the permit boundary (DP1, DP2, DP3, DP4, DP5, and DP6). All runoff originating from east and northeast of the facility generally flows to the south and southwest offsite.
- No runoff enters the Transfer Station building.

2.3 Drainage System Layout

The general drainage pattern of the existing TS site is from the east and northeast to the south and southwest. The existing transfer station area generally drains south and southwest via sheet flow. An existing tributary of Clear Creek located immediately west of the TS site receives the majority of on-site runoff and conveys it to Clear Creek and ultimately, the Lampasas River.

After the development of the proposed TS is complete, drainage patterns will remain similar to the existing drainage patterns at the TS site. Runoff within the permit boundary is conveyed mainly by sheet flow to discharge locations on the south and southwest sides of the permit boundary. An existing culvert on the south side of the site will detain and attenuate the runoff generated within the permit boundary due to the site development. A proposed detention pond on the southwest side of the site will be constructed to mitigate the impact of adding pavement to the site and increasing runoff volume. Both ponds discharge southwest, into an existing drainage ditch that flows towards a tributary of Clear Creek.

2.4 TPDES Compliance

The TS will operate in such a manner as to prevent discharge of pollutants into waters of the state or United States as defined by the Texas Water Code and the Federal Clean Water Act. The site is subject to the TCEQ's stormwater permit requirements and will operate under the TPDES multi-sector General Permit for Stormwater Discharges, under SIC 4212 (Transportation and Warehousing). Construction is subject to the TCEQ's stormwater permit requirements and will operate under the current TPDES MSGP Authorization Number TXR05AV48. The City of Copperas Cove will maintain the current Notice of Intent (NOI) for the Copperas Cove TS. The facility Stormwater Pollution Prevention Plan (SWPPP) will be revised and implemented prior to operating the improved facility.

2.5 Erosion and Sedimentation Control Plan

Erosion and sedimentation control will be provided, as necessary, during construction activities through the use of temporary diversion berms, silt fences, and hay bales. These measures will be developed to provide for control of erosion and sediment prior to stormwater flows leaving the site. The temporary erosion control measures will be documented in the SWPPP that will be developed prior to construction of the facilities, consistent with TPDES requirements. Permanent erosion control features have been included in the final site design. These features include the establishment of vegetation or other landscaping on the non-paved portion of the site. In addition, site grading is designed to convey runoff without causing erosion (i.e., runoff velocities are less than 5 ft/sec during a 25-year, 24-hour storm event).

3 DRAINAGE SYSTEM DESIGN

3.1 Methodology

Drainage calculations for the TS are based on the peak flow rates resulting from the 25-year, 24-hour rainfall event for the area. The USACE HEC-HMS computer program was used to compute peak flow rates produced from the design storm. The hydraulic methods employed in this study are consistent with those presented in the *Drainage Criteria Manual* (City of Copperas Cove, August 2019). Manning's n values for culverts, pavement, and vegetated areas were also taken from the City of Copperas Cove's *Drainage Criteria Manual*.

3.2 Hydrologic Analysis

3.2.1 Description of Computer Program

HEC-HMS was used to model the existing and post-development conditions to determine peak flows entering and leaving the TS site. HEC-HMS was developed by the USACE Hydrologic Engineering Center to simulate the surface runoff response of a watershed. The HEC-HMS model represents a watershed as a network of hydrologic and hydraulic components. The modeling process results in the computation of stream-flow hydrographs at desired locations in the watershed. The hydrologic analysis for the post-development conditions are included in Appendix IIIB-A and the existing conditions are included in Appendix IIIB-C.

3.2.2 Watershed Subareas and Schematization

The TS site was delineated to derive a peak flow leaving the TS site. The drainage areas for the post-development and existing conditions are discussed in Appendix IIIB-A and Appendix IIIB-C, respectively.

3.2.3 Time Step

The time step, or the program computation interval, is the time interval that the flow rates for the hydrographs are generated by the program. The time step used for a design storm event is 1 minute.

3.2.4 Hypothetical Precipitation

The hypothetical precipitation of the storm was obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 for the project area. For this analysis, the design storm utilized was the 25-year, 24-hour storm event. The precipitation is assumed to be evenly distributed over the TS site for each time interval.

3.2.5 Precipitation Losses

Precipitation losses (the precipitation that does not contribute to the runoff) are calculated using the Soil Conservation Service (SCS) Curve Number (CN) method. CN is a function of soil cover, land use, and antecedent moisture conditions. A CN of 98 was selected to represent the post-development concrete-paved areas at the site, and 84 for natural (existing) ground or vegetated areas. A CN of 99 was used for the low-lying storm water storage areas upstream of the culverts. Further discussion on selection of CN values is provided in Appendices IIIB-A and IIIB-C for post-development and existing conditions.

3.2.6 Hydrograph Information

The Soil Conservation Service Unit Hydrograph Method of hydrograph generation was used in this hydrologic analysis. Reservoir storage-discharge methods were used for hydrograph routings. Information for the model parameters used for this project is included in Appendix IIIB-C (existing) and Appendix IIIB-A (post-development).

Soil Conservation Service Unit Hydrograph Method

The SCS unit hydrograph method has been used for the offsite and overland flow drainage areas. The method is applicable to basins with a wide range of basin area watershed length, slope, impervious and conveyance characteristics. The SCS model is based upon averages of unit hydrograph derived from gaged rainfall and runoff for a large number of small agricultural watersheds throughout the U.S. Parameters that are required to utilize the SCS method include a Peaking Rate Factor (PRF) and a lag time. Research has shown that log time (t_p) can be related to the watershed time of concentration, (T_c).

Hydrograph Routing

The hydrograph at the culvert was generated by routing the inflow through the available volume for the culvert storage.

4 SITE DRAINAGE PATTERNS

This section provides a demonstration that the TS development will not adversely alter the existing drainage patterns. A summary of drainage patterns and stormwater flows produced by the 25-year, 24-hour storm event are presented on the following Appendices.

- Appendix IIIB-A – Post-development Condition Hydrologic Calculations
- Appendix IIIB-C – Existing Condition Hydrologic Calculations

The following two sections discuss: (1) site drainage patterns and (2) the effect of the proposed development on peak flows, volumes, and velocities discharged from the site.

4.1 Site Drainage Patterns

The post-development drainage patterns are consistent with the existing drainage patterns. Runoff exits the permit boundary in both analyzed conditions from discharge locations DP1, DP2, DP3, DP4, DP5 and DP6. The total drainage area to each of the outfalls is approximately the same for the existing and post-development conditions. Runoff exiting the permit boundary discharges mainly via sheet flow across the permit boundary towards existing drainage features that convey runoff to a tributary of Clear Creek.

4.2 Effect of Site Development on Drainage from the Site

4.2.1 Peak Flow Rates

As shown on Table 4-1, the comparison of existing and post-development drainage conditions at the site shows that the peak flows generated by a 25-year storm event and discharging off the permit boundary of the site are not adversely altered by the proposed TS development. Additionally, the TS site design will not change the direction at which stormwater runoff leaves the site. Drainage analyses for post-development conditions and existing conditions at the site are presented in Appendices IIIB-A and IIIB-C, respectively.

Peak flow rates entering the permit boundary (DP01 through DP04) are unchanged between the existing and post-development conditions. Stormwater exiting the permit boundary discharges at six main locations, south (DP1 and DP2), and southwest (DP3, DP4, DP5, and DP6). The proposed development includes adding paved areas to the site, and results in no increase in the peak discharge rate at all discharge points. The increased runoff generated by paved areas is mitigated by the proposed detention pond such that there is no increase in peak flow discharging from the permit boundary.

4.2.2 Volumes

Post-development runoff volume generated at the southwest discharge point (DP4) is slightly increased due to minor revisions to offsite area 03 (to match proposed conditions) and the addition of more paved areas relative to the existing condition. However, the increased volume is discharged at a lower peak flow rate, as shown on Table 4-1. This increase in volume is not an adverse alteration.

4.2.3 Velocities

A summary of the 25-year frequency storm peak flow velocities that exit the site are shown on Table 4-1 and Figure 4.3. Flow velocity at DP4 increases due to flow exiting the permit boundary in a culvert rather than overland flow. However, rip-rap will be installed downstream of the culvert to mitigate erosion. At DP6 the flow velocity is slightly increases due to the narrower bottom width and steeper side slopes. At no other location are the velocities increased in the post-development condition. Velocity calculations are provided in Appendices IIIB-A and IIIB-C for the post-development and existing conditions, respectively.

4.2.4 Floodplain

As discussed in Section 11 of Parts I/II, no portion of the site is located within the 100-year floodplain.

4.3 Summary

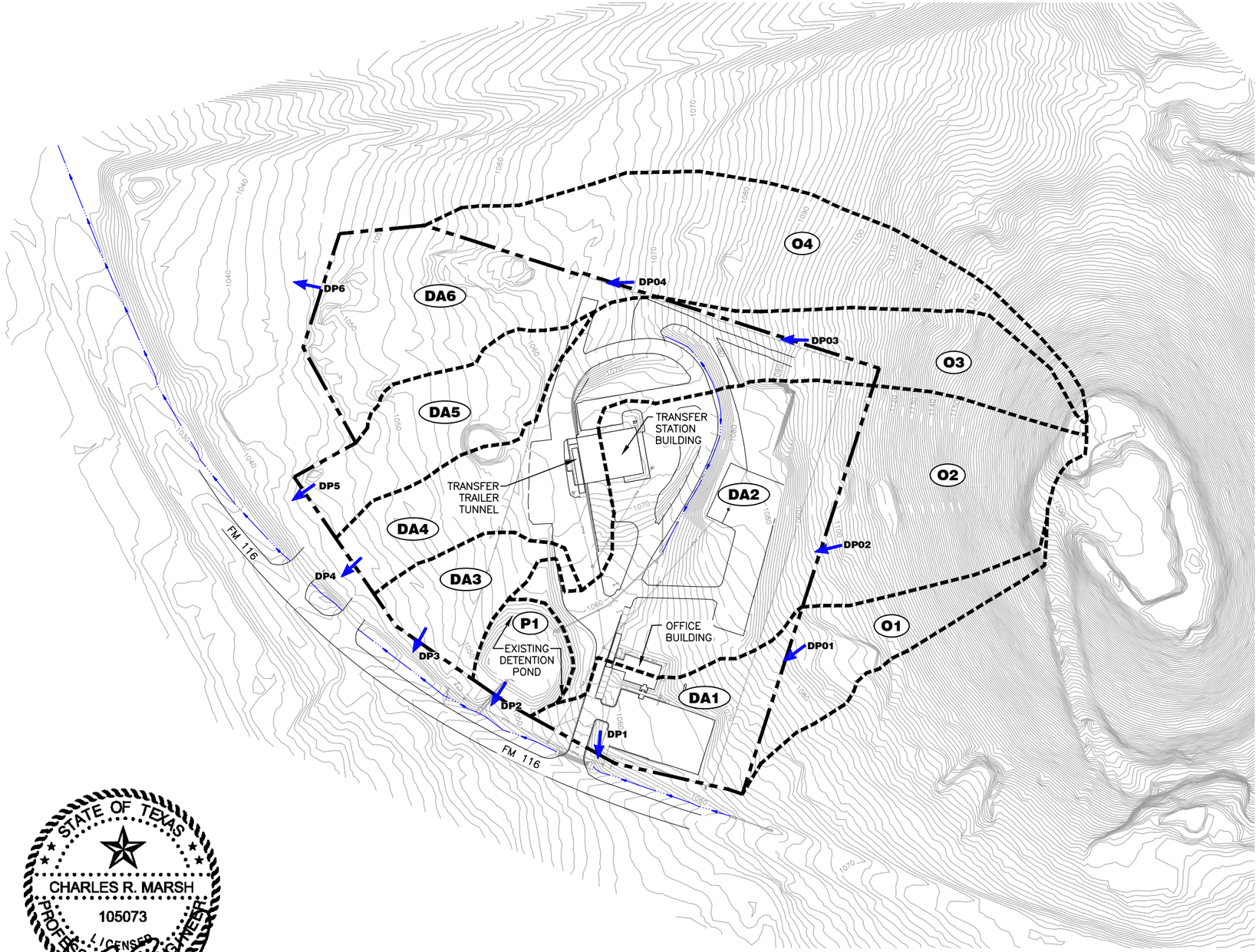
From the hydrologic and hydraulic evaluations of the existing and post-development conditions, the existing drainage conditions at the permit boundary will not be adversely altered by the proposed development. Given that: (1) drainage patterns are not adversely altered, (2) the post-development peak discharge rates compared to the existing condition are not adversely altered at the permit boundary, (3) the hydrograph times to peak at the permit boundary are not altered by the proposed development, (4) total volume of stormwater leaving the permit boundary is not significantly altered for the existing and post-development conditions, (5) there is no significant increase in velocity at discharge points from

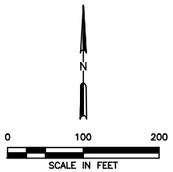
the permit boundary and erosion protection will be installed for velocities greater than 5 fps, (6) the stormwater discharge outfall locations are consistent with the existing configuration, and (7) the floodplain is not impacted, it is concluded that the proposed development will not adversely alter existing drainage patterns.

Table 4-1
Flow Rates, Drainage Areas, Hydrograph Time to Peak Values, Runoff Volumes, and Velocities for the 25-Year Design Storm Event

Stormwater Discharge Point[1]	Existing Conditions					Post-development Conditions				
	Flow Rate (cfs)	Drainage Area (acres)	Time to Peak (hrs)	Runoff Volume (ac-ft)	Velocity at Permit Boundary[2] (ft/sec)	Flow Rate (cfs)	Drainage Area (acres)	Time to Peak (hrs)	Runoff Volume (ac-ft)	Velocity at Permit Boundary[2] (ft/sec)
01	8.83	1.20	13.07	0.57	1.90	8.83	1.20	13.07	0.57	1.90
02	18.90	2.69	13.07	1.22	2.58	16.65	2.39	13.07	1.08	2.46
03	9.90	1.39	13.07	0.63	1.98	11.70	1.69	13.07	0.76	2.11
04	24.14	3.45	13.07	1.56	2.04	24.14	3.45	13.07	1.56	2.04
DP1	19.38	2.69	13.07	1.31	13.51	19.38	2.69	13.07	1.31	11.73
DP2	36.06	7.73	13.14	3.80	7.31	32.96	7.21	13.14	3.60	7.08
DP3	6.87	0.92	13.07	0.47	1.53	6.87	0.87	13.07	0.44	1.53
DP4	33.36	4.70	13.08	2.42	2.19	29.76	5.26	13.13	2.77	11.84
DP5	12.14	1.56	13.07	0.84	1.79	11.63	1.56	13.07	0.78	1.77
DP6	38.96	5.78	13.08	2.64	3.23	31.60	5.81	13.11	2.75	3.33

[1] Stormwater discharge points are shown on Figure 4.3. The volume shown is the total volume of runoff for the hydrograph duration.
[2] Runoff volume and velocity calculations are provided in Appendix IIIB-A and IIIB-C.





LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- CHANNEL
- DRAINAGE AREA BOUNDARY
- DA4 — DRAINAGE AREA DESIGNATION
- DP1 — RUN–ON/RUNOFF LOCATIONS

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

DRAINAGE AREA NO.	AREA (ACRES)
DA1	1.49
DA2	4.47
DA3	0.92
DA4	3.31
DA5	1.56
DA6	2.33
O1	1.20
O2	2.69
O3	1.39
O4	3.45
P1	0.57

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL LICENSED ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: FIG 4.1–EXIST. DRAINAGE AREAS.DWG
DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

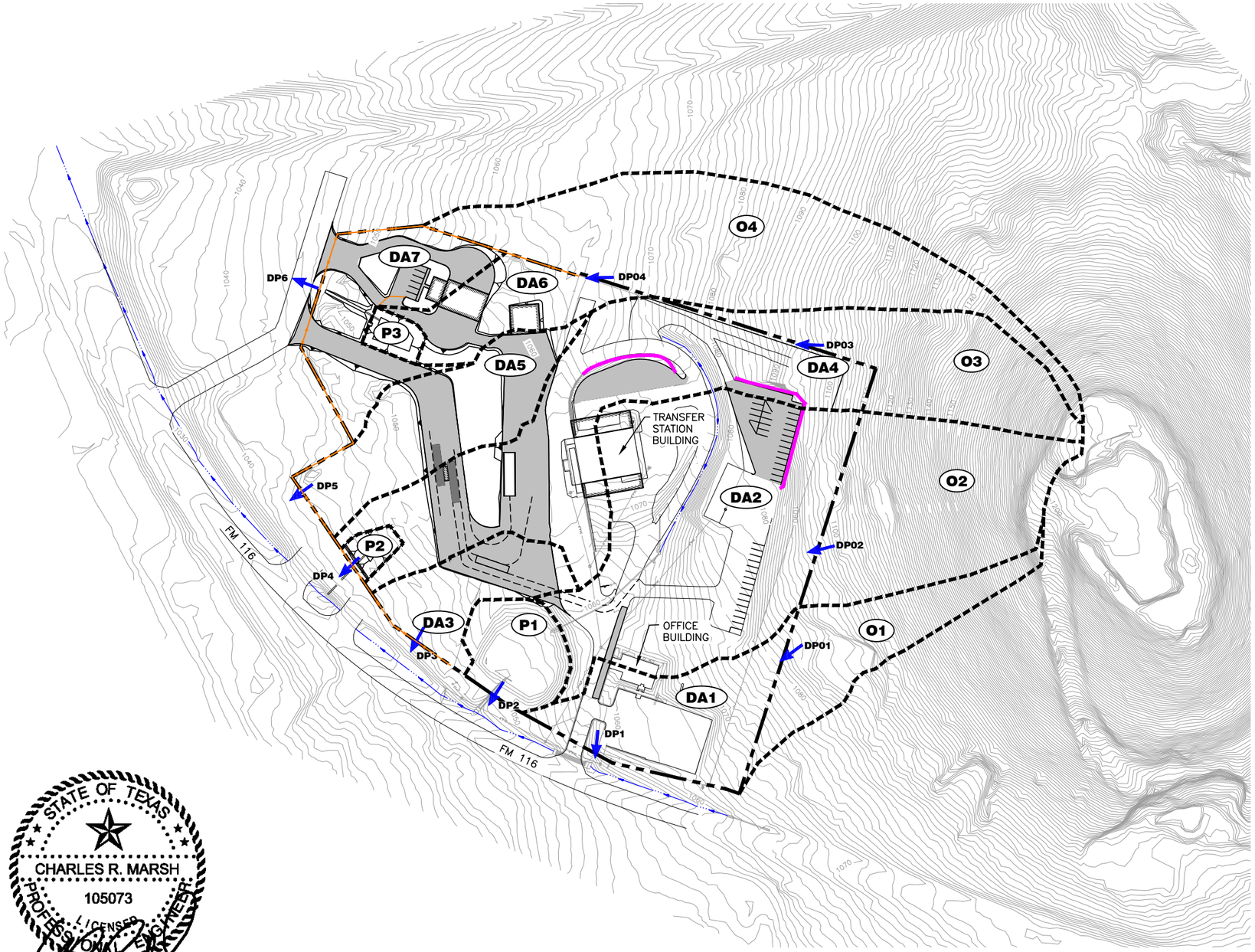
REVISIONS		
NO.	DATE	DESCRIPTION

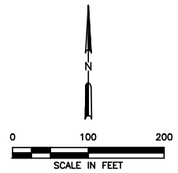
TYPE V PERMIT APPLICATION EXISTING DRAINAGE CONDITIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4.1





LEGEND

- PERMIT BOUNDARY
- EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- DRAINAGE AREA BOUNDARY
- DA4 — DRAINAGE AREA DESIGNATION
- DP1 — RUN–ON/RUNOFF LOCATIONS
- PROPOSED FENCE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

DRAINAGE AREA NO.	AREA (ACRES)
DA1	1.49
DA2	4.18
DA3	0.87
DA4	3.45
DA5	1.56
DA6	0.86
DA7	1.32
O1	1.20
O2	2.39
O3	1.69
O4	3.45
P1	0.64
P2	0.12
P3	0.15

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 4.2-POST DEV DRAINAGE AREAS.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

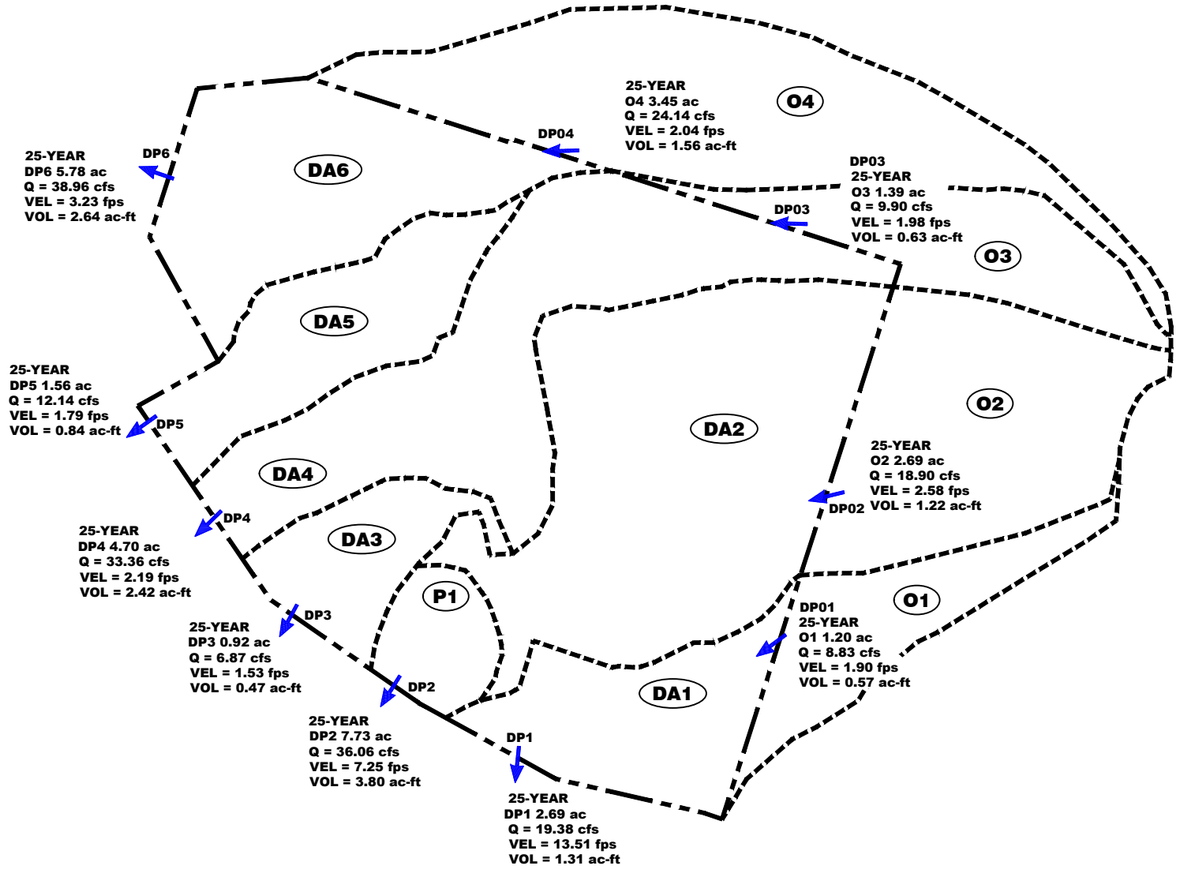
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
POST-DEVELOPMENT DRAINAGE CONDITIONS

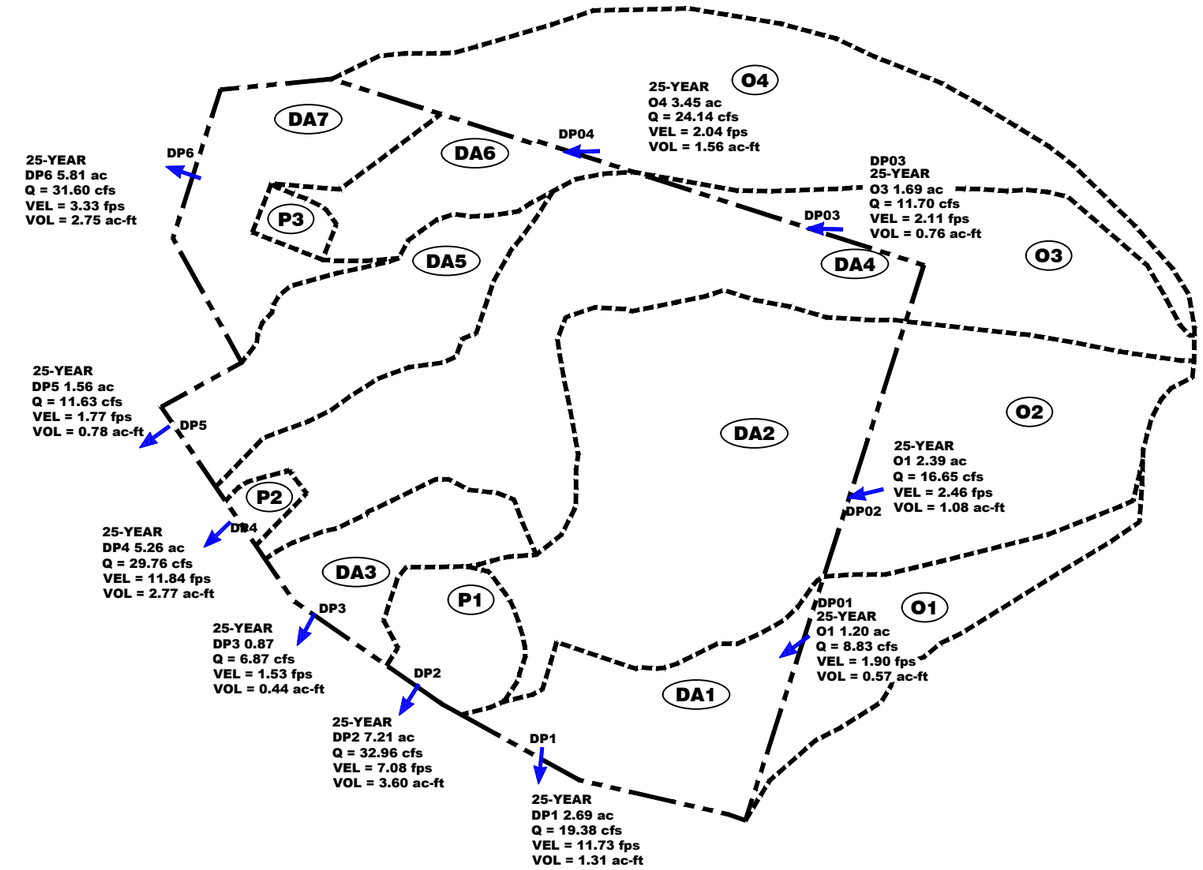
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

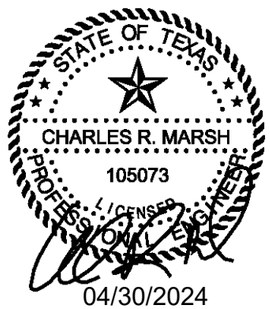
FIGURE 4.2



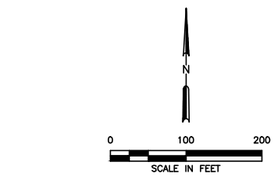
EXISTING CONDITIONS



POST–DEVELOPMENT CONDITIONS



04/30/2024



LEGEND

	PERMIT BOUNDARY
	DRAINAGE AREA BOUNDARY
DA4	DRAINAGE AREA DESIGNATION
→	STORMWATER DISCHARGE POINT
Q = 18.42 cfs	STORM EVENT PEAK FLOW RATE
VEL = 1.7 fps	FLOW VELOCITY
VOL = 1.2 ac-ft	FLOW VOLUME

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: FIG 4.3–DEV DRAINAGE AREAS COMP.DWG
DRAWN BY: SRF
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

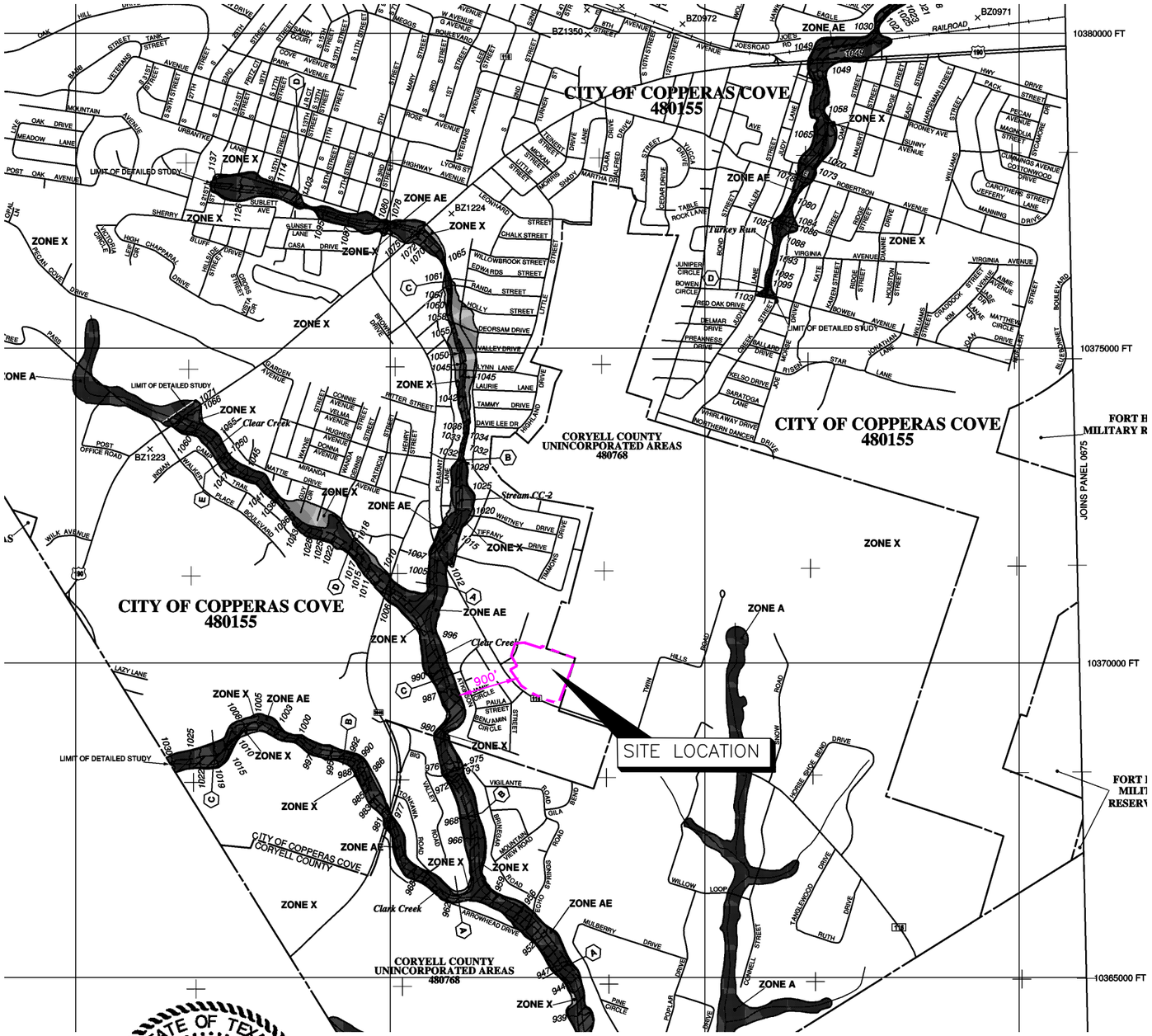
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
SITE DRAINAGE PATTERNS RUNON/RUNOFF

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4.3



04/30/2024

NOTE:

1. FLOODPLAIN INFORMATION PROVIDED BY FEMA FIRM PANEL 48099C0635F FOR CORYELL COUNTY, TEXAS AND INCORPORATED AREAS, EFFECTIVE DATE FEBRUARY 17, 2010.

N

0 1000 2000
SCALE IN FEET

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 14
- 6000000 FT — 5000-foot grid values: Texas State Plane coordinate system, central zone (FIPSZONE 4203), Lambert Conformal Conic
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: FIG 4.4-FIRM.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

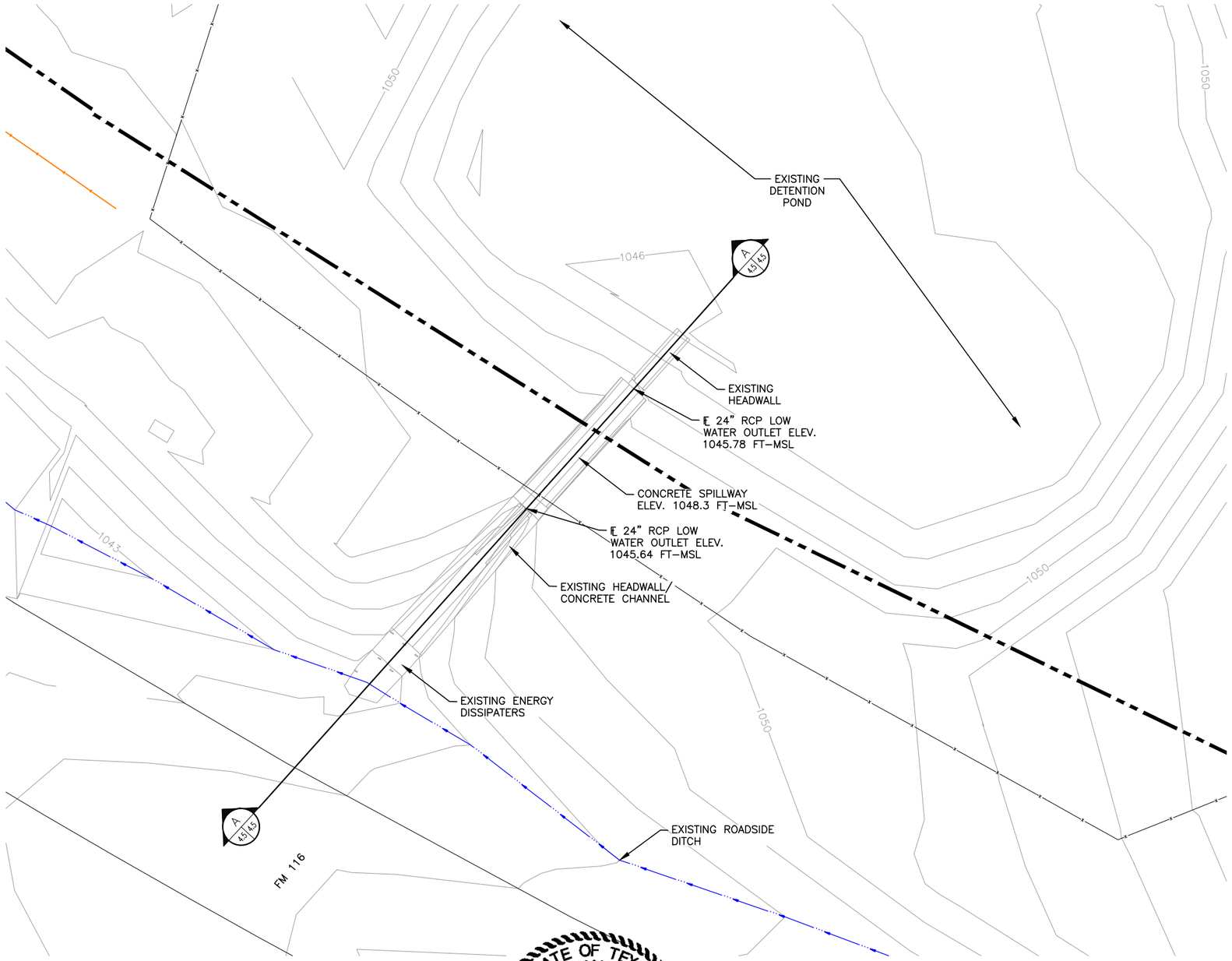
NO.	DATE	DESCRIPTION

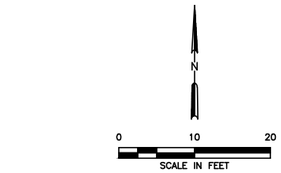
TYPE V PERMIT APPLICATION
FLOOD INSURANCE RATE MAP

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4.4

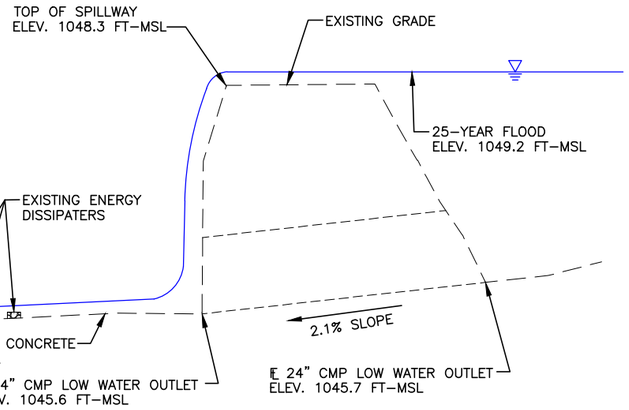




LEGEND

- PERMIT BOUNDARY (SEE NOTE 1)
- 1050 EXISTING CONTOUR (SEE NOTE 2)
- CHANNEL
- EXISTING FENCE

DETENTION POND DESIGN SUMMARY	
POND BOTTOM	1045.7 FT–MSL
TOP OF EMBANKMENT	1049.0 FT–MSL
SPILLWAY ELEVATION	1048.3 FT–MSL
25–YEAR PEAK STAGE	1049.2 FT–MSL
25–YEAR STORAGE VOLUME	0.6 AC–FT
LOW WATER OUTLET	24" CMP
OUTLET UPSTREAM ELEVATION	1045.7 FT–MSL
OUTLET DOWNSTREAM ELEVATION	1045.6 FT–MSL



LONGITUDINAL SECTION A 4.5 4.5

0 2 4
VERTICAL SCALE IN FEET

0 10 20
HORIZONTAL SCALE IN FEET

NOTES:

1. THE PERMIT BOUNDARY IS REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY WEAVER CONSULTANTS GROUP AND QUINTERO ENGINEERING ON JUNE 19, 2023 AND MARCH 10, 2023 RESPECTIVELY.
2. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL ENGINEER
LICENSED
04/30/2024

- [ ] DRAFT
- [X] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: FIG 4.5–POND P1 PLAN.DWG
DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

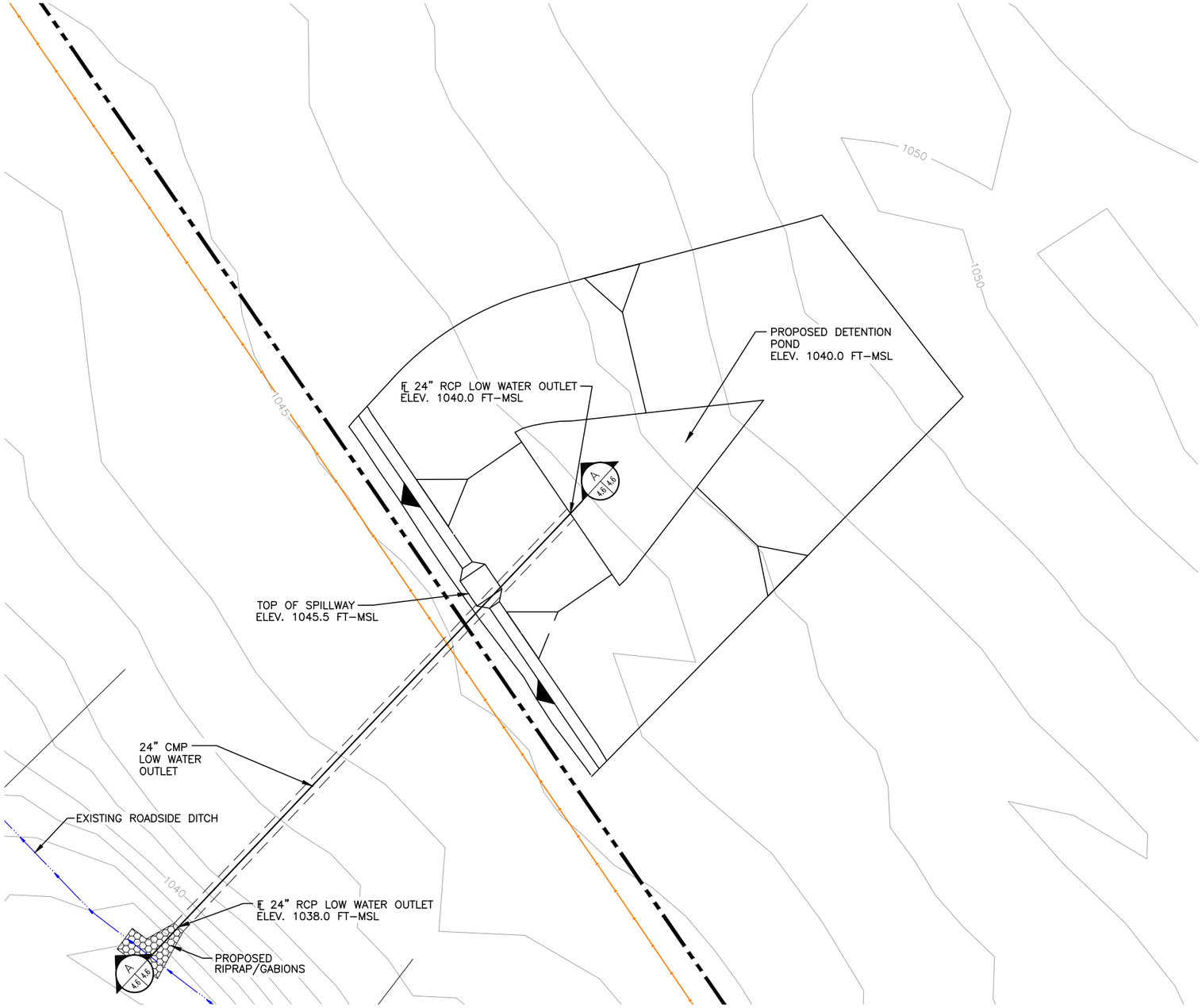
REVISIONS		
NO.	DATE	DESCRIPTION

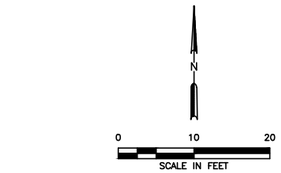
TYPE V PERMIT APPLICATION POND P1 PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4.5

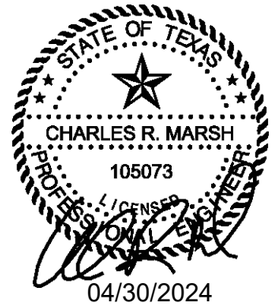




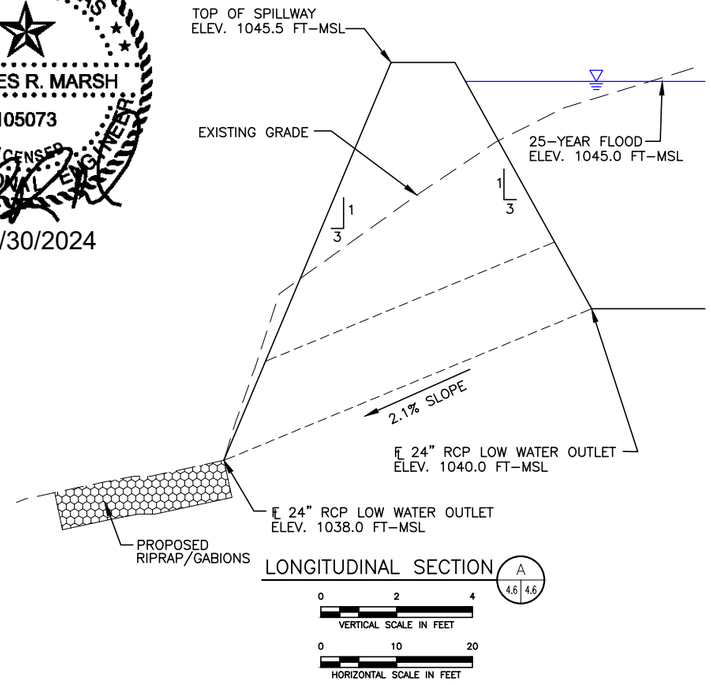
LEGEND

- PERMIT BOUNDARY (SEE NOTE 1)
- 1050 — EXISTING CONTOUR (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- ×1081.1 — SPOT ELEVATION
- CHANNEL

DETENTION POND DESIGN SUMMARY	
POND BOTTOM	1040.0 FT–MSL
TOP OF EMBANKMENT	1046.0 FT–MSL
SPILLWAY ELEVATION	1045.5 FT–MSL
25–YEAR PEAK STAGE	1045.1 FT–MSL
25–YEAR STORAGE VOLUME	0.2 AC–FT
LOW WATER OUTLET	24" CMP
OUTLET UPSTREAM ELEVATION	1040.0 FT–MSL
OUTLET DOWNSTREAM ELEVATION	1038.0 FT–MSL



04/30/2024



NOTES:

1. THE PERMIT BOUNDARY IS REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY WEAVER CONSULTANTS GROUP AND QUINTERO ENGINEERING ON JUNE 19, 2023 AND MARCH 10, 2023 RESPECTIVELY.
2. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: FIG 4.6–POND P2 PLAN.DWG

DRAWN BY: JDW
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

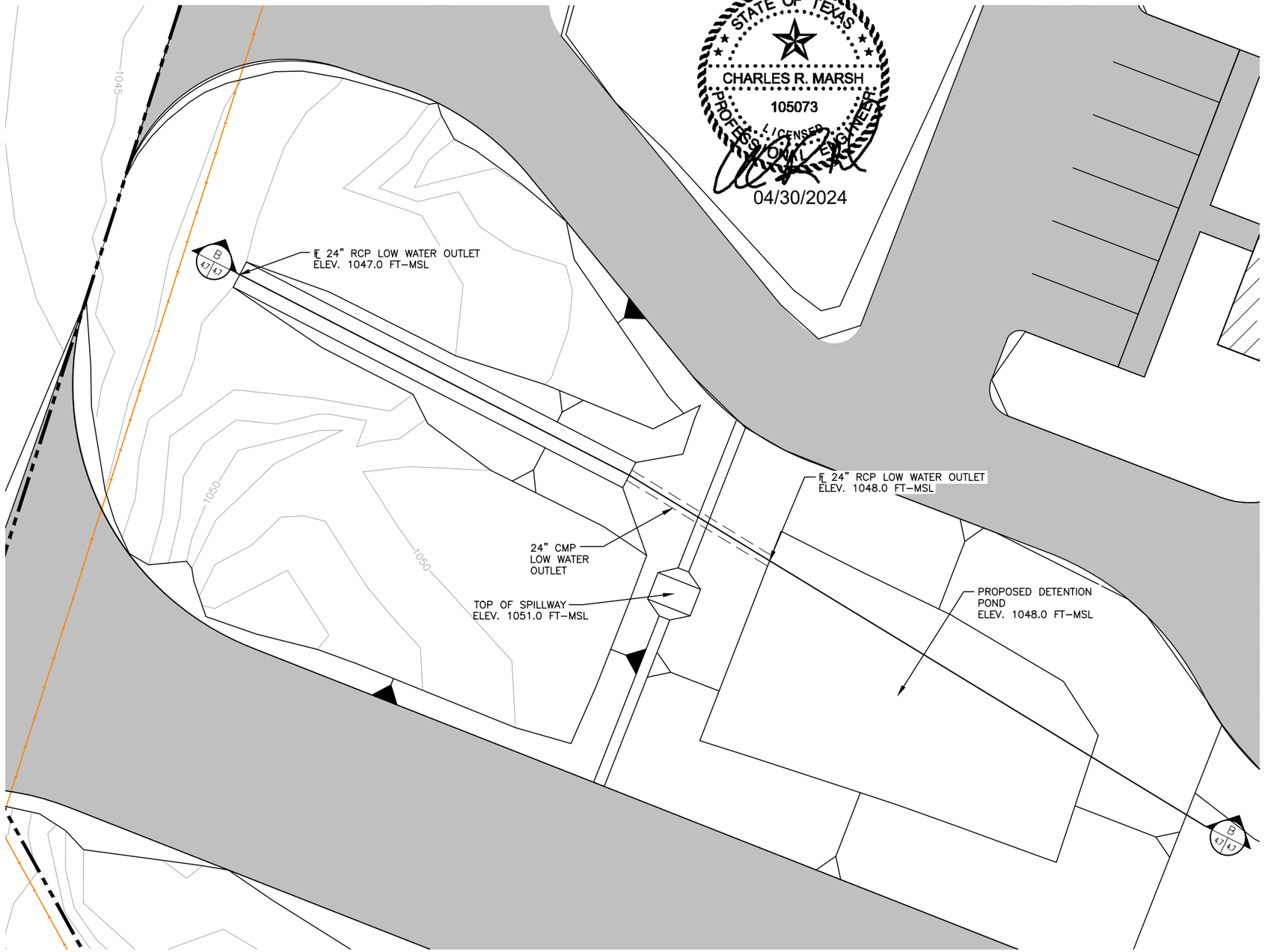
REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION POND P2 PLAN

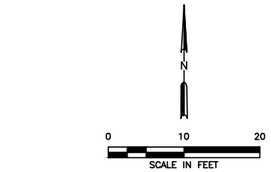
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

FIGURE 4.6

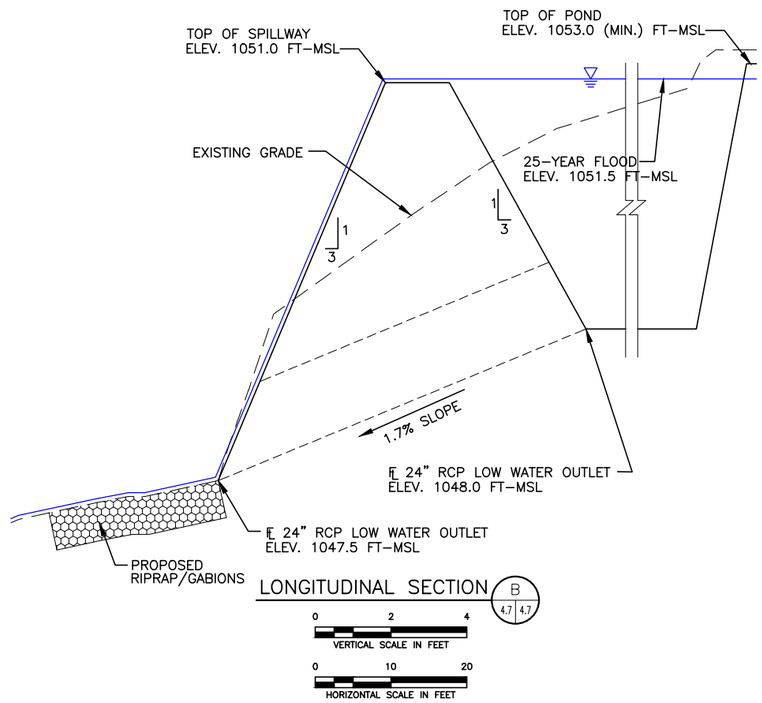


STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED ENGINEER
PROFESSIONAL
04/30/2024



LEGEND

- PERMIT BOUNDARY (SEE NOTE 1)
- 1050 — EXISTING CONTOUR (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- ×1081.1 — SPOT ELEVATION
- CHANNEL
- PROPOSED FENCE



LONGITUDINAL SECTION B 4.7 4.7

0 2 4
VERTICAL SCALE IN FEET

0 10 20
HORIZONTAL SCALE IN FEET

NOTES:

1. THE PERMIT BOUNDARY IS REPRODUCED FROM A LEGAL DESCRIPTION PROVIDED BY WEAVER CONSULTANTS GROUP AND QUINTERO ENGINEERING ON JUNE 19, 2023 AND MARCH 10, 2023 RESPECTIVELY.
2. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

DETENTION POND DESIGN SUMMARY	
POND BOTTOM	1048.0 FT–MSL
TOP OF EMBANKMENT	1050.2 FT–MSL
SPILLWAY ELEVATION	1051.0 FT–MSL
25–YEAR PEAK STAGE	1051.52 FT–MSL
25–YEAR STORAGE VOLUME	0.2 AC–FT
LOW WATER OUTLET	24" CMP
OUTLET UPSTREAM ELEVATION	1048.0 FT–MSL
OUTLET DOWNSTREAM ELEVATION	1047.5 FT–MSL

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552–001–11
CAD: FIG 4.7–POND P3 PLAN.DWG

DRAWN BY: RAA
DESIGN BY: MB
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F–3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

TYPE V PERMIT APPLICATION
POND P3 PLAN

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

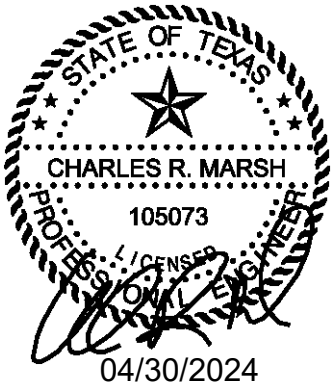
WWW.WCGRP.COM

FIGURE 4.7

APPENDIX IIIB-A

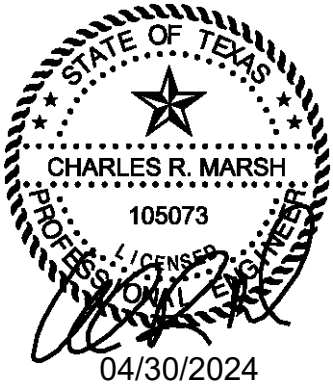
POST-DEVELOPMENT CONDITION DRAINAGE ANALYSIS

Includes pages IIIB-A-1 through IIIB-A-55



04/30/2024

CONTENTS



HYPOTHETICAL STORM DATA

Hypothetical Storm Data

Precipitation data taken from NOAA Atlas 14 rainfall data.

Time	5 min	15 min	60 min	2 hr	3 hr	6 hr	12 hr	24 hr
25-Year Event	0.883	1.76	3.20	4.08	4.64	5.57	6.43	7.31

NOAA Atlas 14 - Precipitation-Frequency Atlas of the United States, Volume 11, Version 2.0: Texas (*U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and National Weather Service, 2018*) was used to identify precipitation values for storm durations ranging from 5 minutes to 24 hours.

PRECIPITATION LOSS DATA

Required: Determine the SCS curve numbers for the on-site drainage areas and pond for use in the HEC-HMS analysis.

References:

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, *HEC-HMS Hydrologic Modeling System 4.10,* July 2022.
2. City of Copperas Cove, Drainage Criteria Manual, (http://www.copperascovetx.gov)
3. United States Department of Agriculture, National Resource Conservation Service, Web Soil Survey for Coryell County, Texas (http://websoilsurvey.nrcs.usda.gov).

Solution:

Based on the soil survey information found in Ref. 3, hydrologic group D soils predominate the soils within the permit boundary drainage area (see pages IIIB-A-5 through IIIB-A-7).

The non-impervious portions of subbasins (e.g., non-paved areas) were considered to be open space, contoured and in fair condition based on curve numbers tables provided in Reference 2.

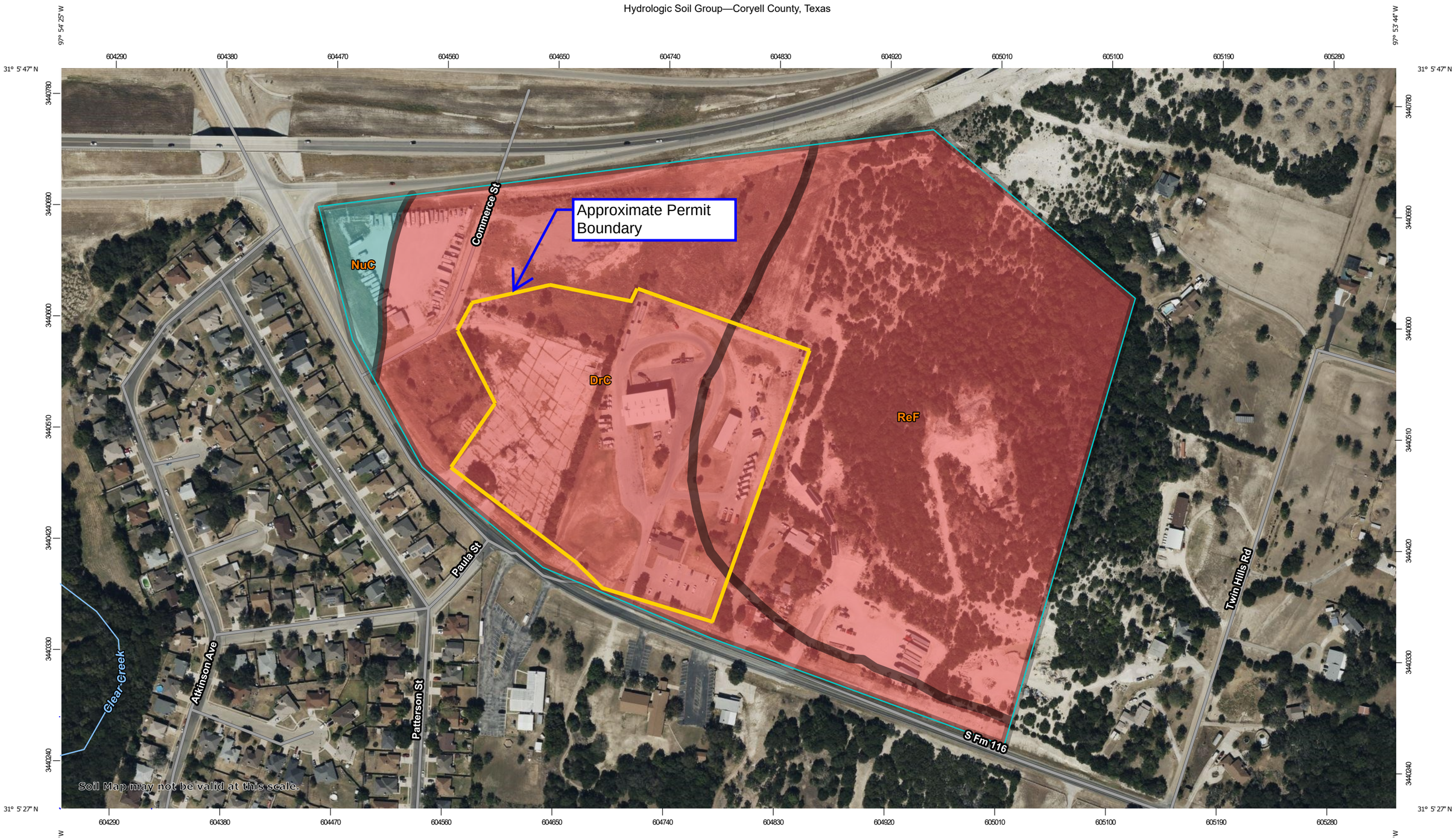
Use:	CN = 84

The curve number for the proposed impervious paved areas was based on curve numbers tables provided in Reference 2.

Use:	CN = 98

The pond area is assumed to consist of areas that have zero precipitation losses (water surfaces) with vegetated sideslopes and gravel-surfaced top of embankment areas

Use:	CN = 99



Map Scale: 1:2,920 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

IIIB-A-5

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coryell County, Texas
Survey Area Data: Version 19, Aug 24, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DrC	Doss-Real complex, 1 to 8 percent slopes	D	23.2	43.7%
NuC	Nuff very stony silty clay loam, 2 to 6 percent slopes	C	1.3	2.5%
ReF	Real-Rock outcrop complex, 8 to 40 percent slopes	D	28.6	53.8%
Totals for Area of Interest			**53.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

The list of most soils in the United States along with their hydrologic soil classification is given in the TR-55 publication. The minimum infiltration rates for the four (4) soil groups are:

Group	Minimum Infiltration Rate (in/hr)
A	0.30 - 0.45
B	0.15 - 0.30
C	0.05 - 0.15
D	0.00 - 0.05

Table 2-13 lists the curve numbers for the four (4) soil groups under various land uses, land treatment and hydrologic conditions. In order to determine the soil classifications in the Copperas Cove area, the SCS Soil Survey of Coryell County, Texas should be used.

Table 2-10
SCS Runoff Curve Numbers for Urban Areas and Agricultural Lands

Cover Description		**Curve Numbers for Hydrologic Soil Group**			
Cover type and Hydrologic Condition	**Average % Impervious Area[1]**	**A**	**B**	**C**	**D**
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) Poor condition (grass cover 50%) Fair condition (grass cover 50% to 75%) Good condition (grass cover 75%)		 68 49 39	 79 69 61	 86 79 74	 89 84 80
Impervious areas: Paved parking lots, roofs, driveways, etc. (excluding right of way)		98	98	98	98

HYDROGRAPH DEVELOPMENT INFORMATION

HYDROGRAPH DEVELOPMENT INFORMATION

Offsite and Overland Flow Areas

The hydrographs for the drainage areas were developed using the Soil Conservation Service (SCS) unit hydrograph method. SCS parameter estimations are provided on pages IIIB-A-11 through IIIB-A-13.

Drainage Areas

The drainage areas used for this analysis are shown on Sheet IIIB-A-15. The routing scheme is shown in the HEC-HMS output file.

Soil Conservation Service Unit Hydrograph Data

Post Development Conditions

Area No.	Sheet Flow					Shallow Flow				Open Channel	t_c [5]	t_{Design} [6]	T_{lag} [7]
	Length (ft)	Slope (ft/ft)	Manning's [1] "n"	P_2 (in)	t_{sheet} [2] (min)	Length (ft)	Slope (ft/ft)	Velocity [3] (ft/sec)	$t_{shallow}$ [4] (min)	$t_{channel}$ (min)	(min)	(min)	(min)
DA1	260	0.10	0.15	3.72	10.4	208	0.04	3.99	0.87	0	11.3	11.3	6.8
DA2	110	0.19	0.15	3.72	4.0	499	0.06	4.81	1.73	0	5.7	10.0	6.0
DA3	100	0.05	0.15	3.72	6.3	244	0.04	4.16	0.98	0	7.3	10.0	6.0
DA4	262	0.12	0.15	3.72	9.6	804	0.04	4.00	3.35	0	12.9	12.9	7.8
DA5	100	0.05	0.15	3.72	6.1	503	0.03	3.58	2.34	0	8.4	10.0	6.0
DA6	300	0.05	0.15	3.72	15.8	128	0.04	4.29	0.50	0	16.3	16.3	9.8
DA7	136	0.06	0.15	3.72	7.8	227	0.04	3.80	0.99	0	8.8	10.0	6.0
O1	300	0.28	0.15	3.72	7.6	240	0.13	5.87	0.68	0	8.3	10.0	6.0
O2	300	0.27	0.15	3.72	7.7	197	0.20	7.22	0.46	0	8.1	10.0	6.0
O3	300	0.27	0.15	3.72	7.7	407	0.15	6.23	1.09	0	8.8	10.0	6.0
O4	300	0.26	0.15	3.72	7.9	726	0.11	5.25	2.30	0	10.2	10.2	6.1

[1] Manning's "n" from USDA, Natural Resources Conservation Service, Conservation Engineering Division, *Urban Hydrology for Small Watersheds* , 1986, page 3-3.

[2] $t_{sheet}=((0.007*(nL)^{0.8})/((P_2^{0.5})*(S^{0.4})))*60$

[3] $V=20.3282*\sqrt{S}$

$V=16.1345*\sqrt{S}$

[4] $t_{shallow}=L/(V*60)$

[5] $t_c=(t_{sheet}+t_{shallow}+t_{channel})$

[6] $t_{design}= IF(t_c>10,t_c,10)$

[7] $T_{lag} = 0.6*t_c$

L = Flow length
S = Main channel slope (ft/ft)
V = Average velocity for shallow concentrated flow over surface
P_2 = 2-Year, 24-hour rainfall
t_c = Time of concentration
t_{Design} = Time of concentration design values (if actual values are less than 10 minutes, than design values equal 10 minutes)
T_{lag} = Watershed lag time (min)

The Soil Conservation Service (SCS) Unit Hydrograph is derived from gaged rainfall and runoff for a large number of small agricultural watersheds.

Drainage area (DA1) is used in this example.

Method:

1. Calculate the time of concentration (t_c) for drainage area DA1.
2. Calculate the SCS Lag time T_{lag}.

References:

1. "SCS Unit Hydrograph Model" HEC-HMS Technical Reference Manual

Solution:

1. Calculate time of concentration t_c

The time of concentration can be can be calculated from Equation 4 from Reference 1.

$$t_c = t_{sheet}+t_{shallow}+t_{channel}$$

Where:

t_{sheet}= Sum of travel time in sheet flow segments over the watershed land surface

$t_{shallow}$= Sum of travel time in shallow flow segments (i.e. streets, gutters, shallow rills and rivulets)

$t_{channel}$= Sum of travel time in channel segments

A. Calculate Sheet Flow

Calculate sheet flow using the following equation:

$$t_{sheet} = \left(\frac{.007(nL)^{0.8}}{(P_2)^{0.5}S^{0.4}}\right) * 60$$ (Equation 7, Reference 1)

Where:

n = Manning's coefficient
L = Overland flow length
P_2 = 2-Year, 24-hour rainfall
S = Slope of sheet flow

n =	0.15	
L =	260	feet
P_2 =	3.72	inches
S =	0.10	feet/feet

t_{sheet} = 10.4 minutes

B. Calculate Shallow Flow

Calculate shallow flow using the following equation:

$$t_{shallow} = \frac{L}{V * 60}$$ (Equation 6, Reference 1)

The velocity system of equations provides both paved and unpaved surface calculations. Since DA1 is paved, the paved surface equation was selected.

$V = 20.3282 * \sqrt{S}$ (Equation 8, Reference 1)

Where:
L = Flow length
V = Average velocity for shallow concentrated flow over paved surface
S = Slope of shallow concentrated flow

L = 208 feet
S = 0.04 feet/feet

V = 3.99 feet/second

$t_{shallow}$ = 0.87 minutes

C. Calculate channel flow

DA1 does not have a defined channel, therefore no open channel flow was calculated.

$t_{channel}$ = 0.0 minutes

D. Calculate the total time of concentration:

$t_c = (t_{sheet} + t_{shallow+}t_{channel})$

t_c = 11.3 minutes

2. Calculate Lag Time T_{lag}

Calculate lag time using the following equation:

$T_{lag} = 0.6*t_c$

Where:
T_{lag} = Time difference between the center of mass of excess precipitation and the peak of the unit hydrograph

T_{lag} = 6.8 minutes

POND ROUTING INFORMATION

Pond Routing Information

The detention ponds and outlet structures will be designed to detain the 25-year storm and provide flood attenuation for the site. The following information was used to develop the existing condition.

Design information for the detention ponds low water outlet is summarized below:

	Initial Elevation (ft-msl)	Shape	Chart	Scale (ft)	Length (ft)	Diameter (ft)	Inlet Elevation (ft-msl)	Entrance Coefficient	Outlet Elevation (ft-msl)	Exit Coefficient	Manning's n
P1	1045.7	Circular	1	1	28.3	2.00	1045.70	0.8	1045.64	0.5	0.013
P2	1040	Circular	1	1	95.0	2.00	1040.00	0.8	1038.00	0.5	0.013
P3	1046	Circular	1	1	29.0	2.00	1048.00	0.8	1047.5	0.5	0.013

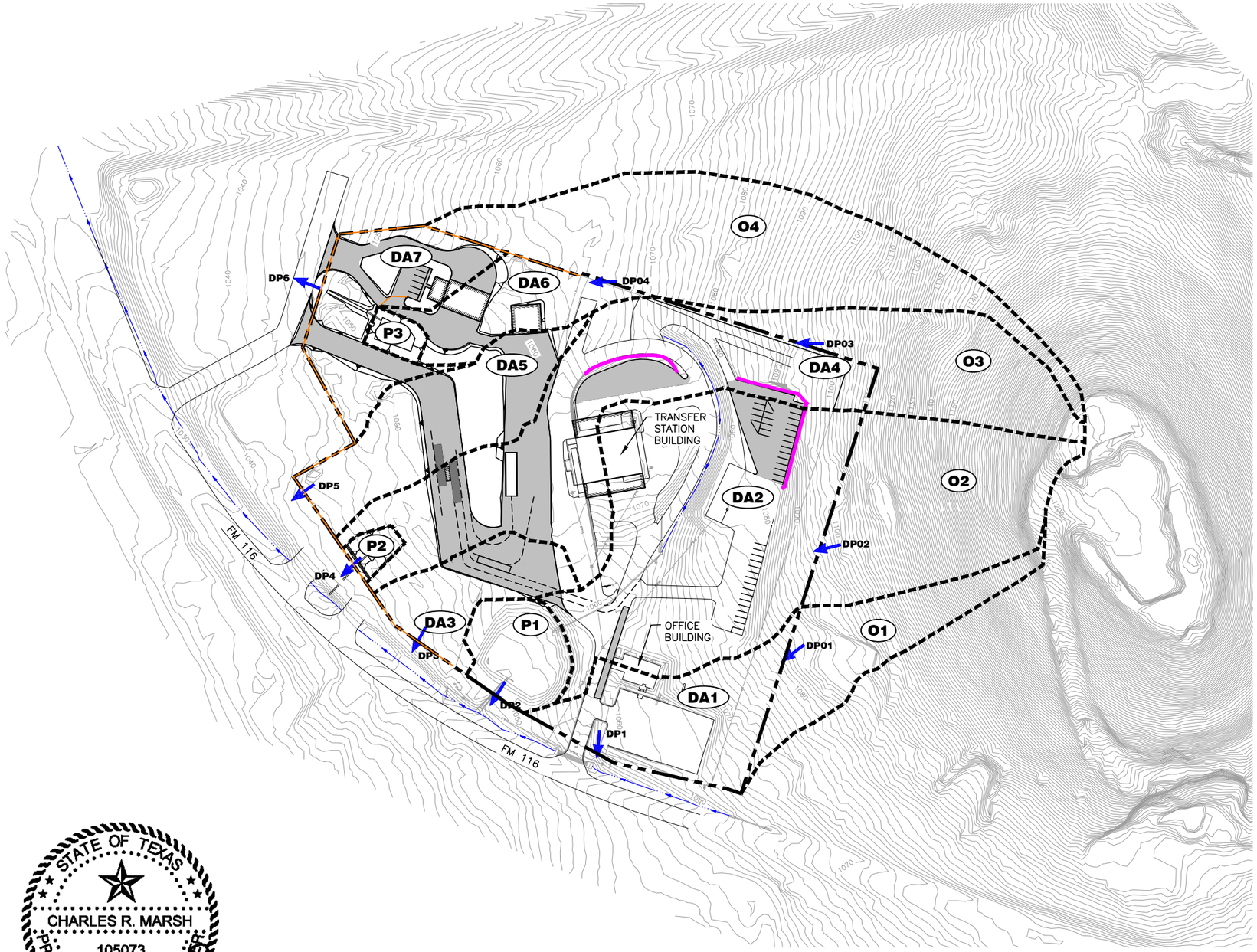
Design information for the detention ponds spillway is summarized below:

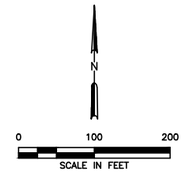
	Spillway Elevation (ft-msl)	Length (ft)	Coefficient
P1	1048.3	4.75	2.6
P2	1045.5	5.00	2.6
P3	1051	5.00	2.6

The elevation/area functions which are used to determine the volume of the detention ponds is summarized below.

Pond P1		Pond P2		Pond P3	
Elevation (ft-msl)	Area (ac)	Elevation (ft-msl)	Area (ac)	Elevation (ft-msl)	Area (ac)
1045.70	0.0000	1040.00	0.0000	1046.00	0.0000
1046.00	0.0050	1041.00	0.0217	1047.00	0.0659
1047.00	0.1480	1042.00	0.0318	1048.00	0.0820
1048.00	0.2480	1043.00	0.0434	1049.00	0.0996
1049.00	0.3180	1044.00	0.0565	1050.00	0.1187
1050.00	0.3710	1045.00	0.0712		
--	--	1046.00	0.0900		

POST-DEVELOPMENT HEC-1
ANALYSIS DRAINAGE AREAS





LEGEND

- PERMIT BOUNDARY
- EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED RETAINING WALL (SEE NOTE 2)
- PROPOSED PAVEMENT SURFACING
- CHANNEL
- DRAINAGE AREA BOUNDARY
- DA4 — DRAINAGE AREA DESIGNATION
- DP1 — RUN–ON/RUNOFF LOCATIONS
- PROPOSED FENCE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.
2. THE PROPOSED RETAINING WALLS VARIES FROM 2 TO 15 FEET IN HEIGHT.

DRAINAGE AREA NO.	AREA (ACRES)
DA1	1.49
DA2	4.18
DA3	0.87
DA4	3.45
DA5	1.56
DA6	0.86
DA7	1.32
O1	1.20
O2	2.39
O3	1.69
O4	3.45
P1	0.64
P2	0.12
P3	0.15

STATE OF TEXAS
CHARLES R. MARSH
105073
PROFESSIONAL LICENSED ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIB-A-17-POST DEV DRAINAGE AREAS.DWG

DRAWN BY: SRF
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS

NO.	DATE	DESCRIPTION

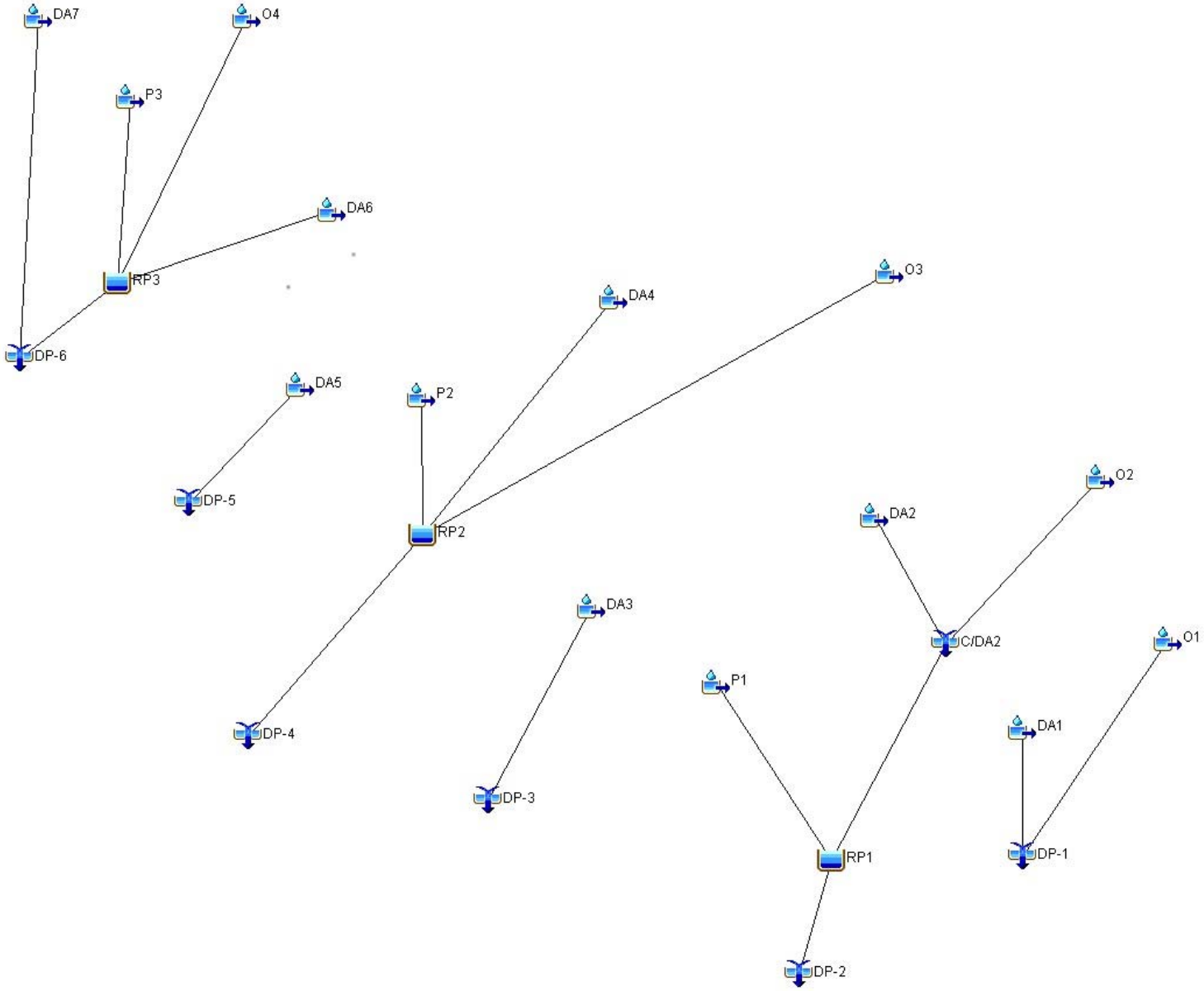
TYPE V PERMIT APPLICATION
POST-DEVELOPMENT DRAINAGE CONDITIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

DRAWING IIIB-A-17

HEC-HMS OUTPUT – POST-DEVELOPMENT
25-YEAR, 24-HOUR STORM EVENT


DA7
O4
P3
DA6
RP3
DP-6
DA5
DP-5
P2
DA4
O3
RP2
DP-4
DA3
DP-3
DA2
O2
C/DA2
P1
O1
DA1
RP1
DP-1
DP-2

Project: Copperas_Cove___Post_Project
Simulation Run: Post - 25-Year
Simulation Start: 1 January 2023, 01:00
Simulation End: 3 January 2023, 13:00

HMS Version: 4.11
Executed: 12 March 2024, 21:27

Global Parameter Summary - Subbasin

	Area (MI2)
Element Name	Area (MI2)
Da2	0.01
O2	0
P1	0
Da4	0.01
O3	0
P2	0
O4	0.01
Da6	0
P3	0
Da7	0
Da1	0
O1	0
Da5	0
Da3	0

Downstream

Element Name	Downstream
Da2	C/da2
O2	C/da2
P1	Rp1
Da4	Rp2
O3	Rp2
P2	Rp2
O4	Rp3
Da6	Rp3
P3	Rp3
Da7	DP - 6
Da1	DP - 1
O1	DP - 1
Da5	DP - 5
Da3	DP - 3

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
Da2	0	90
O2	0	84
P1	0	99
Da4	0	95
O3	0	84
P2	0	99
O4	0	84
Da6	0	87
P3	0	99
Da7	0	91
Da1	0	89
O1	0	86
Da5	0	89
Da3	0	90

Transform: Scs

Element Name	Lag	Unitgraph Type
Da2	6	Standard
O2	6	Standard
P1	0.1	Standard
Da4	7.8	Standard
O3	6	Standard
P2	0.1	Standard
O4	6.1	Standard
Da6	9.8	Standard
P3	0.1	Standard
Da7	6	Standard
Da1	6.8	Standard
O1	6	Standard
Da5	6	Standard
Da3	6	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Da2	0.01	31.87	01Jan2023, 13:07	6.13
O2	0	16.65	01Jan2023, 13:07	5.43
C/da2	0.01	48.52	01Jan2023, 13:07	5.88
P1	0	6.83	01Jan2023, 13:03	7.19
Rp1	0.01	32.96	01Jan2023, 13:14	5.99
DP - 2	0.01	32.96	01Jan2023, 13:14	5.99
Da4	0.01	25.23	01Jan2023, 13:09	6.71
O3	0	11.7	01Jan2023, 13:07	5.43
P2	0	1.37	01Jan2023, 13:03	7.19
Rp2	0.01	29.76	01Jan2023, 13:13	6.32
O4	0.01	24.14	01Jan2023, 13:07	5.43
Da6	0	5.07	01Jan2023, 13:11	5.78
P3	0	1.37	01Jan2023, 13:03	7.19
Rp3	0.01	23.45	01Jan2023, 13:12	5.55
Da7	0	10.41	01Jan2023, 13:07	6.24
DP - 6	0.01	31.6	01Jan2023, 13:11	5.71
DP - 4	0.01	29.76	01Jan2023, 13:13	6.32
Da1	0	10.66	01Jan2023, 13:08	6.01
O1	0	8.83	01Jan2023, 13:07	5.66
DP - 1	0	19.38	01Jan2023, 13:08	5.85
Da5	0	11.63	01Jan2023, 13:07	6.01
DP - 5	0	11.63	01Jan2023, 13:07	6.01

Da3	0	6.87	01Jan2023, 13:07	6.13
DP - 3	0	6.87	01Jan2023, 13:07	6.13

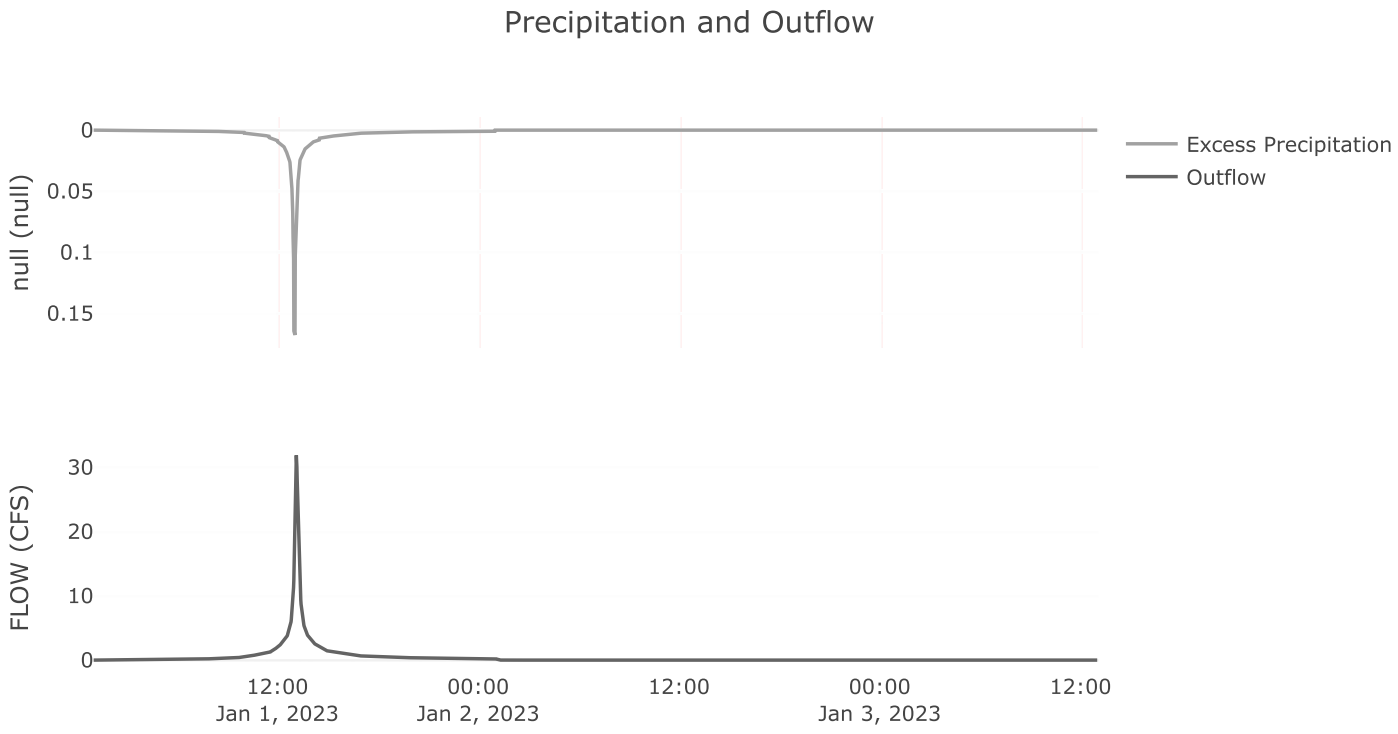
Subbasin: DA2

Area (MI2) : 0.01
Downstream : C/da2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	90

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA2	
Peak Discharge (CFS)	31.87
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.13
Precipitation Volume (AC - FT)	2.53
Loss Volume (AC - FT)	0.41
Excess Volume (AC - FT)	2.12
Direct Runoff Volume (AC - FT)	2.12
Baseflow Volume (AC - FT)	0



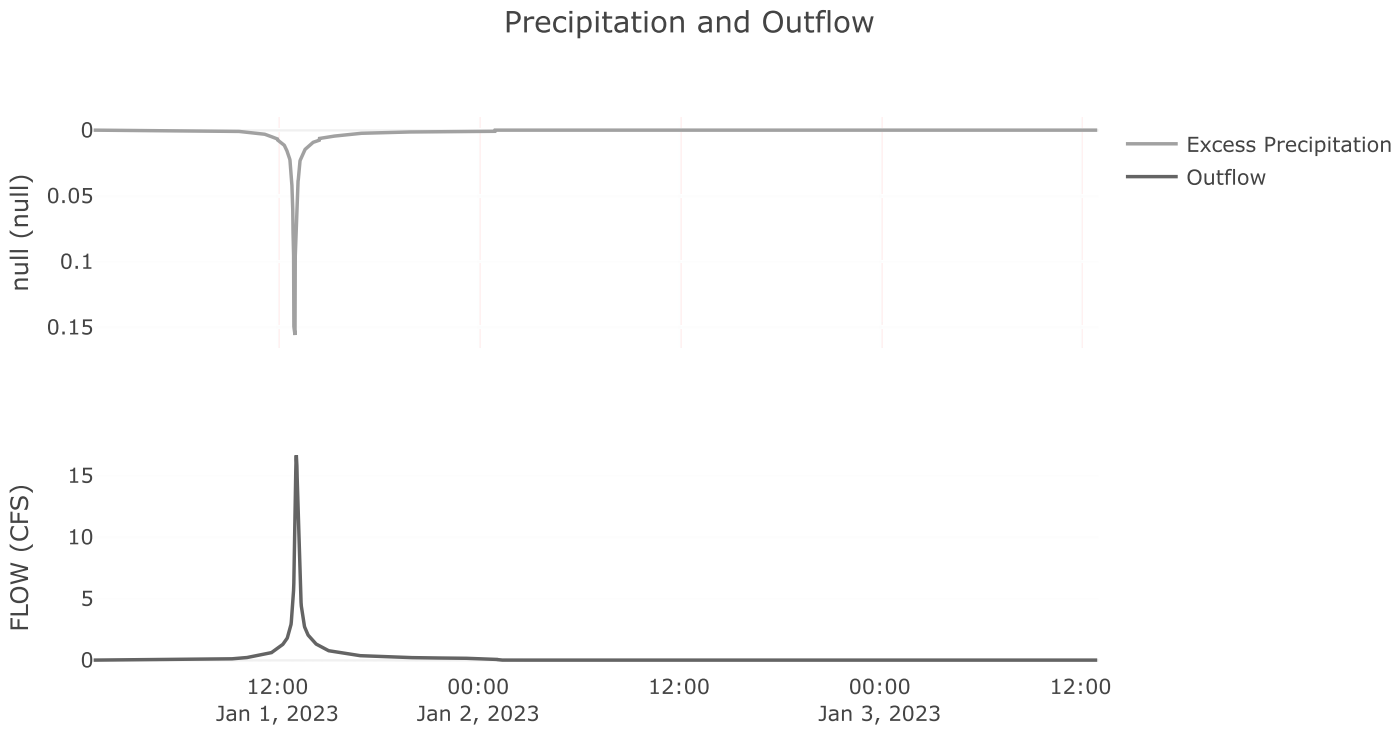
Subbasin: O2

Area (MI2) : 0
Downstream : C/da2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6
Unitgraph Type	Standard

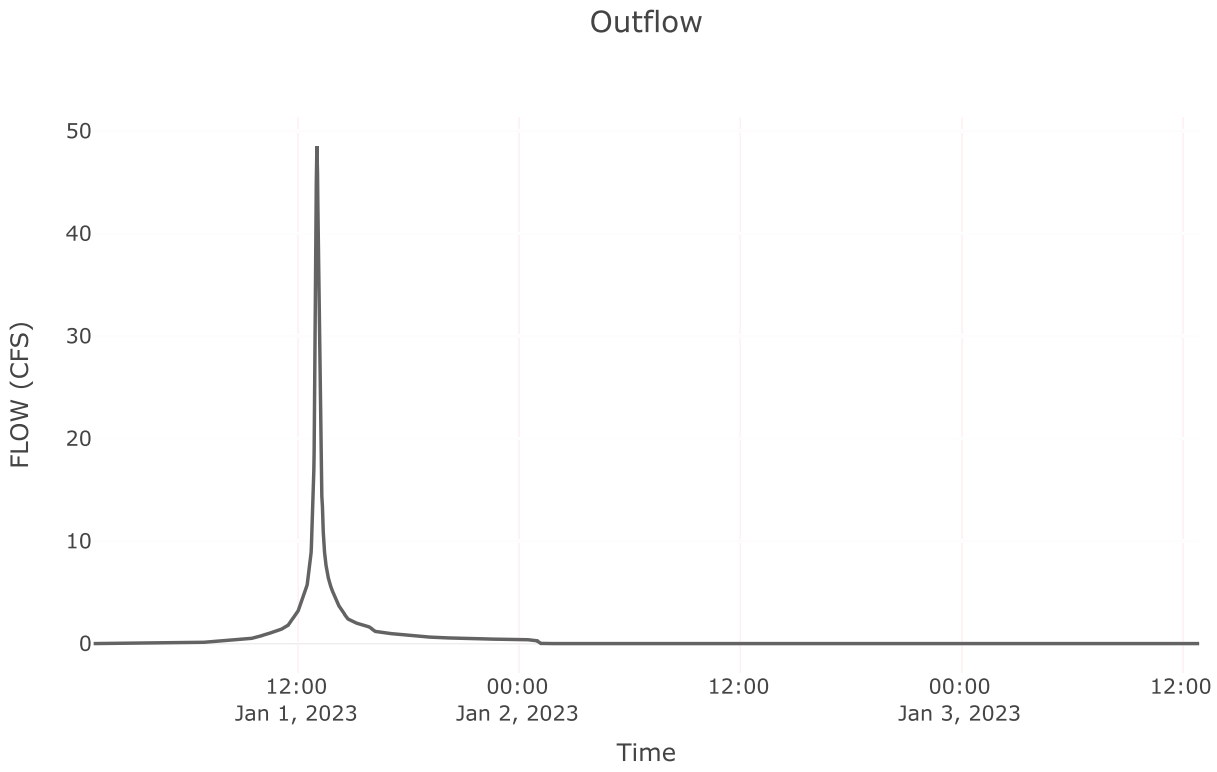
Results: O2	
Peak Discharge (CFS)	16.65
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	1.44
Loss Volume (AC - FT)	0.37
Excess Volume (AC - FT)	1.07
Direct Runoff Volume (AC - FT)	1.07
Baseflow Volume (AC - FT)	0



Junction: C/DA2

Downstream : Rp1

Results: C/DA2	
Peak Discharge (CFS)	48.52
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.88



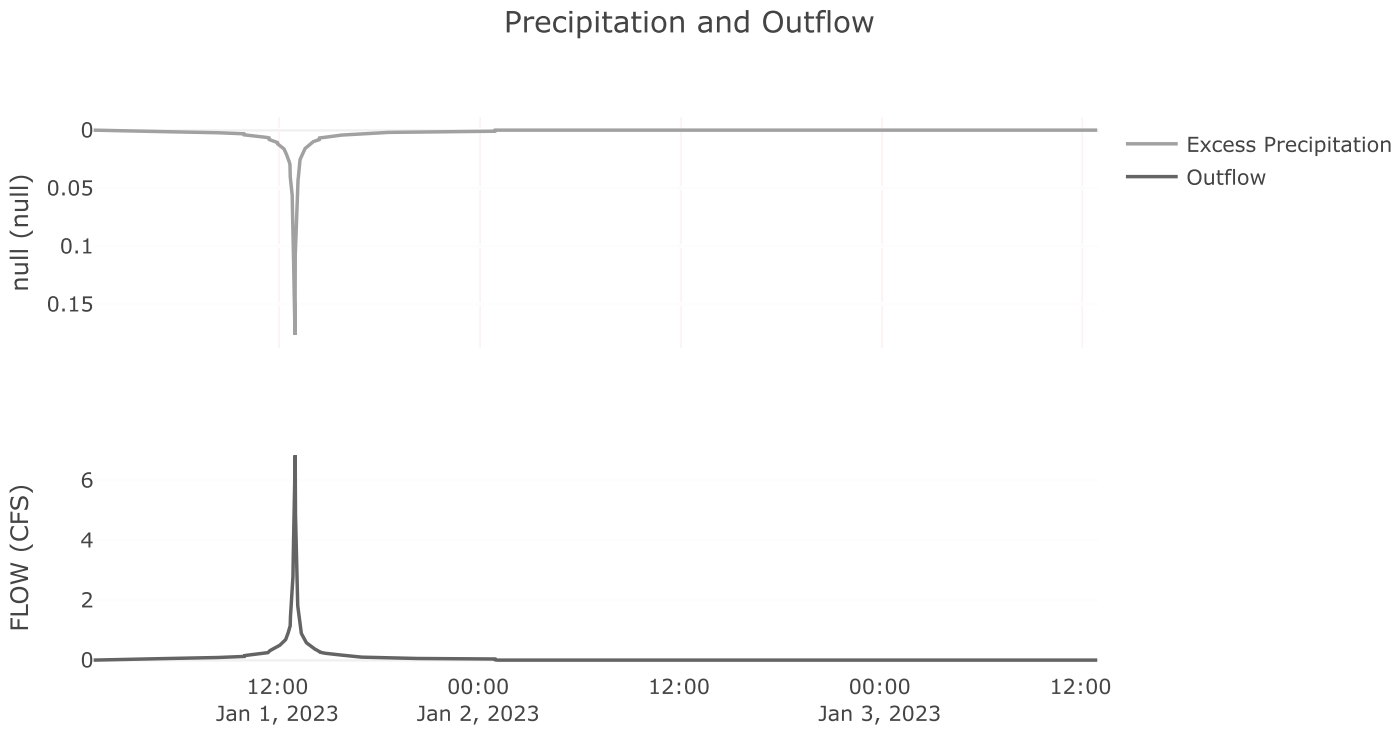
Subbasin: P1

Area (MI2) : 0
Downstream : Rp1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	99

Transform: Scs	
Lag	0.1
Unitgraph Type	Standard

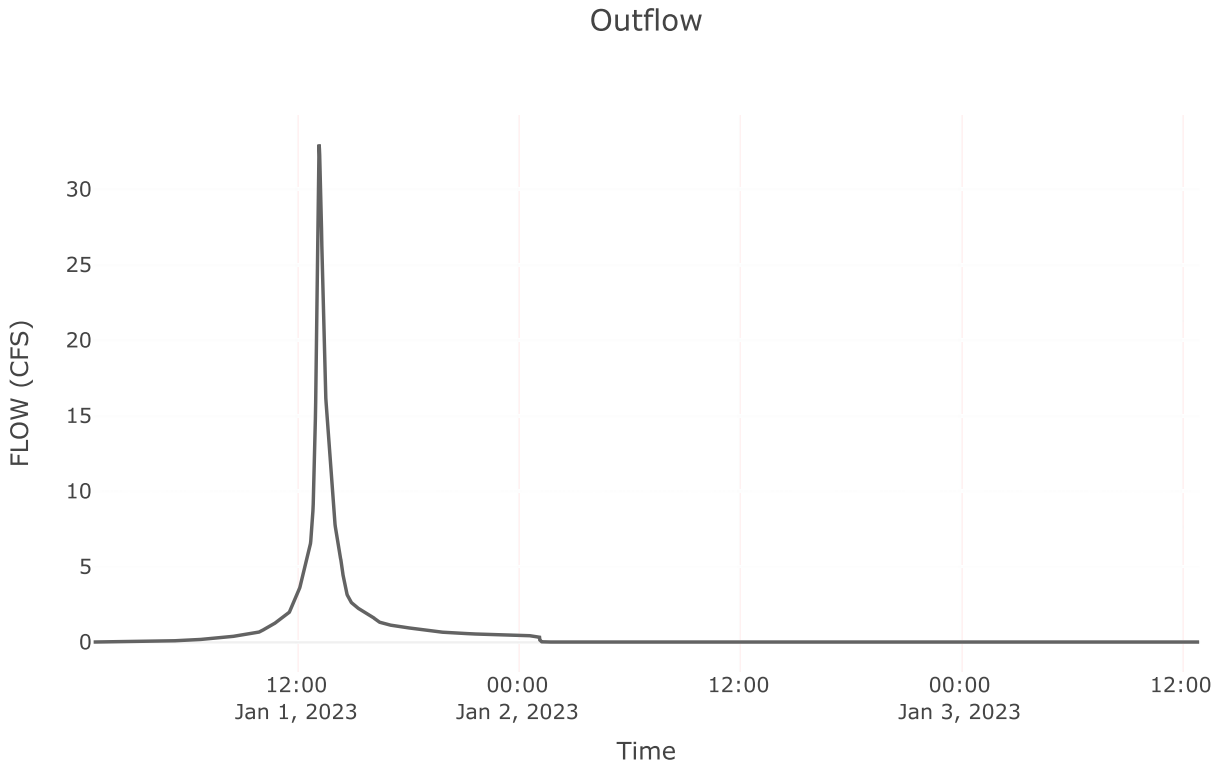
Results: P1	
Peak Discharge (CFS)	6.83
Time of Peak Discharge	01Jan2023, 13:03
Volume (IN)	7.19
Precipitation Volume (AC - FT)	0.39
Loss Volume (AC - FT)	0.01
Excess Volume (AC - FT)	0.38
Direct Runoff Volume (AC - FT)	0.38
Baseflow Volume (AC - FT)	0



Reservoir: RP1

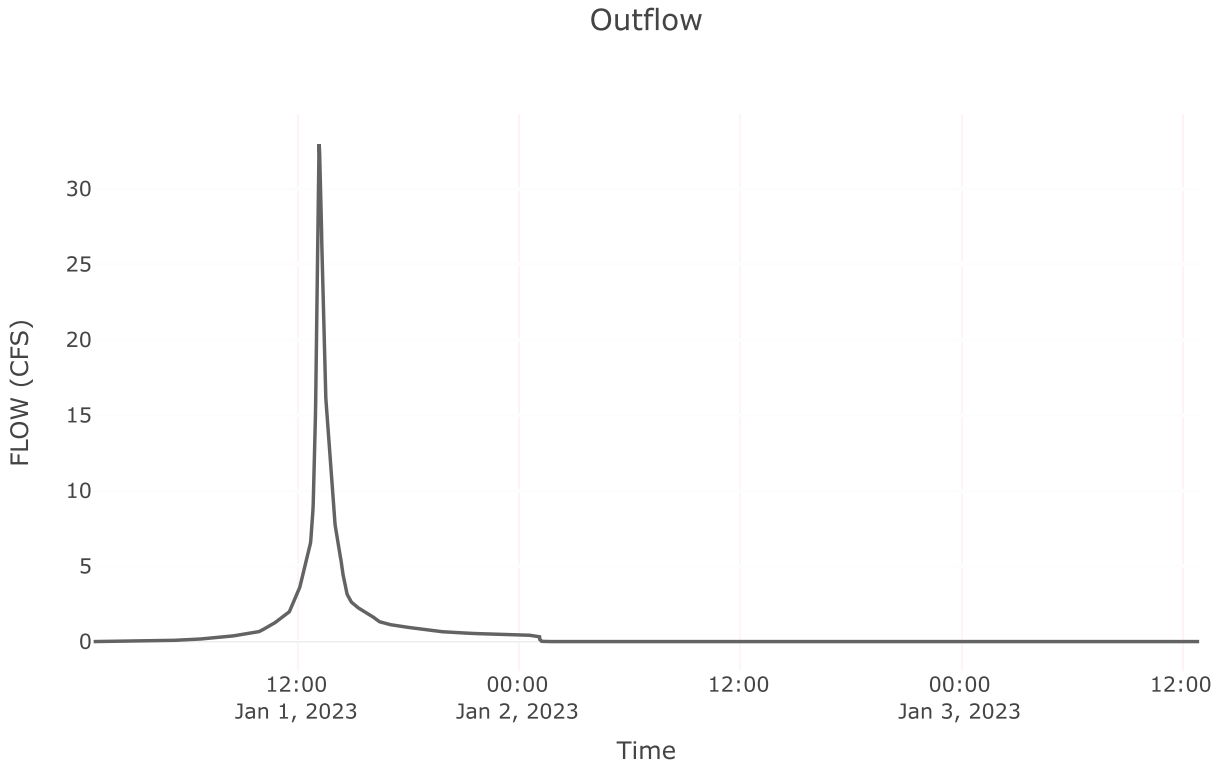
Downstream : DP - 2

Results: RP1	
Peak Discharge (CFS)	32.96
Time of Peak Discharge	01Jan2023, 13:14
Volume (IN)	5.99
Peak Inflow (CFS)	51.39
Time of Peak Inflow	01Jan2023, 13:07
Inflow Volume (AC - FT)	3.58
Maximum Storage (AC - FT)	0.61
Peak Elevation (FT)	1049.2
Discharge Volume (AC - FT)	3.58



Junction: DP-2

Results: DP-2	
Peak Discharge (CFS)	32.96
Time of Peak Discharge	01Jan2023, 13:14
Volume (IN)	5.99



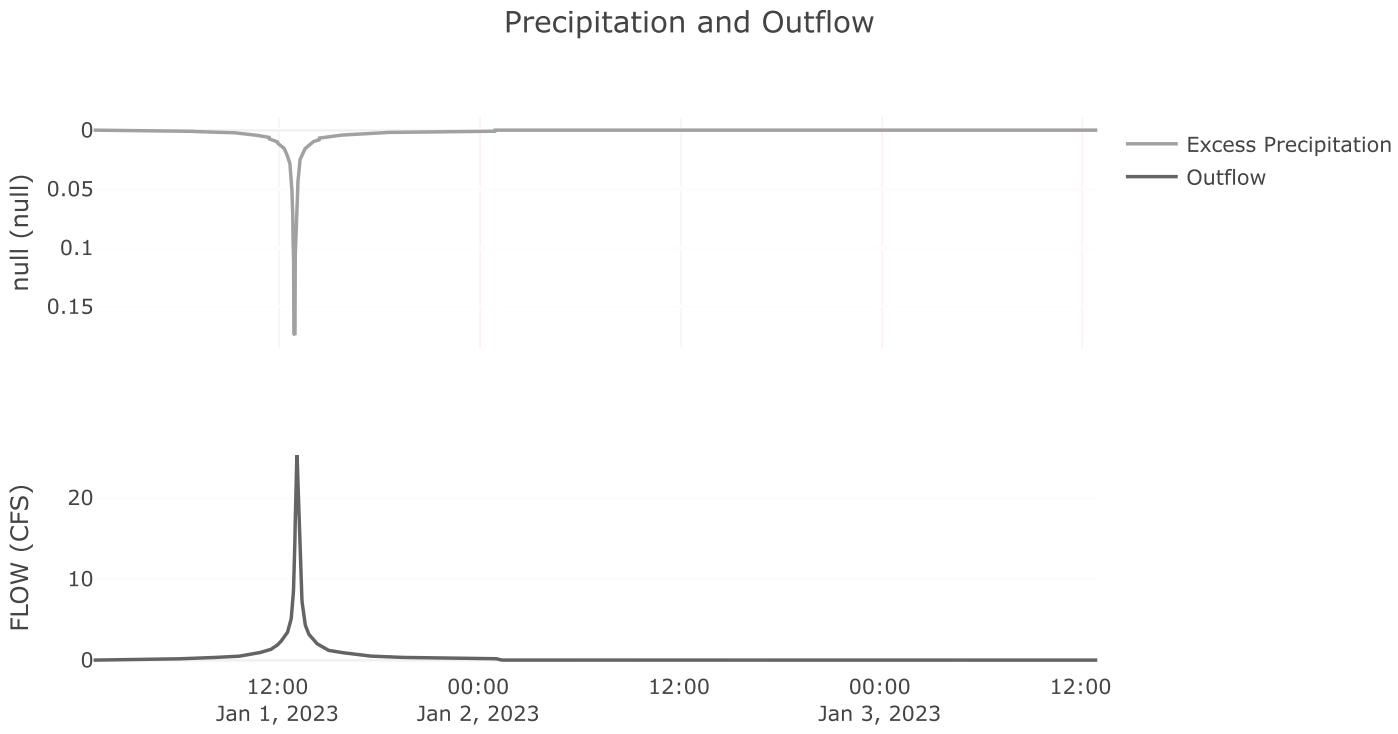
Subbasin: DA4

Area (MI2) : 0.01
Downstream : Rp2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	95

Transform: Scs	
Lag	7.8
Unitgraph Type	Standard

Results: DA4	
Peak Discharge (CFS)	25.23
Time of Peak Discharge	01Jan2023, 13:09
Volume (IN)	6.71
Precipitation Volume (AC - FT)	2.11
Loss Volume (AC - FT)	0.17
Excess Volume (AC - FT)	1.93
Direct Runoff Volume (AC - FT)	1.93
Baseflow Volume (AC - FT)	0



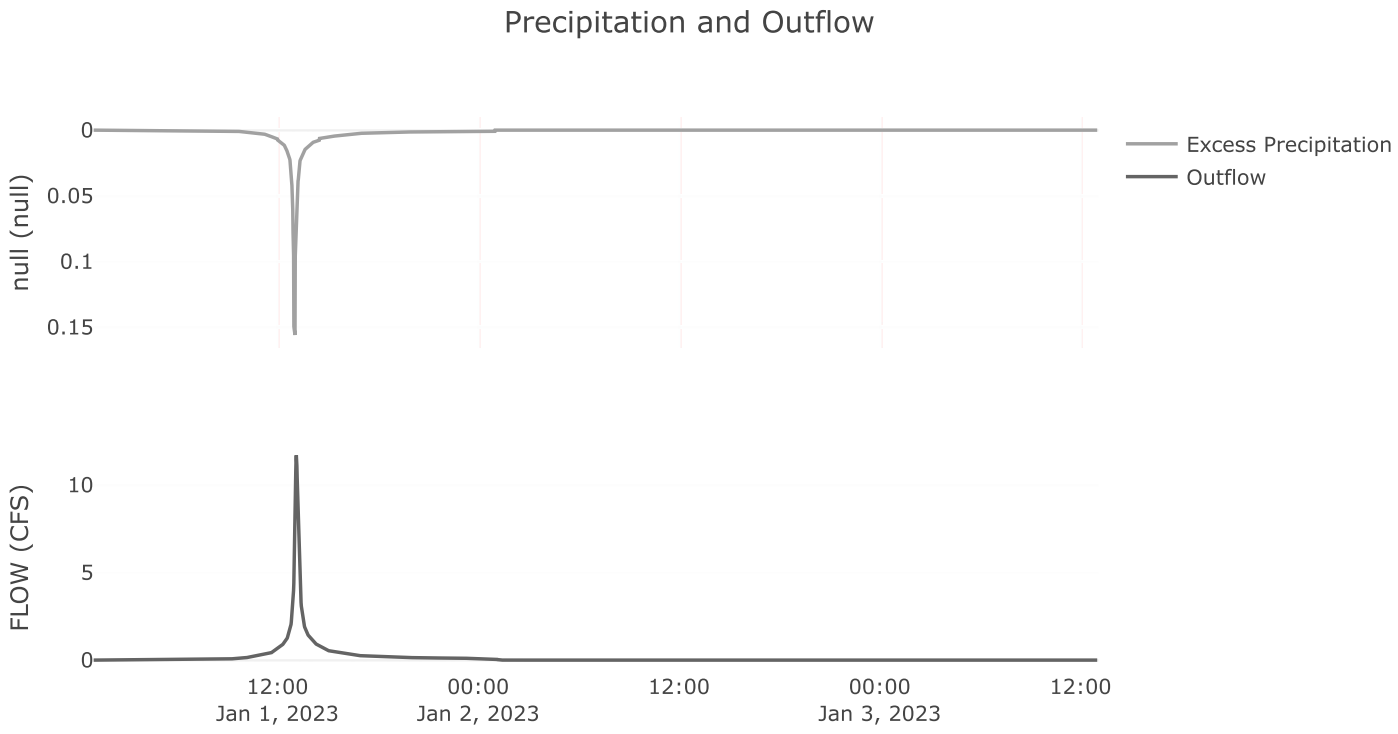
Subbasin: O3

Area (MI2) : 0
Downstream : Rp2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: O3	
Peak Discharge (CFS)	11.7
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	1.01
Loss Volume (AC - FT)	0.26
Excess Volume (AC - FT)	0.75
Direct Runoff Volume (AC - FT)	0.75
Baseflow Volume (AC - FT)	0



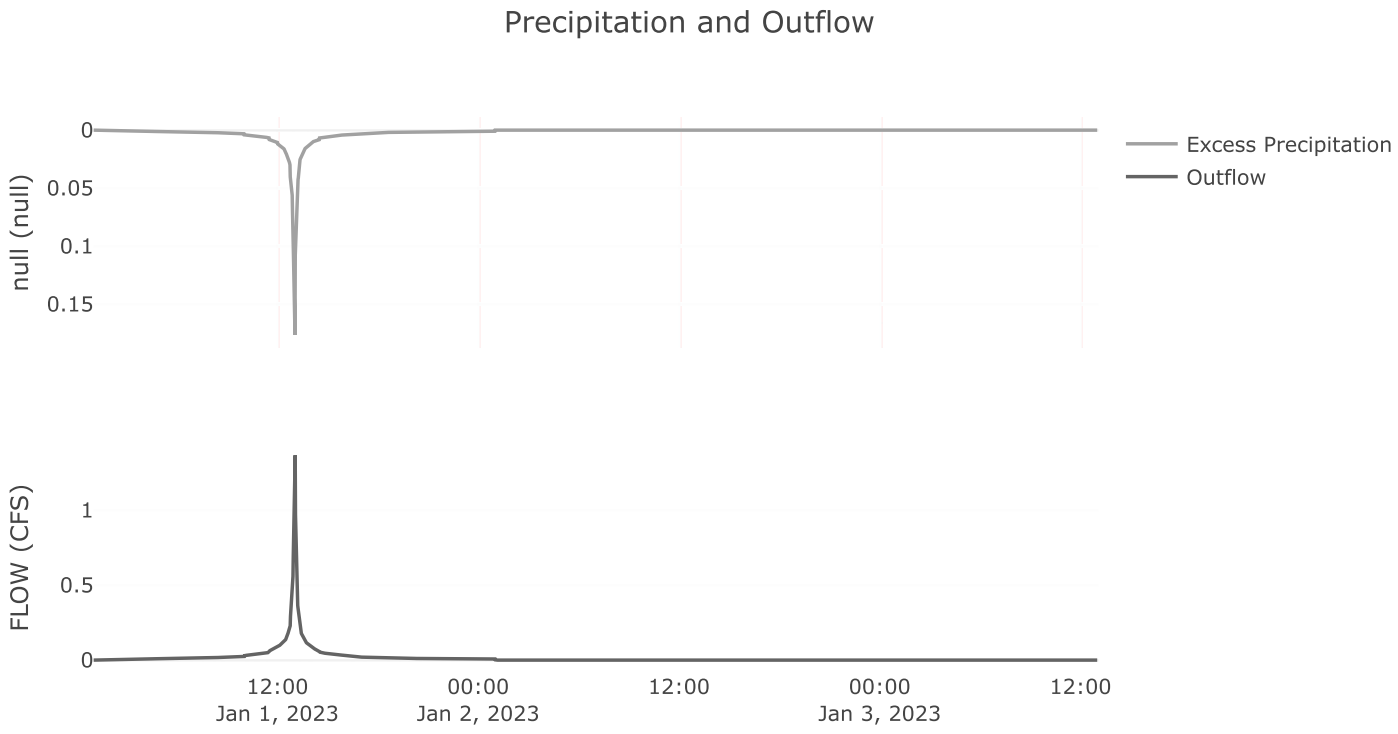
Subbasin: P2

Area (MI2) : 0
Downstream : Rp2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	99

Transform: Scs	
Lag	0.1
Unitgraph Type	Standard

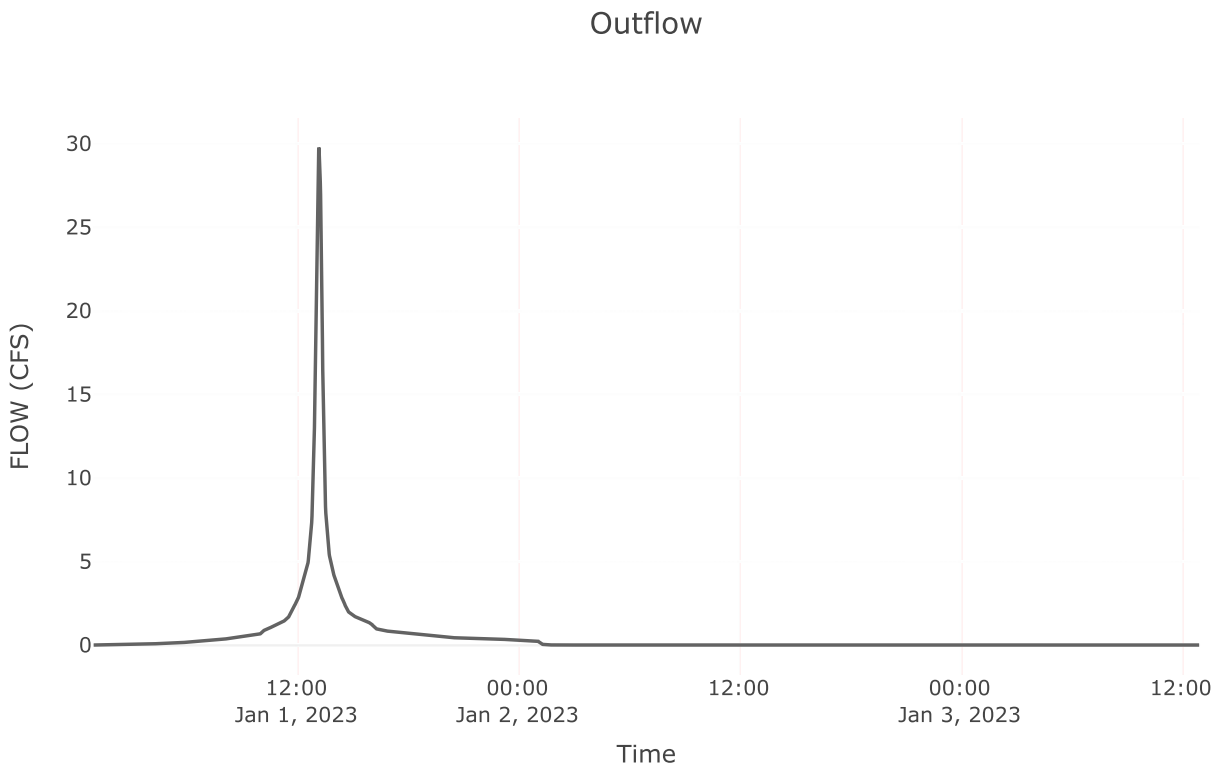
Results: P2	
Peak Discharge (CFS)	1.37
Time of Peak Discharge	01Jan2023, 13:03
Volume (IN)	7.19
Precipitation Volume (AC - FT)	0.08
Loss Volume (AC - FT)	0
Excess Volume (AC - FT)	0.08
Direct Runoff Volume (AC - FT)	0.08
Baseflow Volume (AC - FT)	0



Reservoir: RP2

Downstream : DP - 4

Results: RP2	
Peak Discharge (CFS)	29.76
Time of Peak Discharge	01Jan2023, 13:13
Volume (IN)	6.32
Peak Inflow (CFS)	37.15
Time of Peak Inflow	01Jan2023, 13:08
Inflow Volume (AC - FT)	2.76
Maximum Storage (AC - FT)	0.18
Peak Elevation (FT)	1044.89
Discharge Volume (AC - FT)	2.76



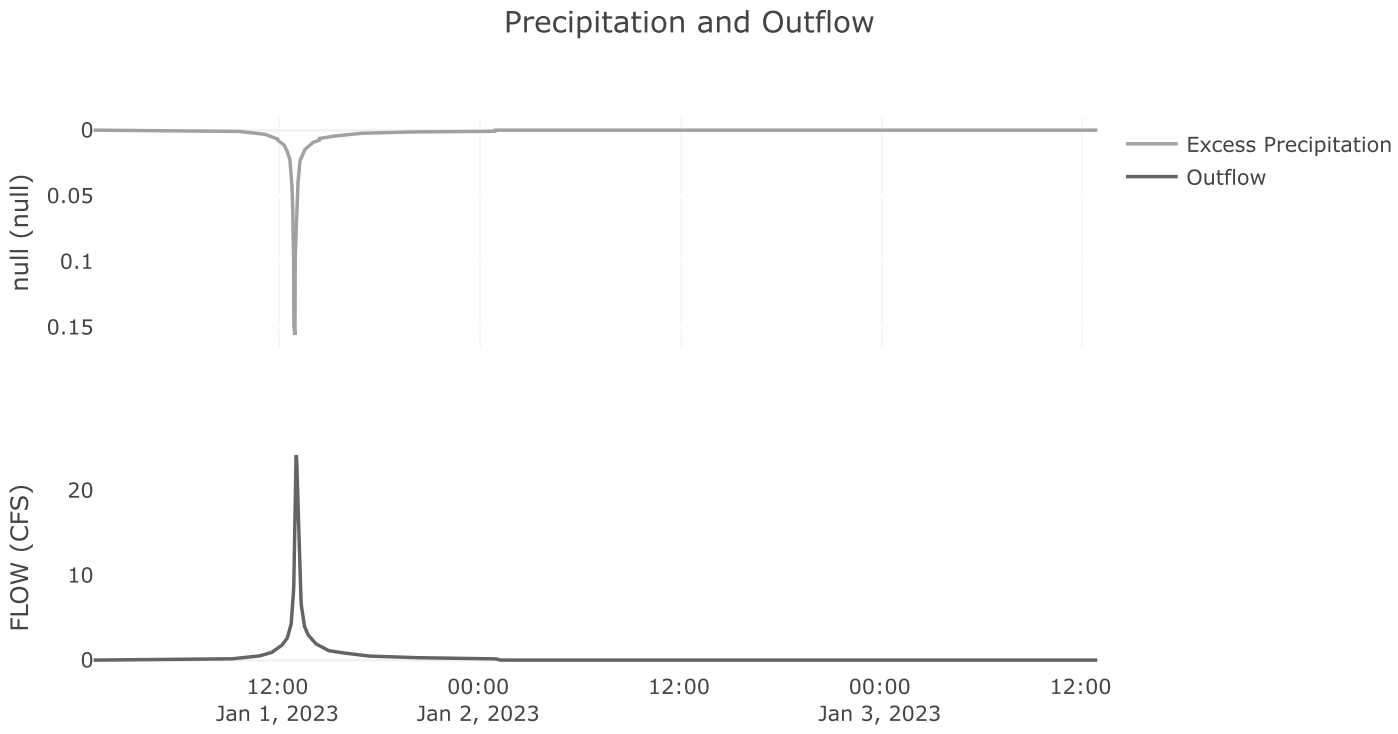
Subbasin: O4

Area (MI2) : 0.01
Downstream : Rp3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6.1
Unitgraph Type	Standard

Results: O4	
Peak Discharge (CFS)	24.14
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	2.11
Loss Volume (AC - FT)	0.54
Excess Volume (AC - FT)	1.57
Direct Runoff Volume (AC - FT)	1.57
Baseflow Volume (AC - FT)	0



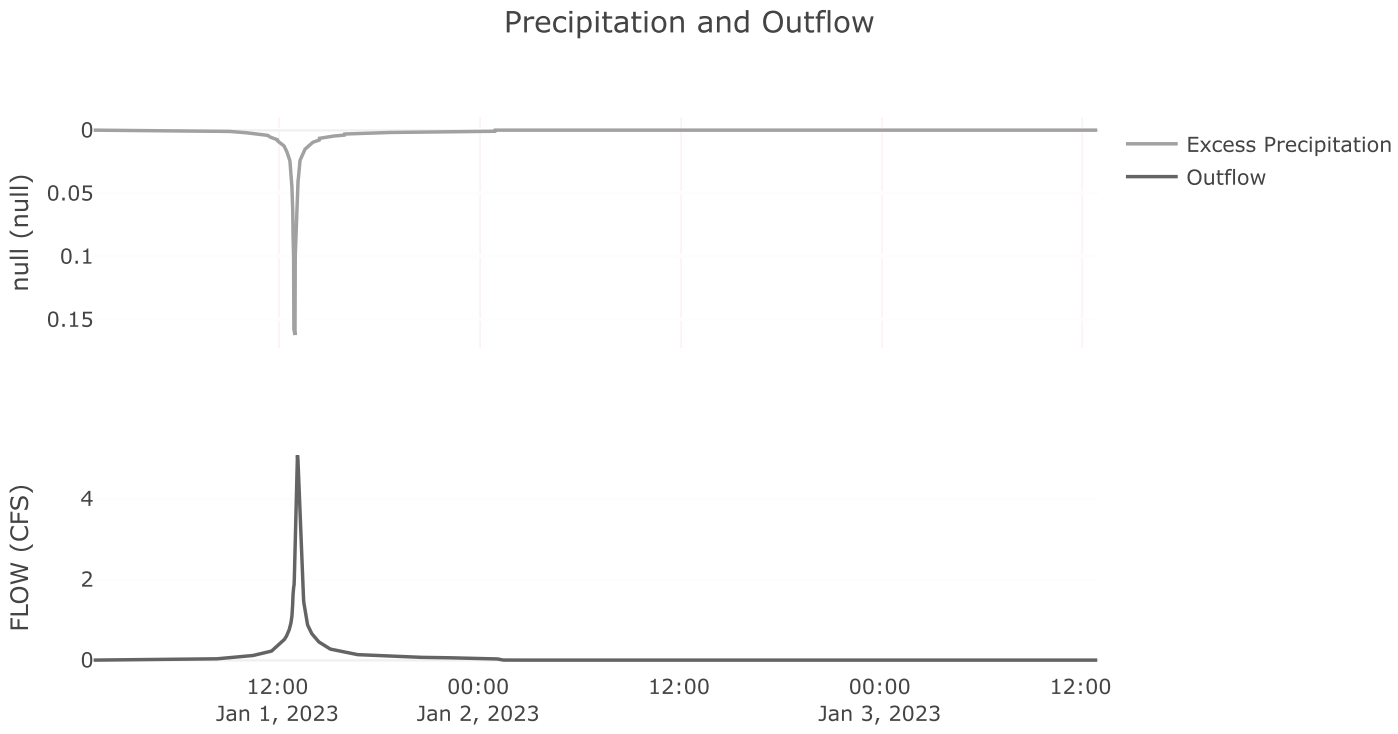
Subbasin: DA6

Area (MI2) : 0
Downstream : Rp3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	87

Transform: Scs	
Lag	9.8
Unitgraph Type	Standard

Results: DA6	
Peak Discharge (CFS)	5.07
Time of Peak Discharge	01Jan2023, 13:11
Volume (IN)	5.78
Precipitation Volume (AC - FT)	0.51
Loss Volume (AC - FT)	0.11
Excess Volume (AC - FT)	0.4
Direct Runoff Volume (AC - FT)	0.4
Baseflow Volume (AC - FT)	0



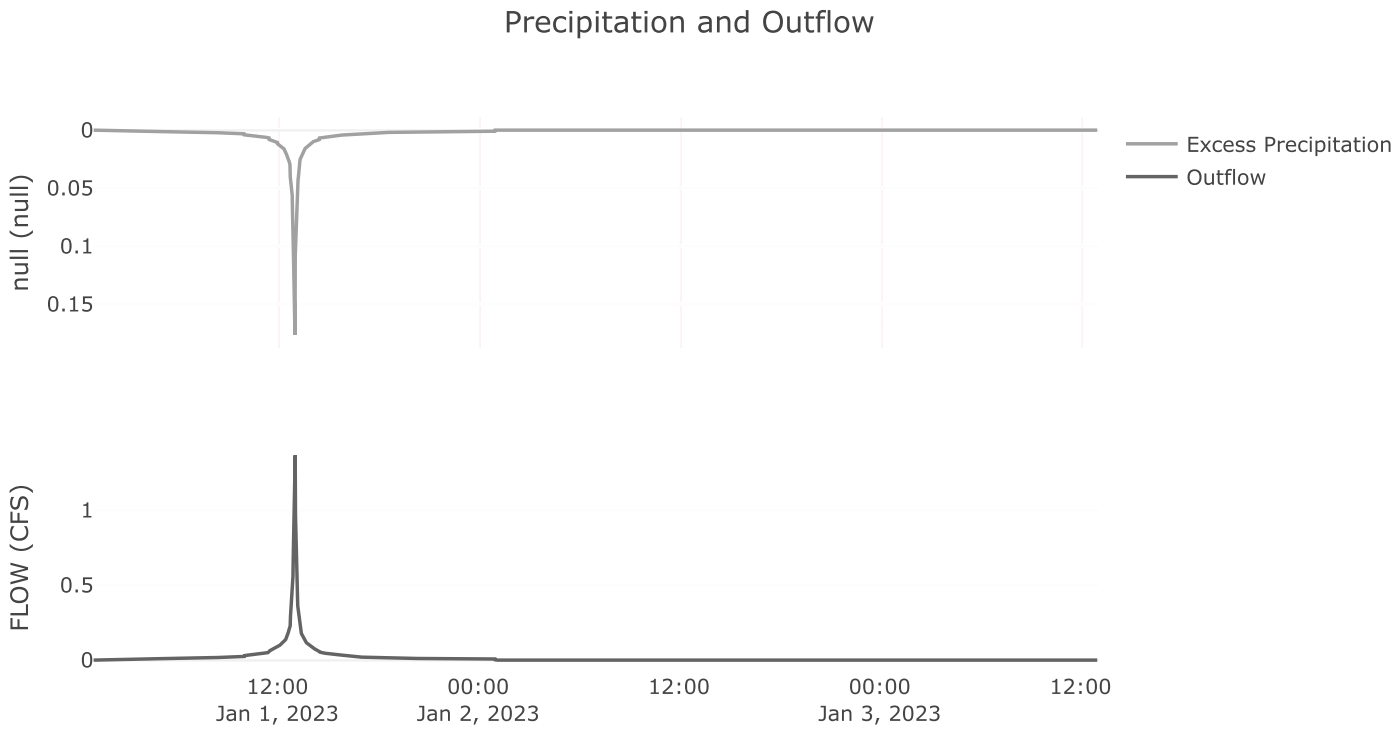
Subbasin: P3

Area (MI2) : 0
Downstream : Rp3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	99

Transform: Scs	
Lag	0.1
Unitgraph Type	Standard

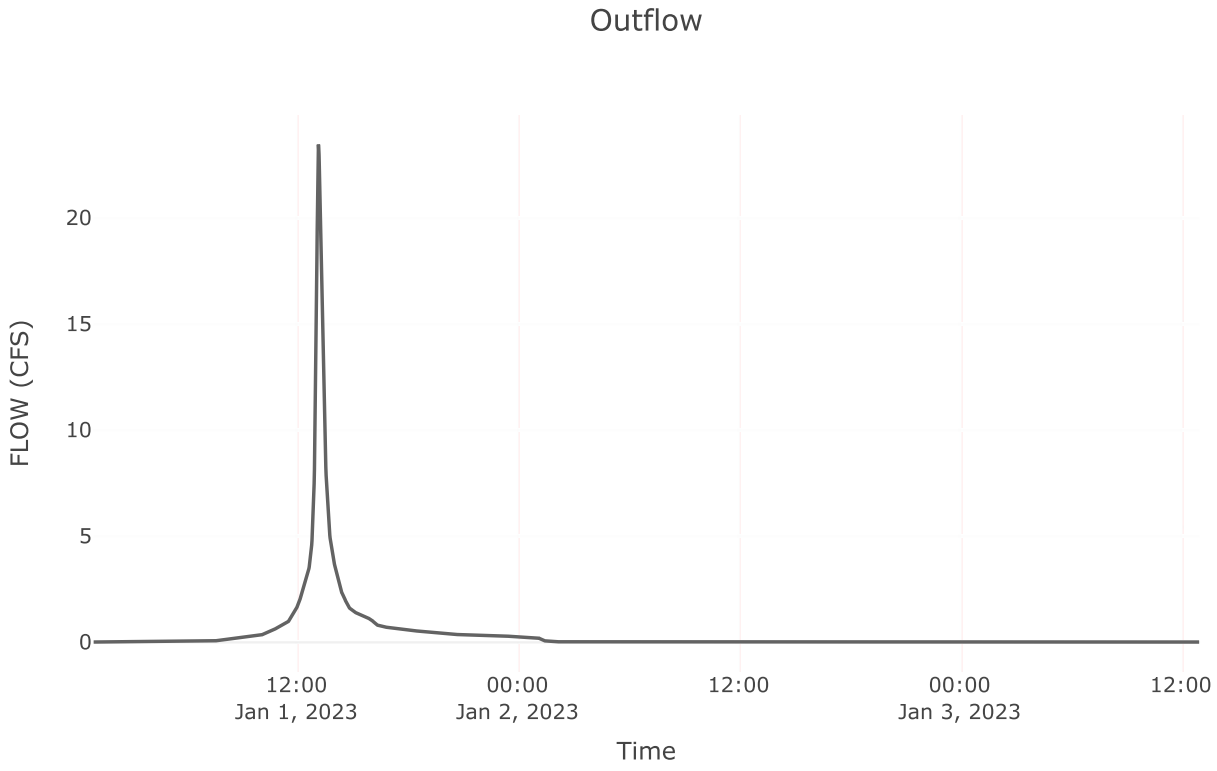
Results: P3	
Peak Discharge (CFS)	1.37
Time of Peak Discharge	01Jan2023, 13:03
Volume (IN)	7.19
Precipitation Volume (AC - FT)	0.08
Loss Volume (AC - FT)	0
Excess Volume (AC - FT)	0.08
Direct Runoff Volume (AC - FT)	0.08
Baseflow Volume (AC - FT)	0



Reservoir: RP3

Downstream : DP - 6

Results: RP3	
Peak Discharge (CFS)	23.45
Time of Peak Discharge	01Jan2023, 13:12
Volume (IN)	5.55
Peak Inflow (CFS)	29.16
Time of Peak Inflow	01Jan2023, 13:08
Inflow Volume (AC - FT)	2.04
Maximum Storage (AC - FT)	0.22
Peak Elevation (FT)	1051.3
Discharge Volume (AC - FT)	2.04



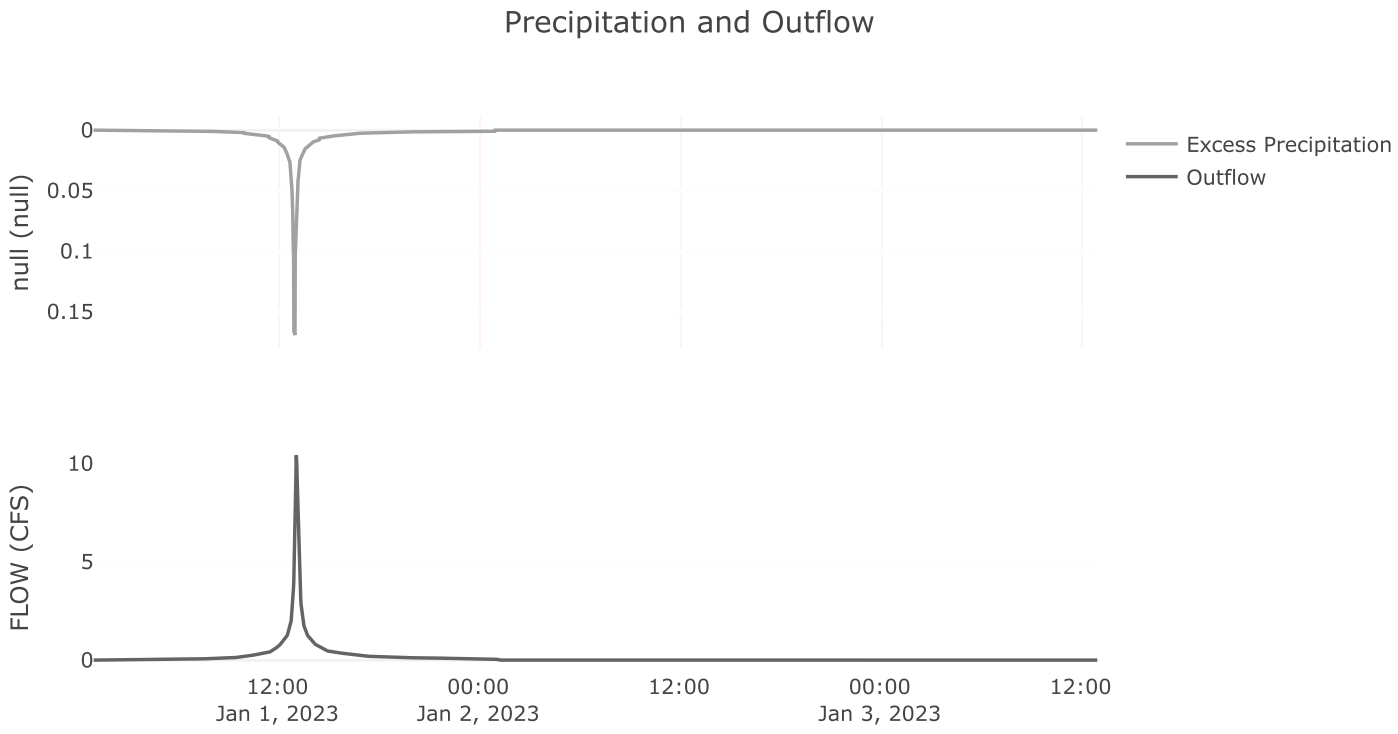
Subbasin: DA7

Area (MI2) : 0
Downstream : DP - 6

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	91

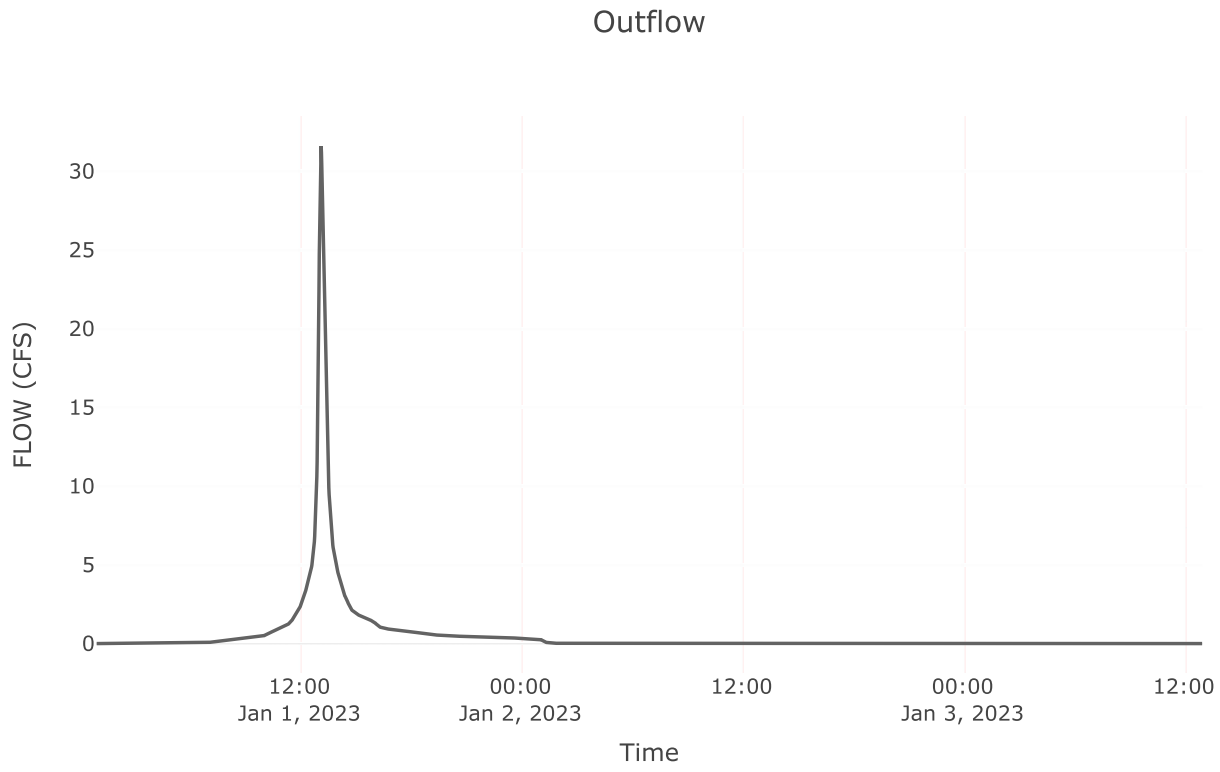
Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA7	
Peak Discharge (CFS)	10.41
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.24
Precipitation Volume (AC - FT)	0.82
Loss Volume (AC - FT)	0.12
Excess Volume (AC - FT)	0.7
Direct Runoff Volume (AC - FT)	0.7
Baseflow Volume (AC - FT)	0



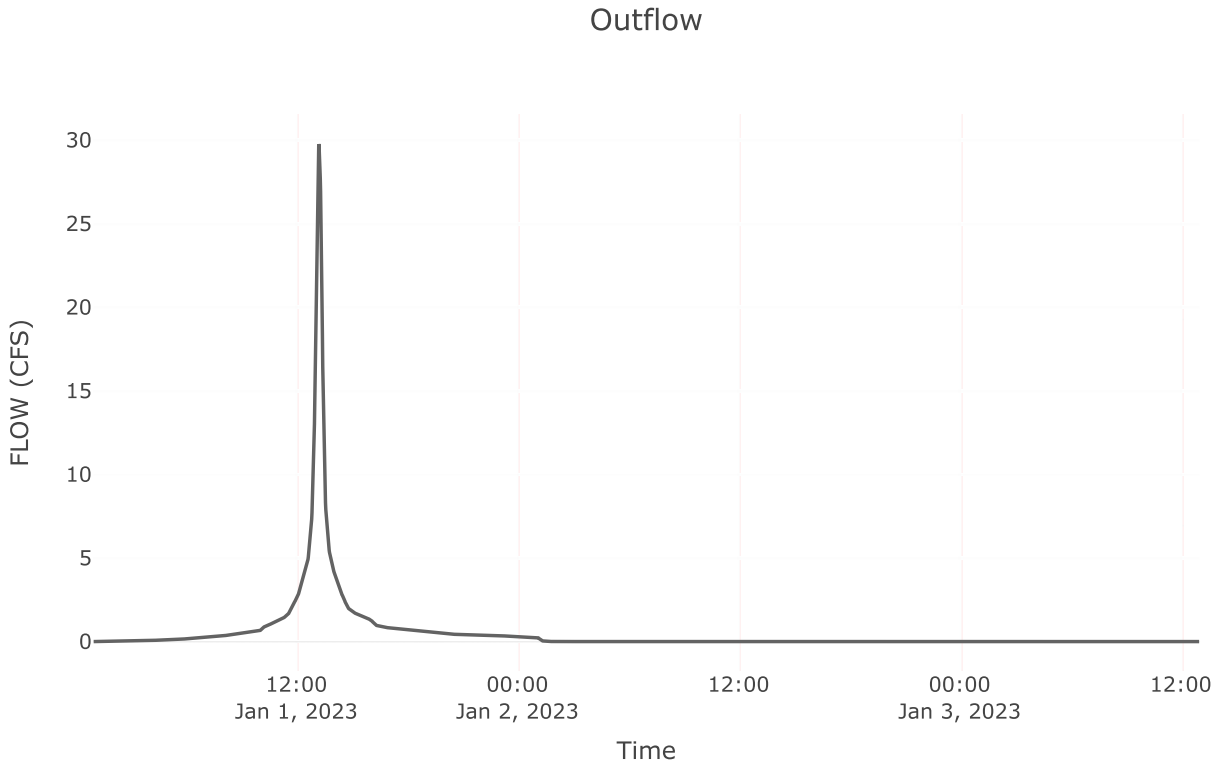
Junction: DP-6

Results: DP-6	
Peak Discharge (CFS)	31.6
Time of Peak Discharge	01Jan2023, 13:11
Volume (IN)	5.71



Junction: DP-4

Results: DP-4	
Peak Discharge (CFS)	29.76
Time of Peak Discharge	01Jan2023, 13:13
Volume (IN)	6.32



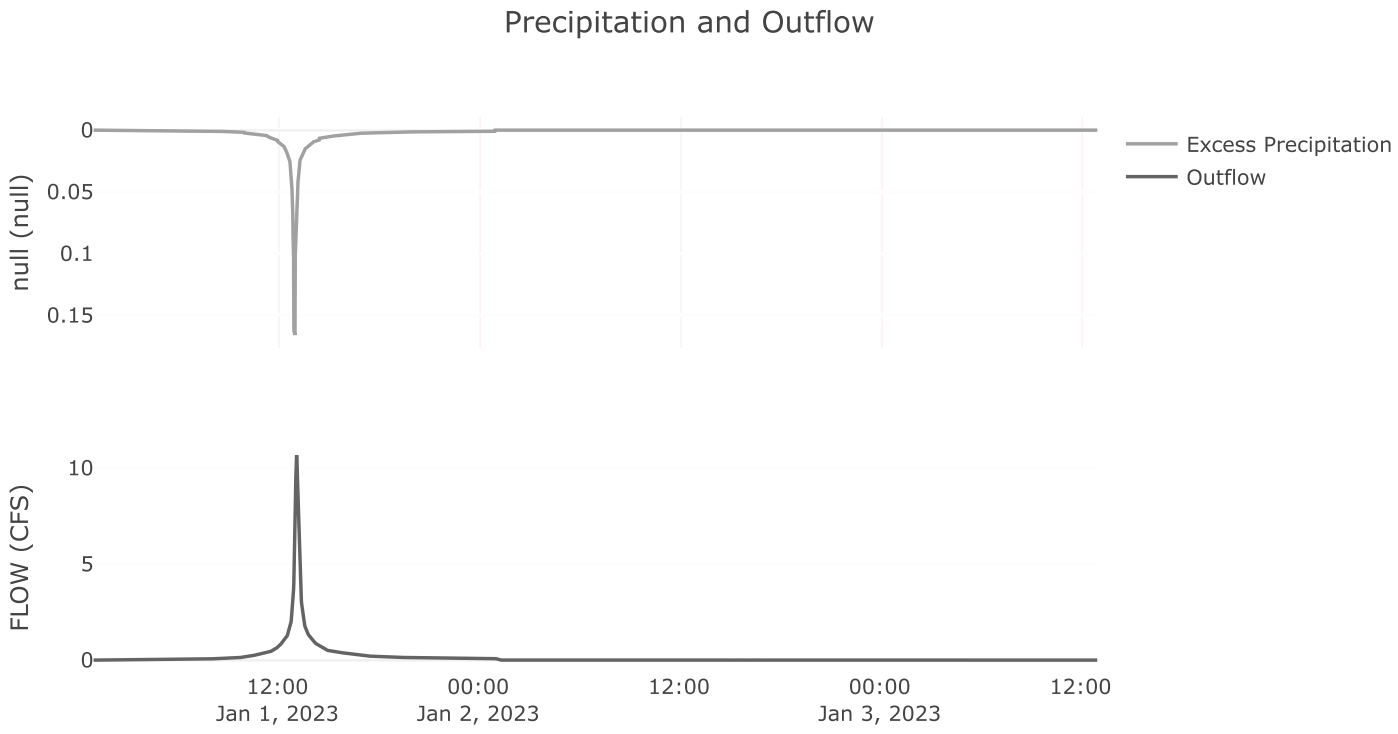
Subbasin: DA1

Area (MI2) : 0
Downstream : DP - 1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	89

Transform: Scs	
Lag	6.8
Unitgraph Type	Standard

Results: DA1	
Peak Discharge (CFS)	10.66
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	6.01
Precipitation Volume (AC - FT)	0.9
Loss Volume (AC - FT)	0.16
Excess Volume (AC - FT)	0.74
Direct Runoff Volume (AC - FT)	0.74
Baseflow Volume (AC - FT)	0



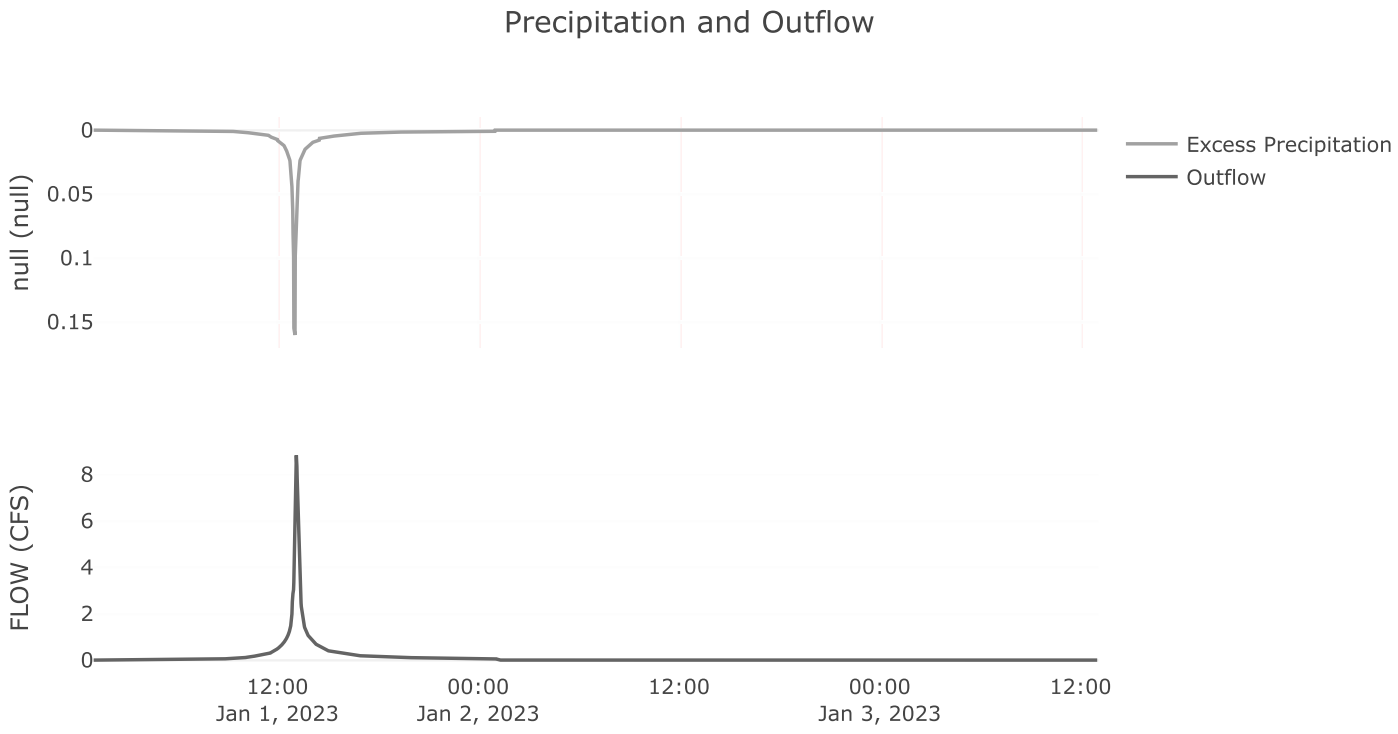
Subbasin: O1

Area (MI2) : 0
Downstream : DP - 1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	86

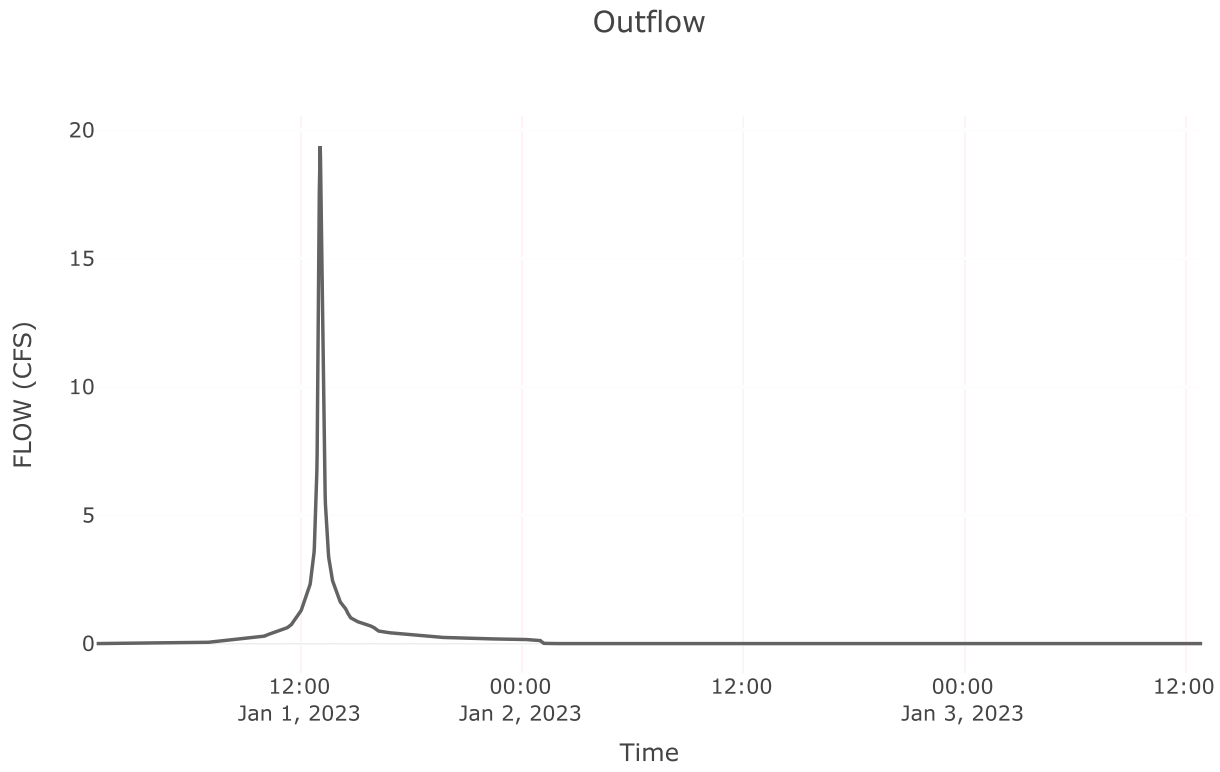
Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: O1	
Peak Discharge (CFS)	8.83
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.66
Precipitation Volume (AC - FT)	0.74
Loss Volume (AC - FT)	0.17
Excess Volume (AC - FT)	0.57
Direct Runoff Volume (AC - FT)	0.57
Baseflow Volume (AC - FT)	0



Junction: DP-1

Results: DP-1	
Peak Discharge (CFS)	19.38
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	5.85



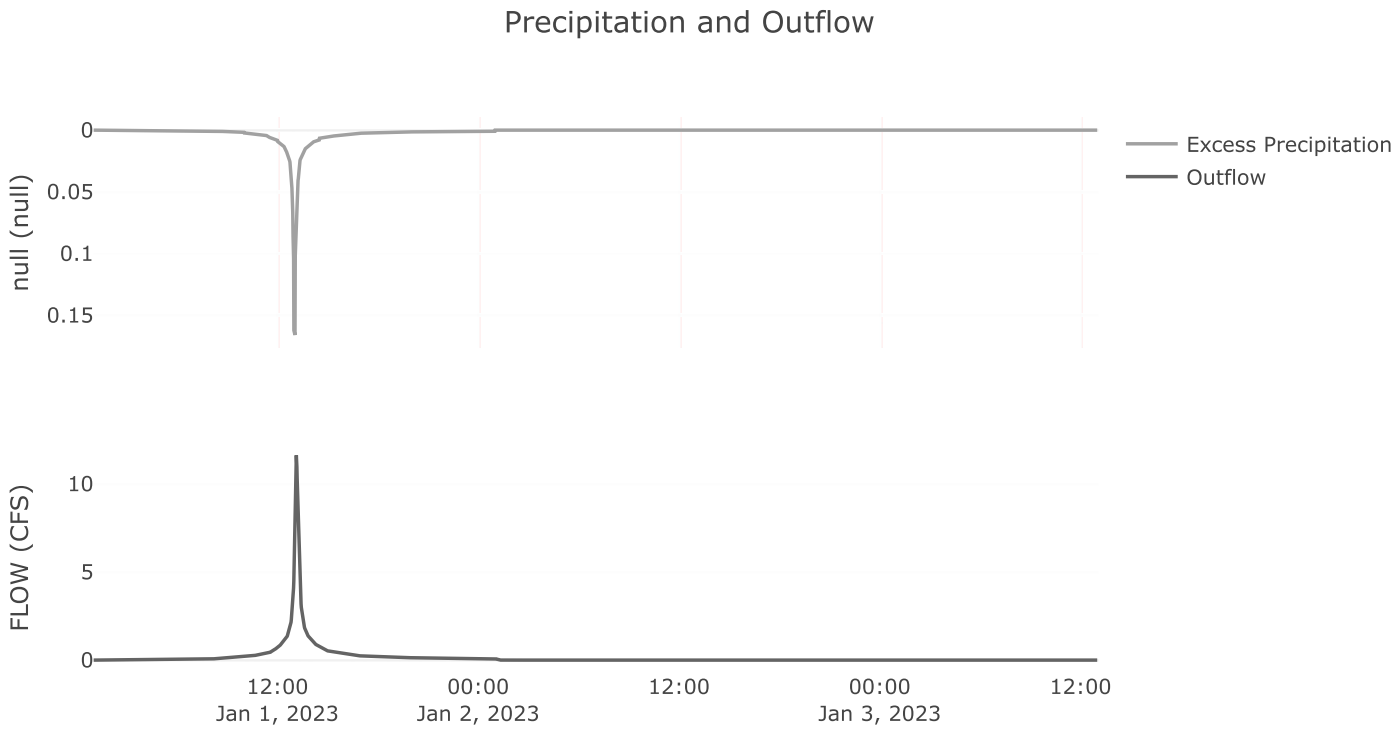
Subbasin: DA5

Area (MI2) : 0
Downstream : DP - 5

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	89

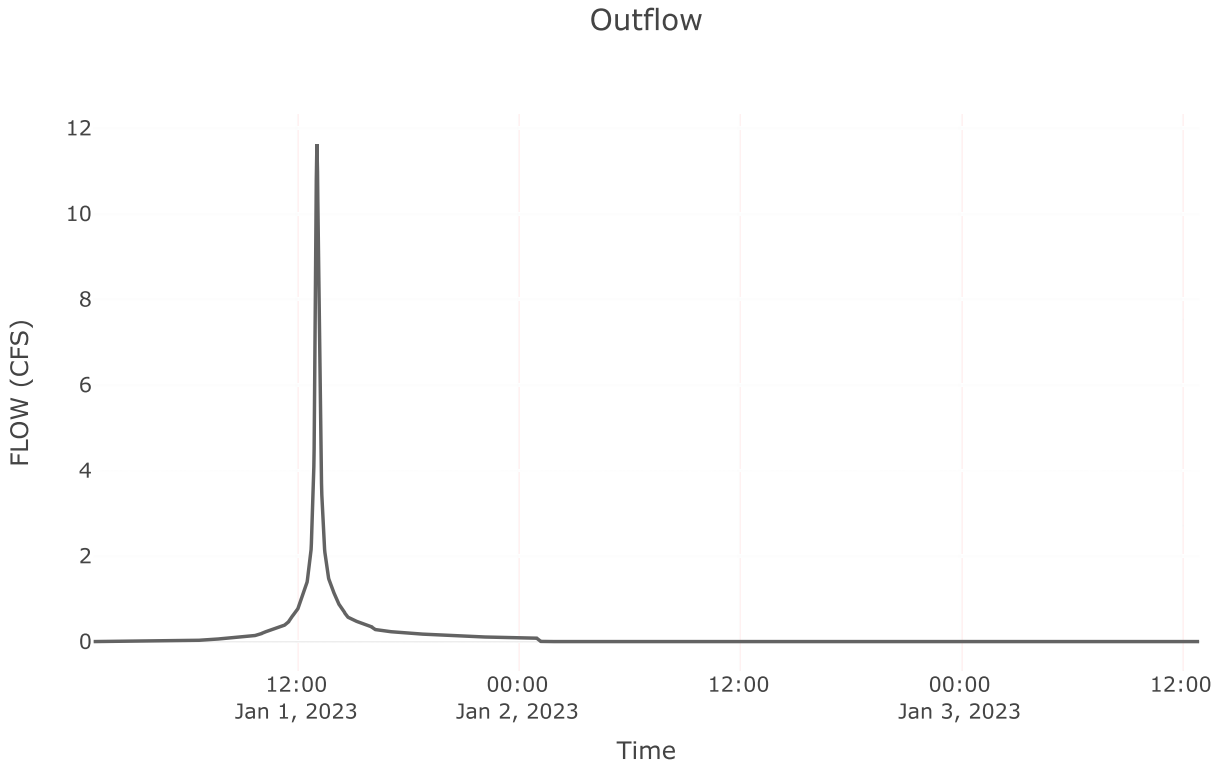
Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA5	
Peak Discharge (CFS)	11.63
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.01
Precipitation Volume (AC - FT)	0.94
Loss Volume (AC - FT)	0.17
Excess Volume (AC - FT)	0.77
Direct Runoff Volume (AC - FT)	0.77
Baseflow Volume (AC - FT)	0



Junction: DP-5

Results: DP-5	
Peak Discharge (CFS)	11.63
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.01



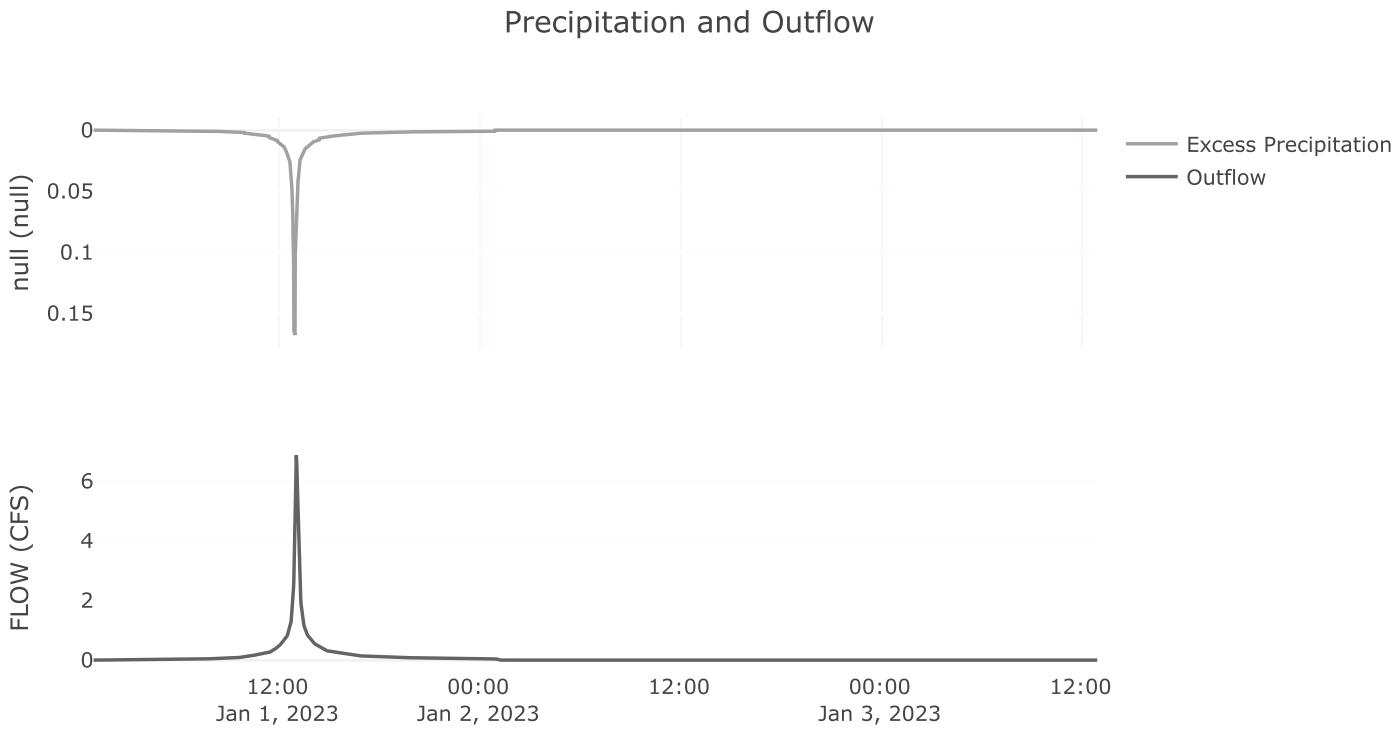
Subbasin: DA3

Area (MI2) : 0
Downstream : DP - 3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	90

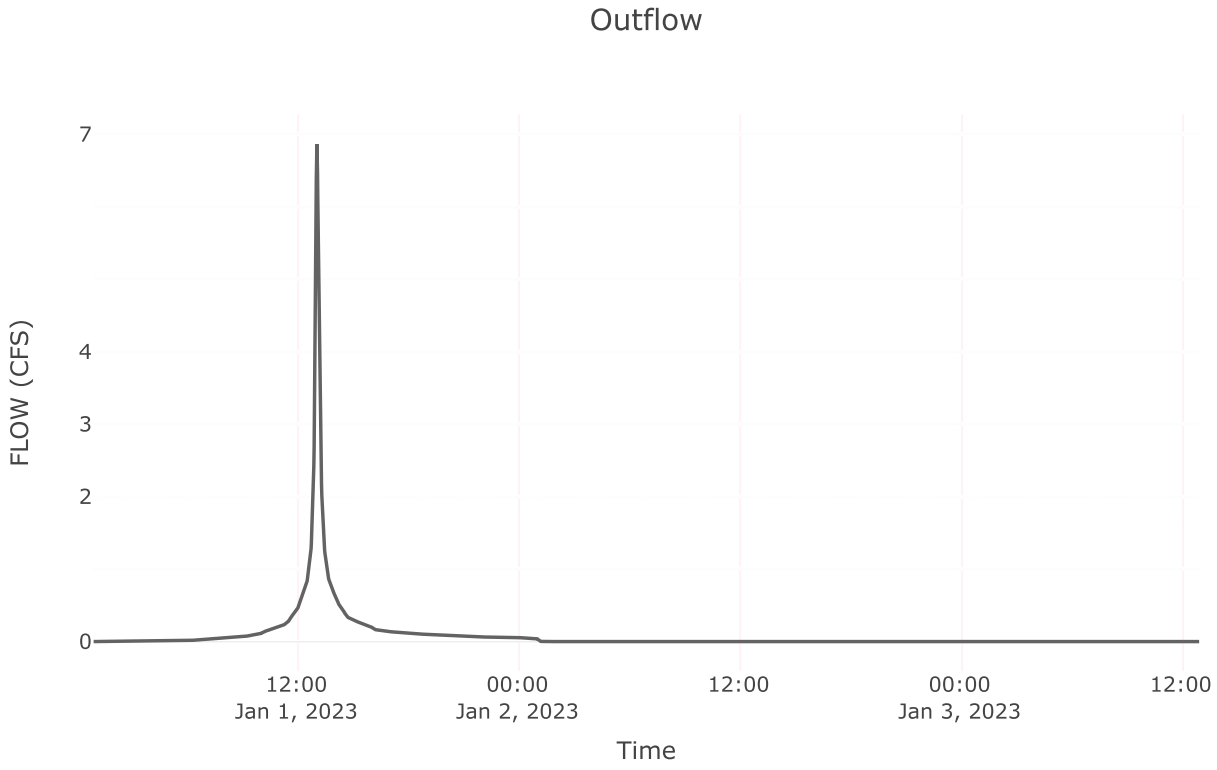
Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA3	
Peak Discharge (CFS)	6.87
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.13
Precipitation Volume (AC - FT)	0.55
Loss Volume (AC - FT)	0.09
Excess Volume (AC - FT)	0.46
Direct Runoff Volume (AC - FT)	0.46
Baseflow Volume (AC - FT)	0



Junction: DP-3

Results: DP-3	
Peak Discharge (CFS)	6.87
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.13



VOLUME CALCULATIONS

EXCESS RAINFALL VOLUME CALCULATION

The volume generated by the site and the surrounding properties is calculated for the 25-year, 24-hour storm event. A summary of the design information that is included in this Appendix and related appendices are listed below.

- Excess rainfall and drainage areas used in the volume calculations were taken from the HEC-HMS analysis located in Appendix IIIB-A (post-development).
- Post-development condition volume information is summarized on page IIIB-A-50.

Required: Determine the 25-year 24-hour storm volume generated by the site and offsite areas using the excess rainfall calculated in the HEC-HMS analysis of the proposed expansion site conditions.

Method: Use the excess rainfall data generated by the HEC-HMS analysis (pages IIIB-A-19 through IIIB-A-41) to determine the volume produced by the site for the proposed expansion conditions.

Proposed Expansion Conditions

1. Volume Discharging At DP1

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA1	**0.0019**	**1.49**	**6.01**	**0.75**
O1	**0.0020**	**1.20**	**5.66**	**0.57**
Total Volume Discharging At DP1				**1.31**

Total Volume Discharging At DP1 =	**1.31**	**ac-ft**

2. Volume Discharging At DP2

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O2	**0.0037**	**2.39**	**5.43**	**1.08**
DA2	**0.0066**	**4.18**	**6.13**	**2.14**
P1	**0.0009**	**0.64**	**7.19**	**0.38**
Total Volume Discharging At DP2				**3.60**

Total Volume Discharging At DP2 =	**3.60**	**ac-ft**

3. Volume Discharging At DP3

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA3	**0.0013**	**0.87**	**6.13**	**0.44**
Total Volume Discharging At DP3				**0.44**

Total Volume Discharging At DP3 =	**0.44**	**ac-ft**

4. Volume Discharging At DP4

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O3	**0.0023**	**1.69**	**5.43**	**0.76**
DA4	**0.0062**	**3.45**	**6.71**	**1.93**
P2	**0.0002**	**0.12**	**7.19**	**0.07**
Total Volume Discharging At DP4				**2.77**

Total Volume Discharging At DP4 =	**2.77**	**ac-ft**

5. Volume Discharging At DP5

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA5	**0.0020**	**1.56**	**6.01**	**0.78**
Total Volume Discharging At DP5				**0.78**

Total Volume Discharging At DP5 =	**0.78**	**ac-ft**

6. Volume Discharging At DP6

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O4	**0.0049**	**3.45**	**5.43**	**1.56**
DA6	**0.0044**	**0.86**	**5.78**	**0.41**
DA7	**0.0023**	**1.32**	**6.24**	**0.69**
P3	**0.0002**	**0.15**	**7.19**	**0.09**
Total Volume Discharging At DP6				**2.75**

Total Volume Discharging At DP6 =	**2.75**	**ac-ft**

Total Volume Discharging At Permit Boundary =	**11.66**	**ac-ft**

VELOCITY CALCULATIONS

Required: Determine the flow velocities entering and exiting the permit boundary using HYDROCALC HYDRAULICS (Version 2.01, 1996-2010) for the flows calculated for the 25-year storm event.

Method:
1. Use the flow data to determine velocity of runoff entering the landfill permit boundary.
2. Use the flow data to determine velocity of runoff exiting the landfill permit boundary.

1. Flow Velocity entering the landfill permit boundary

O1

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 8.83 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	8.83	0.0971	0.03	100.0	100.0	100.00	0.04	1.90

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O2

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 16.65 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	16.65	0.1039	0.03	100.0	100.0	100.00	0.06	2.46

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O3

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 11.70 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	11.70	0.0969	0.03	100.0	100.0	100.00	0.05	2.11

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O4

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 24.14 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	24.14	0.0374	0.03	100.0	100.0	100.00	0.11	2.04

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

2. Flow Velocity exiting the landfill permit boundary

DP1

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 19.38 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	19.38	0.2420	0.03	0.1	5.0	0.00	0.80	11.73

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP2

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 22.25 cfs

Flow through the Culvert

Storm Year	Flow Rate (cfs)	Culvert Slope (ft/ft)	Manning's n	Pipe Size	Tailwater (ft)	Headwater (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	22.25	0.0021	0.013	1 - 24" CMP	0.00	3.31	2.00	7.08

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 10.71 cfs

Flow over the Spillway

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	10.71	0.0050	0.013	0.0	0.0	4.75	0.50	4.50

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP3

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 6.87 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	6.87	0.0652	0.03	100.0	100.0	100.00	0.04	1.53

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP4

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 29.76 cfs

Storm Year	Flow Rate (cfs)	Culvert Slope (ft/ft)	Manning's n	Pipe Size	Tailwater (ft)	Headwater (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	29.76	0.0211	0.013	1 - 24" CMP	0.00	4.89	1.49	11.84

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP5

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 11.63 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	11.63	0.0550	0.03	100.0	100.0	100.00	0.06	1.77

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP6

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-A for the offsite areas and are summarized below.

Q25 = 31.60 cfs

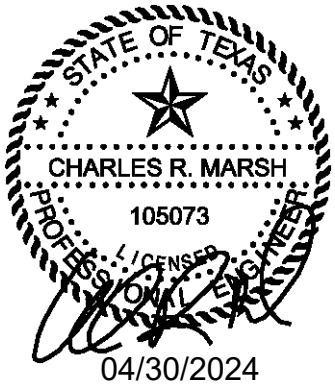
Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	31.60	0.0767	0.03	3.0	3.0	80.00	0.12	3.33

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

APPENDIX IIIB-B

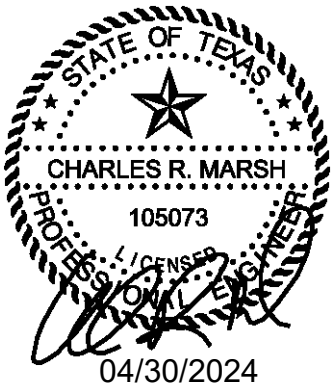
CULVERT CALCULATION

Includes pages IIIB-B-1 through IIIB-B-9



04/30/2024

CONTENTS



DETENTION POND DESIGN

Detention ponds have been analyzed by using HEC-HMS, storage routing method. The input parameters for the model are presented in Appendix IIIB-A. A summary of HEC-HMS results are presented on page IIIB-B-2.

Downstream sides of the low-water outlets will be designed with either rock riprap or gabions as shown on pages IIIB-B-3 and IIIB-B-4.

Purpose: Demonstrate that the detention pond outlet structure designs are adequate to convey runoff from the various subbasins to their discharge points.

Method:
1. Use the 25-year, 24-hour flow rates and water surface elevations for the drainage areas that will discharge to each detention pond from the HEC-HMS analysis (see Appendix IIIB-A).
2. Use the Weir Equation to calculate the flow rate over the spillways as appropriate.

Solution:

	Pond P1	Pond P2	Pond P3
Bottom ELEV, ft[1]	1045.64	1038.00	1048.00
Spillway ELEV, ft	1048.30	1045.00	1051.00
Spillway Length, ft	4.75	5.00	5
Top of Road/Berm, ft	1055.00	1046.00	1050.20
Discharge Pipe Downstream Invert ELEV, ft	1045.64	1038.00	1047.50
Peak Inflow Q_{25}, cfs	51.39	37.15	29.16
Peak Outflow Q_{25}, cfs	32.96	29.76	23.45
Peak Stage in Pond Q_{25}, ft	1049.20	1044.89	1051.30
Est. Flow (Q_{25}) over Spillway, cfs	10.71	--	2.17

Note: 1) Details of the pond outlet structures are presented on Figures 4.5 and 4.6.

2) The flow over the spillway is estimated using the formula $Q = CLH^{3/2}$ where C = 2.64, L is the length of the spillway in feet, and H is the head on the spillway in feet. The flow over the spillway conservatively assumes no flow through the low water outlet.

COPPERAS COVE TRANSFER STATION
5552-001-11
DETENTION POND OUTLET STRUCTURE AND
CULVERT EROSION PROTECTION CALCULATIONS

Required: Determine the minimum length and median diameter of riprap required at the detention pond outlet structures and creek culverts to control erosion in the detention pond outlet channels.

Reference:

1. Haan, Barfield, and Hayes, *Design Hydrology and Sedimentology for Small Catchments* , 1994.
2. U.S. Army Corps of Engineers, Hydrologic Engineering Center, *HEC-HMS Hydrologic Modeling System 4.9,* January 2022.
3. Freeman, Gary E., J. Craig Fischenich, Gabion for Streambank Erosion Control, 2000. EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-22), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Solution: The riprap will be designed for the 25-year flow rates at the detention pond outlet structures and culverts. The flow at the outlet structures and culverts can be divided into two categories:

1. Flow over the Spillway/Road

Erosion protection calculations for the pond outlet structures will be based on flow through low water outlets/culverts only.

Flow Structure Spillway Topslope	25-Year Flow Rate (cfs)	25-Year Velocity (ft/s)	25-Year Flow Depth (ft)	25-Year Foude Number	25-Year Velocity Head (ft)	25-Year Energy Head (ft)	25-Year Flow Area (sq. ft.)	25-Year Top Width (ft)
P1	10.71	4.50	0.50	1.120	0.31	0.82	2.38	4.75
P2	--	--	--	--	--	--	--	--
P3	2.17	2.45	0.18	1.023	0.09	0.27	0.89	5.00

2. Flow through the Low Water Outlet

The flow rate through the low water outlet (LWO) is summarized below.

Flow Structure	Pond Bottom Elev (ft-msl)	LWO Invert Elev. Upstream (ft-msl)	LWO Invert Elev. Downstream (ft-msl)	LWO Dimensions (in)	25-Year Flow Rate[2] (cfs)	25-Year Outlet Velocity[1] (ft/s)
P1	1045.70	1045.70	1045.64	24 (DIA)	22.25	7.08
P2	1040.00	1040.00	1038.00	24 (DIA)	29.76	11.84
P3	1048.00	1048.00	1047.50	24 (DIA)	29.43	10.78

[1] Velocities through the low water outlet for all culverts were calculated using the HYDROCALC HYDRAULICS FOR WINDOWS program developed by Dodson and Associates (Version 2.01, 1996-2010).

[2] The flowrates for all low water outlets are the peak discharges for the respective areas as calculated by subtracting the total flow calculated by HEC-HMS by the flow over the spillway. The total 25-year flowrate discharging
from P1 is 22.25 cfs / 1 pipe = 22.25 cfs per pipe, and
from P2 is 29.76 cfs / 1 pipe = 29.76 cfs per pipe.
from P3 is 29.43 cfs / 1 pipe = 29.43 cfs per pipe.

Erosion protection is already provided for the exsiting outlet for Pond P1; therefore, no additional erosion protection is required.

The velocity through the low water outlet for P2 is larger than the velocity over the spillway, when there is a low water outlet present. The flowrate through the low water outlet is used to design the riprap apron.

The nomograph used for design of the length of the riprap and the median diameter are shown on page IIIF-B-5 (Figure 5.24 and 5.25).

The minimum riprap length and diameter for each outlet is summarized below. The length of the riprap is increased by 20 percent to provide for a conservative design.

Pond	Riprap Design Flowrate (cfs)	Pipe Diameter (in)	Riprap Length (ft)	Length L x 1.2 (ft)	Rock Diameter (ft)
P1	22.3	24 (DIA)	15	18	0.5
P2	29.8	24 (DIA)	20	24	0.6
P3	28.7	24 (DIA)	20	24	0.6

Apron width required for the ponds (e.g., width of erosion protection in outlet channel) are:
W_{req}=LWO diameter + 0.4*(RipRap Length)
Riprap for Pond P1 will no be utilized due to the existing energy dissipator blocks.

Pond	W_{req} (ft)	$W_{provided}$ (ft)
P2	10.0	10.0
P3	10.0	10.0

The median diameter of riprap is intended to determine the minimum diameter of the riprap that will be used. As an alternative, 2-foot thick gabions with a d_{50} of 6-inches can be used.

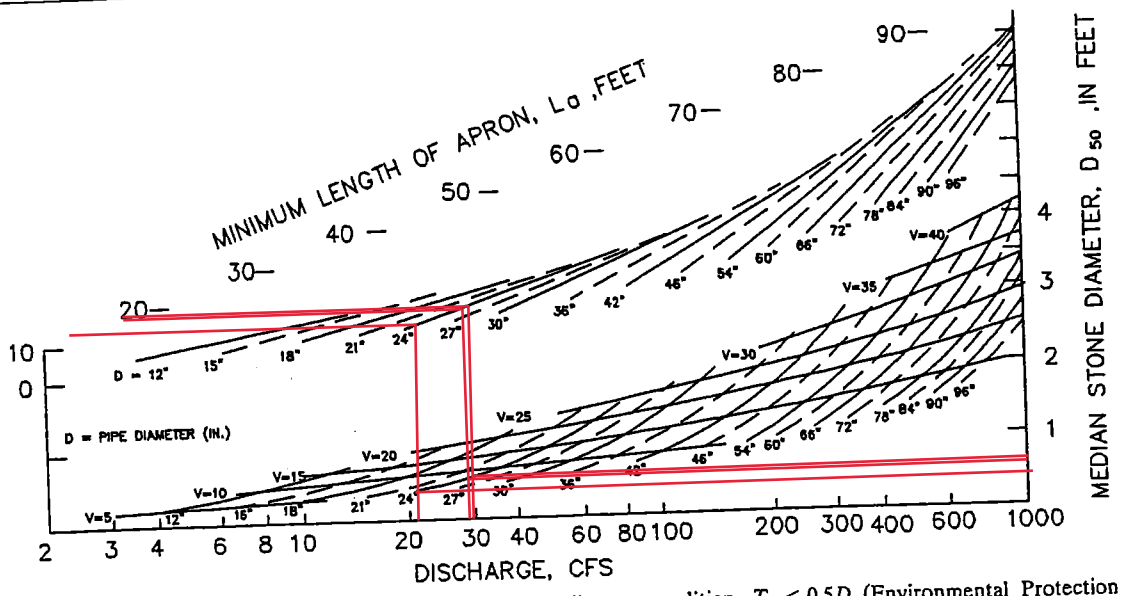


Figure 5.24 Design of outlet protection—minimum tailwater condition, $T_w < 0.5D$ (Environmental Protection Agency, 1976).

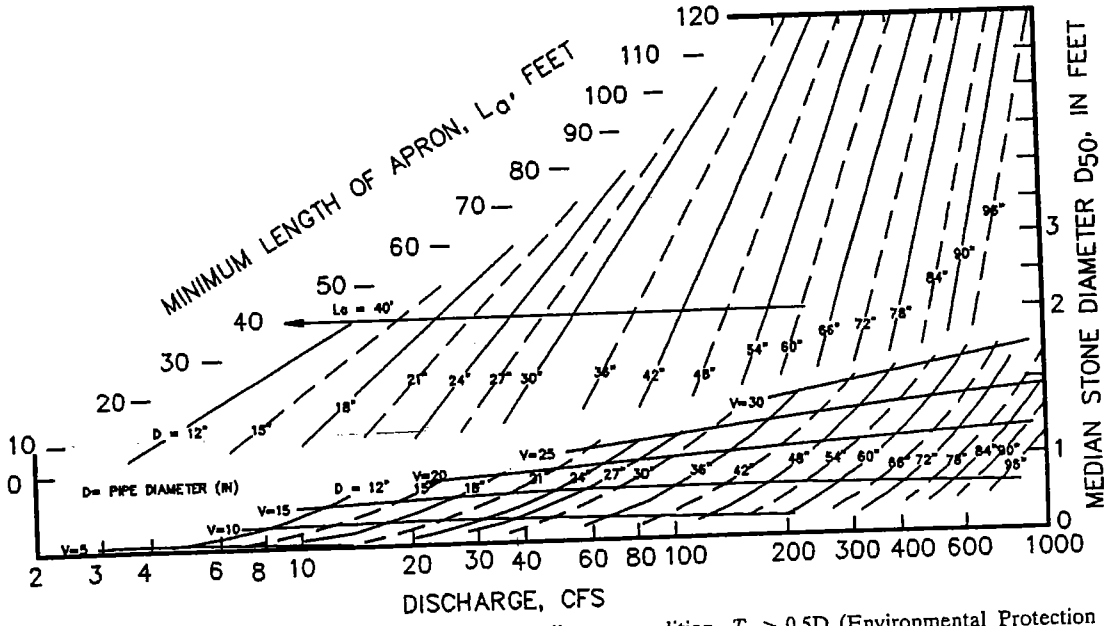


Figure 5.25 Design of outlet protection—maximum tailwater condition, $T_w \geq 0.5D$ (Environmental Protection Agency, 1976).

into the riser 3 ft below its top, what discharge will pass through the four holes with the water level at 1, 2, 4, and 8 ft above the riser? (c) What is the total discharge through the pipe? (d) How might the orifices be sized to provide better stormwater control? (e) Explain whether you would expect two rows (each consisting of four holes) of 8-in.-diameter holes to provide better results? Assume that one row is 2 ft below the riser invert and the other row is 4 ft below the riser invert.

(5.6) A gravel roadway is constructed in a low-lying area such that the roadway is frequently overtopped as a result of severe storms. The roadway is 40 ft wide, and its elevation is 36 ft. (a) If the water level upstream of the roadway is 2 ft above the crest of the roadway, what is the discharge across the roadway? (b) If the roadway is paved, what upstream depth would be required to carry the same flow? (c) Would paving reduce flooding problems?

CULVERT CALCULATION

Required: Design culverts to convey the flow.

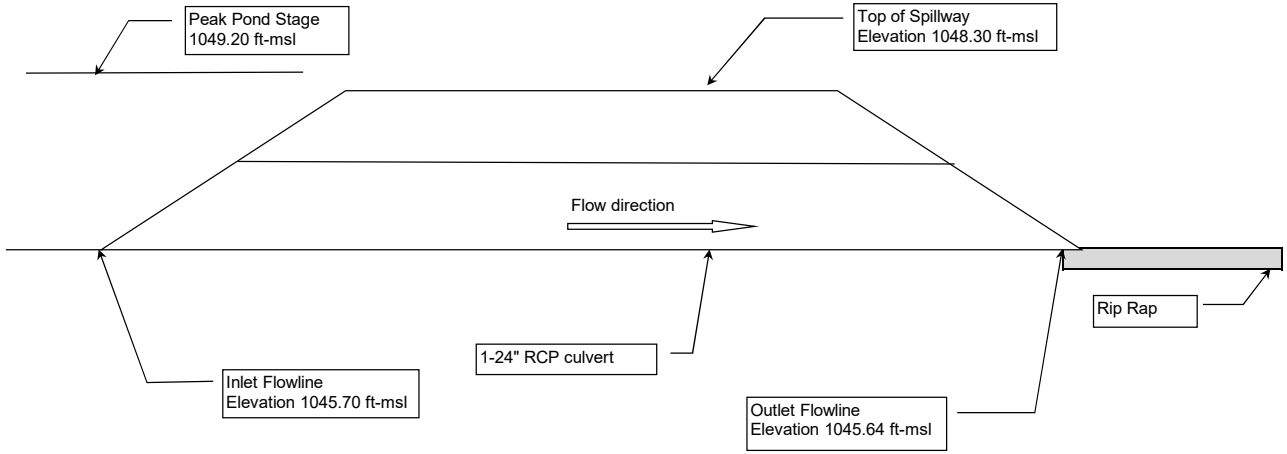
Method: Use HYDROCALC Hydraulics for Windows computer program to determine number and size of the culverts.
Use total 25-year frequency storm event flow estimated by HEC-HMS included in Appendix IIIB-A.

For RP1 culvert

Total Flow=	22.25	cfs
No. of Culverts=	1	
Culvert Span=	--	inches
Culvert Rise=	--	inches
Culvert Diameter=	24	inches

Culvert ID	Culvert Span (ft)	Culvert Rise (ft)	FHWA Chart Number	FHWA Scale Number	Culvert Diameter (ft)	Manning's Coefficient	Entrance Loss Coefficient	Culvert Length (ft)	Downstream Invert Elevation (ft msl)	Upstream Invert Elevation (ft msl)	Flow Rate (cfs)	Tailwater Depth[2] (ft)	Headwater Inlet Control (ft)	Headwater Outlet Control (ft)	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
DP2	--	--	1	1	2	0.013	0.8	28.30	1045.64	1045.70	22.3	0.00	3.33	2.69	2.00	1.68	2.00	7.08

1. Calculations were performed using the HYDROCALC Hydraulics for Windows program developed by Dodson and Associates (Version 2.0, 1996-2010).
2. Tailwater depth is assumed to be 0.00 ft due to the downstream culvert being approximately 6-feet above the roadside ditch flowline.



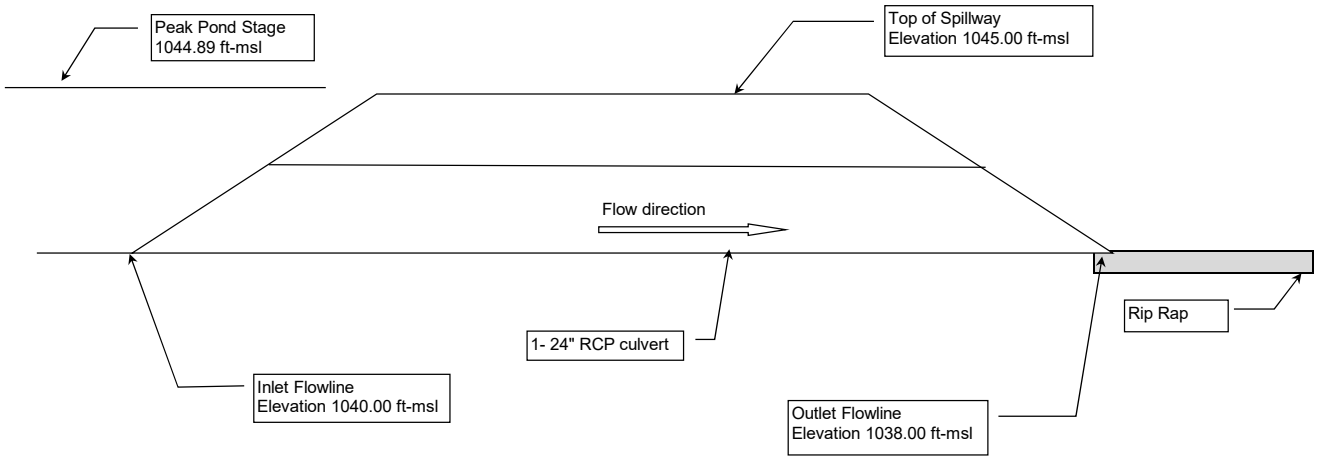
COPPERAS COVE TRANSFER STATION
5552-001-11
CULVERT DESIGN

For RP2 culvert

Total Flow=	29.76	cfs
No. of Culverts=	1	
Culvert Span=	--	inches
Culvert Rise=	--	inches
Culvert Diameter=	24	inches

Culvert ID	Culvert Span (ft)	Culvert Rise (ft)	FHWA Chart Number	FHWA Scale Number	Culvert Diameter (ft)	Manning's Coefficient	Entrance Loss Coefficient	Culvert Length (ft)	Downstream Invert Elevation (ft msl)	Upstream Invert Elevation (ft msl)	Flow Rate (cfs)	Tailwater Depth[2] (ft)	Headwater Inlet Control (ft)	Headwater Outlet Control (ft)	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
DP4	--	--	1	1	2	0.013	0.8	95.00	1038.00	1040.00	29.76	0.00	4.89	0.00	1.49	1.86	1.49	11.84

1. Calculations were performed using the HYDROCALC Hydraulics for Windows program developed by Dodson and Associates (Version 2.0, 1996-2010).
2. Tailwater depth is assumed to be 0.00 ft due to the downstream culvert being approximately 2-feet above the roadside ditch flowline.

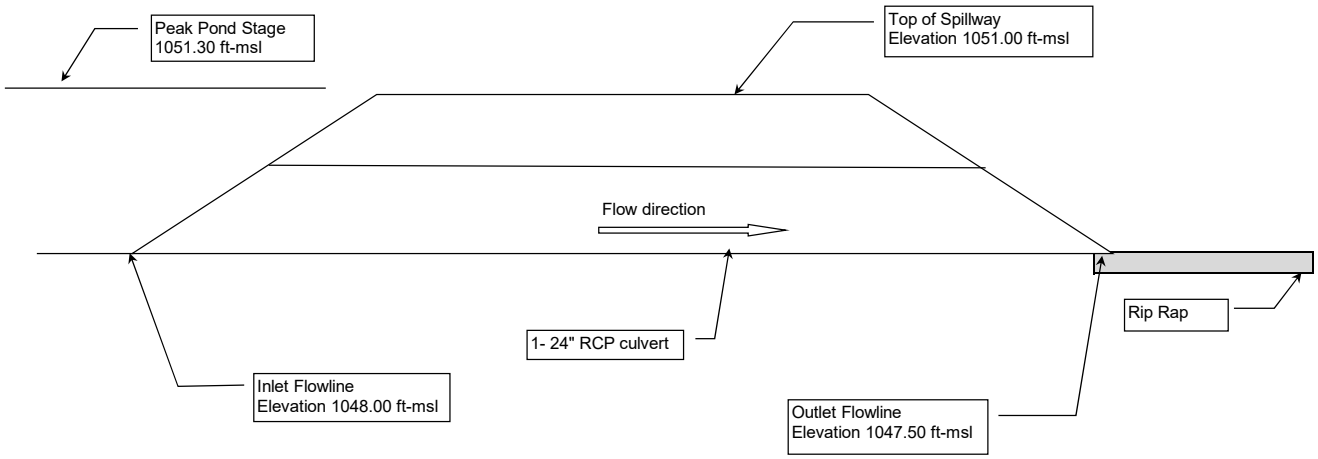


For RP3 culvert

Total Flow=	29.43	cfs
No. of Culverts=	1	
Culvert Span=	--	inches
Culvert Rise=	--	inches
Culvert Diameter=	24	inches

Culvert ID	Culvert Span (ft)	Culvert Rise (ft)	FHWA Chart Number	FHWA Scale Number	Culvert Diameter (ft)	Manning's Coefficient	Entrance Loss Coefficient	Culvert Length (ft)	Downstream Invert Elevation (ft msl)	Upstream Invert Elevation (ft msl)	Flow Rate (cfs)	Tailwater Depth[2] (ft)	Headwater Inlet Control (ft)	Headwater Outlet Control (ft)	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
DP4	--	--	1	1	2	0.013	0.8	29.00	1047.50	1048.00	29.43	0.00	4.82	0.00	1.62	1.85	1.62	10.78

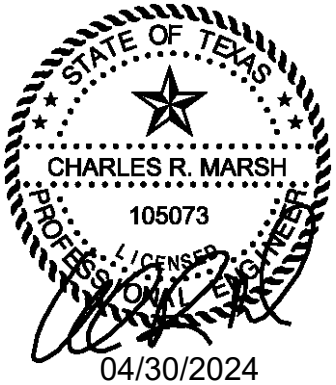
1. Calculations were performed using the HYDROCALC Hydraulics for Windows program developed by Dodson and Associates (Version 2.0, 1996-2010).
2. Tailwater depth is assumed to be 0.00 ft due to the downstream culvert being approximately 2-feet above the roadside ditch flowline.



APPENDIX IIIB-C

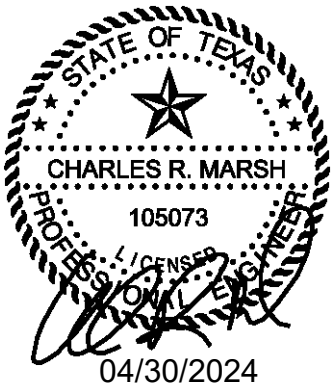
EXISTING CONDITION
DRAINAGE ANALYSIS

Includes pages IIIB-C-1 through IIIB-C-47



04/30/2024

CONTENTS



HYPOTHETICAL STORM DATA

Hypothetical Storm Data

Precipitation data taken from NOAA Atlas 14 rainfall data.

Time	5 min	15 min	60 min	2 hr	3 hr	6 hr	12 hr	24 hr
25-Year Event	0.883	1.76	3.20	4.08	4.64	5.57	6.43	7.31

NOAA Atlas 14 - Precipitation-Frequency Atlas of the United States, Volume 11, Version 2.0: Texas (*U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and National Weather Service, 2018*) was used to identify precipitation values for storm durations ranging from 5 minutes to 24 hours.

PRECIPITATION LOSS DATA

Required: Determine the SCS curve numbers for the on-site drainage areas and pond for use in the HEC-HMS analysis.

References:

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, *HEC-HMS Hydrologic Modeling System 4.10,* July 2022.
2. City of Copperas Cove, Drainage Criteria Manual, (http://www.copperascovetx.gov)
3. United States Department of Agriculture, National Resource Conservation Service, Web Soil Survey for Coryell County, Texas (http://websoilsurvey.nrcs.usda.gov).

Solution:

Based on the soil survey information found in Ref. 3, hydrologic group D soils predominate the soils within the permit boundary drainage area (see pages IIIB-C-5 through IIIB-C-8).

The non-impervious portions of subbasins (e.g., non-paved areas) were considered to be open space, contoured and in fair condition based on curve numbers tables provided in Reference 2.

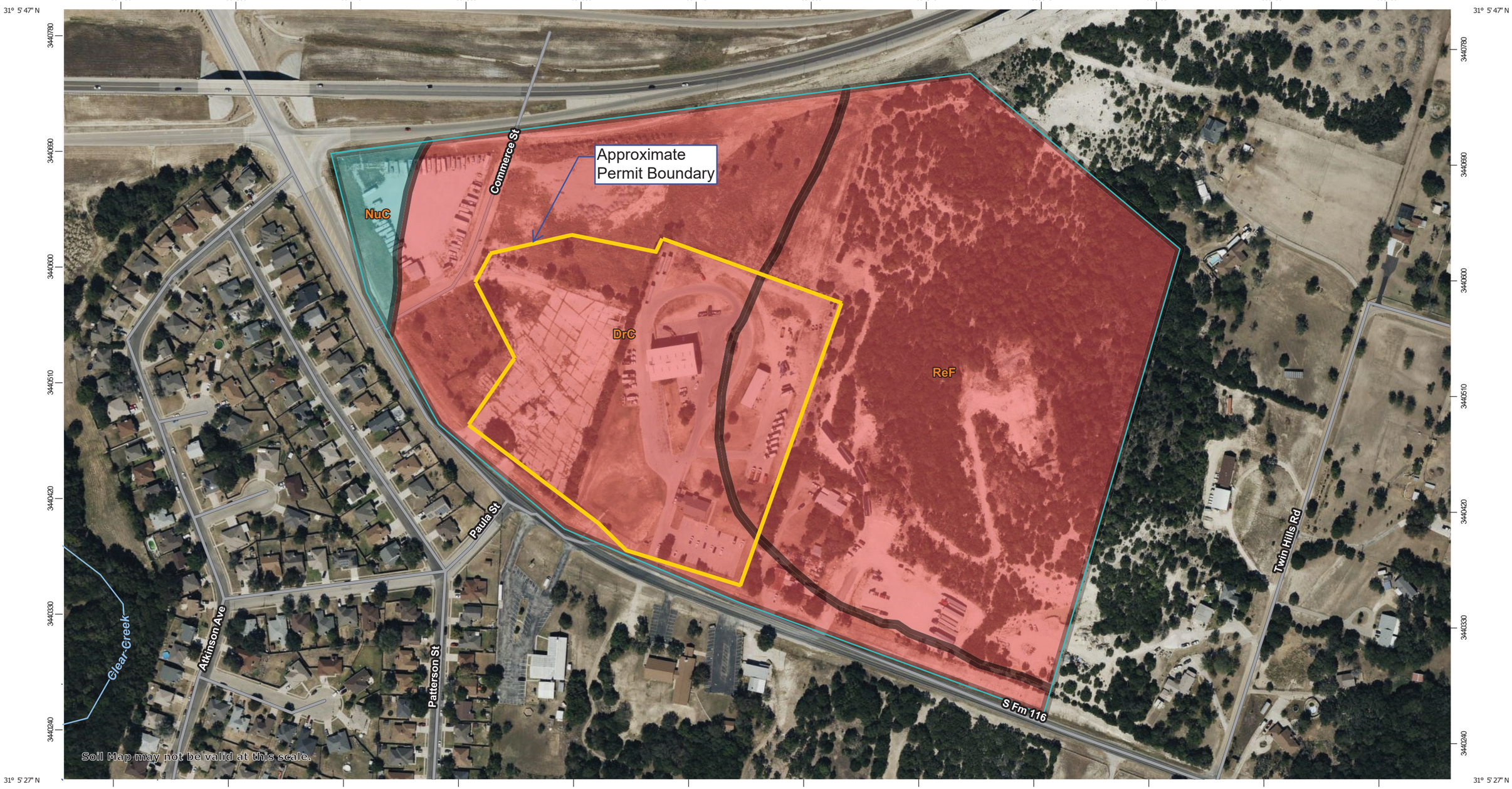
Use:	CN = 84

The curve number for the proposed impervious paved areas was based on curve numbers tables provided in Reference 2.

Use:	CN = 98

The pond area is assumed to consist of areas that have zero precipitation losses (water surfaces) with vegetated sideslopes and gravel-surfaced top of embankment areas

Use:	CN = 99



Map Scale: 1:2,920 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

IIIB-C-5

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coryell County, Texas
Survey Area Data: Version 19, Aug 24, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DrC	Doss-Real complex, 1 to 8 percent slopes	D	23.2	43.7%
NuC	Nuff very stony silty clay loam, 2 to 6 percent slopes	C	1.3	2.5%
ReF	Real-Rock outcrop complex, 8 to 40 percent slopes	D	28.6	53.8%
Totals for Area of Interest			**53.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

The list of most soils in the United States along with their hydrologic soil classification is given in the TR-55 publication. The minimum infiltration rates for the four (4) soil groups are:

Group	Minimum Infiltration Rate (in/hr)
A	0.30 - 0.45
B	0.15 - 0.30
C	0.05 - 0.15
D	0.00 - 0.05

Table 2-13 lists the curve numbers for the four (4) soil groups under various land uses, land treatment and hydrologic conditions. In order to determine the soil classifications in the Copperas Cove area, the SCS Soil Survey of Coryell County, Texas should be used.

Table 2-10
SCS Runoff Curve Numbers for Urban Areas and Agricultural Lands

Cover Description		**Curve Numbers for Hydrologic Soil Group**			
Cover type and Hydrologic Condition	**Average % Impervious Area[1]**	**A**	**B**	**C**	**D**
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) Poor condition (grass cover 50%) Fair condition (grass cover 50% to 75%) Good condition (grass cover 75%)		 68 49 39	 79 69 61	 86 79 74	 89 84 80
Impervious areas: Paved parking lots, roofs, driveways, etc. (excluding right of way)		98	98	98	98

HYDROGRAPH DEVELOPMENT INFORMATION

HYDROGRAPH DEVELOPMENT INFORMATION

Offsite and Overland Flow Areas

The hydrographs for the drainage areas were developed using the Soil Conservation Service (SCS) unit hydrograph method. SCS parameter estimations are provided on the following pages.

Drainage Areas

The drainage areas used for this analysis are shown on Sheet IIIB-C-15. The routing scheme is shown in the HEC-HMS output file.

Soil Conservation Service Unit Hydrograph Data

Existing Conditions

Area No.	Sheet Flow					Shallow Flow				Open Channel	t_c [5]	t_{Design} [6]	T_{lag} [7]
	Length (ft)	Slope (ft/ft)	Manning's [1] "n"	P_2 (in)	t_{sheet} [2] (min)	Length (ft)	Slope (ft/ft)	Velocity [3] (ft/sec)	$t_{shallow}$ [4] (min)	$t_{channel}$ (min)	(min)	(min)	(min)
DA1	260	0.10	0.15	3.72	10.4	208	0.04	3.99	0.9	0.0	11.3	11.3	6.8
DA2	110	0.19	0.15	3.72	4.0	499	0.06	4.82	1.7	0.0	5.7	10.0	6.0
DA3	100	0.04	0.15	3.72	7.3	297	0.04	4.00	1.2	0.0	8.5	10.0	6.0
DA4	262	0.12	0.15	3.72	9.6	883	0.04	4.10	3.6	0.0	13.2	13.2	7.9
DA5	100	0.04	0.15	3.72	7.3	503	0.03	3.63	2.3	0.0	9.6	10.0	6.0
DA6	200	0.05	0.15	3.72	11.0	423	0.04	4.08	1.7	0.0	12.7	12.7	7.6
O1	300	0.28	0.15	3.72	7.6	240	0.13	5.89	0.7	0.0	8.3	10.0	6.0
O2	300	0.27	0.15	3.72	7.7	198	0.19	7.07	0.5	0.0	8.2	10.0	6.0
O3	300	0.27	0.15	3.72	7.7	407	0.14	5.93	1.1	0.0	8.9	10.0	6.0
O4	300	0.26	0.15	3.72	7.9	726	0.11	5.25	2.3	0.0	10.2	10.2	6.1

[1] Manning's "n" from USDA, Natural Resources Conservation Service, Conservation Engineering Division, *Urban Hydrology for Small Watersheds* , 1986, page 3-3.

[2] $t_{sheet}=((0.007*(nL)^{0.8})/((P_2^{0.5})*(S^{0.4})))*60$

[3] $V=20.3282*\sqrt{S}$

$V=16.1345*\sqrt{S}$

[4] $t_{shallow}=L/(V*60)$

[5] $t_c=(t_{sheet}+t_{shallow}+t_{channel})$

[6] $t_{design}= IF(t_c>10,t_c,10)$

[7] $T_{lag} = 0.6*t_c$

L = Flow length
S = Main channel slope (ft/ft)
V = Average velocity for shallow conocentrated flow over paved surface
P_2 = 2-Year, 24-hour rainfall
t_c = Time of concentration
t_{Design} = Time of concentration design values (if actual values are less than 10 minutes, than design values equal 10 minutes)
T_{lag} = Watershed lag time (min)

The Soil Conservation Service (SCS) Unit Hydrograph is derived from gaged rainfall and runoff for a large number of small agricultural watersheds.

Drainage area (DA1) is used in this example.

Method:

1. Calculate the time of concentration (t_c) for drainage area DA1.
2. Calculate the SCS Lag time T_{lag}.

References:

1. "SCS Unit Hydrograph Model" HEC-HMS Technical Reference Manual

Solution:

1. Calculate time of concentration t_c

The time of concentration can be can be calculated from Equation 4 from Reference 1.

$$t_c = t_{sheet}+t_{shallow}+t_{channel}$$

Where:

t_{sheet}= Sum of travel time in sheet flow segments over the watershed land surface

$t_{shallow}$= Sum of travel time in shallow flow segments (i.e. streets, gutters, shallow rills and rivulets)

$t_{channel}$= Sum of travel time in channel segments

A. Calculate Sheet Flow

Calculate sheet flow using the following equation:

$$t_{sheet} = \left(\frac{.007(nL)^{0.8}}{(P_2)^{0.5}S^{0.4}}\right) * 60$$ (Equation 7, Reference 1)

Where:

n = Manning's coefficient
L = Overland flow length
P_2 = 2-Year, 24-hour rainfall
S = Slope of sheet flow

n =	0.15	
L =	260	feet
P_2 =	3.72	inches
S =	0.10	feet/feet

t_{sheet} = 10.4 minutes

B. Calculate Shallow Flow

Calculate shallow flow using the following equation:

$$t_{shallow} = \frac{L}{V * 60}$$ (Equation 6, Reference 1)

The velocity system of equations provides both paved and unpaved surface calculations. Since DA1 is paved, the paved surface equation was selected.

$V = 20.3282 * \sqrt{S}$ (Equation 8, Reference 1)

Where:
L = Flow length
V = Average velocity for shallow concentrated flow over paved surface
S = Slope of shallow concentrated flow

L = 208 feet
S = 0.04 feet/feet

V = 3.99 feet/second

$t_{shallow}$ = 0.9 minutes

C. Calculate channel flow

DA1 does not have a defined channel, therefore no open channel flow was calculated.

$t_{channel}$ = 0.0 minutes

D. Calculate the total time of concentration:

$t_c = (t_{sheet} + t_{shallow+}t_{channel})$

t_c = 11.3 minutes

2. Calculate Lag Time T_{lag}

Calculate lag time using the following equation:

$T_{lag} = 0.6*t_c$

Where:
T_{lag} = Time difference between the center of mass of excess precipitation and the peak of the unit hydrograph

T_{lag} = 6.8 minutes

POND ROUTING INFORMATION

Pond Routing Information

The detention ponds and outlet structures will be designed to detain the 25-year storm and provide flood attenuation for the site. The following information was used to develop the existing condition.

Design information for the detention ponds low water outlet is summarized below:

	Initial Elevation (ft-msl)	Shape	Chart	Scale (ft)	Length (ft)	Diameter (ft)	Inlet Elevation (ft-msl)	Entrance Coefficient	Outlet Elevation (ft-msl)	Exit Coefficient	Manning's n
P1	1045.7	Circular	1	1	28.3	2.00	1045.70	0.8	1045.64	0.5	0.013

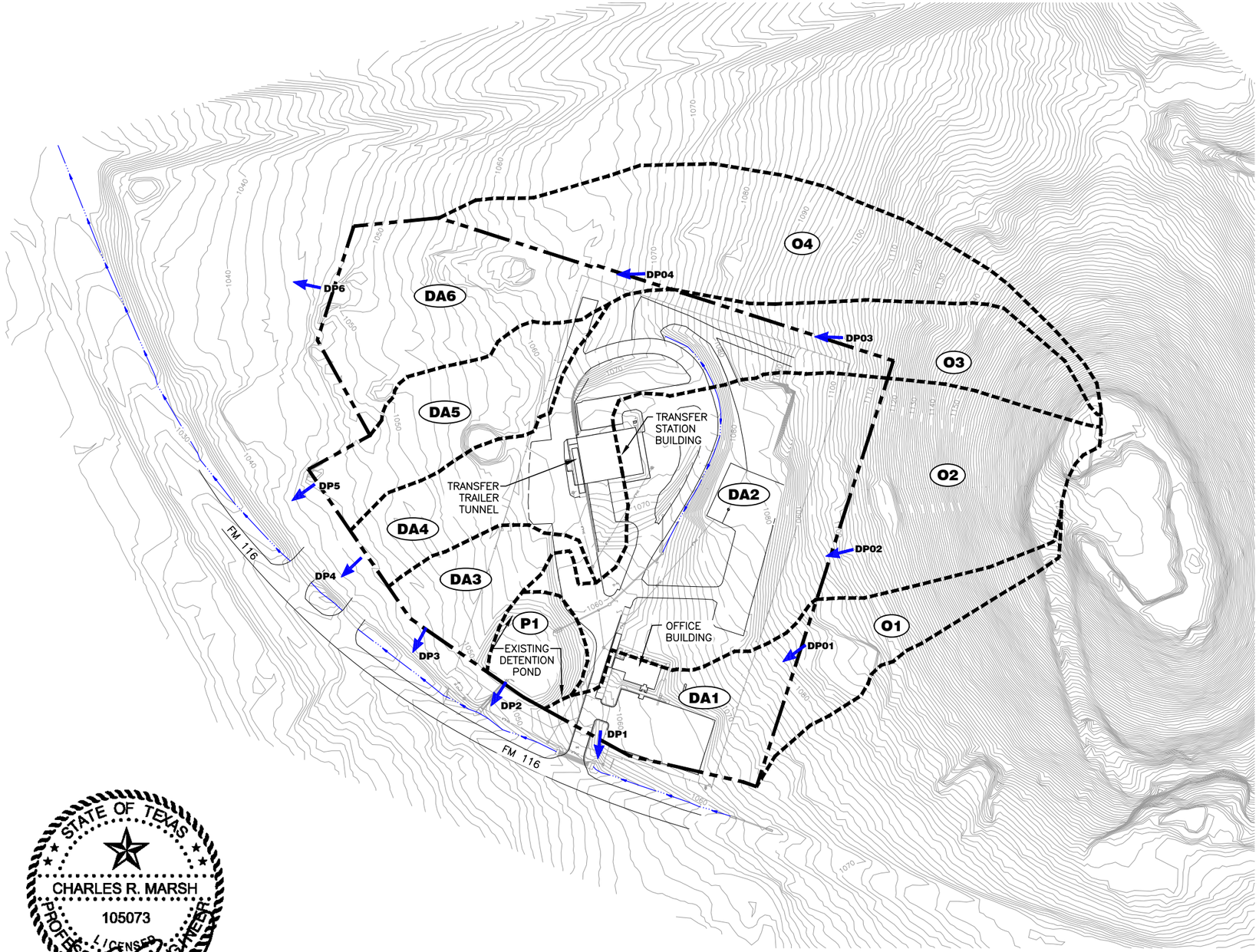
Design information for the detention ponds spillway is summarized below:

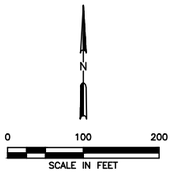
	Spillway Elevation (ft-msl)	Length (ft)	Coefficient
P1	1048.3	4.75	2.6

The elevation/area functions which are used to determine the volume of the detention ponds is summarized below.

Pond P1	
Elevation (ft-msl)	Area (ac)
1045.70	0.0000
1046.00	0.0050
1047.00	0.1480
1048.00	0.2480
1049.00	0.3180
1050.00	0.3710
--	--

EXISTING CONDITION HEC-HMS ANALYSIS DRAINAGE AREAS





LEGEND

- PERMIT BOUNDARY
- 1070 — EXISTING CONTOUR (SEE NOTE 1)
- CHANNEL
- DRAINAGE AREA BOUNDARY
- DA4 — DRAINAGE AREA DESIGNATION
- DP1 — RUN–ON/RUNOFF LOCATIONS

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS BASED ON A FIELD SURVEY PERFORMED BY WEAVER CONSULTANTS GROUP, LLC ON JULY 5, 2022 TO JULY 8, 2022 AND GIS DATA PROVIDED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED 2020.

DRAINAGE AREA NO.	AREA (ACRES)
DA1	1.49
DA2	4.47
DA3	0.92
DA4	3.31
DA5	1.56
DA6	2.33
O1	1.20
O2	2.69
O3	1.39
O4	3.45
P1	0.57

STATE OF TEXAS
CHARLES R. MARSH
105073
LICENSED
PROFESSIONAL ENGINEER
04/30/2024

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 03/2024
FILE: 5552-001-11
CAD: IIIB-C-17-EXIST. DRAINAGE AREAS.DWG

DRAWN BY: SRF
DESIGN BY: BPY
REVIEWED BY: CRM

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
THE CITY OF COPPERAS COVE

REVISIONS		
NO.	DATE	DESCRIPTION

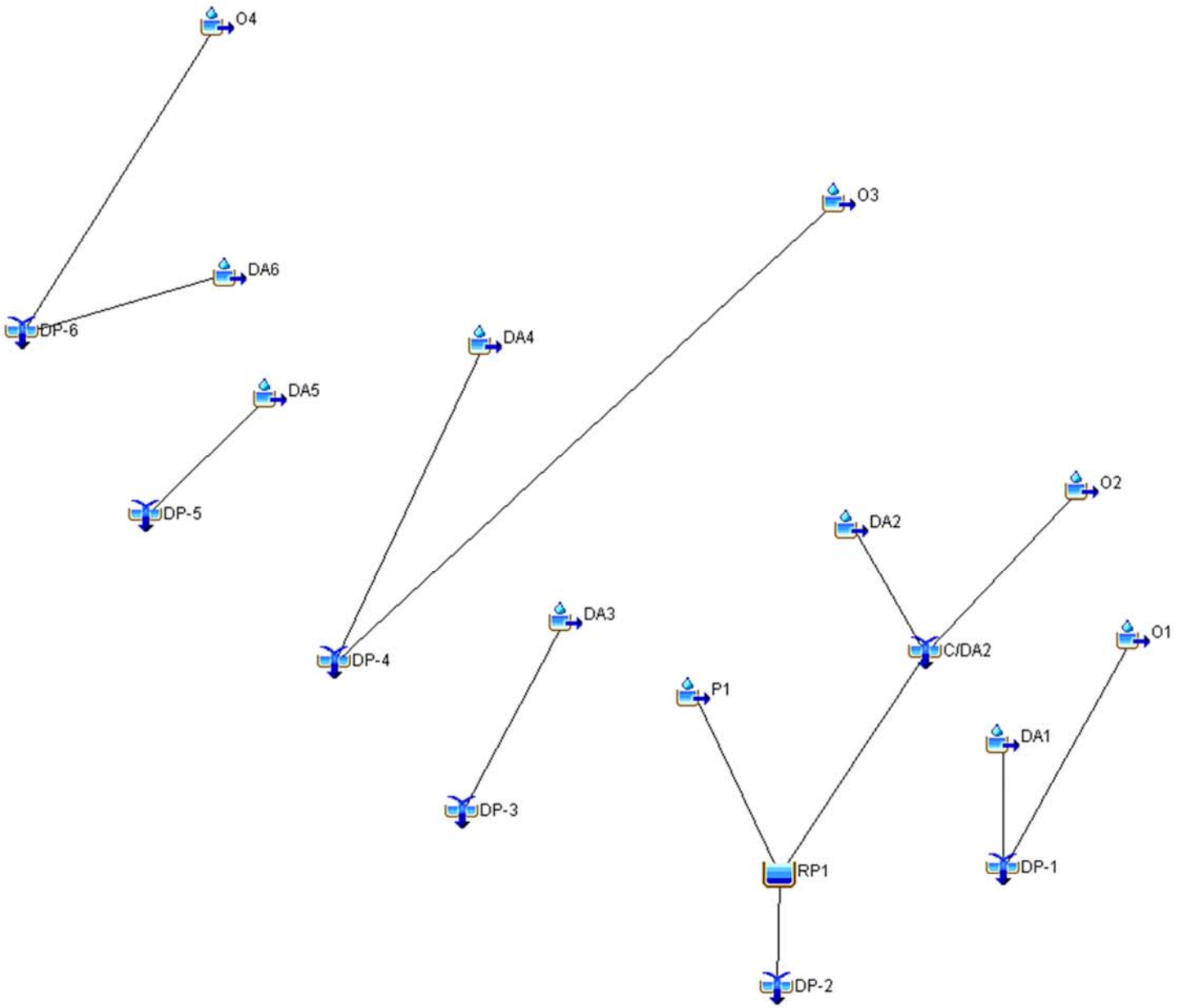
TYPE V PERMIT APPLICATION
EXISTING DRAINAGE CONDITIONS

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL, TEXAS

WWW.WCGRP.COM

DRAWING IIIB-C-17

HEC-HMS OUTPUT – EXISTING CONDITION
25-YEAR, 24-HOUR STORM EVENT


O4
DA6
DP-6
DA5
DP-5
DA4
O3
DP-4
DA3
DP-3
DA2
O2
C/DA2
P1
O1
DA1
RP1
DP-1
DP-2

Project: Copperas_Cove___Existing_Co
Simulation Run: Existing - 25-Year
Simulation Start: 1 January 2023, 01:00
Simulation End: 3 January 2023, 13:00

HMS Version: 4.11
Executed: 12 March 2024, 22:15

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Da1	0
O1	0
Da2	0.01
O2	0
P1	0
Da4	0.01
Da3	0
O3	0
O4	0.01
Da6	0
Da5	0

Downstream

Element Name	Downstream
Da1	DP - 1
O1	DP - 1
Da2	C/da2
O2	C/da2
P1	Rp1
Da4	DP - 4
Da3	DP - 3
O3	DP - 4
O4	DP - 6
Da6	DP - 6
Da5	DP - 5

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
Da1	0	89
O1	0	86
Da2	0	89
O2	0	84
P1	0	99
Da4	0	93
Da3	0	90
O3	0	84
O4	0	84
Da6	0	85
Da5	0	93

Transform: Scs

Element Name	Lag	Unitgraph Type
Da1	6.8	Standard
O1	6	Standard
Da2	6	Standard
O2	6	Standard
P1	0.1	Standard
Da4	7.9	Standard
Da3	6	Standard
O3	6	Standard
O4	6.1	Standard
Da6	7.6	Standard
Da5	6	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Da1	0	10.66	01Jan2023, 13:08	6.01
O1	0	8.83	01Jan2023, 13:07	5.66
Da2	0.01	33.91	01Jan2023, 13:07	6.01
O2	0	18.9	01Jan2023, 13:07	5.43
C/da2	0.01	52.8	01Jan2023, 13:07	5.79
P1	0	6.83	01Jan2023, 13:03	7.19
Rp1	0.01	36.06	01Jan2023, 13:14	5.91
DP - 2	0.01	36.06	01Jan2023, 13:14	5.91
Da4	0.01	23.81	01Jan2023, 13:09	6.48
Da3	0	6.87	01Jan2023, 13:07	6.13
O3	0	9.9	01Jan2023, 13:07	5.43

O4	0.01	24.14	01Jan2023, 13:07	5.43
Da6	0	15.11	01Jan2023, 13:09	5.55
DP - 6	0.01	38.96	01Jan2023, 13:08	5.48
DP - 4	0.01	33.36	01Jan2023, 13:08	6.17
DP - 1	0	19.38	01Jan2023, 13:08	5.85
Da5	0	12.14	01Jan2023, 13:07	6.48
DP - 3	0	6.87	01Jan2023, 13:07	6.13
DP - 5	0	12.14	01Jan2023, 13:07	6.48

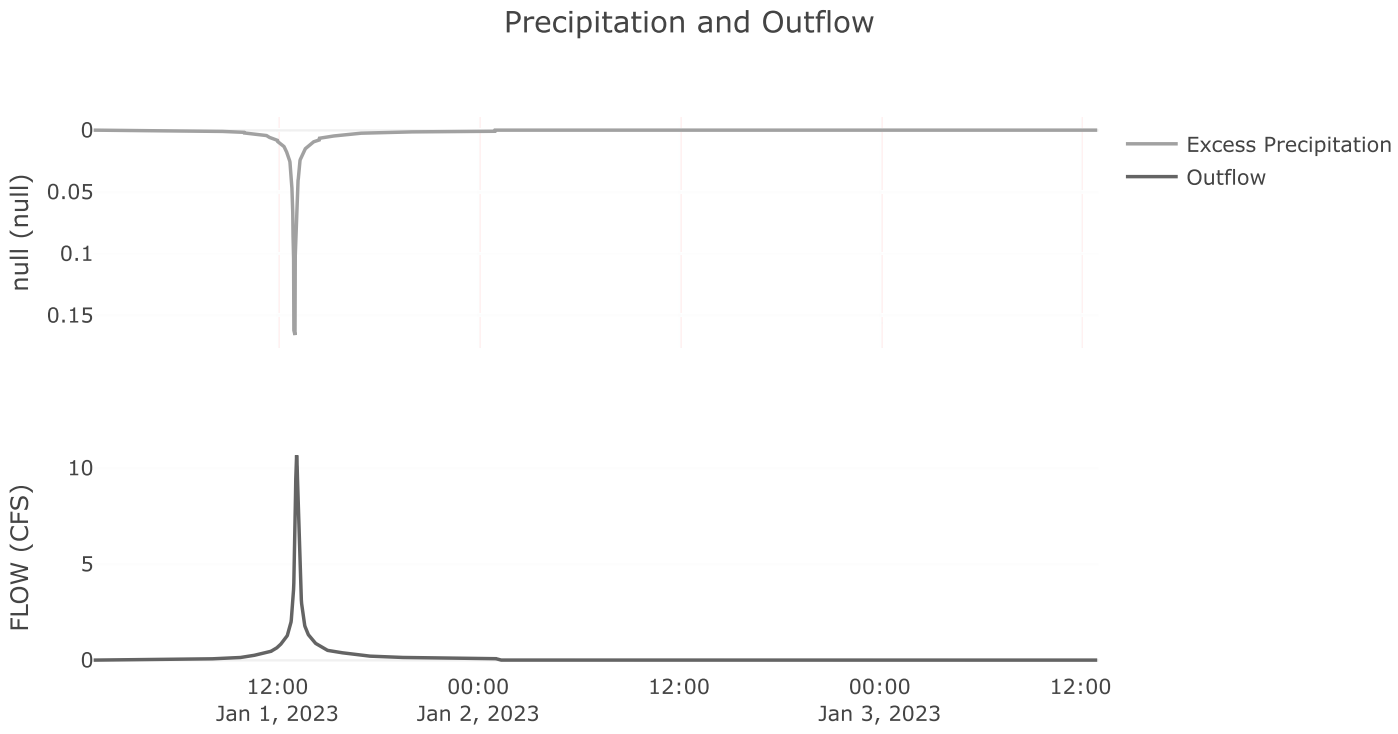
Subbasin: DA1

Area (MI2) : 0
Downstream : DP - 1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	89

Transform: Scs	
Lag	6.8
Unitgraph Type	Standard

Results: DA1	
Peak Discharge (CFS)	10.66
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	6.01
Precipitation Volume (AC - FT)	0.9
Loss Volume (AC - FT)	0.16
Excess Volume (AC - FT)	0.74
Direct Runoff Volume (AC - FT)	0.74
Baseflow Volume (AC - FT)	0



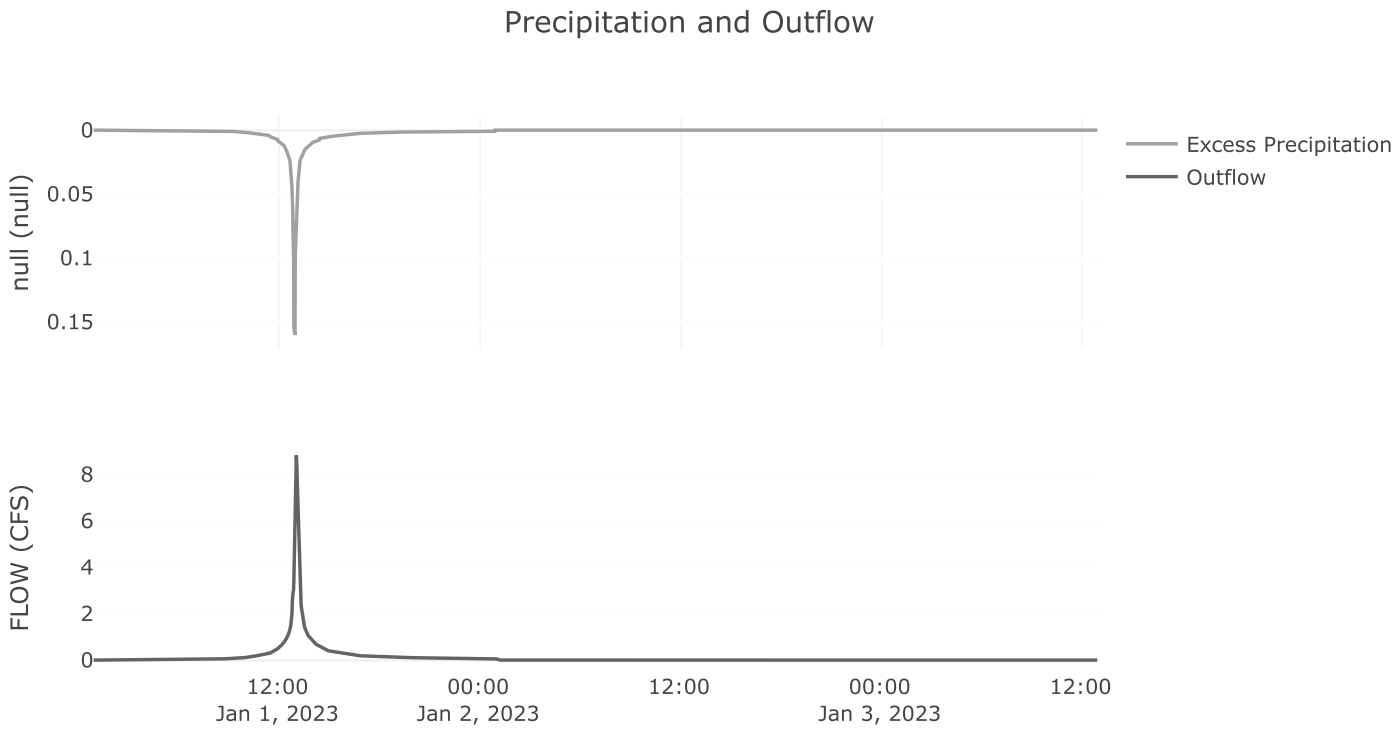
Subbasin: O1

Area (MI2) : 0
Downstream : DP - 1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	86

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: O1	
Peak Discharge (CFS)	8.83
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.66
Precipitation Volume (AC - FT)	0.74
Loss Volume (AC - FT)	0.17
Excess Volume (AC - FT)	0.57
Direct Runoff Volume (AC - FT)	0.57
Baseflow Volume (AC - FT)	0



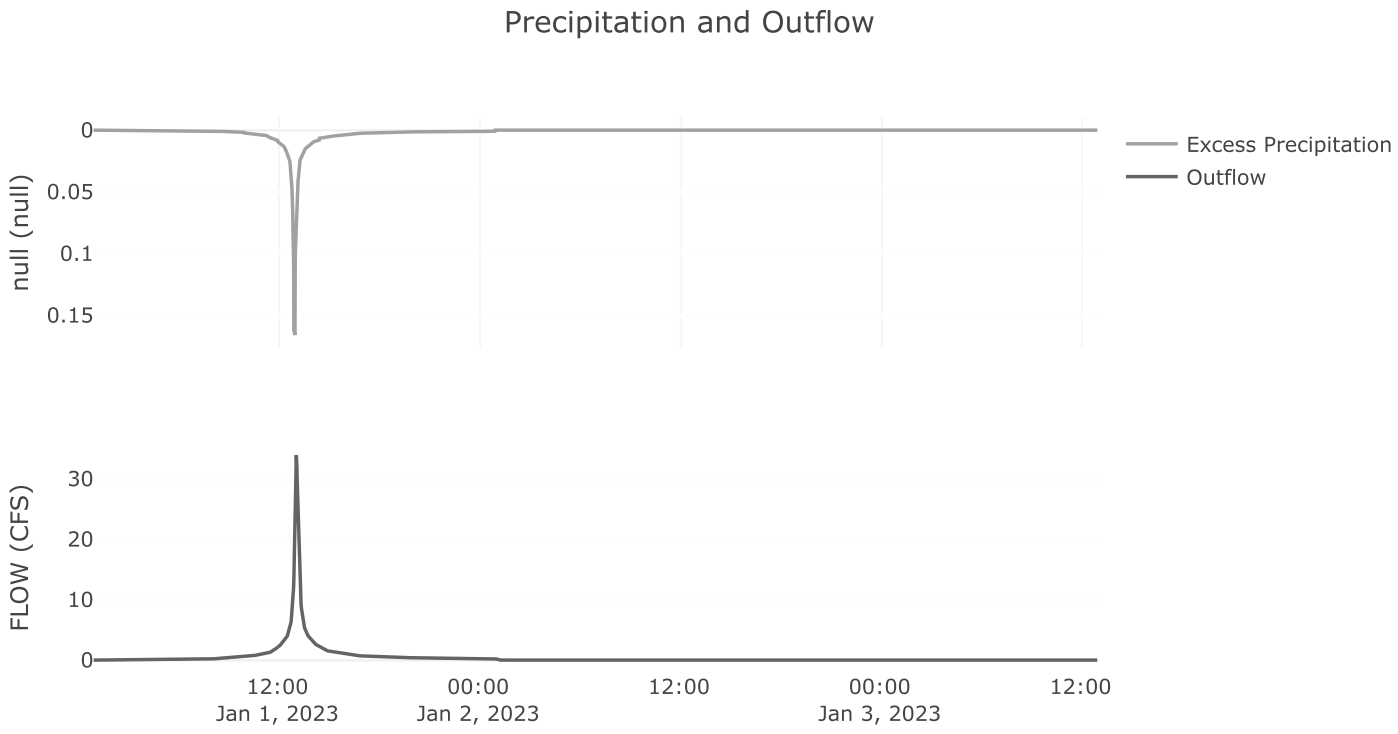
Subbasin: DA2

Area (MI2) : 0.01
Downstream : C/da2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	89

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA2	
Peak Discharge (CFS)	33.91
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.01
Precipitation Volume (AC - FT)	2.73
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	2.24
Direct Runoff Volume (AC - FT)	2.24
Baseflow Volume (AC - FT)	0



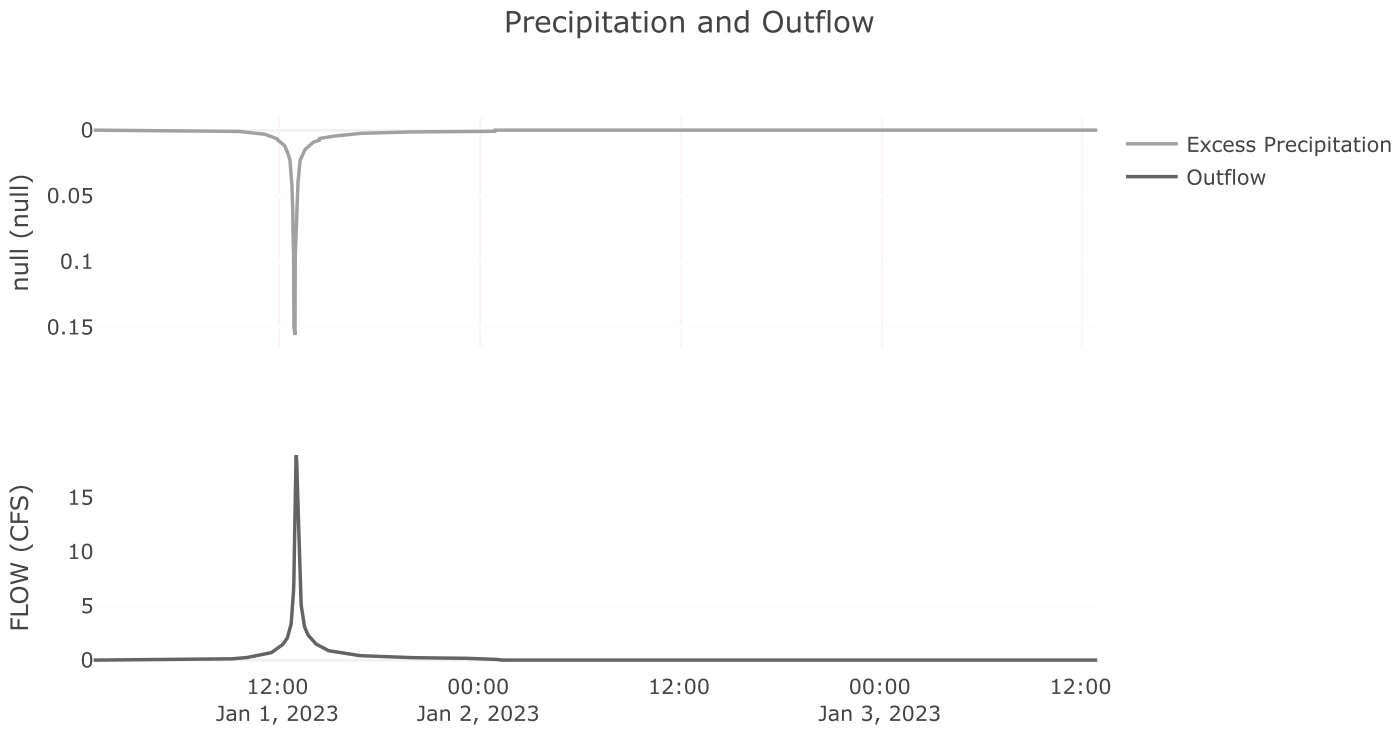
Subbasin: O2

Area (MI2) : 0
Downstream : C/da2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6
Unitgraph Type	Standard

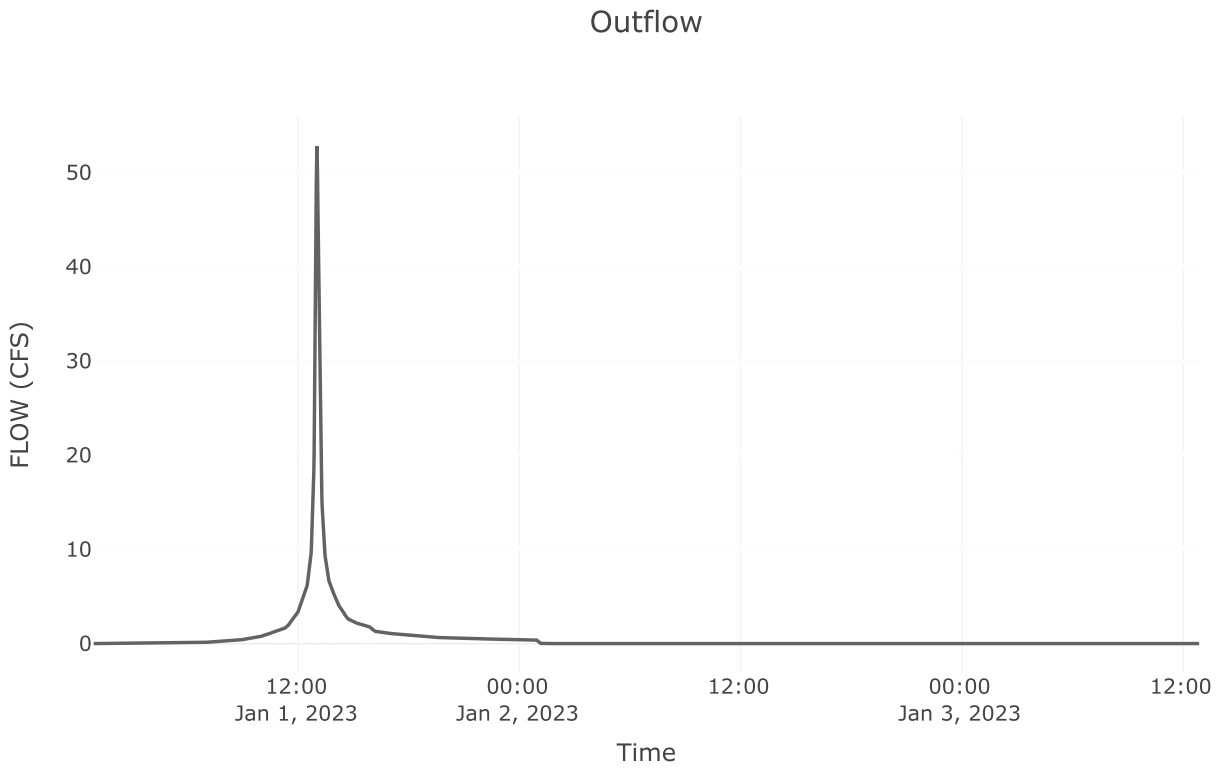
Results: O2	
Peak Discharge (CFS)	18.9
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	1.64
Loss Volume (AC - FT)	0.42
Excess Volume (AC - FT)	1.22
Direct Runoff Volume (AC - FT)	1.22
Baseflow Volume (AC - FT)	0



Junction: C/DA2

Downstream : Rp1

Results: C/DA2	
Peak Discharge (CFS)	52.8
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.79



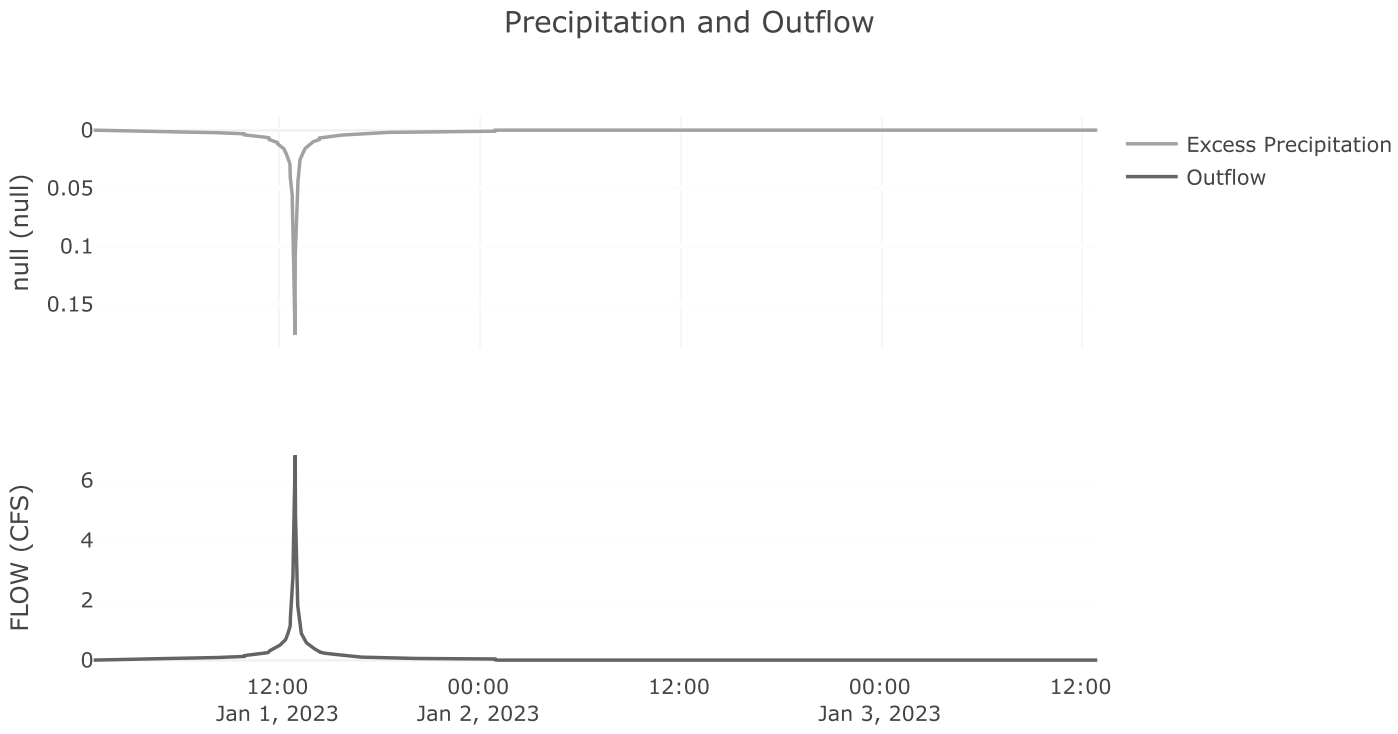
Subbasin: P1

Area (MI2) : 0
Downstream : Rp1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	99

Transform: Scs	
Lag	0.1
Unitgraph Type	Standard

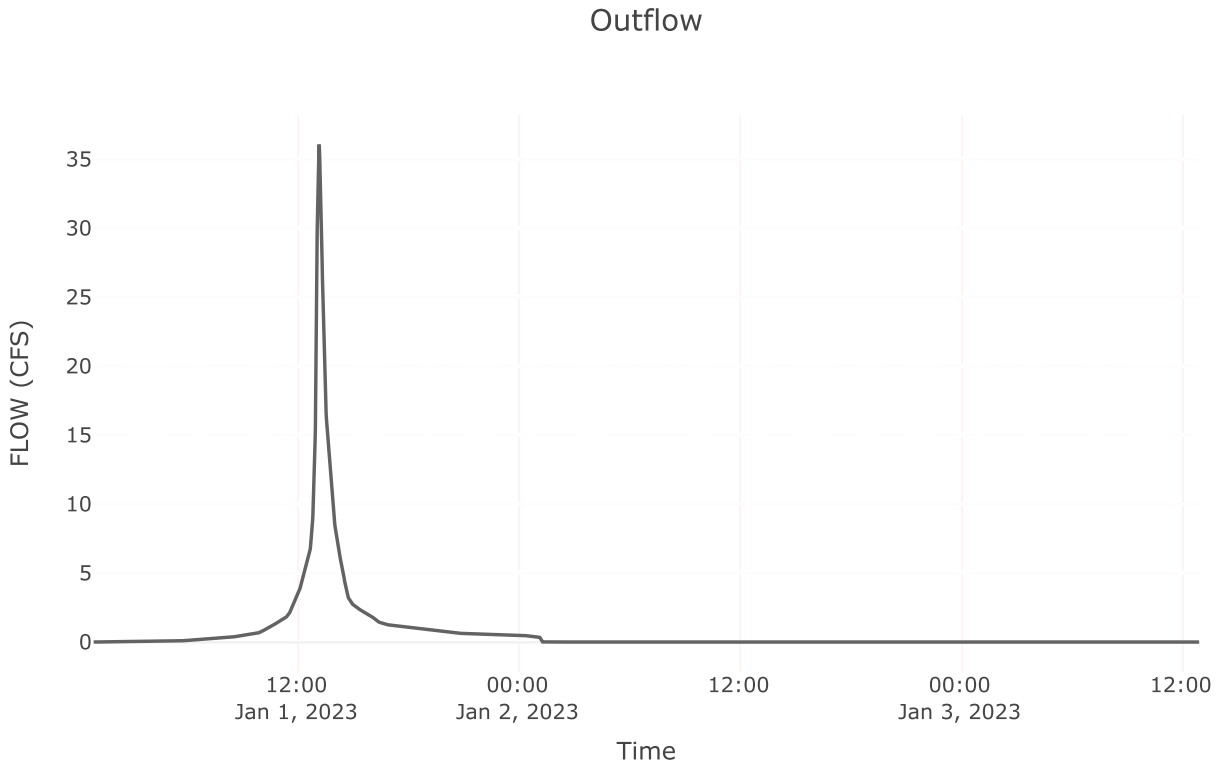
Results: P1	
Peak Discharge (CFS)	6.83
Time of Peak Discharge	01Jan2023, 13:03
Volume (IN)	7.19
Precipitation Volume (AC - FT)	0.39
Loss Volume (AC - FT)	0.01
Excess Volume (AC - FT)	0.38
Direct Runoff Volume (AC - FT)	0.38
Baseflow Volume (AC - FT)	0



Reservoir: RP1

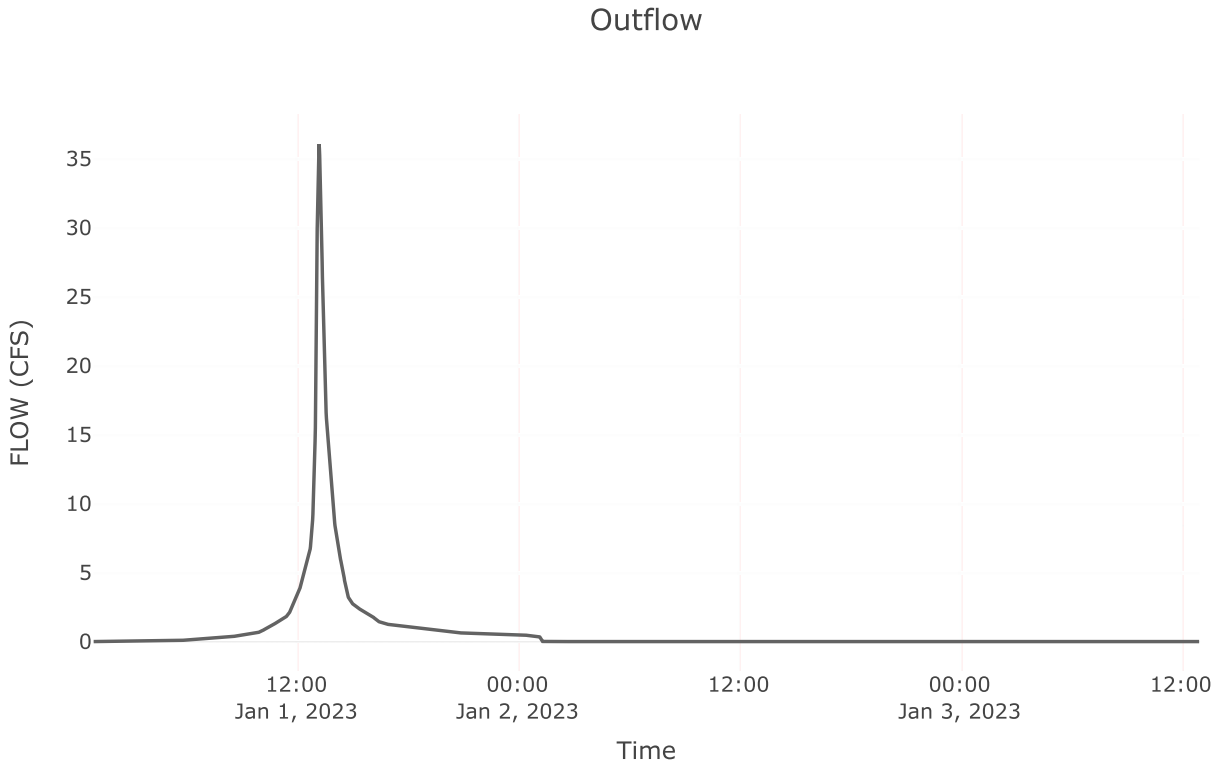
Downstream : DP - 2

Results: RP1	
Peak Discharge (CFS)	36.06
Time of Peak Discharge	01Jan2023, 13:14
Volume (IN)	5.91
Peak Inflow (CFS)	55.68
Time of Peak Inflow	01Jan2023, 13:07
Inflow Volume (AC - FT)	3.84
Maximum Storage (AC - FT)	0.65
Peak Elevation (FT)	1049.33
Discharge Volume (AC - FT)	3.85



Junction: DP-2

Results: DP-2	
Peak Discharge (CFS)	36.06
Time of Peak Discharge	01Jan2023, 13:14
Volume (IN)	5.91



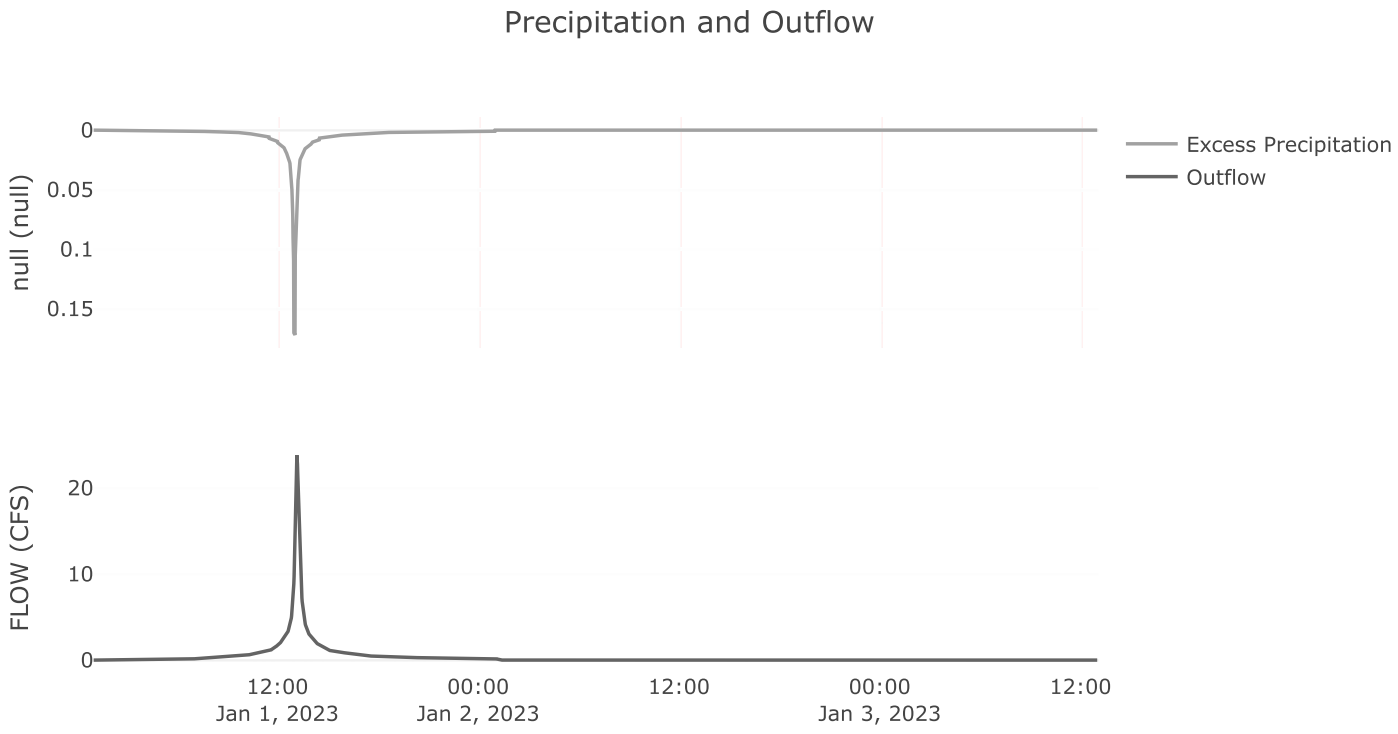
Subbasin: DA4

Area (MI2) : 0.01
Downstream : DP - 4

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	93

Transform: Scs	
Lag	7.9
Unitgraph Type	Standard

Results: DA4	
Peak Discharge (CFS)	23.81
Time of Peak Discharge	01Jan2023, 13:09
Volume (IN)	6.48
Precipitation Volume (AC - FT)	2.03
Loss Volume (AC - FT)	0.23
Excess Volume (AC - FT)	1.8
Direct Runoff Volume (AC - FT)	1.8
Baseflow Volume (AC - FT)	0



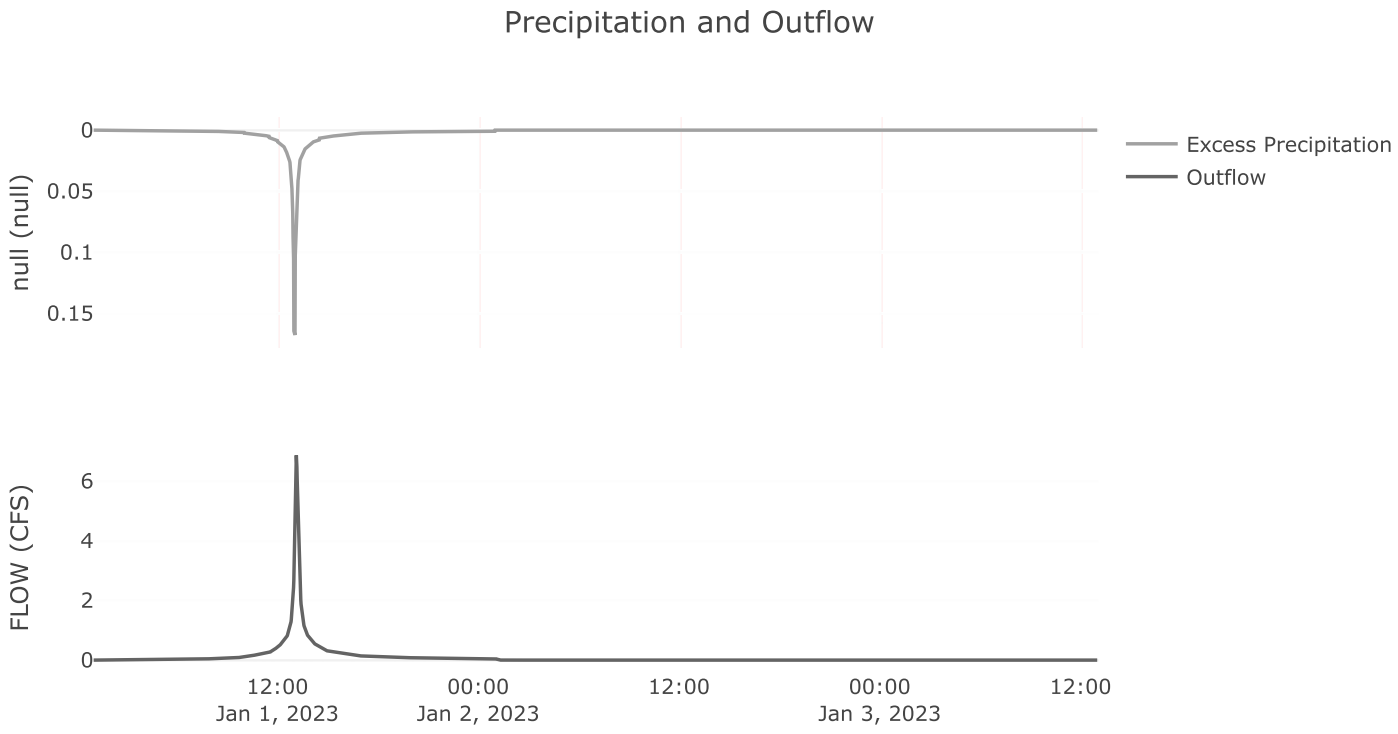
Subbasin: DA3

Area (MI2) : 0
Downstream : DP - 3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	90

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA3	
Peak Discharge (CFS)	6.87
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.13
Precipitation Volume (AC - FT)	0.55
Loss Volume (AC - FT)	0.09
Excess Volume (AC - FT)	0.46
Direct Runoff Volume (AC - FT)	0.46
Baseflow Volume (AC - FT)	0



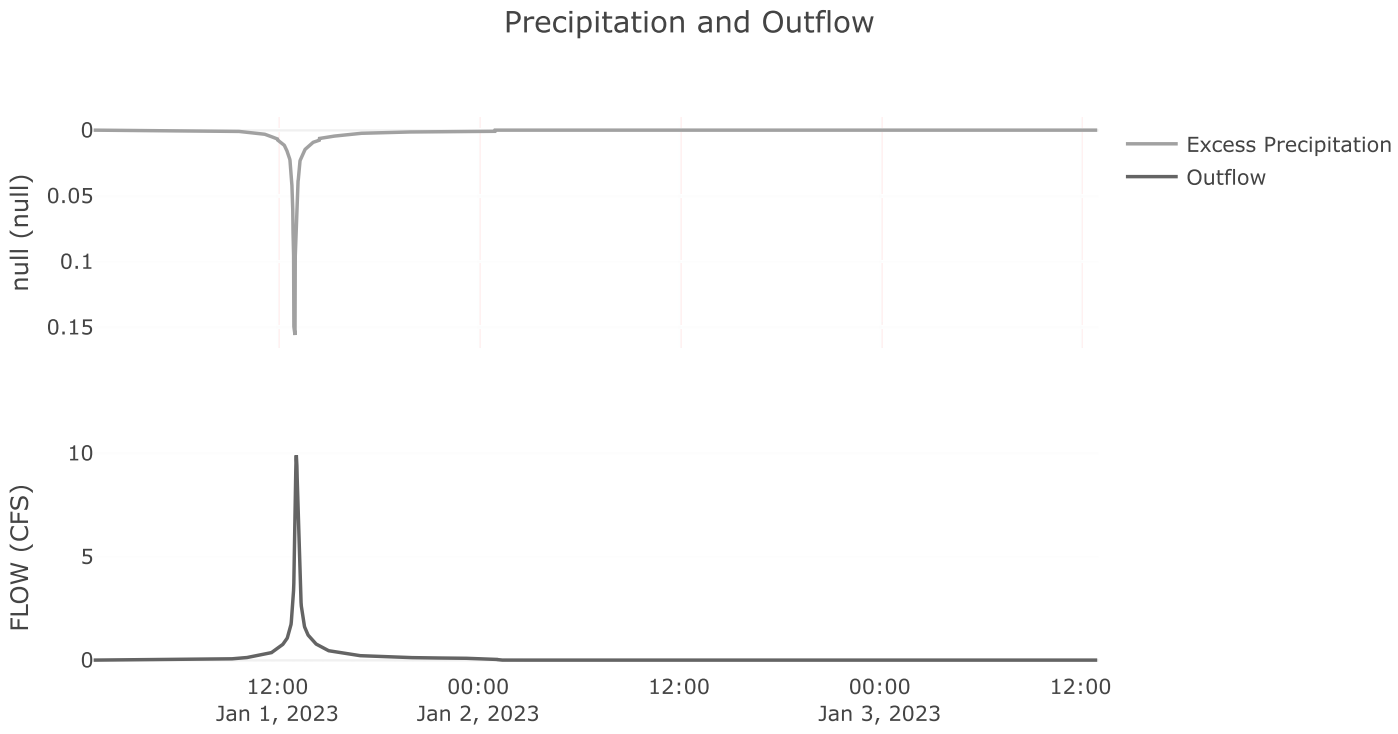
Subbasin: O3

Area (MI2) : 0
Downstream : DP - 4

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: O3	
Peak Discharge (CFS)	9.9
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	0.86
Loss Volume (AC - FT)	0.22
Excess Volume (AC - FT)	0.64
Direct Runoff Volume (AC - FT)	0.64
Baseflow Volume (AC - FT)	0



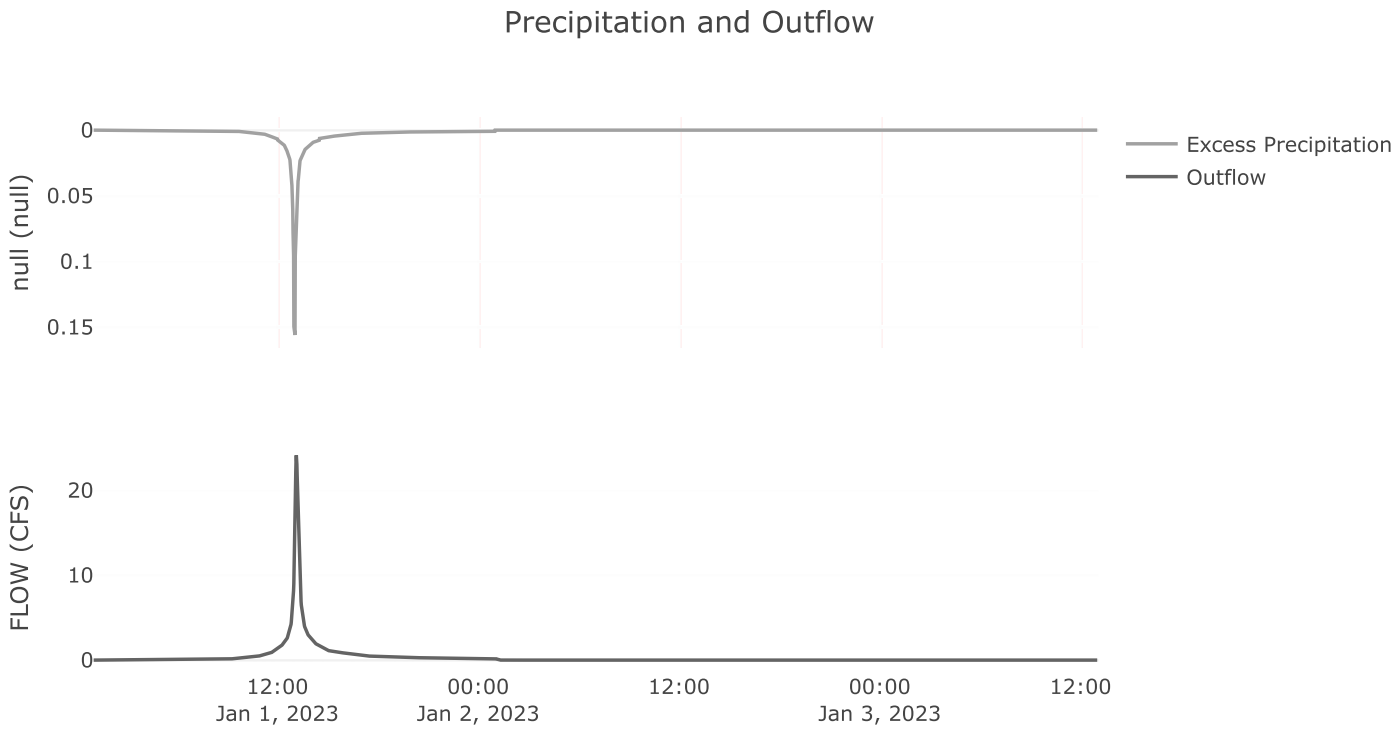
Subbasin: O4

Area (MI2) : 0.01
Downstream : DP - 6

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	84

Transform: Scs	
Lag	6.1
Unitgraph Type	Standard

Results: O4	
Peak Discharge (CFS)	24.14
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	5.43
Precipitation Volume (AC - FT)	2.11
Loss Volume (AC - FT)	0.54
Excess Volume (AC - FT)	1.57
Direct Runoff Volume (AC - FT)	1.57
Baseflow Volume (AC - FT)	0



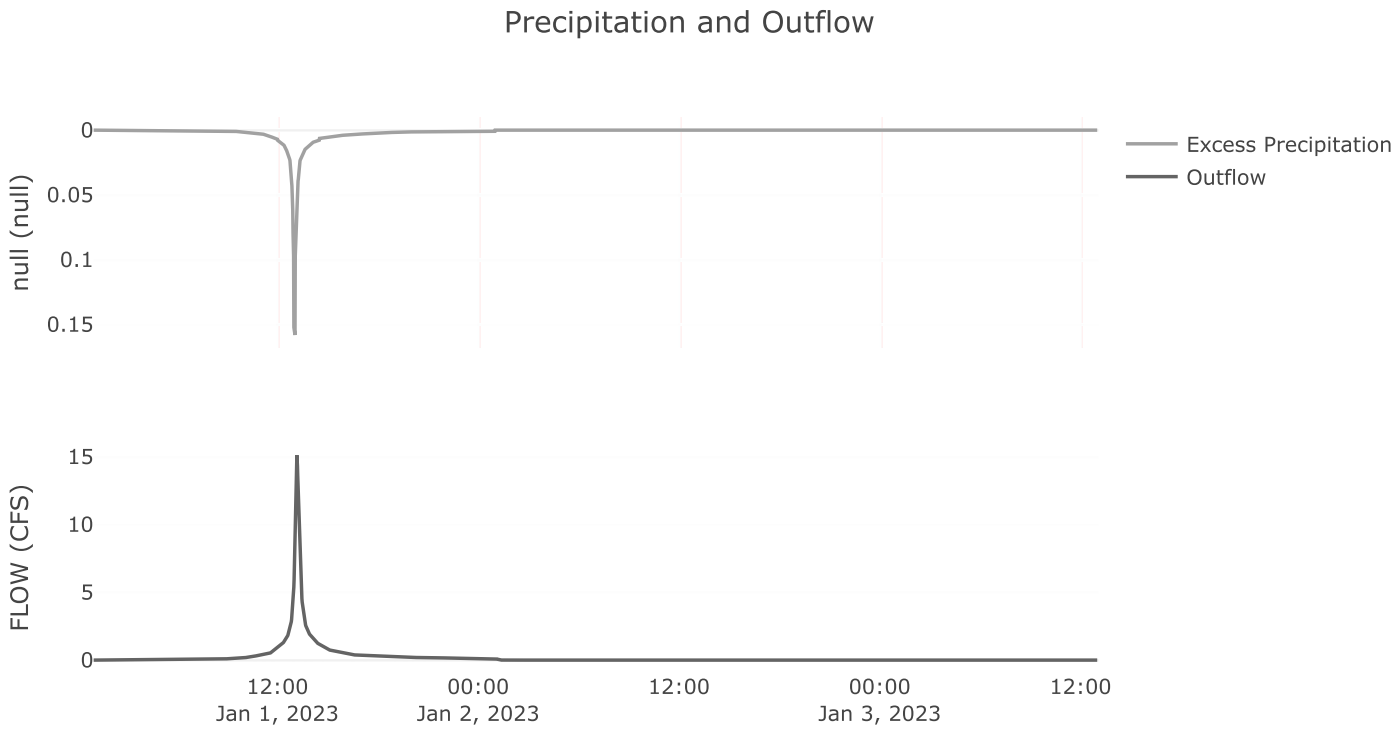
Subbasin: DA6

Area (MI2) : 0
Downstream : DP - 6

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	85

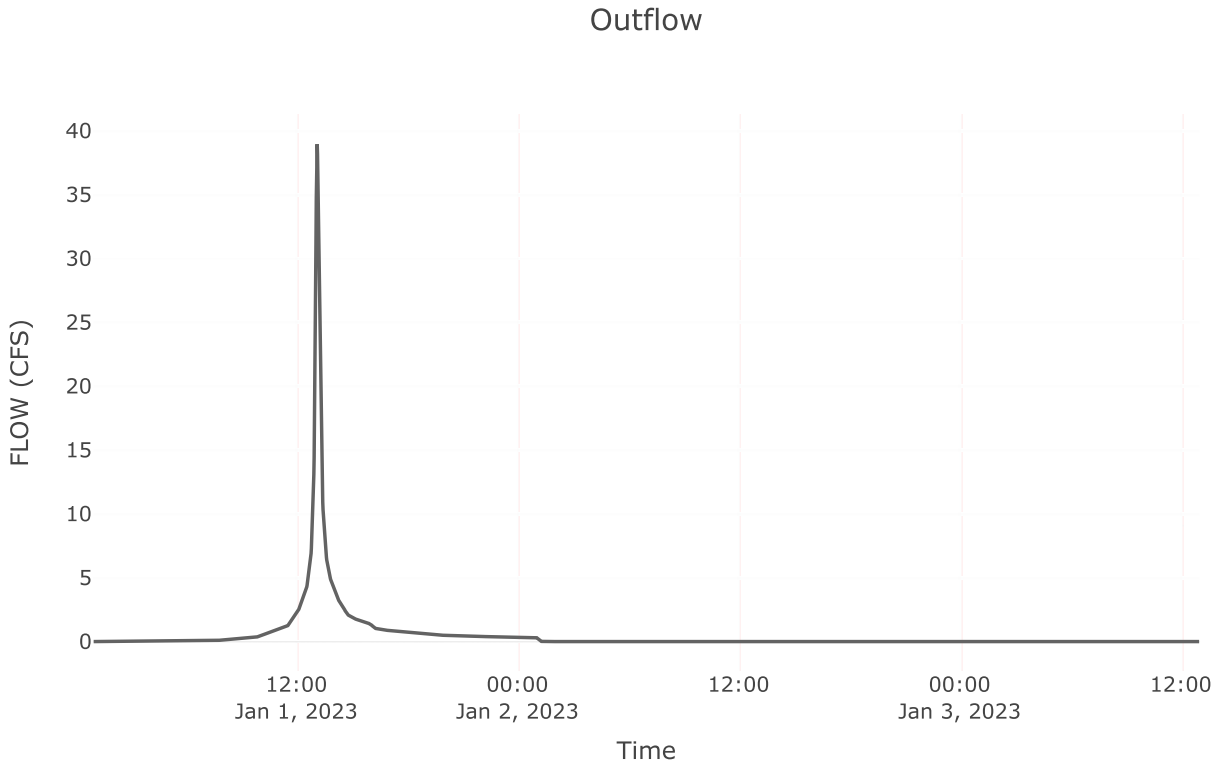
Transform: Scs	
Lag	7.6
Unitgraph Type	Standard

Results: DA6	
Peak Discharge (CFS)	15.11
Time of Peak Discharge	01Jan2023, 13:09
Volume (IN)	5.55
Precipitation Volume (AC - FT)	1.4
Loss Volume (AC - FT)	0.34
Excess Volume (AC - FT)	1.07
Direct Runoff Volume (AC - FT)	1.07
Baseflow Volume (AC - FT)	0



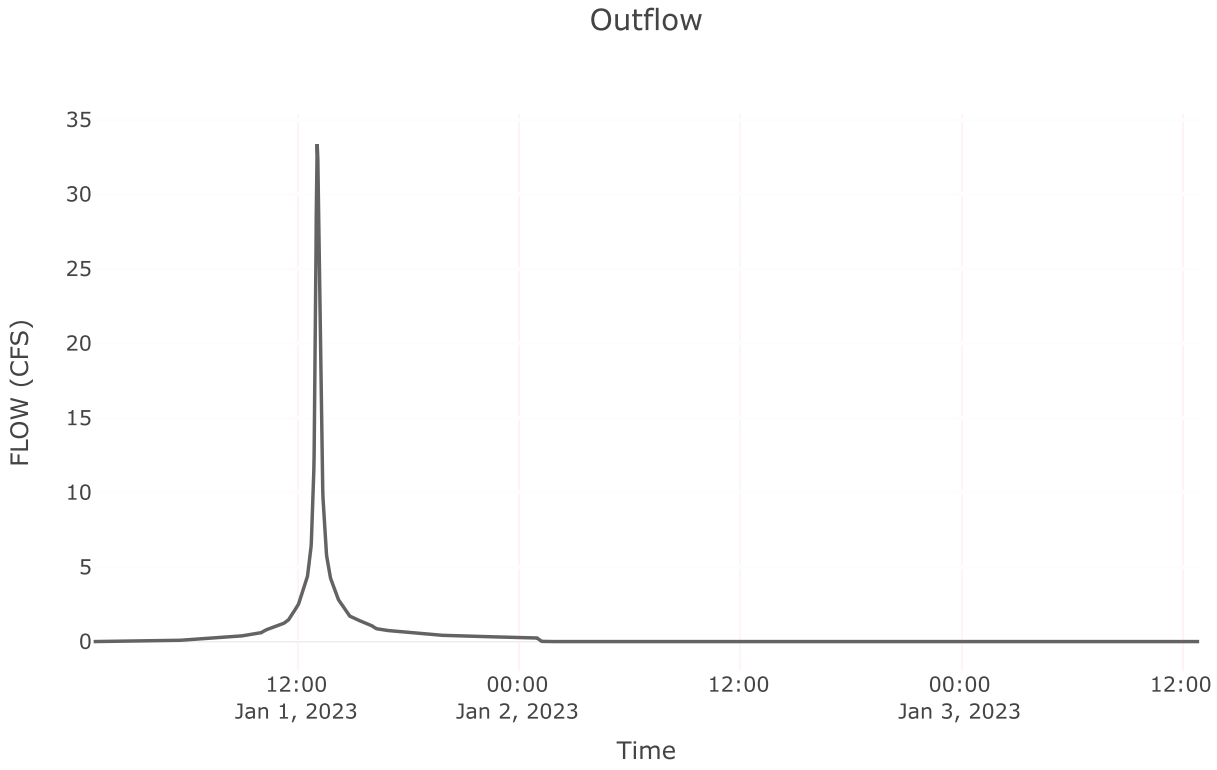
Junction: DP-6

Results: DP-6	
Peak Discharge (CFS)	38.96
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	5.48



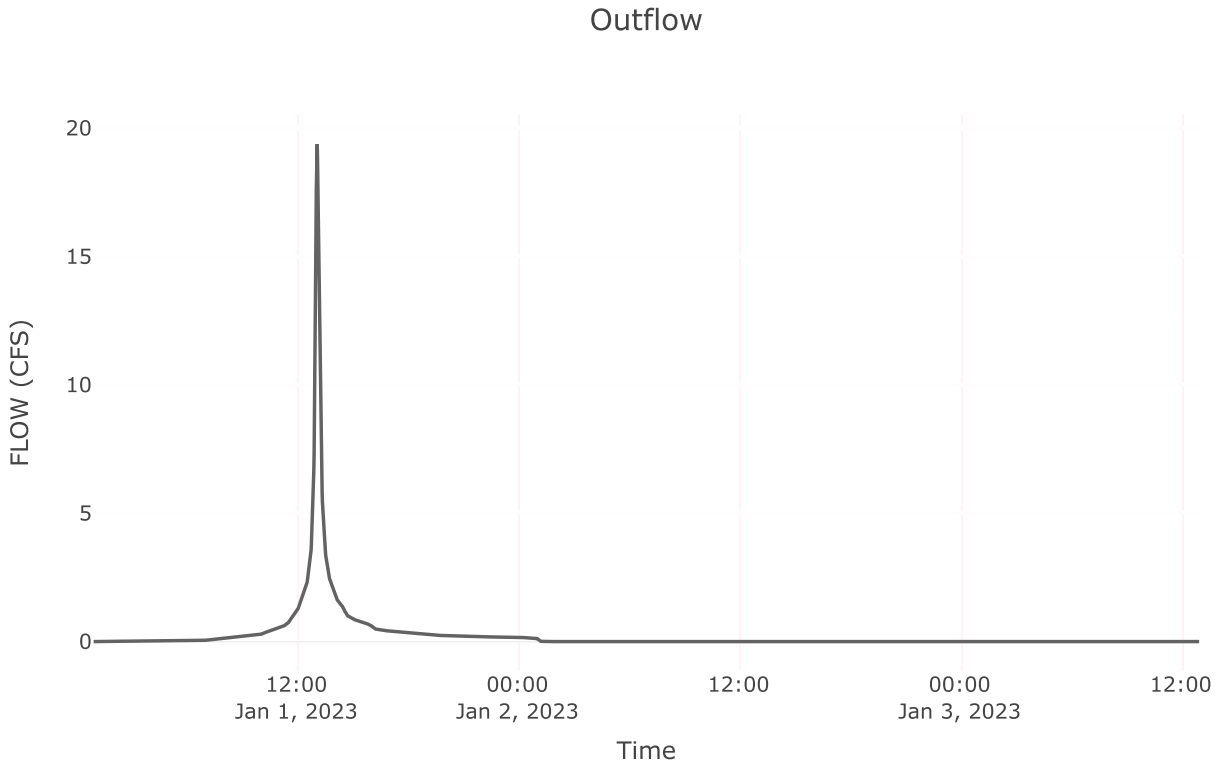
Junction: DP-4

Results: DP-4	
Peak Discharge (CFS)	33.36
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	6.17



Junction: DP-1

Results: DP-1	
Peak Discharge (CFS)	19.38
Time of Peak Discharge	01Jan2023, 13:08
Volume (IN)	5.85



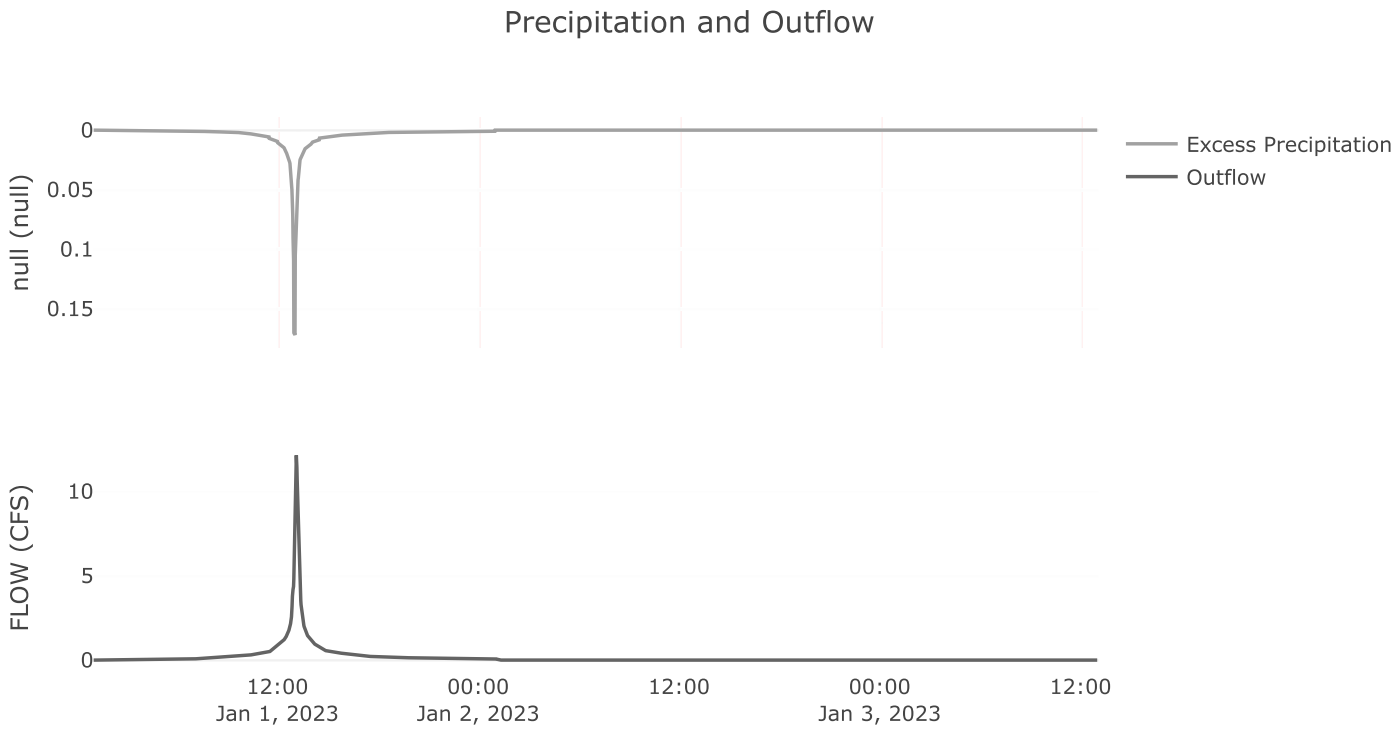
Subbasin: DA5

Area (MI2) : 0
Downstream : DP - 5

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	93

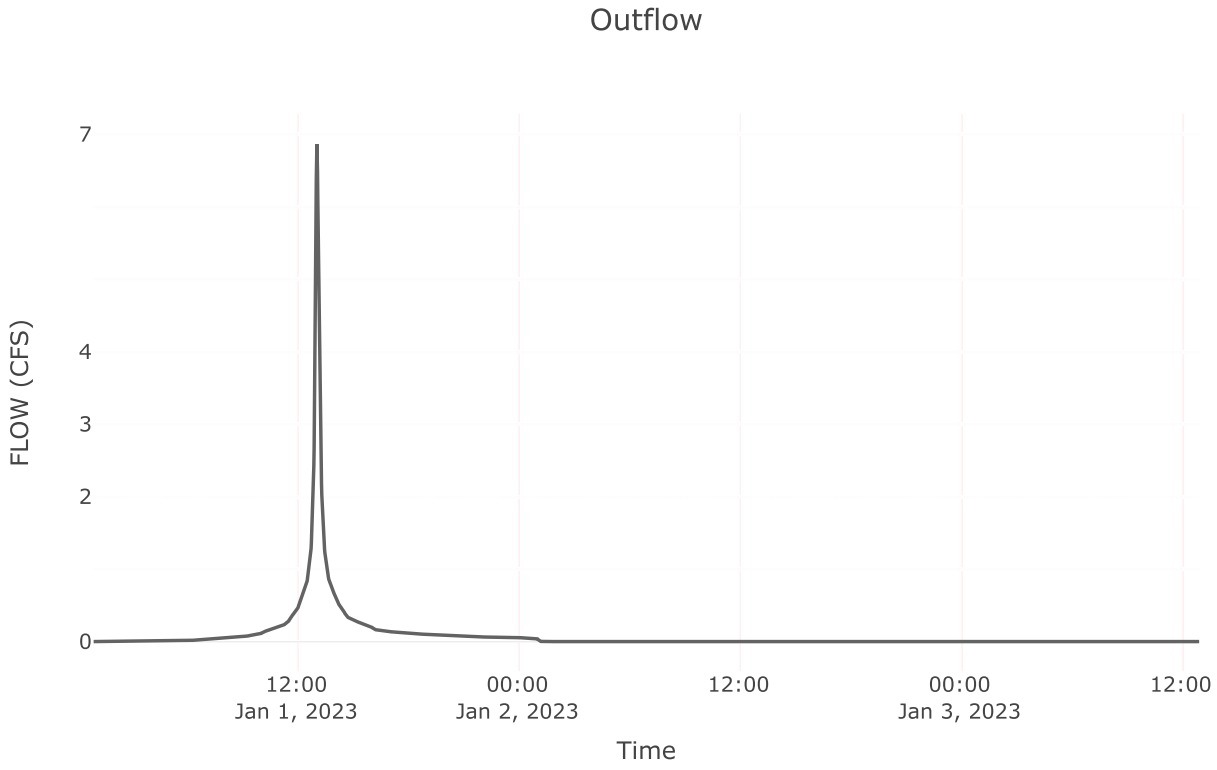
Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: DA5	
Peak Discharge (CFS)	12.14
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.48
Precipitation Volume (AC - FT)	0.94
Loss Volume (AC - FT)	0.11
Excess Volume (AC - FT)	0.83
Direct Runoff Volume (AC - FT)	0.83
Baseflow Volume (AC - FT)	0



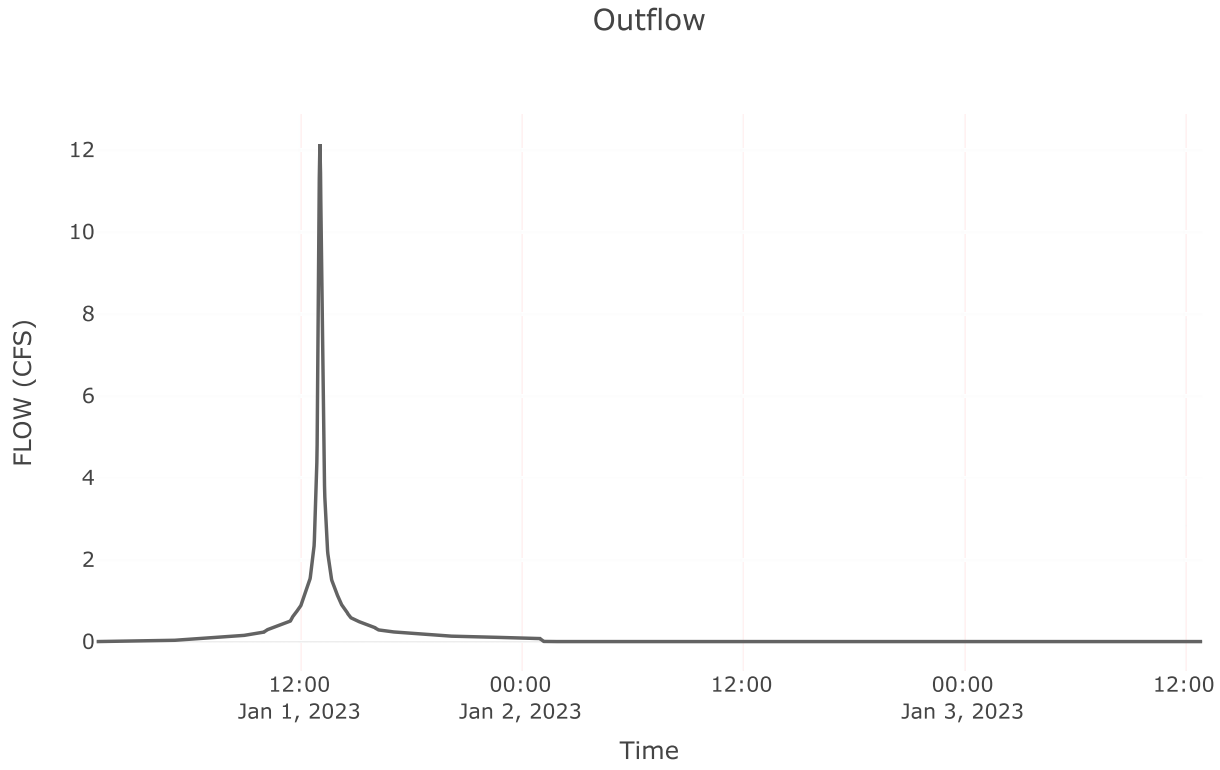
Junction: DP-3

Results: DP-3	
Peak Discharge (CFS)	6.87
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.13



Junction: DP-5

Results: DP-5	
Peak Discharge (CFS)	12.14
Time of Peak Discharge	01Jan2023, 13:07
Volume (IN)	6.48



VOLUME CALCULATIONS

EXCESS RAINFALL VOLUME CALCULATION

The volume generated by the site and the surrounding properties is calculated for the 25-year, 24-hour storm event. A summary of the design information that is included in this appendix and related appendices are listed below.

- Excess rainfall and drainage areas used in the volume calculations were obtained from the HEC-HMS analysis located in Appendix IIIB-C (existing condition).
- Existing condition volume information is summarized on page IIIB-C-44.

Required: Determine the 25-year 24-hour storm volume generated by the site and offsite areas using the excess rainfall calculated in the HEC-HMS analysis of the proposed expansion site conditions.

Method: Use the excess rainfall data generated by the HEC-HMS analysis (pages IIIB-C-18 through IIIB-C-38) to determine the volume produced by the site for the proposed expansion conditions.

Existing Conditions

1. Volume Discharging At DP1

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA1	**0.0023**	**1.49**	**6.01**	**0.75**
O1	**0.0019**	**1.20**	**5.66**	**0.57**
Total Volume Discharging At DP1				**1.31**

Total Volume Discharging At DP1 =	**1.31**	**ac-ft**

2. Volume Discharging At DP2

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O2	**0.0042**	**2.69**	**5.43**	**1.22**
DA2	**0.0070**	**4.47**	**6.01**	**2.24**
P1	**0.0009**	**0.57**	**7.19**	**0.34**
Total Volume Discharging At DP2				**3.80**

Total Volume Discharging At DP2 =	**3.80**	**ac-ft**

3. Volume Discharging At DP3

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA3	**0.0014**	**0.92**	**6.13**	**0.47**
Total Volume Discharging At DP3				**0.47**

Total Volume Discharging At DP3 =	**0.47**	**ac-ft**

4. Volume Discharging At DP4

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O3	**0.0022**	**1.39**	**5.43**	**0.63**
DA4	**0.0052**	**3.31**	**6.48**	**1.79**
Total Volume Discharging At DP4				**2.42**

Total Volume Discharging At DP4 =	**2.42**	**ac-ft**

5. Volume Discharging At DP5

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
DA5	**0.0024**	**1.56**	**6.48**	**0.84**
Total Volume Discharging At DP5				**0.84**

Total Volume Discharging At DP5 =	**0.84**	**ac-ft**

6. Volume Discharging At DP6

Area No.	Area (Square Miles)	Area (Acre)	Excess Rainfall (in)	Excess Rainfall Volume (Acre-Ft)
O4	**0.0054**	**3.45**	**5.43**	**1.56**
DA6	**0.0036**	**2.33**	**5.55**	**1.08**
Total Volume Discharging At DP6				**2.64**

Total Volume Discharging At DP6 =	**2.64**	**ac-ft**

Total Volume Discharging At Permit Boundary =	**11.48**	**ac-ft**

VELOCITY CALCULATION

Determine the flow velocities entering and exiting the permit boundary using HYDROCALC HYDRAULICS (Version 2.01, 1996-2010) for the flows calculated for the 25-year storm event.

1. Use the flow data to determine velocity of runoff entering the landfill permit boundary.
2. Use the flow data to determine velocity of runoff exiting the landfill permit boundary.

Flow Velocity entering the landfill permit boundary

O1

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 8.83 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	8.8	0.0971	0.03	100.0	100.0	100.00	0.04	1.90

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O2

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 18.90 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	18.9	0.1039	0.03	100.0	100.0	100.00	0.07	2.58

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O3

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 9.90 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	9.9	0.0969	0.03	100.0	100.0	100.00	0.05	1.98

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

O4

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 24.14 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	24.1	0.0374	0.03	100.0	100.0	100.00	0.11	2.04

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

Flow Velocity exiting the landfill permit boundary

DP1

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 19.38 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	19.4	0.2420	0.03	1.4	1.4	0.00	1.01	13.51

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP2

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 22.95 cfs

Flow through the 24" Culvert

Storm Year	Flow Rate (cfs)	Culvert Slope (ft/ft)	Manning's n	Pipe Size	Tailwater (ft)	Headwater (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	23.0	0.0021	0.013	1 - 24" CMP	0.00	3.46	2.00	7.31

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

Q25 = 13.11 cfs

Flow over the Spillway

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	13.1	0.0050	0.013	0.0	0.0	4.75	0.57	4.83

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP3

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 6.87 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	6.9	0.0652	0.03	100.0	100.0	100.00	0.04	1.53

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP4

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 33.36 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	33.4	0.0327	0.03	100.0	100.0	100.00	0.13	2.19

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP5

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 12.14 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	12.1	0.0550	0.03	100.0	100.0	100.00	0.06	1.79

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

DP6

Flows were obtained from the Hydrologic Calculations included in Appendix IIIB-C for the offsite areas and are summarized below.

Q25 = 38.96 cfs

Storm Year	Flow Rate (cfs)	Bottom Slope (ft/ft)	Manning's n	Side Slope (left)	Side Slope (right)	Bottom Width (ft)	Normal Depth (ft)	Flow Vel. (fps)
25	39.0	0.0767	0.03	100.0	100.0	80.00	0.13	3.23

Note: Calculations were performed using the HYDROCALC HYDRAULICS for Windows program developed by Dodson and Associates (Version 2.01, 1996-2010)

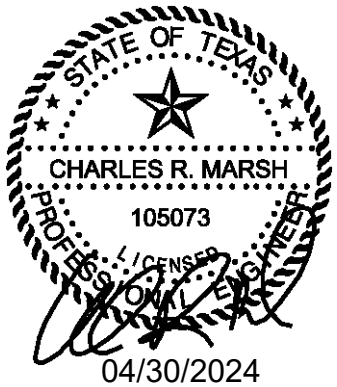
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TYPE V PERMIT APPLICATION

PART III
FACILITY DESIGN REPORT
APPENDIX IIIC
CLOSURE PLAN

Prepared for

The City of Copperas Cove

April 2024



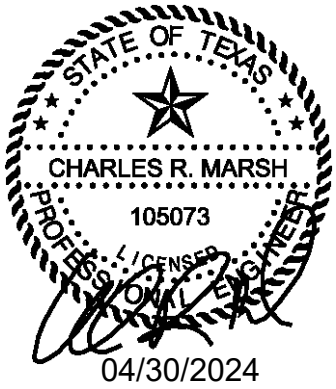
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



1 INTRODUCTION

This Closure Plan has been prepared for the City of Copperas Cove Transfer Station and is consistent with 30 TAC §330.63(h) and §330.459. Section 2 of this Closure Plan describes the steps necessary to close the facility at any point during its active life and Section 3 of this Closure Plan discusses post-closure land use of the site. Post-closure maintenance of the site is not required as all wastes and waste residues will be removed during closure in accordance with 30 TAC §330.459(a).

The City of Copperas Cove shall, unless specifically authorized by the commission, close the facility in accordance with the closure provisions of the permit.

2 CLOSURE REQUIREMENTS

2.1 Title 30 TAC §330.459 and 30 TAC §330.457 Closure Requirements

At the time of closure, the site will remove all waste, waste residues, and any recovered materials. The transfer station structure, pad, walls, and associated units will be decontaminated. All material on-site, whether in process or processed, will be evacuated to an authorized facility, and the tipping floors, processing areas, and post-processing areas will be disinfected by washing down with industrial cleaners. The operator shall then complete the closure activities for the unit in accordance with the approved plan with 180 days of initiation of closure activities.

2.2 Title 30 TAC §330.461 Certification of Final Facility Closure

No later than 90 days prior to the initiation of final closure, the site will, through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility, provide public notice for final facility closure. This notice will include the name, address, and physical location of the facility, the permit number, and the last day of intended receipt of materials for processing at the facility. The site will also make available an adequate number of copies of the approved Closure Plan for public review. The owner/operator will also provide written notification to the TCEQ of the intent to close the facility and place this Notice of Intent in the site operating record.

Initiation of closure activities for the facility will begin after the date on which the facility receives the known final receipt of waste to be processed.

The following steps will be taken:

- Notify the TCEQ of when closure will be initiated.
- Post a minimum of one sign at the main entrance and all other frequently used points of access for the facility notifying all persons who may utilize the facility of the date of closing for the facility and the prohibition against further receipt of waste materials after the stated date.

- Install suitable barriers to all gates or access points or alternatively, fence around the entire waste processing area, to adequately prevent the unauthorized dumping of solid waste at the closed facility.
- Remove waste, waste residues, contaminated water, and any recovered materials.
- Dismantle and remove or decontaminate facility units.
- Disinfect tipping floors, processing area, and post-processing areas.
- Wash transfer station tipping floors and any surfaces that have been in contact with waste.
- Perform facility inspection and prepare certification of closure. The certification shall be signed by an independent Texas licensed professional engineer, verifying that final facility closure has been completed in accordance with the approved closure plan. The submittal to the TCEQ Executive Director shall include all applicable documentation necessary for certification of final facility closure.
- If there is evidence of a release from the transfer station, the Executive Director may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct an impact to groundwater. If hazardous constituents are measured in groundwater, exceeding the limits prescribed in 30 TAC §330.409, a characterization of the groundwater constituents shall be prepared.

3 CERTIFICATION OF FINAL FACILITY CLOSURE

Following completion of all final closure activities for the transfer station, the City of Copperas Cove will submit within 10 days to the TCEQ Executive Director for review and approval a documented certification signed by an independent Texas licensed professional engineer, verifying that final closure has been completed in accordance with the approved Closure Plan and the applicable rule provisions of 30 TAC Chapter 330 Subchapter K. The submittal to the TCEQ Executive Director shall include all applicable documentation necessary for certification of final closure.

Following receipt of the required final closure documents, as applicable, the TCEQ regional office will conduct an inspection and provide a report verifying proper closure of the facility according to the approved Closure Plan before termination of operation and closure of the facility will be acknowledged and the facility deemed properly closed.

Since the facility does not require post-closure care, a request for voluntary revocation of the facility permit will be submitted to the executive director.

4 POSTCLOSURE LAND USE

All wastes and waste residues will be removed from the facility upon closure. At the time of closure, the TCEQ Executive Director will be provided with documentation of waste removal and a request will be made that there be no restrictions to the postclosure use of the facility related to its previous use as a municipal solid waste transfer station facility.

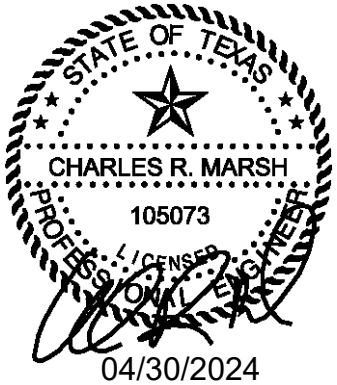
CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TYPE V PERMIT APPLICATION

PART III
SITE PLAN AND DESIGN CRITERIA
APPENDIX IIID
COST ESTIMATE FOR CLOSURE

Prepared for

The City of Copperas Cove

April 2024



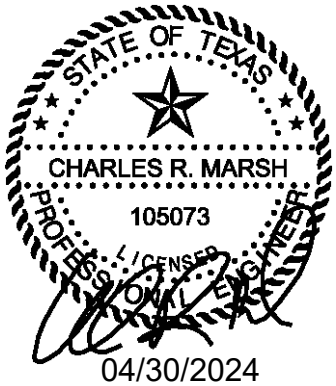
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

Project No. 5552-001-11-00

This document is issued for permitting purposes only.

CONTENTS



04/30/2024

1 INTRODUCTION

This Cost Estimate for closure of the City of Copperas Cove Transfer Station (TS) has been prepared consistent with Title 30 Texas Administrative Code (TAC) §330.63(j). Cost estimates for closure are required for any municipal solid waste facility permitted or registered by the TCEQ. In the event of forced closure, which occurs when a solid waste facility can no longer operate because of an inability to manage the incurred debts and liabilities of closure, operations will be assumed by the TCEQ. This cost estimate for closure has been prepared for the City of Copperas Cove TS and is consistent with Title 30 TAC §330.505.

2 CLOSURE COST ESTIMATE

At any point in its active life, the maximum amount of waste that may be temporarily stored onsite at the facility and any processed and unprocessed waste and materials onsite is 1,100 tons. A detailed estimate, in current dollars, of the cost of hiring a third party that is not affiliated with the owner or operator to close the facility at any time during the active life, when the extent and manner of the facility's operations would make closure most expensive, is provided. The cleanup and disposition costs for onsite waste material are based on a weight measurement as shown in Table 2-1. No dismantling of the concrete pad or other structures will be conducted at closure. No changes to the site elevations at closure will occur that will affect the final contour map.

The estimated closure cost based on the above considerations is $141,450 in 2024 dollars. A copy of the required documentation to demonstrate financial assurance shall be submitted within 60 days after the date of permit issuance or prior to the initial receipt of waste.

Table 2-1
City of Copperas Cove Transfer Station
Cost Estimate for Third Party Closure (in 2024 dollars)

Item	Description	Cost
A	State Administration of third party site closure	
1	Site survey and file review to determine closure activities	$1,500
2	Preparation of engineering plans	$1,500
3	Procurement of bids	$1,500
4	Contract award and administration of contract	$1,000
5	Installation of sign stating facility closure	$500
6	Buildings and site secured (locks and/or fencing, etc.)	$500
B	Contractor mobilization	$500
C	Sampling/testing/classification of waste (ash, liquids, sludge, other waste not readily identifiable as garbage, trash, refuse), to include lab reports, chain of custody, quality assurance and quality control.	$2,000
D	Disposal of waste (1,100 tons @ $65/ton) (approximate maximum storage capacity)*	
1	Cleanup/Removal of waste stored on site (1,100 tons @ $10.00/ton)	$11,000
2	Transport of waste by a properly authorized transporter (1,100 tons @ $10.00/ton)	$11,000
3	Treatment and/or disposal of waste at a properly authorized facility (1,100 tons @ $45.00/ton)	$49,500
E	Disposal of Recycled materials (1,100 tons @ $30/ton)	
1	Cleanup/Removal of recycled materials stored on site (1,100 tons @ $7.78/ton)	$8,560
2	Transport of recycled materials by a properly authorized transporter (1,100 tons @ $7.78/ton)	$8,560
3	Disposal of recycled materials at a properly authorized facility (1,100 tons @ $14.44/ton)	$15,880
F	General cleanup to include washdown and disinfection of facility (floors, walls, containment areas, processing areas) and removal, transport, treatment, and disposal of all wash down waters/media.	$1,500
G	Removal, treatment, and disposal of any contaminated soils, concrete, stormwater, or other contaminated materials on site.	$1,000
H	Cleanup and decommission (equipment should be rendered unusable) of process equipment/facility	$1,500
I	Vector control	$500
J	Inspection and certification of closure	$5,000
	Closure Subtotal	$123,000
	Contingency cost (15%)	$18,450
	Total	**$141,450**

* As noted in the Site Operating Plan, Section 8.10, the expected waste storage capacity is 1,100 tons for this facility.

3 COST ESTIMATE ADJUSTMENTS

During the active life of the facility, the City of Copperas Cove will establish and maintain financial assurance for closure in accordance with Title 30 TAC Chapter 37, Subchapter R.

An increase in the closure cost estimate and the amount of financial assurance provided must be made if changes to the facility conditions increase the maximum cost of closure. Under that scenario, request for an increase in the closure cost estimate and financial assurance will be submitted as a permit modification. The closure cost estimate will be evaluated annually to determine if an increase in the closure cost estimate is required based on the annual inflation adjustment factor.

A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure and the owner/operator has provided written notice to the Executive Director of the detailed justification for the reduction. A request for reduction in the closure cost estimate and financial assurance will be submitted as a permit modification request.

Continuous financial assurance coverage for closure must be provided until all requirements of the Closure Plan are completed and the facility is determined to be closed in writing by the Executive Director.

CITY OF COPPERAS COVE TRANSFER STATION
CORYELL COUNTY, TEXAS
TCEQ PERMIT NO. MSW-40145

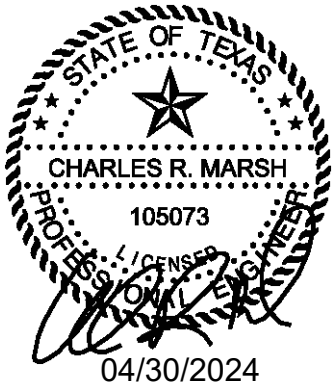
TYPE V PERMIT APPLICATION

PART IV
SITE OPERATING PLAN

Prepared for

The City of Copperas Cove

April 2024



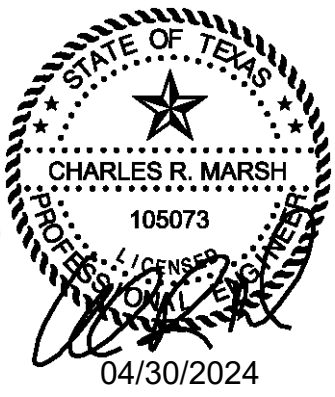
Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

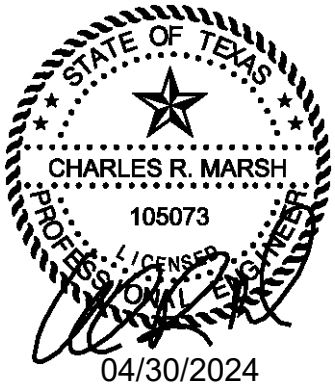
WCG Project No. 5552-001-11-00-05

This document is issued for permitting purposes only.

CONTENTS



CONTENTS (Continued)



1 INTRODUCTION

This section addresses §330.65 and §330.201. Additional specific regulatory cites addressed by each section of Part IV are listed in the heading.

This Site Operating Plan (SOP) has been prepared for the City of Copperas Cove Transfer Station (TS) and contains the information required by Title 30 Texas Administrative Code (TAC) §330.65 and 30 TAC Subchapter E. This SOP includes provisions for facility management and facility operating personnel to meet the general and facility-specific requirements included in Subchapter E: Operational Standards for Municipal Solid Waste Storage and Processing Units for the day-to-day operation of the facility. This SOP contains information about how the City of Copperas Cove TS will conduct operations at the facility but is not intended to be a comprehensive operating manual. The SOP represents the general instructions for facility management and personnel to operate the facility in a manner consistent with the approved design and the commission's rules to protect human health and the environment and prevent nuisances. This SOP will be retained onsite throughout the active life of the facility and until certification of closure.

2 WASTE ACCEPTANCE AND ANALYSIS (30 TAC §330.203 AND §330.205)

2.1 Properties and Characteristics of Waste (§330.203(a))

The transfer station may receive household waste, brush, yard waste, commercial solid waste, Class 2 and Class 3 industrial waste (nonhazardous), special waste, and construction-demolition waste. No industrial hazardous wastes or Class 1 industrial waste will be accepted at the facility. No special wastes other than those mentioned in the following section will be accepted at the facility. Small quantities of special wastes may inadvertently be received if they are unidentified and included as part of the mixed municipal waste stream. These wastes, if identified, will be separated and will not be accepted.

The City of Copperas Cove TS may receive waste from third party haulers and from any of the Central Texas Solid Waste System Member Cities (that currently consist of City of Copperas Cove, Killeen, Fort Hood, and Lampasas). This service area is based on economic conditions. As economic conditions and existing landfill disposal capacities change, the facility may accept waste from areas other than those identified above. Based on the type of wastes currently received and expected to be received, there are no constituents or characteristics that would impact or influence the design and operation of the facility.

Waste received at the site is transferred to a permitted landfill for disposal.

Special Wastes Received

- Used cooking oil (for recycling only);
- Whole used or scrap tires or tire pieces (for recycling only); and
- White goods.

Receipt of Special Wastes

Prohibited Wastes

The facility will not accept the following for disposal:

- Regulated Hazardous Waste other than from Conditionally Exempt Small Quantity Generators (CESQG). Municipal hazardous waste from a CESQG may be accepted provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- Polychlorinated Biphenyl (PCB) wastes, as defined under 40 Code of Federal Regulations, Part 761.
- Items containing chlorinated fluorocarbons (CFCs), such as refrigerators, freezers, and air conditioners, unless the generator or transporter provides written certification that the CFCs have been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. These appliances may be accepted without certification at the discretion of City of Copperas Cove staff and stored until removed from the facility by a third-party recycler who will engage a certified operator to properly remove the CFC's.
- Liquid waste which does not pass EPA Method 9095 Paint Filter Test unless it is bulk or non-containerized liquid waste that is:
    - household waste other than septic waste;
    - contained liquid waste and the container is a small container similar in size to that normally found in the household waste; or
    - in a container designated to hold liquids for use other than storage.
- Regulated Asbestos Containing Materials.
- Lead acid storage batteries.
- Do-it-yourself used motor oil.
- Used oil filters from internal combustion engines.
- Whole or used scrap tires (if not used for recycling).
- Radioactive materials.
- Associated hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes).
- Class 1 industrial nonhazardous waste.
- Untreated medical waste.
- Septic tank pumpings.

- Grease and grit trap wastes.
- Wastes from commercial or industrial wastewater treatment plants, air pollution control facilities, and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR, Part 261, Appendix VIIII but has not been listed as a commercial chemical product in 40 CFR, Section 261.33e or (f).
- Incinerator ash.
- Sludges.

Measures for Controlling Prohibited Wastes

Procedures to detect and control the receipt of prohibited wastes include:

- Informing facility customers of prohibited wastes by posting one or more signs at the facility entrance listing prohibited wastes.
- Observing all incoming loads.
- Facility personnel training and activities:
    - Training for appropriate facility personnel responsible for inspecting or observing incoming loads to recognize regulated hazardous waste and PCB waste;
    - Random hazardous waste inspections of incoming loads in accordance with procedures described in this section;
    - Maintaining records of all inspections;
    - Notification of the TCEQ Executive Director of any incident involving a regulated hazardous waste or a PCB waste; and
    - Remediation of any regulated hazardous waste or PCB waste discovered at the facility in accordance with §335.349.
- Vehicles containing suspicious loads will be inspected. Suspicious loads may include:
    - Drums or containers with warning labels; and
    - Loads which have visible emission, smoke, strong chemical odor, or cause physical symptoms (e.g., irritation of eyes, nose throat, skin, nausea, dizziness, or headache).

The inspector will not inspect any vehicle that appears to present possible physical danger. The TS Supervisor or his designee shall be contacted immediately if such a load enters the facility. The TS Supervisor or his designee shall determine when to conduct inspections of incoming loads. Such inspections shall be conducted in a manner that allows the inspector to view all contents of the waste load. However, there may be some situations where it is not feasible to view the entire contents of

the waste load (e.g., baled wastes). In these situations, the inspector shall make an effort to view as much of the load as possible and note on the inspection form that all material was not visible and state the reason why. Such inspections shall be conducted in an expeditious manner to minimize disruption to normal operations.

If the waste is not readily identifiable, hazardous, contains regulated levels of PCBs, or is deemed otherwise unacceptable by the inspector, the load will be rejected. The inspector will make an effort to determine whether the waste is acceptable for disposal by performing at least one of the following: 1) questioning the transporter about the origin of the waste; 2) contacting the generator; 3) reviewing paperwork (e.g., manifests, trip tickets, safety data sheets); or 4) using knowledge based on container packaging labels. If the load is acceptable, the inspector will then complete a Random Waste Screening Report, the driver will be allowed to proceed, and the waste moved to the tipping area.

If prohibited wastes are suspected or discovered, material will be isolated until it can be identified to determine the proper disposition or handling procedures. During this identification process, the generator or generator representative will be contacted to determine the origin and identity of the material. If the material is determined to be a regulated hazardous waste or contain regulated levels of PCBs, radioactive or other prohibited material, the TCEQ Region 9 office and any local pollution agency that has requested to be notified will be verbally notified of the incident and the planned disposition of the material. Proper disposition of the prohibited waste will be specific to that waste and will be implemented upon TCEQ concurrence. If the waste is prohibited or is unacceptable for disposal as determined by the facility personnel, the load will be rejected. The Supervisor or their designee will determine how to manage the unacceptable materials based on regulations, permit restrictions, and the City of Copperas Cove's policies and procedures for waste acceptance. Regulated hazardous wastes and regulated PCB wastes discovered during the inspection will be returned immediately to the transporter or generator. If the transporter or generator cannot be reached, the waste will be disposed of off-site at a permitted treatment, storage, or disposal facility.

Where the transporter or generator cannot be identified and the facility has received prohibited waste, the City of Copperas Cove or facility operator will be responsible for meeting applicable federal, state, and local regulations in the removal and proper disposal of the waste.

2.2 Volume and Rate of Transfer (§330.203(b) and §330.205(a) and (b))

The City of Copperas Cove TS serves the individuals and public and private collection vehicles from the service area. A maximum of 1,100 tons waste can be

stored on the tipping floor in an emergency. Under normal operations, the tipping floor will be cleared at the end of the work day and all waste will be loaded into the two trailers which are picked up within twenty four hours. This tonnage refers to the waste stored on the tipping floor and does not include recyclables. The maximum length of time MSW will remain within the TS building is 72 hours and the average length of time is 24 hours or less. Solid waste will not be stored overnight at the facility except for extenuating emergency situations such as inclement weather or mechanical breakdown.

The intended destination of the solid waste generated by the facility is a permitted MSW landfill. The destination of the liquids generated by the facility (e.g., washdown water) is to the City of Copperas Cove sanitary sewer system.

2.3 Facility-Generated Wastes (§330.205 (b), (c), (d), and §330.203(c)(2))

Wastes generated by the transfer station will be processed or disposed at an authorized solid waste management facility. The only solid wastes generated onsite are typical office wastes. It is not anticipated that any solid wastes will be generated at the facility that cannot be properly handled.

Wastewater generated by the transfer station from managing the waste, cleaning and washing, and bathroom facilities will be managed in accordance with §330.207, Contaminated Water Management. The intended destination of the liquid wastes generated by the facility is the City of Copperas Cove sanitary sewer system.

Sludges, grit or wastes from the grease traps will not be accepted by the transfer station.

3 CONTAMINATED WATER MANAGEMENT (30 TAC §330.207)

All liquids resulting from the operation of the transfer station, including tipping floor wash down water, water that has come in contact with waste, and sewage from toilets and sinks will be disposed of in a manner that will not cause surface water or groundwater pollution. Any water that contacts waste or is otherwise contaminated will be collected and disposed of into the City of Copperas Cove sanitary sewer system. Contaminated water will be captured and properly managed.

The facility does not process grease trap waste, grit trap waste, or septage; and is not a mobile liquid waste processing unit, or demonstration project for liquid waste processing.

Wastewater discharge to a treatment facility permitted under Texas Water Code, Chapter 26 will not:

1. interfere with or pass-through the treatment facility processes or operations
2. interfere with or pass-through its sludge processes, use, or disposal
3. otherwise be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source Pollution

The daily effluent design standard for oil and grease concentration leaving the facility and entering a public sewer system will not exceed the concentration established by the treatment facility permitted under Texas Water Code, Chapter 26, and National Pollutant Discharge Elimination System. This meets the requirements of Title 30 TAC §330.207(g). The oil/water separator and its effluent will be managed consistent with the facility's pretreatment permit.

In addition, the proposed facility will not require a wastewater discharge permit as the quantity of water discharged to the sanitary sewer system is less than the amount that is required to have a permit.

4 STORAGE REQUIREMENTS (30 TAC §330.209, §330.211 AND §330.213)

4.1 Solid Waste Storage (§330.209(a))

All solid waste will be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors and (except for white goods and tires) shall be contained within the tipping area. The tipping area is located inside the building and sized to contain the solid wastes delivered and transferred daily.

Except in emergencies, all solid waste will be removed from the tipping floor by the end of the workday and stored in covered trailers specifically designed for transporting solid waste until transported to the permitted disposal site by the hauler. Empty trailers being stored on site will be maintained in a clean condition so that they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. All material storage areas will be inspected weekly for ponding water and the harborage of vectors. Any ponded water will be promptly removed. Vectors will be discouraged by maintaining a clean and neat area, and by removal of items once sufficient quantities are accumulated to warrant off-site transport.

4.2 Approved Containers (§330.211)

Solid waste that is received containing food wastes will be placed in the transfer building. The receiving area and transfer trailers will be maintained in a clean condition so as to not constitute a nuisance and retards the harborage, feeding, and propagation of vectors.

No food waste will be stored outside the building.

The transfer trailers are designed to prevent spillage or leakage during storage, handling, or transport.

4.3 Self-Haul Area (§§330.209(b) and 330.213)

There is not a MSW citizen collection station proposed, therefore there are no separate container requirements. The recycling center and TS building have locations for self-haul vehicles to safely unload waste and recyclables for processing.

Citizens may deposit wastes inside the north side of the transfer station. Signs will guide them to an area to unload their waste. Rules will be posted outside the transfer station building for the citizens governing the use of the facility including who may use it, and what wastes are acceptable or not acceptable at the facility.

5 RECORDKEEPING AND REPORTING REQUIREMENTS (30 TAC §330.219)

5.1 Documents (§330.219(a) and (b))

A copy of the permit and the approved permit application will be maintained at the facility. In addition, a copy of the permit, the approved permit application, and all other related or required plans or documents will be maintained at the scale house or at the City of Copperas Cove Public Works office located at 1601 N. 1st Street, Copperas Cove, Texas and shall be considered a part of the site operating record of this facility. Consistent with Title 30 TAC §330.219(a), copies of documents that are part of the approved permitting process that are considered part of the operating record for the facility are listed below.

Upon completion of construction at the facility, an as-built set of construction plans and specifications and any other required plan or other related document will be maintained at the scalehouse or Public Works office. These documents will be made available for inspection by TCEQ representatives or other interested parties. These plans and documents are part of the facility operating record. All information contained within the operating record and the different required plans will be retained during the active life of the facility until after certification of closure. The following records will be kept, maintained, and filed as part of the facility operating record. Logbooks, schedules, and an electronic file document storage system may be used.

- Access Control Inspection and Maintenance
- Daily Litter Pickup
- Windblown Waste and Litter Control Operations
- Dust Nuisance Control Efforts
- Access Roadway Regrading
- Salvaged Material Storage Nuisance Control Efforts
- Special Waste Acceptance Plan Compliance, if applicable
- Class I Industrial Waste Acceptance Plan Compliance, if applicable
- Fire Occurrence Notices, if applicable
- Documentation of Compliance with Approved Odor Management Plan

	Records to be Maintained	Rule Citation
1.	All location restriction demonstrations	§330.219(b)(1)
2.	Inspection records and training procedures	§330.219(b)(2)
3.	Closure plans and any monitoring, testing, or analytical data relating to closure requirements	§330.219(b)(3)
4.	All cost estimates and financial assurance documentation relating to financial assurance for closure	§330.219(b)(4)
5.	Copies of all correspondence and responses relating to the operation of the facility, modifications to the permit/registration, approvals, and other matters pertaining to technical assistance	§330.219(b)(5)
6.	All documents, manifests, shipping documents, trip tickets, etc., involving special waste	§330.219(b)(6) and (8)
7.	Any other document(s) as specified by the approved permit/registration or by the executive director	§330.219(b)(7)
8.	Trip Tickets	§312.145, §330.219(b)(8)
9.	Alternative schedules and notification requirements if possible	§330.219(g)
10.	Records on a quarterly basis to document the relevant recycling percentage of incoming processed waste, quarterly solid waste summary reports and the annual solid waste summary reports by March 1st summarizing recycling activities and percent of recycled incoming waste for past calendar year	§330.219(b)(9)
11.	Inspection records and training procedures relating to fire prevention and facility safety	§330.221
12.	Access control breach and repair notices	§330.223
13.	Waste unloading/prohibited waste discovery	§330.225
14	Record of alternative operating hours if applicable	§330.229(b)

5.2 Report Signatories

The City of Copperas Cove TS will assign responsibility for the overall operations of the facility to the Public Works Director, Solid Waste Director or Transfer Station Manager, and this position, or someone in the chain of command above this position, will be the responsible signatory for any reports, information, or applications. If the authorization to sign is no longer accurate, a new authorization shall be submitted by this position. Any person signing a report shall make the certification in §305.44(b).

5.3 Notification (§330.219(e))

The City of Copperas Cove TS, in accordance with Title 30 TAC §330.219(e), will furnish the operating record to the Executive Director upon request and it will be made available at all reasonable times at the facility for inspection by the Executive Director.

5.4 Record Retention (§330.219(f))

In accordance with Title 30 TAC §330.219(f), the site will retain all information contained within the operating record of the facility and all plans required for the facility for the life of the facility.

5.5 Alternative Schedules (§330.219(g))

The Executive Director, in accordance with Title 30 TAC §330.219(g), may set alternative schedules for recordkeeping and notification requirements as specified in Title 30 TAC §330.219(a) – (e).

Burning is not permitted at the site. Fire extinguishers will be located throughout the transfer station building and the facility is equipped with a fire alarm system and a standpipe. There is an adequate supply of pressurized water to fight fires and the City of Copperas Cove Fire Department is available to assist with firefighting, if needed. Existing fire hydrants also serve the TS facility. All personnel will be trained annually in the contents and use of the following Fire Prevention Plan. The training will include the use and operation of onsite firefighting equipment.

6.1 Fire Prevention Plan

The following steps will be taken regularly by designated site personnel to prevent fires.

- Operators will be alert for signs of burning waste such as smoke, steam or heat being released from incoming waste loads.
- Equipment used to move waste will be routinely cleaned through the use of water or steam cleaners. The water or steam cleaning will remove combustible waste and caked material which can cause equipment overheating and increase fire potential.
- Smoking is only permitted in designated areas away from the waste management areas.

6.2 Specific Fire-Fighting Procedures

The following procedures will be followed in the event of a fire.

- Alert other facility personnel.
- Contact City of Copperas Cove Fire Department, as appropriate.
- If a fire occurs on a vehicle or piece of equipment, the operators will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, solid wastes, and other vehicles. The vehicle will be directed to park on a paved area at least 40 feet from any building. The engine will be shut off and the brake engaged to prevent movement of the vehicle. Fire extinguishers will be used to extinguish fire if possible, without risk to operators.

- Assess extent of fire, possibility to spread, and alternatives for extinguishing the fire.
- Do not attempt to fight a fire alone.
- Do not attempt to fight a fire without adequate personal protective equipment.
- Be familiar with the use and limitation of the firefighting equipment.
- If a fire is on the tipping floor, the burning area will be isolated and pushed away from the other waste quickly. The burning area will be sprayed with water from the large wash down hoses or, if small enough, extinguished with a hand-held fire extinguisher.
- If burning waste materials are discovered after having been delivered to the site, the vehicle will be directed to an area away from buildings. Then the waste will be discharged and the fire extinguished. Upon extinguishing the fire, the waste will be immediately moved to the TS.
- Use the fire extinguishers located within each building, located on the piece of equipment or the vehicle, or the hose to extinguish a fire, as appropriate.
- If it appears that the fire can be safely fought with available firefighting devices until the Fire Department arrives, attempt to contain or extinguish the fire. When using a fire extinguisher, stand up-wind from the fire, pull the pin, and aim the hose or nozzle toward the base of the fire.

Upon arrival of the Fire Department personnel, direct them to the fire and provide assistance, if requested by Fire Department personnel.

If a fire occurs in a recyclable material storage area, site personnel will redirect incoming loads away from the affected area. Firefighting methods include separating burning material from other waste and/or spraying with water from a water hose. A small fire may be controlled with a hand-held extinguisher. Upon extinguishing the fire, the storage area will remain closed while the area is inspected to verify the fire is completely extinguished. Inspection of the fire area will be conducted by the TS Manager or designee.

6.3 Fire Protection Training

- All facility personnel will be trained on fire extinguisher use and capabilities.
- All facility personnel will be trained on the general rules for firefighting and the contents of this Fire Protection Plan. Fire Protection training will be provided to all on-site personnel on an annual basis and records of the training will be placed in the facility operating record.

6.4 Notice Requirement

In the event of a fire which cannot be extinguished within 10 minutes of discovery, the TCEQ shall be notified according to the following:

- Contact the TCEQ regional office by phone within 4 hours of discovery.
- Notify the TCEQ regional office in writing within 14 days of the fire.

7 OPERATIONAL PROCEDURES (30 TAC §330.223 THROUGH §330.249)

7.1 Access Control (§330.223)

Public access to the facility will be limited to the gated facility entrance. The site staff controls access and monitors vehicles entering and exiting the site. The site will be fenced to prevent unauthorized public access.

7.1.1 Facility Security

Public access will be controlled to minimize unauthorized vehicular traffic, unauthorized and illegal dumping, and public exposure to hazards associated with waste management. Access to Copperas Cove TS will be via the existing gated entrance road extending off FM 116 and two proposed driveways off of Commerce Street, as shown in the Site Development Plan. This entrance will only be used by employees, visitors, and city-owned waste hauling trucks. Two new driveways are proposed to be constructed off of Commerce Street as a part of this project. The entire site is secured with a chain link fence. A checkpoint is located at the Scale House which will be manned at all times that the facility is open. The gate across the entrance road will be closed and locked to prevent unauthorized access when the transfer station is not open. Vehicular access to the site at points other than the entry gate will be prevented. Transfer station traffic will not be allowed to stand or park on FM 116 and Commerce Street.

7.1.2 Traffic Control

Public access roads to the Transfer Station are paved, all-weather roads. All interior roads are paved with asphalt to avoid dust problems and separate unloading areas are provide for the public and commercial vehicles for safety. Only vehicles authorized by the manager, personnel vehicles, and authorized haul vehicles will have access beyond the facility entrance. Signage will provide direction to customers and the public to the public entrances of the facility. Additional signage within the facility will provide direction to public unloading areas.

Vehicles transporting solid waste arriving at the facility will be directed to an unloading area by an on-site personnel or signage. Operations will be conducted in a manner that allows the prompt and efficient unloading of waste.

The facility will comply with the following schedule and notification requirements for any access breach:

Requirements	Access Breach Repaired within 8 Hours	Access Breach Not Permanently Repaired in 8 Hours
Notify region office of breach and repair schedule	Not required	Within 24 hours
Make temporary repairs	Not required	Within 24 hours
Make permanent repairs	Within 24 hours	Within schedule submitted to regional office in initial notice
Notify regional office when permanent repair completed	Not required	Within schedule submitted to regional office in initial notice

7.2 Unloading of Waste (§330.225)

7.2.1 Waste and Recyclable Unloading Procedures

(1) Incoming waste collection traffic will be directed to the tipping areas of the transfer station by the scale attendant once the incoming vehicle weight has been recorded. The scale attendant will inform the customer that the waste is only to be unloaded in the area where the customer is directed to unload by site operating personnel. Signs directing traffic from the Scale House to the Transfer Building will be located as needed along the route to the Transfer Building. Equipment operators and other personnel will be on duty during operating hours to direct traffic to the tipping area.

(2) Unloading of waste in unauthorized areas will be prohibited. Any waste which is identified as having been deposited in an unauthorized area will be immediately moved to the tipping area. A trained employee will be present at the entrance at all times during operating hours to monitor all the incoming loads of waste and will direct traffic to the appropriate unloading area.

(3) Prohibited waste will not be allowed to enter the site. The scale attendant will be the first point of contact with the hauler. The hauler will be asked to inform the scale attendant of the content of the load. The scale attendant will visually inspect open containers to verify contents. The personnel will also have basic understanding of both industrial and hazardous waste and their transportation and management requirements. In the event prohibited waste are identified in the load, the entire load will be turned away from the gate and not be allowed entrance to the transfer station. The facility is not required to accept any solid waste that may cause problems in maintaining full an continuous compliance with the permit/registration.

(4) This transfer station is authorized to accept municipal solid waste. Class 2 and 3 waste may be accepted at the facility provided the wastes are properly

identified and provided the acceptance of such waste does not interfere with site operation.

(5) All haulers must provide documentation in accordance with TCEQ regulations ensuring non-allowable materials are eliminated from their waste streams and including identification and classification of all special wastes prior to disposal. This classification requires the generator to state the characteristics, origin, and estimated quantity of the special waste proposed for disposal. In addition, the generator must provide any other pertinent information regarding the waste that might aid in its identification. In some instances, as determined by the landfill owner, this information may entail sampling and analysis of a certified representative sample. Any hauler which cannot provide the necessary documentation and certification shall be refused entry to the site.

(6) Certain wastes are prohibited from management at the facility. Prohibited wastes are described in Waste Acceptance and Analysis section of this plan. The unloading of prohibited wastes at the facility will not be allowed. The operator will take necessary steps to ensure compliance. Personnel have the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter, and/or assess appropriate surcharges, or have the unauthorized material removed by on-site personnel and otherwise properly managed by the facility. Any prohibited waste not discovered until after unloading will be placed back in the offending transporters vehicle, if possible, or otherwise returned promptly to the transporter or generator of the waste. The driver may be advised where the waste may be managed or disposed of legally and will be responsible for the proper handling of this rejected waste.

(7) In the event the unauthorized waste is not discovered until after the delivery vehicle is gone, the waste will be segregated and controlled as necessary. The manager/supervisor will make an effort to identify the entity that deposited the prohibited waste and have them return to the facility and properly dispose of the waste. In the event that identification is not possible, the manager/supervisor will notify the TCEQ and seek guidance on how to remove and dispose of the waste as soon as practical. A record of unauthorized material removal will be maintained in the operating record.

(8) Only those persons operating vehicles that comply with the following requirements will be authorized by the manager/supervisor to transport waste to and from this facility:

- All vehicles and equipment used for the collection and transportation of waste will be operated and maintained to prevent loss of waste material and to limit health and safety of hazards to facility personnel and the public.

- Collection vehicles and equipment will be maintained in a sanitary condition to preclude odors and fly breeding.

- Collection vehicles not equipped with an enclosed transport body will use other devices such as nets or tarpaulins to preclude accidental spillage.

(9) Facility personnel will keep vigilant watch for compliance with operating requirements. Signs with directional arrows and/or portable traffic barricades will help to restrict traffic to designated unloading locations. In addition, rules for waste receipt and prohibited waste will be prominently displayed on signs at the facility entrance.

7.3 Spill Prevention and Control (§330.227)

All waste will be handled inside the transfer station. Washwater or leachate from waste in the building will be collected and discharged to the sanitary sewer system using drains inside the building. Any spills will be contained within the building, analyzed as appropriate, and properly handled.

7.4 Operating Hours (§330.229)

The transfer station will be open to waste acceptance nine (9) hours a day, five (5) days a week from 8:00 am to 5:00 pm. Site operations, such as cleaning the tipping floor, completion of truck loading and housekeeping may be performed outside of normal waste acceptance hours. Hours for operation of heavy equipment on-site and trucks transporting materials off-site will be 5:00 am to 9:00 pm.

When warranted, the facility manager/supervisor will request approval from the commission's regional office to allow additional temporary operating hours to address disaster or other emergency situations, or other unforeseen circumstances (such as traffic delays or adverse weather) that could result in the disruption of waste management services in the area. The facility manager/supervisor will document the reason or reasons for the delay for each day on which a delay occurs and place the documentation in the operating record.

The transfer station may be opened the second Saturday in March, fourth Saturday in April, third Saturday in June, last Saturday in September, third Saturday in November between 8:00 am to 12:00 pm. The public will be officially notified of these City-Wide Clean Up Days by a posting on the City's website.

In addition to the waste acceptance and operating hours, other non-waste management activities including administrative and maintenance activities may occur twenty-four hours per day, seven days per week.

7.5 Facility Sign (§330.231)

A conspicuous sign measuring a minimum of 4 feet by 4 feet will be maintained at the entrance to the facility. The sign will state, in letters at least 3 inches high, the name of the facility, type of facility, hours and days of operation, and the TCEQ permit number. The sign will be visible and readable from the facility entrance.

This sign or a second visible and readable sign will also list all prohibited waste at the facility. Some site-specific examples can be industrial, solid waste, hazardous waste, or PCB items, whenever the operator has decided not to accept. Additional signs regarding site rules, such as speed limits and directions to the unloading areas will be posted as appropriate.

Signs designating smoking area(s) will be posted near the scale house. A sign will be prominently displayed at the facility entrance stating that all loads shall be enclosed, covered, or secured unless the load cannot blow or spill over the top of the load-carrying compartment.

7.6 Control of Windblown Material and Litter (§330.233)

All transfer of municipal solid waste will occur inside the TS Building and will be protected from the wind. A perimeter fence surrounding the site will capture any incidental windblown trash. Litter along this fence line, along access roads, or surrounding the TS Building will be collected at least daily. Collection vehicles will be completely enclosed or covered as they enter and exit the site and transfer vehicles will be completely enclosed or covered before leaving the transfer facility to minimize windblown trash.

7.7 Materials Along the Route to the Facility (§330.235)

All incoming waste collection vehicles to the TS facility with open topped containers will be required to have a tarp, net, or other means to properly secure the load in order to prevent the escape of any part of the load by blowing or spilling. These requirements will be communicated through actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges, or similar measures. The Copperas Cove TS accepts the responsibility for cleanup of waste materials spilled along and within the right-of-way of the public access road serving the site for a distance of two miles in either direction from the existing transfer station entrance of FM 116 and two proposed driveways off of Commerce Street at least once per day. The responsibility for waste material cleanup shall be within the public rights-of-way of FM 116 and Commerce Street on either side of the site entrances.

7.8 Facility Access Roads (§330.223(b) and §330.237)

Site personnel will remove mud and trash from the paved onsite roads and access roads to minimize the tracking of mud and trash onto public roadways. The access roads will be paved and maintained on a regular basis to minimize depressions, ruts, and potholes. Litter onsite will be picked up daily when the facility is in operation and the waste will be taken to the transfer station building. Dust from onsite and the access road will not become a nuisance to surrounding areas as dust is controlled by using paved roads rather than dirt or gravel roads. A water source and necessary equipment, or other means of dust control approved by the TCEQ Executive Director, will be provided.

7.9 Noise Pollution and Visual Screening (§330.239)

The nearest residence to the site is approximately 24 feet east of the permit boundary and approximately 500 feet from the TS building. To minimize noise resulting from the operations of the transfer station, operations will primarily be conducted within the building. In addition, existing vegetation will assist in minimizing the noise and to provide visual screening to minimize adverse visual impacts.

7.10 Overloading and Breakdown (§330.241)

In the event that the facility is inoperable for a period of 24 hours or more, the operator will have incoming solid waste redirected to another appropriate disposal or transfer facility and remove any accumulated waste from the site.

Solid waste will not be allowed to accumulate in quantities that cannot be handled in such a time to preclude the creation of odors, insect breeding, or harborage of vectors. If such an accumulation occurs, no additional solid waste will be received and arriving vehicles will be directed to other processing or disposal sites.

The maximum daily receipt of waste at the transfer station will not be exceeded during operation. The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating emergency circumstances such as inclement weather or mechanical breakdown.

In the event of equipment repairs or during equipment maintenance periods, the facility may obtain equipment from other facilities, contractors, or local rental companies to avoid interruption of waste services or divert waste directly to a permitted landfill.

7.11 Sanitation (§330.243)

All building working surfaces that come in contact with waste will be washed at least weekly at the completion of the processing period (end of the workday). Water used to wash down the Transfer Station will be collected in drains and discharged through an oil-water separator, as shown on Figure I/II-4.4 and then into the sanitary sewer to prevent the creation of odors or an attraction to vectors. Surface drainage will be controlled through a combination of grading and piping systems to prevent surface water contact with waste or contaminated water. Any water that comes in contact with waste or contaminated water will be collected and disposed of in the sanitary sewer system. The site is graded to prevent stormwater from discharging into the sanitary sewer system and contaminated water from discharging into stormwater. No washing of vehicles will occur within the permit boundary without control of runoff and routing drainage to the sanitary sewer.

7.12 Ventilation and Air Pollution Control (§330.245)

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act. No liquid or solid wastes are stored outside of the building. The building provides odor containment for solid wastes. Any ponded water at the facility will be removed to avoid becoming a nuisance.

The facility will maintain authorization, under 30 TAC Chapter 116 (relating to Control of Air Pollution By Permits for New Construction or Modifications) or 30 TAC 330 Subchapter U (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations), as applicable. No constructed air pollution abatement devices are proposed.

To control odors, routine tipping, sorting, and transfer operations will be confined within the building. The facility will be operated to provide adequate ventilation for employee safety.

If any air pollution, capture, and abatement equipment is utilized, it will be properly maintained and operated during the facility operation to adequately maintain its efficiency. The following measures will be employed to assist in air pollution/odor control:

- Buffer zones onsite;
- Odor mister system (if necessary);
- Covering transfer trailers;
- No liquid wastes accepted;
- Operations confined to within a building;
- Special procedures for odorous loads as described in Part III 2.2.3;

- Cleaning all working surfaces that come in contact with waste weekly as described in Part IV 7.11; and
- The maximum and average lengths of time that solid waste will remain at the facility are 72 hours and 24 hours, respectively. Solid waste will not be stored overnight at the facility except for extenuating circumstances such as inclement weather or mechanical breakdown.
- The detention pond is not designed to retain water. If ponded water is discovered, the water will be controlled to avoid it becoming a nuisance.

Reporting of emission events will be made in accordance with Title 30 TAC §101.210 and Title 30 TAC §101.211

7.13 Health and Safety (§330.247)

Facility personnel will be trained in the facility's health and safety plan, as revised periodically. Records of that training will be maintained in the facility operating record. The transfer station manager will enforce safety rules and policies and promptly investigate and report all accidents. Operators will wear protective gear such as hard hats and dust mask when appropriate. Fire extinguishers will be available at all times. The Transfer Building is equipped with a fire water standpipe.

7.14 Employee Sanitation Facilities (§330.249)

Potable water and sanitary facilities will be provided for use by employees and visitors. These will be located convenient to the scale house. Potable water is also available at hydrants and hose connections located throughout the site. Portable sanitary facilities may also be utilized around the site, as needed.