Parts I and II Application for Municipal Solid Waste Facility WST Landfill

Reeves County, Texas

Prepared for
Operator: West Sun Tex, LLC
Application No.: 2431
Revision: 2

Prepared by

DBS&A
a Geo-Logic Company

Texas Registered Engineering Firm F-286
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DB20.1166



July 2026

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Table of Contents

Parts I and II Application

Attachment I/II-1: Part I Form and Part I Form I/II-1
Part I Application Form I/II-3
Part II Application Form I/II-21
Attachment I/II-2: Supplemental Technical Report I/II-39
Attachment I/II-3: Legal Property Descriptions I/II-91
Attachment I/II-4: Land Ownership Information I/II-97
Attachment I/II-5: Relevant Maps I/II-103
Attachment I/II-6: Documentation I/II-121
Attachment I/II-7: Plain Language Summary Form I/II-133
Attachment I/II-8: Public Involvement Plan Form I/II-139
Attachment I/II-9: Waste Acceptance Plan Form I/II-145
Attachment I/II-10: Transportation and Airport Safety Plan Form I/II-155
Appendix I/II-10-A: Transportation Technical Memorandum I/II-171
Attachment I/II-11: Environmental and Archaeological Assessments I/II-277
TRC Archaeological Survey I/II-279
Archaeological Survey Correspondence I/II-339
Biological Evaluation I/II-377
Biological Evaluation Correspondence I/II-505
Phase I Environmental Site Assessment I/II-551
Delineation of Waters of the United States and Endangered Species Report I/II-663
U.S. Army Corps of Engineers Correspondence I/II-691
Attachment I/II-12: Seismic Information I/II-711

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Attachment I/II-1

Parts I and II Forms

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a Geo-Logic Company

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Part I Application Form

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Texas Commission on Environmental Quality

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

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 Core Data Forms for the operator and property owner if different from the facility owner. If you have questions, contact the Municipal Solid Waste (MSW) Permits Section by email to mswper@tceq.texas.gov, or by phone at 512-239-2335. Rules cited on this form are in Title 30 Texas Administrative Code (30 TAC) and may be viewed online at www.tceq.texas.gov/goto/view-30tac.

Application Tracking Information

Facility Regulated Entity Name[3]:
WST Landfill

Site Operator (Permittee or Registrant Name)[4]:
West Sun Tex, LLC

MSW Authorization Number: 2431

Initial Submission Date: March 2026

Revision Date: July 2026

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
[3] Facility Regulated Entity Name must match the Regulated Entity Name indicated on the TCEQ Core Data Form.
[4] Site Operator is defined in 30 TAC 330.3(148) as the holder of, or the applicant for, an authorization (or license) for a municipal solid waste facility.

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, Permit Amendments, Limited Scope Major Amendments, and all Registrations

Payment Method

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

Enter ePay Trace Number: 582EA000721937

☐ Check (send to TCEQ Financial Administration Division)

Payor Name: _____ Check Number: _____

5. Electronic Versions of Application

TCEQ will publish electronic versions of applications online. Applicants are required to submit complete clean (unmarked) copies of their applications in electronic format once they are administratively complete and technically complete. Additionally, applicants must provide electronic copies of responses to notices of deficiencies for publishing online. (Refer to instructions for this form for how to submit electronically.)

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

☐ Applicant ☐ Agent in Service ☒ Consultant

Contact Name: Gundar Peterson, P.E.

Title: President

Email Address: gpeterson@geo-logic.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: Reeves County Public Library

Physical Address: 315 S. Oak St.

City: Pecos County: Reeves State: TX Zip Code: 79772

Phone Number: (432) 755-0914

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
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. General Information About the Facility

Facility Regulated Entity Name:
WST Landfill

Contact Name: Tariq Mussani Title: Manager

MSW Authorization Number (if existing): _____

Regulated Entity Reference Number: **RN** 111301834

Physical or Street Address (if available): None

City: _____ County: Reeves State: TX Zip Code: 79772

Phone Number: (575) 605-6716

Latitude (decimal degrees, six decimal places): 31.432389 N

Longitude (decimal degrees, six decimal places): 103.585417 W

Elevation (above mean sea level): 2659.30 feet (benchmark elevation for landfills)

Description of facility location with respect to known or easily identifiable landmarks:

Facility is located at the intersection of County Roads 408 and 415, approximately 5 miles northwest of Pecos, Texas

Access routes from the nearest United States or state highway to the facility:

From Pecos, Texas, the access route is to travel west-southwest on Interstate Highway 20 Business, turn northwest on CR 408 and continue for approximately 1.5 miles, turn left on CR 411 and then immediately right onto CR 408, and continue to the facility entrance road.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ■ No

13. Facility Types

Facility types are described in 30 TAC 330.5(a).

Indicate facility type (select all that apply):

■ 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.

- [x] Landfill Unit(s)
- [ ] Container(s)
- [ ] Incinerator(s)
- [x] Roll-off Boxes
- [x] Class 1 Landfill Unit(s)
- [x] Surface Impoundment
- [ ] Process Tank(s)
- [ ] Autoclave(s)
- [x] Storage Tank(s)
- [ ] Refrigeration Unit(s)
- [ ] Tipping Floor
- [ ] Mobile Processing Unit(s)
- [x] 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.

New facility will be an MSW landfill. The proposed facility will accept solid waste resulting from municipal commercial, institutional, and recreational activities. The facility will have a citizens' collection station, which will have containers for accepting MSW, white goods, and used tires. It will also have a leachate and contaminated water evaporation pond.

17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: West Sun Tex, LLC

Customer Reference Number: **CN** 605915081

Contact Name: Tariq Mussani Title: Manager

Mailing Address: 600 N Carroll Avenue, Suite 100

City: Southlake County: Tarrant State: TX Zip Code: 76092

Phone Number: (575) 605-6716

Email Address: Andy@Wambsganss.com

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: _____

Consultant (if applicable)

Firm Name: Daniel B. Stephens & Associates, Inc.

Consultant Name: Gundar Peterson, P.E.

Texas Board of Professional Engineers Firm Registration Number: 103091

Contact Name: Gundar Peterson, P.E. Title: President

Mailing Address: 6501 Americas Parkway NE, Suite 200

City: Albuquerque County: Bernalillo State: NM Zip Code: 87110

Phone Number: (505) 822-9400

Email Address: gpeterson@geo-logic.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. Facility Ownership

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 the other owner, and include a Core Data Form for the other owner. Attach supplemental sheet if more than one other owner.

Other Owner Name: _____

What is Owned: ☐ Facility Units ☐ Property

☐ Other (describe): _____

Mailing Address: _____

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

Phone Number: _____

Email Address: _____

20. Other Government Entities Information

Texas Department of Transportation

District: 6

District Engineer's Name: Eric Lykins, P.E.

Mailing Address: 3901 E. Highway 80

City: Odessa County: Ector State: TX Zip Code: 79761

Phone Number: (432) 498-4697

Email Address: Eric.Lykins@txdot.gov

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: Reeves County Road and Bridge Dept.

Contact Person's Name: Gary Rumbaugh (R&B Administrator)

Mailing Address: 31 County Road 201/ P.O. Box 111

City: Pecos County: Reeves State: TX Zip Code: 79772

Phone Number: (432) 755-1147

Email Address: grumbaugh@reevescounty.org

City Mayor Information

City Mayor's Name: Teresa Winkles
Mailing Address: 115 W 3rd St
City: Pecos County: Reeves State: TX Zip Code: 79772
Phone Number: 432-445-2421
Email Address: twinklescc@pecostx.gov

City Health Authority

Authority Name: Texas Department of State Health Servic
Contact Person's Name: Art Alvarado, R.S., M.P.H.
Contact Person's Title: Deputy Regional Director
Mailing Address: 401 East Franklin Ave, Suite 210, Mail Code 1903
City: El Paso County: El Paso State: TX Zip Code: 79901
Phone Number: (915) 834-7675
Email Address: art.alvarado@dshs.texas.gov

County Judge Information

County Judge's Name: Leo Hung
Mailing Address: 100 East Fourth Street, Suit 104A
City: Pecos County: Reeves State: TX Zip Code: 79772
Phone Number: (432) 287-0222, ext. 5
Email Address: lhung@reevescounty.org

County Health Authority

Agency Name: Texas Department of State Health Servic
Contact Person's Name: Art Alvarado, R.S., M.P.H.
Contact Person's Title: Deputy Regional Director
Mailing Address: 401 East Franklin Ave, Suite 210, Mail Code 1903
City: El Paso County: El Paso State: TX Zip Code: 79901
Phone Number: (915) 834-7675
Email Address: art.alvarado@dshs.texas.gov

State Representative Information

House District Number: 74
State Representative's Name: Eddie Morales
District Office Mailing Address: 1915 Veterans Blvd
City: Del Rio County: Val Verde State: TX Zip Code: 78840
Phone Number: (512) 463-0566
Email Address: district74.morales@house.texas.gov

State Senator Information

District Number: 29

State Senator's Name: César Blanco

District Office Mailing Address: 416 N. Stanton Street, Suite 700

City: El Paso County: El Paso State: TX Zip Code: 79901

Phone Number: (915) 577-0029

Email Address: Cesar.Blanco@senate.texas.gov

Council of Governments (COG)

COG Name: Permian Basin Regional Planning Commission (PBRPC)

COG Representative's Name: Virginia Belew

COG Representative's Title: Executive Director

Mailing Address: P.O. Box 60660

City: Midland County: Midland State: TX Zip Code: 79711

Phone Number: (432) 563-1061

Email Address: virginia.belew@pbrpc.org

River Basin Authority

Authority Name: GMA3/ Reeves County Groundwater Conservation District

Contact Person's Name: Greg Perrin, General Manager

Watershed Sub-Basin Name: Rio Grande Basin

Mailing Address: 119 South Cedar St.

City: Pecos County: Pecos State: TX Zip Code: 79772

Phone Number: (432) 445-9961

Email Address: info@reevescountygcd.org

Local Drainage or Flood Management Authority

Authority Name: Not applicable - Reeves County does not participate in NFIP

Contact Person's Name: _____

Mailing Address: _____

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

Phone Number: _____

Email Address: _____

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

☐ Fort Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: Not applicable

Within Extraterritorial Jurisdiction of: Not applicable

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 as an attachment.

Applicant Signature Page

Site Operator (Permittee or Registrant Name) 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: Arif Mussani Title: Manager

Email Address: Andy@Wambsganss.com

Signature: _____ Date: JULY 22, 2026

Authorization by Facility Owner for Operator to Submit Application

To be completed by the facility owner if the application is submitted by an operator who is not the facility owner.

I am the owner of the facility that is the subject of this application, and authorize the operator, _____ to submit this application pursuant to 30 TAC 305.43(c).

Name: _____ Title: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said ARIF MUSSANI

On this 22ND day of JULY, 2026.

My commission expires on the 16TH day of September, 2024

_____

Notary Public in and for

TARRANT COUNTY, TEXAS (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

ANDREW WAMBSGANSS NOTARY PUBLIC STATE OF TEXAS ID 5839122 EXP. 09-26-2026

Property Owner Affidavit

Property Owner Affidavit for Landfill Facility

I acknowledge in accordance with 30 TAC 330.59(d)(2) that the State of Texas may hold me either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of the facility. For a facility where waste will remain after closure, I acknowledge that I have a responsibility to file with the county deed records an affidavit to the public advising that the land will be used for a solid waste facility prior to the time that the facility actually begins operating as a municipal solid waste landfill facility, and to file a final recording upon completion of disposal operations and closure of the landfill units according to 30 TAC 330.19 (relating to Deed Recordation). I further acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period for the purpose of inspection and maintenance.

Name: Tariq Mussani

Email Address: Andy@Wambsganss.com

Signature: T. Mussa. Date: 4.15.26

Property Owner Affidavit for Processing Facility

I acknowledge in accordance with 30 TAC 330.59(d)(2) that the State of Texas may hold me either jointly or severally responsible for the operation, maintenance, and closure of the facility. I further acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period for the purpose of inspection and maintenance.

Name: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said TARRIQ MUSSANI

On this 15TH day of APRIL, 2026.

My commission expires on the 26TH day of SEPTEMBER, 2026.

_____

Notary Public in and for

TARRANT County, TEXAS (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

ANDREW WAMBSGANSS NOTARY PUBLIC STATE OF TEXAS ID. 5839122 EXP. 09-26-2026

Part I Attachments

Refer to instruction document TCEQ 00650-instr[5] for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Supplementary Technical Report [30 TAC 305.45(a)(8)]	Attachment I/II-2
Property Legal Description [30 TAC 330.59(d)(1)]	Attachments I/II-2 & -3
Property Metes and Bounds Description [30 TAC 330.59(d)(1)]	Attachments I/II-2 & -3
Facility Legal Description [30 TAC 330.59(d)(1)]	Attachments I/II-2 & -3
Facility Metes and Bounds Description [30 TAC 330.59(d)(1)]	Attachments I/II-2 & -3
Metes and Bounds Drawings [30 TAC 330.59(d)(1)]	Attachment I/II-3
On-Site Easements Drawing [30 TAC 330.61(c)(10)]	Attachment I/II-3
Land Ownership Map [30 TAC 330.59(c)(3)]	Attachment I/II-4
Landowners List [30 TAC 330.59(c)(3)]	Attachment I/II-4
Mailing Labels (in electronic file, in Avery 5160 format; see instructions) [30 TAC 281.5(7)]	Attachment I/II-4
General Location Maps [30 TAC 330.59(c)(2)]	Attachment I/II-5
Texas Department of Transportation (TxDOT) County Map [30 TAC 330.59(c)(2)]	Attachment I/II-5
General Topographic Maps [30 TAC 330.61(e)]	Attachment I/II-5
Verification of Legal Status / Legal Authority (certificate of incorporation) [30 TAC 281.5 and 330.59(e)]	Attachment I/II-6
Evidence of Competency [30 TAC 330.59(f)]	Att. I/II-2, Sec. 7
Signatory Authority Documentation [30 TAC 305.44 and 330.59(g)]	Attachment I/II-6
TCEQ Core Data Form(s) TCEQ-10400[6] [30 TAC 281.5(7)]	Concurrent Submittal

[5] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf
[6] www.tceq.texas.gov/permitting/central_registry/guidance.html

Attachments Table 2. Additional attachments as applicable.

Additional Attachments (select all that apply and add others as needed)	Attachment Number
☒ Plain Language Summary Form TCEQ-20947[7] [30 TAC 39.405(k)]	Attachment I/II-7
☒ Public Involvement Plan Form TCEQ-20960[8]	Attachment I/II-8
☒ Fee Payment Receipt	Attachment I/II-6
☐ Confidential Documents	N/A
☐ Waste Storage, Processing and Disposal Ordinances [Texas Health and Safety Code, Section 363.112[9]]	N/A
☐ Final Plat Record of Property Description [30 TAC 330.59(d)(1)(B)]	N/A
Other (describe):	
Other (describe):	
Other (describe):	

[7] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20947-instr.pdf
[8] www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/pip-form-tceq-20960.pdf www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/instructions-for-pip-form-tceq-20960.pdf
[9] statutes.capitol.texas.gov/Docs/HS/htm/HS.363.htm#363.112

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Part II Application Form

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Texas Commission on Environmental Quality
Part II Application Form for New Permit or Permit Amendment for a Municipal Solid Waste Landfill Facility

I. Application Information

1. Facility Name: WST Landfill
2. Permittee Name: West Sun Tex, LLC
3. MSW Authorization #: 2431
4. Initial Submittal Date: March 2026

II. Existing Conditions Summary - 30 TAC §330.61(a)

Provide information to address any site-specific conditions that require special design considerations and possible mitigation of conditions as follows.

1. Provide a summary describing the existing conditions at the site and within the areas surrounding the site, which may include discussions of any additional land-use, environmental, or special issues related to the facility.

WST Landfill is located on a parcel of land that was permitted for an oil and gas waste facility in April 2016 by the Railroad Commission of Texas (RRC). No portion of WST Landfill will be constructed on areas of the property that have been developed through authorization of this RRC permit. The land has been used for agricultural production, but has been out of cultivation for over 20 years. Land use around the site includes undisturbed land, agricultural use, some rural residential, oil and gas facilities, trucking companies, and laydown yards.

2. Provide brief descriptions of all site-specific conditions at the facility that require special design considerations.

There are no site-specific conditions that require special design considerations.

3. Indicate that reports of site-specific conditions that require special design considerations and mitigation of such conditions are provided under Sections VIII – XVI below with regard to (a) facility impacts on surrounding areas; (b)transportation; (c) general geology and soils; (d) groundwater and surface water; (e) existing and abandoned oil and water wells; (f) floodplains and wetlands; (g) endangered or threatened species impacts; and (h) compliance with the Texas Natural Resources Code, Chapter 191 (Texas Antiquities Code).

Reports of site-specific conditions that require special design considerations and mitigation of such conditions are provided in Sections VIII through XVI of this form and are described in more detail in attachments to the Part I/II application.

III. Waste Acceptance Plan - 30 TAC §330.61(b)

1. ☑ If this application is for a Type I or Type IAE MSW landfill facility, attach completed Form No. TCEQ-20873. Attachment No.: Attachment I/II-9
2. ☐ If this application is for a Type IV or Type IVAE MSW landfill facility, attach completed Form No. TCEQ-20890. Attachment No.:

IV. General Location Maps - 30 TAC §330.61(c)

Provide General Location Maps that accurately show the features listed below. Provide all General Location Maps in a single attachment and include the drawing number in the space provided. Include notes on each map, as needed, to describe information pertaining to the map.

1. The prevailing wind direction with a wind rose. Figure I/II-5-2
2. All known water wells within 500 feet of the proposed permit boundary with the state well numbering system designation for Water Development Board "located wells."

Figure I/II-5-8

3. All structures and inhabitable buildings within 500 feet of the proposed facility.

Figure I/II-5-7

4. (i) Schools, (ii) licensed day-care facilities, (iii) churches, (iv) hospitals, (v) cemeteries, (vi) ponds, (vii) lakes, and (viii) residential, (ix) commercial, and (x) recreational areas within one mile of the facility. Figure I/II-5-7
5. The location and surface type of all roads within one mile of the facility that will normally be used by the owner or operator for entering or leaving the facility. Figure I/II-5-7
6. Latitudes and longitudes. Figure I/II-5-11
7. Area streams. Figure I/II-5-5
8. Airports within six miles of the facility. Figure I/II-5-2
9. The property boundary of the facility. Figure I/II-5-11
10. (i) Drainage, (ii) pipeline, and (iii) utility easements within or adjacent to the facility.

Figure I/II-5-6

11. (i) Facility access control features. Figure I/II-5-11
12. (i) Archaeological sites, (ii) historical sites, and (iii) sites with exceptional aesthetic qualities adjacent to the facility. N/A

V. Facility Layout Maps - 30 TAC §330.61(d)

Provide the Facility Layout Map(s) as a single attachment, and include drawing number(s) in the space provided. Include notes on each map, as needed, to describe information on the map.

Provide a map or set of maps of the facility layout showing:

1. The outline of the units; Drawing C-1 (Appendix III-4-A)
2. General locations of main interior facility roadways; Drawing C-1 (Appendix III-4-A)
3. Locations of monitor wells; Drawing C-1 (Appendix III-4-A)
4. Locations of buildings; Drawing C-1 (Appendix III-4-A)

5. Any other graphic representations or marginal explanatory notes necessary to communicate the proposed construction sequence; Attachment III-4
6. Fencing; Drawing C-1 (Appendix III-4-A)
7. Provisions for the maintenance of any natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the facility and, where appropriate, plans for screening the facility from public view; N/A
8. All site entrance roads from public access roads; Drawing C-1 (Appendix III-4-A)
9. General locations of main interior facility roadways that can be used to provide access to fill areas; Drawing C-1 (Appendix III-4-A)
10. Sectors with appropriate notations to communicate the types of wastes to be disposed of in individual sectors; Drawing C-1 (Appendix III-4-A)
11. The general sequence of filling operations; Attachment III-4
12. Sequence of excavations and filling; Attachment III-4
13. Dimensions of cells or trenches; Drawing C-12 (Appendix III-4-A) and
14. Maximum waste elevations and final cover. Drawings C-14, C-15 (Appendix III-4-A)

VI. General Topographic Maps - 30 TAC §330.61(e)

1. Provide general topographic map(s) consisting of United States Geological Survey 7 ½-minute quadrangle sheets or equivalent for the facility.
   Map No(s). Figure I/II-5-3
2. At least one of the general topographic maps provided is at a scale of one-inch equals 2,000 feet.
   ☑ Yes

VII. Aerial Photograph - 30 TAC §330.61(f)

Provide an aerial photograph approximately 9” x 9” with a scale within a range of one-inch equals 1,667 feet to one-inch equals 3,334 feet and showing the area within at least one-mile radius of the site boundaries. Mark the site boundaries and fill areas on the aerial photograph(s). A series of aerial photographs can be used to show growth trends.
Attachment No.(s): Figure I/II-5-11

VIII. Land-Use Map - 30 TAC §330.61(g)

Provide a constructed map of the facility showing the following land-use features (list the map number(s) in the space provided):

1. The boundary of the facility; Figure I/II-5-6
2. Existing zoning on or surrounding the property ; N/A
3. Actual uses (e.g., agricultural, industrial, residential, etc.) both within the facility and within one mile of the facility. Figure I/II-5-6
4. Drainage, pipeline, and utility easements within the facility; Figure I/II-5-6
5. Access roads serving the facility; Figure I/II-5-2

6. Check the following facilities if they are within one mile of the facility boundary and indicate on map. Figure I/II-5-7

   (a) ☑ residences;

   (b) ☑ commercial establishments;

   (c) ☐ schools;

   (d) ☐ licensed day-care facilities;

   (e) ☐ churches;

   (f) ☐ cemeteries;

   (g) ☑ ponds or lakes; and

   (h) ☐ recreational areas.

IX. Impact on Surrounding Area - 30 TAC §330.61(h)

Address the facility's impacts on cities, communities, groups of property owners, or individuals and describe mitigation of conditions as required. Attach additional pages as necessary. If a land use compatibility analysis report prepared by a qualified professional is provided, indicate the location within the application. Attachment No.:

1. **Impacts to Surrounding Areas:**
   (a) Provide information regarding the likely impacts of the facility on cities, communities, groups of property owners, or individuals by analyzing the compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest; and

Populations in Pecos, Texas are projected to grow in the coming years; WST Landfill is likely to support the community and its projected growth trends. The landfill shall have final cover with a shallow slope as to not undesirably impact the aesthetics of the surrounding landscape. No adverse affects to the community, human health, or the environment are anticipated.

   (b) Describe any special design considerations and possible mitigation of potential impacts, as necessary.

No site-specific conditions require special landfill design considerations or mitigation.

Published Zoning Map: If available, provide a published zoning map for the facility and within two miles of the facility for the county or counties in which the facility is or will be located.

N/A

2. **Special or Nonconforming Use Permit:**

   (a) Does the site require approval as a nonconforming use or a special permit from the local government having jurisdiction? ☐ Yes ☑ No

   (b) If yes, provide a copy of such approval. Attachment No.:

3. **Character of Surrounding Land Use:** Describe the character of the surrounding land uses within one mile of the proposed facility.

Land use around WST Landfill is primarily for agriculture, oil and gas development, trucking, industrial yards, rural residences, and undeveloped land.

4. **Growth Trends and Directions of Major Development:**
(a) Provide information about growth trends within five miles of the facility.

The town of Pecos is approximately 5 miles from the site. Pecos is expected to see growth in the coming years due to increases in employment from continuing oil and gas production in the Permian Basin. The town has displayed recent investment in its small businesses, hotels, education infrastructure, and entertainment venues. Growth trends are detailed further in Section 17.2 of Attachment I/II-2.

(b) Describe the directions of major development.

Aerial photographs from 2005 to 2025 display growth and major development extending outward from Pecos in all directions.

5. **Number of and Proximity to Residences and Other Uses:** Indicate the approximate number and proximity of residences and other uses within one mile of the facility as follows. Population density and proximity to residences and other uses may be considered in the assessment.

(a) Number of, distance, and directions to residences:

At least 30 residences are within 1 mile of the facility (shown on Figure I-II-5-7)

(i) Indicate the distance to the nearest residences: 150 feet

(ii) Provide directions to the nearest residences:

One north of the site on the other side of CR 415, and one east of the facility

(b) Number of, distance, and directions to commercial establishments:

At least 31 commercial establishments are within 1 mile of the facility (shown on Figure I-II-5-7)

(i) Indicate the distance to the nearest commercial establishments: 600 feet

(ii) Provide directions to the nearest commercial establishments:

Select Energy Services is northeast of the permit boundary's northeast corner

(c) Number of, distance, and directions to schools:
None

(d) Number of, distance, and directions to churches:
None

(e) Number of, distance, and directions to cemeteries:
None

(f) Number of, distance, and directions to historic structures and sites:
None

(g) Number of, distance, and directions to archaeologically significant sites:

None

(h) Number of, distance, and directions to sites having exceptional aesthetic quality:

None

6. **Known Wells**. Provide information and discussion of all known wells within 500 ft. of the proposed facility. Provide the well information using Table VIII-1 below. If site has more than 5 wells within the radius, include wells information as an attachment.

There are at least 6 wells within 500 feet of the facility; discussed in Section 17.5 of Attachment I/II-2

Table IX-1. Well Information

Wells Within 500 ft. Radius of the Proposed Facility							
Well Locator	Well ID No.	Depth (ft.)	Completion Date	Completion Formation	Well Use	Longitude	Latitude

X. Transportation and Airport Safety - 30 TAC §330.61(i) and §330.545

1. **Transportation:** Attach completed Transportation Data and Coordination Report Form for Municipal Solid Waste Type I Landfills, TCEQ-20719. Attachment No.: Attachment I/II-10
2. **Airport Safety:**

(a) Is the facility located, or will be located, within 10,000 feet of any airport runway end used by turbojet aircraft? ☐ Yes ☑ No

(b) Is the facility located, or will be located, within 5,000 feet of any airport runway end used by only piston-type aircraft? ☐ Yes ☑ No

(i) If the answer is "Yes" to either (a) or (b) above, indicate the distance of the facility from the nearest airport runway end used by only turbojet aircraft: feet or piston-type aircraft: feet; and

(ii) Provide required demonstration to show that the municipal solid waste facility units are or will be designed and operated so as not to pose a bird hazard to aircraft.
Section 18.2 of Attachment I/II-2

(c) Is the facility located, or will be located, within a six-mile radius of any small general service airport runway end used by turbojet or piston-type aircraft? ☑ Yes ☐ No

(d) Is the facility located, or will be located, within a five-mile radius of any large general public airport runway end used by turbojet or piston-type aircraft? ☐ Yes ☑ No

(i) If the answer to either of subsection (c) or (d) above is "Yes," has the applicant notified the affected airport as required?
☑ Yes ☐No. Explain: See Attachment I/II-10

(ii) Also, has the applicant notified the Federal Aviation Administration as required?
☑ Yes ☐No. Explain: See Attachment I/II-10

(iii) Provide copies of the notifications to the affected airport and to FAA.
See Attachment I/II-10

(iv) All landfill facilities within a six-mile radius of any small general service airport runway or within a five-mile radius of any large general public commercial airport runway shall be critically evaluated to determine if an incompatibility exists. Include any coordination received from the affected airport and from the FAA concerning compatibility.
No incompatibility identified (see Attachment I/II-10)

(e) Will the subject landfill accept waste streams that include putrescible waste?
☑ Yes ☐ No.

(i) If the answer to subsection (e) is "Yes," address the potential for the facility to attract birds and cause significant hazards to low-flying aircraft. Guidelines regarding location of landfills near airports can be found in Federal Aviation Administration Order 5200.5(A), January 31, 1990 (or the replacement active orders, notices, and advisory circular guidelines from the FAA can be used). Section 18.2 of Attachment I/II-2

XI. General Geology and Soils Statement and Location Restrictions - 30 TAC §330.61(j) and §§ 330.555 - 330.559

1. Discuss in general terms the geology and soils of the proposed site.

Based on field explorations, the site's subsurface is mostly composed of interbedded gravel, silt, sand, and clay, with mixtures of each present in various locations. No evidence of geologic or geomorphologic features that would cause unstable areas to exist in the site soils were found. See Section 19 of Attachment I/II-2 and Attachment III-5 for more detail.

2. Fault Areas

(a) Will the municipal solid waste landfill units at the facility or a lateral expansion of the facility be located within 200 feet of a fault that has had displacement in Holocene time?
☐Yes ☑No
If the answer is "Yes," provide demonstration to show that an alternative setback distance of less than 200 feet will prevent damage to the structural integrity of the landfill unit and will be protective of human health and the environment. Attachment No.:

(b) Is the facility located within areas that may be subject to differential subsidence or active geological faulting? ☐Yes ☑No
If the answer is "Yes," provide a detailed fault study. Attachment No.:

(c) Is an active fault known to exist within 1/2 mile of the site? ☐Yes ☑No
If the answer is "Yes," investigate the site for unknown faults and discuss its results. Attachment No.:

(d) Is the facility located in areas experiencing withdrawal of crude oil, natural gas, sulfur, etc., or significant amounts of groundwater? ☐Yes ☑No
If the answer is "Yes," investigate the site in detail for the possibility of differential subsidence or faulting that could adversely affect the integrity of landfill liners and discuss the site investigation and its results. Attachment No.:

(e) If conducted, were the studies of differential subsidence or faulting conducted under the direct supervision of a licensed professional engineer experienced in geotechnical engineering or a licensed professional geoscientist qualified to evaluate conditions of differential subsidence or faulting? ☐Yes ☑No. Explain
N/A

(f) If conducted, do the studies of differential subsidence or faulting establish the limits (both upthrown and downthrown) of the zones of influence of all active faulted areas within the site vicinity? ☐Yes ☐No. Explain N/A

(g) If conducted, do the studies of differential subsidence include information or data addressing the following shown below, as applicable:

Table XI-1. Information included in Fault Area Studies

Information to be included, as applicable:	Yes	Not Applicable
(i) structural damage to constructed facilities (roadways, railways, and buildings);	☐	☑
(ii) scarps in natural ground;	☐	☑
(iii) presence of surface depressions (sag ponds and ponded water);	☐	☑
(iv) lineation's noted on aerial maps and topographic sheets;	☐	☑
(v) structural control of natural streams;	☐	☑
(vi) vegetation changes;	☐	☑
(vii) crude oil and natural gas accumulations;	☐	☑
(viii) electrical spontaneous potential and resistivity logs (correlation of subsurface strata to check for stratigraphic offsets);	☐	☑
(ix) earth electrical resistivity surveys (indications of anomalies that may represent fault planes);	☐	☑
(x) open cell excavations (visual examinations to detect changes in subsoil texturing and/or weathering indicating stratigraphic offsets);	☐	☑
(xi) changes in elevations of established benchmarks; and	☐	☑
(xii) references to published geological literature pertaining to area conditions.	☐	☑

(h) If the site is or will be located within a zone of influence of active geological faulting or differential subsidence, does the application provide substantial evidence that the zone of influence will not affect the site?
☐Yes ☑No Attachment No.: Attachment III-5

Address the following statement:

3. ☑ No solid waste disposal shall be accomplished within a zone of influence of active geological faulting or differential subsidence because active faulting results in slippage along failure planes, thus creating preferred seepage paths for liquids.

4. Seismic Impact Zones

(a) Is the proposed facility located in a seismic impact zone, as defined in 30 TAC §330.557?
☐Yes ☑No
Provide information to support response. Attachment No.: Attachment I/II-12

(b) For facilities located in a seismic impact zone, provide a detailed demonstration showing that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. Attachment No.: N/A

5. Unstable Areas

(a) Is the facility located in an unstable area, as defined in 30 TAC §330.559?
☐Yes ☑No Explain: Section 19.5 of Attachment I/II-2

(b) If the facility is located in an unstable area, provide a demonstration that engineering measures have been incorporated into the landfill unit's design to ensure that the integrity of the structural components of the landfill unit will not be disrupted.
Attachment No.:
The demonstration considered at least the following factors:

(i) on-site or local soil conditions that may result in significant differential settling;
☐Yes ☐No

(ii) on-site or local geologic or geomorphologic features; ☐Yes ☐No and

(iii) on-site or local human-made features or events (both surface and subsurface).
☐Yes ☐No

XII. Groundwater and Surface Water - 30 TAC §330.61(k) and §330.549

1. Groundwater

Provide an attachment containing data about the site-specific groundwater conditions at and near the site, from published and open-file sources, including:

- Aquifer names and their association with geologic units described in the General Geology and Soils Statement;
- Groundwater quality, including, if available, typical values or value ranges for total dissolved solids content; and
- Present use(s) of groundwater withdrawn from aquifers at and near the site, if available.

Attachment No.: Attachment III-5

Address the following as applicable:

(a) Is the facility located over the Edwards Aquifer recharge zone, as defined in 30 TAC §330.549? ☐Yes ☑No.
If yes, discuss how the facility will comply with the applicable requirements in 30 TAC Chapter 213 (relating to Edwards Aquifer).

(b) A Type I or Type IAE landfill is prohibited on the recharge zone of the Edwards Aquifer; the applicant will not locate a Type I or Type IAE landfill on the recharge zone of the Edwards Aquifer. Select either statement that applies:

☑ (i) The facility is not or will not be located over the Edwards Aquifer Recharge Zone.

☐ (ii) The facility is not a Type I or Type IAE landfill.

(c) A new landfill cell or an aerial expansion of an existing landfill cell managing Class 1 non-hazardous industrial solid waste may not be located in areas described in 30 TAC § 335.584(b)(1) and (2) (relating to Location Restrictions), unless the Executive Director (ED) approves an engineered design that the applicant has demonstrated will provide equal or greater protection to human health and the environment:

(i) Does the application propose Class 1 nonhazardous industrial solid waste cells or units at the subject facility? ☑Yes ☐No

(ii) If yes, discuss how the facility would comply with the location restriction requirements under 30 TAC §335.584(b)(1) and (2). Include any applicable equivalency demonstration that would provide equivalent or greater protection to human health and the environment. Attachment No.: Attachment III-4

2. Surface Water

(a) Provide data on surface water at and near the site (including lakes, ponds, creeks, streams, rivers, or similar water bodies).

Attachment Nos.: Section 20.2 of Attachment I/II-2

(b) Provide information demonstrating how the municipal solid waste facility will comply with applicable Texas Pollutant Discharge Elimination System (TPDES) storm water permitting requirements and the Clean Water Act, §402, as amended Section 20.3 of Att. I/II-2

(i) The facility has obtained TPDES permit coverage under the following individual wastewater permit(s) (list permit number(s)): N/A . A copy of the permit(s) is provided in Attachment No.: N/A , or

(ii) A certification statement indicating that the applicant will obtain the appropriate TPDES permit coverage when required.
☑Yes ☐No. Explain Section 20.3 of Attachment I/II-2

XIII. Abandoned Oil and Water Wells - 30 TAC §330.61(l)

1. Water Wells

(a) Are there any existing or abandoned water wells within the facility? ☐Yes ☑No

(i) If no, move to Item No. 2 below.

(ii) If yes, address the following:

(1) Provide a map showing the water well locations, identity, status, and use. Attachment No.: Figure I-II-5-8

(2) Will all the water wells be capped, plugged, and closed prior to construction at the facility? ☐Yes ☑No.

(3) If yes, provide written certification that all such wells will be capped, plugged, and closed in accordance with all applicable rules and regulations of TCEQ or other state agency within 30 days prior to construction at the facility. Attachment No.:

(4) If no, identify and describe the water wells that will be capped, plugged, and closed in accordance with all applicable rules and regulations of TCEQ or other state agency. Attachment No.: N/A

(5) Also, identify the wells necessary for use, and that will remain in use, for supply for operations at the facility. Attachment No.: N/A

(6) Are the water wells that will remain in use for supply for operations at the facility located outside of the groundwater monitoring well network and not subject to impact from landfill operations? ☑Yes ☐No. If no, explain Supply well located on the edge of the network; outside permit boundary and the area subject to impact

(7) The water wells that will remain in use for supply for operations at the facility and that are located inside of the groundwater monitoring network, but outside the landfill unit boundary, are identified in Attachment No.: N/A for ED approval.

2. Oil and Gas Wells

(a) Are there any existing or abandoned on-site crude oil, natural gas, or other wells associated with mineral recovery under the jurisdiction of the Railroad Commission of Texas?
☐Yes ☑No

(i) If yes, address the following items:

(1) Provide a map showing well locations, identity, type, and status.
Attachment No.:

(2) Identify and annotate the oil or natural gas wells that are producing and will remain in their current state, provided such wells do not affect or hamper landfill operations.

(3) Provide written certification that all the oil and natural gas wells, other than the producing wells approved for retention, have been properly capped, plugged, and closed at the time of application in accordance with all applicable rules and regulations of the Railroad Commission of Texas.
Attachment No.:

XIV. Floodplains - 30 TAC §330.61(m)(1) and §330.547

1. Describe the location of the facility with respect to floodplains.

This area has not been mapped by FEMA. TWDB state-wide floodplain modeling indicates low-lying areas on-site that hold runoff from the site. This water will be managed as described in Attachment III-3.

2. Provide a copy of the Federal Emergency Management Administration (FEMA) flood map for the area to show the facility boundary and to illustrate the information described in Section 1 above. Attachment No.: Figure I/II-5-4; shows this area is not mapped
3. For construction of levees or other improvements associated with flood control on the proposed facility, provide data on floodplains in accordance with 30 TAC Chapter 301 Subchapter C (relating to Approval of Levees and Other Improvements). N/A - Attachment III-3
4. Address the following requirements with regard to the location of the facility:

(a) Provisions to ensure that no solid waste disposal operation is conducted within the facility in areas that are located in a 100-year floodway as defined by FEMA.

N/A; discussed in Attachment III-3

(b) Designs that demonstrate that municipal solid waste management units, including storage and processing facilities, located in 100-year floodplains will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

N/A - discussed in Attachment III-3

(c) Demonstrate MSW storage and processing facilities shall be located outside of the 100-year floodplain unless the owner or operator demonstrates that the facility is designed and will operate to prevent washout during a 100-year storm event, or obtains a conditional letter of map amendment from FEMA. N/A - discussed in Attachment III-3

(d) If applicable, provide a copy of the conditional letter of map amendment (or other applicable FEMA approval) from the FEMA administrator for development within a floodplain.

N/A

(e) References to provisions, designs, and narratives regarding floodplains in Part III of the application. Attachment III-3

XV. Wetlands - 30 TAC §330.61(m)(2) and §330.553

1. Provide a wetlands determination under applicable federal, state, and local laws and discuss wetlands in accordance with 30 TAC §330.553. Demonstration can be made by providing evidence that the facility has a Corps of Engineers permit for the use of any wetlands area. Attachment No.: Attachment I/II-11

   (a) If applicable, provide a copy of any Corps of Engineers permit issued to the applicant for the use of any wetlands area within the facility. Attachment No.: N/A

2. Identify wetlands located within the facility boundary, attach necessary maps and drawings.

   No wetlands - Section 3.7 of Attachment I/II-2 and Attachment I/II-11

3. Where new municipal solid waste landfill units, lateral expansions, material recovery operations from a landfill, and storage or processing units are to be located in wetlands, discuss the identified wetlands considering the following:

   (a) Locating the landfill units, lateral expansions, material recovery operation from a landfill, and storage or processing units away from the identified wetlands. N/A

   (b) Steps taken to avoid impacts to wetlands to the maximum extent practicable to achieve no net loss of wetlands (as defined by acreage and function).

   N/A

   (c) For unavoidable impacts:

      (i) Clearly rebut the presumption that a practicable alternative to the proposed facility or recovery operation is available that does not involve wetlands.

      N/A

      (ii) Demonstrate that the construction and operation of the municipal solid waste landfill unit, material recovery operation from a landfill, and storage or processing units will not:

         (1) cause or contribute to violations of any applicable state water quality standard;

         Attachment I/II-11

         (2) violate any applicable toxic effluent standard or prohibition under the Clean Water

         Attachment I/II-11

         (3) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; or

         Attachment I/II-11

         (4) violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

         N/A

(iii) Demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors showing that the municipal solid waste landfill unit or recovery operation will not cause or contribute to significant degradation of wetlands:
N/A

(1) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit; N/A

(2) erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit; N/A

(3) the volume and chemical nature of the waste managed in the landfill unit; N/A

(4) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste; N/A

(5) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and N/A

(6) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected. N/A

(iv) Demonstrate steps taken to minimize unavoidable impacts to wetlands to the maximum extent practicable. N/A

(v) Demonstrate offsetting of remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands). N/A

XVI. Endangered or Threatened Species - 30 TAC §330.61(n) and §330.551

1. Provide Endangered Species Act compliance demonstrations as required under applicable state and federal laws. Attachment No.: Attachment I/II-11
2. Determine and discuss whether the facility is in the range of endangered or threatened species.
   12 species are identified by the USFWS IPaC report to be federally threatened or endangered species having the potential to preside in habitats near the project site.
3. If the facility is located in the range of endangered or threatened species, provide a biological assessment prepared by a qualified biologist in accordance with standard procedures of the United States Fish and Wildlife Service (USFW) and the Texas Parks and Wildlife Department (TPWD) to determine the effect of the facility on the endangered or threatened species. Where a previous biological assessment has been made for another project in the general vicinity, a copy of that assessment may be submitted for evaluation. Attachment No.: Att I/II-11
4. Provide coordination correspondence with and responses from the USFW and the TPWD concerning locations and specific data relating to endangered and threatened species in Texas.
   Attachment I/II-11

5. Describe how the facility will comply with recommendations from the TPWD and USFW regarding protection of endangered and threatened species.

WST Landfill will train personnel on identification of protected species, avoid the removal of native vegetation where feasible, perform wildlife surveys prior to construction activities, erect wildlife exclusion fencing, and follow other measures as described in Section 19 of Part IV.

6. Discuss the impact of the solid waste disposal facility upon endangered or threatened species:

If endangered or threatened species are encountered, WST Landfill will consult a qualified biologist to relocate the animals at the minimum distance possible, no greater than 1 mile, and ideally within 100 to 200 yards of the initial encounter. Otherwise, no impacts are anticipated.

7. Describe how the facility design, construction, and operation 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 any endangered or threatened species.

There is no designated or proposed critical habitat in the project area. WST Landfill will not allow the catching, killing, injuring, pursuance, or possession of any threatened or endangered species. Personnel will follow a no-kill policy to avoid harming animals of any protection status.

XVII. Texas Historical Commission Review 30 TAC §330.61(o)

1. Provide correspondence to and a review letter from the Texas Historical Commission documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code.
   Attachment No.: Attachment I/II-11

XVIII. Council of Governments 30 TAC §330.61(p)

1. Provide documentation that Parts I and II of the application were submitted to the applicable council of governments for compliance with regional solid waste plans. Also provide a review letter if received from the applicable council of governments.
   Attachment No.: Attachment I/II-2
2. Provide documentation that a review letter was requested from any local governments as appropriate for compliance with local solid waste plans.
   Attachment No.: Local government (Reeves County) does not have soild waste plans or regulations.

XIX. Easement Protections 30 TAC §330.543(a)

1. Will the applicant design and operate the facility such that no solid waste unloading, storage, disposal, or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the facility? ☑Yes
2. Will the applicant design and operate the facility such that no solid waste disposal shall occur within 25 feet of the center line of any utility line or pipeline easement but no closer than the easement? ☑Yes
3. Will the applicant clearly mark all pipeline and utility easements with posts that extend at least six feet above ground level, spaced at intervals no greater than 300 feet?
   ☑Yes

XX. Buffer Zones 30 TAC §330.543(b)

1. Provide the buffer zone distance (i.e. 50 feet for Arid Exempt and Type IV landfills, 125 feet for Type I landfills) at the facility to demonstrate compliance with 30 TAC §330.543(b).

≥125 feet

2. Provide references for the application drawings and maps that clearly show the buffer zones around the facility. Attachment(s) No.: Drawing C-1 (Appendix III-4-A)

XXI. Coastal Areas 30 TAC §330.561

1. A new landfill cell or an aerial expansion of an existing landfill cell managing Class 1 industrial solid waste (other than waste which is Class 1 because of asbestos content) may not be located in areas:

   (a) On a barrier island or peninsula.

   (b) Within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, except as allowed under 30 TAC §335.584(b)(4).

   (c) Within 5,000 feet of coastal shorelines that are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, except as allowed under 30 TAC §335.584(b)(4).

2. Describe the location of the facility with regard to distance to coastal shoreline subject to active shoreline erosion.

N/A - Facility is not located near a coastline.

XXII. Type I and Type IV Landfill Permit Issuance Prohibited – 30 TAC §330.563

Address the following statements.

1. The commission may not issue a permit for a Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.122, Denial of Certain Landfill Permits. Is the proposed facility a Type IV landfill located in the area subject to the referenced statute?
   ☐Yes ☑No Explain WST Landfill is a Type I Landfill

2. The commission may not issue a permit for a Type I or Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.123, Limitation on Locations of Municipal Solid Waste Landfills. Is the proposed facility a Type I or Type IV landfill located in the area subject to the referenced statute?
   ☐Yes ☑ No Explain Section 4 of Attachment III-1

Attachments

Table Att-1. Required Attachments

Attachments	Attachment No.
Existing Conditions Summary	Att I/II-2
Waste Acceptance Plan Form	Att I/II-9
General Location Maps	Att I/II-5
Facility Layout Maps	Appx III-4-A
General Topographic Maps	Att I/II-5
Aerial Photographs	Att I/II-5
Land Use Map	Att I/II-5
Transportation and Airport Safety Form	Att I/II-10
Federal Aviation Administration Coordination Letters, if applicable	Att I/II-10
Entity Exercising Maintenance Resp. of Public Roadway, if applicable	Att I/II-2
Fault Lines, if applicable	Att I/II-5
Seismic Impact Zones, if applicable	Att I/II-12
Unstable areas, if applicable	Appx III-4-E
Site Specific Groundwater Conditions	Att III-5
Site Specific Surface Water Conditions	Att I/II-2
Texas Pollutant Discharge Elimination System (TPDES)	Att I/II-2
Abandoned Oil and Water Wells, if applicable	N/A
FEMA Map	Att I/II-5
Facility Design Demonstration for Flood Map, or Conditional Letter of Map Amendment from FEMA, if applicable	Att III-3
Wetland Documentation, if applicable	Att I/II-11
Endangered or Threatened Species Documents, if applicable	Att I/II-11
Texas Historical Commission Letter(s)	Att I/II-11
Council of Governments/Local Governments Review Request Coordination Letter(s)	Att I/II-11
Buffer Zones	Att III-1
Others (describe):	
Others (describe):	
Others (describe):	
Confidential Documents, if applicable	

Attachment I/II-2

Supplementary Technical Report

DBS&A
a Geo-Logic Company

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Supplemental Technical Report
WST Landfill
Reeves County, Texas

Prepared for
West Sun Tex, LLC

Prepared by

DBS&A
a Geo-Logic Company

Texas Registered Engineering Firm F-286
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DB20.1166



July 2026

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Table of Contents

1. Introduction 1

2. General Information [30 TAC 330.59(a)] 2
   2.1 Project Overview 2

3. Facility Location [30 TAC 330.59(b)] 3
   3.1 Location Description 3
   3.2 Facility Access 3
   3.3 Geographic Coordinates 3

4. Maps [30 TAC 330.59(c)] 4
   4.1 General Location Maps 4
   4.2 Land Ownership Map and Landowner List 4
      4.2.1 Property Owners for Property Located within ¼ mile 4
      4.2.2 Mineral and Oil Rights Ownership 4

5. Property Owner Information [30 TAC 330.59(d)] 4
   5.1 Legal Description 4
   5.2 Easements 5
   5.3 Property Owner Affidavit 5

6. Legal Authority [30 TAC 330.59(e)] 5

7. Evidence of Competency [30 TAC 330.59(f)] 6
   7.1 Texas Solid Waste Site Operation 6
   7.2 All Solid Waste Sites Owned, Operated, or With Financial Interest 6
   7.3 Employment of a Licensed Solid Waste Facility Supervisor 7
   7.4 WST Principals and Supervisors 7
   7.5 Landfilling and Earthmoving Experience 7
   7.6 Key Personnel 7
   7.7 Equipment to be Dedicated to the Landfill 8
   7.8 Mobile Liquid Waste Processing 8

8. Appointments [30 TAC 330.59(g)] 9

9. Application Fees 9

10. Existing Conditions Summary [30 TAC 330.61(a)] 9
   10.1 Topography and Vegetation 9
   10.2 Design Considerations 9

11. Waste Acceptance Plan [30 TAC 330.61(b)] 10
11.1 Waste Properties and Characteristics 10
11.2 Waste Acceptance Rate 10
12. General Location Maps [30 TAC 330.61(c)] 11
13. Facility Layout Maps [30 TAC 330.61(d)] 11
14. General Topographic Map [30 TAC 330.61(e)] 11
15. Aerial Photograph [30 TAC 330.61(f)] 11
16. Land Use [30 TAC 330.61(g)] 12
16.1 Land Use at the Facility and Surrounding Area 12
16.2 Zoning 13
17. Impact on Surrounding Area [30 TAC 330.61(h)] 13
17.1 Land Use and Zoning 13
17.2 Growth Trends 14
17.3 Human Health Impact 16
17.4 Environmental Impact 17
17.5 Area Wells 17
17.6 Compatibility with Surrounding Area 18
18. Transportation [30 TAC 330.61(i)] 18
18.1 Traffic 18
18.1.1 Texas Department of Transportation 19
18.1.2 Reeves County Road and Bridge Department 19
18.2 Airports 19
18.2.1 Federal Aviation Administration 20
18.2.2 Pecos Municipal Airport 20
19. General Geology and Soils [30 TAC 330.61(j)] 20
19.1 Facility Geology 20
19.2 Facility Soils 21
19.3 Faults 21
19.4 Seismic Impact Zones 21
19.5 Unstable Areas 22
20. Groundwater and Surface Water [30 TAC 330.61(k)] 22
20.1 Regional Groundwater 22
20.1.1 Site Groundwater Conditions, Perched Zone 23
20.1.2 Pecos, Texas Groundwater Supply 24
20.1.3 Reeves County Groundwater Supply 24
20.2 Surface Water 25

20.3 Texas Pollutant Discharge Elimination System Permit 25
21. Abandoned Oil and Water Wells [30 TAC 330.61(l)] 26
21.1 Abandoned Water Wells 26
21.2 Nearby Wells 26
21.3 Abandoned Oil Wells 26
21.4 Oil and Gas Wells Located within 1 mile 27
22. Floodplains and Wetlands [30 TAC 330.61(m)] 27
22.1 Floodplains 27
22.2 Wetlands 30
22.2.1 U.S. Army Corps of Engineers 31
23. Endangered and Threatened Species [30 TAC 330.61(n)] 31
23.1.1 Texas Parks and Wildlife Department 32
23.1.2 U.S. Fish and Wildlife Service 32
24. Texas Historical Commission [30 TAC 330.61(o)] 33
25. Local Government Review [30 TAC 330.61(p)] 34
25.1.1 Regional Planning Agencies 34
25.1.2 Local Governments 35
26. Special Appointments 35
References 37

List of Tables

I/II-2-1. Projected Maximum Waste Acceptance, WST Landfill 11
I/II-2-2. Precipitation Data for Texas Water Development Board Quadrangle 604 28
I/II-2-3. Gross Evaporation Data for Texas Water Development Board Quadrangle 604 29
I/II-2-4. 24-Hour Storm Intensity by Interval 30

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1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this application on behalf of West Sun Tex, LLC (WST) for a 239.1-acre Type I municipal solid waste (MSW) facility, called the WST Landfill. The application is presented in four parts as required by 30 Texas Administrative Code (TAC) 330.57:

- Part I contains general information regarding the site and applicant (30 TAC 330.59).
- Part II describes the existing conditions and character of the facility and surrounding area (30 TAC 330.61).
- Part III contains design information, investigative reports, and plans for the facility (30 TAC 330.63).
- Part IV presents the Site Operating Plan (SOP) for the facility and provides requirements for daily operations (30 TAC 330.65).

This supplemental technical report has been prepared to cover Parts I and II of the application for WST Landfill. Part I/II and attachments contain the information required by 30 TAC 330.59, 330.61, 305.45, and 281.5. The site was previously known as the West Sun Texas Landfill, or the WST Permian Landfill. Some correspondence included with this application uses those names for facility identification.

The requirements of 30 TAC 281.5(a)(1)-(4) are presented in the Part I form located in Attachment I/II-1. The Part I form includes a listing of other permits and authorizations required of the facility. Technical reports and supporting data required by 30 TAC 281.5(a)(5) are included in this Supplemental Technical Report. A map showing potentially affected landowners, along with their addresses as required by 30 TAC 281.5(a)(6), are included in Attachment I/II-4.

The requirements of 30 TAC 305.45(a)(1)-(5) and (7) are also presented in the Part I form (Attachment I/II-1). Maps required by 30 TAC 305.45(a)(6) are provided in Attachment I/II-5.

The information required by 30 TAC 330.59 and 330.61 is provided in the following sections.

2. General Information [30 TAC 330.59(a)]

The WST Landfill site is located in north-central Reeves County at the intersection of County Road (CR) 408 and CR 415, as shown on the facility location map (Figure I/II-5-1) provided in Attachment I/II-5. The facility is located in Section 46, Block 4, H. & G.N. RR Co. Survey in an area with flat topography that slopes gently to the east, dominated by desert scrub and grass vegetation. The property owned by WST includes 440 acres, located approximately 5 miles west-northwest of Pecos, Texas. Some correspondence reflects the entire 440-acre site. The revised permit boundary of 239 acres is completely within the 440-acre property owned by WST.

The facility has been designed to meet or exceed the Texas Commission on Environmental Quality (TCEQ) requirements as detailed in 30 TAC 330, and will be protective of public health and safety. The project design includes the landfill liner, leachate collection system, gas monitoring network, stormwater management system, groundwater monitoring network, and final cover.

2.1 Project Overview

WST plans to construct and operate a Type I MSW facility, called WST Landfill, in north-central Reeves County. The permit will encompass approximately 239 acres with a disposal footprint of approximately 120.9 acres. Disposal will be by the area fill method with both belowground and aerial fill components.

WST currently holds an Oil and Gas Waste disposal permit (STF-0112, R9 08-1601) for the property issued by the Railroad Commission of Texas (RRC), renewed in 2025. However, WST plans to use approximately half of the property for MSW disposal. Upon approval of the MSW permit, the RRC permit will be modified to reflect the MSW facility to prevent an overlap of the permit boundaries.

The facility is owned by and will be operated by WST. The MSW facility will accept waste from municipalities, residents, businesses, and industries in Reeves County, as well as surrounding counties.

3. Facility Location [30 TAC 330.59(b)]

3.1 Location Description

WST Landfill is located approximately 5 miles north by northwest of the Town of Pecos (Pecos) in an unincorporated portion of Reeves County, Texas. The location is at the intersection of CR 4087 and CR 415, in Section 46, Block 4, H. & G.N. RR Co. Survey. The site is not in the extraterritorial jurisdiction of any city.

3.2 Facility Access

Access to the site from Pecos is west-southwest on Interstate 20 (I-20) Business, turn northwest on CR 408 and continue for approximately 1.5 miles, turn left on CR 411 and then immediately right onto CR 408 (also labeled as CR 4087 for the length of this section), and continue to the facility entrance near CR 415. Figure I/II-5-7 (Attachment I/II-5) shows the location of the facility in relation to surrounding roads. While there are two lockable access control gates outside the permit boundary, there are also four lockable access control gates located within the permit boundary, in accordance with 30 TAC 330.3(52), at the following locations: (1) north of stormwater retention pond 1, (2)south of stormwater retention pond one, (3) south of stormwater retention pond 3, and (4) north of the scale house. The facility entrance road and two access gates outside the permit boundary will serve facilities for both the oil and gas permit and the MSW permit. As the permits do not overlap, the appurtenances are located outside the MSW permit boundary. The facility entrance road and access gates will remain under the control of the permittee and will be accessible to TCEQ personnel for inspection. The permittee will operate and maintain these items in accordance with applicable permit and regulatory requirements.

3.3 Geographic Coordinates

The geographic coordinates of the site's benchmark are:

- Latitude: N 31° 26′ 23.66762″
- Longitude: W 103° 34′ 50.57074″
- Elevation: 2,659.30 feet above mean sea level (feet msl) (NAVD 88)

This benchmark is located near the northeast corner of the site boundary.

The State Plane coordinates of the benchmark are:

- Northing: 10502211.55
- Easting: 1284004.91

4. Maps [30 TAC 330.59(c)]

4.1 General Location Maps

Maps required under 30 TAC 305.45, 330.59(c), and 330.61(c) are provided in Attachment I/II-5. The base map for each is the most recent version available.

4.2 Land Ownership Map and Landowner List

4.2.1 Property Owners for Property Located within ¼ mile

In accordance with 30 TAC 330.59, information regarding property owned by adjacent and potentially affected landowners is provided in Attachment I/II-4. The information includes a map showing the landowners within ¼ mile of the proposed facility (Figure I/II-4-1) and a table summarizing the landowner information (Table I/II-4-1). There are 20 other properties and 26 property owners located within ¼ mile of the proposed facility.

The list of potentially affected landowners is keyed to the landownership map and gives each property owner's name and mailing address as shown on the real property appraisal records of Reeves County. The list will be provided to TCEQ in electronic format.

4.2.2 Mineral and Oil Rights Ownership

The mineral (oil and gas) rights under the facility are owned by two companies on the northern 220 acres of the subject property, two companies under the northwestern 220 acres of Section 46, and two companies for 220 acres of Section 46. KEW Drilling and PDC Permian, Inc. are each leasing the mineral rights beneath 220 acres of the subject property (Table I/II-4-2).

5. Property Owner Information [30 TAC 330.59(d)]

5.1 Legal Description

The MSW permit lies entirely within 440 acres owned by WST. The legal description for the 440-acre property is AB 1391 BLK 4 SEC 46 H&GN N/440 AC, in Reeves County, Texas. The deed

date is December 8, 2014, deed volume 1128, deed page 690, and deed number 14-11441. The entirety of the 239-acre MSW permit is within the legal description given above. The metes and bounds survey of the permit boundary, signed and sealed by a registered professional land surveyor is provided in Attachment I/II-3.

5.2 Easements

Existing easements located on the permit property are provided in Attachment I/II-3. The northern permit/property boundary extends to the center of CR 415. No documentation of a formal right-of-way (ROW) easement for CR 415 has been found; however, an approximately 30-foot road plus approximately 10 feet of shoulder on either side exists, for a total road corridor width of 50 feet. The easements identified by the surveyor are immediately adjacent to the property boundary, so they are located within the road corridor. All waste processing facilities are at least 125 feet from these utilities. The easements do not conflict with any planned landfill infrastructure.

5.3 Property Owner Affidavit

The property owner affidavit is provided as part of the Part I form (Attachment I/II-1).

Per 30 TAC 330.59(d)(2)(A), WST acknowledges that the State of Texas may hold the property owner of record either jointly or severally responsible for operation, maintenance, closure, and post-closure care of the facility.

In accordance with 30 TAC 330.59(d)(2)(B), WST acknowledges that they will file with county deed records, an affidavit to the public advising the land will be used for a solid waste facility before the facility begins operating as an MSW landfill facility. Additionally, WST will file a final recording in the deed records upon completion of disposal operations and closure of landfill units in accordance with 30 TAC 330.19.

6. Legal Authority [30 TAC 330.59(e)]

Attachment I/II-6 provides the certificate of incorporation issued by the secretary of state as verification of the land owner's legal status, as required by 30 TAC 281.5 and 30 TAC 330.59(e).

7. Evidence of Competency [30 TAC 330.59(f)]

7.1 Texas Solid Waste Site Operation

WST has not owned any other Texas solid waste sites in the last 10 years, but has owned solid waste sites in New Mexico within this time period.

7.2 All Solid Waste Sites Owned, Operated, or With Financial Interest

WST is the owner and operator of two oil and gas solid waste disposal sites, and both are located in New Mexico. The site type, location, operating dates, regulatory agency and address, and the name under which the sites are operated follow below for these two facilities.

- Sundance Services, Inc.
  - Permit NM1-3
  - Lea County, New Mexico
  - Solid waste disposal facility: 1999 to present
  - State of New Mexico
    Energy, Minerals and Natural Resources Department
    Oil Conservation Division
    1220 South St. Francis Drive
    Santa Fe, NM 87505
- Sundance Services West, Inc.
  - Permit NM1-62
  - Lea County, New Mexico
  - Solid waste disposal facility: 2017 to present
  - State of New Mexico
    Energy, Minerals and Natural Resources Department
    Oil Conservation Division
    1220 South St. Francis Drive
    Santa Fe, NM 87505

7.3 Employment of a Licensed Solid Waste Facility Supervisor

A solid waste facility supervisor will be employed for the WST Landfill, as required, before commencing facility operation. This supervisor will be retained or be replaced with another TCEQ licensed operator prior to commencing operation and during operation.

7.4 WST Principals and Supervisors

The names of the principals and supervisors that will oversee operations of WST Landfill and who have all been affiliated with Sundance Services, Inc. and Sundance Services West, Inc. are provided below. None of these individuals have any previous affiliations with other organizations engaged in solid waste activities in the State of Texas. All of these principals have operated other disposal facilities in the State of New Mexico.

- Sue Mussani
- Tariq Mussani
- Arif Mussani
- Joe Carrillo
- Michael Carrillo

7.5 Landfilling and Earthmoving Experience

Key personnel for the WST Landfill will include Joe Carrillo and Michael Carrillo. Both Joe Carillo and Michael Carillo have landfilling and earthmoving experience at the Sundance Services disposal facilities in New Mexico.

7.6 Key Personnel

Key personnel for the WST Landfill will include Joe Carrillo and Michael Carrillo. Michael Carrillo will be the licensed solid waste facility supervisor, and he will apply for a preliminary license during the proposed facility's construction. After construction is complete, he will apply for a Class A or B license. Both Joe Carillo and Michael Carillo have at least 10 years of landfilling and earthmoving experience.

7.7 Equipment to be Dedicated to the Landfill

Equipment dedicated to the WST Landfill may include the following:

- Dozer, track type: Cat D8 or equivalent for moving cover, cover placement, waste placement, grading, and fire protection
- Compactor: Cat 826 or equivalent for soil and waste compaction
- Water truck: 1,000 gallons or larger for dust control, soil compaction assistance, fire control, and other construction activities
- Off-road truck: Caterpillar 750 or equivalent for soil hauling, fire protection, and site maintenance
- Excavator: Cat 330 or equivalent for moving loose waste, soil cover, and fire protection
- Wheel tractor, scraper: Caterpillar 623 or equivalent for excavating and hauling cover material and miscellaneous soil borrow
- One utility trucks: ½-ton or larger for use by landfill operator(s) that are able to navigate site in inclement weather and pull smaller trailer-mounted equipment, when necessary, for general maintenance and litter control

A discussion of the number and types of equipment to be provided can be found in the Site Operating Plan (SOP) (Part IV). Some equipment may be rented, leased, or borrowed as needed. The number and type may change depending on a varying incoming waste amount, ongoing construction activities, and other requirements.

7.8 Mobile Liquid Waste Processing

The facility will not be a mobile liquid waste processing unit; therefore, the provisions of 30 TAC 330.59(f)(6) are not applicable.

WST, Sundance Services, Inc., and Sundance Services West, Inc. have not had any final enforcement orders, court judgments, consent decrees, or criminal convictions in Texas or with the federal government within the last five years, relating to the handling of solid or liquid waste requirements under the jurisdiction of TCEQ or the U.S. Environmental Protection Agency (EPA).

8. Appointments [30 TAC 330.59(g)]

Tariq Mussani is signing the application, and he meets the requirements of signatories to applications as outlined in 30 TAC 305.44. The certificate of amendment documenting that he is a manager of the company is provided in Attachment I/II-6.

9. Application Fees

WST's receipt for payment of the $2,050 permit application fee to the MSW Permits Section is provided in Attachment I/II-6.

10. Existing Conditions Summary [30 TAC 330.61(a)]

Existing conditions for the WST Landfill are discussed in the following subsections.

10.1 Topography and Vegetation

In Reeves County, the land surface ranges from about 2,500 feet msl along the Pecos River in the eastern part of the county to 4,500 feet msl in the foothills of the Davis Mountains in the southwestern part of the county. The elevation of the proposed facility ranges from 2,650 feet msl to 2670 feet msl, in an area dominated by flat topography that slopes gently to the east. The project site grade decreases toward the east by about 6 foot vertically for every 1,000 feet horizontally (Figure I/II-5-3).

A recent aerial photograph with a scale of 1 inch = 2,000 feet is provided as Figure I/II-5-11. This figure shows the permit boundary, as well as a 1-mile area around the entire property boundary.

Vegetative species commonly found in the study area include creosote bush (*Larrea tridentate*), tarbush (*Flourensia cernua*), fourwing saltbush (*Atripex canescens*), mesquite (*Prosopis* sp.), gyp grama (*Bouteloua breviseta*), and alkali sacaton (*Sporoblus airoides*) (Attachment I/II-11]).

10.2 Design Considerations

No site-specific conditions require special landfill design considerations or mitigation.

11. Waste Acceptance Plan [30 TAC 330.61(b)]

11.1 Waste Properties and Characteristics

The WST Landfill will be a Type I MSW facility. Waste types accepted will include solid waste resulting from municipal, commercial, industrial, institutional, and recreational activities, including (1) garbage, construction and demolition waste, brush, rubbish, and all other solid waste, (2) Class 1, 2, and 3 nonhazardous industrial waste, (3) petroleum-contaminated soil, (4) wastewater treatment facility sludge, and (5) special waste as defined by 30 TAC 330.3. Hazardous waste will not be accepted. Other waste may be accepted based on waste-specific approvals, as authorized by 30 TAC 330.171.

11.2 Waste Acceptance Rate

The anticipated area to be served by the WST Landfill includes an area within approximately 50 miles of the facility. This area includes portions of six counties, including Culberson, Jeff Davis, Loving, Pecos, Reeves, and Ward Counties. The total 2027 population of the six counties is 42,421 (Texas Demographic Center, 2025). The locations of these counties and the towns located within 50 miles of the proposed facility are shown on Figure I/II-5-1 (Attachment I/II-5).

Given the 2027 population estimate and based on a waste generation assumption of 15 acre-feet per year per 10,000 people, the maximum amount of waste that will be received during the first year of operation is estimated to be approximately 61,600 tons. Assuming 281 days of operation, this is approximately 217 tons per day. The amount of waste to be accepted annually is expected to increase in subsequent years; however, that will depend on a number of factors. Table I/II-2-1 provides the projected maximum annual waste acceptance rate for the facility's first five years of operation based on projected population increases by Texas Demographic Center as outlined in the waste generation calculation (Appendix III-4-G).

WST Landfill will not recover materials from the incoming waste; however, tires and white goods brought to the site will not be buried. They will be placed in a designated area for future management, as discussed in the SOP (Part IV).

No waste constituent or characteristic is expected to be a limiting parameter that would impact the design and operation of the facility.

Table I/II-2-1. Projected Maximum Waste Acceptance, WST Landfill

Year	Percent Increase	Maximum Waste Acceptance (tons)
2027	—	61,600
2028	0.48%	61,900
2029	0.48%	62,200
2030	0.48%	62,500
2031	0.32%	62,700

Note: Increase taken from Texas Demographic Center estimated population increases (2025)

12. General Location Maps [30 TAC 330.61(c)]

General location maps meeting the requirements of 30 TAC 330.61(c) are provided in Attachment I/II-5. These maps accurately show the proximity of the facility to surrounding features. In cases where the requirement for the map involved showing items of interest within a mile of the facility, the property boundary (which is larger) was used to define the 1-mile search radius due to the simplicity of that boundary versus the permit boundary. This approach is more conservative, as it results in a larger area being reported.

13. Facility Layout Maps [30 TAC 330.61(d)]

Facility layout maps are provided in Attachment I/II-5. These maps show the items required by 30 TAC 330.61(d).

14. General Topographic Map [30 TAC 330.61(e)]

A general topographic map is provided as Figure I/II-5-3 (Attachment I/II-5). The topographic map shown is from the U.S. Geological Survey (USGS) 7.5-minute quadrangle dated 2022. The scale of the map is 1 inch = 2,000 feet.

15. Aerial Photograph [30 TAC 330.61(f)]

An aerial photograph (photocopy) of the facility and surrounding area is provided in Figure I/II-5-11 (Attachment I/II-5). The scale of the photograph is 1 inch = 2,000 feet, meeting

the requirements of 30 TAC 330.61(f)(10). The photograph includes the area within 1 mile of the property boundary. The site property boundary, permit boundary, and area to be used for disposal are marked on the photocopy.

16. Land Use [30 TAC 330.61(g)]

The requirements of 30 TAC 330.61(g) are provided in two figures (Figures 1/11-5-6 and I/II-5-7) to enhance readability. Figure I/II-5-6 (Attachment I/II-5) shows the boundary of the facility and actual uses of the land (e.g., agricultural, industrial, residential, etc.) both within the facility and within 1 mile of the property boundary. Utility easements within the permit boundary are also shown; there are no pipeline or drainage easements within the facility.

The location of residences and commercial establishments are included on Figure I/II-5-7 (Attachment I/II-5). There are no schools, licensed day-care facilities, churches, cemeteries, ponds or lakes, or recreational areas within the property or within 1 mile of the facility boundary.

16.1 Land Use at the Facility and Surrounding Area

Land use in the vicinity of the site is for agriculture and oil and gas development, trucking companies, industrial yards, rural residences, and undeveloped land (Figure I/II-5-6). The facility property has been used for agricultural production in the past, but has been out of cultivation for more than 20 years.

Reeves County is in the heart of the oil and gas development area of west Texas, and exploration in this area is expected to remain steady (Freese and Nichols, 2020). In June 2020, Reeves County ranked first in the list of Texas counties for natural gas and condensate production and third for crude oil production (RRC, 2020b). In June 2020, approximate production in Reeves County was as follows: natural gas (79,600,000 thousand cubic feet [mcf], or 0.08 trillion cubic feet), crude oil (7.0 million barrels), and condensate (5.4 million barrels) (RRC, 2020b).

The area within 1 mile of the property is dominated by undeveloped land, nonspecifically disturbed areas, and cultivated cropland (Figures I/II-5-6 and I/II-5-7).

Within 1 mile of the subject property, there are oil and gas facilities, trucking companies, and industrial yards. There are recreational vehicle (RV) parks located northeast, east, and southeast of the property. There appear to be manufactured houses and numerous outbuildings near the

site, especially north of the property boundary (Figure I/II-5-7). There are at least 29 residences within 1 mile of the site.

16.2 Zoning

Reeves County within 2 miles of the facility is not zoned. The facility is not within the extraterritorial jurisdiction of any city.

17. Impact on Surrounding Area [30 TAC 330.61(h)]

WST is committed to providing a Type I MSW facility that does not adversely impact human health or the environment. Information regarding the likely impacts of the proposed facility on land use, zoning, community growth patterns, and other factors is provided in the following subsections.

17.1 Land Use and Zoning

Land use in the vicinity of the site is for agriculture, oil and gas development, trucking companies, industrial yards, rural residences, and undeveloped land. According to the U.S. Department of Agriculture County Census, in 2017, Reeves County had 224 farms, 8,138 irrigated acres, and a total of 1,063,899 acres in farms (Freese and Nichols, 2020). The area of Reeves County is 2,642 square miles, or approximately 1,690,900 acres. Irrigated acreage accounts for approximately 0.5 percent of the county area, with approximately 63 percent of the land area in farms. None of Reeves County is classified as prime farmland (Freese and Nichols, 2020).

The portion of Reeves County located within 2 miles of the facility is not zoned; therefore, a published zoning map is not available, and no nonconforming use or special permit approval is required.

As mentioned previously, the 440-acre property owned by WST has an oil and gas landfill permit from the RRC. Using a portion of property for an MSW Landfill maintains the existing land use and no impact will result.

17.2 Growth Trends

A Phase I environmental site assessment (ESA) was completed for the subject property in 2014; the Phase I report includes historical aerial photographs back to 1954 (Attachment I/II-11). In the 1954 photograph, the property appears to be undisturbed, but by 1969, site grading and agricultural production are apparent. The WST Landfill property has been out of cultivation for more than 20 years.

The facility is located within the Permian Basin oil and gas producing region of west Texas and southeastern New Mexico. Oil and gas production has increased in this area over the last decade, and the Permian Basin is now the second largest producer of oil and gas shale in the world (Freese and Nichols, 2020). Reeves County is one of the top 10 largest oil producing and top 10 largest natural gas producing counties in Texas (Freese and Nichols, 2020). Reeves County is in the heart of the oil and gas development area of west Texas, and exploration in this area is expected to remain steady (Freese and Nichols, 2020).

Population in Reeves County increased significantly between 1900 and 1960, decreased from 1960 to 2000, and has been increasing since 2000 (Figure I/II-5-12). The county's population is projected to continue to increase through 2070 (Figure I/II-5-12). The average annual Reeves County population growth rate was close to zero from 1980 to 1990, –1.7 percent for 1990 to 2000, approximately 0.5 percent from 2000 to 2010, and approximately 1 percent from 2010 to 2020 (Freese and Nichols, 2020). Work done in 2020 by Freese and Nichols indicates that the Reeves County population is projected to increase at average annual population growth rates of less than 1 percent from 2020 to 2030, approximately 0.5 percent from 2030 to 2040, less than 0.5 percent from 2040 to 2050, approximately 0.25 percent from 2050 to 2060, and less than 0.25 percent from 2060 to 2070 (Freese and Nichols, 2020). This is consistent with information from the Texas Demographics Center (2025). The Permian Basin Regional Planning Commission (PB RPC)'s latest Comprehensive Economic Development Strategy for 2021-2025 included higher anticipated growth rates of 9 to 11 percent in Reeves County.

The Pecos Economic Development Corporation (EDC) describes the Town of Pecos as a regional retail and services hub (Pecos EDC, 2020a). The town has hotels from eleven national franchises (Holiday Inn Express, Hampton Inn, La Quinta, Comfort Suites, Microtel, Fairfield Inn by Marriot, StayBridge Suites, Travelodge by Wyndham, Home2 Suites by Hilton, Red Roof Inn, and Best Western). The town has a 2 percent venue tax, and the revenue from this tax is being used to renovate the Reeves County Rodeo Grounds (Pecos EDC, 2020a). Other recent Pecos, Texas growth includes a small business development center that was opened by Sul Ross State

University, growth in the education and oil and gas sectors, and the addition of entertainment venues (Pecos EDC, 2020a).

In 2019, a Walton Family Foundation funded study ranked the 531 micropolitan areas across the U.S. (micropolitan areas include one or more counties with at least one city with more than 10,000 but less than 50,000 in population), and Pecos, Texas received the top ranking as the most dynamic micropolitan (Walton Family Foundation, 2019). The metrics where Pecos, Texas was top ranked included job growth from 2012 to 2016, average annual pay growth from 2013 to 2017, and the share that firms that had been open for up to 5 years represented of total employment (Walton Family Foundation, 2019). The study report cites Pecos and Reeves County as being at the epicenter of the Permian Basin shale oil exploration boom, and says that local officials estimate that the Pecos official population of 15,300 understates the true population by up to 9,000 (Walton Family Foundation, 2019).

As discussed previously, land use in the vicinity of the site is for agriculture, oil and gas development, trucking companies, industrial yards, rural residences, and undeveloped land. The following facilities are present within 1 mile of the facility (Figure I/II-5-7):

- There are 15 oil and gas facilities adjacent to and within 1 mile of the subject property, including Rolfson Oil Pecos, located just southeast of the property's southwest corner and Waterbridge disposal well to west of the property.
- Fourteen trucking company and industrial yards are located near the subject property. Twin Service Trucking is located approximately 100 feet west of the property's northwest corner, and J & J Transport Services is located approximately 0.4 mile southwest of the northeast corner of the property on CR 415.
- There are three RV parks located northeast, east, and southeast of the site within the 1-mile radius of the property boundary including the following:
    - Duval Estates RV Park (located approximately 0.7 mile north-northeast), Rocker F RV Park (located approximately 1 mile east-northeast), and Desert Pines RV Park (located approximately 0.5 mile east) from the northeast corner of the property
    - Duval Road RV Park (located approximately 0.6 mile east-northeast), Villa RV Park (located approximately 2.5 miles east-southeast), Los Valeriano RV Park (located approximately 1.5 miles and east-southeast) from the southeast corner of the property
- There are numerous manufactured buildings located near the property, especially to the north on the other side of CR 415, and most appear to be offices (e.g., for trucking yards).

- There are four residences within a mile of the property boundary (three within a mile of the permit boundary):
  - On the north side of CR 415 across from the property
  - A house on Mendoza Ranch, located approximately 0.6 mile southwest of the northwest corner of the property on CR 415.
  - On the other side of the east property boundary, south of CR 415
  - Directly across the 415/408 intersection

The archaeology report (Attachment I/II-11) indicates that there are no historic structures or sites, archaeologically significant sites, or sites having exceptional aesthetic quality that would be affected by the proposed facility. Texas Historical Commission has reviewed the work done on the property and concurs that there are no historic properties present or affected by the project as proposed (Attachment I/II-11). There is one structure on the property (but outside the MSW permit footprint), a barn. The barn's construction date is unknown; however, the structure is visible on a 1969 aerial photograph, so it is at least 55 years old. This barn is not planned to be removed by the project. If structurally sound, WST may use it in their operations as the maintenance shop.

The following are not located within 1 mile of the proposed facility:

- There are no schools or day care facilities located within 1 mile of the facility. The Pecos-Barstow-Toyah Independent School District (ISD) schools (and their respective distance from the site) include Bessie Haynes Elementary (8.5 miles), Austin Elementary (7 miles), Crockett Middle (7.2 miles), and Pecos High School (7.2 miles).
- There are no churches located within 1 mile of the facility. The nearest churches (and their respective distance from the site) include Kingdom Hall of Jehovah's Witnesses (6.6 miles), First Baptist Church (7.5 miles), and North Pecos Church (7.6 miles). All three of these churches are located in Pecos, Texas.
- There are no cemeteries located within 1 mile of the facility. The nearest cemetery to the site is East Pecos Cemetery, located approximately 8.3 miles east from the facility's location.

17.3 Human Health Impact

Access to the proposed facility will be controlled by the property's access control perimeter berms and lockable gates, which will protect public safety. The facility entrance gate will be

locked when the landfill is not open and a WST employee is not present. The landfill will be lined, preventing contamination of soil or groundwater beneath the facility, and air pollution resulting from the facility will be controlled through appropriate monitoring and landfill gas control. An air permit and gas collection and control system (GCCS) will be prepared and submitted when required.

17.4 Environmental Impact

The WST Landfill location and surrounding area is largely undeveloped, with a number of existing industrial land uses nearby. Vegetation species commonly found in the area include creosote bush (Larrea tridentate), tarbush (*Flourensia cernua*), fourwing saltbush (*Atripex canescens*), mesquite (*Prosopis sp.*), gyp grama (Bouteloua breviseta), and alkali sacaton (*Sporoblus airoides*) (Attachment I/II-11). Vegetation will be cleared from the area where the landfill cells, access roads and other infrastructure are developed, but minimal changes will be made to the existing vegetation outside of the areas of construction.

A delineation of waters of the U.S., including wetlands, was performed on the property in 2014, and no waters of the U.S. were identified within the study area. As the property does not include any wetlands or waters of the U.S., there will not be any impacts to either. More information is provided below.

The facility will pose no threat to surface or groundwater resources or air quality. The facility's construction and operations will not cause or contribute to violations of state water quality standards, violation of any applicable toxic effluent standard, or prohibition under the Clean Water Act (CWA). Any liquids resulting from facility operation will be disposed of in a manner that ensures that there is no surface water or groundwater contamination. The facility will properly manage all wastewater that results from the waste management activities, as well as from cleaning and washing. Stormwater and wastewater will be managed in compliance with TCEQ regulations, including obtaining coverage under the Texas Pollutant Discharge Elimination System (TPDES) if required.

17.5 Area Wells

Population density in this area is very low, with few rural residences. There is a transient population in the area, serviced by the RV parks. The RV park residents are largely thought to be people who support the oil and gas development in the area.

There are six water wells located within 500 feet of the property, including:

- Two new wells (well numbers 493635 and 493636) listed in the TWDB online database with submitted driller reports, which are both 600-foot-deep irrigation wells owned by Lupe Ortega, located outside of the WST Landfill boundary near the northeastern corner of the property.
- The unnumbered WST-owned non-potable supply well, which is 540 feet deep, located near the northwestern corner of the WST property (not within the boundary of the MSW Landfill property). Two unnumbered WST-owned non-potable old irrigation wells (not in use) are on the same 440 acres as the landfill but outside the MSW landfill permit boundary.
- Well number 4636503, which is a 400-foot-deep stock well owned by L. Schneider, located near the southeastern corner of the property (not within the MSW Landfill boundary).

17.6 Compatibility with Surrounding Area

The WST landfill will be compatible with the surrounding area, where land use is agriculture, oil and gas development, trucking companies, industrial yards, some rural residences, and primarily undeveloped land, including the existing oil and gas waste disposal permit located on the WST property. The development and operations of the WST Landfill is compatible with the existing and assumed future land use in the area.

18. Transportation [30 TAC 330.61(i)]

Agency coordination efforts for WST Landfill related to transportation are summarized in the following subsections, along with information which satisfies TCEQ requirements for transportation infrastructure that will be used to access the facility from Pecos. All agency coordination letters and agency responses are provided in Attachment I/II-10.

18.1 Traffic

WST Landfill is located approximately 5 miles west-northwest of Pecos, Texas at the intersection of CR 415 and CR 408 (also labeled as CR 4087 for the length of the section). There are two anticipated primary access routes to WST Landfill from the nearest major community of Pecos. The first may be traversed by traveling west-southwest on Interstate 20 Business Loop West (I-20 BL) and continuing on to I-20 Service Road, turning northwest on CR 408 and proceeding for approximately 1.5 miles, turning left onto CR 411 and then immediately right onto CR 408,

then continuing to the facility entrance. The alternate access route may traverse I-20 BL, Farm to Market (FM) 2119, and CR 415 prior to accessing CR 408 and continuing to the facility entrance.

Existing traffic volumes and predicted traffic generation from the facility regarding these roadways are addressed in the Transportation Technical Memorandum (Appendix I/II-10-A). Given the low existing volumes of traffic and the minimal anticipated impacts from the operations of WST Landfill, a technical memorandum was prepared in lieu of a formal traffic study. Data pertaining to traffic volumes on the site access roads are obtained from the Texas Department of Transportation (TxDOT), as well as field-conducted studies by DBS&A. Analysis of these data is provided in Attachment I/II-10.

18.1.1 Texas Department of Transportation

A letter was sent to TxDOT for coordination purposes per 30 TAC 330.23(a) and 330.61(i)(4) on April 20, 2021 by certified mail (Attachment I/II-10). The letter was also e-mailed to TxDOT on July 21, 2022. WST Landfill will not be located within 1,000 feet of an interstate or primary highway, so screening or special operating requirements are not required. TxDOT sent a response letter on August 11, 2022 indicating that no action is required to address any of their requirements. WST will coordinate with TxDOT on any improvements required in the future due to traffic to the facility.

18.1.2 Reeves County Road and Bridge Department

The two primary access roads for WST Landfill (CR 408 and 415) are two-lane asphalt-paved roads with low traffic volumes, maintained by the Reeves County Road and Bridge Department. A copy of email communication with the Reeves County Road and Bridge Department is provided in Attachment I/II-10. Based on available information, the existing access roadways are available and adequate to handle the estimated increased traffic volumes associated with the MSW facility. Prior to construction, WST will obtain a Reeves County permit to construct access driveway facilities on Public ROW (to document that any entrance road design complies with Reeves County regulations).

18.2 Airports

The Pecos Municipal Airport (PEQ) is a Level III general aviation airport with two asphalt runways and is owned by the Town of Pecos, Texas. The airport is located approximately 2 miles southwest of the Town of Pecos (See Figure I/II-5-2). The Pecos Municipal Airport is within 6 miles of the WST Landfill.

The landfill units have been designed and will be operated so that the MSW landfill does not pose a bird hazard to aircraft by (1) being located approximately five miles away from the airport per FAA guidance (FFA, 2007), (2) minimizing the working face to minimize the attraction of birds, and (3) covering the waste on a daily basis. In addition, special procedures shall be followed by WST Landfill personnel when the delivery of particularly odorous wastes occurs; these procedures are outlined in the SOP (Part IV). WST Landfill does not anticipate the attraction of birds which would cause significant hazards to low-flying aircraft, as outlined in 30 TAC 330.545.

18.2.1 Federal Aviation Administration

DBS&A submitted requests for aeronautical studies through the Federal Aviation Administration (FAA) OO/AAA website in June 2022. On August 17, 2022, FAA provided "determination of no hazard to air navigation" letters for the site activities. The initial determination expired on February 17, 2024. A new request for determination from FAA was submitted on March 13, 2024, and responses were received in June 2024 affirming the previous "no hazard to air navigation" designation (Attachment I/II-10).

18.2.2 Pecos Municipal Airport

DBS&A mailed a letter to the PEQ manager per 30 TAC 330.545(b) on March 15, 2024 (Attachment I/II-10), even though PEQ is not considered a large airport. A response was received from PEQ on June 5, 2026, indicating that construction of the proposed landfill would have no material negative impact on airport operations.

19. General Geology and Soils [30 TAC 330.61(j)]

The regional geologic setting (Permian Basin-Delaware Basin) is described in detail in the geology report (Attachment III-5).

19.1 Facility Geology

The Pecos Valley alluvium outcrops at the facility location (Attachment III-5). These sediments consist of caliche, clay, silt, sand, gravel, and boulder-sized material and are up to 1,000 feet thick in the area (Meyer et al., 2012). The Pecos Valley alluvium sediments were deposited unconformably on older formations, including the Dockum Group and Rustler Formation (Meyer et al., 2012).

19.2 Facility Soils

Cross sections of the subsurface at the facility are provided in the geology report (Attachment III-5) and show that on-site soils consist primarily of variations of sand (silty sand, clayey sand, sand), gravel, and clay/silty clay, consistent with the regional geology of the Pecos Valley alluvium.

19.3 Faults

An analysis of geologic processes active in the vicinity of the facility were evaluated and are described in the geology report (Attachment III-5). The nearest major faults mapped on the Geologic Atlas of Texas sheets are approximately 65 miles southwest of the site. Additionally, aerial photographs were reviewed, and a search of technical literature found no evidence of faulting in the vicinity of the facility.

19.4 Seismic Impact Zones

DBS&A has evaluated whether the proposed facility is located within a seismic impact zone, which is defined in the TAC as an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed 0.10 gravity of earth (g) in 250 years (30 TAC 330.557). Maximum horizontal acceleration is defined in the TAC as the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years (30 TAC 330.557). The definition of maximum horizontal acceleration provided in the TAC is equivalent to peak ground acceleration (PGA) with a 2 percent chance of exceedance in 50 years used in current USGS National Seismic Hazards Maps.

The USGS National Seismic Hazard Mapping Program (NSHMP) Unified Hazard Tool website was used to assess the PGA at the site (USGS, 2020b). Based on the 2014 USGS National Seismic Hazard data and a 2 percent chance of exceedance in 50 years (equivalent to 10 percent in 250 years), the PGA at the site is 0.0713 g (Attachment I/II-12). Because the PGA is less than 0.1 g, the proposed facility is not located in a seismic impact zone, in accordance with 30 TAC 330.557.

19.5 Unstable Areas

The geologic processes active in the vicinity of the facility was reviewed by a professional geologist licensed in the state of Texas, in accordance with 30 TAC 330.559. A review of the Geologic Atlas of Texas (USGS, 2020a) indicates that the site lies in an area composed of Quaternary alluvium hundreds of feet thick. A review of surficial geologic mapping does not reveal any geologic or geomorphologic features that would cause unstable areas to exist in soils at the site, such as surface faulting or collapse features associated with karst.

20. Groundwater and Surface Water [30 TAC 330.61(k)]

Data on groundwater at and near the site is presented in detail in the geology report (Attachment III-5) and summarized below.

In October 2014, HDR completed a groundwater report for WST as part of their pre-purchase activities (Attachment I/II-11). The report cites the Pecos Valley aquifer as the major aquifer at the site, and states that "groundwater flow through the aquifer is influenced by the topography of the underlying geologic units: the Edwards Trinity units, the Rustler Formation, and the Dockum Group." The report states that the water quality is highly variable and typically hard, with concentrations of chloride, sulfate, arsenic, and radionuclides that are above the EPA primary drinking water standards.

20.1 Regional Groundwater

The proposed facility is located in Reeves County, which is not located over the recharge zone of the Edwards Aquifer (Type I and IAE landfills are prohibited over the recharge zone per 30 TAC 213.8(a)(5)). Reeves County is located within Groundwater Management Area (GMA) 3, which includes Reeves, Loving, Ward, Pecos, Winkler, and Crane Counties (TWDB, 2020b). In this area, the Pecos Valley Aquifer overlies portions of the Edwards-Trinity (Plateau), Dockum, Rustler, and Capitan Reef Complex aquifers (Meyer et al., 2012). Additional information about each of these aquifers is provided in the geology report (Attachment III-5). Although the Pecos Valley alluvium occurs at land surface in the vicinity of the site, the top of the Pecos Valley Aquifer is defined by the regional water table. The Pecos Valley Aquifer water table beneath the site has an elevation of about 2,525 feet msl based on a deep site boring (SB-4) completed as part of the

subsurface investigation at the site. This elevation corresponds to a depth to water of approximately 150 to 200 feet below ground surface (bgs) across the site.

The Texas Water Development Board (TWDB) groundwater database (GWDB) well information reports include water quality data for 12 samples collected from the water wells located within 1 mile of the subject property (all of which are completed in the Pecos Valley Aquifer). The sample data include ranges in concentrations for chloride (620 to 1,280 milligrams per liter [mg/L]), nitrate as nitrogen (1.4 to 143 mg/L), sulfate (940 to 1,780 mg/L), and total dissolved solids (TDS) (2,315 to 4,647 mg/L) (Figures I/II-5-8 and III-5-17; TWDB, 2020c).

TDS concentrations in Pecos Valley Aquifer groundwater in the Pecos Trough typically exceed 1,000 mg/L, and TDS concentrations for a substantial portion of groundwater exceed 3,000 mg/L (Freese and Nichols, 2020).

20.1.1 Site Groundwater Conditions, Perched Zone

In addition to the regional aquifer, a perched water zone exists at the site. Given the thickness of this perched zone and its water quality, it is likely that this water is irrigation return water. As this water is the first water encountered, nine monitor wells have been installed in the perched zone on property owned by the owner (four of the wells are within the permit boundary). Water levels in the perched zone vary from 53 to 84 feet bgs based on subsurface investigations at the site, described in detail in the geology report (Attachment III-5). Water level monitoring has been regularly completed, including the installation of pressure transducers in several wells to look for seasonal changes in water levels. Potentiometric surface maps, historical water level measurements, and elevations for the monitored wells are included as part of the geology report (Attachment III-5).

The horizontal hydraulic gradient for the water table represented in Figure III-5-27 ranges from a high of about 0.01 foot per foot (ft/ft) north of monitor well MW-2 to a low of about 2.6×10^{-4} ft/ft between wells MW-2 and GW-11. The hydraulic gradient in the Pecos Valley aquifer is approximately 0.002 ft/ft (Freese and Nichols, 2020).

Groundwater monitoring activities included sampling, measurement of field parameters, quality assurance/quality control (QA/QC), and delivery of samples to the laboratory for analysis. The analytical test methods based on SW-846 employed in the groundwater monitoring events include 6020A for total metals and 8260 for volatile organic compounds (VOCs). Water quality analytical results for the monitoring events are provided in Appendix III-5-F. Baseline water quality sampling performed from April 2021 through July 2024 indicates that nitrate

concentrations in the perched zone monitor wells ranged from 35 to 130 mg/L. As an additional indicator of overall groundwater quality in the perched zone, from April 2021 through July 2024, TDS concentrations ranged from 4,000 mg/L in monitor well GW-3 to 8,000 mg/L in monitor well GW-13.

20.1.2 Pecos, Texas Groundwater Supply

Pecos is the largest town in Reeves County, and is located approximately 5 miles southeast of the facility. Pecos provides water supply for its own population (10,254 in 2018), and also supplies Barstow, Texas (population 380 in 2018) (Freese and Nichols, 2020). In 2020, Pecos was projected to supply 3,035 acre-feet of water; this amount is projected to increase to 3,605 acre-feet per year (ac-ft/yr) by 2070 (Freese and Nichols, 2020).

Pecos has three well fields: South Worsham, North Worsham, and Ward County (Freese and Nichols, 2020). The Worsham well fields are south of Pecos and about 11 to 13 miles south-southeast of the site. The Ward County well field is about 25 miles east-northeast of Pecos near Monahans and is not in the vicinity of the site.

The current regional water plan is considering multiple water management strategies for Pecos, including municipal conservation, advanced water treatment, partnering with Madera Valley Water Supply Corporation (WSC) to expand their well field, direct non-potable reuse, direct potable reuse, and indirect potable reuse with aquifer storage and recovery (ASR) (Freese and Nichols, 2020).

20.1.3 Reeves County Groundwater Supply

In 2016, a total of 60,907 acre-feet of groundwater was pumped in Reeves County. This volume included 44,873 acre-feet from the Pecos Valley, 6,625 acre-feet from the Edwards-Trinity (Plateau), 2,332 acre-feet from the Dockum, 3,014 acre-feet from the Rustler, 372 from the Igneous, and 3,691 acre-feet from other aquifers (Freese and Nichols, 2020).

Water use for mining in Reeves County was projected to be as high as 12,600 acre-feet in 2020, with projected water use for this sector decreasing to approximately 6,200 ac-ft/yr by 2070 (Freese and Nichols, 2020). Current developed mining water supplies are limited, and the current Region F regional water plan is projecting a water shortage for the mining sector in Reeves County by 2020 (Freese and Nichols, 2020). Water management strategies being considered in the current regional water plan for the mining sector in Reeves County include

mining water conservation (water recycling) and development of up to 75 new Pecos Valley aquifer wells to supply up to 10,400 ac-ft/yr of water (Freese and Nichols, 2020).

20.2 Surface Water

The proposed facility is located within the Pecos River Basin, which is a tributary of the Rio Grande. The Pecos River is located approximately 6 miles east of the facility location; there are no major surface water features located in the vicinity of the site (Freese and Nichols, 2020). Due to the absence of any streams near the facility location, structural control of streams is not needed. The only blue lines on the USGS topographic line within a mile of the site are located on the property (Figure I/II-5-8). Inspection of these lines indicates that they are not natural (very straight lines, right angles, etc.). Comparison of the blue lines with on-site features shows that they are old concrete irrigation ditches on the property. Therefore, they are not considered to be representative of actual streams.

There are two Rio Grande Basin surface water reservoirs in Reeves County: (1) Red Bluffs Reservoir on the Pecos River in the far northeastern portion of Reeves County (and northwestern portion of Loving County), approximately 50 miles northwest of the facility's location, and (2) Lake Balmorhea on Toyah Creek in southern Reeves County, approximately 50 miles south-southwest of the facility (Freese and Nichols, 2020). Red Bluffs Reservoir and its water rights are owned by the Red Bluff Water Power Control District. Lake Balmorhea and its water rights are owned by the Reeves County Water Improvement District (WID) No. 1 (Freese and Nichols, 2020). Water quality (salinity) is a concern in the Pecos River Basin; in fact, high salinity limits the full use of the Pecos River water resources, including from Red Bluff Reservoir (Freese and Nichols, 2020).

The facility surface water drainage report addresses run-on, contact water, erosion, and soil loss from water (Attachment III-3).

20.3 Texas Pollutant Discharge Elimination System Permit

The Type I MSW facility has been designed to prevent the discharge of pollutants into waters of the state of Texas or waters of the U.S. WST Landfill will comply with all applicable TPDES stormwater permitting requirements and the CWA Section 402, as amended. WST will file a Notice of Intent (NOI) and obtain the appropriate TPDES permit coverage when required.

21. Abandoned Oil and Water Wells [30 TAC 330.61(l)]

21.1 Abandoned Water Wells

No abandoned water wells have been identified within the permit boundary. In the event that any abandoned water wells are discovered on the landfill, they will be properly abandoned in accordance with all regulations and rules. WST will provide a certification to TCEQ that the wells were properly capped, plugged, and closed a minimum of 30 days prior to construction.

21.2 Nearby Wells

A search of active water wells located within 1 mile of the WST property was conducted using the available TWDB online database, which includes water wells, brackish wells, and submitted drillers reports (TWDB, 2020c). A total of 28 water wells were identified within 1 mile of the subject property (Figure I/II-5-8). Based on the TWDB primary water use category, four of the nine water wells are for irrigation and stock designated uses. All nine water wells located within 1 mile of the subject property are completed in the Pecos Valley alluvium, with total well depths between 215 and 685 feet bgs (TWDB, 2020c). Water well locations, including the TWDB well identification numbers, are provided on Figure I/II-5-8.

When WST purchased the property, a non-potable water well was located near the northwest corner of the property (not within the permit boundary). WST provided that the total depth of this well is 430 feet, and that it has a chloride concentration of over 11,000 mg/L. This well in not currently in operation. DBS&A was unable to locate a TWDB well identification number for this well. Investigation into the permit status of this WST non-potable well will follow; if needed, a permit application will be submitted to the TWDB.

21.3 Abandoned Oil Wells

No abandoned oil and gas wells have been identified on the WST property. If any crude oil, natural gas wells or other wells associated with mineral recovery are located during construction or operation, notice of their location(s) will be provided to the TCEQ and RRC within 30 days of discovery. Oil and gas wells found within the permit boundary that may affect landfill operations will be properly capped, plugged, and closed in accordance with all applicable RRC rules and regulations and written certification will be provided to the TCEQ. Requirements of the RRC will also be followed and documented.

21.4 Oil and Gas Wells Located within 1 mile

A search for crude oil and natural gas wells was performed using the RRC online database (RRC, 2024), and 49 records were identified for wells located within 1 mile (Figure I/II-5-9). Of the oil and gas wells located within 1 mile of the subject property, 9 are oil and gas wells, 23 are horizontal drainhole locations, 2 are injection disposal wells, 5 are dry holes, 1 is shut-in or temporarily plugged, and 9 have been plugged (RRC, 2024). The closest gas well is across the unnamed private road on the northeast side of the landfill (Figure I/II-5-9) (RRC, 2025). No production wells exist on the WST property.

22. Floodplains and Wetlands [30 TAC 330.61(m)]

A discussion of floodplains and wetlands at the site is provided in the following subsections.

22.1 Floodplains

The facility is located is an area that is not mapped by the Federal Emergency Management Agency (FEMA), so no 100-year floodplain information is available. The Pecos River floodplain does not extend this far to the west, as the river is 6 miles away. A full description of the floodplain assessment, including review of Texas-lead statewide floodplain mapping, is provided in the drainage report (Attachment III-3).

In accordance with 30 TAC 330.547, no solid waste disposal operations will be permitted in areas that are located in a 100-year floodway as defined by FEMA unless they do not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

DBS&A completed an analysis guided by the Texas-lead floodplain data to demonstrate that the run-on infrastructure is capable of managing run-on flow to the property.

Average annual precipitation near the proposed facility is 11.67 inches per year over the 80-year historical record reported for the 604 quadrangle (TWDB, 2020a). Total annual precipitation in this area has ranged from a maximum of 25.34 inches in 1941 to 2.57 inches in 2011—the driest year on record. The average monthly precipitation is 0.97 inch with a range of 0 to 8.77 inches. The majority of precipitation falls in May through September. Precipitation statistics are provided in Table I/II-2-2.

This part of Texas has some of the highest evaporation rates, often exceeding rainfall (Freese and Nichols, 2020). The average annual evaporation is 67.95 inches over the 66-year record from 1954 to 2019. Annual evaporation totals range from 48.37 to 92.81 inches, with the most evaporation in 1999 and the least evaporation in 2015. Average monthly evaporation is 5.66 inches, with a range of 0 to 13.29 inches. Gross evaporation statistics are provided in Table I/II-2-3.

Table I/II-2-2. Precipitation Data for Texas Water Development Board Quadrangle 604

Month	Number of Records	Precipitation (inches)					
		Minimum	Maximum	Mean	Median	10th Percentile	90th Percentile
January	80	0	3.25	0.55	0.33	0.01	1.27
February	80	0	4.18	0.45	0.19	0.02	1.19
March	80	0	2.36	0.39	0.21	0.01	0.99
April	80	0	4.18	0.56	0.34	0.02	1.38
May	80	0	7	1.19	0.93	0.21	2.43
June	80	0.05	4.81	1.28	1.23	0.24	2.18
July	80	0.03	5.41	1.59	1.31	0.34	3.17
August	80	0.13	5.74	1.53	1.16	0.35	3.17
September	80	0.01	8.77	1.93	1.38	0.4	3.93
October	80	0	4.63	1.23	0.7	0.08	2.81
November	80	0	4.18	0.49	0.27	0	1.18
December	79	0	3.62	0.49	0.34	0.01	1.05
Monthly	959	0	8.77	0.97	0.59	0.03	2.46
Annual	80	2.57	25.34	11.67	10.38	7.50	17.81

Source: TWDB, 2020b

Table I/II-2-3. Gross Evaporation Data for Texas Water Development Board Quadrangle 604

Month	Number of Records	Evaporation (inches)					
		Minimum	Maximum	Mean	Median	10th Percentile	90th Percentile
January	66	1.35	5.67	2.7	2.63	1.86	3.62
February	66	1.95	6.3	3.37	3.26	2.34	4.53
March	66	2.73	7.31	5.42	5.53	4.1	6.64
April	66	4.78	10.4	7.08	6.98	5.71	8.69
May	66	4.69	10.99	7.51	7.55	5.71	9.96
June	66	4.12	13.29	8.5	8.52	6.31	10.36
July	66	4.49	12.29	8.44	8.61	6.02	10.91
August	66	3.87	12.91	7.66	7.71	5.28	9.75
September	66	2.83	9.01	5.99	5.78	4.49	8.04
October	66	2.35	7.9	4.89	4.75	3.66	6.38
November	66	1.87	6.53	3.57	3.63	2.34	4.64
December	65	0	5.91	2.79	2.75	1.55	3.98
Monthly	791	0	13.29	5.66	5.52	2.5	9.01
Annual	66	48.37	92.81	67.95	66.95	53.61	83.31

Source: TWDB, 2020b

WST Landfill will be designed, constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year rainfall event and will prevent the off-site discharge of waste material. Surface water drainage in and around a facility will be controlled to minimize surface water run-on and runoff, with the collection and control of at least the runoff volume resulting from a 24-hour, 25-year storm from the active portion of the landfill. The 24-hour storm intensities for the 5-, 10-, 25-, and 100-year storms are shown on Table I/II-2-4.

Table I/II-2-4. 24-Hour Storm Intensity by Interval

24-Hour Storm Event (Year)	Intensity (inches)
5	2.62
10	3.18
25	3.98
100	5.29

Source: NOAA, 2020

The landfill design will provide effective erosional stability to top dome surfaces and external embankment side slopes, during operation, closure, and post-closure. The existing facility drainage patterns will not be adversely altered as a result of the proposed facility.

The facility surface water drainage report addresses run-on, contact water, erosion, and soil loss from water (Attachment III-3).

WST will properly handle, store, and dispose of any surface or groundwater that becomes contaminated by contact with the working face of the landfill or with leachate. This is discussed further in the leachate and contaminated water plan (LCWP) (Appendix III-4-B).

22.2 Wetlands

A delineation of waters of the U.S., including wetlands, was performed by HDR (HDR, 2014) (Attachment I/II-11). The permit boundary is bordered to the north by CR 415, to the east by an unnamed gravel road; the west and south side are open to property owned by WST. A field survey was conducted on August 26 and 27, 2014 in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement for the Arid West Region (USACE, 2008a) in support of an evaluation of potential permitting requirements of Section 404 of the CWA. Based on HDR's review of topographic maps and aerial photography, areas potentially containing waters of the U.S. (i.e., stream corridors) and wetlands (areas adjacent to streams or with little slope and depressional areas) were evaluated in the field. Th evaluation used routine on-site delineation methods and recorded using a sub-meter global positioning system (GPS) unit (Attachment I/II-11).

HDR identified one drainage feature in the study area that was not considered a water of the U.S.; this feature is characterized as a drainage ditch in uplands, based on guidance from the USACE and EPA (Attachment I/II-11). This feature is identified on the aerial photograph

provided in Appendix B of the pre-purchase wetlands and endangered species report (Attachment I/II-11). Based on the HDR evaluation, no waters of the U.S. were identified within the study area, and the WST Landfill property does not include any wetlands.

Additional documentation regarding the lack of wetlands is provided in the biological evaluation, including information regarding lack of wetland species on-site and lack of high-water marks used to define wetlands (Attachment I/II-11).

22.2.1 U.S. Army Corps of Engineers

DBS&A sent a letter to the U.S. Army Corps of Engineers (USACE), Albuquerque District for coordination purposes, per 30 TAC 330.23(b) on April 20, 2021 by certified mail (Attachment I/II-11). The letter requested USACE review of the findings of the delineation of waters of the U.S., including wetlands, which was performed on the property in 2014 by HDR. The letter also requested a jurisdictional determination from the USACE to determine the need for a permit. No response was received from the April 2021 letter request, so the letter was resent on March 15, 2024 (Attachment I/II-11). In a letter dated May 9, 2024, USACE responded with a determination that a Department of the Army permit is not required because the site consists entirely of uplands (Attachment I/II-11).

23. Endangered and Threatened Species [30 TAC 330.61(n)]

DBS&A conducted a Biological Evaluation (BE) at the project site in January 2022, revised March 2024, which is available in Attachment I/II-11. This BE, in addition to communications with the Texas Parks and Wildlife Department (TPWD) and U.S. Fish and Wildlife Service (USFWS) (discussed below), confidently concluded that WST Landfill and its operations will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species. Additionally, it will not cause or contribute to the taking of any endangered or threatened species. There will be "no effect" to any federally listed threatened or endangered species. Recommendations from TPWD regarding potential state listed species are incorporated into the SOP (Part IV).

23.1.1 Texas Parks and Wildlife Department

Per 30 TAC 330.61(n), DBS&A sent an e-mail to TPWD to request a project review on April 23, 2021 (Attachment I/II-11). A TPWD project review request form, figures showing the topography and aerial photography, and recent site photographs were provided. Current Texas Natural Diversity Database (TXNDD) data on rare, threatened, and endangered species, natural communities, and other significant features of concern to TPWD were also provided. The letter requested an evaluation of the proposed facility's potential impacts to wildlife and habitat, and any concerns regarding the proposed facility.

DBS&A received a comment letter from TPWD in response to the project review request on June 3, 2021. The agency made a series of general construction recommendations, including excluding vegetation-clearing activities during the general bird nesting season of March 15 through September 15 to avoid adverse impacts to breeding birds. They also noted that the project area may provide suitable habitat for the state-listed threatened Texas horned lizard, and provided best management practices (BMPs) to implement to minimize potential impacts to this species (e.g., contractor training, having an on-site biological monitor, speed limits, and covering trenches at night). They also provided recommendations for minimizing any potential impacts to species of greatest conservation need (i.e., species tracked by TPWD that are not listed as threatened or endangered), which in Reeves County include the western box turtle, gray-checkered whiptail (lizard), western rattlesnake, western massasauga (rattlesnake species), black-tailed prairie dog, and western burrowing owl. The response letter from TPWD is provided in Attachment I/II-11. The recommendations that WST will implement are described in the SOP (Part IV).

23.1.2 U.S. Fish and Wildlife Service

DBS&A sent an e-mail to USFWS to request a project review per 30 TAC 330.61(n) on April 21, 2021 (Attachment I/II-11). Figures showing the topography, aerial photography and recent site photographs were provided, in addition to a summary of the USFWS consultation that HDR received on the subject property in 2014. Included in the letter was a list of species included on the USFWS Information for Planning and Consultation (IPaC) resources list in 2020. The letter requested a review of the conclusion that the proposed facility and its operation will not result in the destruction or adverse modification of critical habitat of endangered or threatened species, or cause or contribute to take of any federally listed endangered or threatened species.

In response to this letter, Jacob Ogdee with the USFWS Austin Ecological Services Field Office called DBS&A on May 12, 2021. He said that based on the previous and current use of the

property, USFWS does not expect any Endangered Species Act impacts to result from the proposed project, and that USFWS agrees with the no effect determination (Ogdee, 2021). After this call, a BE was completed at the site, and DBS&A provided the BE to USFWS on July 21, 2022 by e-mail. USFWS sent an e-mail on July 21, 2022 in response to the BA/BE submittal stating that USFWS does not provide written review of non-federal projects.

24. Texas Historical Commission [30 TAC 330.61(o)]

DBS&A sent a letter to the Texas Historical Commission (THC) requesting a project review per 30 TAC 330.61(o) on April 23, 2021 by certified mail. A THC request for the State Historic Preservation Officer (SHPO) consultation form was included with the letter (Attachment I/II-11), and a review letter documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code was requested. The April 2021 request to the THC included figures showing the topography, and current and historical aerial photography, as well as recent site photographs and the proposed landfill layout.

DBS&A received an e-mail from THC in response to the project review request on May 17, 2021. THC determined that no historic properties are present or affected by the project as proposed; however, an archaeological survey meeting the Texas Archaeological Survey Standards was required. The report must conform to the Secretary of the Interior's Guidelines for Archaeology and Historic Preservation, and be provided to THC for review.

On behalf of WST, DBS&A contracted with TRC Companies, Inc. to complete this requirement. A survey report was completed and provided to the THC. THC sent an approval letter dated December 29, 2021 (Attachment I/II-11) indicating compliance with the Antiquities Code of Texas; the letter also requested a few minor edits to the report. THC comments were addressed, and the final survey report is provided in Attachment I/II-11. An automated receipt response from THC dated January 7, 2022 and an acknowledgment of receipt of paper report copies on July 14, 2022 are also provided in Attachment I/II-11.

25. Local Government Review [30 TAC 330.61(p)]

25.1.1 Regional Planning Agencies

WST Landfill is located within the jurisdiction of the Permian Basin Regional Planning Commission (PBRPC), the Economic Development District that represents 17 counties within the Permian Basin of Northwest Texas. On July 21, 2021, DBS&A sent a coordination letter by certified mail to the PBRPC for coordination purposes per 30 TAC 330.61(p) (Appendix I/II-2-A). This letter informed the PBRPC of the proposed landfill, provided Parts I and II of the facility's permit application for review, and requested a response letter regarding compliance with local solid waste plans.

Prior to sending DBS&A's July 2021 letter to the PBRPC, the planning commission's 2002-2022 Regional Solid Waste Management Plan (RSWMP) was reviewed and confirmed for alignment with the proposed facility's operations. Most notably, WST Landfill was anticipated to satisfy Goal #1 stated in the 2002-2022 plan, which sought provide for adequate landfill capacity across the region, as well as Goal #4, which aimed to encourage communities to develop solid waste disposal and transfer facilities in the region. On September 14, 2021, the PBRPC sent a response letter to DBS&A which asserted WST Landfill's congruence with the Regional Solid Waste Plan and expressed that the commission "recommends that the application moves forward for permitting" (Appendix I/II-2-A).

Since the submittal of DBS&A's July 2021 coordination letter to the PBRPC, the commission's RSWMP has been updated to reflect the region's future long-term solid waste management plans spanning the years 2022-2042. The PBRPC redefines its regional goals and objectives within this updated plan, including two of which WST Landfill particularly anticipates to satisfy Goal #3, which aims to ensure adequate landfills for the future, and Goal #4, which seeks to increase the collection of household hazardous waste (HHW). WST Landfill expects to support these goals as it will serve Pecos and neighboring communities within Culberson, Jeff Davis, Loving, Pecos, Reeves, and Ward Counties for upward of 115 years, and will be permitted to accept municipal hazardous waste produced by Resource Conservation and Recovery Act (RCRA) conditionally exempt small quantity generators (CESQGs) and very small quantity generators (VSQGs) (encompassing most producers of household hazardous waste [HHW]). The proposed landfill by WST is additionally mentioned within the PBRPC's 2022-2042 RSWMP, further confirming the facility's alignment to the region's long-term plans for solid waste management.

25.1.2 Local Governments

The site is located outside the city limits and the extraterritorial jurisdiction of the Town of Pecos. A review letter was not requested from Reeves County, as Reeves County does not have a solid waste ordinance or a floodplain administrator. However, coordination has been provided with Reeves County Road and Bridge Department regarding access.

26. Special Appointments

The Notice of Engineer's Appointment follows.

Notice of Appointment

Engineer's Appointment

April 5, 2021

Mr. Toby Baker, MC109
Executive Director, TCEQ
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Baker,

This letter is being sent to provide the TCEQ with notice that West Sun Tex, LLC (WST) has duly appointed Daniel B. Stephens & Associates, Inc. (DBS&A) as WST's consulting and design engineers for the purpose of submitting engineering reports and planning materials for the WST Permian Landfill permit application, which is a proposed Type I Municipal Solid Waste landfill to be located in Reeves County, Texas, and acting as agent for WST. DBS&A is an engineering firm that employs professional engineers and professional geoscientists who are in good standing, in accordance with state statutes. The firm has extensive experience designing and overseeing the construction of similar facilities. Mr. Gundar Peterson, P.E., Vice President, is the engineer of record for this application, and he meets the requirements of 30 TAC 305.44.

I authorize TCEQ's review and comment on the engineering reports, planning materials, and data submitted by DBS&A in support of the proposed project.

Sincerely,

T. Mussani

Tariq Mussani
Manager, West Sun Tex, LLC

References

Algermissen, S.T., D.M. Perkins, P.C. Thenhaus, S.L. Hanson, and B.L. Bender. 1990. *Probabilistic earthquake acceleration and velocity maps for the United States and Puerto Rico*. U.S. Geological Survey Miscellaneous Field Studies Map Series 2120, Plate 2. Available at <https://pubs.er.usgs.gov/publication/mf2120>. Accessed August 13, 2020.

Daniel B. Stephens & Associates, Inc. (DBS&A). 2022. *Biological assessment/biological evaluation, WST Permian Landfill, Pecos, Texas.* Prepared for West Sun Tex, LLC, Southlake, Texas. January 5, 2022.

DBS&A. 2024. *Biological evaluation, WST Landfill, Pecos, Texas.* Prepared for West Sun Tex, LLC, Southlake, Texas. Revised March 2024.

Federal Aviation Administration (FAA). 2007. *Hazardous wildlife attractants on or near airports*. August 2007.

Freese and Nichols, Inc. (Freese and Nichols). 2020. 2021 Region F Water Plan, Initially Prepared Plan, Volume I. March. Available at <https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp>. Accessed July 10, 2020.

HDR Engineering, Inc. (HDR). 2014. *Delineation of waters of the U.S. and endangered species report, West Sun Tex pre-purchase activities*. September 2014.

Knowles, D.B. and J.W. Lang. 1947. *Preliminary report on the geology and ground-water resources of Reeves County, Texas*. Prepared in cooperation with the U.S. Department of the Interior Geological Survey and Bureau of Reclamation. Texas Board of Water Engineers. July 1947.

Meyer, J.E., M.R. Wise, and S. Kalaswad. 2012. *Pecos Valley aquifer, West Texas: Structure and brackish groundwater*. Texas Water Development Board Report 382. June 2012.

National Oceanic and Atmospheric Administration (NOAA). 2020. Precipitation frequency data. Atlas 14, Volume 11, Version 2. Pecos, Texas. Available at <https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=tx>. Accessed July 23, 2020.

Natural Resources Conservation Service (NRCS). 2014. Custom soil resources report for Reeves County, Texas. August 5, 2014.

Ogdee, J. 2021. Personal communication between Jacob Ogdee, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, and Amy Ewing, DBS&A. May 12, 2021.

Pecos Economic Development Corporation (Pecos EDC). 2020a. Business in Pecos. Available at <https://pecosedc.com/business-pecos>. Accessed August 23, 2020.

Pecos EDC. 2020b. Success stories. Available at <https://pecosedc.com/success-stories>. Accessed August 23, 2020.

Railroad Commission of Texas (RRC). 2020a. Permian Basin Information. Available at <https://www.rrc.state.tx.us/oil-gas/major-oil-and-gas-formations/permian-basin-information/>. Accessed September 1, 2020.

RRC. 2020b. Texas Monthly Oil & Gas Production by County Ranking. Available at <https://www.rrc.state.tx.us/oil-gas/research-and-statistics/production-data/texas-monthly-oil-gas-production-texas-counties-rankings/>. Accessed September 1, 2020.

(RRC). 2024. Oil and Gas Well Data. Available at < https://www.rrc.texas.gov/about-us/resource-center/research/data-sets-available-for-download/>. Accessed February 9, 2024

Terracon. 2014. *Subsurface exploration report, Pecos oil and gas disposal facility*. Pecos, Reeves County, Texas. October 9, 2014.

TRC Environmental Corporation (TRC). 2022. *Archeological survey of the proposed West Sun Tex Permian Landfill in Reeves County, Texas.* Prepared for Daniel B. Stephens & Associates, Inc., Albuquerque, New Mexico. January 6, 2022.

Texas Demographic Center (TDC), Texas Population Projections Program. Available at < https://demographics.texas.gov/Projections/>. Accessed November 4, 2025.

Texas Water Development Board (TWDB), 2020a. Water data for Texas, Texas lake evaporation and precipitation. Available at <https://waterdatafortexas.org/lake-evaporation-rainfall>. Accessed August 18, 2020.

TWDB. 2020b. Groundwater Management Area 3. Available at <https://www.twdb.texas.gov/groundwater/management_areas/gma3.asp>. Accessed August 17, 2020.

TWDB. 2020c. Groundwater Database (GWDB) Reports. Available at <http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp>. Accessed February 1, 2024.

U.S. Fish and Wildlife Service (USFWS). 2020a. Endangered species review IPaC resources list. Available at <https://ecos.fws.gov/ipac/>. Accessed August 19, 2020.

USFWS. 2020b. Critical Habitat Mapper for threatened and endangered species. Available at <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed August 18, 2020.

U.S. Geological Survey (USGS). 2020a. *Geologic atlas of Texas*. Available at <https://txpub.usgs.gov/txgeology/>. Accessed August 14, 2020.

USGS. 2020b. Earthquake Hazards Program, Online Unified Hazard Tool. Available at <https://earthquake.usgs.gov/hazards/interactive/>. Accessed August 20, 2020.

Walton Family Foundation. 2019. *Most dynamic micropolitans*. February 2019. Available at <https://pecosedc.com/sites/default/files/files/most-dynamic-micros-final-edits.pdf>. Accessed August 23, 2020.

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Appendix I/II-2-A

Permian Basin Regional Planning Commission Coordination

DBS&A
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July 21, 2021

Ms. Virginia Belew
Executive Director
Permian Basin Regional Planning Commission
P.O. Box 60660
Midland, Texas 79711-0660

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Ms. Belew:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The facility entrance will be off of CR 408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the Permian Basin Regional Planning Commission (PBRPC) as the appropriate regional council of government, for coordination purposes per 30 TAC 330.61(p). We have reviewed the PBRPC's 2002-2022 Regional Solid Waste Management Plan, and feel that the proposed facility fits with the PBRPC's regional goals, especially Goal #1, providing adequate landfill capacity across the region, and Goal #4, encouraging communities to develop solid waste disposal and transfer facilities in the region. The purpose of this letter is to inform the PBRPC of the proposed facility, and to provide you with Parts I and II of the landfill application, for review. We request a review letter, regarding compliance with local solid waste plans.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Gundar Peterson, P.E.
Vice President

AE/rpf
Attachments (2 copies of Parts I and II of the Permian Landfill permit application)

Daniel B. Stephens & Associates, Inc.
6020 Academy NE, Suite 100 505-822-9400
Albuquerque, NM 87109 FAX 505-822-8877

Permian Basin Regional Planning Commission
P.O. BOX 60660 • 2910 LAFORCE BOULEVARD • MIDLAND, TEXAS 79711-0660 • (432) 563-1061 • FAX (432) 563-1728

VIRGINIA BELEW
Executive Director

September 14, 2021

Gundar Peterson, Principal Engineer
Daniel B Stephens & Associates
6020 Academy Rd, NE, Suite 100,
Albuquerque, New Mexico, 87109

Re: West Sun Tex, LLC Type 1 MSW Landfill Project, Reeves County

Dear Mr. Peterson:

The Permian Basin Regional Planning Commission, Solid Waste department received the landfill application for a Type 1 MSW landfill in Reeves County. The application and assorted documents were sent out to the Permian Basin Solid Waste Advisory Committee members for review and comment. The responses received were favorable, as the Solid Waste Advisory Committee recognized the benefit of the landfill to the community and therefore, the region. The project is consistent with the regional solid waste plan and is planned to benefit the quality of life of the community and region's citizens.

The PBRPC and Solid Waste Advisory Committee agrees that there are no concerns and recommends that the application moves forward for permitting.

If you have any questions or require further information, please contact me at (432) 563-1061.

Sincerely,

Hridoy Haq
Permian Basin Regional Planning Commission
Regional Services Program Manager

Cc Rex Thee, Permian Basin Solid Waste Advisory Chairman

Attachment I/II-3

Legal Property Descriptions

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2 Wire Powerline

Buried "Medera Valley Water Supply Corp." Line

Buried "Contel" Phone Line

N

0 375 750 ft

Explanation

- Buried "Contel" Phone Line
- Buried "Medera Valley Water Supply Corp." Line
- 2 Wire Powerline
- Permit boundary
- Landfill footprint

Aerial image: Maxar, Vivid 2/11/2022, ESRI Inc..

STATE OF TEXAS
GUNDAR PETERSON
103091
LICENSED
PROFESSIONAL ENGINEER
7/22/2026

DBS&A a Geo-Logic Company

3/24/2026 DB20.1166

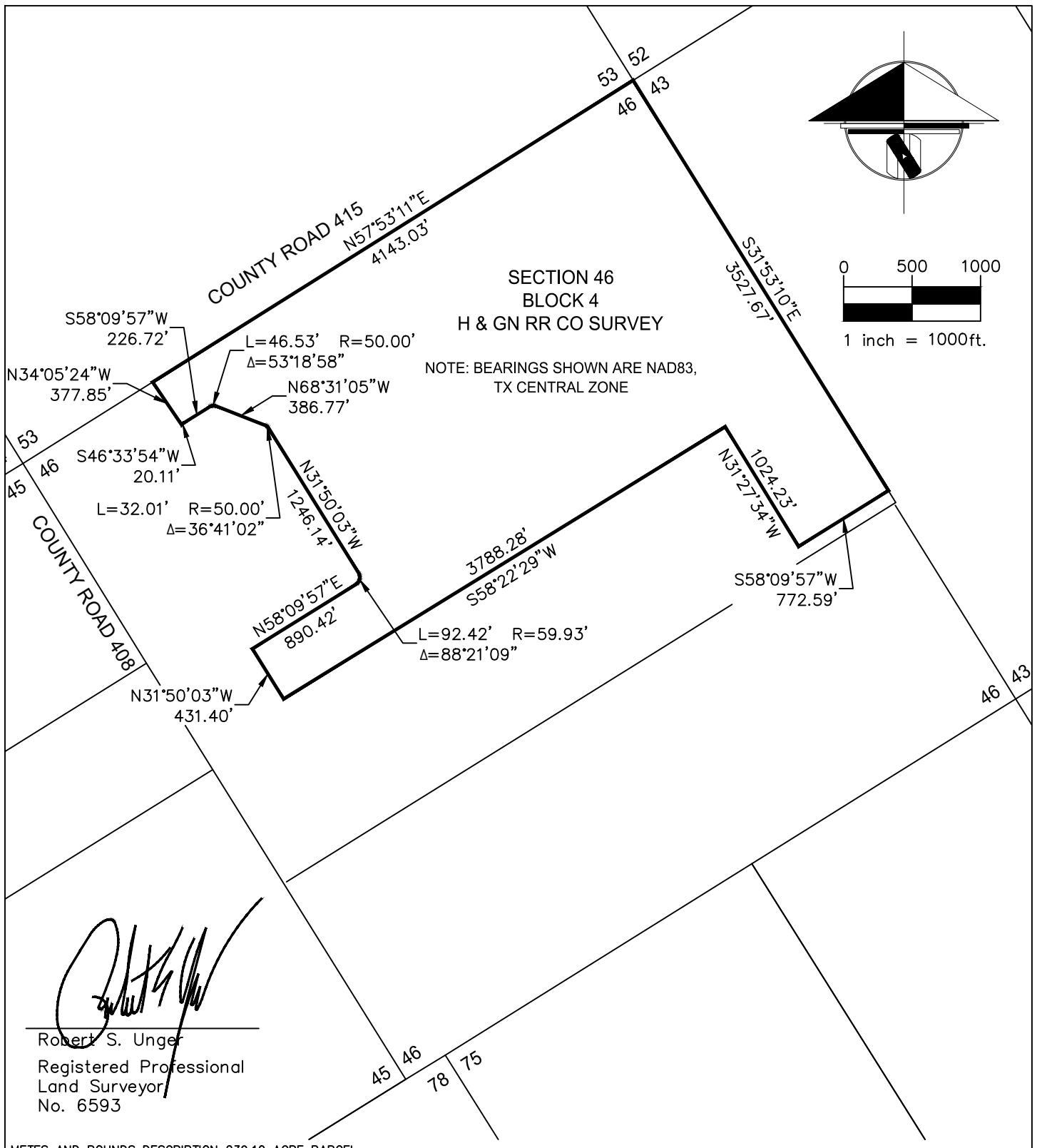
WST LANDFILL

Survey Easements Section Lines and Facility Location

Figure I/II-3-1

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Robert S. Unger
Registered Professional
Land Surveyor
No. 6593

METES AND BOUNDS DESCRIPTION 239.10 ACRE PARCEL

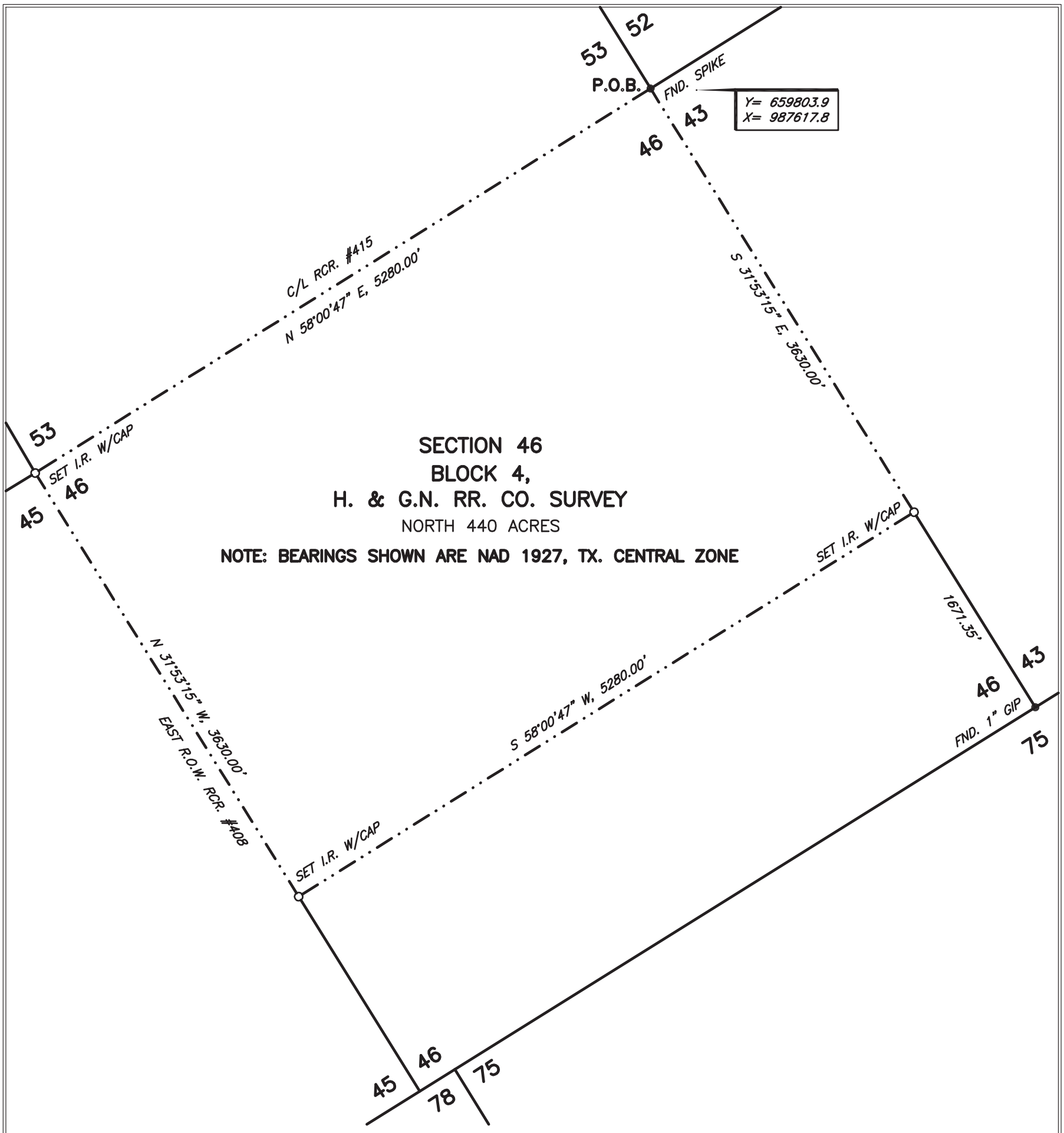
BEING a proposed boundary situated in ABSTRACT NO. 403, SECTION 46, BLOCK 4, H&GN R.R. CO SURVEY, Reeves County, Texas. Said boundary being more particularly described as follows:

BEGINNING at the Northeast corner of said SECTION 46, from which the calculated Northwest corner of said SECTION 46 bears S58°19'16"W, a distance of 5280.00 feet;
THENCE S31°53'10"E, along the East line of said SECTION 46, a distance of 3527.67 feet;
THENCE leaving said East line, S58°09'57"W, a distance of 772.59 feet to a set 1/2" rebar with cap;
THENCE N31°27'34"W, a distance of 1024.23 feet to a set 1/2" rebar with cap;
THENCE S58°22'29"W, a distance of 3788.28 feet to a set 1/2" rebar with cap;
THENCE N31°50'03"W, a distance of 431.40 feet to a set 1/2" rebar with cap;
THENCE N58°09'57"E, a distance of 890.42 feet to a set 1/2" rebar with cap and the beginning of a tangent curve to the left;
THENCE Northeasterly, along said curve to the left, having a radius of 59.93 feet, a central angle of 88°21'09", an arc length of 92.42 feet to said curve's end and a set 1/2" rebar with cap;
THENCE N31°50'03"W, a distance of 1246.14 feet to a set 1/2" rebar with cap and the beginning of a tangent curve to the left;
THENCE Northwesterly, along said curve to the left, having a radius of 50.00 feet, a central angle of 36°41'02", an arc length of 32.01 feet to said curve's end and a set 1/2" rebar with cap;
THENCE N68°31'05"W, a distance of 386.77 feet to a set 1/2" rebar with cap and the beginning of a tangent curve to the left;
THENCE Northwesterly, along said curve to the left, having a radius of 50.00 feet, a central angle of 53°18'58", an arc length of 46.53 feet to said curve's end and a set 1/2" rebar with cap;
THENCE S58°09'57"W, a distance of 226.72 feet to a set 1/2" rebar with cap;
THENCE S46°33'54"W, a distance of 20.11 feet to a set 1/2" rebar with cap;
THENCE N34°05'24"W, a distance of 377.85 feet to the North line of said SECTION 46 and a set 1/2" rebar with cap;
THENCE N57°53'11"E, along said North line, a distance of 4143.03 feet to the POINT OF BEGINNING.

STATE OF TEXAS
REGISTERED
ROBERT S. UNGER
6593
PROFESSIONAL
LAND SURVEYOR

TITLE:	TCEQ
DATE:	03/15/26
DESC:	PERMIT BOUNDARY

SYNERGY GEOMATICS
2125 E. 5th STREET, #101
TEMPE, AZ 85281
PH: (480) 406-3648
EMAIL: rob@syn-geo.com



DESCRIPTION

Description of a 440 acre tract of land described as the Northwest 440 acres in Volume 822, Page 509 of the Deed Records of Reeves County, Section 46, Block 4, H. & G.N. RR. Co. Survey, Reeves County, Texas:

Beginning at a spike nail found for the common Northeast corner of this and said Section 46 in the center of RCR #415 from whence a 1 1/2" G.I.P found for the Northeast corner of Section 43 bears N 57°59'25" E, 5279.52 feet;

Thence S 31°53'15" E, 3630.00 feet to a 1/2" iron rebar with cap set for the Southeast corner of this from whence a 1" iron pipe found for the Southeast corner of said Section 46 bears S 31°53'15" E, 1671.35 feet;

Thence S 58°00'47" W, 5280.00 feet to a 1/2" iron rebar with cap set for the Southwest corner of this in the east right of way of RCR #408:

Thence N 31°53'15" W, 3630.00 feet to a 1/2" iron rebar with cap set for the common Northwest corner of this and said Section 46 in the center of RCR #415;

Thence N 58°00'47" E, 5280.00 feet to the place of beginning.

STATE OF TEXAS
REGISTERED
JEFFREY D. SUITER
4650
PROFESSIONAL
LAND SURVEYOR

Note: For survey construction, corner descriptions and records references, see supporting documents in file.

Jeffrey D. Suiter
Registered Professional Land Surveyor No. 4650

PROFESSIONAL LAND SURVEYORS
Well Locations
Pipelines
LUCHINI & MERTZ
Boundary Surveys

June 4, 2014
Job# 140604NS

P. O. Box 1963 Midland, Texas 79702 (432) 684-6728 Firm# 10086500

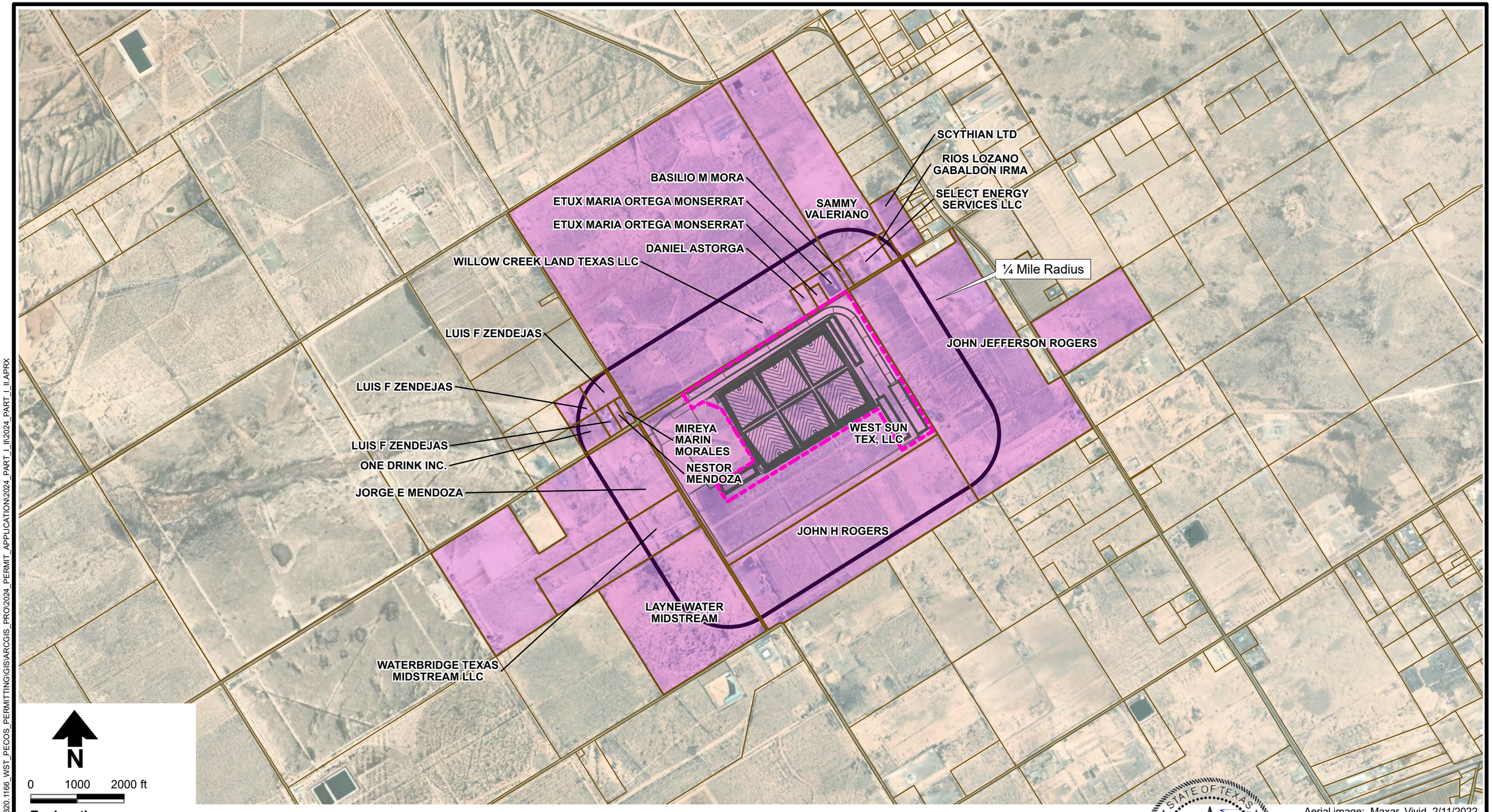
N
W E
S
SCALE: 1" = 1000'
0' 500' 1000'

Attachment I/II-4

Land Ownership Information

DBS&A
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Notes:
1. Parcel delineations and land ownership retrieved from the Reeves County Appraisal District (March 2026).
2. A targeted property search provides landowners within the 1/4 mile radius of the facility which were not able to be located geospatially; these entities have been included in the land ownership list which corresponds to this map. These include: Danny A. Raspberry, Alan I & Margarita Suchil, Roy Hurd Manahan, JVIZ Inc., Ernest F. Smith III, and Jamie Caso Calderon.

Aerial image: Maxar, Vivid 2/11/2022

STATE OF TEXAS
GUNDAR PETERSON
103091
LICENSED
PROFESSIONAL ENGINEER
7/22/2026

DBS&A
a Geo-Logic Company

3/24/2026 DB20.1166

WST LANDFILL
Land Ownership Map

Figure I/II-4-1

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Table I/II-4-1. Owner Information for Property Located within ¼ mile of Proposed Facility

Property ID	Property Description	Legal Acreage	Owner Name	Mailing Address				Deed Date
				Address	City	State	Zip Code	
4632	AB 1391 BLK 4 SEC 46 H&GN N/440 AC	440.0	West Sun Tex, LLC	P.O. Box 1737	Eunice	NM	88231-1737	12/08/2014
16438	AB 1391 BLK 4 SEC 46 H&GN SE/200 AC	198.80	John H. Rogers	P.O. Box 2186	Pecos	TX	79772-2186	12/13/1995
3193	AB 1391 BLK 4 SEC 46 H&GN	1.20	Texas New Mexico Power Company	Alvarado Square MS 2708	Albuquerque	NM	87158-0001	N/A
5460	AB 403 BLK 4 SEC 45 H&GN OUT N/2	2.0	Jorge E. Mendoza	P.O. Box 10	Pecos	TX	79772-0010	11/15/2005
5461	AB 403 BLK 4 SEC 45 H&GN (OUT OF N/2)	18.0	Jorge E. Mendoza	P.O. Box 10	Pecos	TX	79772-0010	11/15/2005
7575	AB 403 BLK 4 SEC 45 H&GN OUT N/2	222.59	Jorge E. Mendoza	P.O. Box 10	Pecos	TX	79772-0010	06/28/2007
13992	AB 403 BLK 4 SEC 45 H&GN SE/4 FDIC ASSET #351061013	160.0	Layne Water Midstream	1780 Hughes Landing Blvd., Ste 800	Spring	TX	77380-4014	12/12/2018
33596	AB 403 BLK 4 SEC 45 H&GN OUT N/2	77.41	Waterbridge Texas Midstream, LLC	840 Gessner Rd., Ste 100	Houston	TX	77024-4143	02/07/2019
25444	AB 1729 BLK 4 SEC 54 H&GN SW/4 SE/4 SE/4	10.0	One Drink, Inc.	P.O. Box 1908	Pecos	TX	79772-1908	08/08/2016
5502	AB 1729 BLK 4 SEC 54 H&GN NE/4 SE/4 SE/4	10.0	Luis F. Zendejas	P.O. Box 270	Pecos	TX	79772-0270	12/14/2018
25340	AB 1729 BLK 4 SEC 54 H&GN SE/4 SE/4 SE/4	4.01	Luis F. Zendejas	P.O. Box 270	Pecos	TX	79772-0270	12/14/2016
25633	AB 1729 BLK 4 SEC 54 H&GN NW/4 SE/4 SE/4	10.0	Luis F. Zendejas	P.O. Box 270	Pecos	TX	79772-0270	04/06/2017
29360	AB 1729 BLK 4 SEC 54 H&GN SE/4 SE/4 SE/4	2.0	Nestor Mendoza	P.O. Box 10	Pecos	TX	79772-0010	11/19/2013
31043	AB 1729 BLK 4 SEC 54 H&GN SE/4 SE/4 SE/4	3.0	Mireya Marin Morales	P.O. Box 885	Pecos	TX	79772-0885	06/19/2015
16349	AB 407 BLK 4 SEC 53 H&GN S/2 & NE/4	440.0	Willow Creek Land Texas, LLC	4189 N 900 W	Pleasant Grove	UT	84062-8752	10/04/2017
6250	AB 407 BLK 4 SEC 53 H&GN S/PARTS #180256	5.0	Roy Hurd Manahan	P.O. Box 1247	Pecos	TX	79772-1247	11/05/2013
7627	AB 407 BLK 4 SEC 53 H&GN S/2	2.0	Ernest F. Smith III	P.O. Box 643	Pecos	TX	79772-0643	05/15/2006
11842	AB 407 BLK 4 SEC 53 H&GN OUT S/2 S# TX3111333 A & B	5.0	Danny A. Raspberry	P.O. Box 1004	Pecos	TX	79772-1004	08/13/1999
16892	AB 407 BLK 4 SEC 53 H&GN (OUT OF THE SE/PT)	5.0	Alan I & Margarita Suchil	9914 W County Rd. 77	Pecos	TX	79707-1488	08/14/2017
17292	AB 407 BLK 4 SEC 53 H&GN	3.0	JVIZ Inc.	189 SE Loop 388	Odessa	TX	79766	03/03/2025
17754	AB 407 BLK 4 SEC 53 H&GN SW Part	5.0	JVIZ Inc.	189 SE Loop 388	Odessa	TX	79766	03/03/2025
18703	AB 407 BLK 4 SEC 53 H&GN OUT S/2	8.0	Etux Maria Ortega Monserrat	P.O. Box 69	Barstow	TX	79719-0069	12/21/2001
6283	AB 407 BLK 4 SEC 53 H&GN OUT S/2 SER #0C05903543A&B	2.0	Etux Maria Ortega Monserrat	P.O. Box 69	Barstow	TX	79719-0069	12/21/2001
6155	AB 407 BLK 4 SEC 53 H&GN OUT S/2SN #PHO59918A	5.0	Daniel Astorga	11345 W Ranch Ct.	El Paso	TX	79934	10/27/2022
10523	AB 1761 BLK 4 SEC 52 H&GN	14.5	Select Energy Services, LLC	515 Post Oak Blvd., Ste 200	Houston	TX	77027-9437	09/24/2013
16348	AB 1761 BLK 4 SEC 52 H&GNN/140 AC OF W/160 AC	140.0	Sammy Valeriano	2963 S. County Rd. W	Odessa	TX	79766-8846	08/17/2011
1777	AB 1761 BLK 4 SEC 52 H&GN SW/CORNER	3.0	Basilio M. Mora	811 E. 10th St.	Pecos	TX	79772-4513	12/15/2000
18685	AB 1761 BLK 4 SEC 52 H&GN SER #80146564E/PT	2.5	Jamie Caso Calderon	P.O. Box 846	Pecos	TX	79772	03/04/2020
673	AB 402 BLK 4 SEC 43 H&GN NW/2 & W/8.21 AC OF S/2 SE/4	328.2	John Jefferson Rogers	P.O. Box 2186	Pecos	TX	79772-2186	01/08/2021

Source: Reeves County Appraisal Database
NA = Data not included in the Reeves County Appraisal Database

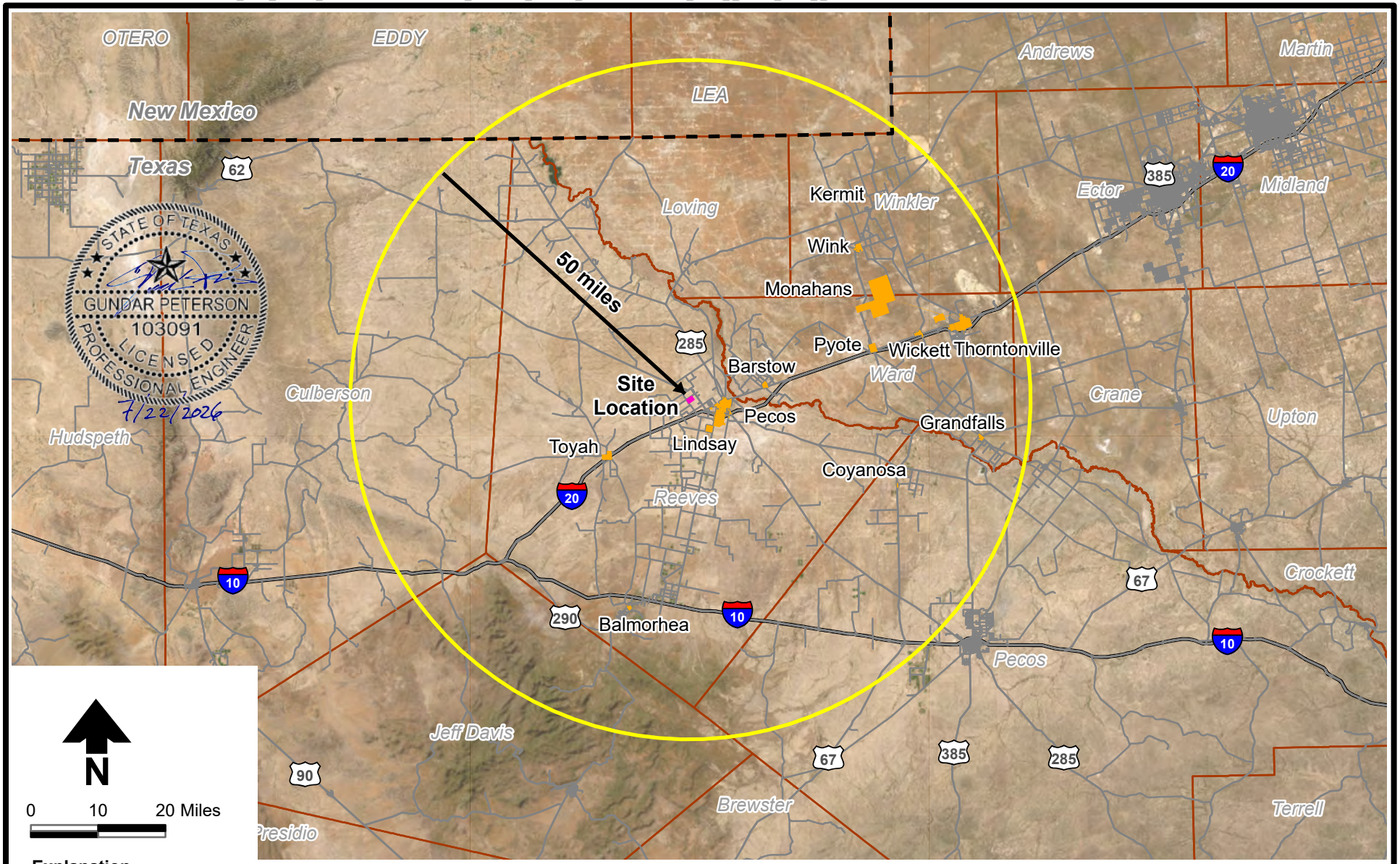
Table I/II-4-2. Owner Information for Mineral Rights Located Under the Proposed Facility

Mineral Rights Property Description	Acreage	Owner	Address	City	State	Zip Code
AB 1391 BLK 4 SEC 46 H&GN S/220 AC OF N/440 AC	220	Alamito Minerals, LP	P.O. Box 3527	Midland	TX	79702-3527
	220	Essman Properties, LLC	P.O. Box 302	Midland	TX	79702-0302
	220 (leasing)	KEW Drilling	4925 Greenville Ave., Suite 500	Dallas	TX	75206
AB 1391 BLK 4 SEC 46 H&GN NW/220 AC	220	Cabrito, Ltd.	P.O. Box 2237	Midland	TX	79702
	220	QPC3, LP	P.O. Box 10004	Midland	TX	79702
	220 (leasing)	KEW Drilling	4925 Greenville Ave., Suite 500	Dallas	TX	75206
AB 1391 BLK 4 SEC 46 H&GN 220 AC	220	White Oak Energy Royalty Partners, LP	16945 Northchase Dr., Suite 1700	Houston	TX	77060
	220 (leasing)	PDC Permian, Inc.	1099 18th St Suite 1500	Denver	CO	80203
AB 1391 BLK 4 SEC 46 H&GN 220 AC	220	Hurley-Texas Royalty Partnership	PO BOX 587	Marlow	OK	73055
	220 (leasing)	PDC Permian, Inc.	1099 18th St Suite 1500	Denver	CO	80203

Attachment I/II-5

Relevant Maps

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Base image source: ESRI et al.

Figure I/II-5-1

WST LANDFILL

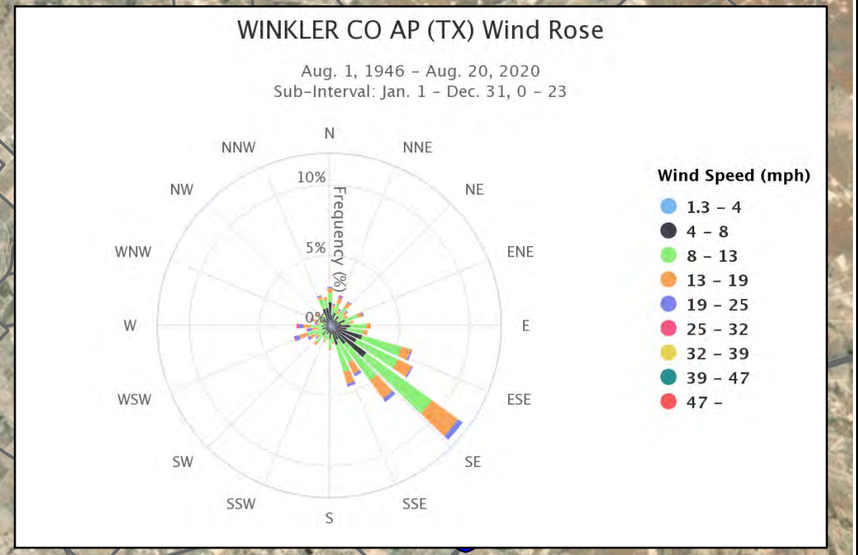
Towns and Counties Located within 50 miles of the Proposed Facility

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6 mile radius

Project Site

Pecos

Pecos Municipal Airport

County Road 419
County Road 415
County Road 410
County Road 404
County Road 411
County Road 409
Business Loop 20 W
N Frongage Interstate 20 W
Bus 20
285
20
17
1450

N

0 1 2 Miles

Explanation

Permit boundary

Texas Department of Transportation road

Aerial image: Maxar, Vivid 2/11/2022

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WST LANDFILL

General Location Map

Figure I/II-5-2

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N

0 1000 2000 ft

Explanation

Permit boundary

USGS Topographic Map, ESRI Inc.

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WST LANDFILL
Topographic Map

Figure I/II-5-3

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FEMA floodplain data: https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=e7a7dc3ebd7f4ad39bb8e485bb64ce44
Accessed: February 6, 2024

N

0 0.5 1 Mile

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WST LANDFILL

FEMA Regional Floodplain Information

Figure I/II-5-4

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\2024_PERMIT_APPLICATION\2024_PART_I_II\2024_PART_I_II.APRX

N

0 1000 2000
Feet

Explanation

1% annual chance (100-year) flood hazard

Permit boundary

Source: Texas Water Development Board (TWDB), Cursory Floodplain Dataset (2021) — 1% Annual Chance (100-year) Flood Hazard.

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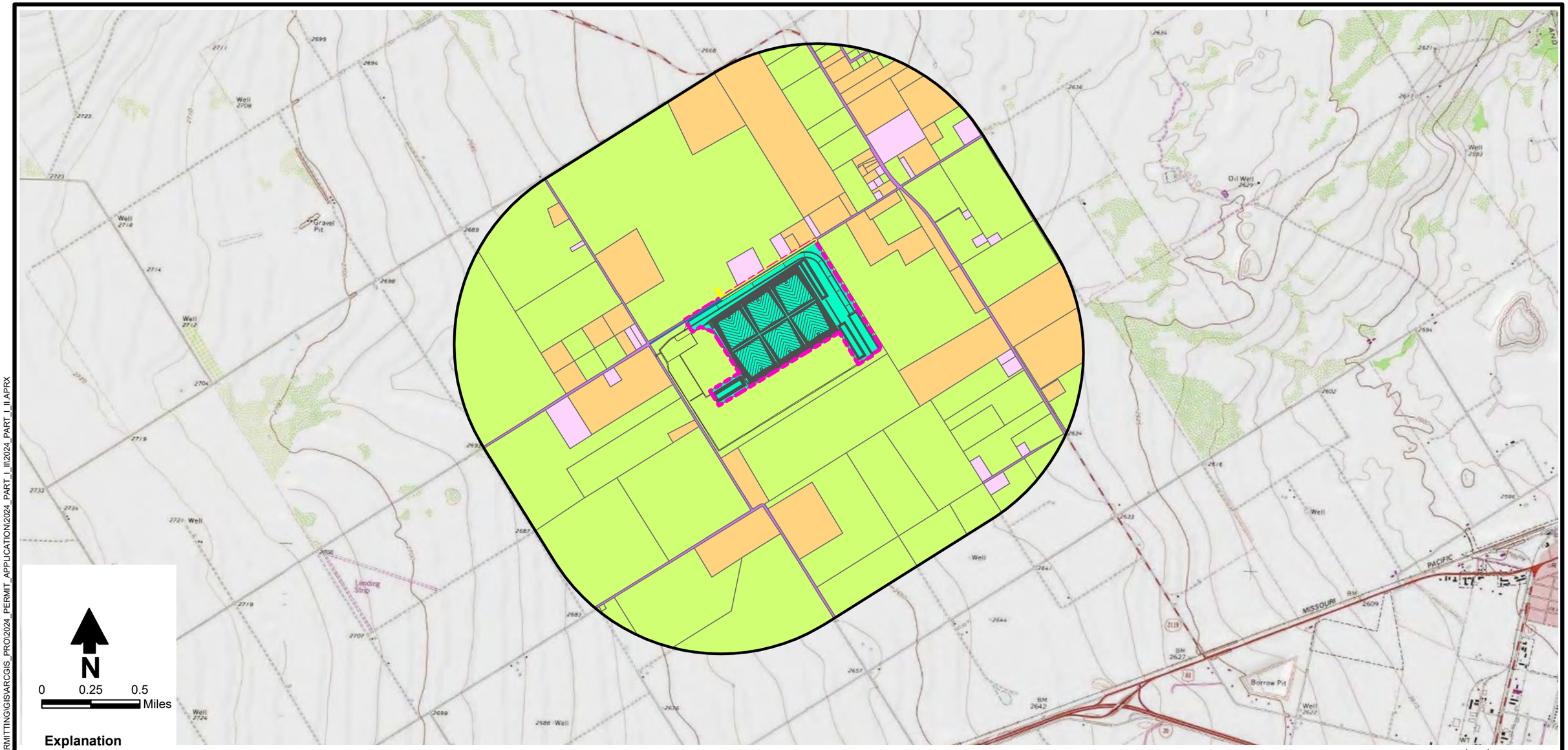
3/19/2026 DB20.1166

WST LANDFILL

Texas Floodplain Information

Figure I/II-5-5

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Explanation

- Permit boundary
- 1 mile radius
- Residential
- Commercial/Industrial
- Agricultural/Open Space (including scattered residences)
- Transportation Corridor
- WST Landfill
- 2 Wire Powerline
- Buried "Contel" Phone Line
- Buried "Medera Valley Water Supply Corp." Line

Land Use within 1 mile of the Proposed Facility	
Residential	2.60%
Commercial/Industrial	19.97%
Agricultural/Open Space (including scattered residences)	71.24%
Transportation Corridor	1.37%
WST Landfill	4.81%
Total	100.00%

Note: 1. Refer to figure I/II-5-7 for location of residences.
2. The portion of Reeves County within 2 miles of the site is not zoned.

Land cover source:
Texas Parks and Wildlife Commission
https://tpwd.texas.gov/gis/team/#
Accessed: October 8, 2024
USGS Topographic Map, ESRI Inc.

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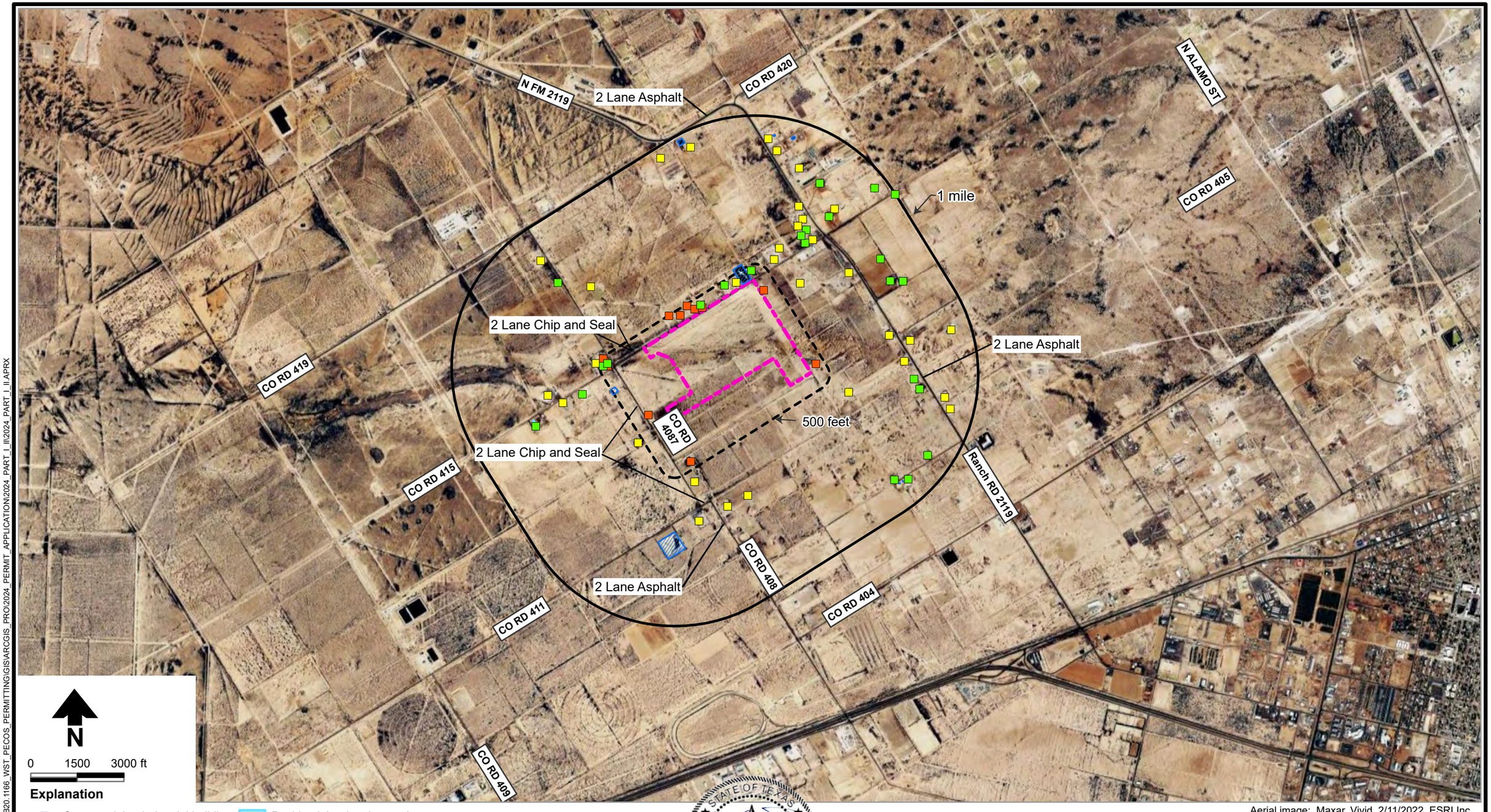
3/24/2026 DB20.1166

WST LANDFILL
Land Use

Figure I/II-5-6

Rev 2: July 2026 (Rev 0: March 2026)

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Explanation

- Commercial or industrial building
- Other structure within 500 ft
- Residencial building
- Permit boundary
- Residential swimming pool
- Constructed pond
- 1 mile radius
- 500 foot radius

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Aerial image: Maxar, Vivid 2/11/2022, ESRI Inc..

Notes:
1 No schools, daycares, hospitals, lakes, churches, parks, or cemeteries were identified within the 1 mile radius of the Site.
2. Buildings and facilities were identified based on aerial photo interpretation, no zoning record was available.

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WST LANDFILL

Structures/Buildings Located within 1 mile of the Proposed Facility

Figure I/II-5-7

\\DATA1ABQ\DATAS\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\2024_PERMIT_APPLICATION\2024_PART_I_II\2024_PART_I_II_APRX



Texas Location Map

1 mile

500 feet

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N

0 1500 3000 Feet

Explanation

- Permit boundary
- 500 foot radius
- One mile radius
- BRACS water well
- Domestic
- Fracking Supply
- Industrial
- Irrigation
- Monitor
- Rig Supply
- Stock
- Unused
- WST non-potable water well

Well data from the Texas Water Development Board (TWDB), August 2020
USGS Topographic Map, ESRI Inc.

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WST LANDFILL

Topography and Water Wells

Figure I/II-5-8

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1 mile

38933503
38935873
38935873
38935466
38935099
38935099
38935466
38937678
38933503
38933458
38936405
38936412
38937441
38936782*
38935099
38935099
38938112
38938111
38938113
38938115
38938116
38938114
38935133
38935133
38931188
38931809
38931055
38931497
38935692
38931552
389
389
38935445
38939589
38935692
38935046
38935046
38930239
38930239
38939591
38933174
38933215
38939590
38937215
38940241
389
38936751
38936776
38936751
38936776
38939588
38939585
38939587
38935046
38935046
389
389
38939823
38939824
38939822
38939821
38939820
38939819
38930271
38930271

CO RD 419
CO RD 415
CO RD 411
CO RD 405
CO RD 406
CO RD 404
CO RD 4087
CO RD 408
CO RD 203
HOG RD
N ALAMO ST
W F ST
W 1ST ST
W 3RD ST
WESTERN AVE
EVERGREEN DR
EVERGREEN ST
S BICKLEY AVE
Mann
Pecos
Bus 20
20
285
2700
2650
2600
2800
103°38'W
103°37'30"W
103°37'W
103°36'30"W
103°36'W
103°35'30"W
103°35'W
103°34'30"W
103°34'W
103°33'30"W
103°33'W
103°32'30"W
103°32'W
103°31'30"W
103°31'W
31°26'N
31°25'30"N
31°25'N
31°24'30"N
31°24'N

N
0 1500 3000
Feet

Explanation
- Permit boundary
- One mile radius

- Dry Hole
- Gas Well
- Horizontal Drainhole
- Injection / Disposal
- Injection / Disposal from Oil
- Oil Well
- Oil/Gas Well
- Plugged Gas Well
- Plugged Oil Well
- Shut-In Oil

Well data from the Railroad Commission of Texas (https://gis.rrc.texas.gov/GISViewer/)
Base Map: Esri, et al., 2020

Note: * indicates that well is not within the permit boundary but may appear to due to map scaling.

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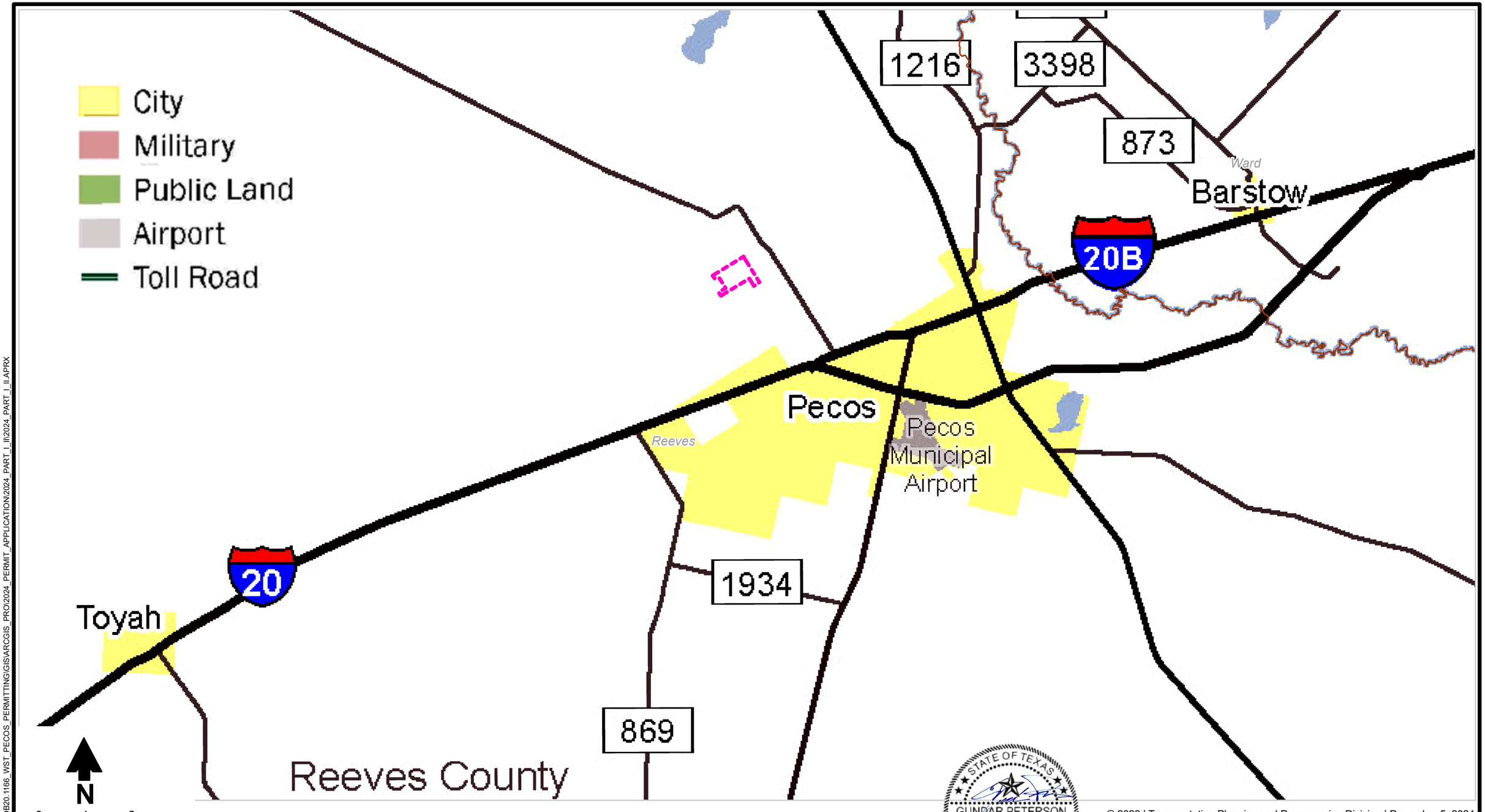
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WST LANDFILL

Oil and Gas Wells within 1 mile of the Proposed Facility

Figure I/II-5-9



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WST LANDFILL

Texas Department of Transportation (TxDOT) County Map

Figure I/II-5-10

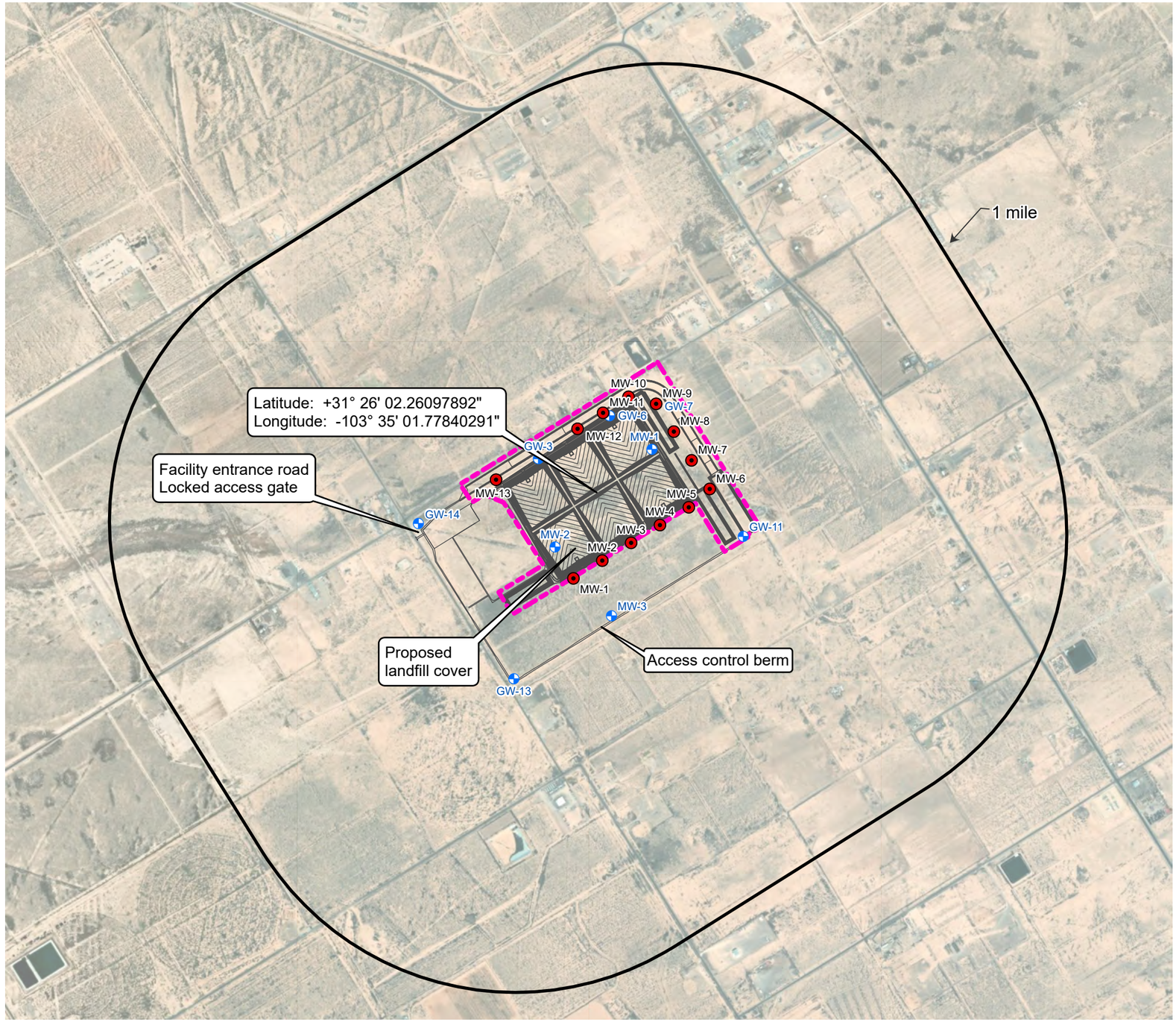
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N

0 1000 2000
Feet

Explanation

- Proposed groundwater monitor well
- Existing monitor well
- Landfill footprint
- 1 Mile radius
- Permit boundary



Aerial image: Maxar, Vivid 2/11/2022

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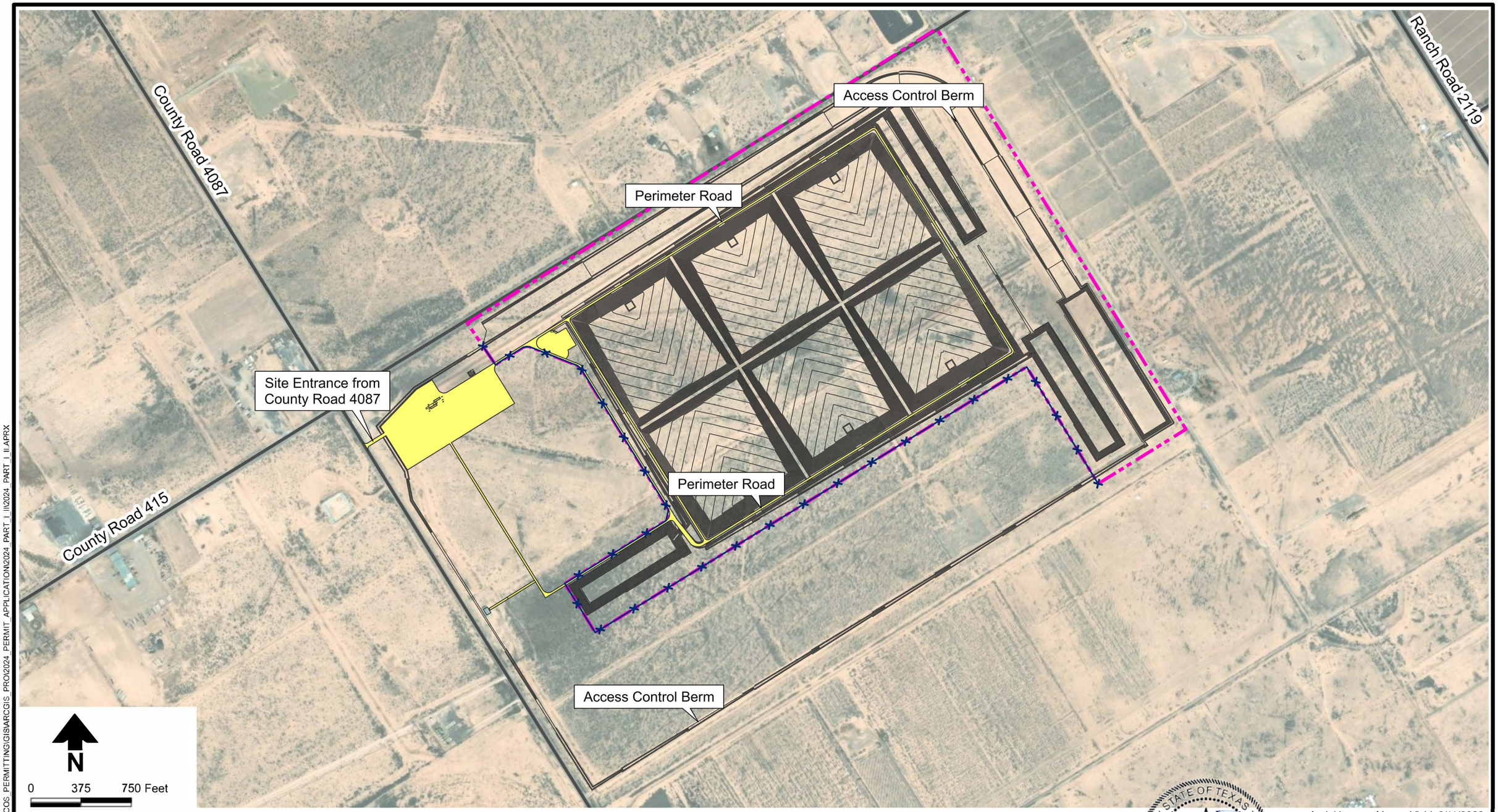
3/24/2026 DB20.1166

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WST LANDFILL
Aerial Imagery

Figure I/II-5-11

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Note: Facility perimeter roads may be used to provide access to fill areas.
Additional access roads may be constructed as needed for operations.

Aerial image: Maxar, Vivid 2/11/2022

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WST LANDFILL
Facility Access

Figure I/II-5-12

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Aerial image: Maxar, Vivid 2/11/2022

Notes:
1. All cells are designed for Class 1 non-hazardous waste. Cell 4 is designated to receive Class 1 non-hazardous waste and municipal solid waste (MSW). The remaining five cells are designated to receive MSW only. Additional cells may be designated to receive Class 1 non-hazardous waste in the future.
2. Cells 1 and 4 will be excavated and constructed first. Additional cells will be excavated and constructed from west to east. Fill sequencing of the landfill units will occur in the same manner.
3. Maximum waste elevation is 2,788 ft.

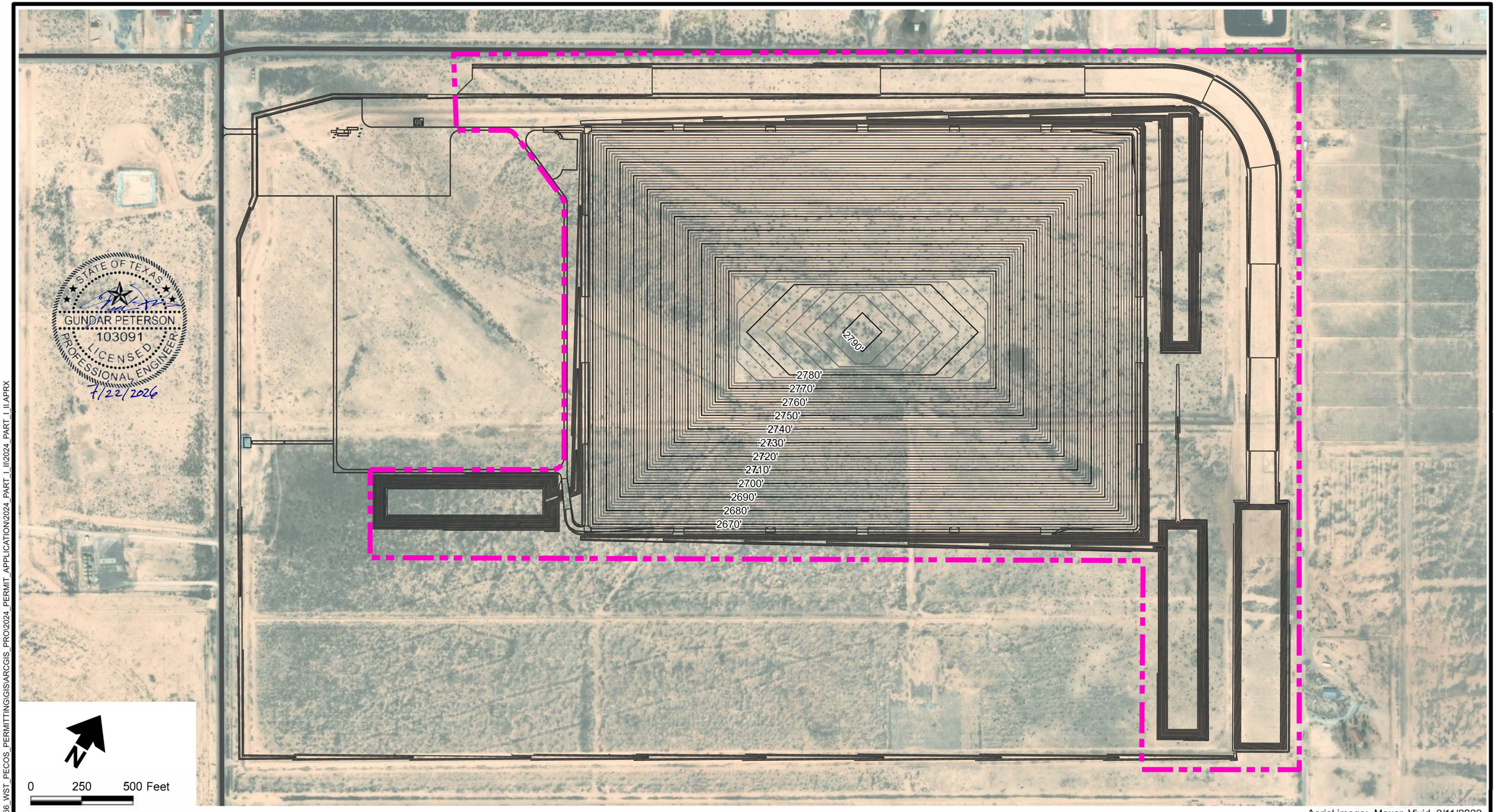
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WST LANDFILL
Layout of Landfill Units

Figure I/II-5-13

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Explanation

- Permit boundary
- Texas Department of Transportation road

Note: Maximum cover elevation is 2,790 ft.

Aerial image: Maxar, Vivid 2/11/2022

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7/16/2026 DB20.1166

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WST LANDFILL

Final Cover

Figure I/II-5-14

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Attachment I/II-6

Documentation

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Form 205
(Revised 12/09)

Submit in duplicate to:
Secretary of State
P.O. Box 13697
Austin, TX 78711-3697
512 463-5555
FAX: 512 463-5709
Filing Fee: $300

Certificate of Formation
Limited Liability Company

This space reserved for office use.

FILED
In the Office of the
Secretary of State of Texas

JUN 16 2010

Corporations Section

Article 1 – Entity Name and Type

The filing entity being formed is a limited liability company. The name of the entity is:

G.P. Suntex, LLC

The name must contain the words "limited liability company," "limited company," or an abbreviation of one of these phrases.

Article 2 – Registered Agent and Registered Office

(See instructions. Select and complete either A or B and complete C.)

☒ A. The initial registered agent is an organization (cannot be entity named above) by the name of:

Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company

OR

☐ B. The initial registered agent is an individual resident of the state whose name is set forth below:

First Name	*M.I.*	*Last Name*	*Suffix*

C. The business address of the registered agent and the registered office address is:

211 E. 7th Street, Suite 620	Austin	TX	78707
Street Address	*City*	*State*	*Zip Code*

Article 3—Governing Authority

(Select and complete either A or B and provide the name and address of each governing person.)

☒ A. The limited liability company will have managers. The name and address of each initial manager are set forth below.

☐ B. The limited liability company will not have managers. The company will be governed by its members, and the name and address of each initial member are set forth below.

NAME AND ADDRESS OF GOVERNING PERSON (Enter the name of either an individual or an organization, but not both.)

IF INDIVIDUAL

Hanif		Mussani	
First Name	*M.I.*	*Last Name*	*Suffix*

OR

IF ORGANIZATION

Organization Name

P.O. Box 1737	Eunice	NM	USA	88231
Street or Mailing Address	*City*	*State*	*Country*	*Zip Code*

NAME AND ADDRESS OF GOVERNING PERSON (Enter the name of either an individual or an organization, but not both.)

IF INDIVIDUAL

First Name *M.I.* *Last Name* *Suffix*

OR

IF ORGANIZATION

Organization Name

Street or Mailing Address *City* *State* *Country* *Zip Code*

NAME AND ADDRESS OF GOVERNING PERSON (Enter the name of either an individual or an organization, but not both.)

IF INDIVIDUAL

First Name *M.I.* *Last Name* *Suffix*

OR

IF ORGANIZATION

Organization Name

Street or Mailing Address *City* *State* *Country* *Zip Code*

Article 4 – Purpose

The purpose for which the company is formed is for the transaction of any and all lawful purposes for which a limited liability company may be organized under the Texas Business Organizations Code.

Supplemental Provisions/Information

Text Area: [The attached addendum, if any, is incorporated herein by reference.]

Organizer

The name and address of the organizer:

Hanif Mussani
Name

P.O. Box 1737	Eunice	TX	88231
Street or Mailing Address	*City*	*State*	*Zip Code*

Effectiveness of Filing (Select either A, B, or C.)

A. ☒ This document becomes effective when the document is filed by the secretary of state.

B. ☐ This document becomes effective at a later date, which is not more than ninety (90) days from the date of signing. The delayed effective date is: _____

C. ☐ This document takes effect upon the occurrence of the future event or fact, other than the passage of time. The 90th day after the date of signing is: _____

The following event or fact will cause the document to take effect in the manner described below:

Execution

The undersigned affirms that the person designated as registered agent has consented to the appointment. The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument and certifies under penalty of perjury that the undersigned is authorized to execute the filing instrument.

Date: June 14, 2010

Signature of organizer

Hanif Mussani
Printed or typed name of organizer

Form 424
(Revised 05/11)

Submit in duplicate to:
Secretary of State
P.O. Box 13697
Austin, TX 78711-3697
512 463-5555
FAX: 512/463-5709
Filing Fee: See instructions

Certificate of Amendment

This space reserved for office use.

FILED
In the Office of the
Secretary of State of Texas

JUL 11 2014

Corporations Section

Entity Information

The name of the filing entity is:

G.P. Suntex, LLC

State the name of the entity as currently shown in the records of the secretary of state. If the amendment changes the name of the entity, state the old name and not the new name.

The filing entity is a: (Select the appropriate entity type below.)

- ☐ For-profit Corporation
- ☐ Nonprofit Corporation
- ☐ Cooperative Association
- ☑ Limited Liability Company
- ☐ Professional Corporation
- ☐ Professional Limited Liability Company
- ☐ Professional Association
- ☐ Limited Partnership

The file number issued to the filing entity by the secretary of state is: 801282964

The date of formation of the entity is: June 16, 2010

Amendments

1. Amended Name

(If the purpose of the certificate of amendment is to change the name of the entity, use the following statement)

The amendment changes the certificate of formation to change the article or provision that names the filing entity. The article or provision is amended to read as follows:

The name of the filing entity is: (state the new name of the entity below)

West Sun Tex, LLC

The name of the entity must contain an organizational designation or accepted abbreviation of such term, as applicable.

2. Amended Registered Agent/Registered Office

The amendment changes the certificate of formation to change the article or provision stating the name of the registered agent and the registered office address of the filing entity. The article or provision is amended to read as follows:

RECEIVED
JUL 11 2014
Secretary of State

Registered Agent
(Complete either A or B, but not both. Also complete C.)

☐ A. The registered agent is an organization (cannot be entity named above) by the name of:

OR

☑ B. The registered agent is an individual resident of the state whose name is:

David	D	Johnston	
First Name	*M.I.*	*Last Name*	*Suffix*

The person executing this instrument affirms that the person designated as the new registered agent has consented to serve as registered agent.

C. The business address of the registered agent and the registered office address is:

14755 Preston Road, Suite 600	Dallas	TX	75254
Street Address (No P.O. Box)	*City*	*State*	*Zip Code*

3. Other Added, Altered, or Deleted Provisions

Other changes or additions to the certificate of formation may be made in the space provided below. If the space provided is insufficient, incorporate the additional text by providing an attachment to this form. Please read the instructions to this form for further information on format.

Text Area (The attached addendum, if any, is incorporated herein by reference.)

☐ **Add** each of the following provisions to the certificate of formation. The identification or reference of the added provision and the full text are as follows:

☐ **Alter** each of the following provisions of the certificate of formation. The identification or reference of the altered provision and the full text of the provision as amended are as follows:

☐ **Delete** each of the provisions identified below from the certificate of formation.

Statement of Approval

The amendments to the certificate of formation have been approved in the manner required by the Texas Business Organizations Code and by the governing documents of the entity.

Form 424

Effectiveness of Filing (Select either A, B, or C.)

A. ☑ This document becomes effective when the document is filed by the secretary of state.

B. ☐ This document becomes effective at a later date, which is not more than ninety (90) days from the date of signing. The delayed effective date is: _____

C. ☐ This document takes effect upon the occurrence of a future event or fact, other than the passage of time. The 90th day after the date of signing is: _____

The following event or fact will cause the document to take effect in the manner described below:

Execution

The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument and certifies under penalty of perjury that the undersigned is authorized under the provisions of law governing the entity to execute the filing instrument.

Date: July 10, 2014

By: _____

Sue A. Mussani, Manager
Signature of authorized person

Sue A. Mussani, Manager
Printed or typed name of authorized person (see instructions)

Form 424

Form 424
(Revised 05/11)

Submit in duplicate to:
Secretary of State
P.O. Box 13697
Austin, TX 78711-3697
512 463-5555
FAX: 512/463-5709
Filing Fee: See instructions

This space reserved for office use.

Certificate of Amendment

Entity Information

The name of the filing entity is:

West Sun Tex, LLC

State the name of the entity as currently shown in the records of the secretary of state. If the amendment changes the name of the entity, state the old name and not the new name.

The filing entity is a: (Select the appropriate entity type below.)

- ☐ For-profit Corporation
- ☐ Nonprofit Corporation
- ☐ Cooperative Association
- ☑ Limited Liability Company
- ☐ Professional Corporation
- ☐ Professional Limited Liability Company
- ☐ Professional Association
- ☐ Limited Partnership

The file number issued to the filing entity by the secretary of state is: 801282964

The date of formation of the entity is: June 16, 2010

Amendments

1. Amended Name

(If the purpose of the certificate of amendment is to change the name of the entity, use the following statement)

The amendment changes the certificate of formation to change the article or provision that names the filing entity. The article or provision is amended to read as follows:

The name of the filing entity is: (state the new name of the entity below)

The name of the entity must contain an organizational designation or accepted abbreviation of such term, as applicable.

2. Amended Registered Agent/Registered Office

The amendment changes the certificate of formation to change the article or provision stating the name of the registered agent and the registered office address of the filing entity. The article or provision is amended to read as follows:

Registered Agent
(Complete either A or B, but not both. Also complete C.)

☐ A. The registered agent is an organization (cannot be entity named above) by the name of:

OR

☐ B. The registered agent is an individual resident of the state whose name is:

First Name *M.I.* *Last Name* *Suffix*

The person executing this instrument affirms that the person designated as the new registered agent has consented to serve as registered agent.

C. The business address of the registered agent and the registered office address is:

Street Address (No P.O. Box)	*City*	*State*	*Zip Code*
		TX	

3. Other Added, Altered, or Deleted Provisions

Other changes or additions to the certificate of formation may be made in the space provided below. If the space provided is insufficient, incorporate the additional text by providing an attachment to this form. Please read the instructions to this form for further information on format.

Text Area (The attached addendum, if any, is incorporated herein by reference.)

☐ **Add** each of the following provisions to the certificate of formation. The identification or reference of the added provision and the full text are as follows:

☑ **Alter** each of the following provisions of the certificate of formation. The identification or reference of the altered provision and the full text of the provision as amended are as follows:

Article 3 - Governing Authority
The limited liability company will have managers. The name and address of each manager are set forth below.
Tariq Mussani, P.O. Box 1737, Eunice NM 88231
Arif Mussani, P.O. Box 1737, Eunice NM 88231

☐ **Delete** each of the provisions identified below from the certificate of formation.

Statement of Approval

The amendments to the certificate of formation have been approved in the manner required by the Texas Business Organizations Code and by the governing documents of the entity.

Effectiveness of Filing (Select either A, B, or C.)

A. ☑ This document becomes effective when the document is filed by the secretary of state.

B. ☐ This document becomes effective at a later date, which is not more than ninety (90) days from the date of signing. The delayed effective date is: _____

C. ☐ This document takes effect upon the occurrence of a future event or fact, other than the passage of time. The 90th day after the date of signing is: _____

The following event or fact will cause the document to take effect in the manner described below:

Execution

The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument and certifies under penalty of perjury that the undersigned is authorized under the provisions of law governing the entity to execute the filing instrument.

Date: January 8, 2025

By: _____



Signature of authorized person

Tariq Mussani, Manager

Printed or typed name of authorized person (see instructions)

Form 424

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number:	582EA000721937
Date:	03/04/2026 01:43 PM
Payment Method:	CC - Authorization 000040223J
ePay Actor:	ANDREW WAMBSGANSS
Actor Email:	andy@wambsganss.com
IP:	47.190.142.7
TCEQ Amount:	$2,050.00
Texas.gov Fee:	$46.38
Texas.gov Price:	$2,096.38*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name:	ANDREW WAMBSGANSS
Company:	BROWN PRUITT
Address:	600 N CARROLL AVE SUITE 100, SOUTHLAKE, TX 76092
Phone:	817-203-2000

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
819543	NONHAZARDOUS WASTE PERMIT - NEW & AMENDMENTS (INCLUDING LIMITED SCOPE)		$2,000.00
819544	30 TAC 305.53B WASTE NOTIFICATION FEE		$50.00
		TCEQ Amount:	$2,050.00

ePay Again Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

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Attachment I/II-7

Plain Language Summary Form

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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

To serve the 6 counties and 13 main towns located within 50 miles of the proposed facilty

B. Information About the Applicant

Name: West Sun Tex, LLC

Applicant Type: Type I Municipal Solid Waste Permit

Facility Name: WST Landfill

Permit Application Number: 2431

Customer Number (CN): 605915081

Regulated Entity Reference Number (RN): 111301834

C. Location of the Proposed Facility

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

WST Landfill will be located in north-central Reeves County at the intersection of County Road (CR) 4087 and CR 415, in Section 46, Block 4, H. & G.N. RR Co. Survey, approximately 5 miles northwest of Pecos, Texas

Link to Map of Facility Location (TCEQ Location Mapper[2]): https://arcg.is/yf1TT

D. Information about Facility Operation

What types of waste would be received?

Solid waste resulting from municipal, commercial, institutional, and recreational activities, including garbage, construction waste, brush, and rubbish; Class 1, 2, and 3 nonhazardous industrial waste; petroleum-contaminated soils; wastewater treatment facility sludge; and special wastes as defined in the facility's permit.

What geographical area would the wastes come from?

The anticipated waste generation area will include the areas in Texas that are within 50 miles of the proposed facility. This area includes portions of six counties (Culberson, Jeff Davis, Loving, Pecos, Reeves, and Ward).

[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?

The anticipated hours of operation at the WST Landfill will be Monday through Friday 7:00 a.m. to 5:00 p.m. and Saturday 8:00 a.m. to 12:00 p.m.

At what rate would wastes be accepted?

The waste volume that will be received during the first year of operation is estimated to be approximately 217 tons per day, or a total of 61,600 tons, assuming 281 days of operation.

How would wastes be managed?

All waste loads will be weighed and recorded on scales at the landfill entrance prior to dumping. The customer drop-off area will allow customers to drop tires in one container, white goods in a different container, and any other waste into containers headed for the landfill. Tires and white goods will be sent off-site for recycling when the containers are full. Containers with landfill waste will be emptied each night. All containers will be covered/tarped each night.

E. Pollution Control Methods

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

Daily cover (6 inches of soil material and/or TCEQ-approved alternate daily cover material) will be placed over waste to reduce odors. Special or particularly odorous wastes may require a greater depth of cover. The area of the working face will be confined to the smallest practical area. Interim cover, consisting of a minimum 1 foot of soil, will be placed over areas of waste that are at final grade or that will not receive additional waste for 180 days. The site will be surrounded by a 4-foot berm that will help keep material on-site. Portable litter fence will be used to catch wind-blown litter and debris as needed. Groundwater monitor wells will be installed during site construction to monitor groundwater quality.

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

Solid waste haulers will be required to cover their loads with tarps, which will not be removed until the haul vehicle reaches the working face for dumping. Portable litter fences will be used as the disposal operation progresses within a given cell, as needed. Site personnel will be responsible for collecting litter accumulated along the property boundaries on a daily basis.
The landfill is equipped with up to two storage tanks surrounded by an impervious berm area that will provide sufficient secondary containment for the largest tank's volume. In the event of a spill, spill reporting and cleanup will be done following federal and state regulations.

Comisión de Calidad Ambiental de Texas

Resumen en lenguaje sencillo de la solicitud de permiso municipal de residuos sólidos o de modificación del permiso

Los solicitantes están obligados por las normas de notificación pública del Título 30 del Código Administrativo de Texas, Capítulo 39, Sección 39.405(k)[1] a proporcionar este resumen de una solicitud.

A. Objetivo de la instalación propuesta

Para dar servicio a los 6 condados y las 13 ciudades principales ubicados en un radio de 50 millas del vertedero propuesto.

B. Información sobre el solicitante

Nombre: West Sun Tex, LLC

Tipo de solicitante: Vertedero Municipal Tipo I Applicacion

Nombre de la instalación: WST Landfill

Número de solicitud de permiso: 2431

Número de cliente (CN): 605915081

Número de referencia de la entidad regulada (RN): 111301834

C. Ubicación de la instalación propuesta

Dirección del establecimiento (o descripción de la ubicación del sitio si no hay dirección):

El vertedero WST Landill estará ubicado en la zona centro-norte del condado de Reeves, en la intersección de la Carretera del Condado (CR) 4087 y la CR 415, aproximadamente a 5 millas al noroeste de Pecos, Texas

Enlace al mapa de ubicación de las instalaciones en TCEQ Location Mapper[2]:

https://arcg.is/yf1TT

D. Información sobre el funcionamiento de las instalaciones

¿Qué tipos de residuos se recibirían?

Residuos sólidos resultantes de actividades municipales, comerciales, institucionales y recreativas, incluidos la basura, los residuos de construcción, la maleza y los escombros; residuos industriales no peligrosos de Clases 1, 2 y 3; suelos contaminados con petróleo; lodos de plantas de tratamiento de aguas residuales; y residuos especiales, tal como se definen en el permiso del vertedero.

¿De qué zona geográfica procederían los residuos?

El área de generación de residuos prevista incluirá las zonas de Texas situadas a menos de 50 millas del vertedero propuesto. Esta área abarca partes de seis condados (Culberson, Jeff Davis, Loving, Pecos, Reeves y Ward).

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

¿Qué días y horas funcionará la instalación?

El horario de atención previsto en el WST Landfill será de lunes a viernes, de 07:00 a 17:00, y los sábados, de 08:00 a 12:00.

¿A qué ritmo se aceptarían los residuos?

Se estima que el volumen de residuos que se recibirá durante el primer año de operación será de aproximadamente 217 toneladas diarias, o un total de 61.600 toneladas, suponiendo 281 días de operación.

¿Cómo se gestionarían los residuos?

Todas las cargas de residuos serán pesadas y registradas en una báscula situada en la entrada del vertedero antes de su descarga. Hay una área para depositar los neumáticos en un contenedor, los electrodomésticos en otro contenedor, y cualquier otro residuo en los contenedores destinados al vertedero (vaciados cada noche). Los neumáticos y los electrodomésticos serán enviados fuera del vertedero para ser reciclado. Todos los contenedores serán cubiertos o tapados con lonas cada noche.

E. Métodos de control de la contaminación

¿Qué métodos utilizará la instalación para contener los residuos y los olores, y para controlar las emisiones?

Se colocará una cobertura diaria (6 pulgadas de suelo y/o material de cobertura alternativo aprobado por la TCEQ) sobre los residuos para reducir los olores. Algunos residuos podrían requerir mas cobertura. El área de trabajo se limitará a la área práctica mínima. Se colocará una cobertura provisional (un mínimo de 1 pie de suelo), sobre aquellas áreas que están llenos o que no vayan a recibir más durante de 180 días. El vertedero estará rodeado por un talud perimetral de 4 pies de altura, el cual contribuirá a retener el material dentro del vertedero. Se utilizarán vallas portátiles para recoger la basura arrastrados por el viento si necesario. Se instalarán pozos para vigilar la calidad de las aguas subterráneas.

¿Qué métodos utilizaría o exigiría la instalación para evitar la basura o los derrames, y para la limpieza de la basura y los derrames?

Los transportistas de residuos sólidos deberán cubrir sus cargas con lonas, las cuales no se retirarán hasta que el vehículo llegue al área de trabajo para realizar la descarga. Se utilizarán vallas portátiles para recoger la basura arrastrados por el viento si necesario. El personal del sitio será responsable de recolectar diariamente los residuos dispersos que se acumulen a lo largo de los límites de la propiedad. El vertedero está equipado con hasta dos tanques de almacenamiento rodeados por un terraplén impermeable que proporcionará una contención secundaria suficiente para el volumen del tanque de mayor capacidad. En caso de un vertido, la notificación y la limpieza se llevarán a cabo conforme a las normativas aplicable.

Attachment I/II-8

Public Involvement Plan Form

DBS&A
a Geo-Logic Company

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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 facility is a Type I municipal facility that will accept various types of waste, including municipal, commercial, institutional, and recreational solid waste, along with nonhazardous industrial waste, petroleum-contaminated soil, wastewater treatment facility sludge, and special waste. The facility will contain a citizens' collection station with containers for household waste, as well as for white goods and tires that will be hauled off-site for disposal. The estimated volume for the first year of operation is approximately 217 tons per day, or a total of 61,100 tons, assuming 281 days of operation. The facility will serve a population of approximately 45,000 from Reeves County and adjacent counties.
The facility has been designed to meet or exceed TCEQ requirements, and will be protective of public health and safety. The project design includes the landfill liner, leachate collection system, gas monitoring network, stormwater management system, groundwater monitoring network, and final cover.

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.

Pecos (closest city)

(City)

Reeves

(County)

14,748

(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

71.3%

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

$24,438

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

Black (1.4%), American Indian and Alaska Native (0.1%), Asian (0.4%), Hispanic or Latino (84.8%), White (12.2%), Some Other Race (1.1%)

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

Information not available

(e) Languages commonly spoken in area by percentage

Language other than English spoken at home, % of persons older than 5 years is 61.5%

(f) Community and/or Stakeholder Groups

Texas Association of Community Action Agencies (TACAA)

(g) Historic public interest or involvement

N/A

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) Reeves County 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)

Attachment I/II-9

Waste Acceptance Plan Form

DBS&A
a Geo-Logic Company

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Texas Commission on Environmental Quality

Waste Acceptance Plan Form
Type I and Type IAE Landfill Facilities

This form is designed to address the requirements for Waste Acceptance Plans in Part II of an application, as required by Title 30 Texas Administrative Code, Chapter 330, §330.61(b)(1). Rules are from Chapter 330 unless otherwise specified. If more space is needed for a line item or table item, include the information on a separate sheet and reference the line or table item.

A. Applicant Information

1. Facility Name: WST Landfill
2. MSW Permit No.: 2431

B. Waste Generation Areas and Population Estimates

Table 1. Areas contributing waste to the facility and estimate of population or population equivalent served by the facility. Values are estimates, not permit limits.

Waste Generation Area	Estimate of Population or Population Equivalent Served in each Area
The waste generation area will include the County where	Populations in 2027
the landfill is located (Reeves), and adjacent counties	12,296
Culberson	2,251
Jeff Davis	1,701
Loving	64
Pecos	14,675
Ward	11,434

Estimated population or population equivalent served by the facility

42,421

C. General Sources and Types of Waste to be Accepted at the Facility

General sources of waste to be received (household, commercial, industrial, etc.).

Solid waste resulting from municipal, commercial, institutional, and recreational activities, including garbage, construction waste, brush, rubbish, and all other solid waste; Class 1, 2, and 3 nonhazardous industrial waste; petroleum-contaminated soil; wastewater treatment facility sludge; and special waste as defined by §330.3.

2. Types of Waste to be Accepted for Disposal at the Facility

a. Indicate whether the following wastes will be accepted for disposal (check "Yes" for will accept or "No" for will not accept).

i. ☑ Yes ☐ No Municipal solid waste [§330.3(88)]

ii. ☑ Yes ☐ No Construction or demolition waste [§330.3(33)]

iii. ☑ Yes ☐ No Brush [§330.3(18)]

iv. ☑ Yes ☐ No Rubbish [§330.3(130)]

v. ☑ Yes ☐ No Used or scrap tires that have been processed (such as by splitting, shredding, quartering or sidewall removal) in a manner acceptable to the executive director [§330.3(130)]

vi. ☑ Yes ☐ No Class 2 nonhazardous industrial solid waste [§330.3(22), §330.173(i)]

vii. ☑ Yes ☐ No Class 3 nonhazardous industrial solid waste [§330.3(23), §330.173(j)]

b. Indicate whether the following special wastes will be accepted for disposal. These wastes must have been or are to be treated and the treated materials have been tested and are certified to contain no free liquids.

i. ☑ Yes ☐ No Municipal wastewater treatment plant sludge. [§330.3(148)(D), §330.171(c)(7)]

ii. ☑ Yes ☐ No Other types of domestic sewage treatment plant sludge [§330.3(148)(D), §330.171(c)(7)]

iii. ☑ Yes ☐ No Municipal water-supply treatment plant sludge. [§330.3(148)(D), §330.171(c)(7)]

iv. ☑ Yes ☐ No Septic tank pumping waste [§330.171(c)(7)]

v. ☑ Yes ☐ No Grease trap waste. [§330.3(59), §330.171(c)(7)]

vi. ☑ Yes ☐ No Grit trap waste [TAC §330.3(60), §330.171(c)(7)]

vii. ☑ Yes ☐ No Waste from commercial or industrial wastewater treatment plants [§330.3(148)(G), §330.171(b)]

viii. ☐ Yes ☑ No Other liquid waste. Explain _____ [§330.171(c)(7)]

ix. Specify other special wastes to be accepted for disposal that are not listed above and for which free liquids may be an issue.

None

c. Indicate whether the following Special Wastes will be accepted for disposal.

i. ☑ Yes ☐ No Municipal hazardous waste from conditionally exempt small quantity generators [§330.171(c)(6), §330.3(32)].

ii. ☑ Yes ☐ No Class 1 industrial nonhazardous solid waste (excluding waste that is Class 1 only because of asbestos content). May be accepted only at Type I landfills with a Class 1 cell [§330.3(21), §330.171(b), §330.3(148)(B), §330.173]; may not be accepted at arid exempt [AE] landfills [330.173(a)].

iii. ☐ Yes ☑ No Waste that is Class 1 only because of asbestos content [§330.3(21), §330.171(b), §330.3(148)(B), §330.171(c)(3)(I), 30 TAC §330.171(c)(3)]

iv.	☐ Yes ☑ No	Waste from commercial air pollution control devices [§330.171(b), §330.3(148)(G), §330.331(e)]
v.	☐ Yes ☑ No	Tanks, drums, or containers that were used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR Part 261, Appendix VII but has not been listed as a commercial chemical product in 40 CFR §261.33(e) or (f) [§330.171(b), §330.3(148)(G)]
vi.	☐ Yes ☑ No	Drugs, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
vii.	☐ Yes ☑ No	Contaminated foods, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
viii.	☐ Yes ☑ No	Contaminated beverages, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
ix.	☑ Yes ☐ No	Empty containers that have been used for pesticide, herbicide, fungicide, or rodenticide, that have been triple-rinsed before receipt at the landfill, are rendered unusable before receipt or on arrival, and are covered by the end of the same working day they are received [§330.171(c)(5)(A)]
x.	☑ Yes ☐ No	Empty containers for which triple-rinsing is not feasible or practical (e.g. paper bags, cardboard containers) that are managed as a municipal hazardous waste from a conditionally exempt small quantity generator or in accordance with requirements for disposal of industrial wastes [§330.171(c)(5)(B), §330.171(c)(6), §330.173]
xi.	☐ Yes ☑ No	Regulated asbestos-containing material (RACM) [40 CFR 261, §330.171(c)(3), §330.3(126)]
xii.	☐ Yes ☑ No	Non-regulated asbestos-containing material (non-RACM) [40 CFR 261, §330.171(c)(4), §330.3(93)]
xiii.	☐ Yes ☑ No	Incinerator ash [§330.3(148)(M), §330.171(b)]
xiv.	☑ Yes ☐ No	Soil contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 mg/kg total petroleum hydrocarbons; or contaminated by constituents of concern that exceed the concentrations listed in §335.521(a)(1) [§330.3(148)(N), §330.171(b)(4)] (may be accepted at Type I landfills with Class 1 cells. [§330.331(e)] (Excluded from Type I AE. [§330.173(a)])
xv.	☑ Yes ☐ No	Household-generated used oil filters that have been crushed to less than 20% of original volume or processed by a method other than crushing to remove all free-flowing used oil. The processing method may include (1) having the filter separated into component parts and free-flowing used oil removed from the filter element by compression; (2) having a replaceable filter medium that has been compressed to remove free-flowing used oil; **or** (3) having a housing that has been punctured and the filter drained for at least 24 hours. [§330.171(d)].
xvi.	☐ Yes ☑ No	Waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas) [§330.171(b), §330.3(148)(P)]

xvii. ☐ Yes ☑ No Waste generated outside the boundaries of Texas that contains any industrial waste; any waste associated with oil, gas, and geothermal exploration; or any of the special wastes that are indicated in §330.3(148) [§330.171(b), §330.3(148)(Q)]

xviii. ☑ Yes ☐ No Dead animals [§330.171(c)(2)]

xix. ☑ Yes ☐ No Slaughterhouse wastes [§330.171(c)(2)]

xx. ☑ Yes ☐ No Treated medical waste from health care-related facilities. [§330.3(85), §326.75(r)]

xxi. Specify other special wastes to be accepted for disposal that are not listed above:

None

D. Waste Prohibited from Disposal

The following wastes are prohibited from disposal.

- Any waste not authorized for disposal above, including those for which "No" has been indicated.
- Untreated medical waste. This prohibition may be superseded by the executive director in writing when disposal of untreated medical waste is required to protect human health and the environment from the effects of a natural or man-made disaster. [§330.171(c)(1), §330.3(85)]
- Lead-acid storage batteries. [§330.15(e)(1)]
- Used motor vehicle oil. [§330.15(e)(2)]
- Used oil filters from internal combustion engines except for used oil filters from households that have been processed as described in §330.171(d). [§330.15(e)(3)]
- Whole used or scrap tires. [§330.15(e)(4)]
- Items containing CFCs that have not been handled in accordance with 40 CFR §82.156(f). [§330.15(e)(5)]
- Bulk or noncontainerized liquid waste unless the waste is household waste other than septic waste and as defined by the Paint Filter Test, EPA Method 9095. [§330.15(e)(6), §330.3(81)]
- Containers holding liquids unless: the container is similar in size to those found in household waste, the container is designated to hold liquids for other than storage, **or** the waste is household waste. [§330.15(e)(6), §330.3(81)]
- Regulated hazardous waste [40 CFR §261.3] that is not excluded from regulation as a hazardous waste [40 CFR §261.4(b)] or that was not generated by a conditionally exempt small-quantity generator. [§330.15(e)(7), §330.3(127)]
- Waste that exhibits the characteristics for hazardous waste [40 CFR §261.3] from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas. [§330.15(e)(7)]
- Polychlorinated biphenyl (PCB) wastes, [40 CFR Part 761] unless authorized by the United States Environmental Protection Agency. [§330.15(e)(8)]
- Radioactive materials, [Chapter 336] except as authorized in Chapter 336 or that are subject to an exemption of the Department of State Health Services. [§330.15(e)(9)]

Specify any other wastes to be prohibited for disposal that are not listed above.

None

E. Material Recovery

Will the facility recover materials from incoming waste? ☑ Yes ☐ No

If yes, provide a descriptive narrative describing the percentage of incoming waste, if applicable, that must be recovered and its intended use.

White goods and tires will be separated at the citizens' collection station and sent for off-site reuse/disposal. Otherwise, there will be no material recovery.

F. Estimated Maximum Annual Waste Acceptance Rate Projected for Five Years [§330.61(b)(1)(C)]

Provide an **estimated** maximum annual waste acceptance rates at the facility, projected for five years. These rates are not permit limitations.

Table 1. Five-Year Projection for Waste Acceptance.

Year	Estimated Maximum Annual Waste Acceptance Rate
2027	61,600 tons
2028	61,900 tons
2029	62,200 tons
2030	62,500 tons
2031	62,700 tons

G. Storage and Processing Units

Indicate units that will store or process waste at the facility. Describe the wastes that will be stored or processed in these units. Provide the final disposition or use (e.g., landfill disposal, composting) of the processed materials. **Waste storage and processing authorized separately (such as a registered transfer station within the permit boundary of a landfill) should not be included on this form.**

Storage and processing units must be illustrated (or locations described) on site layout figures in Part II of the application.

Examples:

1. Unit: liquid stabilization unit, Purpose: process, Waste Type: liquid waste, Disposition: solidified material to be disposed in a properly authorized landfill; or
2. Unit: grease separation and dewatering unit, Purpose: process, Disposition: water to WWTP and grease to composter or Type I landfill.

Table 1. Waste storage and processing units.

Unit	Purpose	Waste Type Stored or Processed	Final Disposition or Use
Storage Tanks	☑Store ☐Process	Leachate and contaminated water	water to wastewater treatment plant or evaporation pond
Evaporation Pond	☑Store ☑Process	Leachate and contaminated water	water to wastewater treatment plant or evaporation
Class 1 Waste Cell(s)	☑Store ☐Process	Class I cells, all waste accepted	Class 1 waste cell
Landfill Cell(s)	☑Store ☐Process	All wastes accepted, except Class 1	Landfill cells
Citizens' Collection Station	☑Store ☐Process	Household waste, white goods, tires	Household waste to landfill, white goods/tires offsite
	☐Store ☐Process		

H. Prohibited from Processing

The following wastes are prohibited from processing:

- Any wastes not authorized for processing above.
- Lead-acid storage batteries may not be incinerated. [§330.15(e)(1)]
- Used motor vehicle oil may not be incinerated. [§330.15(e)(2)]
- Regulated hazardous waste [40 CFR §261.3] that is not excluded from regulation as a hazardous waste [40 CFR §261.4(b)] or that was not generated by a conditionally exempt small-quantity generator. [§330.15(e)(7), §330.3(127)]

Specify any other wastes to be prohibited for storage or processing that are not listed above.

None

I. Special Waste Acceptance Plan [§330.171(b)(2)]

Does this application include an **optional** Special Waste Acceptance Plan?
☐ Yes ☑ No

If yes, please provide its location in the application.

Not applicable

J. Limiting Parameters [§330.61(b)(1)]

1. Regulated Hazardous Waste
   MSW landfills may not accept regulated hazardous waste [§330.3(127)] for processing or disposal. The presence or characteristic of any material meeting the definition of a regulated hazardous waste is a limiting parameter for waste disposal or processing.
2. Free Liquids
   The presence of free liquids, as defined by the Paint Filter Test, EPA Method 9095, in waste, but not household waste and not liquid in containers similar in size to those found in household waste, is a limiting parameter for waste disposal. [§330.15(e)(6), §330.3(81)]
3. PCBs
   The presence of polychlorinated biphenyls (PCB) wastes [40 CFR Part 761] unless authorized by the United States Environmental Protection Agency is a limiting parameter for waste disposal or processing. [§330.15(e)(8)]
4. Radioactive Materials
   The presence of radioactive materials [Chapter 336], except as authorized in Chapter 336 or that are subject to an exemption of the Department of State Health Services, is a limiting parameter for waste disposal or processing. [§330.15(e)(9)]
5. Class 1 Solid Waste

   For all Type I AE landfills and for Type I landfills that do not have a Class 1 cell [330.331(e)] or have chosen to excluded Class 1 industrial nonhazardous solid waste, 1,500 mg/kg TPH and the concentrations in 30 TAC §335.521(a)(1) are limiting parameters for waste disposal.
6. Other limitations:

None

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Attachment I/II-10

Transportation and Airport Safety Plan Form

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Texas Commission on Environmental Quality

Transportation Data and Coordination Report Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators of Municipal Solid Waste (MSW) Type I landfills to provide data and information to address the availability and adequacy of access roads to a landfill site, the volume of vehicular traffic on and generated by the facility on area roadways, and to provide coordination information as required under 30 TAC §330.61(i). Roadways that provide primary access to a landfill facility must be adequate and possess appropriate design capacity to safely accommodate the additional volumes and weights of traffic generated or expected to be generated by this landfill facility during its active life. Data provided in this form should correspond with data contained in the coordination documents submitted to the Texas Department of Transportation or other agency that has jurisdiction over affected area roads.

If you need assistance in completing this form, please contact the Municipal Solid Waste Permits Section of the Waste Permits Division at (512) 239-2335.

I. General Information

Facility Name: WST Landfill

MSW Permit No.: 2431

Site Operator/Permittee Name and Mailing Address:

West Sun Tex, LLC
600 N Carroll Avenue, Suite 100
Southlake, Texas 76092

II. Documentation of Coordination with the Texas Department of Transportation (TXDOT) for Traffic and Location Restrictions

1. A traffic study document and cover letter was submitted to TXDOT as Coordination for traffic and location restrictions for the subject facility and a copy of the documents submitted to TXDOT is attached herein: ☐ Yes ☒ No

   If you checked "No" , provide explanation:

A full traffic study was not performed due to the rural location of the proposed facility. However, a comprehensive analysis of traffic data in the area is presented in a technical memorandum (Appendix I/II-10-A).

2. Date of submission of the coordination documents to TXDOT: Sent via Certified Mail on April 20, 2021 and by email on July 22, 2021

3. TXDOT's response received? ☒ Yes ☐ No

4. If "No" is checked in response to Item I.3 above, complete Items I.4 and I.5 below only after TxDOT's response is received.

5. Did TxDOT's response include recommendation of improvements to any of the roadways or intersections that lead to the site? ☐ Yes ☒ No

6. If you checked "Yes" in Item I.5 above, proceed to Section III., TxDOT's Recommended Roadway or Intersection Improvements (as applicable).

7. If you checked "No" in Item I.5 above, provide TxDOT's response to the traffic and location restrictions compliance coordination for the subject site:

The TxDOT Odessa District does not propose any roadway improvements, but states that they will monitor traffic at these locations once the facility is operating to ensure the safe accommodation of traffic. This correspondence is attached as part of the technical memorandum (Appendix I/II-10-A).

III. TxDOT Recommended Roadway or Intersection Improvements (as applicable)

Enter TxDOT's recommendations for improvement of roadways or intersections that lead to the site:

1. None

2.

3.

IV. Documentation of Coordination of Improvement Designs of Public Roadways (turning lanes, storage lanes, acceleration/deceleration lanes, etc.) at and Near the Site Entrances with Agencies that Exercise Maintenance Responsibility

1. Complete Table 1 with information regarding documentation of coordination of improvement designs for existing and proposed roads.

Table 1: Public Roadway Improvements Coordination

Existing and Proposed Roads Associated with the Site Entrance(s)	Agency Exercising Maintenance Responsibility	Date of Coordination Correspondence from the Applicant or Site Operator to the Agency Responsible	Date of the Coordination Response Letter from the Agency Responsible	Did the Agency Responsible Require Improvements to the Roadway(s) Associated with the Site Entrance(s) (check Yes or No as applicable)
CR 408	Reeves County	11/11/2021	11/15/2021	☐Yes ☒No
				☐Yes ☐No
				☐Yes ☐No
				☐Yes ☐No

2. If you checked "Yes" in the last column of Table 1, indicating that improvements are required, address the following:

   (a) Briefly describe the improvements proposed for the public roadway(s) associated with the site entrance(s):

   (b) A copy of the proposed improvement design submitted to the agency exercising maintenance responsibility over the roadway is attached herein: ☐Yes ☐No. If you checked "No" please explain:

   (c) A copy of the response letter from the agency exercising maintenance responsibility over the roadway(s) associated with the site entrance(s) approving the improvement design is attached herein: ☐Yes ☐No. If you checked "No" please explain:

V. Facility Location and Operation Information Used in Estimating Transportation Data

1. Facility Location Information

WST Landfill is located approximately 5 miles west-northwest of Pecos, Texas at the intersection of County Road (CR) 415 and CR 408 (also labeled as CR 4087 for the length of the section).

2. Waste Acceptance Rates

(a) Initial Waste Acceptance Rate: 61,595 tons/year

(b) Estimated Maximum Waste Acceptance Rate at any Time During Facility Life: 62,626 tons/year

3. Hours of Operation and Site Life

(c) Operating Hours: Monday-Friday, 7:00 a.m. to 5:00 p.m. and Saturday, 8:00 a.m. to 12:00 p.m.

(d) Waste Acceptance Hours: Monday-Friday, 7:00 a.m. to 5:00 p.m. and Saturday, 8:00 a.m. to 12:00 p.m.

(e) Estimated Site Life: 115 years

4. Other Information Used or Assumed in Estimating Transportation Data:

There are two anticipated primary access routes to WST Landfill from the nearest major community of Pecos, TX. The first may be traversed by traveling west-southwest on Interstate 20 Business Loop West (I-20BL) and continuing on to Interstate 20 Service Road, turning northwest on CR 408 and proceeding for approximately 1.5 miles, turning left onto CR 411 and then immediately right onto CR 408, then continuing to the facility entrance. The alternate access route may traverse I-20BL, Farm to Market (FM) 2119, and CR 415 prior to accessing CR 408 and continuing to the facility entrance. While historical data on these roadways are unavailable for an area within one mile of the facility, representative data from these roadways are retrieved within 2.5 miles of the project location.

VI. Facility Daily Traffic Volume Data

1. Complete Table 2 with estimated existing daily volume of traffic generated by the facility.

Table 2: Estimated Existing Daily Volume of Traffic Generated: N/A - New Facility

Vehicle Type	Traffic Volume to Facility (vehicles per day, vpd)	Traffic Volume from Facility (vpd)
Trucks		
Employee Vehicles		
Visitors Vehicles		
Other Vehicles		
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic		

(a) Describe the source(s) of or method(s) used to obtain the existing daily volume of traffic generated by the facility: N/A

(b) Location(s) of traffic counts (if applicable): N/A

2. Complete Table 3 with estimated future daily volume of traffic generated by the facility.

Table 3: Estimated Future Daily Volume of Traffic Generated

Vehicle Type	Traffic Volume to Facility (vpd)	Traffic Volume from Facility (vpd)
Trucks	12	12
Employee Vehicles	3	3
Visitors Vehicles	1	1
Other Vehicles	1	1
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic	17	17

3. Describe the method(s) used to obtain the estimated future daily volume of traffic generated by the facility, including dates, traffic growth rates, and sources of the growth rates: As populations across the six adjacent counties are expected to

experience limited population growth, the waste deposition rate from 2031 is considered to be the highest deposition rate. Assuming that the maximum volume of waste the facility accepts in a year is 62,626 tons (provided as a part of the 5-year projection rate in Part III-4-G), traffic volumes can be estimated by dividing the daily volume by the in-truck density standard dump trucks.

4. Maps showing the facility boundary and roads within 1 mile of the facility that provide access to the site are attached herein. Yes ☒ No☐. If you checked "No" please explain:

VII. Availability and Adequacy of Roads

1. Complete Table 4 with information regarding the primary access roadways.

Table 4: Roadway Characteristics of the Primary Access Roadways

List the roads that the owner or operator will use as primary access to the site	Existing Annual Average Daily Traffic on Roadway (vpd)	Expected Annual Average Daily Traffic on Roadway (vpd)	Existing Roadway Capacity	Expected Roadway Capacity	Max Gross Weight Allowed (lbs)	Max/Min Posted Speed Limit (mph)	Min Vertical Clearance (ft)	Surface Type and No. of Lanes	Level of Service	Existing Traffic Generated by the Facility on Each Roadway	Expected Traffic Generated by the Facility on Each Roadway
CR 415	293	336	1,200 vph	1,200 vph	80,000 lbs	30	N/A	Asphalt, 2	B	0	34
CR 408	202	245	1,200 vph	1,200 vph	80,000 lbs	30	N/A	Asphalt, 2	B	0	34

2. Complete Table 5 with information regarding other access roadways within one mile.

Table 5: Roadway Characteristics of Other Access Roadways within One Mile of the Facility Boundary

List other access roadways within 1 mile of the facility	Existing Annual Average Daily Traffic on Roadway	Expected Annual Average Daily Traffic on Roadway	Existing Roadway Capacity	Expected Roadway Capacity	Max Gross Weight Allowed (lbs)	Max/Min Posted Speed Limit (mph)	Min Vertical Clearance (ft)	Surface Type and No. of Lanes	Level of Service	Existing Traffic Generated by the Facility on Each Roadway	Expected Traffic Generated by the Facility on Each Roadway
FM/Ranch Rd 2119	2,008	2,051	1,450 vph	1,450 vph	80,000 lbs	75	N/A	Asphalt, 2	B	0	34
CR 411	202	245	1,200 vph	1,200 vph	80,000 lbs	30	N/A	Asphalt, 2	B	0	34

3. Complete Table 6 with information regarding access roadway intersections within one mile.

Table 6: Roadway Intersection Characteristics

Please list major (signalized) roadway intersections for access roads within 1 mile of facility	Existing Capacity	Existing Level of Service
None		

4. (For applicants that conducted traffic counts) Peak period traffic counts were conducted at critical intersections and roadways in the area: ☐ Yes ☐ No

   If "No" is checked, please explain:

VIII. Conclusions on the availability and adequacy of roads to be used for accessing the facility

Enter conclusions regarding the availability and adequacy of roads to be used for accessing the facility using information obtained from access roadway data; data on the volume of existing and expected vehicular traffic on the access roads within one mile of the facility; and the projection of the volume of traffic expected to be generated by the facility on the access roads:

Based on available information, the existing access roadways are considered to be available and adequate to handle the estimated increased traffic volumes associated with the proposed landfill. Additional conclusions regarding roadway availability and adequacy will be assessed by WST, TxDOT, and the Reeves County Road & Bridge Department as the facility's driveway permit is developed.

IX. Highway Beautification

Enter facility distance from interstate or primary highways and screening information as required by 30 TAC 330.23(a).

5. Distance of Facility from Interstate or Primary Highway: Approximately 2 miles northwest of I-20BL.

6. Type of Facility Screening Provided, if applicable: N/A

X. Analysis of the Impact of the Facility upon Airports

Enter the Part, Appendix, Attachment, Section, and Page Number of the application where analysis of the impact of the facility upon airports is provided:

Section 18.2 of Attachment I/II-2

XI. Documentation of Coordination with the Federal Aviation Administration for Compliance with Airport Location Restrictions

1. Applicant has submitted written information to FAA describing the facility location, maximum height of waste units, type of waste accepted at the facility, and other facility-relevant data and information as required: ☒ Yes ☐ No

   (a) Enter Date of Coordination Letter to FAA: Obstruction Evaluation/Airport Airspace Analysis (OE/AA) forms submitted Friday, May 17, 2024.

   (b) Enter Date of FAA Response: June 6, 2024

2. Indicate FAA Response and Final Action:

   ☒ FAA Acknowledged No Adverse Impact.

   ☐ FAA Recommended Safety Improvements. (*Complete Section XII if you check this item.*)

3. A copy of the Documentation of Coordination with FAA for compliance with airport location restrictions is attached herein. ☒Yes ☐No. If you checked "No" please explain:

XII. FAA Recommended Changes or Improvements for Airport Safety, (as applicable)

Enter FAA's recommended changes or improvements to the facility for airport safety or for compliance with airport location restrictions.

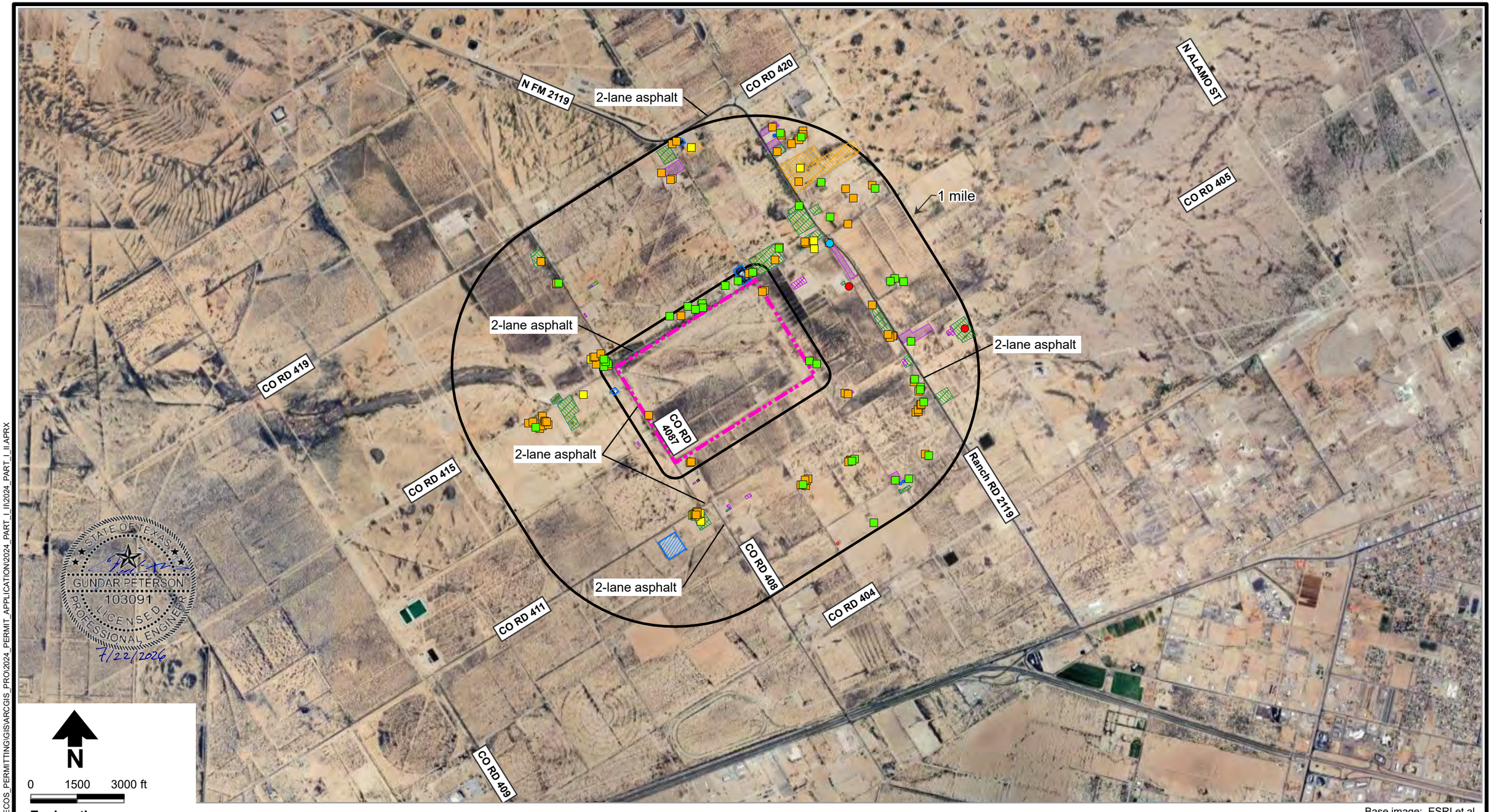
None

XIII. Attachments

- Map showing the facility boundary and roads within 1 mile of the facility (Figure I/II-10-1).
- Documentation of coordination of all designs of proposed public roadway improvements associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved; and the response letter received from the agency, as applicable (Attachment I/II-10-A1).
- Documentation of coordination with the Texas Department of Transportation (TxDOT) for traffic and location restrictions, including any traffic study report, and the response letter received from TxDOT (Attachment I/II-10-A1).
- Documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions, and the response letter received from FAA (Attachment I/II-10-A1).
- Other documents attached: Coordination letter to Pecos Airport and the response email received (Attachment I/II-10-A1).

Figure

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Explanation

Industrial building	Residential building	Container storage yard	Industrial yard	RV park
Mobile home	Tank	Destroyed/Abandoned	Pond	Tank yard
Out building	Windmill	Evaporation pond	Residential swimming pool	Well field

Base image: ESRI et al.

Notes:
1 No schools, daycares, hospitals, lakes, churches, parks, or cemeteries were identified within the 1-mile radius of the site.
2. Buildings and facilities were identified based on aerial photo interpretation; no zoning record was available.

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3/5/2024 DB20.1166

WST LANDFILL

Facilities and Roads Located Within 1 Mile of the Proposed Facility

Figure I/II-10-1

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\2024_PERMIT_APPLICATION\2024_PART_I_II\2024_PART_I_II\APRX

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Appendix I/II-10-A

Transportation Technical Memorandum

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Transportation
Technical Memorandum
WST Landfill
Reeves County, Texas

Prepared for
West Sun Tex, LLC
Pecos, Texas

Prepared by

DBS&A
a Geo-Logic Company

Texas Registered Engineering Firm F-286
Texas Registered Geoscience Firm No. 50045
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DB20.1166



July 2026

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Table of Contents

1. Introduction 1
2. Site Location and Access 2
3. Agency Coordination 3
4. Existing Conditions 3
5. Projected Facility-Generated Traffic 7
6. Expected Traffic During Facility Life 10
7. Conclusions 12

List of Figures

I/II-10-A-1 Anticipated Access Routes to WST Landfill from Pecos, Texas
I/II-10-A-2 TxDOT STARS II Traffic Count Locations
I/II-10-A-3 DBS&A Traffic Count Locations



List of Tables

I/II-10-A-1. TxDOT AADT Projections for CR 408 4
I/II-10-A-2. TxDOT Volume Count Summary for CR 408 4
I/II-10-A-3. TxDOT AADT Projections for FM 2119 5
I/II-10-A-4. TxDOT Volume Count Summary for FM 2119 5
I/II-10-A-5. DBS&A Volume Count Summary for CR 408 6
I/II-10-A-6. DBS&A Volume Count Summary for CR 415 6
I/II-10-A-7. Estimated Populations of Neighboring Counties, 2025 to 2030 8
I/II-10-A-8. Anticipated Trip Generation (per day) on Landfill Access Routes for the Year 2145 10
I/II-10-A-9. Predicted Changes in Traffic Volumes due to Operation of WST Landfill 11

List of Attachments

I/II-10-A1 Agency Coordination
I/II-10-A2 TxDOT STARS II Data, CR 408
I/II-10-A3 TxDOT STARS II Data, FM 2119
I/II-10-A4 DBS&A Traffic Count Data, CR 408
I/II-10-A5 DBS&A Traffic Count Data, CR 415

1. Introduction

This technical memorandum has been prepared by Daniel B. Stephens & Associates, Inc. (DBS&A) to present the estimated impacts of WST Landfill's operations on traffic volumes surrounding the facility. Roadways along the access route within a 1-mile radius of WST Landfill are analyzed using field observation and traffic volume data to provide a qualitative discussion of their availability and adequacy, as well as an evaluation of the projected impacts of the facility's operation on those roadways.

Pursuant to satisfying the requirements of 30 Texas Administration Code (TAC) 330.61(i)(1)-(3), this document shall:

- 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 1 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 1 mile of the proposed facility

This memorandum contains preliminary communication with the Texas Department of Transportation (TxDOT) regarding the impact of WST Landfill's operations on its surrounding transportation infrastructure. It presents traffic volume data collected by TxDOT and field studies. Traffic generation expected during the life of the landfill is evaluated and compared against the existing and projected traffic conditions of the roadways in question. These factors are discussed to provide an overview of WST Landfill's anticipated impact on the roads which will be used for direct access.

This document has been prepared in lieu of a formal traffic impact analysis (TIA) due to the minimal anticipated traffic generation associated with the proposed facility and the low existing traffic volumes on its adjacent roadways. DBS&A and West Sun Tex, LLC (WST) acknowledge that driveway permitting requirements will likely govern whether a formal traffic study is necessary to evaluate roadway adequacy.

2. Site Location and Access

WST Landfill will be a Type I municipal solid waste (MSW) landfill owned and operated by WST in Reeves County, Texas. The facility is located approximately 5 miles west-northwest of Pecos, Texas at the intersection of County Road (CR) 415 and CR 408 (also labeled as CR 4087 for the length of the section). The landfill is located within an unincorporated portion of Reeves County and is located more than 1,000 feet away from an interstate or primary highway. It is expected for the facility to serve Culberson, Jeff Davis, Loving, Pecos, Reeves, and Ward Counties during its operation. WST Landfill is anticipated to operate and accept waste Monday through Friday from 7:00 a.m. to 5:00 p.m., and Saturday from 8:00 a.m. to 12:00 p.m. If this schedule is followed, the facility will be open approximately 5.5 days out of each week, for 52 weeks of the year, and is anticipated to observe approximately 5 holidays each year; this provides a yearly sum of 281 operating days.

There are two anticipated primary access routes to WST Landfill from the nearest major community of Pecos, Texas. The first may be traversed by traveling west-southwest on Interstate 20 Business Loop West (I-20 BL) and continuing on to Interstate 20 Service Road, turning northwest on CR 408 and proceeding for approximately 1.5 miles, turning left onto CR 411 and then immediately right onto CR 408, and then continuing to the facility entrance. The alternate access route may traverse I-20 BL, Farm to Market (FM) 2119, and CR 415 prior to accessing CR 408 and continuing to the facility entrance. The two primary access routes are shown in Figure I/II-10-A-1.

The roads addressed by this memorandum include those along each of the access routes within a 1-mile radius of the facility: FM 2119, CR 408, CR 411, and CR 415. CR 408, CR 411, and CR 415 are functionally classified as local roads with speed limits of 30 miles per hour (mph) that are owned, managed, and maintained by Reeves County. FM 2119 is a major collector with a speed limit of 75 mph that is owned, managed, and maintained by TxDOT. All four roadways are paved, two-lane roads in good condition; at least two of the county roads (CR 408 and CR 415) were recently repaved in December 2025 with chip and seal. These four public roadways will provide continuous access to the site from the nearest major thoroughfare, I-20 BL. The roadways are estimated to have a weight restriction of 80,000 pounds.

3. Agency Coordination

In April 2021, DBS&A established a preliminary line of communication with the TxDOT Odessa District regarding the planned location of WST Landfill. This communication, provided in Attachment I/II-10-A1, stated a traffic generation estimate of 17 trucks per day with a five-year maximum estimate of 25 trucks per day. A response was received from the Odessa District Engineer in August 2022 (Attachment I/II-10-A1). The TxDOT representative indicated that the facility is not located within 1,000 feet of an interstate or primary highway, and also detailed the anticipated access routes on which a high percentage of the facility's traffic will likely travel. It was expressed that the estimate of anticipated traffic provided to TxDOT seemed low for the facility and WST's adjacent oil and gas waste disposal facility, which prompted further investigation from DBS&A into the matter.

Communication regarding the development of WST Landfill was additionally established with the Reeves County Road & Bridge Department in November 2021 (Attachment I/II-10-A1). Within this e-mail chain, it is confirmed that the existing traffic volumes along CR 408 and CR 415 are low. No concerns are raised regarding the availability or adequacy of the roadways.

4. Existing Conditions

To characterize existing traffic volumes within the subject area, traffic volume data were obtained by the following means: (1) publicly available traffic counts published by TxDOT were retrieved for CR 408 and FM 2119 within 2.5 miles of the facility and (2) DBS&A staff conducted field traffic volume counts on lengths of CR 408 and CR 415 directly adjacent to the project site. As no roadway improvements, traffic control devices, or speed limit modifications are proposed for the construction of WST Landfill, standard volume and directional vehicular counts are provided as sufficient data to support this demonstration.

No known historical traffic data exist for roadway segments within 1 mile of the proposed facility. Therefore, data were obtained from the nearest available traffic observation stations along the roadways in question. Data were acquired through TxDOT's Statewide Traffic Analysis and Reporting System (STARS II) in January 2026. Locations of data obtained from TxDOT STARS II are shown in Figure I/II-10-A-2. All reported TxDOT volume counts were performed using an axle/tube method. Where available, quantities derived by TxDOT regarding traffic patterns of the access roadways are reported. These quantities include annual average daily

traffic (AADT, describes daily traffic projections normalized using seasonal and axle-correction factors), design hourly volume (DHV-30, the 30th highest hourly traffic volume anticipated in the design year, typically 20 years from construction), and business/commercial vehicles, FHWA Class 4 and above (BC, expressed as a standard count and percent AADT).

TxDOT traffic volume data for CR 408 were available near the road's intersection with I-20 BL, approximately 2 miles south of the project site (Location ID 195CR13A). Summaries of the available historical data for CR 408 are provided in Tables I/II-10-A-1 and I/II-10-A-2; the complete data records are provided in Attachment I/II-10-A2.

Table I/II-10-A-1. TxDOT AADT Projections for CR 408

Year	AADT	DHV-30	BC
2012	140	—	—
2007	40	—	—
2002	40	—	—
Average	73	—	—

Table I/II-10-A-2. TxDOT Volume Count Summary for CR 408

Start Date and Time	End Date and Time	AM Peak		PM Peak		Total Count	AADT
		Hour	Count	Hour	Count		
Mon 12/18/2017, 09:30	Tue 12/19/2017, 09:30	07:45–08:45	61	17:00–18:00	133	835	935

TxDOT traffic data for FM 2119 were available from two observation points near the project site. Information obtained from Location ID 195H65 characterizes traffic on FM 2119 approximately 2.5 miles northeast of the project site, while data from Location ID 195H66 represent traffic on FM 2119 approximately 1.5 miles southeast of the facility near its intersection with I-20 BL. Historical TxDOT data for FM 2119 are summarized in Tables I/II-10-A-3 and I/II-10-A-4; the complete datasets are provided in Attachment I/II-10-A3. Due to an abundance of data on this roadway, only the seven most recent years of data (2018 to 2024) are reported here.

Table I/II-10-A-3. TxDOT AADT Projections for FM 2119

Year	Location ID	AADT	DHV-30	BC
2024	195H65	3,466	—	2,190 (63%)
	195H66	2,068	—	1,353 (65%)
2023	195H65	3,365	—	2,425 (72%)
	195H66	2,008	185	1,313 (65%)
2022	195H65	3,169	—	2,448 (77%)
	195H66	1,891	174	1,317 (70%)
2021	195H65	3,521	272	1,604 (46%)
	195H66	2,564	217	1,390 (54%)
2020	195H65	4,504	—	1,835 (41%)
	195H66	4,070	—	1,732 (43%)
2019	195H65	5143	573	1,564 (30%)
	195H66	5,017	410	1,537 (31%)
2018	195H65	7,745	673	2,129 (27%)
	195H66	5,442	438	1,629 (30%)
Average		3,855	368	1,748 (51%)

Table I/II-10-A-4. TxDOT Volume Count Summary for FM 2119

Start Date and Time	End Date and Time	Location ID	AM Peak		PM Peak		Total Count	AADT
			Hour	Count	Hour	Count		
Mon 11/13/2023, 20:15	Tue 11/14/2023, 20:15	195H66	06:45–07:45	315	16:00–17:00	275	3,359	2,008
Wed 12/7/2022, 09:45	Thu 12/8/2022, 09:45	195H66	07:00–08:00	237	16:15–17:15	282	2,981	1,891
Sun 12/5/2021, 20:45	Mon 12/6/2021, 20:45	195H66	08:00–09:00	303	15:45–16:45	329	3,697	2,564
Sun 12/5/2021, 21:00	Mon 12/6/2021, 21:00	195H65	07:30–08:30	391	16:00–17:00	405	5,079	3,521
Tue 8/27/2019, 16:30	Wed 8/28/2019, 16:30	195H65	06:00–07:00	573	17:45–18:45	560	8,565	5,143
Tue 8/27/2019, 16:45	Wed 8/28/2019, 16:45	195H66	07:00–08:00	410	16:30–17:30	372	5,507	5,017
Mon 12/17/2018, 08:15	Tue 12/18/2018, 08:15	195H65	06:15–07:00	600	17:45–18:45	685	8,859	7,745
Mon 12/17/2018, 08:15	Tue 12/18/2018, 08:15	195H66	09:30–10:30	420	15:45–16:45	457	6,223	5,442
						Average	5,534	4,166

Auxiliary data regarding the existing traffic volumes on CR 408 and CR 415 were obtained by means of a directional traffic count by DBS&A in December 2025. The study was performed between the days of Monday, December 1, 2025 and Wednesday, December 3, 2025 using StreetLogic Pro countCAM 4 camera-based traffic counter units. These units reported data at

15-minute intervals for 53 consecutive hours and directionally classified traffic movement on the roadways. The deployment locations of the countCAM 4 units are provided in Figure I/II-10-A-3.

This traffic count took place during non-holidays and within typical weekday conditions; no adverse weather events or construction activities occurred during the study that may have influenced traffic patterns. The selected days are considered representative of normal roadway use and reflect typical weekday traffic patterns. The resolution of this data meets TxDOT recommendations for volume studies where no turning-movement counts, signal analyses, or detailed operational studies are required.

Summaries of the traffic counts conducted by DBS&A for CR 408 and CR 415 are provided in Tables I/II-10-A-5 and I/II-10-A-6; the complete data records are provided in Attachments I/II-10-A4 and I/II-10-A5. AADT and DHV-30 are not reported for traffic counts conducted by DBS&A due to a lack of data and accurate seasonal correction factors. BC is not specified due to limitations of the counting equipment.

Table I/II-10-A-5. DBS&A Volume Count Summary for CR 408

Start Date and Time	End Date and Time	AM Peak		PM Peak		Total Count
		Date and Hour	Count	Date and Hour	Count	
Mon 12/1/2025, 13:00	Wed 12/3/2025, 18:15	Wed 12/3/2025, 10:45–11:45	17	Wed 12/3/2025, 12:00 to 13:00	23	446
					Average per 24 hours	202

Table I/II-10-A-6. DBS&A Volume Count Summary for CR 415

Start Date and Time	End Date and Time	AM Peak		PM Peak		Total Count
		Date and Hour	Count	Date and Hour	Count	
Mon 12/1/2025, 13:45	Wed 12/3/2025, 18:45	Mon 12/1/2025, 07:00–08:00	28	Mon 12/1/2025, 19:15–20:15	29	647
					Average per 24 hours	293

When compared to data available from TxDOT, the average 24-hour traffic volume quantified by DBS&A for CR 408 in December 2025 (Table I/II-10-A-5) identifies approximately 600 vehicles fewer than those observed by TxDOT in December 2017 (Table I/II-10-A-2). This disparity may be explained by a similar negative trend seen in the traffic volume counts for FM 2119, where 24-hour traffic volume counts decreased drastically between 2018 and 2023 (Table I/II-10-A-4).

It is assumed that this dissimilarity indicates a change in traffic patterns over time, and does not invalidate the traffic volumes collected by DBS&A.

No traffic volume data are available for CR 411. For the purposes of this demonstration, CR 411 is assumed to display similar traffic patterns as CR 408.

5. Projected Facility-Generated Traffic

Predicted traffic generation volumes resulting from the operations of WST Landfill were calculated using the estimated rate of solid waste deposition and estimated operating life of the landfill, assuming a per capita collection rate advised by the Texas Commission on Environmental Quality (TCEQ) (15 acre-feet solid waste per 10,000 people per year) [30 TAC 330.63(d)(4)(D)]. The calculation used to determine the estimated rate of solid waste deposition and operating life of the facility is provided in Appendix III-4-G.

The actual waste capacity for WST Landfill is approximated at 12,007,634 cubic yards (Appendix III-4-G). This quantity is used in conjunction with population estimates from the Texas Demographic Center to determine an expected landfill life of 115 years. Assuming that WST Landfill may begin accepting waste in the year 2027, the contributing population and maximum waste deposition rate are analyzed to determine the worst-case scenario of trip generation. The procedures used to estimate this traffic generation rate are outlined below.

To determine WST Landfill's estimated trip generation figures, the following assumptions are made:

- The landfill will operate and accept waste 281 days per year.
- Each vehicle contributes two trips (one inbound, one outbound).
- The facility will staff at least three personnel each operating day, resulting in approximately 6 total trips per day.
- Vehicles carrying waste are all commercial trucks (residential deposition is omitted for conservatism).
- One-third of commercial trucks are 30-cubic yard dump trucks carrying 16 tons of solid waste and two-thirds of commercial trucks are 20-cubic yard garbage trucks carrying 9 tons of solid waste.

- Density of waste collected is equal to 0.6 tons per cubic yard.
- Landfill traffic will be distributed evenly between the two anticipated access routes.
- One visitor per day will travel to and from the landfill.
- Miscellaneous service traffic to the landfill will produce two additional total trips per operating day.

To estimate trip generation on each of the access routes for WST Landfill, the maximum estimated rate of solid waste deposition must first be assessed. To do this, the future population to be serviced by the facility is determined.

Population projections for Culberson, Jeff Davis, Loving, Pecos, Reeves, and Ward Counties were used to estimate annual waste acceptance rates between 2027 and 2031. As populations within the six surrounding counties are not expected to increase significantly past 2031, the estimated waste acceptance rate for 2031 is considered to be the maximum tonnage the facility is expected to receive in a year. This information is summarized in Table I/II-10-A-7.

Table I/II-10-A-7. Estimated Waste Acceptance Rate, 2027 to 2031

Year	Estimated Maximum Annual Waste Acceptance Rate (tons)
2027	61,660
2028	61,900
2029	62,200
2030	62,500
2031	62,700

The total deposited tonnage for the year is divided amongst the two access routes, which are assumed to share the facility's traffic evenly:

$$\frac{62{,}700\ tons}{2\ access\ routes} = 31{,}350\ tons\ per\ access\ route$$

Next, the tonnage per route is divided to account for the assumed vehicle mix:

$$\frac{1}{3}\ solid\ waste\ carried\ by\ 30\ yd^3\ dump\ trucks\ * 31{,}350\ \frac{tons}{access\ route}$$
$$= 10{,}450\ tons\ carried\ by\ 30\ yd^3\ dump\ trucks$$

$$\frac{2}{3}\ solid\ waste\ carried\ by\ 20\ yd^3\ dump\ trucks\ *\ 31{,}350\ \frac{tons}{access\ route}$$
$$= 20{,}900\ tons\ carried\ by\ 20\ yd^3\ dump\ trucks$$

The tonnage per vehicle on each route is used to generate a figure for one-way trips to WST Landfill for each operating week in 2142:

$$\frac{10{,}450\ tons\ carried\ by\ 30\ yd^3\ dump\ trucks}{16\ \frac{tons}{trip}} \div 281\ operating\ days$$
$$\approx\ 3\ one\ way\ trips\ traversed\ by\ 30\ yd^3\ dump\ trucks\ per\ day$$

$$\frac{20{,}900\ tons\ carried\ by\ 20\ yd^3\ dump\ trucks}{9\ \frac{tons}{trip}} \div 281\ operating\ days$$
$$\approx\ 9\ one\ way\ trips\ traversed\ by\ 20\ yd^3\ dump\ trucks\ per\ day$$

Each truck that travels to the landfill must also leave; therefore the calculated number of trips per route are doubled to account for this:

$$3\ one\ way\ trips\ traversed\ by\ 30\ yd^3\ dump\ trucks\ per\ day * 2$$
$$= 6\ total\ trips\ traversed\ by\ 30\ yd^3\ dump\ trucks\ per\ day$$

$$9\ one\ way\ trips\ traversed\ by\ 20\ yd^3\ dump\ trucks\ per\ day * 2$$
$$= 18\ total\ trips\ traversed\ by\ 20\ yd^3\ dump\ trucks\ per\ day$$

The total trips traversed by vehicles depositing solid waste per day are summed:

$$6\ total\ trips\ traversed\ by\ 30\ yd^3\ dump\ trucks\ per\ day +$$
$$18\ total\ trips\ traversed\ by\ 20\ yd^3\ dump\ trucks\ per\ day =$$
$$24\ total\ trips\ traversed\ by\ vehicles\ depositing\ solid\ waste\ per\ day$$

Finally, auxiliary trips to account for miscellaneous service and landfill personnel traffic are added:

$$24\ total\ trips\ traversed\ by\ vehicles\ depositing\ solid\ waste\ per\ day$$
$$+ 2\ total\ trips\ traversed\ by\ miscellaneous\ service\ vehicles\ per\ day$$
$$+ 2\ total\ trips\ traverved\ by\ visitors\ per\ day$$
$$+\ 6\ total\ trips\ traversed\ by\ landfill\ personnel\ per\ day$$
$$\approx 34\ total\ trips\ per\ operating\ day$$

This calculation provides WST Landfill with a rough estimate of their worst-case trip generation for each of the access routes. The trips anticipated to be generated by WST Landfill are summarized in Table I/II-10-A-8.

Table I/II-10-A-8. Anticipated Trip Generation (per day) on Landfill Access Routes for the Year 2142

Access Route	Total Trips Generated
I-20BL to CR 408	34
FM 2119 to CR 415	34

These trips generated by the operations of WST Landfill will occur within the operating schedule of the facility, which is expected to be Monday through Friday from 7:00 a.m. to 5:00 p.m. and Saturday from 8:00 a.m. to 12:00 p.m.

6. Expected Traffic During Facility Life

Expected traffic on the roadways in question, regardless of the presence of WST Landfill, are not anticipated to remain steady throughout the life of the landfill due to continued area development and other contributing factors. However, an accurate method of predicting future traffic volumes is not evident. As discussed in Section 4, historical traffic volume counts for FM 2119 show a sharp negative trend in traffic volumes between 2018 and 2023. If a growth rate is deduced from these historical data, traffic on the roadways in question will provide null results for the year 2142.

To provide a faithful representation of the anticipated impacts of WST Landfill's operations on the roadways in question, the most recent traffic volume data for each roadway are used. For CR 408 and CR 411, these are data collected by DBS&A in December 2025 (Table I/II-10-A-5). For CR 415, these are also data collected by DBS&A in December 2025 (Table I/II-10-A-6). For FM 2119, these are data collected by TxDOT in November 2023 (Table I/II-10-A-4); because these data depict AADT, which is less than the actual traffic count, the roadway's AADT is used for conservatism.

It may be noted that CR 408 will receive traffic resulting from vehicles traversing along both access routes, as it will include the location of the facility's main access. However, it is anticipated that the traffic resulting from the route traversing FM 2119 to CR 415 will be

segregated to the northern segment of CR 408 adjacent to the facility, while vehicles traversing the route from I-20BL to CR 408 will be segregated to the southern segment of CR 408 adjacent to the facility. Therefore, the generated trips are separated for the purposes of this demonstration.

Trips generated by WST Landfill are added onto these traffic counts and analyzed for relative change using Equation 1:

$$C = \frac{x_2 - x_1}{x_1} * 100 \quad (1)$$

where C = relative change (%)
x_1 = initial count, recorded 24-hour traffic volume
x_2 = final count, recorded 24-hour traffic volume plus total daily trip generation

An example calculation using Equation 1 is provided below for CR 408:

$$C = \frac{(202+34) - 202}{202} * 100 = +17\%$$

This procedure is repeated for CR 408, CR 411, and CR 415, as summarized in Table I/II-10-A-9.

Table I/II-10-A-9. Predicted Changes in Traffic Volumes due to Operation of WST Landfill

Roadway	Existing Traffic Volume	Predicted Traffic Volume (in 2142)	Relative Change	Existing Volume Data Source
FM 2119	2,008 [a]	2,042	+1.7%	FM 2119, TxDOT (2023)
CR 408	202	236	+17%	CR 408, DBS&A (2025)
CR 411	202	236	+17%	CR 408, DBS&A (2025)
CR 415	293	327	+12%	CR 415, DBS&A (2025)

[a] AADT data used

The roadways that are anticipated to experience the greatest impacts from traffic generation of WST Landfill are identified as CR 408 and CR 411. These roadways showed the lowest existing traffic volumes; therefore, the addition of supplemental vehicular traffic resulted in larger values of relative change. However, the expected relative change in traffic volumes remain below a 25 percent increase for these roadways. It is not anticipated that these increases in volume will negatively impact the availability or adequacy of the roadways along the facility access routes.

7. Conclusions

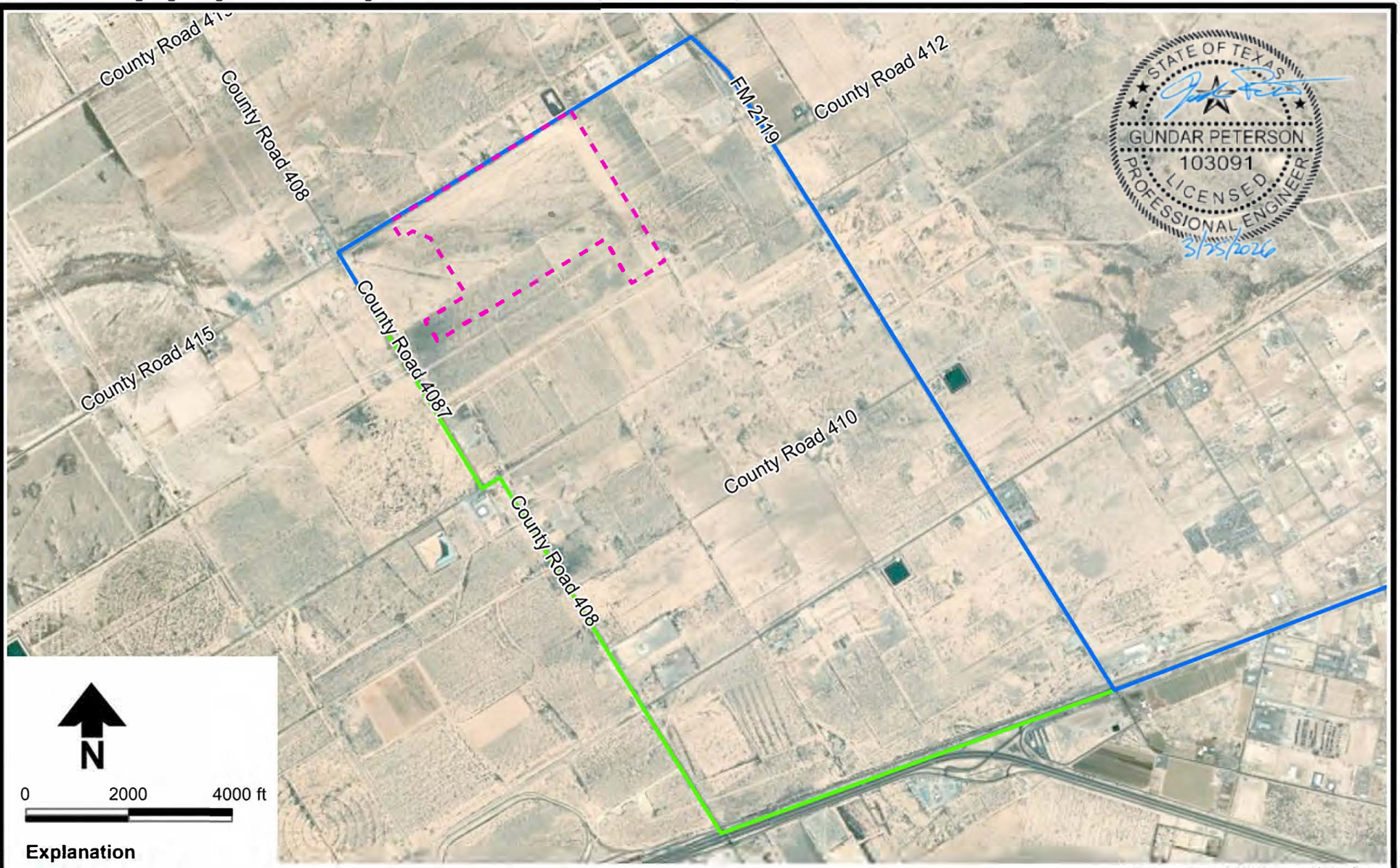
The data and discussion provided by this document are pursuant to satisfying the requirements of 30 TAC 330.61(i)(1)-(3) regarding transportation to and from WST Landfill. Preliminary coordination with the local TxDOT district (Odessa) is provided for context. Historical and current data are presented that describe existing traffic volume conditions on the roadways which provide access to the facility. A calculation that conservatively determines trip generation resulting from the operations of WST Landfill for the period at the end of the facility's life (in the year 2142) is given as a worst-case traffic generation scenario. The anticipated increases in traffic volumes are compared with existing conditions to determine the facility's projected impacts on its access roadways.

It is determined that the increase in traffic on WST Landfill's access roadways within 1 mile are small relative to their existing baseline traffic volumes. FM 2119, CR 408, CR 411, and CR 415 are deemed sufficient for their projected usage based on their availability, adequacy, and anticipated impacts from the landfill's operation.

Appendix I/II-10-A Figures

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S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\TRAFICMEMO\TRAFIC\TRAFIC.APRX • ANTICIPATED ACCESS ROUTES TO WST LANDFILL FROM PECOS, TEXAS



Aerial image: Vivid, Vantor 3/28/2024

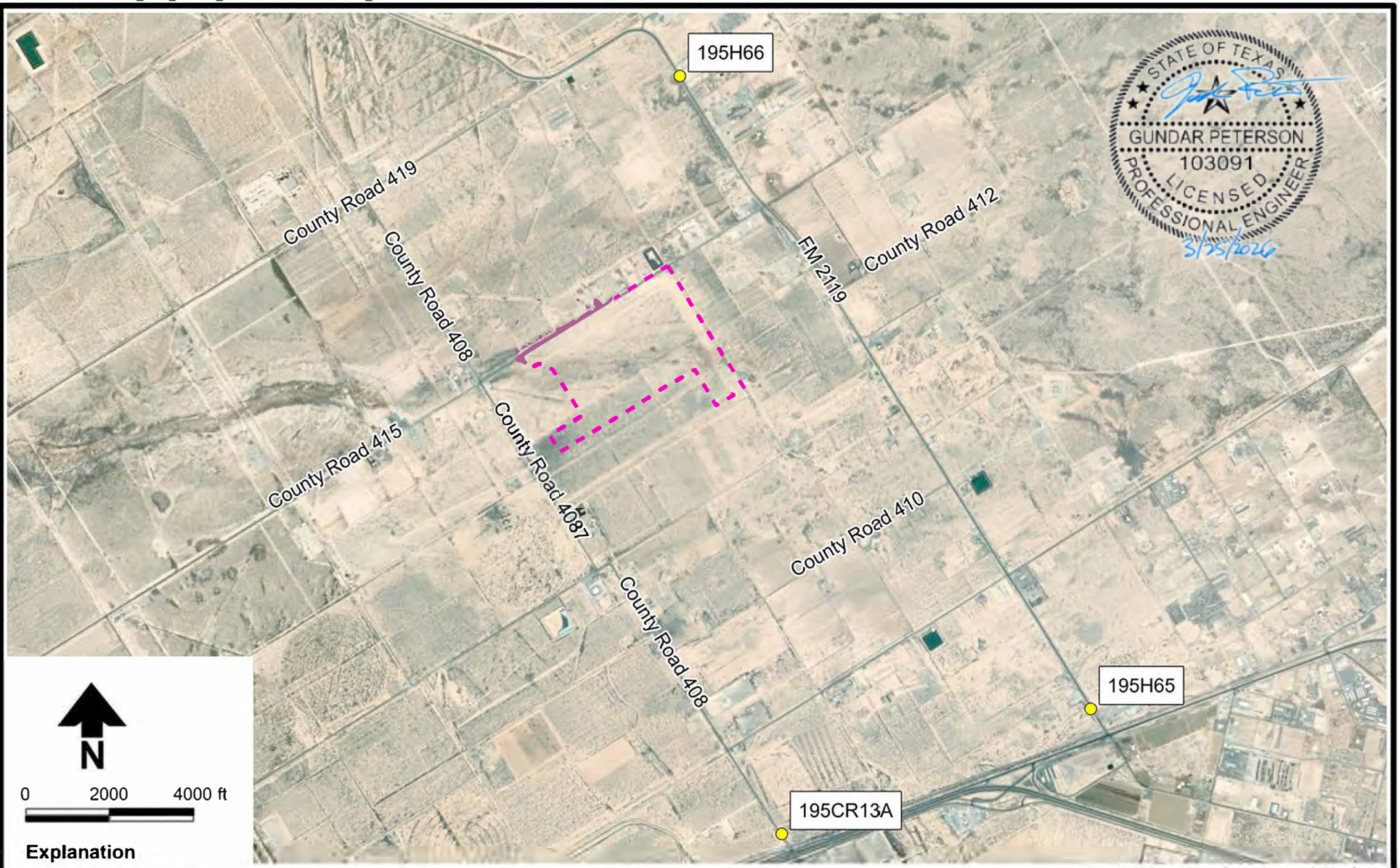
Figure I/II-10-A-1

WST LANDFILL

Anticipated Access Routes to WST Landfill from Pecos, Texas

DBS&A a Geo-Logic Company

3/23/2026 DB20.1166



STATE OF TEXAS
GUNDAR PETERSON
103091
LICENSED
PROFESSIONAL ENGINEER
3/25/2026

Aerial image: Vivid, Vantor 3/28/2024

Figure I/II-10-A-2

WST LANDFILL

TxDOT STARS II Traffic Count Locations

DBS&A a Geo-Logic Company

3/23/2026 DB20.1166

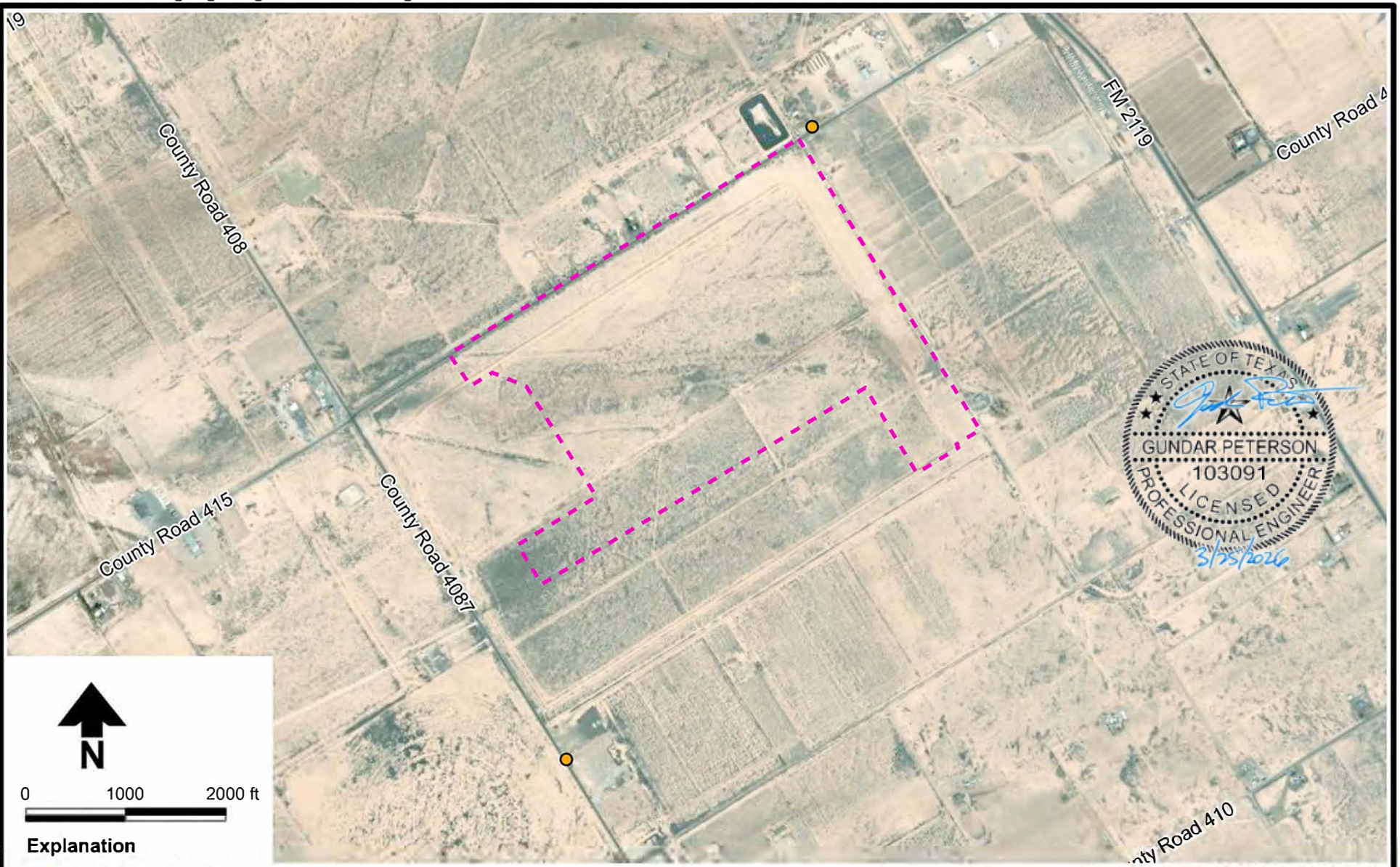


Figure I/II-10-A-3

WST LANDFILL

DBS&A Traffic Count Locations

DBS&A a Geo-Logic Company

3/23/2026 DB20.1166

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Attachment I/II-10-A1

Agency Coordination

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TxDOT

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April 20, 2021

Mr. John R. Speed, P.E.
Odessa District Engineer
Texas Department of Transportation
3901 E. Highway 80
Odessa, Texas 79761

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Mr. Speed:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The facility entrance will be off of CR 408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the Texas Department of Transportation for coordination purposes per 30 TAC 330.23(a). The proposed facility is not located within 1,000 feet of an interstate or primary highway, so we do not anticipate that there will be a need for screening or special operating requirements. We have included Figure 1, which shows the location of the proposed facility, proximity to Interstate 20, and a 6-mile radius around the proposed facility. Access to the proposed MSW disposal facility will be off CR 408 (also labeled as CR 4087 for the length of the section). This is a rural two-lane asphalt-paved road with low traffic volumes, maintained by the Reeves County Road and Bridge Department. Based on available information, the existing access roadways are considered to be adequate to handle the estimated increased traffic volumes associated with the proposed MSW facility.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

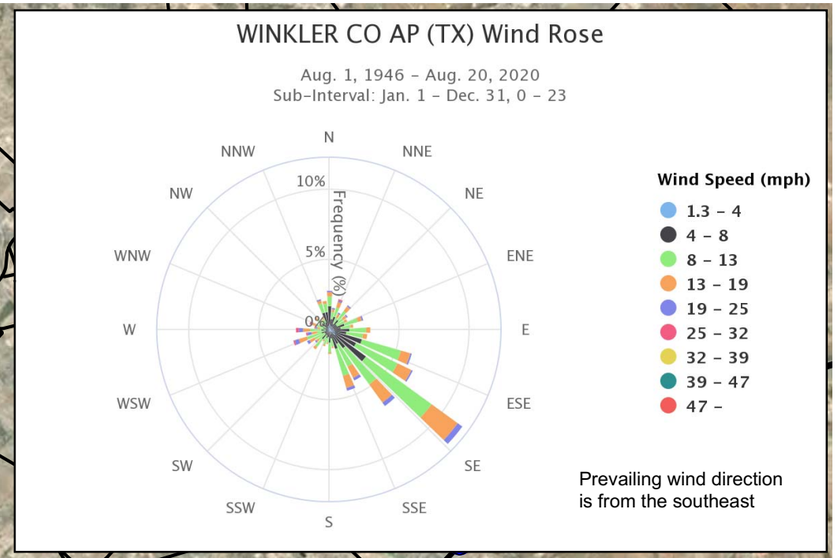
Gundar Peterson, P.E.
Vice President

AE/rpf
Attachment

Daniel B. Stephens & Associates, Inc.
6020 Academy NE, Suite 100 505-822-9400
Albuquerque, NM 87109 FAX 505-822-8877

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6-mile radius

Project Site

Pecos

Pecos Municipal Airport

County Road 419
County Road 415
County Road 411
County Road 410
County Road 404
County Road 409
Business Loop 20 W.
N Frongage Interstate 20 W
S Buckley Ave
285
20
Bus 20
1450
17

N
0 1 2 Miles

Explanation

Site

Texas Department of Transportation road

Image source: Maxar, 3/26/2020
Road source: Texas Department of Transportation (http://gis-txdot.opendata.arcgis.com/)
Wind data: Midwestern Regional Climate Center (MRCC) (https://mrcc.illinois.edu/CLIMATE/)

STATE OF TEXAS
GUNDAR PETERSON
103091
LICENSED
PROFESSIONAL ENGINEER
7/22/2026

Daniel B. Stephens & Associates, Inc.
8/25/2020 JN DB20.1166

WEST SUN TEX PERMIT APPLICATION
General Location Map

Figure 1

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\F01_GENERAL LOCATION MAP_6MI_BUFFER.MXD

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From: Herrmann, Grace
Sent: Monday, August 1, 2022 2:19 PM
To: Amy Hall <Amy.Hall@txdot.gov>
Cc: Peterson, Gundar <gpeterson@geo-logic.com>
Subject: RE: Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Amy,

The maximum initial increase in vehicle traffic on CR 408 and CR 415 associated with the landfill is estimated to be 17 trucks per day. Over a five-year period, the maximum increase in vehicle traffic is expected to be 25 trucks per day. This may include transfer trucks, collection trucks and small vehicles, as well as landfill employee vehicles. This estimated increase in traffic is dependent on the method of waste transport (i.e., direct haul vs. use of transfer trailers), the use of the landfill by small vehicles, as well as market dynamics of the waste collection and hauling business.

The primary access route to the landfill is expected to be evenly shared between CR 408 and CR 415. These are rural two-lane asphalt-paved roads maintained by the Reeves County Road and Bridge Department. A phone conversation with Reeves County Assistant Engineer Joel Martinez, who is familiar with the location, said that the traffic volume is very low along those roadways.

Please let me know if you need more information.

Thank you,

Grace Herrmann, EI
Staff Engineer

Daniel B. Stephens & Associates, Inc.
Hydrology | Engineering | Geoscience

A Geo-Logic Company

6020 Academy Road NE, Suite 100 | Albuquerque, New Mexico 87109
T (505) 822-9400 | D (505) 353-9051 | M (505) 379-0934 | F (505) 822-8877
www.dbstephens.com

From: Amy Hall <Amy.Hall@txdot.gov>
Sent: Monday, August 1, 2022 2:01 PM
To: Herrmann, Grace <gherrmann@geo-logic.com>
Subject: RE: Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Hi Grace,

Please call me at your earliest convenience to discuss.

Thank you,

Amy Hall
432.498.4721

From: Herrmann, Grace <gherrmann@geo-logic.com>
Sent: Thursday, July 21, 2022 3:40 PM
To: Amy Hall <Amy.Hall@txdot.gov>
Cc: Ewing, Amy <aewing@geo-logic.com>; Peterson, Gundar <gpeterson@geo-logic.com>; Jayne, Kelly <kjayne@geo-logic.com>
Subject: Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Amy,

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a proposed Type I municipal solid waste facility in north-central Reeves County called the WST Permian Landfill. This correspondence is a follow-up to the letter we sent to John Speed last year. I've attached the letter for your review. We're requesting a written response within 30 days. We assume no response in that time indicates concurrence.

Thank you in advance for your time and consideration. Please call if you have questions or concerns.

Regards,

Grace Herrmann, EI
Staff Engineer

Daniel B. Stephens & Associates, Inc.
Hydrology | Engineering | Geoscience

A Geo-Logic Company

Providing solutions for water, natural resources, and the environment

6020 Academy Road NE, Suite 100 | Albuquerque, New Mexico 87109
T (505) 822-9400 | D (505) 353-9051 | M (505) 379-0934 | F (505) 822-8877
www.dbstephens.com

DocuSign Envelope ID: C12A661A-3E4C-46C1-9D9F-67FC6845EAB8

Texas Department of Transportation

3901 E. HIGHWAY 80, ODESSA, TEXAS 79761 | 432.498.4697 | WWW.TXDOT.GOV

August 11, 2022

Gundar Peterson, P.E.
Vice President
Daniel B. Stephens & Associates, Inc.
6020 Academy NE, Suite 100
Albuquerque, NM 87109

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Peterson,

Thank you for the submittal and anticipated traffic volumes for the proposed landfill located in Reeves County. Although the facility is not within 1000' of an interstate or primary highway, we believe that a high percentage of traffic utilizing this facility will use FM 2119 to get to CR 415 or IH 20 north frontage road to get to CR 408. The projected volumes seem low for a facility that serves both a municipal landfill and an oil and gas waste disposal facility. The Odessa district will monitor traffic at these 2 intersections once the facility is in full operation to determine if any additional mitigation efforts are needed to safely accommodate the traffic.

Please contact Chad Windham at 432.498.4740 if you have questions or need additional information.

Sincerely,

DocuSigned by:
Eric Lykins, PE
9D2D0C440F014A4...

Eric Lykins, P.E.
Odessa District Engineer

cc: Grace Herrmann, EI
Chad Windham, P.E., Director or Operations

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Reeves County

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RE: Traffic Volumes along County Roads 408 and 415

Adam Miera <Adam.Miera@nv5.com>

Mon 11/15/2021 8:35 AM

To:Joel Martinez <jmartinez@reevescounty.org>
Cc:Peterson, Gundar <gpeterson@geo-logic.com>

Good morning Joel,
Your response is greatly appreciated! If any further coordination or even information comes out of this that may be useful to you, ill be sure to reach out to you! Have a great day!

Adam Miera, P.E. | Project Manager
Direct 505.348.5259 | Fax 505.242.4845 | Adam.Miera@NV5.com

From: Joel Martinez <jmartinez@reevescounty.org>
Sent: Monday, November 15, 2021 6:55 AM
To: Adam Miera <Adam.Miera@nv5.com>
Cc: 'Peterson, Gundar' <gpeterson@geo-logic.com>
Subject: RE: Traffic Volumes along County Roads 408 and 415

Adam,

Good morning, yes according to the area it is considered a low traffic area, only a few residents use the roads mentioned on your letter and to include the oil field companys with locations in that area.

Thanks
Joel

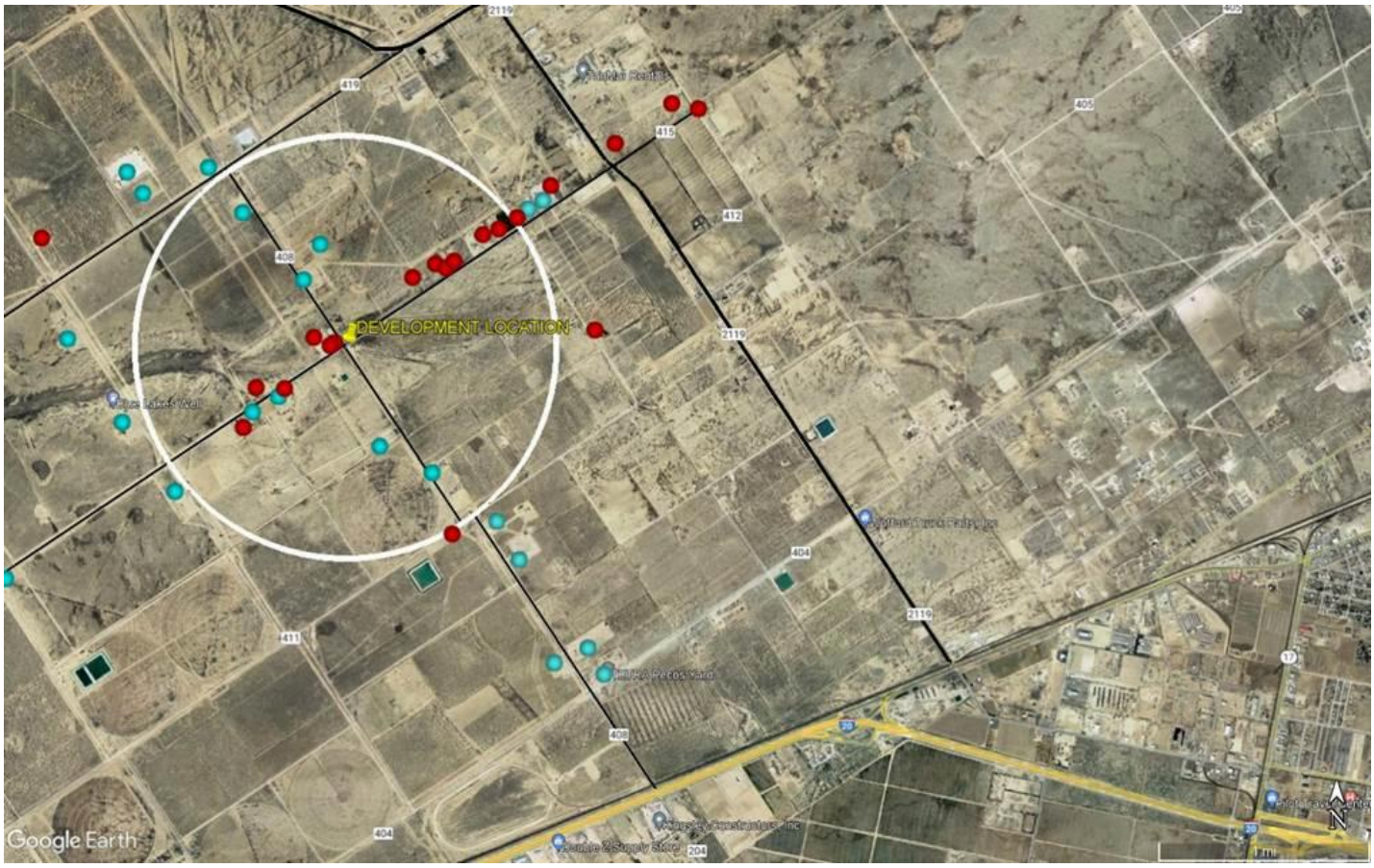
From: Adam Miera <Adam.Miera@nv5.com>
Sent: Thursday, November 11, 2021 4:36 PM
To: jmartinez@reevescounty.org
Cc: Peterson, Gundar <gpeterson@geo-logic.com>
Subject: Traffic Volumes along County Roads 408 and 415

Hello Joel,
This is Adam Miera from WHPacific in New Mexico. Again, I just want to thank you for your time speaking with me yesterday. I'm hoping you could reply with your concurrence to this email that the existing traffic volumes along County Roads 408 and 415 as shown in the image below are low traffic volume roads that most likely will not be impacted by the addition of traffic from the proposed development discussed below. The intent behind this is to help with the permit application for a proposed development at the 408/415 intersection.

Existing Conditions: The red dots on the image below indicate existing residential locations while the blue dots indicate existing commercial locations. Commercial locations include, well houses, truck repair shops, and other miscellaneous uses. There are about 17 residential homes that appear to make use of the two routes, and 22 commercial sites that appear to make use of them as well. Together they equal 39 sites that use the two roadways and provide low traffic volumes on the two roads throughout the day.

Proposed Development: The proposed development to be located at the intersection of 408 and 415 has an estimated 17 truck trips per day that will be added to the traffic volumes along these roadways. After five years it's expected that there would be as many as 25 truck trips per day. There is one proposed access point along 408 and one proposed access point along 415. Proposed truck traffic will be evenly split between the two access points.

If you have any questions or would like additional information, please don't hesitate to let me know. Again this email is only to be used to say that the existing traffic volumes along these roadway are considered low.
Thank you



Adam Miera, P.E. | Project Manager
WHPacific, Inc. - an NV5 company | 6501 Americas Pkwy NE, Ste 400, Albuquerque, NM 87110
Direct 505.348.5259 | Fax 505.242.4845 | Adam.Miera@NV5.com

Enhance Client Satisfaction with Creative, Exceptional Service through Empowered Employees

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FAA

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Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ASW-6719-OE
Prior Study No.
2022-ASW-16431-OE

Issued Date: 11/18/2025

DANIEL B. STEPHENS & ASSOCIATES
GUNDAR PETERSON
6020 Academy Rd NE
Albuquerque, NM 87109

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: New Municipal Solid Waste Landfill WST Landfill
County, State: Reeves, Texas

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
WST Landfill	31-26-17.44N	103-34-55.21W	2660 Ft	130 Ft	2790 Ft

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 05/18/2027 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ASW-6719-OE.

Signature Control No: 621942149-684260228 (EXT)
andrew.hollie@faa.gov
Specialist

Attachment(s)

Case Description for ASN 2024-ASW-6719-OE

West Sun Tex, LLC (WST) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a Type I municipal solid waste facility called the WST Landfill.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ASW-6720-OE
Prior Study No.
2022-ASW-16432-OE

Issued Date: 11/18/2025

DANIEL B. STEPHENS & ASSOCIATES
GUNDAR PETERSON
6020 Academy Rd NE
Albuquerque, NM 87109

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: New Municipal Solid Waste Landfill WST Landfill
County, State: Reeves, Texas

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
WST Landfill	31-26-01.65N	103-34-42.83W	2660 Ft	130 Ft	2790 Ft

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 05/18/2027 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ASW-6720-OE.

Signature Control No: 621942649-684260229 (EXT)
andrew.hollie@faa.gov
Specialist

Attachment(s)

Case Description for ASN 2024-ASW-6720-OE

West Sun Tex, LLC (WST) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a Type I municipal solid waste facility called the WST Landfill.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ASW-6721-OE
Prior Study No.
2022-ASW-16430-OE

Issued Date: 11/18/2025

DANIEL B. STEPHENS & ASSOCIATES
GUNDAR PETERSON
6020 Academy Rd NE
Albuquerque, NM 87109

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: New Municipal Solid Waste Landfill WST Landfill
County, State: Reeves, Texas

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
WST Landfill	31-26-03.04N	103-35-20.86W	2660 Ft	130 Ft	2790 Ft

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 05/18/2027 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ASW-6721-OE.

Signature Control No: 621942662-684260227 (EXT)
andrew.hollie@faa.gov
Specialist

Attachment(s)

Case Description for ASN 2024-ASW-6721-OE

West Sun Tex, LLC (WST) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a Type I municipal solid waste facility called the WST Landfill.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ASW-6722-OE
Prior Study No.
2022-ASW-16433-OE

Issued Date: 11/18/2025

DANIEL B. STEPHENS & ASSOCIATES
GUNDAR PETERSON
6020 Academy Rd NE
Albuquerque, NM 87109

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: New Municipal Solid Waste Landfill WST Landfill
County, State: Reeves, Texas

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
WST Landfill	31-25-47.07N	103-35-08.52W	2660 Ft	130 Ft	2790 Ft

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 05/18/2027 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ASW-6722-OE.

Signature Control No: 621942688-684260225 (EXT)
andrew.hollie@faa.gov
Specialist

Attachment(s)

Case Description for ASN 2024-ASW-6722-OE

West Sun Tex, LLC (WST) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a Type I municipal solid waste facility called the WST Landfill.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ASW-6723-OE
Prior Study No.
2022-ASW-16444-OE

Issued Date: 11/18/2025

DANIEL B. STEPHENS & ASSOCIATES
GUNDAR PETERSON
6020 Academy Rd NE
Albuquerque, NM 87109

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure: New Municipal Solid Waste Landfill WST Landfill
County, State: Reeves, Texas

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
WST Landfill	31-26-02.21N	103-35-01.74W	2660 Ft	130 Ft	2790 Ft

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 05/18/2027 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at 1-817-222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ASW-6723-OE.

Signature Control No: 621942690-684260226 (EXT)
andrew.hollie@faa.gov
Specialist

Attachment(s)

Case Description for ASN 2024-ASW-6723-OE

West Sun Tex, LLC (WST) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a Type I municipal solid waste facility called the WST Landfill.

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Pecos Municipal Airport

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March 15, 2024

Mr. Coley Means
Manager, Pecos Municipal Airport
3110 Manahan Street
Pecos, TX 79772
coley@crosbyflying.com

Re: Proposed WST Landfill TCEQ Permit Application, Reeves County, Texas
(Additional Submittal)

Dear Mr. Means:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Landfill.

The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The facility entrance will be off of CR 408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This Type I MSW landfill will accept solid waste resulting from municipal, commercial, institutional, and recreational activities, including (1) garbage, construction waste, brush, rubbish, and all other solid waste, (2) Class 1, 2, and 3 nonhazardous industrial waste, (3) petroleum-contaminated soil, (4) wastewater treatment facility sludge, and (5) special waste as defined by 30 TAC 330.3. The maximum waste height will be 137 feet from the bottom of the cell, with the bottom of the cell at about 13 feet below grade, making the maximum waste height about 124 feet above existing grade.

This letter is also being sent to the Federal Aviation Administration for coordination purposes per 30 TAC 330.23(c) and 30 TAC 330.545(b). Our review of available records indicates that the nearest airport to the proposed facility is the Pecos Municipal Airport (PEQ) in Pecos, Texas, located in the vicinity of the proposed facility and classified as a general aviation airport. We have included Figure I/II-5-2, which shows the location of the Pecos Municipal Airport, the proposed facility, and a 6-mile radius around the proposed facility. Attachment 1 included copies of additional FAA maps and procedures that were downloaded from the Digital - Terminal Procedures Publication (d-TPP)/Airport Diagrams page on faa.gov. Please confirm that these are the most current versions of this information.

DBS&A provided this information to FAA in a previous submittal for the same site in July 2022, and received five letters of "Determination of no hazard to air navigation" from the FAA with the following signature control numbers:

- 548308984
- 548308985
- 548308986
- 548308987
- 548308988

The approval in these letters expired in February 2024. No changes to the design of the facility have occurred since the original submittal to FAA; this resubmittal is due to a new submittal of the TCEQ permit application. This letter is being provided to you in conjunction with a resubmittal of Form 7460-1 to the FAA.

We are requesting a written response within 30 days. We assume that no response in that time indicates concurrence. Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

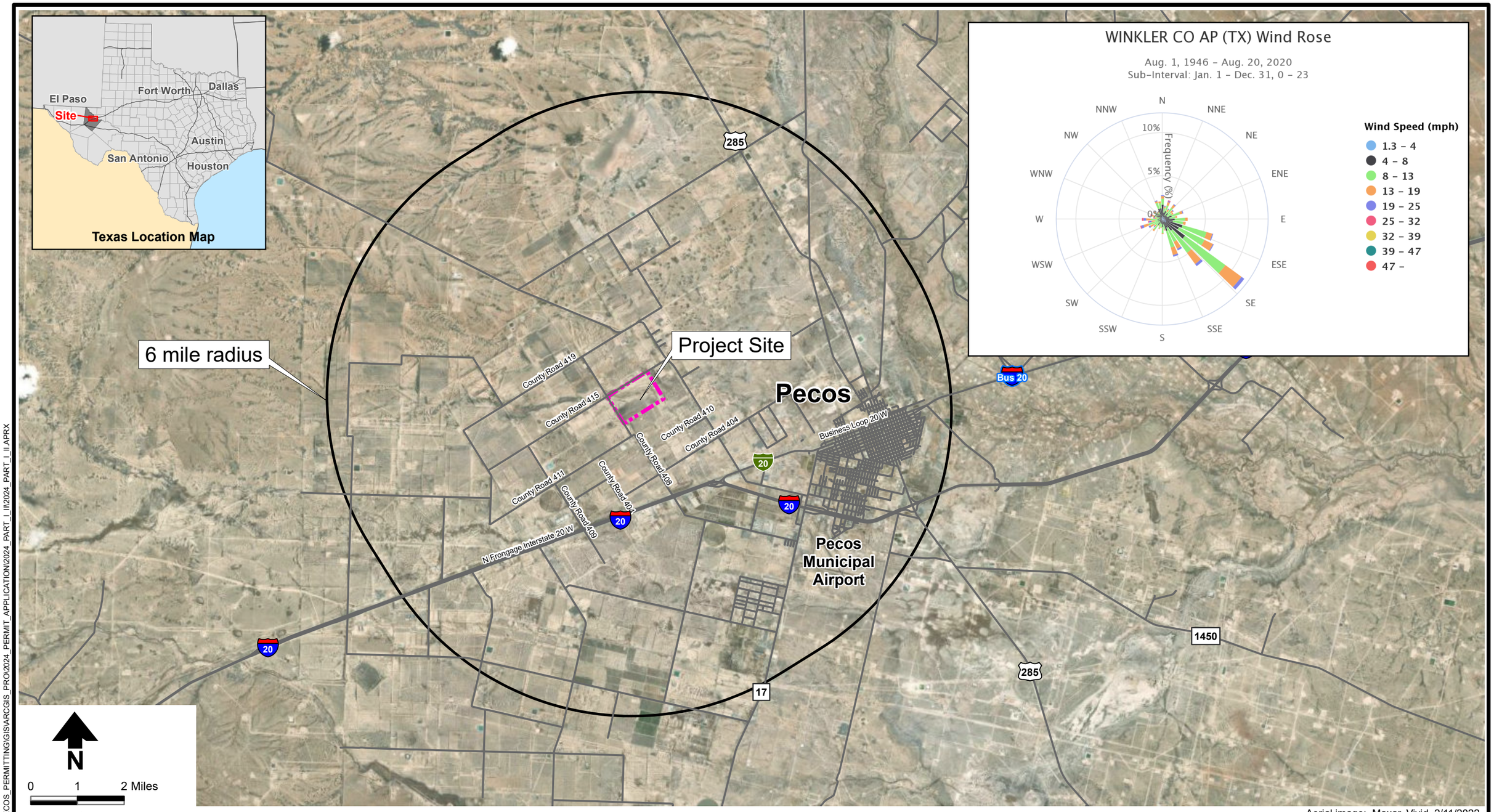
Gundar Peterson, P.E.
Vice President

Kelly Jayne
Project Manager

KJ/rpf
Attachments

Figure

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Aerial image: Maxar, Vivid 2/11/2022

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\2024_PERMIT_APPLICATION\2024_PART_I_II\2024_PART_I_II_APRX

DBS&A a Geo-Logic Company

3/5/2024 DB20.1166

WST LANDFILL

General Location Map

Figure I/II-5-2

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Attachment 1

FAA Procedures and Maps

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PEARSALL, TX

MC KINLEY FLD (T30)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 17NOV11 (22111) (FAA)

TAKEOFF OBSTACLE NOTES:

Rwy 13, trees beginning abeam DER, 300' left of centerline, up to 40' AGL/605' MSL.
Transmission lines beginning 1777' from DER, across centerline, up to 80' AGL/642' MSL.
Rwy 31, train on track 496' from DER, across centerline, 23' AGL/610' MSL.
Vehicle on road 291' from DER, across centerline, 15' AGL/602' MSL.

PECOS, TX

PECOS MUNI (PEQ)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

ORIG 20SEP12 (12264) (FAA)

TAKEOFF OBSTACLE NOTES:

Rwy 14, bush 170' from DER, 252' right of centerline, up to 7' AGL/2607' MSL.
Rwy 32, bush 129' from DER, 348' left of centerline, up to 9' AGL/2614' MSL.

PLEASANTON, TX

PLEASANTON MUNI (PEZ)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 20NOV08 (08325) (FAA)

TAKEOFF OBSTACLE NOTES:

Rwy 16, vehicle on road 108' from DER, 285' left of centerline, 15' AGL/424' MSL.
Fence 135' from DER, 194' left of centerline, 3' AGL/412' MSL.
Fence 235' from DER, 38' right of centerline, 3' AGL/412' MSL.
Trees beginning 246' from DER, 56' left of centerline, up to 100' AGL/529' MSL.
Trees beginning 173' from DER, 154' right of centerline, up to 100' AGL/529' MSL.
Rwy 34, vehicle on road 136' from DER, left to right of centerline, up to 15' AGL/444' MSL.
Fence 191' from DER, 251' left of centerline, 3' AGL/442' MSL.
Trees beginning 210' from DER, 51' left of centerline, up to 100' AGL/539' MSL.
Tree 172' from DER, 74' right of centerline, 100' AGL/529' MSL.

PORT ARANSAS, TX

MUSTANG BEACH (RAS)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 1 15JAN09 (09015) (FAA)

TAKEOFF OBSTACLE NOTES:

Rwy 12, transmission towers and poles beginning 43' from DER, 28' right of centerline, up to 81' AGL/86' MSL. Building 2435' from DER, 967' right of centerline, 130' AGL/135' MSL.
Transmission towers and poles beginning 1141' from DER, 13' left of centerline, up to 83' AGL/88' MSL.
Rwy 30, boat 1657' from DER, 915' left of centerline, 50' AGL/50' MSL.

PORT ISABEL, TX

PORT ISABEL-CAMERON COUNTY (PIL)

TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

AMDT 2B 19JUL18 (18200) (FAA)

TAKEOFF MINIMUMS:

Rwy 17, std. w/min. climb of 243' per NM to 700 or 900-3 for VCOA.
Rwy 21, 600-3 w/min. climb of 231' per NM to 700 or std. w/min. climb of 312' per NM to 700 or 900-3 for VCOA.

DEPARTURE PROCEDURE:

Rwy 13, climb on heading 130° to 500 before turning right.
Rwy 17, climb on heading 175° to 600 before turning right.

VCOA:

Rwy 17, obtain ATC approval for VCOA when requesting IFR clearance: climb in visual conditions to cross Port Isabel-Cameron County airport at or above 800 before proceeding on course.
Rwy 21, obtain ATC approval for VCOA when requesting IFR clearance: climb in visual conditions to cross Port Isabel-Cameron County airport at or above 800 before proceeding on course.

TAKEOFF OBSTACLE NOTES:

Rwy 3, trees beginning 15' from DER, 5' right of centerline, up to 100' AGL/117' MSL.
Trees beginning 200' from DER, 25' left of centerline, up to 100' AGL/117' MSL.
Rwy 8, trees beginning 141' from DER, 109' right of centerline, up to 100' AGL/117' MSL.
Trees beginning 142' from DER, 183' left of centerline, up to 100' AGL/117' MSL.
Rwy 13, trees beginning 6' from DER, 6' left of centerline, up to 100' AGL/117' MSL.
Trees beginning 26' from DER, 15' right of centerline, up to 100' AGL/117' MSL.
Rwy 17, trees beginning 183' from DER, 84' right of centerline, up to 100' AGL/117' MSL.
Trees beginning 185' from DER, 178' left of centerline, up to 100' AGL/117' MSL.
CON'T

SC-3, 21 MAR 2024 to 16 MAY 2024

NAME	ALTERNATE MINIMUMS

MC ALLEN, TX
MC ALLEN
INTL (MFE)……..**ILS or LOC Rwy 14[1]**
ILS or LOC Rwy 32[1]
RNAV (GPS) Rwy 14[2]
RNAV (GPS) Rwy 32[2]
VOR Rwy 14[2]
VOR Rwy 32[2]
NA when local weather not available.
[1]ILS, Category D, 700-2¼; LOC, Category D, 800-2¼.
[2]Category D, 800-2¼.

MIDLAND, TX
MIDLAND
AIRPARK (MDD)……..**RNAV (GPS) Rwy 25[1]**
RNAV (GPS) Rwy 34
VOR Rwy 25[1]
NA when local weather not available.
[1]Category D, 900-3.

MIDLAND INTL AIR AND SPACE
PORT (MAF)……..**ILS or LOC Rwy 10[12]**
VOR or TACAN Rwy 34L[3]
VOR or TACAN Rwy 16R[3]
[1]ILS, Category D, 700-2; Category E, 800-2½; LOC, Category E, 800-2½.
[2]NA when control tower closed.
[3]Category E, 800-2½.

NEW BRAUNFELS, TX
NEW BRAUNFELS
NTL (BAZ)……..**RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 17
RNAV (GPS) Rwy 31
RNAV (GPS) Rwy 35
NA when local weather not available.

ODESSA, TX
ODESSA-SCHLEMEYER
FLD (ODO)……..**RNAV (GPS) Rwy 11**
RNAV (GPS) Rwy 20
RNAV (GPS) Rwy 29
VOR-A
NA when local weather not available.

PECOS, TX
PECOS MUNI (PEQ)……**RNAV (GPS) Rwy 14**
RNAV (GPS) Rwy 32
NA when local weather not available.
Category C, 800-2¼; Category D, 800-2½.

PLEASANTON, TX
PLEASANTON
MUNI (PEZ)……**RNAV (GPS) Rwy 34**
NA when local weather not available.

NAME	ALTERNATE

PORT ARANSAS, TX
MUSTANG
BEACH (RAS)……**RNAV (GPS) Rwy 12**
RNAV (GPS) Rwy 30
NA when local weather not available.

PORT ISABEL, TX
PORT ISABEL-CAMERON
COUNTY (PIL)……..**RNAV (GPS) Rwy 13**
NA when local weather not available.

ROBSTOWN, TX
NUECES
COUNTY (RBO)……**RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
NA when local weather not available.

ROCKPORT, TX
ARANSAS
COUNTY (RKP)……**RNAV (GPS) Rwy 14**
RNAV (GPS) Rwy 18
RNAV (GPS) Rwy 32
RNAV (GPS) Rwy 36
VOR or TACAN-A[1]
NA when local weather not available.
[1]Category C, 800-2¼.

ROCKSPRINGS, TX
EDWARDS
COUNTY (ECU)……..**VOR Rwy 14**
NA when local weather not available.

SAN ANGELO, TX
SAN ANGELO RGNL/
MATHIS FLD (SJT)…….....**ILS Y or LOC Y Rwy 3[12]**
NDB Rwy 3[3]
RNAV (GPS) Rwy 3[4]
RNAV (GPS) Rwy 18[4]
RNAV (GPS) Rwy 21[4]
RNAV (GPS) Rwy 36[4]
VOR/DME or TACAN Rwy 3[4]
[1]LOC, Category D, 800-2½; Category E, 800-2¾.
[2]LOC, NA when control tower closed.
[3]NA when control tower closed.
[4]Category D, 800-2½; Category E, 800-2¾.

SC-3, 21 MAR 2024 to 16 MAY 2024

PECOS, TEXAS

AL-186 (FAA)

21364

RNAV (GPS) RWY 14

PECOS MUNI (PEQ)

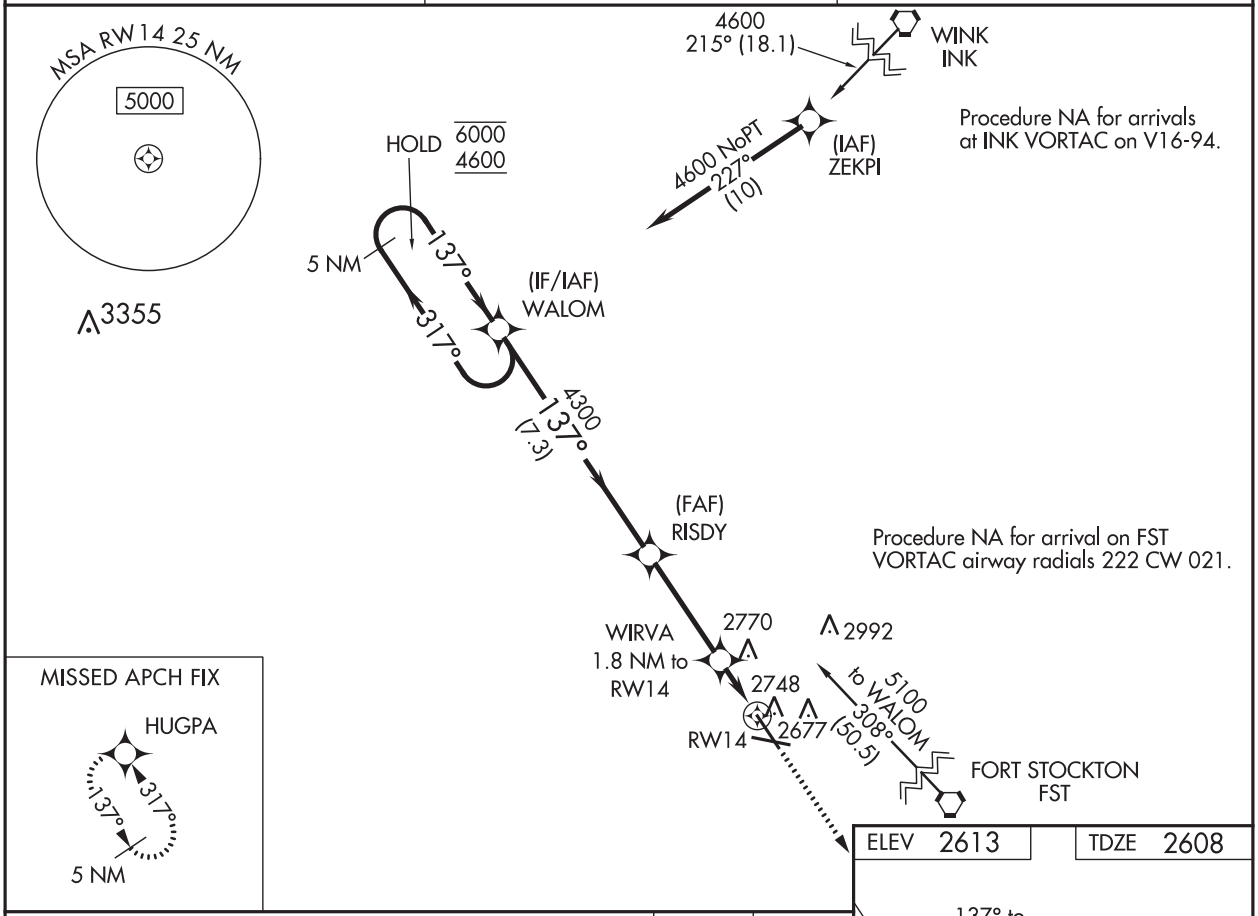
WAAS	APP CRS	Rwy Idg	6236
CH 62830	137°	TDZE	2608
W14A		Apt Elev	2613

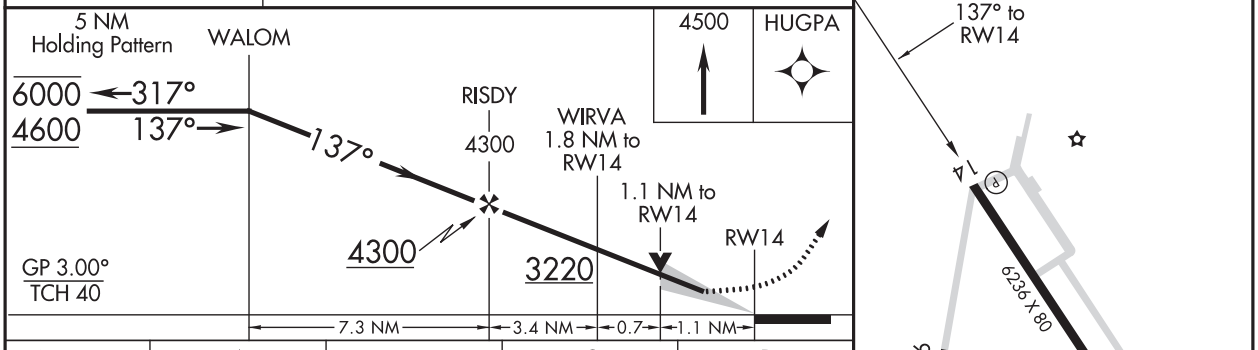
RNP APCH - GPS.

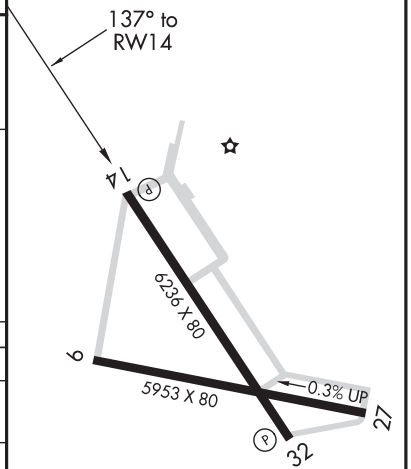
Circling Rwy 9, 27 NA at night. Baro-VNAV and VDP NA when using Wink altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C or above 54°C. When local altimeter setting not received, use Wink altimeter setting and increase LPV DA to 2903 feet and all visibilities ⅛ SM. Increase LNAV/VNAV DA to 3004 feet and all visibilities ¼ SM. Increase all MDAs 100 feet and LNAV visibility Cat C/D ¼ SM, and Circling visibility Cat C/D ¼ SM.

MISSED APPROACH: Climb to 4500 direct HUGPA and hold.

AWOS-3	ALBUQUERQUE CENTER	UNICOM
118.175	135.875 292.15	122.8 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	2808-¾ 200 (200-¾)			
LNAV/VNAV DA	2909-⅞ 301 (300-⅞)			
LNAV MDA	3000-1 392 (400-1)		3000-1⅛ 392 (400-1⅛)	
C CIRCLING	3060-1 447 (500-1)	3140-1 527 (600-1)	3360-2¼ 747 (800-2¼)	3360-2½ 747 (800-2½)

MIRL Rwys 9-27 and 14-32 L

SC-3, 21 MAR 2024 to 16 MAY 2024

SC-3, 21 MAR 2024 to 16 MAY 2024

PECOS, TEXAS

Orig-B 30DEC21

31°23'N-103°31'W

PECOS MUNI (PEQ)

RNAV (GPS) RWY 14

RNAV (GPS) RWY 32

PECOS MUNI (PEQ)

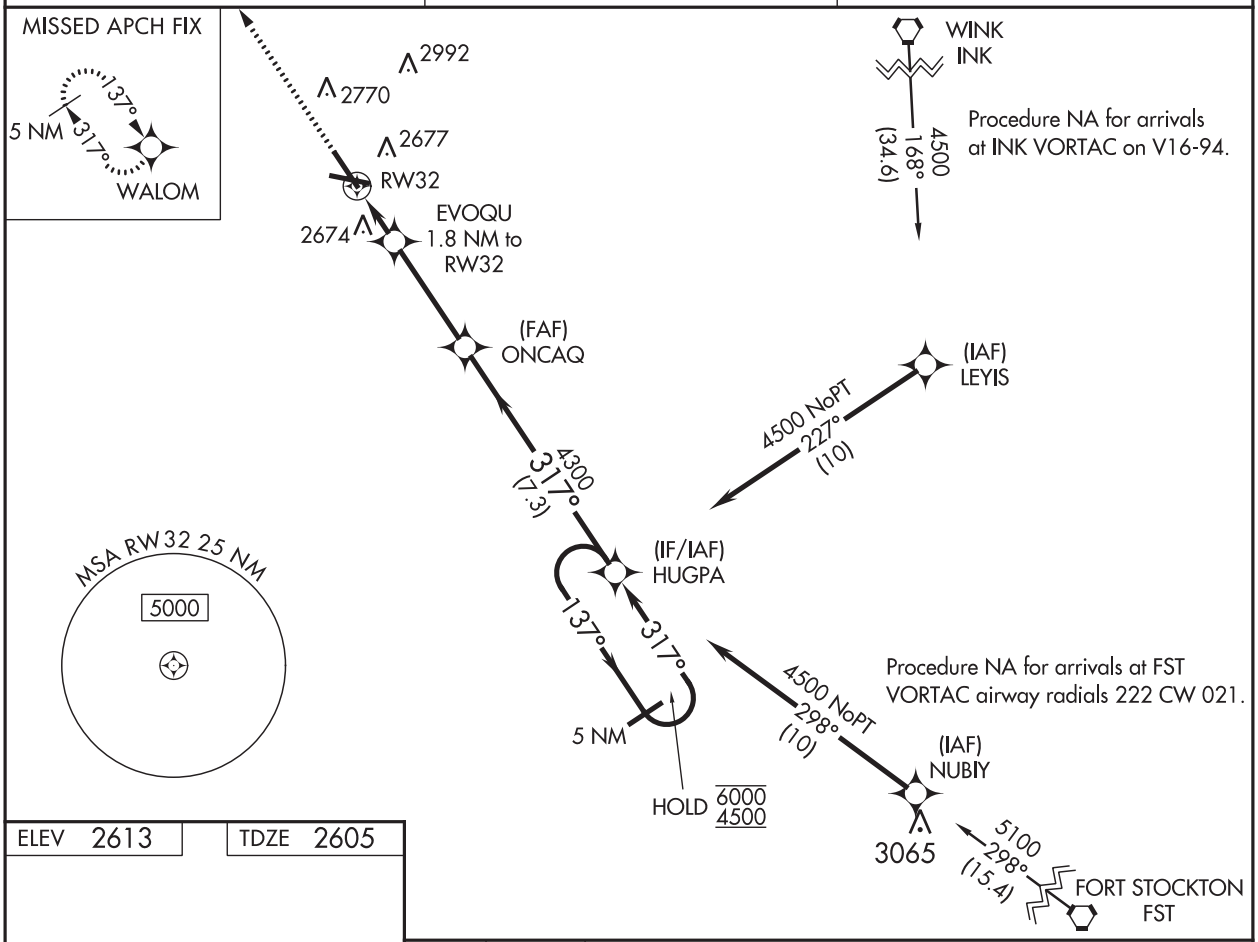
WAAS	APP CRS	Rwy Idg	6236
CH 69629	317°	TDZE	2605
W32A		Apt Elev	2613

RNP APCH - GPS.

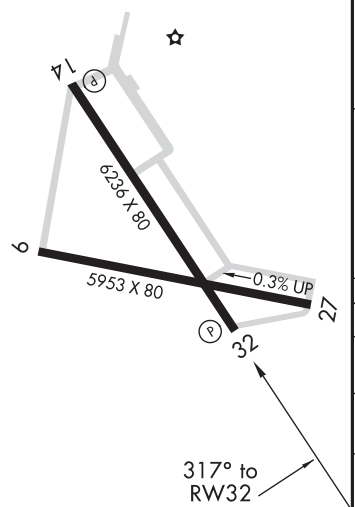
T A Baro-VNAV and VDP NA when using Wink altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C or above 54°C. When local altimeter setting not received, use Wink altimeter setting: increase LPV DA to 2900 feet, LNAV/VNAV DA to 2950 feet and all visibilities ¼ SM; increase all MDA 100 feet and visibility Cat C and LNAV Cat D ¼ SM. Circling Rwy 9, 27 NA at night.

MISSED APPROACH: Climb to 4600 direct WALOM and hold.

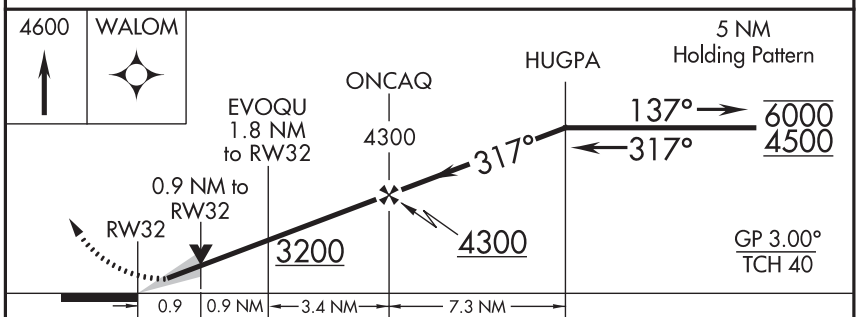
AWOS-3	ALBUQUERQUE CENTER	UNICOM
118.175	135.875 292.15	122.8 (CTAF) L



ELEV 2613 TDZE 2605



MIRL Rwys 9-27 and 14-32 L



CATEGORY	A	B	C	D
LPV DA	2805-¾	200 (200-¾)		
LNAV/VNAV DA	2855-¾	250 (300-¾)		
LNAV MDA	2940-1	335 (400-1)		
C CIRCLING	3060-1 447 (500-1)	3140-1 527 (600-1)	3360-2¼ 747 (800-2¼)	3360-2½ 747 (800-2½)

SC-3, 21 MAR 2024 to 16 MAY 2024
SC-3, 21 MAR 2024 to 16 MAY 2024

Jayne, Kelly

From: Coley Means <cm@crosby.aero>
Sent: Friday, June 5, 2026 12:22 PM
To: Jayne, Kelly
Subject: RE: New MSW landfill application in Reeves County

Ok thanks

From: Jayne, Kelly <kjayne@geo-logic.com>
Sent: Friday, June 5, 2026 1:14 PM
To: Coley Means <cm@crosby.aero>
Subject: RE: New MSW landfill application in Reeves County

Hi Coley,

Thanks for your response. The FAA did issue Determination of No Hazard to Air Navigation letters back in 2024, and we applied for (and received) an extension to those determinations in November 2025.

Thanks,
Kelly

From: Coley Means <cm@crosby.aero>
Sent: Friday, June 5, 2026 11:43 AM
To: Jayne, Kelly <kjayne@geo-logic.com>
Subject: RE: New MSW landfill application in Reeves County

Kelly,

I am sorry for the delay. I recollect this from back in March. I do not see any materially negative impacts from the proposed landfill to the airport. If the FAA clears the airspace studies / impacts, I would have no major concern.

Thanks,
Coley

From: Jayne, Kelly <kjayne@geo-logic.com>
Sent: Friday, June 5, 2026 9:33 AM
To: Coley Means <cm@crosby.aero>
Subject: New MSW landfill application in Reeves County

Mr. Means,

Thanks for taking my call this morning. Attached is the letter we sent back in March regarding a new municipal solid waste landfill application. Could you please provide a written response?

Have a good weekend,
Kelly

Kelly Jayne, PE (NM)
Engineer

Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company

7100 E Belleview Avenue, Suite 125
Greenwood Village, CO 80111
Mobile: (505) 688-4201
kjayne@geo-logic.com

www.dbstephens.com | www.geo-logic.com

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Attachment I/II-10-A2

TxDOT STARS II Data, CR 408

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TxDOT AADT Predictions for CR 408 - Location ID 195CR13A

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2012	140						
2007	40						
2002	80						

Retrieved 03/11/2026 from TxDOT STARS II

Volume Count Report

LOCATION INFO	
Location ID	195CR13A
Type	SPOT
Fnct'l Class	7
Located On	-
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Mon 12/18/2017
End Date	Tue 12/19/2017
Start Time	9:30:00 AM
End Time	9:30:00 AM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.403256, -103.570548

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	0	5	0	5	10
1:00-2:00	2	0	5	0	7
2:00-3:00	0	5	0	2	7
3:00-4:00	3	2	0	2	7
4:00-5:00	7	2	3	5	17
5:00-6:00	3	0	8	6	17
6:00-7:00	11	7	9	24	51
7:00-8:00	12	7	8	26	53
8:00-9:00	2	7	26	7	42
9:00-10:00	3	11	28	12	54
10:00-11:00	5	11	8	9	33
11:00-12:00	15	8	13	11	47
12:00-13:00	5	6	11	8	30
13:00-14:00	0	3	3	8	14
14:00-15:00	8	13	7	13	41
15:00-16:00	13	5	14	11	43
16:00-17:00	13	10	19	8	50
17:00-18:00	44	27	39	23	133
18:00-19:00	27	17	19	13	76
19:00-20:00	25	7	4	9	45
20:00-21:00	5	10	3	2	20
21:00-22:00	1	2	2	3	8
22:00-23:00	4	0	0	9	13
23:00-24:00	3	10	2	2	17

Total					835
AADT					935
AM Peak					07:45-08:45 61
PM Peak					17:00-18:00 133

Attachment I/II-10-A3

TxDOT STARS II Data, FM 2119

DBS&A
a Geo-Logic Company

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TxDOT AADT Predictions for FM 2119 - Location ID 195H65

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2024	3466[3]				1,276 (37%)	2,190 (63%)	Grown from 2023
2023	3365[3]				940 (28%)	2,425 (72%)	PBV
2022	3169[3]				721 (23%)	2,448 (77%)	PBV
2021	3521	272	8		1,917 (54%)	1,604 (46%)	
2020	4504				2,669 (59%)	1,835 (41%)	
2019	5143	573	11		3,579 (70%)	1,564 (30%)	
2018	7745	673	9	57	5,616 (73%)	2,129 (27%)	
2017	8756	716	8		8,514 (97%)	242 (3%)	
2016	2254	333	15		2,188 (97%)	66 (3%)	
2015	2109	249	12	57	2,036 (97%)	73 (3%)	
2014	2244	209	10	57	2,018 (90%)	226 (10%)	
2013	2509	219	9	65			
2012	1100	301	16	87	1,064 (97%)	36 (3%)	
2011	1050						
2010	410						
2009	390						
2008	360						
2007	420						
2006	430						
2005	320						
2004	280						
2003	320						
2002	340						
2001	330						
2000	390						
1999	400						

[3]Grown using Growth Factors

Retrieved 03/11/2026 from TxDOT STARS II

Volume Count Report

LOCATION INFO	
Location ID	195H65
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Mon 12/17/2018
End Date	Tue 12/18/2018
Start Time	8:15:00 AM
End Time	8:15:00 AM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.412324, -103.547203

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	33	21	23	24	101
1:00-2:00	28	18	12	9	67
2:00-3:00	21	20	10	46	97
3:00-4:00	20	21	25	23	89
4:00-5:00	31	34	52	41	158
5:00-6:00	40	83	99	132	354
6:00-7:00	109	146	171	138	564
7:00-8:00	145	142	136	119	542
8:00-9:00	116	123	120	123	482
9:00-10:00	120	121	142	104	487
10:00-11:00	114	119	121	101	455
11:00-12:00	106	85	121	108	420
12:00-13:00	119	123	96	98	436
13:00-14:00	128	103	85	126	442
14:00-15:00	130	108	102	104	444
15:00-16:00	113	101	145	114	473
16:00-17:00	202	175	149	137	663
17:00-18:00	159	160	165	182	666
18:00-19:00	176	150	177	170	673
19:00-20:00	148	108	131	93	480
20:00-21:00	81	63	84	54	282
21:00-22:00	54	68	33	25	180
22:00-23:00	58	45	39	35	177
23:00-24:00	20	48	38	21	127

Total		8,859
AADT		7,745
AM Peak		06:15-07:15 600
PM Peak		17:45-18:45 685

Volume Count Report

LOCATION INFO	
Location ID	195H65
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 8/27/2019
End Date	Wed 8/28/2019
Start Time	4:30:00 PM
End Time	4:30:00 PM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.412296, -103.547201

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	30	18	29	16	93
1:00-2:00	10	27	18	24	79
2:00-3:00	31	23	25	20	99
3:00-4:00	14	13	27	30	84
4:00-5:00	32	45	56	44	177
5:00-6:00	43	67	106	98	314
6:00-7:00	134	139	142	158	573
7:00-8:00	115	126	173	133	547
8:00-9:00	110	111	102	104	427
9:00-10:00	95	106	128	134	463
10:00-11:00	129	142	110	110	491
11:00-12:00	110	175	102	126	513
12:00-13:00	121	88	132	124	465
13:00-14:00	117	117	94	126	454
14:00-15:00	125	111	120	137	493
15:00-16:00	110	92	119	116	437
16:00-17:00	146	131	106	106	489
17:00-18:00	126	139	147	134	546
18:00-19:00	104	148	174	95	521
19:00-20:00	127	85	103	106	421
20:00-21:00	88	94	93	74	349
21:00-22:00	71	73	58	55	257
22:00-23:00	55	41	43	34	173
23:00-24:00	30	24	23	23	100

Total		8,565
AADT		5,143
AM Peak		06:00-07:00 573
PM Peak		17:45-18:45 560

Volume Count Report

LOCATION INFO	
Location ID	195H65
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Sun 12/5/2021
End Date	Mon 12/6/2021
Start Time	9:00:00 PM
End Time	9:00:00 PM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.412049, -103.547152

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	7	3	8	5	23
1:00-2:00	3	4	6	4	17
2:00-3:00	12	3	5	4	24
3:00-4:00	7	6	7	10	30
4:00-5:00	3	9	17	15	44
5:00-6:00	25	37	32	50	144
6:00-7:00	65	65	81	85	296
7:00-8:00	80	87	113	82	362
8:00-9:00	105	91	94	92	382
9:00-10:00	78	64	70	78	290
10:00-11:00	92	77	58	87	314
11:00-12:00	83	76	95	72	326
12:00-13:00	83	77	68	84	312
13:00-14:00	83	74	60	70	287
14:00-15:00	83	78	103	107	371
15:00-16:00	82	80	94	96	352
16:00-17:00	120	88	86	111	405
17:00-18:00	92	80	79	87	338
18:00-19:00	98	91	67	60	316
19:00-20:00	53	63	30	46	192
20:00-21:00	30	27	36	19	112
21:00-22:00	12	18	11	17	58
22:00-23:00	17	11	9	15	52
23:00-24:00	7	10	7	8	32

Total		5,079
AADT		3,521
AM Peak		07:30-08:30 391
PM Peak		16:00-17:00 405

TxDOT AADT Predictions for FM 2119 - Location ID 195H66

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2024	2068[3]				715 (35%)	1,353 (65%)	Grown from 2023
2023	2008	185	9	80	695 (35%)	1,313 (65%)	
2022	1891	174	9		574 (30%)	1,317 (70%)	
2021	2564	217	8		1,174 (46%)	1,390 (54%)	
2020	4070[2]				2,338 (57%)	1,732 (43%)	
2019	5017	410	8		3,480 (69%)	1,537 (31%)	
2018	5442	438	8	57	3,813 (70%)	1,629 (30%)	
2017	6466[2]						
2016	1453	163	11		1,409 (97%)	44 (3%)	
2015	1136	110	10	57	1,092 (96%)	44 (4%)	
2014	1,342	134	10	57	1,207 (90%)	135 (10%)	
2013	1,801	171	9	65			
2012	420	114	16	87	404 (96%)	16 (4%)	
2011	400	130	19	74	376 (94%)	24 (6%)	
2010	150						
2009	130						
2008	170						
2007	80						
2006	180						
2005	100						
2004	110						
2003	230						
2002	180						
2001	140						
2000	160						
1999	170						

[2]Estimated by Human

[3]Grown using Growth Factors

Retrieved 03/11/2026 from TxDOT STARS II

Volume Count Report

LOCATION INFO	
Location ID	195H66
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Mon 12/17/2018
End Date	Tue 12/18/2018
Start Time	8:15:00 AM
End Time	8:15:00 AM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.452815, -103.58

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	18	4	15	13	50
1:00-2:00	26	9	13	6	54
2:00-3:00	23	6	11	40	80
3:00-4:00	16	21	15	15	67
4:00-5:00	14	24	29	31	98
5:00-6:00	22	44	66	62	194
6:00-7:00	45	81	108	97	331
7:00-8:00	87	110	114	79	390
8:00-9:00	88	93	96	122	399
9:00-10:00	76	110	105	107	398
10:00-11:00	97	111	75	95	378
11:00-12:00	93	92	87	95	367
12:00-13:00	98	76	77	93	344
13:00-14:00	95	92	89	98	374
14:00-15:00	99	99	98	66	362
15:00-16:00	89	87	104	116	396
16:00-17:00	109	119	113	90	431
17:00-18:00	94	122	120	102	438
18:00-19:00	92	102	80	113	387
19:00-20:00	59	72	64	59	254
20:00-21:00	43	40	40	26	149
21:00-22:00	27	35	25	17	104
22:00-23:00	30	20	29	10	89
23:00-24:00	12	24	30	23	89

Total		6,223
AADT		5,442
AM Peak		09:30-10:30 420
PM Peak		15:45-16:45 457

Volume Count Report

LOCATION INFO	
Location ID	195H66
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 8/27/2019
End Date	Wed 8/28/2019
Start Time	4:45:00 PM
End Time	4:45:00 PM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.452816, -103.58004

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	17	15	23	7	62
1:00-2:00	10	13	3	16	42
2:00-3:00	24	12	25	16	77
3:00-4:00	5	17	15	14	51
4:00-5:00	21	23	34	41	119
5:00-6:00	34	36	49	34	153
6:00-7:00	62	88	106	88	344
7:00-8:00	91	85	117	117	410
8:00-9:00	77	65	68	66	276
9:00-10:00	70	100	83	91	344
10:00-11:00	90	104	92	55	341
11:00-12:00	95	117	78	98	388
12:00-13:00	92	77	81	80	330
13:00-14:00	90	77	61	94	322
14:00-15:00	101	56	97	97	351
15:00-16:00	83	64	54	79	280
16:00-17:00	108	82	94	86	370
17:00-18:00	90	102	92	64	348
18:00-19:00	70	72	81	77	300
19:00-20:00	50	48	56	54	208
20:00-21:00	33	33	43	30	139
21:00-22:00	26	41	22	25	114
22:00-23:00	17	19	22	29	87
23:00-24:00	23	5	12	11	51

Total		5,507
AADT		5,017
AM Peak		07:00-08:00 410
PM Peak		16:30-17:30 372

Volume Count Report

LOCATION INFO	
Location ID	195H66
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Sun 12/5/2021
End Date	Mon 12/6/2021
Start Time	8:45:00 PM
End Time	8:45:00 PM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.452838, -103.580037

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	6	0	4	3	13
1:00-2:00	2	0	5	4	11
2:00-3:00	4	3	4	3	14
3:00-4:00	3	4	4	11	22
4:00-5:00	4	9	12	9	34
5:00-6:00	21	24	19	27	91
6:00-7:00	46	37	34	64	181
7:00-8:00	60	78	98	36	272
8:00-9:00	73	85	74	71	303
9:00-10:00	59	61	56	57	233
10:00-11:00	78	52	63	48	241
11:00-12:00	80	83	59	59	281
12:00-13:00	58	50	68	83	259
13:00-14:00	61	52	54	62	229
14:00-15:00	59	56	81	57	253
15:00-16:00	47	64	73	88	272
16:00-17:00	81	65	95	81	322
17:00-18:00	59	76	53	48	236
18:00-19:00	53	65	31	30	179
19:00-20:00	24	37	20	18	99
20:00-21:00	16	16	12	11	55
21:00-22:00	12	18	4	11	45
22:00-23:00	13	2	7	9	31
23:00-24:00	8	6	1	6	21

Total		3,697
AADT		2,564
AM Peak		08:00-09:00 303
PM Peak		15:45-16:45 329

Volume Count Report

LOCATION INFO	
Location ID	195H66
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 12/7/2022
End Date	Thu 12/8/2022
Start Time	9:45:00 AM
End Time	9:45:00 AM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	31.453714, -103.580635

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	5	2	2	4	13
1:00-2:00	3	1	0	6	10
2:00-3:00	3	9	1	1	14
3:00-4:00	5	1	2	8	16
4:00-5:00	7	7	5	8	27
5:00-6:00	11	17	19	17	64
6:00-7:00	33	44	60	55	192
7:00-8:00	65	52	61	59	237
8:00-9:00	55	32	56	44	187
9:00-10:00	50	57	37	36	180
10:00-11:00	53	35	57	49	194
11:00-12:00	46	46	47	51	190
12:00-13:00	38	43	46	39	166
13:00-14:00	43	51	61	40	195
14:00-15:00	50	51	54	41	196
15:00-16:00	60	49	73	77	259
16:00-17:00	54	59	83	62	258
17:00-18:00	78	48	37	38	201
18:00-19:00	42	36	30	28	136
19:00-20:00	35	24	11	12	82
20:00-21:00	20	17	12	7	56
21:00-22:00	10	6	8	15	39
22:00-23:00	6	6	13	6	31
23:00-24:00	17	4	10	7	38

Total		2,981
AADT		1,891
AM Peak		07:00-08:00 237
PM Peak		16:15-17:15 282

Volume Count Report

LOCATION INFO	
Location ID	195H66
Type	SPOT
Fnct'l Class	5
Located On	FM2119
Loc On Alias	FM2119-KG
Direction	2-WAY
County	Reeves
Community	-
MPO ID	
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Mon 11/13/2023
End Date	Tue 11/14/2023
Start Time	8:15:00 PM
End Time	8:15:00 PM
Direction	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	1	4	13	6	24
1:00-2:00	9	6	8	6	29
2:00-3:00	11	8	5	6	30
3:00-4:00	5	9	17	7	38
4:00-5:00	5	10	17	24	56
5:00-6:00	15	17	40	28	100
6:00-7:00	28	79	70	87	264
7:00-8:00	65	87	76	68	296
8:00-9:00	58	37	70	59	224
9:00-10:00	51	54	40	44	189
10:00-11:00	39	44	46	51	180
11:00-12:00	38	43	52	52	185
12:00-13:00	47	47	43	43	180
13:00-14:00	51	43	49	46	189
14:00-15:00	42	56	44	67	209
15:00-16:00	52	54	53	56	215
16:00-17:00	61	74	81	59	275
17:00-18:00	55	49	46	56	206
18:00-19:00	52	58	36	43	189
19:00-20:00	31	28	22	18	99
20:00-21:00	18	24	10	5	57
21:00-22:00	14	8	10	10	42
22:00-23:00	15	14	18	9	56
23:00-24:00	15	2	6	4	27

Total		3,359
AADT		2,008
AM Peak		06:45-07:45 315
PM Peak		16:00-17:00 275

Attachment I/II-10-A4

DBS&A Traffic Count Data
CR 408

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Location Id:	County Road 408	
Study Start:	12/1/2025 13:00	America/Chicago
Study End:	12/3/2025 18:15	America/Chicago
Duration:	53	hours
Total Vehicles:	446	
Study Location:	31.423094167, -103.5874295	

DATE	TIME America/Chicago	SE Volume	NW Volume	Total
12/1/2025	13:15	8	3	11
12/1/2025	13:30	1	2	3
12/1/2025	13:45	2	1	3
12/1/2025	14:00	3	6	9
12/1/2025	14:15	1	3	4
12/1/2025	14:30	2	0	2
12/1/2025	14:45	1	2	3
12/1/2025	15:00	2	1	3
12/1/2025	15:15	5	0	5
12/1/2025	15:30	0	1	1
12/1/2025	15:45	0	5	5
12/1/2025	16:00	0	2	2
12/1/2025	16:15	0	1	1
12/1/2025	16:30	2	1	3
12/1/2025	16:45	0	3	3
12/1/2025	17:00	0	0	0
12/1/2025	17:15	4	0	4
12/1/2025	17:30	2	0	2
12/1/2025	17:45	2	0	2
12/1/2025	18:00	0	2	2
12/1/2025	18:15	0	0	0
12/1/2025	18:30	0	1	1
12/1/2025	18:45	2	0	2
12/1/2025	19:00	4	0	4
12/1/2025	19:15	2	0	2
12/1/2025	19:30	0	0	0
12/1/2025	19:45	0	1	1
12/1/2025	20:00	0	0	0
12/1/2025	20:15	0	2	2
12/1/2025	20:30	0	0	0
12/1/2025	20:45	2	3	5
12/1/2025	21:00	0	2	2
12/1/2025	21:15	0	0	0
12/1/2025	21:30	0	0	0
12/1/2025	21:45	0	0	0
12/1/2025	22:00	0	0	0
12/1/2025	22:15	0	0	0
12/1/2025	22:30	2	0	2

DATE	TIME America/Chicago	SE Volume	NW Volume	Total
12/1/2025	22:45	2	2	4
12/1/2025	23:00	0	1	1
12/1/2025	23:15	0	0	0
12/1/2025	23:30	0	0	0
12/1/2025	23:45	0	0	0
12/2/2025	0:00	0	0	0
12/2/2025	0:15	0	0	0
12/2/2025	0:30	0	0	0
12/2/2025	0:45	0	0	0
12/2/2025	1:00	0	0	0
12/2/2025	1:15	0	0	0
12/2/2025	1:30	0	0	0
12/2/2025	1:45	0	0	0
12/2/2025	2:00	0	0	0
12/2/2025	2:15	0	0	0
12/2/2025	2:30	0	0	0
12/2/2025	2:45	0	0	0
12/2/2025	3:00	0	0	0
12/2/2025	3:15	0	0	0
12/2/2025	3:30	0	0	0
12/2/2025	3:45	0	0	0
12/2/2025	4:00	0	0	0
12/2/2025	4:15	0	0	0
12/2/2025	4:30	0	0	0
12/2/2025	4:45	0	0	0
12/2/2025	5:00	0	2	2
12/2/2025	5:15	0	1	1
12/2/2025	5:30	0	0	0
12/2/2025	5:45	2	1	3
12/2/2025	6:00	0	2	2
12/2/2025	6:15	2	3	5
12/2/2025	6:30	0	0	0
12/2/2025	6:45	0	1	1
12/2/2025	7:00	0	2	2
12/2/2025	7:15	1	1	2
12/2/2025	7:30	0	0	0
12/2/2025	7:45	0	0	0
12/2/2025	8:00	0	2	2
12/2/2025	8:15	0	2	2
12/2/2025	8:30	1	0	1
12/2/2025	8:45	4	0	4
12/2/2025	9:00	1	1	2
12/2/2025	9:15	1	0	1
12/2/2025	9:30	2	1	3
12/2/2025	9:45	1	0	1

DATE	TIME America/Chicago	SE Volume	NW Volume	Total
12/2/2025	10:00	1	5	6
12/2/2025	10:15	0	2	2
12/2/2025	10:30	2	1	3
12/2/2025	10:45	0	1	1
12/2/2025	11:00	1	1	2
12/2/2025	11:15	0	2	2
12/2/2025	11:30	2	1	3
12/2/2025	11:45	4	0	4
12/2/2025	12:00	2	5	7
12/2/2025	12:15	4	2	6
12/2/2025	12:30	0	5	5
12/2/2025	12:45	1	1	2
12/2/2025	13:00	2	3	5
12/2/2025	13:15	1	4	5
12/2/2025	13:30	1	3	4
12/2/2025	13:45	1	1	2
12/2/2025	14:00	5	3	8
12/2/2025	14:15	0	1	1
12/2/2025	14:30	2	0	2
12/2/2025	14:45	1	1	2
12/2/2025	15:00	0	1	1
12/2/2025	15:15	0	0	0
12/2/2025	15:30	2	5	7
12/2/2025	15:45	4	0	4
12/2/2025	16:00	1	2	3
12/2/2025	16:15	2	1	3
12/2/2025	16:30	1	2	3
12/2/2025	16:45	3	3	6
12/2/2025	17:00	4	3	7
12/2/2025	17:15	2	4	6
12/2/2025	17:30	0	0	0
12/2/2025	17:45	3	1	4
12/2/2025	18:00	1	1	2
12/2/2025	18:15	1	0	1
12/2/2025	18:30	0	2	2
12/2/2025	18:45	0	0	0
12/2/2025	19:00	0	0	0
12/2/2025	19:15	0	0	0
12/2/2025	19:30	0	2	2
12/2/2025	19:45	0	3	3
12/2/2025	20:00	0	0	0
12/2/2025	20:15	0	0	0
12/2/2025	20:30	2	0	2
12/2/2025	20:45	0	1	1
12/2/2025	21:00	0	0	0

DATE	TIME America/Chicago	SE Volume	NW Volume	Total
12/2/2025	21:15	2	0	2
12/2/2025	21:30	2	0	2
12/2/2025	21:45	0	0	0
12/2/2025	22:00	2	0	2
12/2/2025	22:15	0	0	0
12/2/2025	22:30	0	0	0
12/2/2025	22:45	0	0	0
12/2/2025	23:00	0	0	0
12/2/2025	23:15	4	0	4
12/2/2025	23:30	0	2	2
12/2/2025	23:45	0	2	2
12/3/2025	0:00	0	0	0
12/3/2025	0:15	0	0	0
12/3/2025	0:30	0	0	0
12/3/2025	0:45	0	0	0
12/3/2025	1:00	0	0	0
12/3/2025	1:15	0	0	0
12/3/2025	1:30	0	1	1
12/3/2025	1:45	2	0	2
12/3/2025	2:00	0	0	0
12/3/2025	2:15	0	0	0
12/3/2025	2:30	0	0	0
12/3/2025	2:45	0	0	0
12/3/2025	3:00	0	0	0
12/3/2025	3:15	0	0	0
12/3/2025	3:30	0	0	0
12/3/2025	3:45	0	1	1
12/3/2025	4:00	0	0	0
12/3/2025	4:15	0	2	2
12/3/2025	4:30	2	0	2
12/3/2025	4:45	0	0	0
12/3/2025	5:00	0	4	4
12/3/2025	5:15	0	1	1
12/3/2025	5:30	0	5	5
12/3/2025	5:45	0	1	1
12/3/2025	6:00	0	3	3
12/3/2025	6:15	0	1	1
12/3/2025	6:30	2	2	4
12/3/2025	6:45	0	1	1
12/3/2025	7:00	0	1	1
12/3/2025	7:15	3	0	3
12/3/2025	7:30	0	1	1
12/3/2025	7:45	1	5	6
12/3/2025	8:00	0	1	1
12/3/2025	8:15	2	1	3

DATE	TIME America/Chicago	SE Volume	NW Volume	Total
12/3/2025	8:30	1	0	1
12/3/2025	8:45	2	0	2
12/3/2025	9:00	3	1	4
12/3/2025	9:15	0	2	2
12/3/2025	9:30	1	1	2
12/3/2025	9:45	2	1	3
12/3/2025	10:00	1	2	3
12/3/2025	10:15	2	1	3
12/3/2025	10:30	0	1	1
12/3/2025	10:45	2	2	4
12/3/2025	11:00	1	2	3
12/3/2025	11:15	6	0	6
12/3/2025	11:30	2	2	4
12/3/2025	11:45	2	2	4
12/3/2025	12:00	5	3	8
12/3/2025	12:15	1	4	5
12/3/2025	12:30	2	2	4
12/3/2025	12:45	5	1	6
12/3/2025	13:00	1	1	2
12/3/2025	13:15	0	4	4
12/3/2025	13:30	0	0	0
12/3/2025	13:45	4	0	4
12/3/2025	14:00	4	4	8
12/3/2025	14:15	1	2	3
12/3/2025	14:30	4	0	4
12/3/2025	14:45	1	0	1
12/3/2025	15:00	1	3	4
12/3/2025	15:15	5	0	5
12/3/2025	15:30	0	1	1
12/3/2025	15:45	3	0	3
12/3/2025	16:00	0	1	1
12/3/2025	16:15	1	2	3
12/3/2025	16:30	7	0	7
12/3/2025	16:45	1	0	1
12/3/2025	17:00	2	2	4
12/3/2025	17:15	0	2	2
12/3/2025	17:30	1	2	3
12/3/2025	17:45	1	3	4
12/3/2025	18:00	3	0	3
	Total	220	226	446

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Attachment I/II-10-A5

DBS&A Traffic Count Data
CR 415

DBS&A
a Geo-Logic Company

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Location ID:	County Road 415	
Study Start:	12/1/2025 13:45	America/Chicago
Study End:	12/3/2025 18:45	America/Chicago
Duration:	53	hours
Total Vehicles:	647	
Study Location:	31.440716333, -103.5801305	

DATE	TIME America/Chicago	SW Volume	NE Volume	Total
12/1/2025	13:45	1	5	6
12/1/2025	14:00	2	4	6
12/1/2025	14:15	0	3	3
12/1/2025	14:30	5	2	7
12/1/2025	14:45	1	1	2
12/1/2025	15:00	2	2	4
12/1/2025	15:15	1	0	1
12/1/2025	15:30	1	3	4
12/1/2025	15:45	1	1	2
12/1/2025	16:00	0	2	2
12/1/2025	16:15	1	2	3
12/1/2025	16:30	3	2	5
12/1/2025	16:45	2	0	2
12/1/2025	17:00	2	2	4
12/1/2025	17:15	1	5	6
12/1/2025	17:30	3	0	3
12/1/2025	17:45	1	1	2
12/1/2025	18:00	4	0	4
12/1/2025	18:15	1	0	1
12/1/2025	18:30	1	6	7
12/1/2025	18:45	1	6	7
12/1/2025	19:00	4	2	6
12/1/2025	19:15	1	2	3
12/1/2025	19:30	5	4	9
12/1/2025	19:45	4	5	9
12/1/2025	20:00	0	8	8
12/1/2025	20:15	1	0	1
12/1/2025	20:30	3	0	3
12/1/2025	20:45	3	3	6
12/1/2025	21:00	0	4	4
12/1/2025	21:15	0	1	1
12/1/2025	21:30	1	0	1
12/1/2025	21:45	1	0	1
12/1/2025	22:00	0	0	0
12/1/2025	22:15	2	0	2
12/1/2025	22:30	3	2	5
12/1/2025	22:45	1	0	1
12/1/2025	23:00	1	1	2

DATE	TIME America/Chicago	SW Volume	NE Volume	Total
12/1/2025	23:15	0	3	3
12/1/2025	23:30	0	1	1
12/1/2025	23:45	0	0	0
12/2/2025	0:00	0	0	0
12/2/2025	0:15	0	0	0
12/2/2025	0:30	0	0	0
12/2/2025	0:45	0	0	0
12/2/2025	1:00	0	0	0
12/2/2025	1:15	0	0	0
12/2/2025	1:30	0	0	0
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Attachment I/II-11

Environmental and Archaeological Assessments

DBS&A
a Geo-Logic Company

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TRC Archaeological Survey

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Archeological Survey of the Proposed West Sun Tex Permian Landfill in Reeves County, Texas

January 6, 2022

Prepared For:

Daniel B. Stephens & Associates, Inc.
6020 Academy Road NE, Suite 100
Albuquerque, New Mexico 87109

Prepared By:

TRC Environmental Corporation
505 East Huntland Drive, Suite #250
Austin, Texas 78752

Written by:
Steven Sarich M.S. and Josh Haefner, M.A.

Principal Investigator: Josh Haefner, M.A.

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Archeological Survey of the Proposed West Sun Tex Permian Landfill in Reeves County, Texas

By:

Josh Haefner and Steven Sarich

Prepared for:

Daniel B. Stephens & Associates, Inc.
6020 Academy Road NE, Suite 100
Albuquerque, New Mexico 87109

Prepared by:

TRC Environmental Corporation
Austin, Texas

Josh Haefner, Principal Investigator

Antiquities Permit Number 30240

TRC Technical Report No. 445400

January 2022

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Abstract

West Sun Tex, LLC (WST) proposes to construct a Type I municipal solid waste (MSW) facility, the WST Permian Landfill, in Reeves County, Texas (Project). Based on a preliminary review of the current project information, it is anticipated that the proposed project will be permitted under the Texas Commission on Environmental Quality. As a result, the Project must comply with the Antiquities Code of Texas (ACT) (Section 191.0525). To facilitate ACT compliance, Daniel B. Stephens & Associates, Inc., on behalf of WST, contracted with TRC Environmental Corporation (TRC) to conduct an intensive cultural resources survey of the proposed Project under Antiquities Permit Number 30240. The Area of Potential Effect (APE) is a 440-acre property with a disposal footprint of approximately 192 acres. A total of 12 landfill cells are anticipated, and each is planned to measure roughly 390 by 960 feet (118 x 292 meters) with a maximum depth of impact reaching 30 feet (9.1 meters) deep. The survey was conducted on July 26 and from July 29-August 1 by Steven Sarich, Benjamin Johnson, Steven Schooler, and Josh Haefner. During the investigations, a total of 155 shovel tests were excavated, all of which were negative for cultural materials. Additionally, one new multi-component archeological site, 41RV231, a surface scatter of historic and prehistoric artifacts was recorded. This site lacks discernible features and with sparse deposits of limited research potential it is recommended as ineligible for listing as a State Antiquities Landmark (SAL). In addition, a Historic Period irrigation feature was identified within the APE and recorded as archeological site 41RV232. Historic map research does not show this feature in the APE prior to the late 1960s or early 1970s. Shovel tests were excavated within close proximity to the irrigation feature throughout the survey area, and none of these shovel tests were positive for cultural material. The irrigation feature has low potential for research value, as historic map research reveals little data on the feature, and no cultural material within the survey area can be directly associated with it. Also, as a more recent occurrence of typical unremarkable construction this feature is commonplace for Reeves County and well post-dates the advent of widespread agriculture and drainage system implementation for the region with no association with local or state historic event and is recommended as not meeting eligibility criteria for design, setting, materials, workmanship, feeling, or association for entry into the National Register of Historic Places or designation as an SAL within the survey area. Furthermore, as per the April 23, 2021 THC Coordination letter from Daniel B. Stephens & Associates, Inc., “Nothing will be demolished as part of the project’s construction” (Letter Daniel B. Stephens & Associates to Mr. Drew Sitters, Ms. Pamela Opiela, and Ms. Eva Osborne, 2021). As such, impact to the irrigation feature is expected to be minimal. Per curation requirements under ACT Permit No. 30240, the final report, field notes, photographs, shapefiles, and associated paper and electronic records will be permanently housed and curated at the Texas State University-Center for Archeological Studies in San Marcos, Texas. TRC recommends that no further cultural resources investigations are warranted, and the Project may proceed to construction as planned.

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Table of Contents

1.0 INTRODUCTION/MANAGEMENT SUMMARY 1
2.0 PHYSIOGRAPHIC AND ENVIRONMENTAL CONTEXT 3
2.1 Physiography and Climate 3
2.2 Geology and Soils 3
3.0 CULTURAL HISTORY 7
3.1 Archaic Period (8,000–1,500 BP) 8
3.2 Early Archaic (8,000–5,000 BP) 8
3.3 Middle Archaic (5,000–3,200 BP) 9
3.4 Late Archaic (3,200–1,500 BP) 10
3.5 Formative/Late Prehistoric (1,500–500 BP) 11
3.6 Historic Period (A.D. 1500 to 1950) 11
4.0 PREVIOUS INVESTIGATIONS 15
5.0 RESEARCH OBJECTIVES AND FIELD METHODS 17
6.0 RESULTS 18
6.1 Site 41RV232 28
6.2 Site 41RV231 34
7.0 CONCLUSIONS AND RECOMMENDATIONS 38
8.0 REFERENCES 40

APPENDIX A: Shovel Test Results
APPENDIX B: Isolated Find Log

List of Figures

Figure 1-1 Project Location 2
Figure 2-1 Underlying geology of the APE 5
Figure 2-2 Mapped soils within the APE 6
Figure 3-1 Project location relative to the cultural regions of Texas 7
Figure 4-1 Previous investigations and recorded cultural resources within one km of the APE 16
Figure 6-1 Survey results for the southwestern quadrant of the APE 19
Figure 6-2 Survey results for the southeastern quadrant of the APE 20
Figure 6-3 Survey results for the northeastern quadrant of the APE 21
Figure 6-4 Survey results for the northwestern quadrant of the APE 22
Figure 6-5 Overview of APE with berm left quarter of frame, facing northeast from STBJ1 23
Figure 6-6 Overview of APE showing flat terrain and scrub vegetation, facing southwest from STSS 34-001 23

Figure 6-7 Debitage Isolate, facing northwest (SJ99-3) 24
Figure 6-8 Debitage Isolate, facing east (SS4-1) 24
Figure 6-9 Debitage Isolate, facing south (SS15-2) 25
Figure 6-10 Horseshoe Isolate, facing west (SS12-1) 25
Figure 6-11 Fuel Can, facing east (BJ50-2) 26
Figure 6-12 Metal Coupling, facing west (SJ99-1) 26
Figure 6-13 Tobacco Tin, facing east (BJ50-3) 27
Figure 6-14 Metal Can Side View, facing north (BJ50-1) 27
Figure 6-15 Metal Can Top View, facing north (BJ50-1) 28
Figure 6-16 Survey Results for Site 41RV232 29
Figure 6-17 Irrigation Feature Overview, facing southwest 30
Figure 6-18 1921 USGS Topographic Quadrangle showing natural drainage 31
Figure 6-19 1957 USGS Topographic Quadrangle showing natural drainage 32
Figure 6-20 1971 USGS Topographic Quadrangle showing irrigation feature in place of the natural drainage previously depicted 33
Figure 6-21 Survey results for 41RV231 36
Figure 6-22 Example of debitage recorded at 41RV231 36
Figure 6-23 Lithic core recorded at 41RV231 36
Figure 6-24 Ceramic whiteware handle recorded on the surface at 41RV231 37
Figure 6-25 Royal Crown Soda aqua glass fragment with printed lettering at 41RV231 37

1.0 Introduction/Management Summary

West Sun Tex, LLC (WST) proposes to construct a Type I municipal solid waste (MSW) facility, the WST Permian Landfill, in Reeves County, Texas (Project). Based on a preliminary review of the current project information, it is anticipated that the proposed project will be permitted under the Texas Commission on Environmental Quality (TCEQ). As a result, the Project must comply with the Antiquities Code of Texas (ACT) (Section 191.0525). To facilitate ACT compliance, Daniel B. Stephens & Associates, Inc., on behalf of WST, contracted with TRC Environmental Corporation (TRC) to conduct an intensive cultural resources survey of the proposed Project.

The Area of Potential Effect (APE) is a 440-acre property with a disposal footprint of approximately 192 acres approximately five miles west-northwest of Pecos, Texas at the intersection of County Road(CR) 408 and CR 415 (**Figure 1-1**). A total of 12 landfill cells are anticipated, and each is planned to measure roughly 390 by 960 feet (ft; 118 by 292 meters [m]) with a maximum depth of impact reaching 30 ft (9.1 m) deep. No demolition will take place in the scope of the construction.

A cultural resources survey was conducted within the Project APE on July 26 and July 29- August 1, 2021 under Antiquities Permit Number 30240 by Steven Sarich, Josh Haefner, Benjamin Johnson, and Steven Schooler. The field effort included pedestrian survey supplemented with systematic shovel testing within the APE along transects spaced no more than 30 m (32 ft) apart with shovel tests spaced no greater than 400 m (1312 ft) apart. A total of 155 shovel tests were excavated during the survey, all of which were negative for cultural materials. No previously recorded archeological sites were present, but one new multicomponent scatter was observed within the APE boundary. Site 41RV231 is noted as a surficial scatter comprising prehistoric debitage and historic ceramic and glass. This site lacks discernible features and with sparse deposits of limited research potential it is recommended ineligible for listing as a State Antiquities Landmark (SAL) or for listing on the National Register of Historic Places (NRHP). While other historic and prehistoric artifacts were observed on the surface within the APE, they were diffuse enough that these isolated finds did not warrant any site designations. In addition, a historic irrigation feature was identified within the APE and recorded as an archeological site (41RV232). Shovel testing adjacent to this feature did not yield any associated artifacts. Historic map research does not show this feature prior to the late 1960s or early 1970s. Shovel tests were excavated within close proximity to the irrigation feature throughout the survey area, and no shovel tests were positive for cultural material. The irrigation feature seems to have low potential for research value as archival research reveals little data on the feature, and no cultural material within the survey area can be directly associated with it. Also, as a more recent occurrence of typical unremarkable construction, this feature is common place for Reeves County and well post-dates the advent of widespread agriculture and drainage system implementation for the region with no association with local or state historic event and is recommended as not meeting eligibility criteria for design, setting, materials, workmanship, feeling, or association for entry into the National Register of Historic Places or designation as an SAL Furthermore, as per the April 23, 2021 THC Coordination letter from Daniel B. Stephens & Associates, Inc., “Nothing will be demolished as part of the project’s construction” (Letter Daniel B. Stephens & Associates to Mr. Drew Sitters, Ms. Pamela Opiela, and Ms. Eva Osborne, 2021). As such, impact to the irrigation feature is expected to be minimal. TRC recommends that no further cultural resources investigations are warranted, and the Project may proceed to construction as planned.

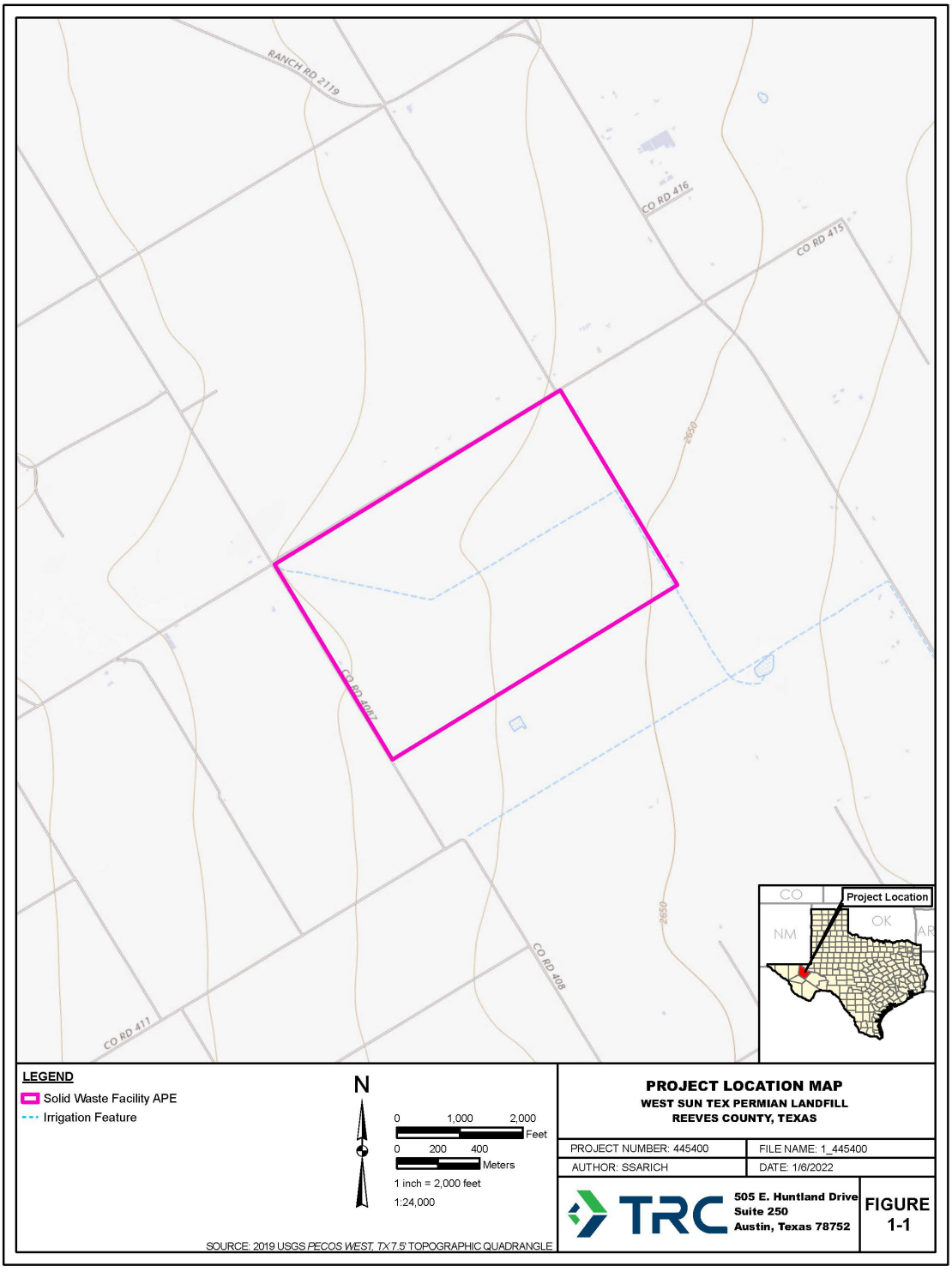


Figure 1-1 Project Location

2.0 Physiographic and Environmental Context

2.1 Physiography and Climate

Reeves County is located at the very southwestern expression of the Southern High Plains Physiographic Region of Texas (Bureau of Economic Geology 2021). This area is characterized as a flat expanse of playas marked with dune fields, generally dipping slightly east and south with an elevation range of 3800 to 2200 feet above mean sea level. The major drainage in the region is the Pecos River, which carries runoff southeast from its headwaters in the Sangre de Cristo Mountains in north-central New Mexico to eventually join the Rio Grande along the United States' border with Mexico (Griffith et al. 2007:8-9). Within Texas, this river serves as a boundary for Ward, Loving, and Reeves counties. The immediate area of the Pecos River Valley is often further characterized as a sub-region known as the Toyah Basin, which is the geological remnants of an old Quaternary sea floor (Texas Almanac 2021). Though its reach through the area is easily traversed today, the Pecos River was much larger centuries ago (Brune 1981). Reeves County climate is humid and subtropical, characterized by hot summers and cool winters (Greenwade 1984). Annual precipitation for Ward County is 13.7 inches with September the rainiest month with an average of 4.9 days of rain and November the driest month with an average of 2.2 rainy days. There are 44.0 rainy days annually in Reeves County, which is one of the least rainy places in Texas. In winter, the mean January low temperature is 34.3 degrees Fahrenheit while the mean July high temperature is 98.6 degrees Fahrenheit.

The APE itself is located within the Pecos River Basin. However, there are no major surface water features located in the vicinity of the location; however, numerous ditches and canals, likely developed and modified during the APE's use for agriculture during the mid-to-late twentieth century, flow through the vicinity and carry surface drainage toward the Pecos River, which is located approximately six miles east of the proposed facility location.

2.2 Geology and Soils

According to the Geologic Atlas of Texas (Pecos Sheet) the single geologic formation underlying the proposed APE is Alluvium (Qal) deposits (**Figure 2-1**). Alluvium consists of Holocene deposits comprising clay, silt, gravel, and fine sand deposited by streams on dry and flooded flats.

The soils within the APE are mapped as Hoban silty clay loam, 0 to 1 percent slopes (16); Hodgins silty clay loam, 0 to 1 percent slopes (18); Orla clay loam, 0 to 1 percent slopes (26); and Reeves clay loam, 0 to 1 percent slopes (34) according to the 2021 United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey (**Figure 2-2**). A brief description from the 2021 Web Soil Survey is provided below:

- The Hoban series comprises alluvial deposits derived from calcareous loamy alluvium formed on basin floors. A typical soil profile consists of 0 to 182 cm of silty clay loam.
- The Hodgins series comprises fine silty alluvium derived from sedimentary rock formed on alluvial flats. A typical soil profile consists of 0 to 152 cm of silty clay loam.

- The Orla series comprises clayey soils and gypsiferous material derived from saline loamy lacustrine deposits formed on concave depressions. A typical soil profile consists of 0 to 38 cm of clay loam and 38 to 152 cm of gypsiferous material.
- The Reeves series comprises loamy alluvium over residuum weathered from gypsum formed on basin floors. A typical soil profile consists of 0 to 84 cm of clay loam and 84 to 152 cm of gypsiferous material.

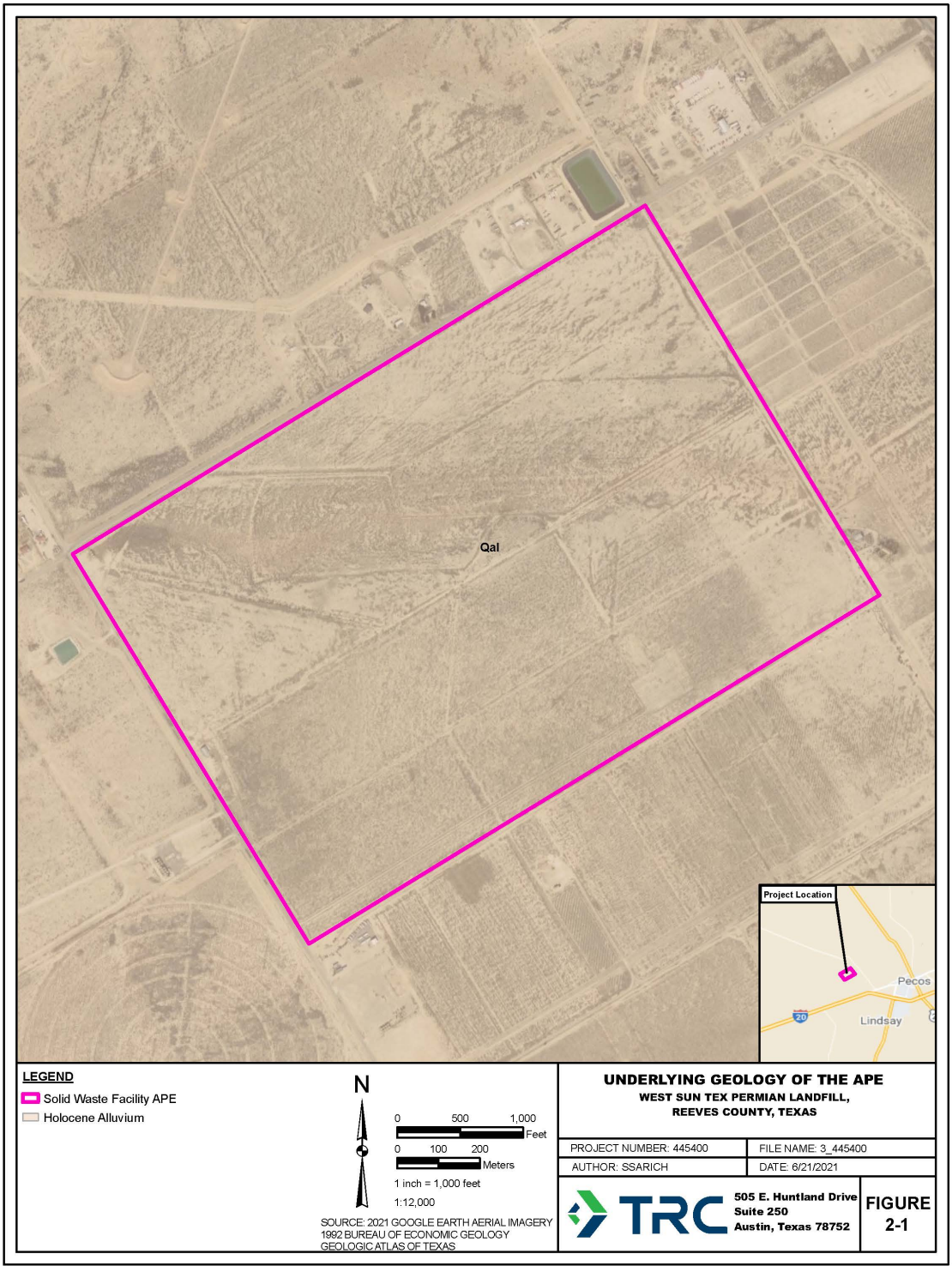


Figure 2-1 Underlying geology of the APE

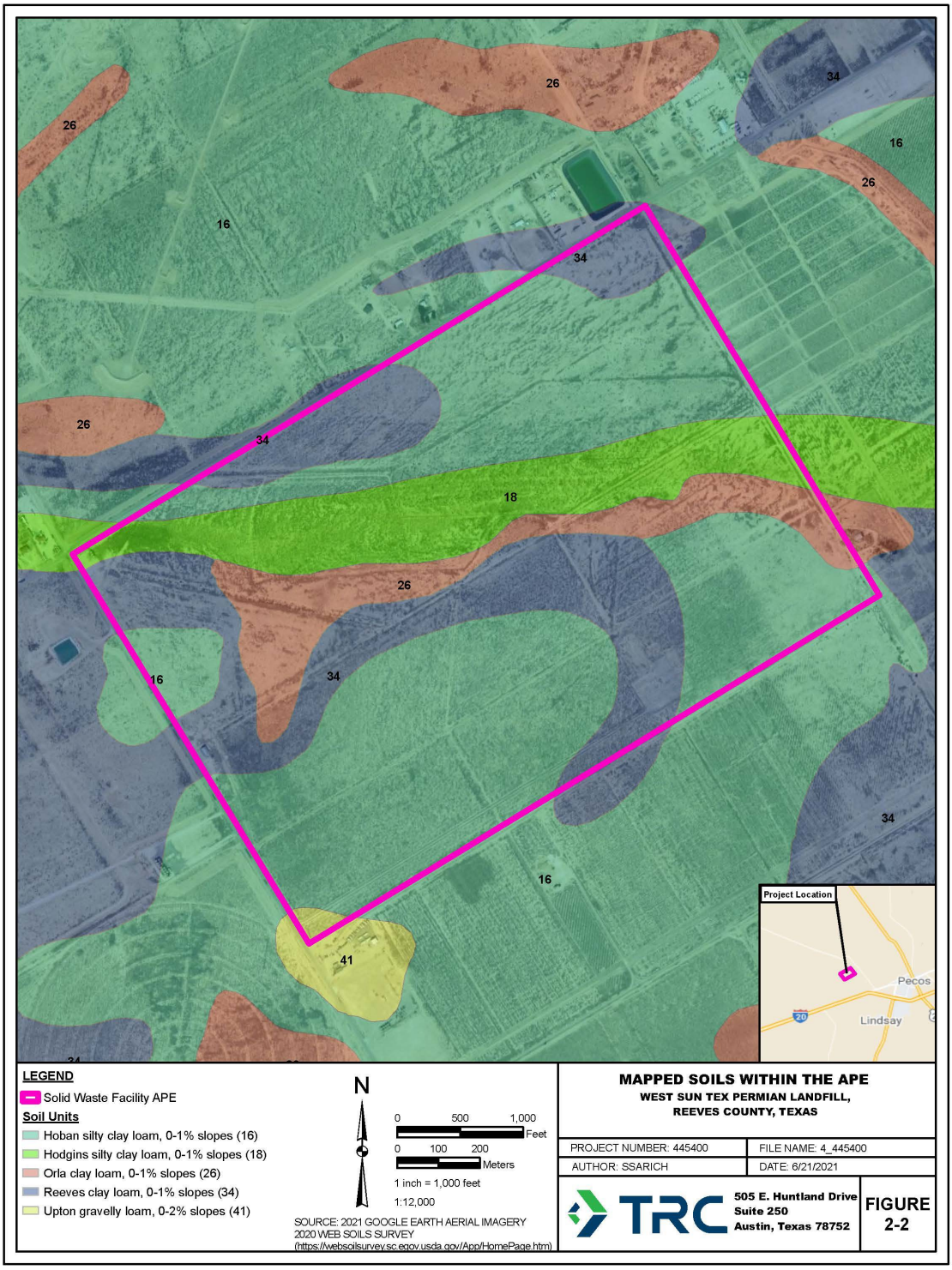


Figure 2-2 Mapped soils within the APE

3.0 Cultural History

The project area is located within a transitional area between the Trans-Pecos and Southern High Plains cultural regions (Collins 2004; Hester 2004; Perttula 2004:7) (**Figure 3-1**) in Reeves County, Texas. Given the Project location, sites in the vicinity may share cultural affinities with both regions. In general, the cultural chronology of the two areas is divided into four broad stages: Paleoindian, Archaic, Late Prehistoric, and Contact/Historic. This discussion focuses on periods and phases established for the eastern Trans-Pecos, with additional information regarding contemporaneous developments in the Southern High Plains.

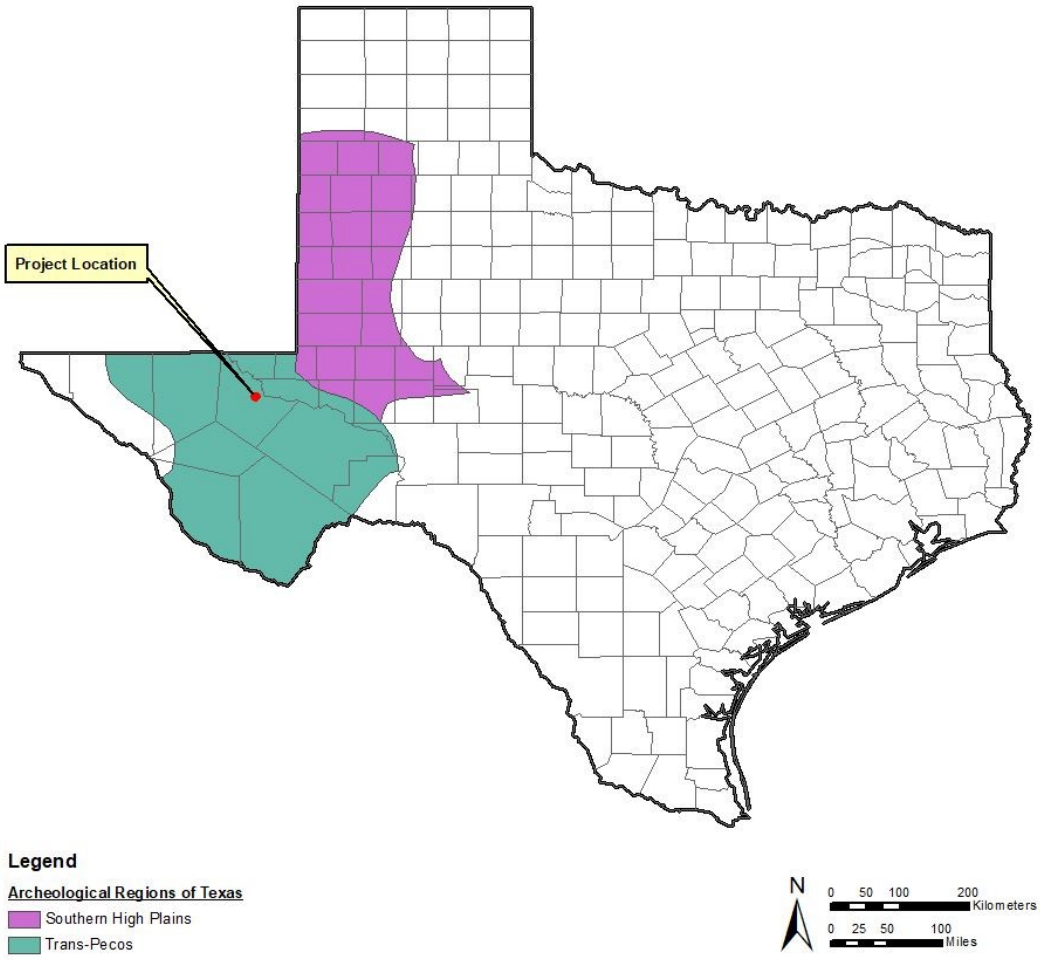


Figure 3-1 Project location relative to the cultural regions of Texas

Early Paleoindian occupation of the region are divided into Clovis and Folsom components, or complexes. Clovis occupation of the area is typically defined by the rare and mostly isolated finds of the fluted lanceolate Clovis projectile point. These points were used to tip the shafts of spears. Generally, the economic reliance was thought to have focused primarily on big game hunting, although more recently a diverse subsistence base has come to light (Johnson 1987). The earliest groups in the Clovis period are thought to have had subsisted on diverse and now extinct big game, but the groups after about 11,000 BP focused on extinct bison as the principal animal resource. Given a mobile food resource such as bison, it is

believed that most Paleoindian populations were constantly on the move following the game animals and, therefore, very nomadic hunters. Folsom components are more plentiful and better defined in the Trans-Pecos archaeological record with a number of data recoveries on well preserved sites along with isolated finds of Folsom (and Midland) projectile points. At Fort Bliss, in the western Trans-Pecos, Folsom components included a number of steeply edged tools (Stuart 1997). In the eastern Trans-Pecos, Folsom sites have been reported in concentration from the Guadalupe Mountains area, the Pecos River Valley, the Marfa Plains, the Big Bend region, and the Stockton Plateau (Miller and Kenmotsu 2004; Sommer 1974).

Following Wheat (1972), the tool traditions associated with Meserve, Golondrina, Angostura, Eden, and Scottsbluff projectile points dating to the Late Paleoindian for the Trans-Pecos archaeological region are collectively known as the Plano and Cody complexes. While these sites are more widespread than Early Paleoindian sites, occupying a wide range of topographic zones, data indicates that most recorded Plano and Cody sites occur in basins near large playas or within the Rio Grande Valley. Mallouf (1981) suggests this site patterning may represent the last vestiges of the Paleoindian big game hunting tradition. Currently very little is known about settlement patterns and mobility for the Paleoindian period. However, based on Cloud and Mallouf ‘s (2011) work from the Big Bend region, it is possible that people may have begun baking desert succulents beginning as early as 10,000 BP. At Baker Cave, a hearth dating to around 8,500 B.P, the Late Paleoindian period, contained remnants of small plants and animals, indicating that at least by this time there may have been a shift from big game hunting strategy to more diversified subsistence (Chadderdon 1983; Hester 1983; Koenig 2012).

3.1 Archaic Period (8,000–1,500 BP)

The Archaic period is divided into Early (8,000–5,000 BP), Middle (5,000–3,200 BP), and Late (3,200–1,500 BP) subperiods (Collins 2004:119) and generally corresponds to the post-Paleoindian Early Holocene continuing to the Late Holocene stabilization of environmental conditions. This period is characterized by a distinct change in projectile point style and the addition of new tool types. A diversification in subsistence patterns occurs with an increased reliance on the hunting of modern species of game, including deer and rabbit. An increased reliance on wild plants also occurs (Gregg et al. 1996). Changes in material culture during the Archaic period are believed to reflect somewhat larger and more localized populations, as well as changes in the methods of food procurement and food processing. In the Trans-Pecos, the Archaic is characterized by the appearance of pithouses and huts (wikiups) and the first evidence of agriculture in the archaeological record, although the structural features are more common in the western Trans-Pecos (Miller and Kenmotsu 2004:218). Throughout the Trans-Pecos, the Archaic period is also characterized by the use of thermal elements (burned rock features) to cook starchy plant foods. Although not as ubiquitous as in central Texas, burned rock features are documented in the region from the Early to Middle Archaic. Also, groundstone tools such as manos and metates first appear in conjunction with thermal features. However, due to the highly erosive nature of the Tran-Pecos environment, intact, dateable surficial features from the Archaic period are relatively scarce. Dateable features are located in deeper alluvial deposits along mountain chain and basin edges (Miller and Kenmotsu 2004).

3.2 Early Archaic (8,000–5,000 BP)

The Early Archaic, tentatively dated from 8,000–5,000 BP for the eastern Trans-Pecos, is not well known due to a paucity of data (Mallouf 1985). For instance, Miller and Kenmotsu (2004:220) in their regional

overview only note one radiocarbon date reported in association with an Early Archaic assemblage. This lack of datable components could represent a lack of intensive habitation of the area or could represent a function of contemporary and past survey techniques wherein isolable and datable components are buried deep into Holocene alluvium. Much of what is known of the Early Archaic is largely based on correlations of site and assemblage patterns through the use of correlating diagnostic projectile points from adjacent regions (Mallouf 1985). Though, as Turpin and Robinson (2003) opine for the western Trans-Pecos versus the eastern Trans-Pecos, the division between the two regions is likely less prevalent prior to about A.D. 200. At the advent of the Archaic, increasing aridity led to an increasingly diversified subsistence strategy. In a recent study, provenience data associated with 66 Late Paleoindian and Early Archaic diagnostic lithic specimens was analyzed to craft an elevation model to predict the location of sites in and around the Davis Mountains (Gray 2013). Preliminary results of this study indicate a high probability cultural elevation zone between 1,223 to 1,623 m above mean sea level where, during this time, springs were present at higher elevations and floral and faunal resources more abundant (Gray 2013). However, additional site and provenience data is required to refine this predictive model.

While rock and caliche thermal features first appear during the Early Archaic, their function(s) remain undefined with scant paleobotanical remains recovered in association. Use of these features in plant processing, however, is indicated by the presence of associated groundstone artifacts. The bulk of these features are typically small in size except when recorded along alluvial fan locales. Here, these features are considerably larger and may be reflective of intensive site use. In addition, a shift occurred from lanceolate projectile point technology to stemmed point types along with a transition to corner-notched projectile points with bifurcated bases. Dart points are identified as an important diagnostic of the Archaic period. Miller and Kenmotsu (2004:221) note that Uvalde, Jay, Bajada, and "Nolan-like" forms are present at this time. Dart points from the Early Archaic were typically made of coarse-grained, less desirable raw materials than the high-quality cherts used in the Paleoindian period, likely reflecting a restriction in mobility during this time. Early Archaic sites are usually small scatters distributed on the landscape along tributary water courses or larger sites deeply buried in floodplain alluvium.

3.3 Middle Archaic (5,000–3,200 BP)

The Middle Archaic Period is considered to be from about 5,000 to 3,200 BP Mallouf (1985) hypothesizes that this period is characterized by population growth evidenced by an increase in datable occupations found throughout the eastern Trans-Pecos. This period is associated with a second period of aridity—the mid-Holocene Altithermal, which is dated between 6,500 and 4,500 BP. During this time, the marked warmer and drier environmental conditions of the Altithermal caused a decrease in vegetative cover and a concomitant increase in eolian sedimentation.

Excavation of wells is noted within adjacent environmental regions (e.g., Southern High Plains) as a Middle Archaic adaptation to the dry conditions (Johnson and Holliday 1986:46). Subsistence was focused on hunting and gathering within river and major creek bottomlands, with a lower relative number of rockshelter occupations documented than in the Early Archaic. The number of thermal features found at Middle Archaic archaeological sites along with associated artifact assemblages are, in most cases, larger in number and discovered in a wider array of ecological settings (Miller and Kenmotsu 2004). Subsistence strategies initially developed during the Early Archaic persist into the Middle Archaic though these strategies are

more refined and further adapted to a predominantly desert environment. Due to this drying trend, sites of this period tend to be found near streams and drainages. For example, the Paradise Site is located along the Paradise Draw forming the headwaters of Terlinguaite Creek. This site provides both insight into the settlement patterns of Middle Archaic groups, as well as additional information regarding the desert-adapted subsistence strategy. Archaeologists uncovered a substantial earth oven and posit that it was used to process otherwise indigestible, semi-succulent, desert plant species (Ohl 2006).

The first evidence of semi-sedentary settlements in the Middle Archaic is noted in the western Trans-Pecos with the appearance of small huts or houses, precursors to the well-known pithouses and pueblos of the area; however, similar structures are not documented in the eastern Trans-Pecos where located. Pecos County is dated as early as the Early and Middle Archaic, but it is unclear whether any of the wickiup rings documented at the site correspond to these periods (Young 1981). Because of the high degree of continuity between Early and Middle Archaic technologies, archaeologists have been reliant on variations in projectile point form to distinguish between the periods (Miller and Kenmotsu 2004). Though contracting and expanding stemmed projectile points are found throughout the Trans-Pecos region during the Middle Archaic, contracting stem points are more commonly discovered in the eastern portion. While point styles varied greatly during this time, Langtry and Jorra point types are commonly found at Middle Archaic sites (Mallouf 1985).

3.4 Late Archaic (3,200–1,500 BP)

The Late Archaic is typically dated between 3,200 BP–1,500 BP. In the eastern Trans-Pecos, the Late Archaic period is marked by several changes in settlement patterns and technology (Miller and Kenmotsu 2004). More modern climatic conditions, beginning around 4,500 B.P, coincide with a change in human adaptation. Late Archaic environmental conditions were moister and cooler than thepreceding Altithermal. The stabilization of climatic conditions led to less sedimentation, thus limiting the potential of burying archaeological deposits. Late Archaic sites with intact stratigraphic contexts are rare (Collins 2004). Use of burned rock middens and exploitation of xeric vegetation continued in the Trans-Pecos, but not at the same intensity seen in the Middle Archaic.

Site location data suggest that during this time all ecological zones were intensively exploited and may indicate a return to moister and more hospitable climes and increased coalescence and interaction between interregional hunting groups up to approximately 2,500 BP (Mallouf 1990). A diversification of settlement patterns is evidenced by a dramatic increase in the recorded presence of Late Archaic assemblages in rock shelters. In the eastern Trans-Pecos, construction and use of burned rock features increase during the Late Archaic both in numbers of recorded features and in size and weight of rock used. This is likely an indication of an intensification of plant processing. Ring middens—circular burned rock features with associated ash, charcoal, and debitage surrounding a central depression—are widespread and found in many ecological zones in the Trans-Pecos. In the eastern Trans-Pecos, Mallouf (1985) posits these are the signatures of widespread use of desert succulents. Bell and Castetter (1941) report similar ring middens as a by-product of Apache sotol and lechuguilla cooking.

Railey (2016) posits that with climatic improvements in the broader Permian Basin region during this time, there was a corresponding increase in available water throughout the region. Railey (2016) argues that this

led to a greater abundance and diversification of resources, meaning that "hunter-gatherers could now forage more efficiently, moving their camps more frequently around the landscape. Archaeologically this would all translate into higher numbers, and a more ubiquitous distribution of, preserved camp remains (such as artifact scatters and cooking pits), relative to previous time periods." The Late Archaic saw the introduction of maize and bean cultivation in the western Trans-Pecos, although the subsistence economy remained diverse. A wide range of flora and fauna are represented in Late Archaic deposits, although various *leporid* (rabbit) species were the predominant game animals (Miller and Kenmotsu 2004:228). In addition, a wide variety of perishable artifacts dating to the Late Archaic have been recovered from rockshelter and cave sites.

During the first half of the Late Archaic, projectile point technology shifts to corner and side-notched types. In the latter half of the Late Archaic, projectile points generally decreased in size, with smaller side- and corner-notched types similar to the Hueco, Paisano, and Van Horn types found in the eastern Trans-Pecos corresponding with the transition to bow-and-arrow technology and developed to boost hunting efficiency (Miller and Kenmotsu 2004; Vierra et al. 2020). It is likely that rabbit sticks were the primary tool for hunting during this time, reflecting both a small game focus in hunting and an increased reliance on local, low-quality raw materials constraining point size. Changes in technology, settlement, and subsistence patterns evident for the Late Archaic persist into the following Formative Period.

3.5 Formative/Late Prehistoric (1,500–500 BP)

The Late Prehistoric Period covers a period from about 1,500 BP to about 500 BP and is marked by the introduction of the bow and arrow as the principal weaponry system and the beginning of pottery making, specifically the appearance of Mogollan ceramics in the Trans-Pecos region (Vierra et al 2020). Agriculture and horticulture are also considered a major innovation during this period (Johnson and Holliday 2004; Pertulla 2004). In the eastern Trans-Pecos, the Late Prehistoric—referred to by some as the Formative period— is divided into three phases: the Livermore (1,000–750 B.P), La Junta (750–600 B.P), and Concepción (600–300 B.P) phases (Miller and Kenmotsu 2004:210–211). The latter phase bridges the Late Prehistoric and Contact-period historical eras. The climate was relatively mild, marked by intervals of moderate to severe drought conditions. In the western Trans-Pecos, major changes to settlement patterns, subsistence, architecture, and material culture occurred throughout these periods. The same patterns are present in some areas of the eastern Trans-Pecos, especially in the La Junta district (southern Presidio and Brewster counties), but most adaptations did not reach the northeastern area of the Trans-Pecos. The Late Prehistoric in the Project vicinity is largely undifferentiated, and additional work is needed to establish a firm chronological sequence for this area. Late Prehistoric sequences elsewhere in the Trans-Pecos are largely defined by changes in residential architecture, following a sequence of developments from huts and pithouses to isolated adobe structures and contiguous room blocks or pueblos (Miller and Kenmotsu 2004:239).

3.6 Historic Period (A.D. 1500 to 1950)

Spanish explorers traveled to the Gulf of Mexico in the early sixteenth century. Alonzo Álvarez de Piñeda may have sailed into the bay in 1519, and Álvar Núnez Cabeza de Vaca visited the area on a disastrous expedition that began in 1528. A map of the Gulf of Mexico from Florida to the Yucatan was created as a result of the Piñeda expedition, and the explorers briefly sailed into the mouth of the Rio de las Palmas, or

Rio Grande (Hansen 1969). Cabeza de Vaca explored the Gulf coast and later wrote a book about his experiences which described his encounters with Native Americans across Texas and Mexico. His expedition likely reached the La Junta region in 1535, where they reported village settlements along the Rio Concho and Rio Grande. In 1540, an expedition from Mexico led by Francisco Vazquez de Coronado reached northern Texas (Weddle 2000). When Coronado returned empty handed, Spain lost interest in much of Texas, but *entradas* into the Trans-Pecos continued throughout the 1560s to 1580s, with varied purposes including missionary expeditions, slave raids, and searches for gold and silver.

The Conchos phase (A.D. 1650–1800) saw the decimation of Native American populations in the Trans-Pecos region as Native inhabitants were killed by violence or disease, enslaved to work in the silver mines of New Spain, forcibly removed, or "acculturated" into the Mission system. While markers of Late Prehistoric Native American lifeways—circular to oval or rectangular wattle-and- daub houses, a few pithouses, and local ceramics—persist in this phase, these are fewer in number and found alongside Spanish Mission diagnostics such as Majolicas, Spanish utility wares, and metal objects (Applegate and Hanselka 1974). Additionally, artifacts related to other indigenous traditions, such as pottery comals like those of central Mexico, are found at Mission sites in the region and likely indicate the presence of Native peoples from a range of groups.

European colonization—and indigenous resistance—increased in the later 1600s, when the Pueblo Revolt (1680), and the Mansos Revolt (1684) led to a massive reorganization and concentration of many Native groups in New Mexico, northern Mexico and west Texas into Mission settlements. Settlements shifted toward the Rio Grande floodplain and terraces, with only a few small indigenous campsites and hunting grounds with Spanish Colonial artifacts recorded (Miller and Kenmotsu 2004:262). Beyond what is known from Mission sites and the brief and sometimes contradictory accounts provided by early European chroniclers, evidence of Native American groups from this period is scarce in the Trans-Pecos. In the Southern High Plains and western-central Texas, European trade goods such as glass beads and horses (including evidence of horses as a game animal) appear alongside Historic-period rock art and Washita arrow points; indigenous occupations are linked to Historic Apache and Comanche groups (Johnson and Holliday 2004:292).

Throughout the eighteenth century, most Spanish settlement in Texas was focused on the region around San Antonio, with the missions of the Trans-Pecos constituting a turbulent frontier region of secondary importance. The Mansos and La Junta missions were the sites of numerous Apache and Comanche raids, as well as local uprisings, with Spanish missionaries and military expeditions leaving and returning multiple times in attempts to establish firm control over the region. These efforts, and the violence surrounding them, further devastated the local population. Spanish efforts to convert the Native American populations of Texas ultimately failed and the missions slowly closed. The Spanish granted sweeping acreages to cattlemen who established the first ranches in southwestern Texas, but the region remained thinly populated into the nineteenth century (Chipman and Joseph 2010).

The first residents of Reeves County inhabited caves and rock shelters in proximity to the Barrilla Hills and built more permanent camps near Phantom Lake, San Solomon Spring, and Toyah Creek, leaving behind artifacts and pictographs. The Jumano Indians irrigated crops consisting of peaches and corn from the San Solomon Spring. Three of the Jumano people encountered Antonio de Espejo near Toyah Lake in 1583 and guided him and the expedition towards La Junta.

In the mid-1800s, farmers of Mexican descent cultivated vegetables and grains irrigated with water sourced from San Solomon Spring. John S. Ford traveled along Toyah Creek in 1849 and noted that the land of the Mescalero Indians was cultivated with corn. By 1871, George B. and Robert E. Lyle began irrigating crops from Toyah Creek, attracting white settlers to the Davis Mountains. Originally part of Pecos County, Reeves County was separated in 1883 and organized in 1884. A three-room school was opened in Pecos in 1883, and a post office was opened shortly after in 1884. In 1885, ranchers began herding cattle in the northern potions of the county, and residents numbered 210. The county reported 1,947 residents as of 1900. In the twentieth century, agriculture and petroleum production were the dominant portions of the Reeves County economy, though manufacturing did have a presence (Smith 2021). According to the United States Department of the Interior in 1902, irrigation works had been constructed near Roswell and reservoirs were constructed near Carlsbad. Though, multiple irrigation canals were constructed near the town of Pecos at the crossing of the Texas and Pacific Road. A canal controlled by the Pecos River Irrigation Company was situated approximately 28 miles south of Pecos, Texas. This ditch, built in 1875 to 1876 and expanded in 1889, was the oldest irrigation ditch from the Pecos River in Texas. In the 1890s, the water supply was short after the Pecos River was dammed in Carlsbad, and at times only 15 feet of was permitted to reach Pecos, Texas. The water level had improved by 1902, but it was noted that the water supply was not adequate to meet the demand. Five ditches were excavated for irrigation from Toyah Creek. These were the Clements or Murphy, measuring nine miles long taken out of Toyah Spring to irrigate approximately 1,500 acres; the Giffin, measuring one mile long taken out of Toyah Creek to irrigate approximately 400 acres; the Saragossa, measuring approximately 2 miles long from six miles south of Toyah Spring to irrigate 1,500 acres including the Clements; the St. Isabella, measuring two miles long from 19 miles south of Toyah Spring to irrigate 700 acres; and the Pruett, which was approximately two miles long from 26 miles south of Toyah Spring to irrigate 300 acres. It is noted that these irrigation channels were very efficient in cultivating corn, wheat, and sweet potatoes. The Murphy ditch was the largest irrigation ditch in the region, and was chartered in 1875, while the others were chartered later in 1875 and 1876 (Taylor 1902).

In 1900, a census recorded 63 farms across the county comprising approximately 900,000 acres of farmland and 51,000 cattle. In 1901 to 1905, school lands in Reeves County were permitted to be sold, and many new residents arrived to buy inexpensive land. By 1910, multiple small municipalities, such as Orla, Panama, Hermosa, Pyle, Mont Clair, and Angeles, began to develop and establish post offices. The 1910 census showed the population had risen to 4,392 residents in the county. The number of farms increased to almost 225, but acreage for farming dropped to less than 600,000 acres and the number of cattle dropped to almost 7,000. Though, chickens and milk cows increased in number. Drought and the Great Depression heavily affected crop production into the 1930s and drove families to leave their farms. Though the number of farms rose to 327, farm tenancy increased substantially. Only 114 farms were operated by their respective owners. Cotton remained a staple crop with approximately 3,200 bales harvested and on nearly 3,000 acres, 7,000 tons of forage was produced. By the 1940s, livestock surpassed agriculture as the major industry in the county with livestock valued at over $1 million and agriculture valuing at $376,031. The 1950s saw agriculture revive as the most profitable segment of the Reeves County economy, with values climbing to approximately $224 million compared to livestock production estimated at $2.5 million. Three hundred twenty-two farms encompassing 1.5 million acres were operated within the county by 1954. Of this land, 81,000 acres were devoted to agricultural production. During the 1960s, the county's population reached

17,644. The number of farms within the county declined to 231 with only 26 percent of operators living on their land, but livestock value rose to approximately $12 million by the end of the decade (Smith 2021).

4.0 Previous Investigations

According to the THC's Archeological Sites Atlas (Atlas) (2021), no archeological sites have been recorded within the footprint of the proposed West Sun Tex Permian Landfill, and it has never been surveyed by a professional archeologist. Review of the Atlas shows no previously recorded cemeteries, NRHP resources, SAL resources, or historical markers within the APE or within one kilometer (km) of the APE (**Figure 4-1**).

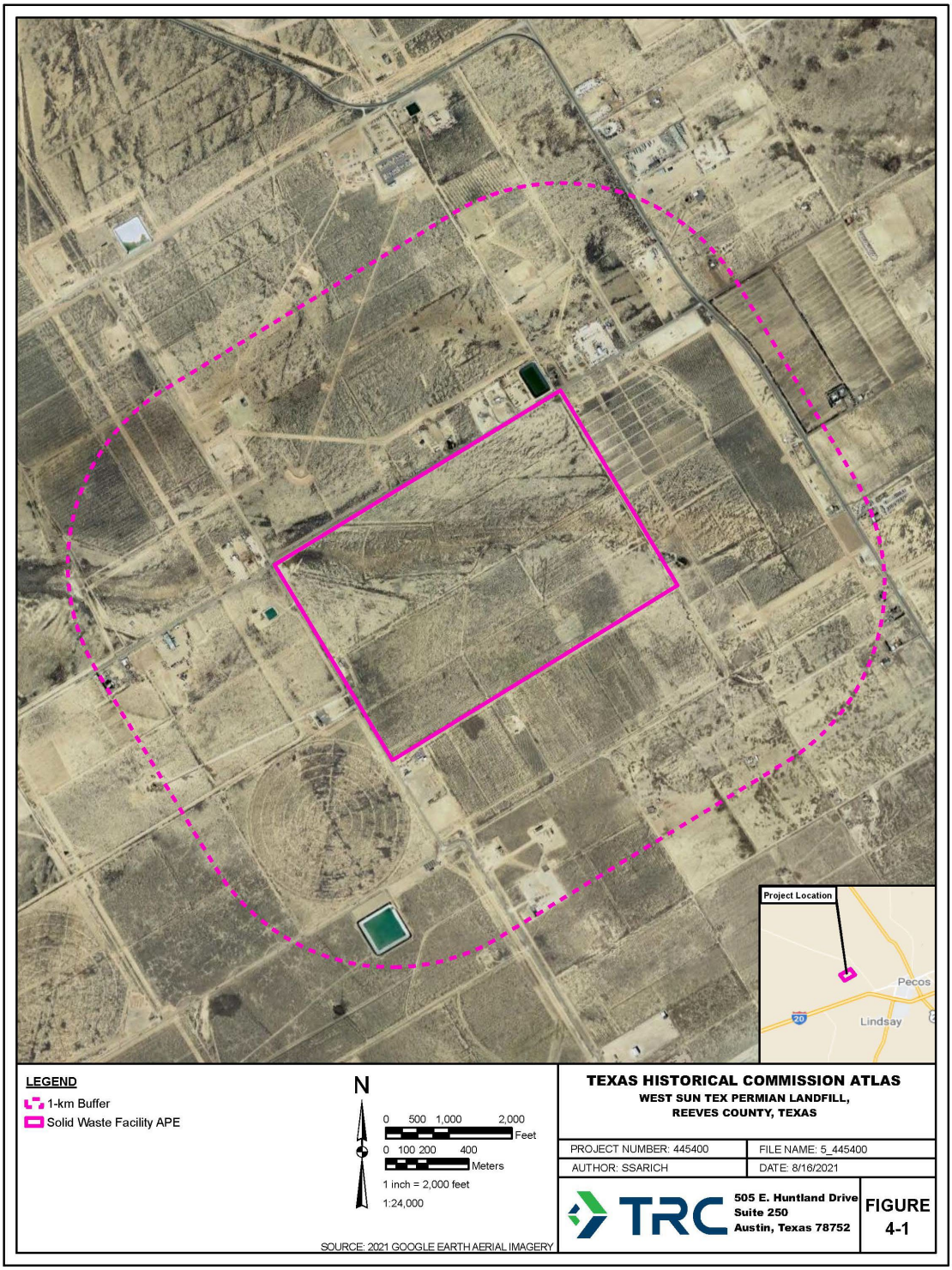


Figure 4-1 Previous investigations and recorded cultural resources within one km of the APE

5.0 Research Objectives and Field Methods

The goals of the cultural resources survey were as follows:

- Determine if cultural materials are present within the APE through pedestrian survey and shovel testing of the APE;
- If archeological deposits are present within the APE, determine their spatial extent;
- If archeological deposits are present within the APE, attempt to determine the general cultural affiliation/age of these deposits; and,
- Document any historic standing structures within the APE.

Fieldwork followed the guidelines and survey standards set forth by the 2020 THC/Council of Texas Archeologists Intensive Terrestrial Survey Guidelines. The survey consisted of a 100 percent pedestrian survey supplemented with shovel testing.. Excavated sediment was screened through 0.6 centimeter- (cm; 0.25 in) wire-mesh screens. Each shovel test measured approximately 30 cm (11.8 in) in diameter. Shovel tests were excavated to the lesser of the bottom of Late Pleistocene/Holocene deposits, subsoil in upland areas, bedrock, or to a minimum depth of 80 cm (32 in) below ground surface (bs). Exceptions to shovel testing may include erosional settings, slopes greater than 20 percent, in settings with significant ground disturbance, or impassable stony soils or bedrock. Each shovel test was recorded in terms of depth, stratigraphy, and the texture and Munsell color of representative sediment(s). Additional shovel testing was conducted in proximity to any isolated finds or artifact scatter to assess the potential for subsurface cultural materials. As no shovel tests were positive for subsurface cultural materials, cruciform shovel testing was not conducted. Upon completion, all shovel tests were backfilled. By necessity, the definition of any site boundary or isolated find was based exclusively on the horizontal distribution of identified surface artifacts.

Field notes were maintained on electronic forms created by TRC with Fulcrum™, a mobile form builder and data collection application (app). The Fulcrum™ app runs on Android or iOS operating systems and allows users to upload their data in real time. The electronic forms note observations regarding terrain, vegetation, soils, landforms, shovel tests, and cultural materials. Standardized shovel test and surface find data was recorded on handheld tablets for each shovel test or surface find. These data include shovel test or surface find location, depth, soil type, and notations on any artifacts encountered during pedestrian survey or within each shovel test excavated. Digital photographs with an associated photo log using the Fulcrum™ application also were completed as appropriate. The location of shovel tests and surface finds was recorded via handheld Global Positioning System (GPS) units utilizing the Universal Transverse Mercator (UTM) coordinate system and the North American Datum of 1983 (NAD 83) map datum. Representative project overview photographs and shovel test photographs were taken throughout the project. No artifacts were collected during these investigations.

6.0 Results

Survey of the entirety of the 440-acre APE was conducted on July 26 and from July 29-August 1 by Steven Sarich, Benjamin Johnson, Steven Schooler, and Josh Haefner. During the investigations, a total of 155 shovel tests were excavated during the survey, all of which were negative for cultural materials (**Figures 6-1 to 6-4**). The survey area was generally flat with sparse areas of mesquite and other scrub vegetation with a built-up berm surrounding the perimeter (**Figures 6-5**). Survey began at the southwestern-most extent of the APE with transects oriented northeast, perpendicular to the APE's boundary along CR 4087. Shovel tests conducted within the southeastern quarter of the APE, noted silty clay loams to clay loam soils that were generally in agreement with shovel tests typically reaching 60-90 cmbs before terminating within thick compact sterile subsoil. While the area has been previously utilized for agriculture and the typical pedon for the Hoban Series, as described by the USDA (2021), notes an Ap horizon above an A horizon, this differentiation was not observed in these shovel tests.

Moving northeast from this area, shovel testing noted soils more in line with the surrounding Orla, Upton, and Reeves series, terminating at depths of 40-60 cmbs in B horizons with noted caliche, gravel, and high calcium carbonate precipitate inclusions. Gravels and caliches became more dominant on the surface towards the northwestern quarter of the APE (**Figure 6-6**). While shovel tests conducted in this area were negative, both prehistoric and historic artifacts were recorded on the surface. Prehistoric artifacts consisted of occurrences of single items of chert and quartzite debitage while historic artifacts included a horseshoe, fuel cans, aqua glass sherds, miscellaneous metal, tobacco tins, a round-top food can, and a church key opened tin (**Figures 6-7 to 6-15**). As recorded, these artifacts were generally isolated finds spaced from 30 to 100 meters from each with two instances of five artifacts being within 30 square meters of each other. Additional shovel testing in proximity to the isolated surface finds were also negative. Based on the 2021 Web Soil Survey data researched prior to fieldwork, in field observations of shovel test stratigraphy, and the fact that all shovel tests were negative in an around these isolated find locations, it was determined that there was little to no potential for additional subsurface deposits. As no shovel tests were positive, cruciform testing was not conducted. Ultimately, because of their dispersed nature, it was determined that they did not as merit site designation. See **Appendix B: Isolated Find Log**.

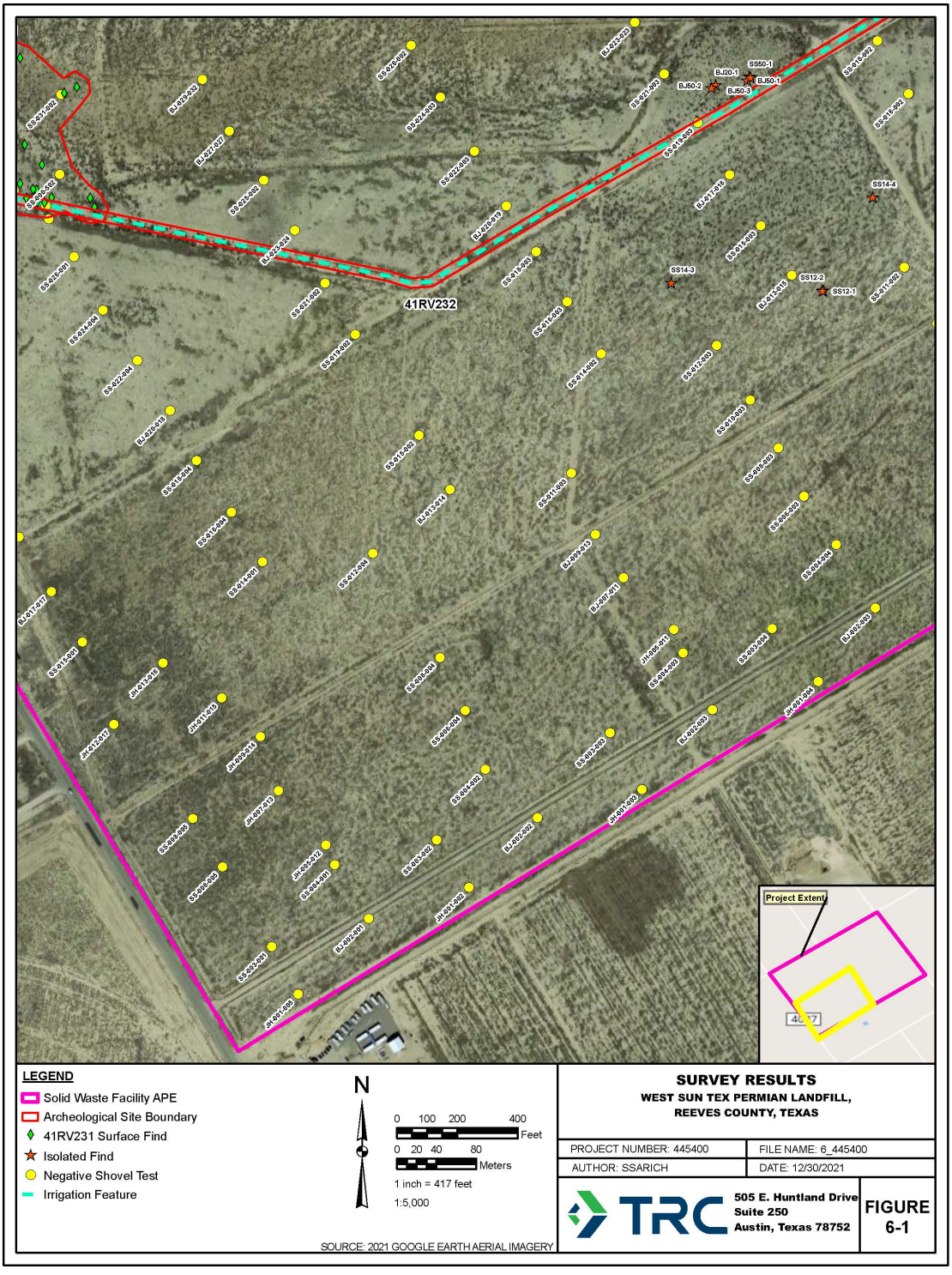


Figure 6-1 Survey results for the southwestern quadrant of the APE

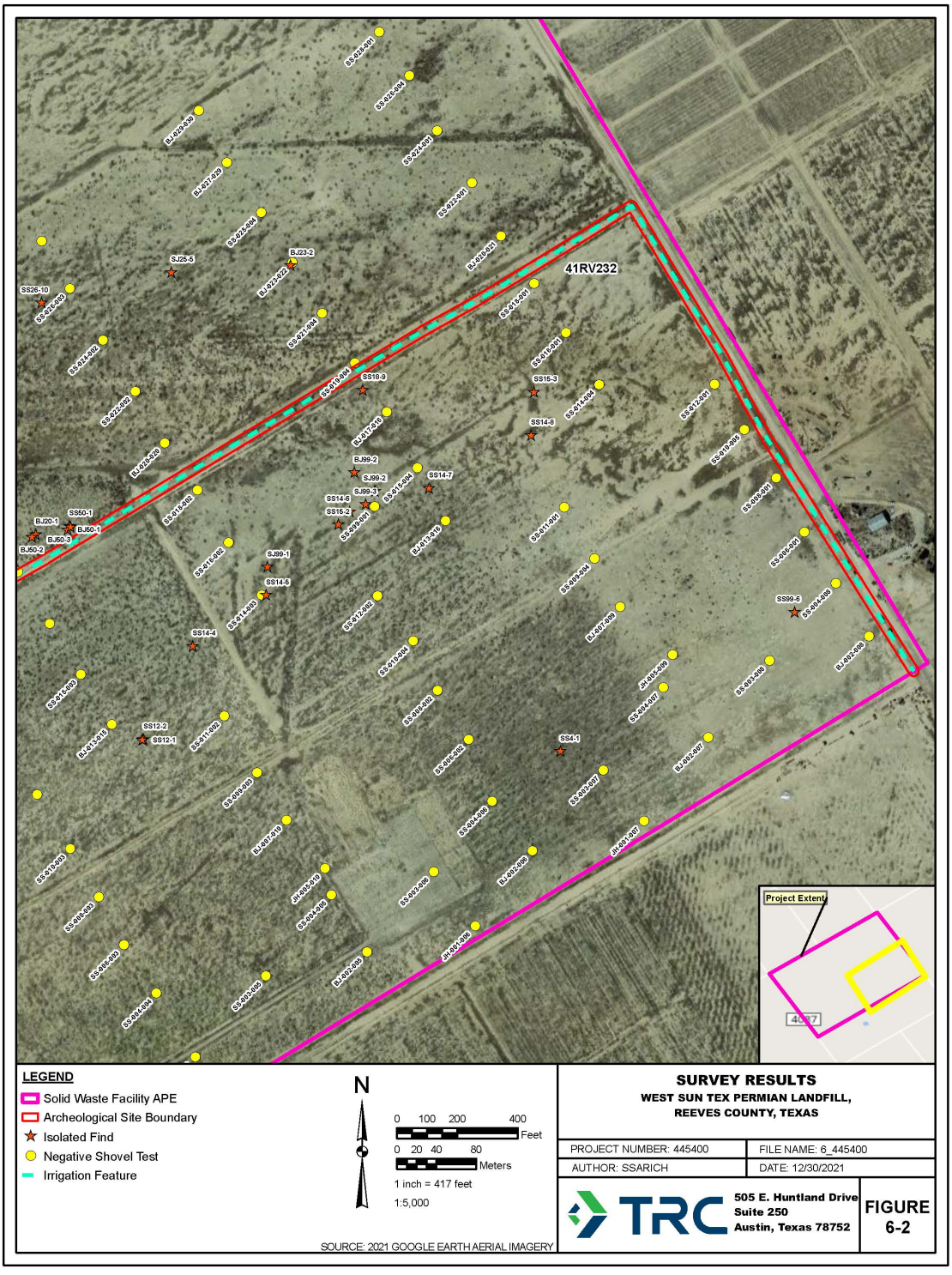


Figure 6-2 Survey results for the southeastern quadrant of the APE

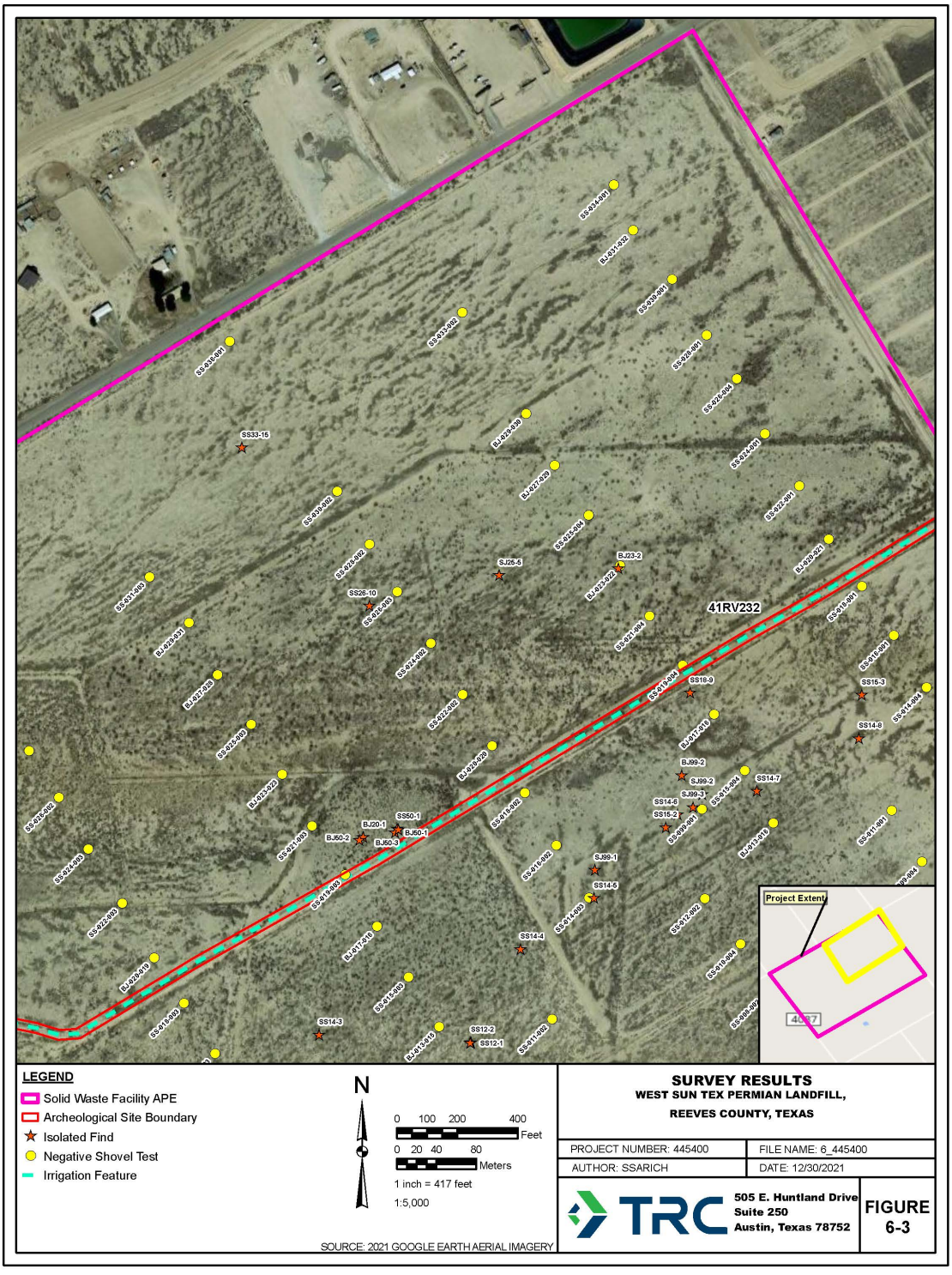


Figure 6-3 Survey results for the northeastern quadrant of the APE

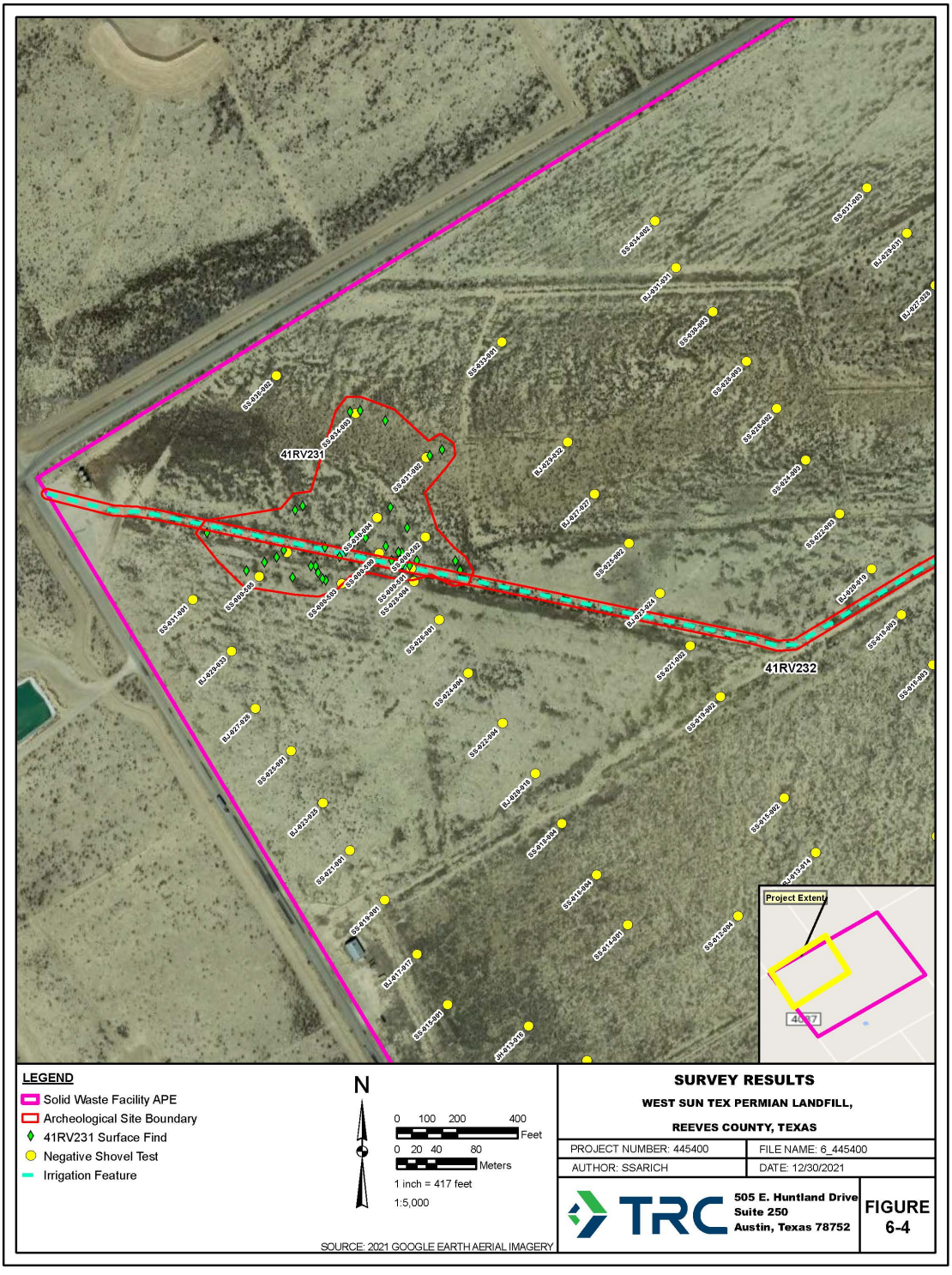


Figure 6-4 Survey results for the northwestern quadrant of the APE



Figure 6-5 Overview of APE with berm left quarter of frame, facing northeast from STBJ1



Figure 6-6 Overview of APE showing flat terrain and scrub vegetation, facing southwest from STSS 34-001



Figure 6-7 Debitage Isolate, facing northwest (SJ99-3)

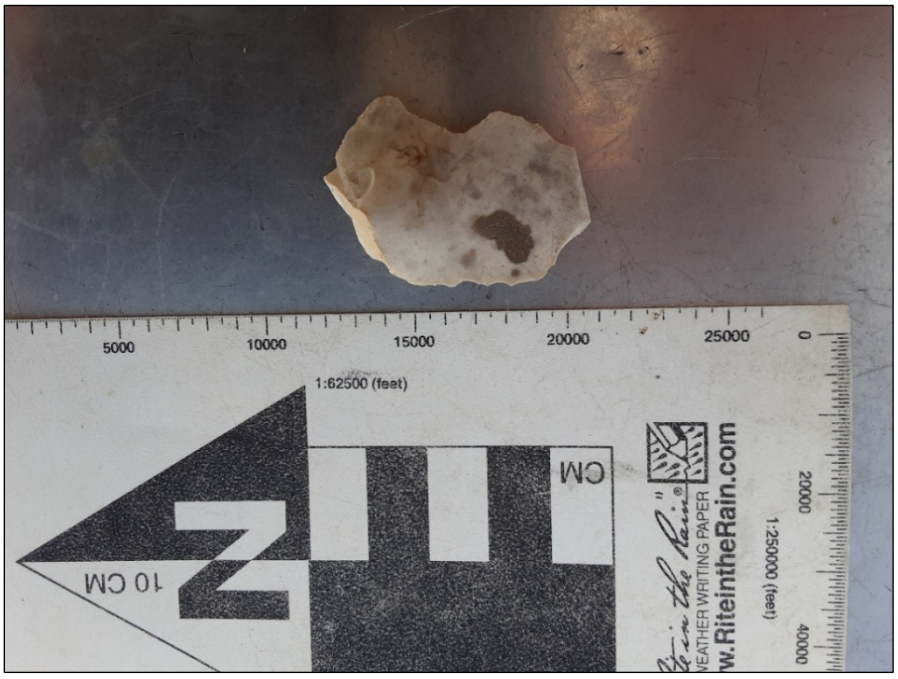


Figure 6-8 Debitage Isolate, facing east (SS4-1)



Figure 6-9 Debitage Isolate, facing south (SS15-2)



Figure 6-10 Horseshoe Isolate, facing west (SS12-1)



Figure 6-11 Fuel Can, facing east (BJ50-2)



Figure 6-12 Metal Coupling, facing west (SJ99-1)



Figure 6-13 Tobacco Tin, facing east (BJ50-3)



Figure 6-14 Metal Can Side View, facing north (BJ50-1)



Figure 6-15 Metal Can Top View, facing north (BJ50-1)

6.1 Site 41RV232

Site 41RV232 is a Historic Period earthen irrigation feature approximately 32 ft (10 m) wide and approximately 1.5 mi (2.4 km) long within the APE, oriented northwest to southeast from the western edge of the survey area towards the center of the survey area at which point it aligns southwest to northeast towards the eastern boundary of the survey area. The irrigation feature is then oriented northwest to southeast along the eastern boundary of the survey area, terminating at the southeastern corner of the survey area. (**Figures 6-16 and 6-17**). The site encompasses approximately 5.8 ac. This irrigation feature appears on the United States Geological Survey (USGS) 1971 *Pecos West*, Texas 7.5' Topographic Quadrangle map, however it is absent from the USGS 1957 Pecos, TX and 1921 *Toyah, TX* Quadrangles (**Figures 6-18 to 6-20**). In these earlier maps it appears as a natural drainage. As it falls into the Historic time period defined as extending from A.D. 1500 to 50 years before present, it was assessed for potential research value and inclusion in the NRHP or as an SAL. The feature appears heavily eroded, with the irrigation berm difficult to discern in some areas. Shovel tests were excavated within close proximity to the irrigation feature throughout the survey area, and no shovel tests were positive for cultural material. Further, no cultural material within the survey area can be directly associated with this feature. As such, site 41RV232 has little potential for research value, and does not meet the criteria for NRHP eligibility or listing as an SAL. While the observed portion of 41RV232 was determined not to be eligible for NRHP inclusion or listing as an SAL, this assessment is only valid within the portion of the irrigation feature within the surveyed area.

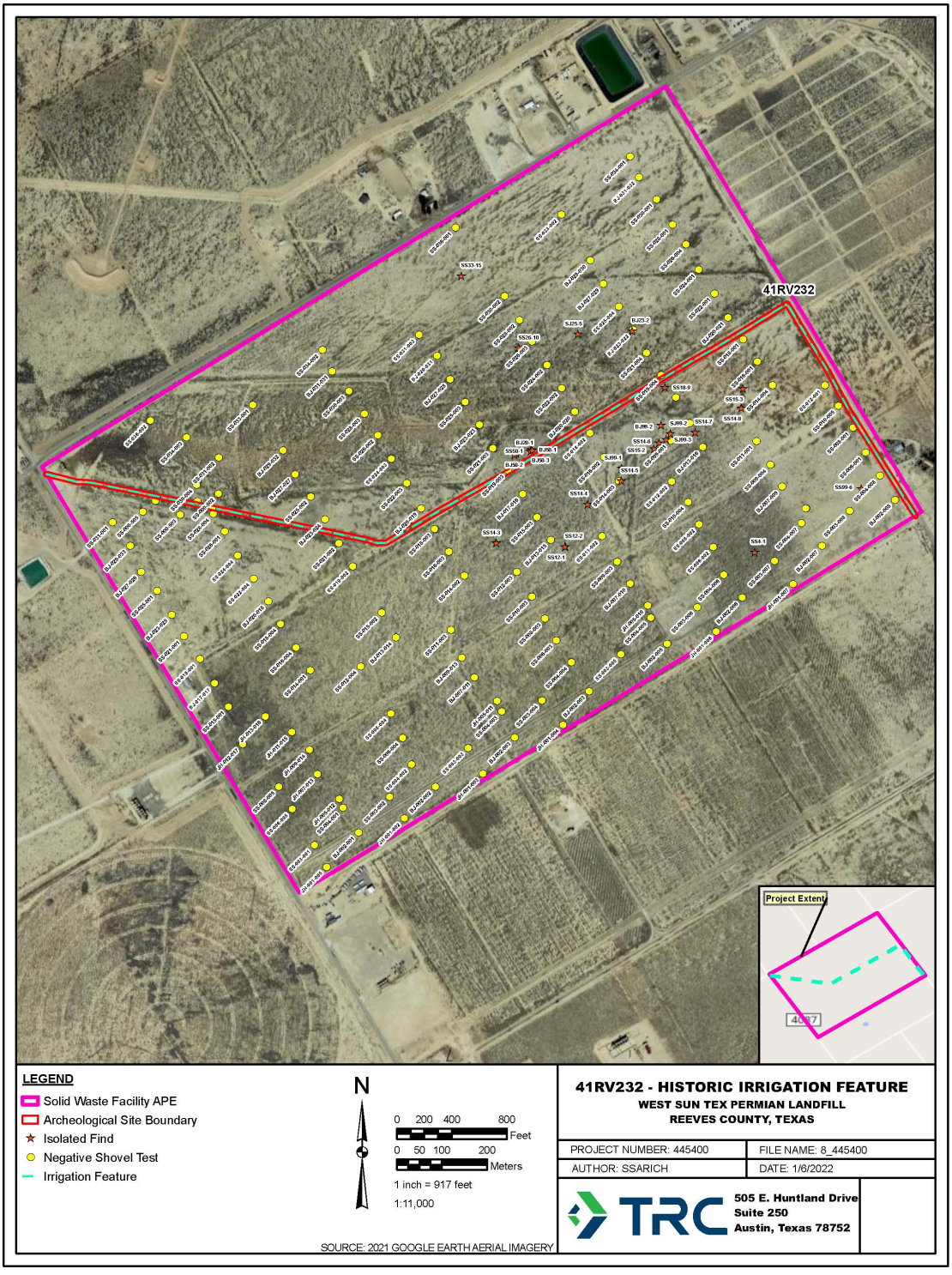


Figure 6-16 Survey Results for Site 41RV232



Figure 6-17 Irrigation Feature Overview, facing southwest

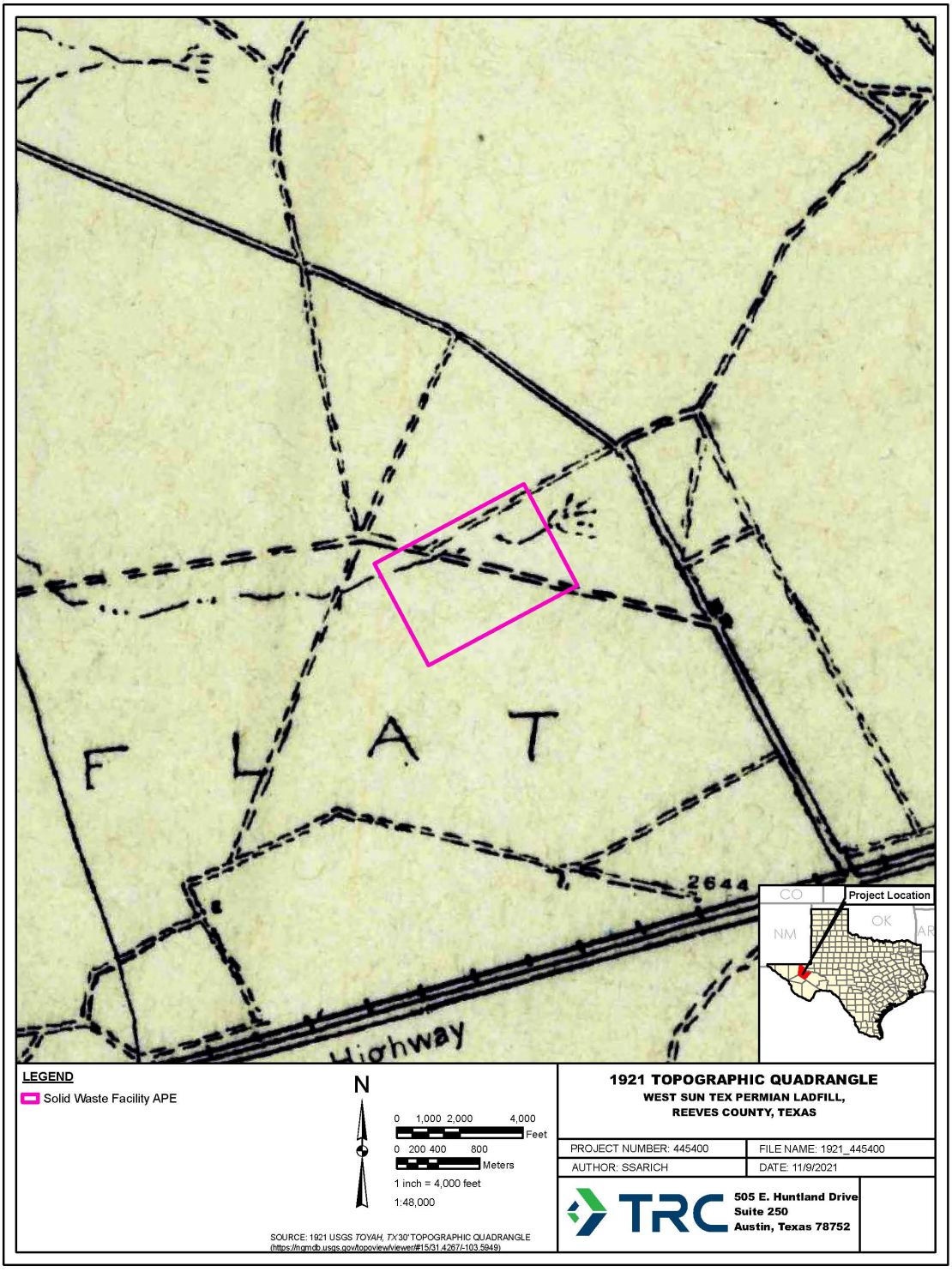


Figure 6-18 1921 USGS Topographic Quadrangle showing natural drainage

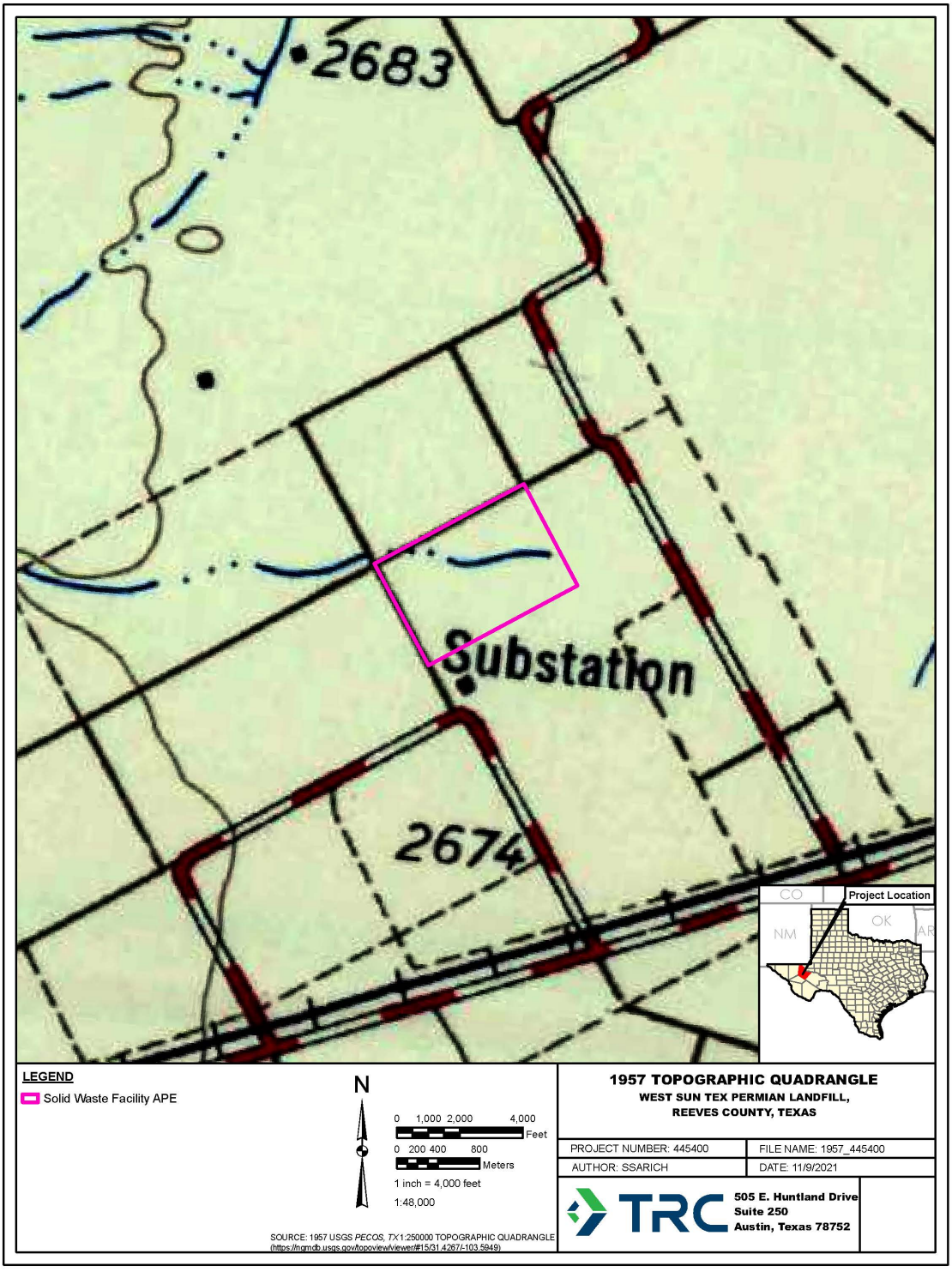


Figure 6-19 1957 USGS Topographic Quadrangle showing natural drainage

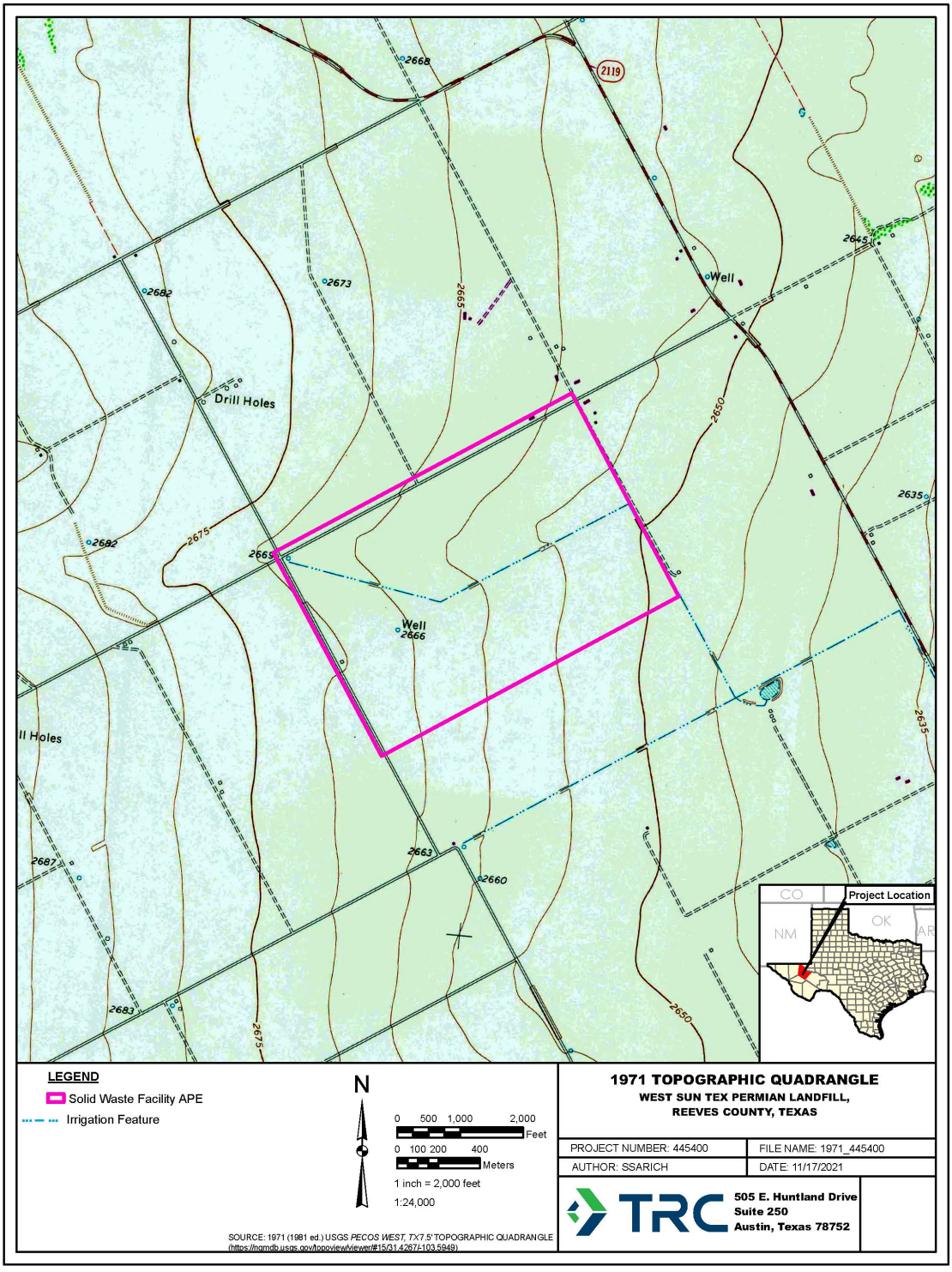


Figure 6-20 1971 USGS Topographic Quadrangle showing irrigation feature in place of the natural drainage previously depicted

6.2 Site 41RV231

Site 41RV231 is a multicomponent site composed of a diffuse scatter of lithic debitage and a small assemblage of historic cultural materials. It is located at the west-northwest corner of the APE with the approximate center of the site, 820 ft northeast of CR 4087 and 710 feet southeast of CR 415 (**Figure 6-21**). The site measures approximately 7.4 ac (4 ha) in area. The prehistoric component includes 28 pieces of chert, a quartzite debitage, and a lithic core (**Figures 6-22 and 6-23**). Much of the prehistoric component occurs in two clusters-one adjacent north of a man-made berm and one adjacent south. The historic component consists of clear (n=1) and aqua (n=2) bottle and jar glass shards, amethyst-colored shards (n=2), whiteware sherds (n=5), a railroad spike (n=1), and a handle from a whiteware vessel (n=1) (**Figure 6-24**). Shovel tests conducted within 41RV231 noted profiles consistent with the Orla, Reeves, and Hodgins Series with shallow A Horizons and B Horizons with high amounts of calcium carbonate precipitate, caliche nodules, and, on occasion, gravel inclusions. Shovel tests conducted within the site boundary and immediately adjacent terminated at depths typically between 35-45 cmbs at compact transitions between A and B horizons.

The lone datable marking on any of these artifacts is from the backside of aqua glass bottle shard; a fragment of a 10-ounce Royal Crown Soda bottle, dating to the 1950's (Lockhart 2010; **Figure 6-25)**. When intact the colored lettering would have read:

"BOTTLE STERILIZED BEFORE FILLING"

CONTENTS 10 FLU. OZS

PROPERTY OF

ROYAL CROWN BREWING COMPANY"

with a plant location just under this lettering (in this case not intact enough to determine location of manufacture/distribution). According to Lockhart (2010), the Nehi-Royal Crown Bottling Company was in operation in El Paso, Texas from 1941 to 1965 and is a likely source for the bottle. Lockhart (2010) also notes that the label design is simplified in the early 1950s, no longer listing the ingredients and limiting the back description to BOTTLE STERILIZED/BEFORE FILLING/CONTENTS XX FLU. OZS/PROPERTY OF [NEHI]-ROYAL CROWN BREWING COMPANY/CITY, STATE OF THE BOTTLING PLANT LOCATION. This simplified back label design matches the label design on the glass fragment found at the site. Along with the remainder of the historic artifacts in conjunction with the diagnostic Royal Crown bottle, the historic component of the site likely dates from the early to mid-20th century.

Shovel testing in the area and in proximity to the main concentration of artifacts did not identify any subsurface artifacts. Running from northwest to southeast is the previously mentioned historic irrigation feature through the approximate center of the site. Additionally, the land has historically been used for the purposes of agriculture and livestock. Along with natural erosion caused by high winds common to the area, and the diffuse, surficial nature of the assemblage, the integrity of the site has been strongly impacted. As no shovel tests were positive, cruciform testing was not conducted and the site boundary was based on the horizontal extent of the surface scatter of prehistoric and historic artifacts.

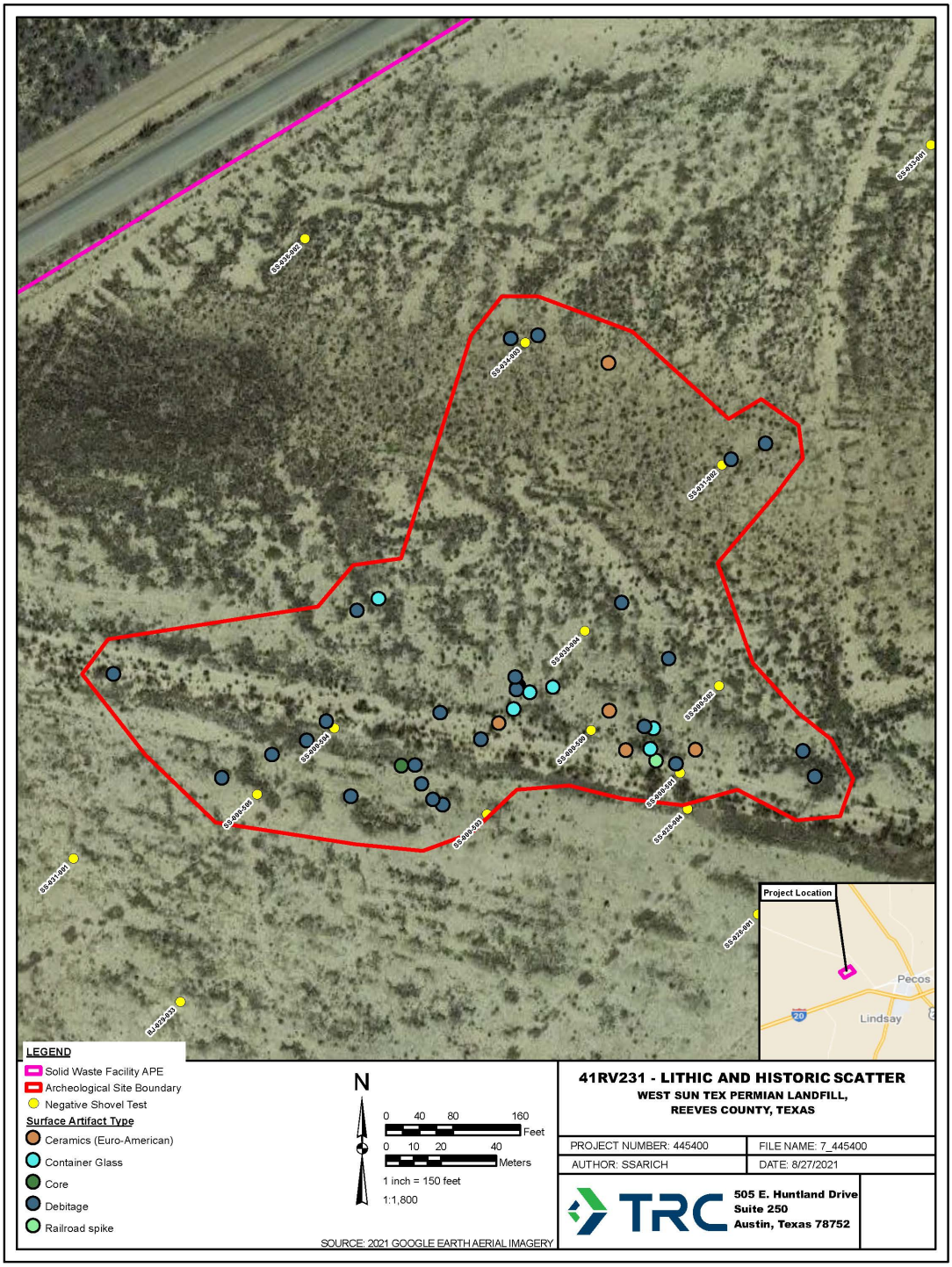


Figure 6-21 Survey results for 41RV231

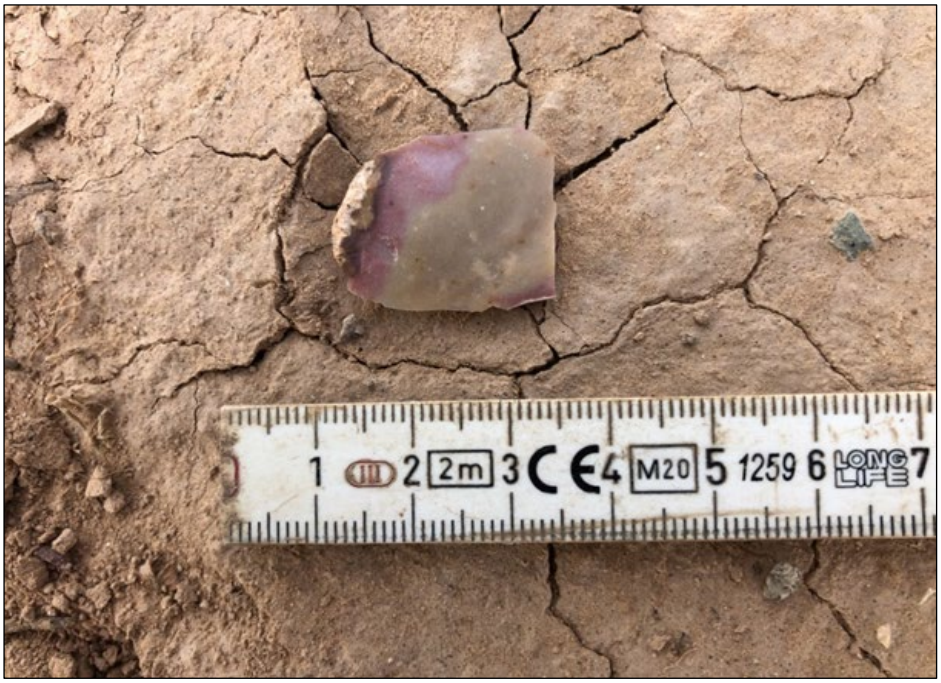


Figure 6-22 Example of debitage recorded at 41RV231



Figure 6-23 Lithic core recorded at 41RV231



Figure 6-24 Ceramic whiteware handle recorded on the surface at 41RV231



Figure 6-25 Royal Crown Soda aqua glass fragment with printed lettering at 41RV231

7.0 Conclusions and Recommendations

WST proposes to construct a Type I MSW facility, the WST Permian Landfill, in Reeves County, Texas (Project). Based on a preliminary review of the current project information, it is anticipated that the proposed project will be permitted under the TCEQ. The APE is a 440-ac property with a disposal footprint of approximately 192 ac. During the investigations, a total of 155 shovel tests were excavated during the survey, all of which were negative for cultural materials.

One new multi-component archeological site, 41RV231, a surface scatter of historic and prehistoric artifacts was recorded. This site lacks discernible features and with sparse deposits of limited research potential it is recommended ineligible for listing as a SAL or for listing on the NRHP. While other historic and prehistoric artifacts were observed on the surface within the APE, they were diffuse enough that these isolated finds did not warrant any site designations. In addition, a Historic Period irrigation feature was identified within the APE and recorded as archeological site 41RV232. Historic map research does not show this feature prior to the late 1960s or early 1970s. Shovel tests were excavated within close proximity to the irrigation feature throughout the survey area, and no shovel tests were positive for cultural material. The irrigation feature seems to have low potential for research value, as historic map research reveals little data on the feature, and no cultural material within the survey area can be directly associated with it. Within the APE, the irrigation feature does not meet criteria for design, setting, materials, workmanship, feeling, or association and is recommended as ineligible for entry into the NRHP or designation as an SAL. As a result, TRC recommends that no further cultural resources investigations are warranted, and the Project may proceed to construction as planned. 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 and TRC to consult on further actions that may be necessary to protect the cultural remains.

8.0 References

Adovasio, J. M., J. Donahue, and R. Stuckenrath
1990 The Meadowcroft Rockshelter Chronology 1975-1990. *American Antiquity* 55:348-354.

Alexander, H. J.
1963 The Levi Site: a Paleo-indian Campsite in Central Texas. *American Antiquity* 28:510-528.

1982 The Pre-Clovis and Clovis Occupations at the Levi Site. In *Peopling of the New World*, edited by J. E. Ericson, R. E. Taylor and R. Berger, pp. 133-145. Los Altos, California, Ballena Press.

Applegate, Howard G. and C. Wayne Hanselka
1974 *La Junta de Los Rios Del Norte Y Conchos. Issue 41 of Southwestern studies.* Published by Texas Western Press, El Paso, Texas.

Arbingast, Stanley A.
1976 *Atlas of Texas*. Bureau of Business Research, University of Texas-Austin.

Arnn III, J. W.
2012 Defining Hunter-Gather Social Identity and Interaction at the Regional Scale. In *Toyah Phase of Central Texas, Late Prehistoric Economic and Social Processes*, edited by N. A. Kenmotsu and D. K. Boyd, pp. 90-110. Texas A&M University Press, College Station.

Bement, L. C. and B. J. Carter
2010 Jake Bluff: Clovis Bison Hunting on the Southern Plains of North America. *American Antiquity* 75(4):907-933.

Blair, W. F.
1950 Biotic Provinces of Texas. *The Texas Journal of Science* 2(1):93-117.

Bousman, C. B., B. W. Baker, and A. C. Kerr
2004 Paleoindian Archeology in Texas. In *The Prehistory of Texas*, edited by T. K. Perttula, pp. 15-97. Texas A & M University Press, College Station.

Bureau of Economic Geology
1992 *Geologic Atlas of Texas*. University of Texas-Austin, Supervisor V.E. Barnes, 1 sheet, scale 1:250,000.

Butzer, K. W.
1988 A Marginality Model to Explain Major Spatial and Temporal Gaps in the Old and New World Pleistocene Settlement Records. *Geoarcheology* 3:193-203.

Carpenter, S. M.
2012 Chapter 11, Toyah Assemblages. In *The Little Paint Site: A Classic Toyah Camp on the South Llano River, Kimble County, Texas by S. M.* Carpenter, K. A. Miller, C. D. Frederick, L. G. Cecil, M. C. Cody, and A. Peyton, pp.199-210. SWCA Environmental Consultants, SWCA Cultural Resources Report No. 12-429 and Texas Department of Transportation, Archeological Studies Program, Report No. 148.

Chipman, Donald E., and Harriet Denise Joseph
2010 Spanish Texas, 1519-1821. University of Texas Press, Austin.

Collins, M. B.
1995 Forty Years of Archeology in Central Texas. *Bulletin of the Texas Archeological Society* 66:361-400.

Collins, M. B. and J. C. Lohse
2004 The Nature of Clovis blades and blade cores. In *Entering America: Northeast Asia and Beringia before the Last Glacial Maximum*, edited by D. Madsen, pp. 159-83. University of Utah Press, Salt Lake City.

Collins, M. B., G. L. Evens, T. N. Campbell, M. C. Winans, and C. E. Mear
1989 Clovis Occupation at Kincaid Shelter, Texas. *Current Research in the Pleistocene* 6:3-4.

Daniel B. Stephens & Associates
2021 THC Coordination Letter to Mr. Drew Sitters, Ms. Pamela Opiela, and Ms. Eva Osborne. Personal Communication. April 23, 2021.

Davis, W.B. and D.J. Schmidly
1994 *The Mammals of Texas*. Texas Parks and Wildlife Department, Austin.

Dering, P.
2008 Late Prehistoric Subsistence Economy on the Edwards Plateau. *Plains Anthropologist* 53(205):59-77.

Dillehay, T. D.
1989 *Monte Verde: A Late Pleistocene Settlement in Chile—Paleoenvironment and Site Context*, Vol. 1. Smithsonian Institution Press, Washington D.C.

1997 *Monte Verde: A Late Pleistocene Settlement in Chile—The Archaeological Context*, Vol. 2. Smithsonian Institution Press, Washington D.C.

2000 *The Settlement of the Americas*. Basic Books, New York.

Dincauze, D. F.
1984 An Archaeo-Logical Evaluation of the Case for Pre-Clovis Occupations. *Advances in World Archaeology* 3:275-323. Academic Press, New York.

Galm, J.R. and P. Flynn
1978 Archaeological Investigations in the Rosehill Mining Area, Haskell County Oklahoma. Project Report Series, 1. Norman: Archaeological Research and Management Center.

Google Earth
2021 *Burnet County, Texas*. Google Earth accessed June 2021.

Hansen, Harry (editor)
1969 *Texas: A Guide to the Lone Star State.* Hastings House, New York, New York.

Haynes, C. V., Jr., D. J. Donahue, A. J. T. Hull, and T. H. Zabel
1984 Application of Accelerator Dating to Fluted Point Paleoindian Sites. *Archaeology of Eastern North America* 12:184-191.

Johnson, L., Jr.
1994 Chapter Fourteen, A Summary of Conclusions. In *The Life and Times of Toyah-Culture Folk: As Seen from the Buckhollow Encampment, Site 41KM16, of Kimble County, Texas*, by L. Johnson, pp. 282-287. Texas Department of Transportation and Texas Historical Commission, Office of the State Archeologist Report 38.

Johnson, E., V.T. Holliday,
2004 Archeology and Late Quarternary Environments of the Southern High Plains. The Prehistory of Texas. Edited by Timothy K. Pertulla, pp. 283-295. Texas A&M University Press, College Station, Texas.

Kelly, R. L. and L. C. Todd
1988 Coming into the Country: Early Paleo-Indian Hunting and Mobility. *American Antiquity* 53:231-244.

Kenmotsu, N. A. and D. K. Boyd
2012 One, *The Toyah Phase of Texas: An Introduction and Retrospective. In The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, edited by N. A. Kenmotsu and D. K. Boyd, pp. 1-18. Texas A&M University Press, College Station.

Lockhart, B.
2010 Nehi Bottling Co., Nehi-Royal Crown Bottling Co., and Royal Crown Bottling Co. In Bottles on the Border: The History and Bottles of the Soft Drink Industry in El Paso, Texas, 1881-2000. Society for Historical Archeology. Electronic document, EPChap10a.pdf (sha.org), accessed August 2021.

Lynch, T. F.
1990 Glacial-Age Man in South America?: A Critical Review. *American Antiquity* 55(1):12-36.

Meltzer, D. J.
1989 Why Don't We Know When the First People Came to America? *American Antiquity* 54(3):471-490.

Meltzer, D. J. and M. R. Bever
1995 Paleoindians of Texas: An Update on the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 66:47-81.

Meltzer, D. J., D. K. Grayson, G. Ardila, A. W. Barker, D. F. Dincauze, C. V. Haynes, F. Mena, L. Nuñez, and D. J. Stanford
1997 On the Pleistocene Antiquity of Monte Verde, Southern Chile. *American Antiquity* 62(4):659-663.

Prewitt, E. R.
1985 From Circleville to Toyah: Comments on Central Texas Archeology. *Bulletin of the Texas Archeological Society* 54:201-238.

Quigg, J. M. and J. Peck
1995 5.11 Occupation 4 Ceramic Assemblage. In *The Rush Site (41TG346): A Stratified Late Prehistoric Locale in Tom Green County, Texas, by J. M. Quigg and J. Peck, pp. 128-148*. Technical Report No. 816C. TRC Mariah Associates, Inc., Austin.

Quigg, J. M. and R. A. Ricklis
2011 Cultural Background and Regional Overviews. In *Root-Be-Gone (41YN452): Data Recovery of Late Archaic Components in Young County, Texas,* by J. M. Quigg, P. M. Matchen, C. D. Frederick, and R. A. Ricklis, pp. 27-62. Jointly Published by Texas Department of Transportation, Environmental Affairs Division Archeological Studies Program, Report No. 135 and TRC Environmental Corporation, TRC Technical Report No. 171219, Austin.

Ricklis, R. A
1994 Toyah Component: Evidence for Occupation in the Project Area During the Latter Part of the Late Prehistoric Period. In *Archaic and Late Prehistoric Human Ecology in the Middle Onion Creek Valley, Hays County,* Texas, by R. A. Ricklis and M. B. Collins, pp. 207-316. Studies in Archeology 19, Texas Archeological Research Laboratory, The University of Texas at Austin.

Julia Cauble Smith
2021 "Reeves County," *Handbook of Texas Online*, https://www.tshaonline.org/handbook/entries/reeves-county. accessed January 06, 2022, Published by the Texas State Historical Association.

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

Stanford, D. J. and B. A. Bradley
2012 *Across Atlantic Ice: the Origins of America's Clovis Culture.* University of California Press, Berkeley.

Taylor, Thomas U.
1902 *Irrigation Systems of Texas*. Water-Supply and Irrigation Paper No. 71, Series I, Irrigation, 13. United States Department of the Interior. Charles D. Walcott, Director. Published by Government Printing Office, Washington.

United States Geological Survey
1971 *Pecos West, Texas Quadrangle (1981 ed.).* United States Department of the Interior. Geological Survey Map, 1 sheet, scale 1:24,000, https://ngmdb.usgs.gov/topoview/viewer/, accessed November 2021.

2019 *Mormon Mill, Texas Quadrangle.* United States Department of the Interior. Geological Survey Map, 1 sheet, scale 1:24,000, https://ngmdb.usgs.gov/topoview/viewer/, accessed June 2021.

Weddle, Robert S.
2000 *Spanish Sea: The Gulf of Mexico in North American Discovery, 1500-1685*. Texas A&M University Press, College Station, Texas.

Appendix A:

Shovel Test Results

Date	Plot ID	UTM	Modern Land Use	Vegetation	Ground Surface Visibility	Disturbance Type	Degree of Disturbance	Reason for Termination	Plot Result	Plot Comments	ST Depth	Soil Color	Soil Texture	Strat Status
7/29/2021	ST-JH-001-001	13 N 635269 3478366						Compact soils	Negative		0 to 40 40 to 60	10YR 8/4 7.5R 5/4	Loamy Fine Sand Silty Clay Loam	neg neg
7/29/2021	ST-JH-001-004	13 N 634758 3477859						Max ST Depth	Negative		0 to 40 40 to 80	10YR 8/4 5YR 6/4	Loamy Fine Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-001-005	13 N 634252 3477517						Max ST Depth	Negative		0 to 40 40 to 50	10YR 8/4 7.5R 5/4	Loamy Fine Sand Silty Clay Loam	neg neg
7/29/2021	ST-JH-001-006	13 N 635085 3478083						Compact soils	Negative		0 to 40 40 to 60	10YR 8/4 7.5R 5/4	Loamy Fine Sand Silty Clay Loam	neg neg
7/29/2021	ST-JH-001-007	13 N 635249 3478198						Compact soils	Negative		0 to 40 40 to 60	10YR 8/4 7.5R 5/4	Loamy Fine Sand Silty Clay Loam	neg neg
7/29/2021	ST-JH-005-009	13 N 635269 3478366						Max ST Depth	Negative		0 to 40 40 to 80	10YR 8/4 5YR 6/4	Loamy Fine Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-005-010	13 N 634931 3478132						Sterile Subsoil	Negative		0 to 20 20 to 50	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-005-011	13 N 634610 3477904						Sterile Subsoil	Negative		0 to 20 20 to 60	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-005-012	13 N 634272 3477668						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-007-013	13 N 634221 3477720						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-009-014	13 N 634200 3477773						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-011-015	13 N 634159 3477810						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-012-017	13 N 634052 3477777						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-013-016	13 N 634098 3477842						Compact soils	Negative		0 to 5 5 to 35	10YR 8/4 5YR 6/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-JH-001-002	13 N 634418 3477633						Gravel Matrix	Negative		0 to 40	10YR 7/4	Coarse Sand	neg
7/29/2021	ST-JH-001-003	13 N 634586 3477741						Sterile Subsoil	Negative		0 to 40 40 to 50	10YR 7/4 7.5R 5/4	Coarse Sand Fine Sand	neg neg
7/29/2021	ST-SS-004-001	13 N 634282 3477649						Compact soils	Negative	Very compact silt with caliche streaking	0 to 40	5R 7/4	Silt	neg
7/29/2021	ST-SS-004-002	13 N 634428 3477753						Compact soils	Negative	Looser on top, quickly becoming very compact silt	0 to 55	5YR 7/4	Silt	neg
7/29/2021	ST-SS-004-003	13 N 634620 3477880						Compact soils	Negative	Caliche by 45 -50	0 to 50	5YR 7/4	Silt	neg
7/29/2021	ST-SS-004-004	13 N 634769 3477998						Compact soils	Negative	Fairly loose on top but quickly becoming very compact with caliche streaking.	0 to 45	5YR 7/6	Silt	neg
7/29/2021	ST-SS-004-005	13 N 634939 3478106						Compact soils	Negative	Right on W edge of an area capped with caliche, with very large discard pile of concrete chunks nearby.	0 to 45	5YR 7/6	Silt	neg
7/29/2021	ST-SS-004-006	13 N 635095 3478209						Compact soils	Negative	Very shallow before hitting caliche-streaked compact silt	0 to 30	5YR 7/6	Silt	neg
7/29/2021	ST-SS-004-007	13 N 635261 3478333						Sterile Subsoil	Negative	Lower lying area that apparently holds standing water occasionally. Surface white from caliche wash and cracked. Subsoil moist. Mosquitoes present. Considerable clay content starting around 60 cm.	0 to 75	5YR 6/6	Sandy Clay Loam	neg
7/29/2021	ST-SS-004-008	13 N 635429 3478447						Compact soils	Negative	Just east of very large ditch with numerous small frogs in dried up bottom. On this side of ditch ground may be scraped, disturbed. A small industrial operation of some sort located immediately adjacent.	0 to 45	5YR 7/4	Silt	neg
7/29/2021	ST-SS-006-001	13 N 635394 3478497						Sterile Subsoil	Negative	Near dirt road, area likely disturbed	0 to 25	5YR 6/6	Silt	neg
7/29/2021	ST-SS-006-002	13 N 635068 3478270						Compact soils	Negative		0 to 45	5YR 6/6	Silt	neg
7/29/2021	ST-SS-006-003	13 N 634733 3478045						Compact soils	Negative		0 to 45	5YR 6/6	Silt	neg
7/29/2021	ST-SS-006-004	13 N 634405 3477811						Compact soils	Negative		0 to 40	5YR 6/6	Silt	neg
7/29/2021	ST-SS-006-005	13 N 634170 3477640						Compact soils	Negative	Very shallow before hitting compact caliche-streaked silt	0 to 30	5YR 6/6	Silt	neg
7/29/2021	ST-SS-010-003	13 N 634674 3478138						Compact soils	Negative		0 to 50	5YR 6/6	Silt Loam	neg
7/29/2021	ST-SS-010-004	13 N 635007 3478366						Compact soils	Negative		0 to 45	5YR 6/6	Silt Loam	neg
7/29/2021	ST-SS-012-002	13 N 634969 3478409						Compact soils	Negative		0 to 45	5YR 6/6	Silt Loam	neg
7/29/2021	ST-SS-012-003	13 N 634637 3478191						Compact soils	Negative		0 to 45	5YR 6/6	Silt Loam	neg
7/29/2021	ST-SS-012-004	13 N 634303 3477963						Compact soils	Negative		0 to 45	5YR 6/6	Silt Loam	neg
7/29/2021	ST-SS-010-005	13 N 635329 3478596						Sterile Subsoil	Negative	East of deep ditch, exposed caliche on surface. Area retains water at times. Likely rather disturbed. Caliche streaking throughout.	0 to 45	5YR 6/4	Silt	neg
7/29/2021	ST-SS-012-001	13 N 635296 3478640						Sterile Subsoil	Negative	East of deep ditch, exposed caliche on surface. Area retains water at times. Likely rather disturbed. Caliche streaking throughout.	0 to 45	5YR 6/4	Silt	neg
7/30/2021	ST-SS-015-003	13 N 634675 3478314	Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. Heavily compacted, impenetrable silt at 40cmbs. Area predominantly gravel at surface. Desert Pavement.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-016-002	13 N 634816 3478455	Scrub	Scrub	40-50%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Eroded ground surface. Desert Pavement.	0 to 60 60 to 70	10YR 6/2 10YR 7/1	Silt Loam Silt	neg neg
7/30/2021	ST-SS-016-003	13 N 634485 3478227	Scrub	Scrub	40-50%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Eroded ground surface.	0 to 50 50 to 60	10YR 6/2 10YR 7/1	Silt Loam Silt	neg neg
7/30/2021	ST-SS-019-004	13 N 634933 3478642	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Adjacent to buried utility corridor, likely water line.	0 to 40 40 to 50	10YR 6/2 10YR 7/1	Silt Loam Silt Loam	neg neg
7/30/2021	ST-SS-022-001	13 N 635041 3478830	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-022-002	13 N 634714 3478602	Scrub	Scrub	70-80%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite.	0 to 60 60 to 70	7.5YR 5/6 10YR 6/2	Silt Loam Silt	neg neg
7/30/2021	ST-SS-022-003	13 N 634383 3478373	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite.	0 to 40 40 to 50	10YR 6/2 10YR 7/1	Silt Loam Silt Loam	neg neg
7/30/2021	ST-SS-022-004	13 N 634056 3478144	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-025-001	13 N 633845 3478105	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-025-002	13 N 634173 3478332	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-025-003	13 N 634503 3478560	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-025-004	13 N 634831 3478788	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-028-001	13 N 634939 3478976	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-028-002	13 N 634612 3478747	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-028-003	13 N 634281 3478521	Scrub	Scrub	80-90%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite and little ground cover vegetation. Impenetrable, compacted silt.	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-028-004	13 N 633959 3478282	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Adjacent to buried utility corridor, likely water line.	0 to 40 40 to 50	10YR 6/2 10YR 7/1	Silt Loam Silt Loam	neg neg
7/30/2021	ST-SS-031-001	13 N 633738 3478252	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Adjacent to berm.	0 to 40 40 to 50	10YR 6/2 10YR 7/1	Silt Loam Silt Loam	neg neg
7/30/2021	ST-SS-031-002	13 N 633965 3478407	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Compact soils	Negative	Relatively flat, sparse mesquite. No deposition. Compacted silt at base	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-031-003	13 N 634393 3478702	Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. No deposition. Compacted silt at base	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-034-001	13 N 634838 3479122	Industrial,Scrub	Scrub	90-100%	Industrial	76-99%	Compact soils	Negative	Relatively flat, sparse mesquite. No deposition. Compacted silt at base. 10m southeast of berm. Area pushed and graded.	0 to 30	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-034-002	13 N 634181 3478657	Industrial,Scrub	Scrub	90-100%	Industrial	76-99%	Compact soils	Negative	Relatively flat, sparse mesquite. No deposition. Compacted silt at base. 10m southeast of berm. Area pushed and graded.	0 to 30	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-034-003	13 N 633891 3478448	Industrial,Scrub	Scrub	90-100%	Industrial	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. No deposition. Compacted silt at base. 15m southeast of berm.	0 to 50 50 to 60	7.5YR 5/3 10YR 5/2	Silt Loam Silt Loam	neg neg
7/30/2021	ST-SS-099-001	13 N 634961 3478499	Industrial,Scrub	Scrub	90-100%	Industrial	76-99%	Compact soils	Negative	Excavated near surface building material	0 to 30	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-014-001	13 N 634193 3477949						Compact soils	Negative		0 to 50	5YR 7/6	Silt	neg
7/30/2021	ST-SS-014-002	13 N 634522 3478177						Compact soils	Negative	Caliche particularly strong on this one, starting about 40 cm.	0 to 50	5YR 7/6	Silt	neg
7/30/2021	ST-SS-014-003	13 N 634852 3478404						Compact soils	Negative		0 to 45	5YR 7/6	Silt	neg
7/30/2021	ST-SS-018-002	13 N 634782 3478506						Compact soils	Negative	Very heavy gravels on surface, shallow.	0 to 30	5YR 7/4	Silt	neg
7/30/2021	ST-SS-018-003	13 N 634451 3478276						Compact soils	Negative		0 to 50	5YR 7/4	Silt	neg
7/30/2021	ST-SS-018-004	13 N 634121 3478047						Compact soils	Negative	Some large gravels, up to about 10cm, rather shallow	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-021-001	13 N 633909 3478009						Compact soils	Negative		0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-021-002	13 N 634240 3478232						Compact soils	Negative		0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-021-003	13 N 634570 3478461						Compact soils	Negative	Offset slightly due to 2-track road. Fairly heavy gravels.	0 to 45	5YR 7/4	Silt	neg

7/30/2021	ST-SS-021-004	13 N 634897 3478690						Compact soils	Negative	Soil very dry and cloddy.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-024-001	13 N 635003 3478880						Compact soils	Negative		0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-024-002	13 N 634679 3478651						Compact soils	Negative		0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-024-003	13 N 634346 3478426						Compact soils	Negative	Soil very dry and cloddy	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-024-004	13 N 634018 3478193						Compact soils	Negative	Soil very dry. Abundant gravels on surface and throughout test. Definitel caliche at 45.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-026-001	13 N 633987 3478245						Compact soils	Negative	Soil very dry. Abundant gravels on surface and throughout test.Very shallow here.	0 to 30	5YR 7/4	Silt	neg
7/30/2021	ST-SS-026-002	13 N 634314 3478476						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-026-003	13 N 634643 3478701						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-026-004	13 N 634972 3478934						Compact soils	Negative	Soil very dry.	0 to 30	5YR 7/4	Silt	neg
7/30/2021	ST-SS-030-001	13 N 634901 3479030						Compact soils	Negative	Soil very dry.	0 to 50	5YR 7/4	Silt	neg
7/30/2021	ST-SS-030-002	13 N 634577 3478799						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-030-003	13 N 634244 3478569						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-030-004	13 N 633918 3478344						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-033-001	13 N 634034 3478527						Compact soils	Negative	Soil very dry.	0 to 45	5YR 7/4	Silt	neg
7/30/2021	ST-SS-033-002	13 N 634693 3478985						Compact soils	Negative	Soil very dry. This one went surprisingly deep before encountering caliche granules. Close to large ditch to N, approx. 45 m,	0 to 75	5YR 7/4	Silt	neg
7/30/2021	ST-SS-036-001	13 N 634460 3478943						Compact soils	Negative		0 to 55	5YR 7/4	Silt	neg
7/30/2021	ST-SS-036-002	13 N 633809 3478481						Compact soils	Negative	Lower lying area, surface clearly shallowly inundated at times with cracked, peeling soil. Soil moister and grading into denser clay with depth, but essentially uncaring in color.	0 to 70	5YR 7/4	Silty Clay Loam	neg
7/30/2021	ST-SS-014-004	13 N 635180 3478634						Compact soils	Negative	Lower lying area, white caliche wash on surface. Getting into moderately dense clay by 60cm.	0 to 60	5YR 5/6	Silt Loam	neg
7/30/2021	ST-SS-018-001	13 N 635109 3478732						Compact soils	Negative	Lower lying area, white caliche wash on surface. Getting into moderately dense clay by 60cm. Soil much drier here and breaking into small, hard granules about 1cm wide	0 to 60	5YR 5/6	Silt Loam	neg
7/30/2021	ST-BJ-020-020	13 N 634746 3478551						Sterile Subsoil	Negative	Heavily compacted bottom strat with caliche.	0 to 30 30 to 40	10YR 4/4 10YR 6/3	Loamy Sand Silty Clay Loam	neg neg
7/30/2021	ST-BJ-023-022	13 N 634865 3478740						Sterile Subsoil	Negative	Hard packed second strat.	0 to 10 10 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-023-023	13 N 634537 3478511						Sterile Subsoil	Negative	Hard packed second strat.	0 to 35 35 to 45	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-023-024	13 N 634207 3478284						Sterile Subsoil	Negative	Hard packed second strat.	0 to 10 10 to 35	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-023-025	13 N 633880 3478055						Sterile Subsoil	Negative	Hard packed second strat.	0 to 10 10 to 35	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-027-027	13 N 634136 3478380						Sterile Subsoil	Negative	Hard packed second strat.	0 to 10 10 to 35	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-027-028	13 N 634467 3478608						Sterile Subsoil	Negative	Compact strat 2.	0 to 20 20 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-027-029	13 N 634794 3478837						Sterile Subsoil	Negative	Compact strat two	0 to 20 20 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-029-030	13 N 634762 3478887						Sterile Subsoil	Negative	Compact strat two	0 to 20 20 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-029-031	13 N 634435 3478659						Sterile Subsoil	Negative	Compact strat two	0 to 20 20 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-029-032	13 N 634106 3478430						Sterile Subsoil	Negative	Compact strat two	0 to 30 30 to 40	10YR 5/4 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-031-031	13 N 634205 3478611						Sterile Subsoil	Negative	Compact strat two	0 to 20 20 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-031-032	13 N 634860 3479077						Sterile Subsoil	Negative	Compact strat two	0 to 15 30 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/31/2021	ST-SS-000-500	13 N 633922 3478308						Compact soils	Negative	Site 1	0 to 45	5YR 6/6	Silt	neg
7/31/2021	ST-SS-000-501	13 N 633955 3478295						Compact soils	Negative	Site 1.Very compact.	0 to 35	5YR 6/6	Silt	neg
7/31/2021	ST-SS-000-502	13 N 633968 3478327						Compact soils	Negative	Site 1.Very compact.	0 to 35	5YR 6/6	Silt	neg
7/31/2021	ST-SS-000-503	13 N 633886 3478276						Compact soils	Negative	Site 1	0 to 45	5YR 6/6	Silt	neg
7/31/2021	ST-SS-000-504	13 N 633829 3478304						Compact soils	Negative	Site 1. Soil moister and deeper directly alongside low berm.	0 to 65	5YR 6/6	Silt	neg
7/31/2021	ST-SS-000-505	13 N 633803 3478279						Compact soils	Negative	Site 1. Soil moister and deeper directly alongside low berm.	0 to 65	5YR 6/6	Silt	neg
7/29/2021	ST-BJ-002-001	13 N 634319 3477596						Max ST Depth	Negative	Within 5 m of berm. Surface disturbance present.	0 to 80	10YR 5/3	Sand	neg
7/29/2021	ST-SS-003-001	13 N 634223 3477563	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Heavily compacted 3rd strat.	0 to 16 16 to 48 48 to 63	7.5YR 6/3 7.5YR 5/4 7.5YR 7/1	Silt Loam Silt Silt	neg neg neg
7/29/2021	ST-SS-003-002	13 N 634383 3477679	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Heavily compacted 3rd strat. Paralleling berm.	0 to 20 20 to 50 50 to 60	7.5YR 6/3 7.5YR 5/4 7.5YR 7/1	Silt Loam Silt Silt	neg neg neg
7/29/2021	ST-SS-003-003	13 N 634551 3477796	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Heavily compacted 2nd strat. No apparent topsoil. Paralleling berm.	0 to 40 40 to 50	7.5YR 5/4 7.5YR 7/1	Silt Silt	neg neg
7/29/2021	ST-SS-003-004	13 N 634709 3477910	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Heavily compacted 2nd strat. No apparent topsoil. Paralleling berm.	0 to 40 40 to 50	7.5YR 5/4 7.5YR 7/1	Silt Silt	neg neg
7/29/2021	ST-SS-003-005	13 N 634878 3478021	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Appears to be on strat to 95 cmbs. Paralleling berm.	0 to 95	7.5YR 5/6	Silt	neg
7/29/2021	ST-SS-003-006	13 N 635041 3478135	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Area predominantly gravel at surface down to 15cmbs	0 to 15 15 to 54 54 to 60	10YR 6/2 7.5YR 5/2 7.5YR 4/3	Silt Silt Loam Silt	neg neg neg
7/29/2021	ST-SS-003-007	13 N 635206 3478247	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Appears to be on strat to 70 cmbs. Paralleling berm.	0 to 70 70 to 85	7.5YR 5/6 10YR 6/2	Silt Silty Clay Loam	neg neg
7/29/2021	ST-SS-003-008	13 N 635366 3478366	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Appears to be on strat to 70 cmbs. Paralleling berm.	0 to 70 70 to 85	7.5YR 5/6 10YR 6/2	Silt Silty Clay Loam	neg neg
7/29/2021	ST-SS-008-001	13 N 635363 3478550	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation.	0 to 60 60 to 75	7.5YR 5/6 10YR 6/2	Silt Silty Clay Loam	neg neg
7/29/2021	ST-SS-008-002	13 N 635034 3478317	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation.	0 to 30	7.5YR 5/6	Silt	neg
7/29/2021	ST-SS-008-003	13 N 634705 3478091	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation.	0 to 40 40 to 50	10YR 6/2 7.5YR 7/1	Silt Silt	neg neg
7/29/2021	ST-SS-008-004	13 N 634376 3477863	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation.	0 to 40	10YR 6/2	Silt	neg
7/29/2021	ST-SS-008-005	13 N 634137 3477687	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation.	0 to 60 60 to 70	7.5YR 5/6 10YR 6/2	Silt Silty Clay Loam	neg neg
7/29/2021	ST-SS-009-003	13 N 634858 3478225	Industrial	Scrub	70-80%	Grading	51-75%	Sterile Subsoil	Negative	Graded property relatively clear of vegetation. Adjacent to concrete irrigation channel.	0 to 50 50 to 60	7.5YR 5/6 10YR 6/2	Silt Silty Clay Loam	neg neg
7/29/2021	ST-SS-009-004	13 N 635185 3478458	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation. Adjacent to concrete irrigation channel.	0 to 50	7.5YR 5/6	Silt	neg
7/29/2021	ST-SS-011-001	13 N 635152 3478508	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation. Heavily compacted silt.	0 to 50	7.5YR 5/6	Silt	neg
7/29/2021	ST-SS-011-002	13 N 634821 3478280	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation. Heavily compacted silt. Caliche fragments near terminal depth.	0 to 50	7.5YR 5/6	Silt	neg
7/29/2021	ST-SS-011-003	13 N 634498 3478055	Industrial	Scrub	70-80%	Grading	51-75%	Compact soils	Negative	Graded property relatively clear of vegetation. Heavily compacted silt. Caliche fragments near terminal depth.	0 to 50	7.5YR 5/6	Silt	neg
7/29/2021	ST-BJ-002-002	13 N 634483 3477707						Sterile Subsoil	Negative	Offset to avoid berm. Hoban series soils. No horizon near 40.	0 to 40 40 to 50	10YR 5/3 10YR 7/4	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-BJ-002-003	13 N 634653 3477825						Sterile Subsoil	Negative	Offset to avoid berm. Calcification B horizon at 25 cmbs	0 to 25 25 to 35	10YR 5/4 10YR 7/3	Sand Sandy Clay Loam	neg neg
7/29/2021	ST-BJ-002-003	13 N 634811 3477936						Sterile Subsoil	Negative	Offset to avoid berm	0 to 20 20 to 35	10YR 5/4 10YR 7/3	Sandy Loam Sandy Clay Loam	neg neg
7/29/2021	ST-BJ-002-005	13 N 634978 3478051						Max ST Depth	Negative	Offset from berm. No soil change.	0 to 80	10YR 6/3	Sandy Loam	neg
7/29/2021	ST-BJ-002-006	13 N 635139 3478161						Sterile Subsoil	Negative	Offset to avoid berm. Soil likely disturbed. Be horizon at 60 cmbs.	0 to 60 60 to 70	10YR 6/3 10YR 7/3	Loamy Sand Sandy Clay Loam	neg neg
7/29/2021	ST-BJ-002-007	13 N 635309 3478285						Sterile Subsoil	Negative	Off set to avoid berm. Disturbed. Silty clay loam at surface. Eroded area.	0 to 35 35 to 45	10YR 5/3 10YR 7/3	Sandy Clay Loam Silt Loam	neg neg
7/29/2021	ST-BJ-002-008	13 N 635465 3478396						Heavy Disturbance	Negative	Near installed, unused gas line. Disturbed.	0 to 50	10YR 5/4	Silty Clay Loam	neg
7/29/2021	ST-BJ-007-009	13 N 635213 3478411						Max ST Depth	Negative		0 to 80	10YR 6/3	Silt Loam	neg
7/29/2021	ST-BJ-007-010	13 N 634890 3478179				Grading	Completely Destroyed	Max ST Depth	Negative	On man made berm potentially associated with nearby structure rubble. No cultural materials in STP.	0 to 80	10YR 7/4	Silt	neg
7/29/2021	ST-BJ-007-011	13 N 634557 3477952						Sterile Subsoil	Negative	Disturbed. Mixed soils. Gravel matrix at 45 cmbs.	0 to 45	10YR 5/3	Silt Loam	neg
7/29/2021	ST-BJ-009-013	13 N 634526 3477995						Caliche gravel impasse.	Negative	Within 10 m of trough and berm bisecting the property.	0 to 30	10YR 7/3	Silty Clay Loam	neg
7/30/2021	ST-SS-015-001	13 N 634016 3477858						Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Adjacent to structure	0 to 60 60 to 70	7.5YR 5/6 10YR 6/2	Silt Loam Silt	neg neg
7/30/2021	ST-SS-015-002	13 N 634343 3478085	Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. Heavily compacted, impenetrable silt at 40cmbs	0 to 40	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-015-004	13 N 635002 3478540	Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. Heavily compacted, impenetrable silt at 40cmbs	0 to 40	10YR 6/2	Silt Loam	neg

7/30/2021	ST-SS-016-001	13 N 635144 3478684	Scrub	Scrub	40-50%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. More ground cover vegetation.	0 to 60 60 to 70	7.5YR 5/6 10YR 6/2	Silt Loam Silt	neg neg
7/30/2021	ST-SS-016-004	13 N 634159 3477998	Scrub	Scrub	70-80%	Erosion	51-75%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite.	0 to 60 60 to 70	7.5YR 5/6 10YR 6/2	Silt Loam Silt	neg neg
7/30/2021	ST-SS-019-001	13 N 633947 3477960	Industrial,Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. Heavily compacted, impenetrable silt at 30cmbs. Adjacent to structure. Area graded. Push piles to northwest.	0 to 30	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-019-002	13 N 634273 3478183	Industrial,Scrub	Scrub	80-90%	Erosion	51-75%	Compact soils	Negative	Relatively flat, sparse mesquite. Heavily compacted, impenetrable silt at 30cmbs. Adjacent to partially cleared two track.	0 to 30	10YR 6/2	Silt Loam	neg
7/30/2021	ST-SS-019-003	13 N 634606 3478414	Scrub,Utility	Scrub	80-90%	Erosion	76-99%	Sterile Subsoil	Negative	Relatively flat, sparse mesquite. Adjacent to buried utility corridor, likely water line.	0 to 40 40 to 50	10YR 6/2 10YR 7/1	Silt Loam Silt Loam	neg neg
7/30/2021	ST-BJ-013-014	13 N 634377 3478032						Sterile Subsoil	Negative	Hoban soil series. Surface soil consistent with Bk horizon.	0 to 40	10YR 6/3	Silt Loam	neg
7/30/2021	ST-BJ-013-015	13 N 634709 3478266						Sterile Subsoil	Negative	Hoban soil series.	0 to 20 20 to 35	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-013-016	13 N 635033 3478489						Sterile Subsoil	Negative	Hoban soil series.	0 to 15 15 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-017-016	13 N 634641 3478364						Sterile Subsoil	Negative	Caliche present in soil. Very compact silt. Caliche gravels and cobbles (1-5 cm) on surface.	0 to 10 10 to 30	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-017-016	13 N 634968 3478595						Compact soils	Negative	Caliche present in soil. Very compact silt.	0 to 45	10YR 6/3	Silt Loam	neg
7/30/2021	ST-BJ-017-017	13 N 633982 3477908						Sterile Subsoil	Negative		0 to 40 40 to 50	7.5YR 5/4 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-020-018	13 N 634091 3478096						Sterile Subsoil	Negative		0 to 5 5 to 30	10YR 6/3 10YR 7/3	Silt Silty Clay Loam	neg neg
7/30/2021	ST-BJ-020-019	13 N 634418 3478320						Sterile Subsoil	Negative		0 to 5 5 to 40	10YR 6/3 10YR 7/3	Silt Silty Clay Loam	neg neg
7/30/2021	ST-BJ-020-021	13 N 635073 3478778						Sterile Subsoil	Negative	Heavily compacted bottom strat with caliche.	0 to 20 20 to 40	10YR 6/3 10YR 6/3	Loamy Sand Silty Clay Loam	neg neg
7/30/2021	ST-BJ-027-026	13 N 633806 3478146						Sterile Subsoil	Negative	Hard packed second strat.	0 to 10 10 to 35	10YR 6/3 10YR 7/3	Silt Loam Silty Clay Loam	neg neg
7/30/2021	ST-BJ-029-033	13 N 633779 3478202						Sterile Subsoil	Negative	Compact strat two	0 to 30 30 to 40	10YR 5/4 10YR 7/3	Silt Loam Silty Clay Loam	neg neg

Appendix B:

Isolated Find Log

Isolated Find	Historic/Prehistoric	Artifact Type	Artifact Count	Notes
SS50-1	Historic	Tobacco Can	1	Lid Marked "NET WT, 1 5/8 OZ"
SS99-6	Prehistoric	Lithic	1	Chert Debitage
BJ50-1	Historic	Metal Can	1	Metal Can
BJ20-1	Historic	Historic Scatter	4	Metal Cans mixed with modern material including reflective road markers and ceramic road dots
BJ50-3	Historic	Tobacco Can	1	Rusted Tobacco Tin
BJ50-2	Historic	Miscellaneous Metal	1	Fuel Can
BJ99-2	Prehistoric	Lithic	1	Chert Debitage
SJ99-2	Prehistoric	Lithic	1	Chert Debitage
SJ99-3	Prehistoric	Lithic	1	White Chert Debitage
SJ99-1	Historic	Miscellaneous Metal	1	Metal Coupling
SS33-15	Prehistoric	Lithic	1	Secondary Chert Debitage
SS26-10	Historic	Miscellaneous Metal	1	Fuel Can
SS15-3	Prehistoric	Lithic	1	Chert Debitage
SS15-2	Prehistoric	Lithic	1	Chert Debitage
SJ25-5	Prehistoric	Lithic	1	Quartzite Debitage
BJ23-2	Not Cultural	Not Cultural	NA	Battered Stone
SS18-9	Prehistoric	Lithic	1	Chert Debitage
SS14-8	Prehistoric	Lithic	1	Quartzite Debitage
SS14-7	Prehistoric	Lithic	1	Chert Debitage
SS14-6	Historic	Miscellaneous Metal	1	Unknown Metal
SS14-5	Prehistoric	Lithic	1	Tertiary Chert Debitage
SS14-4	Prehistoric	Lithic	1	Secondary Chert Debitage
SS14-3	Prehistoric	Lithic	1	Secondary Chert Debitage
SS12-2	Historic	Horseshoe	1	Marked with Diamond Brand on Back
SS4-1	Prehistoric	Lithic	1	Secondary Chert Debitage
SS12-1	Historic	Horseshoe	1	Horseshoe

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Archaeological Survey Correspondence

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April 23, 2021

Mr. Drew Sitters
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711
Drew.Sitters@thc.texas.gov

Ms. Pamela Opiela
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711
pamela.opiela@thc.texas.gov

Ms. Eva Osborne
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711
Eva.osborne@thc.texas.gov

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Mr. Sitters, Ms. Opiela, and Ms. Osborne:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility, called the WST Permian Landfill, in north-central Reeves County. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408.

The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill. The disposal footprint will be approximately 192 acres. A total of 12 landfill cells are planned; each will be approximately 390 feet wide by 960 feet long (see enclosed drawings). The maximum excavation depth will be 30 feet. Nothing will be demolished as part of the project's construction.

This letter is being sent to the Texas Historical Commission (THC) to request a project review per 30 TAC 330.61(o). The TCEQ requires that the MSW landfill application include the locations of all archaeological sites, historical sites, and sites with aesthetic quality adjacent to the facility, as well as a Texas Historical Commission review letter documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. A THC request for

State Historic Preservation Officer (SHPO) consultation form has been included with this letter (Attachment 1). The proposed project does not have federal involvement, and is on private property.

The proposed facility is located within the Pecos River Basin, which is a tributary of the Rio Grande. There are no major surface water features located in the vicinity of the site; however, numerous ditches and canals flow through the vicinity and carry surface drainage toward the Pecos River, which is located approximately 6 miles east of the proposed facility location. Reeves County is located in the southwestern portion of the broad structural Permian Basin that is present in much of west Texas, eastern New Mexico, and parts of Oklahoma and Kansas. The geologic formations exposed in Reeves County range in age from the Pecos Valley alluvium of Quaternary and Tertiary age to the Rustler formation of late Permian age. The Natural Resources Conservation Service (NRCS) completed a custom soils report in August 2014, which identified five soil units at the project site, including Hoban silty clay loam, Hodgins silty clay loam, Orla clay loam, Reeves clay loam, and Upton gravelly loam.

We have included a general location map (Figure 1) that shows the location of the proposed facility. A topographic map is also provided (Figure 2). The GIS topography coverage used in Figure 2 is the "USGS National Map," which matches the U.S. Geological Survey (USGS) 7.5-minute GeoPDFs. Pecos West is the USGS 7.5-minute quadrangle map that includes the project area. There is one structure on the property, a barn. Three aerial photograph figures are also provided. Figure 3 shows the property, proposed landfill cells, and barn location. Figure 4 zooms in on the area around the barn in the same 2020 image, while Figure 5 shows the same area in April 1969. The barn's construction date is unknown; however, the structure is visible on a 1969 aerial photograph, so it is at least 52 years old. This barn will not be disturbed by the proposed project. Attachment 2 includes a series of photographs taken on the subject property, and the photograph locations and directions are noted on Figure 2.

The area of potential effects (APE) is defined as the geographic area where an undertaking may directly or indirectly cause alterations in the character or use of historic properties. Records on file with the Texas Historic Sites Atlas for Reeves County were reviewed. There were 39 records; none of the associated sites are located in the vicinity of the proposed project. No historic properties have been identified near the subject property; therefore, no alterations in the character or use of historic properties are anticipated to result from the proposed project. To be conservative, an APE of 1 mile has been set around the subject property, as shown on Figure 3.

Per 30 TAC 39.501, public notice of the landfill permit application is required. Once the application has been turned in, TCEQ will mail notice to the state senator and state representative for the area where the facility will be located (Districts 19 and 74, respectively). Once TCEQ determines that the application is administratively complete, notice of receipt of application and intent to obtain permit will be published in the Texas Register, and will be mailed to the county judge and health authority for Reeves County. Public notice will be filed in a newspaper published in the county, and letters will be mailed to the owners of all property located within

¼ mile. A public meeting and/or public hearing may be held depending on the public interest and the comments TCEQ receives on the application. Letters are also being mailed to the Federal Aviation Administration (FAA) and Pecos Municipal Airport, Permian Basin Regional Planning Commission, Texas Department of Transportation, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

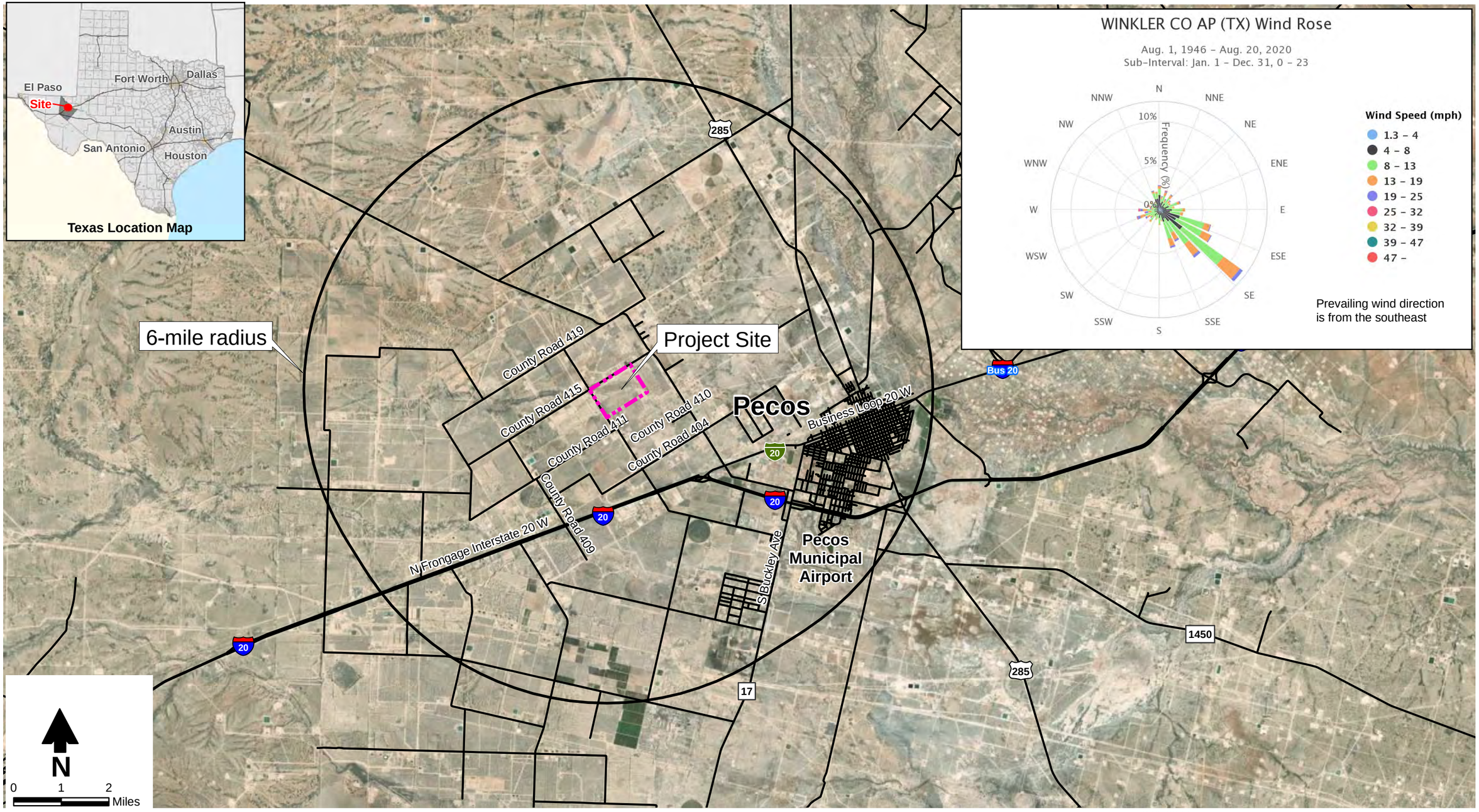
Gundar Peterson, P.E.
Vice President

AE/rpf
Attachments

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Figures

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Explanation

Site

Texas Department of Transportation road

Image source: Maxar, 3/26/2020
Road source: Texas Department of Transportation (http://gis-txdot.opendata.arcgis.com/)
Wind data: Midwestern Regional Climate Center (MRCC) (https://mrcc.illinois.edu/CLIMATE/)

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\F01_GENERAL LOCATION MAP_6MI_BUFFER.MXD

Daniel B. Stephens & Associates, Inc.
8/25/2020 JN DB20.1166

WEST SUN TEX PERMIT APPLICATION

General Location Map

Figure 1



x Photo 2, South

x Photo 1, East

Photo 8, North x

x Photo 3, North and Photo 4, West

x Photo 7, Southwest

Photo 6, North x

x Photo 5, East

TEXAS

CO RD 416
CO RD 415
CO RD 405
CO RD 419
CO RD 415
HOG RD
CO RD 408
CO RD 404
RANCH RD 2119
CO RD 411
BUS 20
EVERGREEN DR
WESTERN AVE

N

0 1000 2000 Feet

Explanation

Site

Image source: Esri, et al., 2020

Pecos West is the USGS 7.5 minute quadrangle map that includes the project area.

WEST SUN TEX PERMIT APPLICATION

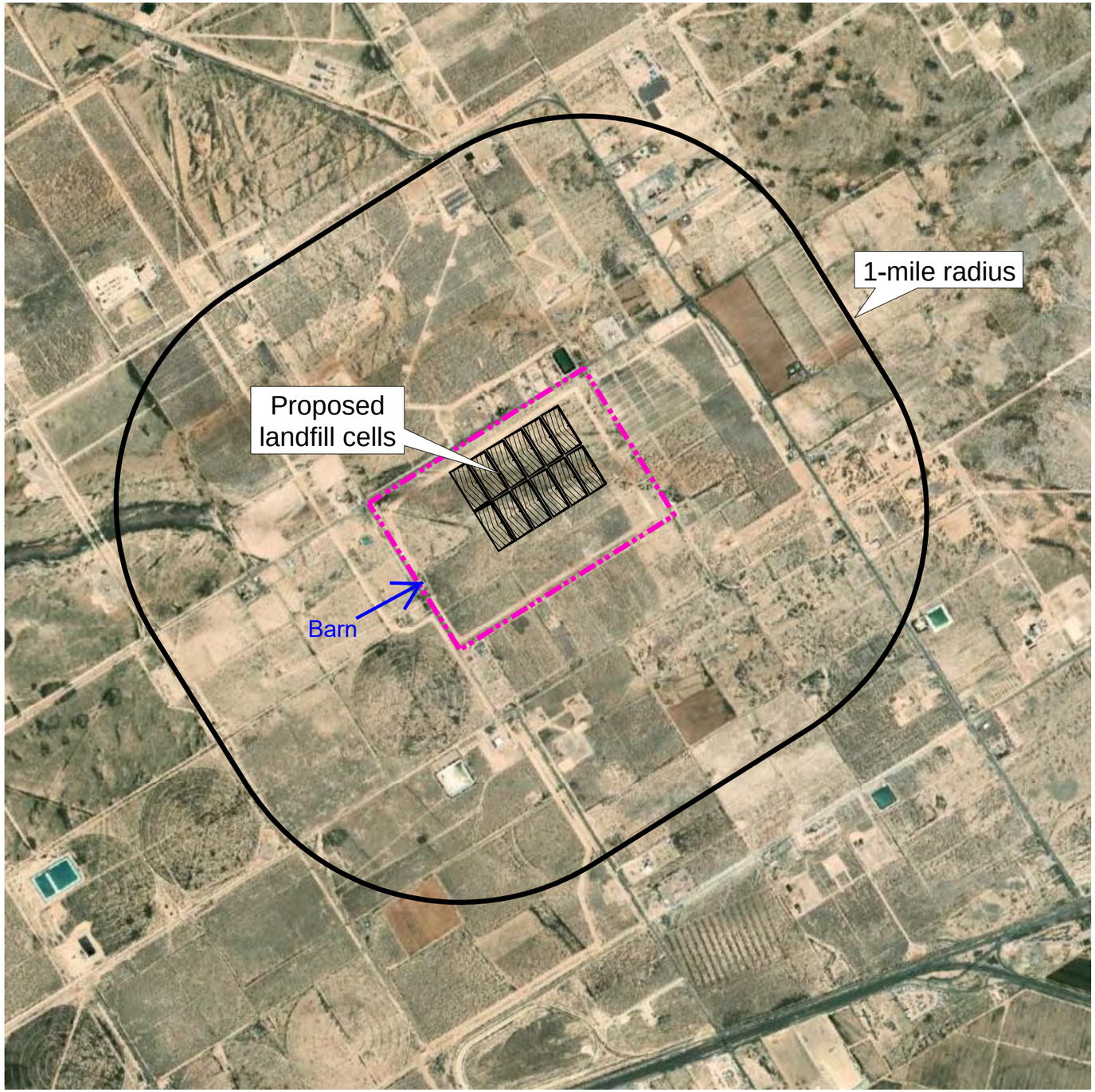
Topographic Map

Figure 2

Daniel B. Stephens & Associates, Inc.

8/25/2020 JN DB20.1166

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\F02_TOPOGRAPHIC_MAP.MXD



The area of potential effect (APE) has been set as within 1-mile of the property.

N

0 1200 2400
Feet

Explanation

Site location

Image source: Maxar, 3/26/2020

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\F04_AERIAL_PHOTOGRAPHY.MXD

Daniel B. Stephens & Associates, Inc.
8/28/2020 JN DB20.1166

WEST SUN TEX PERMIT APPLICATION
Aerial Photography

Figure 3



Image source: Maxar, 3/26/2020

WEST SUN TEX PERMIT APPLICATION

March 26, 2020 Aerial Photography

Daniel B. Stephens & Associates, Inc.

3/3/2021 JN DB20.1166

Figure 4

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\HISTORICAL_AERIAL_PHOTOGRAPHY.MXD

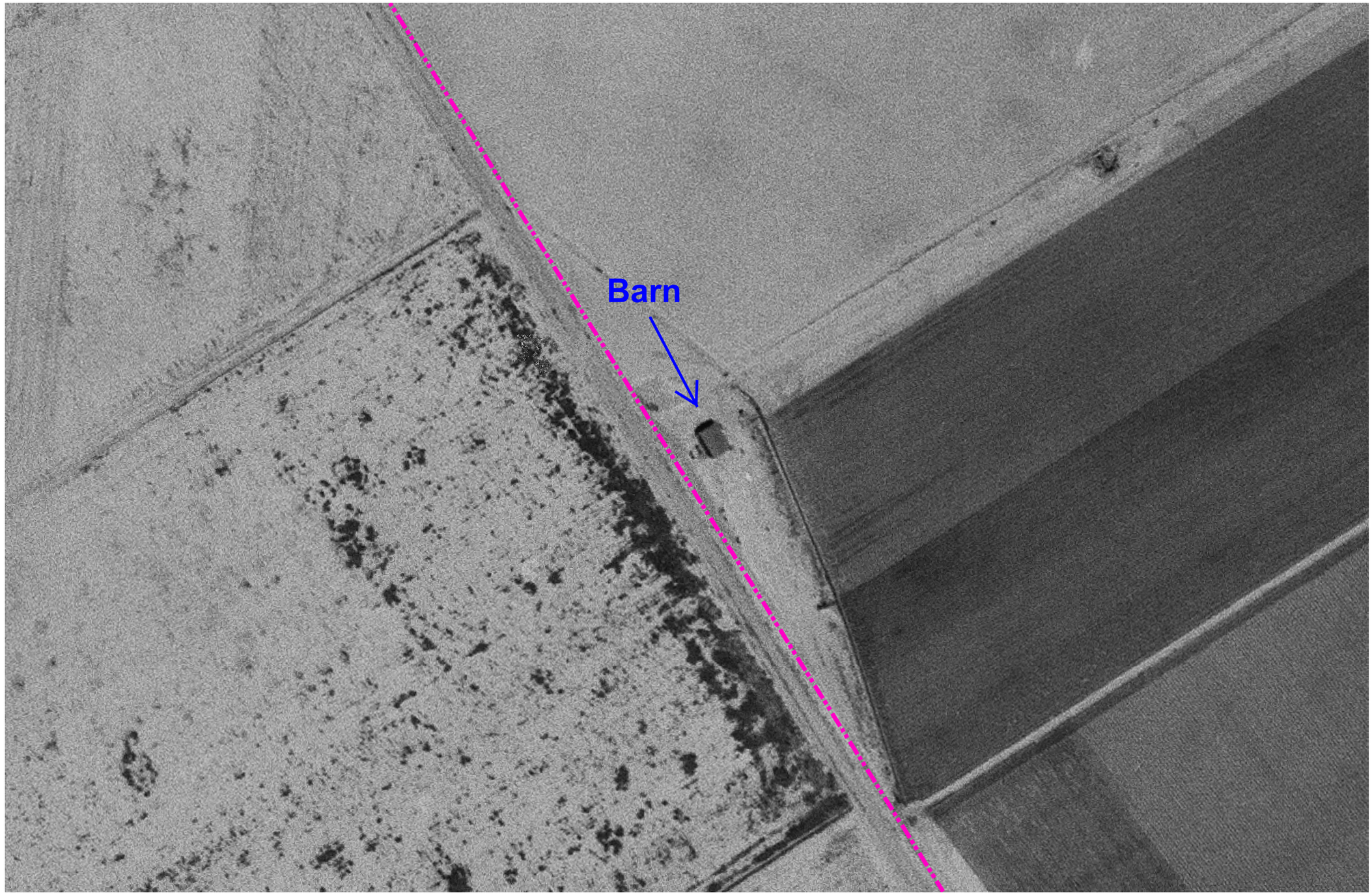


Image source: Maxar, 3/26/2020

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\MXDS\HISTORICAL_AERIAL_PHOTOGRAPHY.MXD

Daniel B. Stephens & Associates, Inc.
3/3/2021
JN DB20.1166

WEST SUN TEX PERMIT APPLICATION
April 22, 1969 Aerial Photography

Figure 5

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Attachment 1

SHPO Consultation Request Form

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TEXAS HISTORICAL COMMISSION

REQUEST FOR SHPO CONSULTATION:
Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

Please see instructions for completing this form and additional information on Section 106 and Antiquities Code consultation on the Texas Historical Commission website at http://www.thc.state.tx.us/crm/crmsend.shtml.

☒ This is a new submission.

☐ This is additional information relating to THC tracking number(s): _____

Project Information

PROJECT NAME
WST Permian Landfill

PROJECT ADDRESS	PROJECT CITY	PROJECT ZIP CODE(S)
E, NE, and SE of the intersection of CR 408 and CR 415	**Pecos**	**79772**

PROJECT COUNTY OR COUNTIES
Reeves

PROJECT TYPE (Check all that apply)

- ☐ Road/Highway Construction or Improvement
- ☒ Site Excavation
- ☐ Utilities and Infrastructure
- ☒ New Construction
- ☐ Repair, Rehabilitation, or Renovation of Structure(s)
- ☐ Addition to Existing Structure(s)
- ☐ Demolition or Relocation of Existing Structure(s)
- ☐ None of these

BRIEF PROJECT DESCRIPTION: Please explain the project in one or two sentences. More details should be included as an attachment to this form.
A new Type I municipal solid waste facility is proposed, approximately 5 miles west-northwest of Pecos, Texas. TCEQ requires that the landfill permit application include the location of all archaeological sites, historical sites, and sites with aesthetic quality adjacent to the facility, as well as a THC review letter documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. The project does not have federal involvement, and is on private property.

Project Contact Information

PROJECT CONTACT NAME	TITLE	ORGANIZATION	
Gundar Peterson, P.E.	**Vice President**	**DBS&A**	
ADDRESS	CITY	STATE	ZIP CODE
6020 Academy Rd. NE, Suite 100	**Albuquerque**	**NM**	**87109**
PHONE	EMAIL		
(505) 822-9400	**gpeterson@geo-logic.com**		

Federal Involvement (Section 106 of the National Historic Preservation Act)

Does this project involve approval, funding, permit, or license from a federal agency?

☒ Yes (Please complete this section) ☐ No (Skip to next section)

FEDERAL AGENCY	FEDERAL PROGRAM, FUNDING, OR PERMIT TYPE
Please see project description above re: required review.	
CONTACT PERSON	PHONE
ADDRESS	EMAIL

State Involvement (Antiquities Code of Texas)

Does this project occur on land or property owned by the State of Texas or a political subdivision of the state?

☒ Yes (Please complete this section) ☐ No (Skip to next section)

CURRENT OR FUTURE OWNER OF THE PUBLIC LAND
Please see project description above re: required review.

CONTACT PERSON	PHONE
ADDRESS	EMAIL

Identification of Historic Properties: Archeology

Does this project involve ground-disturbing activity?

☑ Yes (Please complete this section) ☐ No (Skip to next section)

Describe the nature of the ground-disturbing activity, including but not limited to depth, width, and length.

The disposal footprint will be approximately 192 acres. A total of 12 landfill cells are planned; each will be approximately 390 feet wide by 960 feet long. The maximum excavation depth will be 30 feet.

Describe the previous and current land use, conditions, and disturbances.

An oil and gas disposal facility has been permitted on this property by the Railroad Commission of Texas, but no site improvements have been made. Except for a barn, lay-down yard, and water filling station, the site is undeveloped. The property's previous use was for irrigated agriculture, but it has been out of cultivation for over 20 years.

Identification of Historic Properties: Structures

Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that are 45 years of age or older?

☑ Yes (Please complete this section) ☐ No (Skip to next section)

Is the project area or area of potential effects within or adjacent to a property or district that is listed in or eligible for listing in the National Register of Historic Places?

☐ Yes, name of property or district: ☐ No ☑ Unknown

In the space below or as an attachment, describe each building, structure, or landscape feature within the project area or area of potential effect that is 45 years of age or older.

ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
Please see photos of barn and cover letter for description	**Pre-1969**	**1969 aerial photograph**
ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE
ADDRESS	DATE OF CONSTRUCTION	SOURCE FOR CONSTRUCTION DATE

Attachments

Please see detailed instructions regarding attachments.

Include the following with each submission:

☑ Project Work Description
☑ Maps
☑ Identification of Historic Properties
☑ Photographs

For Section 106 reviews only, also include:

☐ Consulting Parties/Public Notification
☐ Area of Potential Effects
☐ Determination of Eligibility
☐ Determination of Effect

Submit completed form and attachments to the address below. Faxes and email are not acceptable.

Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276, Austin, TX 78711-2276 (mail service)
108 W. 16th Street, Austin, TX 78701 (courier service)

For SHPO Use Only

Attachment 2

Photographs

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1. View to east from water fill station, southeast corner of CR 408-CR 415 intersection



2. View to south from CR 415 at eastern property boundary



3. View to north from southeast corner of the property



4. View to west from southeast corner of the property



5. View to east from CR 408 near southern property boundary



6. View to north along CR 408, with corrugated-clad pole barn and fenced laydown yard in middle distance



7. Close-up of the barn (view to southwest)



8. View to north from water filling station pull-off on CR 408, southeast corner of CR 408-CR 415 intersection

From: Peterson, Gundar
To: Ewing, Amy
Subject: Fwd: Section 106 Submission
Date: Monday, May 17, 2021 8:06:51 AM

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Monday, May 17, 2021 8:05 AM
To: Peterson, Gundar; reviews@thc.state.tx.us; jcmcmillon@tceq.texas.gov
Subject: Section 106 Submission



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202108741
Date: 05/17/2021
West Sun Tex Permian Landfill
E, NE and SE of intersection of CR 408 and CR 415
Pecos,TX 79772

Description: proposed new Type I municipal solid waste facility

Dear Client:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the Executive Director of the Texas Historical Commission (THC), pursuant to review under the Antiquities Code of Texas.

The review staff, led by Caitlin Brashear, Drew Sitters, 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

- An archeological survey is required. You may obtain lists of archeologists in Texas through the Council of Texas Archeologists and the Register of Professional Archaeologists. Please note that other qualified archeologists not included on these lists may be used. If this work will occur on land owned or controlled by a state agency or political subdivision of the state, a Texas Antiquities Permit must be obtained from this

office prior to initiation of fieldwork. All fieldwork should meet the Archeological Survey Standards for Texas. A report of investigations is required and should be produced in conformance with the Secretary of the Interior's Guidelines for Archaeology and Historic Preservation and submitted to this office for review. Reports for a Texas Antiquities Permit should also meet the Council of Texas Archeologists Guidelines for Cultural Resources Management Reports and the Texas Administrative Code. In addition, any buildings 45 years old or older that are located on or adjacent to the tract should be documented with photographs and included in the report. To facilitate review and make project information available through the Texas Archeological Sites Atlas, we appreciate emailing survey area shapefiles to archeological_projects@thc.texas.gov concurrently with submission of the draft report. Please note that this is required for projects conducted under a Texas Antiquities Permit.

We have the following comments: While no archeological sites have been recorded within the footprint of the proposed West Sun Tex Permian Landfill, it has never been surveyed by a professional archeologist. In 1953, the northern two-thirds of the area of potential effect (APE) was devoid of any major ground disturbances. However, by 1969 the entire APE had been developed for irrigated agricultural land use. Despite disturbances associated with plowing (0-30 centimeters below the ground surface [cm bs]), the dominant soil type within the APE, Hoban silty clay loam, is characterized by an A-horizon, where most archeological sites are found, that extends to a depth of at least 46 cm bs. Coupled with a natural drainage that runs through the APE, which may have attracted (pre)historic occupation, the potential for buried, unrecorded archeological sites within the APE is believed to be moderate to high. Furthermore, the irrigation features present within the APE are at least 50 years in age and considered historic. Therefore, a cultural resource survey is warranted prior to breaking ground.

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: caitlin.brashear@thc.texas.gov, drew.sitters@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: jcmcmillon@tceq.texas.gov

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Seraj, Farnaz

From: Jayne, Kelly
Sent: Tuesday, May 28, 2024 10:48 AM
To: Seraj, Farnaz
Subject: FW: [EXTERNAL] RE: West Sun Tex Permian Landfill
Attachments: THC Confirmation for Final Report Submission.pdf; Reeves Final Report Transmittal.odt; [EXTERNAL] Project Review under the Antiquities Code of Texas: Permit #30240

From: Haefner, Josh <jhaefner@trccompanies.com>
Sent: Friday, May 24, 2024 3:44 PM
To: Jayne, Kelly <kjayne@geo-logic.com>
Subject: RE: [EXTERNAL] RE: West Sun Tex Permian Landfill

Hi Kelly,

Attached is the email from THC confirming final report, transmission letter of revised submission to THC and confirmation from THC of permit obligations are complete. Will this work for your needs?

Josh Haefner

TRC
505 E Huntland Drive, Suite 250, Austin, TX 78752
C 512-608-0369| jhaefner@trccompanies.com
TRCcompanies.com

From: Jayne, Kelly <kjayne@geo-logic.com>
Sent: Friday, May 24, 2024 3:08 PM
To: Haefner, Josh <jhaefner@trccompanies.com>
Subject: FW: [EXTERNAL] RE: West Sun Tex Permian Landfill

This is an **External** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

Hi Josh,

I sent this email to Polly and it was returned to me, so I called the main office and they said you would be the best person to reach out to. If you could help me with this piece of documentation I would appreciate it!

Thanks,
Kelly

From: Jayne, Kelly
Sent: Friday, May 24, 2024 12:08 PM
To: PAClark@trccompanies.com
Subject: FW: [EXTERNAL] RE: West Sun Tex Permian Landfill

Hi Polly,

A few years ago TRC completed an archeological survey report for a proposed new landfill near Pecos, TX on behalf of DBS&A. At the time, TRC primarily corresponded with Amy Ewing. I am taking over the WST permit application from Amy and I am trying to pull together all of our documentation for our permit application. I found this email you sent to Amy with the concurrence letter from THC. I also found an email where you sent Amy the final report addressing THC's comments (referenced in the attached document).

I was wondering if in your records you have a cover letter/email/online form submission acknowledgement demonstrating that you provided the revised report to THC and any response from them regarding that submittal? I know it has been a few years, so I apologize for asking you to dig back in your files, just trying to button up our documentation of regulator communication. If it helps, the report TRC provided for this project was numbered TRC Technical Report No. 445400

If you have any questions, feel free to email or call my cell at 505.688.4201

Thanks for any help you can provide.
Kelly

From: Peterson, Gundar <gpeterson@geo-logic.com>
Sent: Friday, May 24, 2024 10:42 AM
To: Jayne, Kelly <kjayne@geo-logic.com>
Subject: Fw: [EXTERNAL] RE: West Sun Tex Permian Landfill

From: Ewing, Amy <aewing@geo-logic.com>
Sent: Wednesday, December 29, 2021 10:01 AM
To: Clark, Pollyanna <PAClark@trccompanies.com>
Cc: Haefner, Josh <JHaefner@trccompanies.com>; Peterson, Gundar <gpeterson@geo-logic.com>; Johnson, Benjamin <BJohnson@trccompanies.com>; Sarich, Steven <SSarich@trccompanies.com>
Subject: Re: [EXTERNAL] RE: West Sun Tex Permian Landfill

Thank you very much!

Happy New Year!

Amy

> On Dec 29, 2021, at 10:56 AM, Clark, Pollyanna <PAClark@trccompanies.com> wrote:
>
> Hi Amy,

Please find attached the concurrence letter for the Reeves County landfill project. The project may proceed. We are addressing the minor comments and will upload the final report to the THC. We will also send you a copy of the final report.

Happy New Year!

Polly

Pollyanna Clark, M.A.
Cultural Team Lead/ Principal Investigator

505 E. Huntland Drive, Ste 250, Austin, TX 78752

C 512.230.3515 | **F** 512.329.8750 | paclark@trccompanies.com

LinkedIn | Twitter | Blog | TRCcompanies.com

From: Johnson, Benjamin <BJohnson@trccompanies.com>
Sent: Tuesday, December 28, 2021 7:44 AM
To: Ewing, Amy <aewing@geo-logic.com>
Cc: Clark, Pollyanna <PAClark@trccompanies.com>; Haefner, Josh <JHaefner@trccompanies.com>; Peterson, Gundar <gpeterson@geo-logic.com>
Subject: RE: [EXTERNAL] RE: West Sun Tex Permian Landfill

Amy,

That should do the trick!

Thank you,

Benjamin Johnson
Field Archaeologist

505 E. Huntland Drive, Ste 250, Austin, TX 78752

C 512.987.6291 | **F** 512.329.8750 | bjohnson@trccompanies.com

LinkedIn | Twitter | Blog | TRCcompanies.com

From: Ewing, Amy <aewing@geo-logic.com>
Sent: Monday, December 27, 2021 3:49 PM
To: Johnson, Benjamin <BJohnson@trccompanies.com>
Cc: Clark, Pollyanna <PAClark@trccompanies.com>; Haefner, Josh <JHaefner@trccompanies.com>; Peterson, Gundar <gpeterson@geo-logic.com>
Subject: [EXTERNAL] RE: West Sun Tex Permian Landfill

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

Benjamin,

Please see attached and let me know if you need anything else.

Thanks,

Amy

Amy Ewing, P.G.

Hydrogeologist

Daniel B. Stephens & Associates, Inc.

a Geo-Logic Company

6020 Academy Road NE, Suite 100

Albuquerque, New Mexico 87109

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From: Johnson, Benjamin <BJohnson@trccompanies.com>
Sent: Thursday, December 23, 2021 10:19 AM
To: Ewing, Amy <aewing@geo-logic.com>
Cc: Clark, Pollyanna <PAClark@trccompanies.com>; Haefner, Josh <JHaefner@trccompanies.com>
Subject: West Sun Tex Permian Landfill

Hi Amy,

In order for us to fulfill our curation requirements for the West Sun Tex Permian Landfill project, we need for our project sponsor to sign a letter of transfer for us. I have attached the form to this email. Would you be able to have this form signed and returned to us? If you have any questions or concerns, please feel free to contact me.

Thank you,

Benjamin Johnson
Field Archaeologist

505 E. Huntland Drive, Ste 250, Austin, TX 78752

C 512.987.6291 | **F** 512.329.8750 | bjohnson@trccompanies.com

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TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

P.O. Box 12276
Austin, Texas 78711-2276
512-463-6100
thc.texas.gov

December 29, 2021

Josh Haefner
Principal Investigator
TRC Environmental Corporation
505 East Huntland Drive, Suite 250
Austin, TX 78752

Re: Project review under the Antiquities Code of Texas: *Archeological Survey of the Proposed West Sun Tex Permian Landfill in Reeves County, Texas.* (TAC Permit No. 30240; THC Tracking No. 202204151)

Dear Mr. Haefner:

Thank you for allowing us to review the revised draft report. This letter serves as comment from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC). As the state agency responsible for administering the Antiquities Code of Texas, these comments also provide recommendations on compliance with state antiquities laws and regulations.

The archeological review staff, led by Drew Sitters, has completed its review of the draft report referenced above. After reviewing the documentation, we concur with your recommendation that site **41RV231** is **ineligible for inclusion in the National Register of Historic Places (NRHP) or for designation as a State Antiquities Landmark (SAL)**. The site lacks chronometric data potential, such as diagnostic tools or charred organic remains. Thus, without a temporal framework the site cannot empirically address research questions. Furthermore, the spatial integrity has been adversely impacted by contemporary land use (e.g., decades of plowing). These disturbances can result in a comingling of discrete occupations. Therefore, the surficial component cannot be confidently associated with one or multiple occupations. Moreover, a lack of intact features coupled with the dispersal of artifacts across the site area limits the potential to establish spatial association, such as hearth-centered activity areas. Finally, subsurface testing failed to identify buried cultural components. As a result, the site lacks research potential, limiting its ability to contribute to a better understanding of the Trans-Pecos archaeological region of Texas.

We also agree that site **41RV232**, a historic-age irrigation feature, is **ineligible for inclusion in the NRHP or for designation as a SAL within the right-of-way**.

While we concur that no additional cultural resource investigations are warranted and that the Project may proceed with respect to the Antiquities Code of Texas, we request that the attached comments be addressed in the final report.

We look forward to further consultation with your office and hope to maintain a partnership that will foster historic preservation. Thank you for your cooperation in this state review process and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please contact **Drew Sitters** at **Drew.Sitters@thc.texas.gov**, or **(512) 463-6252**.

Sincerely,

For
Mark Wolfe
State Historic Preservation Officer
MW/ds

GREG ABBOTT, GOVERNOR | JOHN L. NAU, III, CHAIR | MARK WOLFE, EXECUTIVE DIRECTOR

Editorial

- Please remove the comment by Pollyanna Clark on Page i.
- Please address the formatting error found at the bottom of Page 14.

Substantive

- In the Cultural History section of the report, please include a description of the region's Historic Period with an emphasis on the history of irrigation and farming in Reeves County.
- Please update Figures 6-1 through 6-4 to show 41RV232's boundary.
- Please include a separate site write-up for 41RV232.
    - The site write-up should include photographs of the irrigation feature, a description of its construction (e.g., material, dimensions, etc.), and a site map.
- Since the irrigation feature recorded as 41RV232 extends outside of the Project Area, please note that the eligibility recommendation is for that portion of the site within the right-of-way.
- In the Conclusions and Recommendations, please include a statement regarding unanticipated discoveries.

Sarich, Steven

From: NoResponse@thc.state.tx.us
Sent: Friday, January 7, 2022 5:06 PM
To: Sarich, Steven
Subject: [EXTERNAL] Project Review Submission

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

Thank you for submitting project: Archeological Survey of the Proposed West Sun Tex Permian Landfill in Reeves County, Texas

Tracking Number: 202205358

Due Date: 4/7/2022 12:00:00 AM

TEXAS HISTORICAL COMMISSION

Jayne, Kelly

From: noreply@thc.texas.gov
Sent: Thursday, July 14, 2022 2:33 PM
To: Haefner, Josh
Subject: [EXTERNAL] Project Review under the Antiquities Code of Texas: Permit #30240

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ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

Project review under the Antiquities Code of Texas
Final Report: Proposed Solid Waste Facility near Pecos, Reeves County, Texas
Texas Antiquities Permit #30240
COMPLETED PERMIT

Dear Colleague:

Thank you for your correspondence describing the above referenced project. This letter presents the comments of the Executive Director of the Texas Historical Commission, the state agency responsible for administering the Antiquities Code of Texas.

The Archeology Division is in receipt of one bound and one unbound paper final report, a completed Abstracts in Texas Contract Archeology online form, a shape file of the project area surveyed, a curation form, and complete and redacted tagged PDF copies of the final report for the above referenced permit. The submission of the above items demonstrates completion of your permit requirements under Permit #30240.

Thank you for your cooperation in this state review process, and for your efforts to preserve the irreplaceable heritage of Texas.If you have any questions concerning our review or if we can be of further assistance, please call Laney Fischer at 512/463-5394.

Sincerely,

Brad Jones
Archeology Division Director

Please do not respond to this email.

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Biological Evaluation

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Biological Evaluation
WST Landfill
Pecos, Texas

Prepared for

West Sun Tex, LLC
Southlake, Texas

Prepared by

DBS&A
a Geo-Logic Company

6020 Academy NE, Suite 100
Albuquerque, New Mexico 87109
www.dbstephens.com
DB20.1166

January 5, 2022
(Revised March 2024)

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Table of Contents

1. Introduction 1
2. Project Description 2
   2.1 Background 2
   2.2 Project Description 2
3. Environmental Baseline 2
   3.1 Pre-Survey 2
   3.2 Survey 3
   3.3 Soils and Topography 4
   3.4 Groundwater 4
   3.5 Surface Water 4
   3.6 Wetlands 5
   3.7 Vegetation Communities 6
   3.8 Noxious Weeds 7
   3.9 Wildlife 7
      3.9.1 Invertebrates 8
      3.9.2 Fish 8
      3.9.3 Amphibians and Reptiles 8
      3.9.4 Birds 8
      3.9.5 Mammals 8
4. Species/Critical Habitat Considered 9
   4.1 Federal Threatened and Endangered Species 9
      4.1.1 Northern Aplomado Falcon 10
      4.1.2 Monarch Butterfly 11
   4.2 State-Listed Rare Species 12
5. Effects Analysis 13
   5.1 Northern Aplomado Falcon 13
   5.2 Monarch Butterfly 13
   5.3 Wildlife and State-Listed, Rare Species 14
   5.4 Plants 15
   5.5 Cumulative Effects Analysis 15
6. Conservation Measures 15
7. Conclusions 17

8. Contacts Made....18
9. Preparers....18
References....19

List of Figures

1 Location Map
2 Topographic Map
3 Biological Survey Map
4 Vegetation Map
5 Soils Map
6 Texas Natural Diversity Data

List of Tables

1 Plants Observed During Biological Survey
2 Fauna Observed During Biological Survey
3 Federally Listed Species Included in the Analysis and Likelihood of Occurrence in the Project Area
4 State-Listed Species Identified for Project Area and Potential Impacts

List of Appendices

A TPWD Coordination Response Letter
B USFWS IPaC Report
C TPWD Annotated County List of Rare Species
D Photographs
E Texas Natural Diversity Database Species Occurrence List

1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this biological evaluation (BE) to assess the potential impacts of the proposed West Sun Tex, LLC (WST) Landfill Project (Proposed Action) on state and federal protected natural resources. The Proposed Action property (Project Area) is located approximately 5 miles west-northwest of Pecos in Reeves County, Texas, at the intersection of County Road (CR) 408 and CR 415 (Figures 1 and 2). The site latitude and longitude are 31.432400 and –103.585408. The Proposed Action is to construct a Type I municipal solid waste (MSW) landfill. The Project Area has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas (RRC); however, WST is now proposing to permit half of the 440-acre property as an MSW landfill.

As part of the application process, a request for coordination was submitted to the Texas Parks and Wildlife Department (TPWD) for the Proposed Action. The response from the TPWD is included in Appendix A; its recommendations are incorporated throughout this document as needed, but primarily in Sections 5 and 6.

There is no federal nexus for the Proposed Action, as no federal agencies are involved in permitting or funding it. Also, none of the Project Area is on federal lands. Thus, Section 7(a)(1) of the Endangered Species Act (ESA), which directs all federal agencies to carry out programs for the conservation of threatened and endangered species, is not applicable here. Under Section 9 of the ESA, however, it is stipulated that no one, public or private, can "take" an endangered species of fish or wildlife. "Take" has been broadly defined to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect." This BE documents the potential effects of the Proposed Action on federally listed endangered and threatened species that have the potential to occur in the Project Area, together with critical habitat for any of these species. This BE also documents the potential impacts of the Proposed Action on state threatened or endangered species as listed for Reeves County (TPWD, 2021d). In addition, this document incorporates and/or addresses comments provided by the TPWD (Project #46529) on June 3, 2021 regarding the Proposed Action (Appendix A).

2. Project Description

2.1 Background

The Proposed Action encompasses approximately 440 acres of land owned by WST. The Project Area has been permitted as an oil and gas waste disposal facility by the RRC. WST is proposing to permit half of WST's 440-acre property as an MSW landfill. The Proposed Action was determined to be the entire 440 acres (Figure 3).

2.2 Project Description

The Proposed Action is to construct a Type I MSW facility. A total of 12 landfill cells, each approximately 390 feet wide by 960 feet long, would be constructed in the northeastern portion of the subject property, for a total disposal footprint of approximately 192 acres.

The ground disturbance footprint within the Project Area is assumed to be 440 acres, and would encompass access roads and related MSW facility infrastructure. The subject property currently contains several two-track dirt roads across the site, most of which would be used for access. Existing disturbed and flat areas would be used for construction staging of all equipment and materials.

The schedule for implementation of the Proposed Action has not yet been determined.

3. Environmental Baseline

3.1 Pre-Survey

Prior to the biological field surveys of the proposed Project Area, a request for data regarding threatened and endangered species was submitted to the U.S. Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (IPaC). Based on the IPaC report provided by the USFWS (USFWS, 2021a) (Appendix B), research was then conducted on special-status species that could potentially occur in the area; other relevant documents were reviewed to determine the locations and types of biological resources that have the potential to exist within the Project Area. The USFWS National Wetland Inventory (USFWS, 2021b) was queried for wetland habitats in the Project Area. Maps were accessed of the area showing habitat types within the Project Area with climate, plant and animal species, and physiographic data reviewed for comparison to

field conditions (Brown, 1987; Desmond, 2006; TPWD, 2021c; Elliott, 2016; Texas Almanac, 2021; Griffith et al., 2004). Figure 4 shows the Project Area with the Texas Ecological Systems vegetation type layers (TPWD, 2021c).

The TPWD annotated county lists of rare species (including state-listed species) was accessed for Reeves County (TPWD, 2021b) (Appendix C). The TPWD's response to the project application was reviewed before the survey to help focus on species of concern that may occur within or near the Project Area (TPWD, 2021a). Based on the information generated by the National Wetlands Inventory mapper (USFWS, 2021b), a map was generated showing the proximity of wetlands to the Project Area (Figure 4). Soils of the Project Area were also reviewed prior to the field survey through the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) online mapper (NRCS, 2021) (Figure 5). In addition, potential noxious weed lists for Texas were reviewed (TDA, 2021).

3.2 Survey

On September 16, 2021, two DBS&A biologists conducted a 100 percent pedestrian survey for mapping and documentation of natural resources in the Project Area (Figure 3). The survey was conducted for the Proposed Action encompassing 440 acres. The survey was conducted from 8:45 a.m. to 2:15 p.m. and later from 5:00 p.m. to 8:00 p.m., for a total of 8.5 hours. The later part of the survey was intended to increase the likelihood of detection of crepuscular species. Fieldwork consisted of the following specific tasks:

- Documentation and mapping of noxious weed infestations.
- A general botanical survey with an inventory of important or sensitive plant species or plant communities (e.g., milkweed colonies).
- Documentation of all fauna (including reptiles such as Texas horned lizard [*Phrynosoma cornutum*] and statutory migratory birds and raptors) encountered during fieldwork and/or indirect evidence (e.g., nests, tracks) for the presence of wildlife.
- Evaluation of habitat types to determine the potential for special-status species to occur locally.

Photographs taken during the field survey are provided in Appendix D.

3.3 Soils and Topography

The Project Area is within the basins and playas beyond the Pecos River Valley, located approximately 5 miles to the east. The Project Area is at an elevation of approximately 2,650 feet above mean sea level (feet msl), with very gradual sloping to the east. A natural swale drains across the site from the west-northwest corner to the east. The area soils are primarily silty clay, with some areas composed of a clay loam (USDA, 2021a). The soils are found on loamy, desert grassland with slopes from zero to 2 percent. Parent materials are comprised of calcareous loamy alluvium (classified as Hoban silty clay), fine-silty alluvium derived from sedimentary rock (Hodgens silty clay loam, found within the swale), or saline loamy lacustrine deposits (Orla clay loam, found adjacent to the swale). There are a few areas around the Project Area that are a loamy clay with a parent material composed of loamy alluvium over residuum weathered from gypsum (Reeves clay loam). The Hodgins silty clay soil is classified as farmland of statewide importance if irrigated.

Past farming activities have impacted much of the area, leading to altered flow patterns due to irrigation ditches, and disturbed vegetation and soils. Much of the site has either recovered from previous farming efforts or was not disturbed other than by irrigation ditch construction.

3.4 Groundwater

Groundwater levels in monitor wells installed for the Proposed Action indicate that the depth to groundwater ranges from 67 to 82 feet below the site. Regional groundwater flow is to the southeast toward the Pecos River.

3.5 Surface Water

There are no surface waters shown on the USGS topographic map for the area (USGS, 1971 and 2010). There are straight, dashed blue lines shown on the USGS topographic map indicating that irrigation ditches cross the Project Area. Also shown on the map are two wells, one of which is at the northwestern end of an irrigation ditch. No surface water was observed during the survey within or near the Project Area. There is an ephemeral drainage swale that historically drained from the northwestern corner of the Project Area to the east. Google Earth imagery appears to show this swale as a natural drainage that has been altered across the Project Area by the construction of cement irrigation ditches at some point in the past. Those irrigation ditches were observed during the survey. Not only were they not in use; they were deteriorated to the point that they can no longer carry water. Site observations during the

survey indicated that any stormwater runoff would cross the Project Area as sheet flow, with some areas containing blocked passage by the former irrigation ditch network such that some water may pool unnaturally after a storm. The survey was conducted after seasonal rains had occurred and the surface runoff patterns were clear with no surface stormwater remaining on the site. No perennial surface water is located in the Project Area.

3.6 Wetlands

The USFWS Wetland Mapper (USFWS, 2021b) showed a drainage ditch crossing the Project Area coded as "R5UBFx." The USFWS wetland code description for R5UBFx is a riverine system that is contained within a channel, unknown perennial (lower, upper, or data not available), unconsolidated bottom and excavated by humans. The wetlands classification is shown on Figure 4.

Based on desktop research prior to the field survey and survey observations, no formal wetlands delineation was conducted. The Project Area was evaluated in the field for signs of wetlands, observing conditions for wetlands vegetation, hydrologic conditions and soils. Observed ground conditions may not always agree with the USFWS Wetlands Mapper. The swale was observed to generally cross the Project Area from the west-northwest corner to the east. As described above, the natural drainage pattern of the swale has been altered by irrigation ditches that are no longer in use. The ditches have deteriorated such that they do not carry water and, in some areas, may block any natural flow path. The swale was shallow, varied in width from approximately 50 to 150 feet, and contained no surface water. Vegetation in the swale was observed to be denser than outside of the swale, but no evidence of perennial water or pooling was observed. No wetland vegetation was observed. The USDA wetland plant list was accessed to verify that none of the vegetation observed was a wetland obligate (almost always found in wetlands), facultative wetland (usually but not always found in wetlands), or facultative (found in wetlands and non-wetlands). One species, honey mesquite (*Prosopis glandulosa*), was observed within and near the swale. The honey mesquite is classified as a facultative upland (FACU) species, or a nonhydrophyte species that usually occurs outside of wetlands, but may also be found in wetlands. No other species identified during the survey are classified in the USDA list (USDA, 2021) except for annual sunflower (*Helianthus annuus*), also classified as a FACU species, observed in the roadway bar ditch along the western boundary of the Project Area. The region as a whole therefore appeared to be consistent with the USFWS Wetlands Mapper classification. Soils within the Project Area were observed to be a silty loam to silty clay loam within the swale

and sandy loam beyond. No soils associated with wetlands were observed within the Project Area.

According to the regulatory guidance letter issued by the U.S. Army Corps of Engineers (USACE) for identifying the ordinary high water mark (OHWM), the USACE determines, on a case-by-case basis, the extent of geographic jurisdiction for the purpose of administering its regulatory program. Regarding the Clean Water Act (CWA) Section 404, the lateral limits of jurisdiction over non-tidal water bodies extend to the OHWM in the absence of adjacent wetlands. USACE regulations define the term "ordinary high water mark" for purposes of the CWA lateral jurisdiction at 33 CFR 328.3(e), which states:

> The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

There was no clear, natural line impressed on a bank, no shelving, no change in the character of soil other than a slightly increased clay texture in soils of the swale, and no destruction of terrestrial vegetation or presence of litter and debris in the swale. The presence of an OHWM was therefore not observed during the survey in any part of the Project Area.

3.7 Vegetation Communities

The general vegetation communities that were present historically have likely been altered due to human disturbance from the installation of a concrete irrigation ditch system and associated crop fields. During the survey, however, it appeared that not all of the 440 acres had been replaced by agricultural fields, as some areas, primarily in the south, appeared to be relatively undisturbed, with the exception of irrigation ditches and farm roads. The north/northeast appeared to be highly disturbed; this was likely from previous farming activity, as vegetation was locally sparse, even following rains that had triggered vegetative growth elsewhere. Vegetation density was higher primarily within the swale that crosses the Project Area. The dominant species across the Project Area were grasses, primarily gyp grama (*Bouteloua breviseta*) and alkali sacaton (*Sporobolus airoides*). The ecological systems classification as outlined in the TPWD mapping appeared to be generally accurate, with slight inaccuracies of the ecosystem boundaries as they were observed during the survey (TPWD, 2021c) (Figure 4).

The primary vegetation community across the Project Area is Trans-Pecos: Loamy Plains Grassland. This grassland occupies "level, deep loams of intermountain basins and is frequently invaded by *Prosopis glandulosa* (honey mesquite), *Larrea tridentata* (creosotebush), and *Flourensia cernua* (tarbush)" (Elliott, 2014:85). The second most prominent vegetative community is Native Invasive: Mesquite - Creosotebush Shrubland. This community is described as "Invasive shrublands dominated by *Prosopis glandulosa* (honey mesquite) and/or Larrea tridentata (creosotebush). Other species such as *Flourensia cernua* (tarbush), *Parthenium incanum* (mariola), *Acacia constricta* (whitethorn acacia), and *Atriplex canescens* (four-wing saltbush) are commonly encountered" (Elliott, 2014:179). There were some patches of land classified as Row Crops and defined as "[including] all cropland where fields are fallow for some portion of the year. Some fields may rotate into and out of cultivation frequently, and year-round cover crops are generally mapped as grassland" (Elliott, 2014:176). Finally, a small area located along a portion of the swale is classified as Trans-Pecos: Desert Wash Shrubland and described as "Shrub dominated desert drainages sometimes with a sporadic emergent overstory of scattered trees" (Elliott, 2014:127).

A list of plants recorded during the biological survey is provided in Table 1. No plants on the USFWS (Appendix B) or TPWD (Appendix C) lists of sensitive species were observed during the site survey.

3.8 Noxious Weeds

The Texas Department of Agriculture (TDA) noxious weed list was reviewed to determine the current status of, and the potential for, noxious weeds to be present in the Project Area (TDA, 2021). No noxious weeds were observed during the biological survey on September 16, 2021.

3.9 Wildlife

The Project Area harbors species adapted to arid environments, as well as the noise and disturbance associated with proximity to scattered residences and industrial development in the area. Table 2 lists all of the species recorded during the September 16, 2021 biological survey.

The following subsections describe species observed either during the field survey or known to be locally present.

3.9.1 Invertebrates

Invertebrates were abundant during the site survey, likely due to recent seasonal rains. Among the invertebrates documented in large numbers during the survey were the rainbow grasshopper (*Dactylotum bicolor*), white-lined sphinx moth caterpillar (*Hyles lineata*), black swallowtail (*Papilio polyxenes*), desert harvester ant (*Pogonomyrmex rugosus*), black and red blister beetle (*Megetra cancellata*), pinacate beetle ("stinkbug") (*Eleodes* sp.), and desert termite (*Gnathamitermes tubiformans*).

3.9.2 Fish

There are no surface waters (and therefore no fish) within the Project Area.

3.9.3 Amphibians and Reptiles

No amphibians were recorded, but lizards were common throughout the Project Area, including the roundtail horned lizard (*Phrynosoma modestum*), and the common side-blotched lizard (*Uta stansburiana*). Three roundtail horned lizards, a species of greatest conservation need, were observed in the same location in the northeastern portion of the Project Area. While no Texas horned lizards (*Phrynosoma cornutum*), also a species of greatest conservation need, were observed directly, numerous desert harvester ant (*Pogonomyrmex rugosus*) colonies, a major food source for horned lizards, were observed throughout the Project Area. Only one snake species was observed in the Project Area: the western coachwhip snake (*Masticophis flagellum testaceus*).

3.9.4 Birds

Birds documented during the survey included numerous mourning doves (*Zenaida macroura*), along with smaller numbers of Cassin's sparrow (*Peucaea cassinii*), lesser goldfinch (*Spinus psaltria*), and, during the early evening survey, scaled quail (*Callipepla squamata*). A barn owl (*Tyto alba*) was observed flying out of a hole in the roof of the metal building located at the west-central boundary of the property. An inactive bird nest was observed in a mesquite tree in the east-central portion of the Project Area.

3.9.5 Mammals

Among mammals, rodents were commonly detected through observations of their burrows. Some of those rodents appeared to be kangaroo rats (*Dipodomys* sp.) and pocket gophers (*Geomys* sp.). Rodent burrows were commonly observed along the abandoned irrigation ditches

and within the area of the swale that crosses the property. A large burrow assumed to belong to an American badger (*Taxidea taxus berlandieri*) was also observed in the area of the swale in the northern portion of the site. Desert cottontail (*Sylvilagus audubonii*) were observed in the Project Area and multiple woodrat (*Neotoma* sp.) nests were observed both in the area of the swale and in some debris that was in a human-disturbed area. Coyote (*Canis latrans*) scat was observed and horse (*Equus caballus*) tracks were documented along a dirt two-track paralleling the project boundary on the west. A domestic (or feral) pig (*Sus domesticus*) skull was found in the northeastern portion of the Project Area.

4. Species/Critical Habitat Considered

This section evaluates the potential for listed species to occur in the Project Area and be affected by the Proposed Action. For federally listed species, the IPaC planning tool from the USFWS (Austin, Texas) was used as the basis of the analysis (USFWS, 2021a) (Appendix B). The state rare species list was obtained for Reeves County from the TPWD (TPWD, 2021b) (Appendix C). In addition, the Texas Natural Diversity Database (TNDD) was contacted for data on species of concern documented both in the Project Area and on the USGS quadrangle map for Pecos West to assist with the evaluation. The response from the TNDD included an Occurrence List for Quads Surrounding the Project Area (Appendix E) and shape file data that are included in Figure 6. No species occurrences are located within the Project Area.

Table 3 lists the federally listed species identified in the IPaC report for the Project Area. Table 4 includes the special-status species (SGCN and Texas State-Ranked species) for Reeves County and their potential for occurrence within the Project Area. The following subsections summarize the results of these queries.

4.1 Federal Threatened and Endangered Species

The IPaC report obtained for this project lists a total of 12 species. Of these, 11 are federal threatened or endangered species, with none of them having designated or proposed critical habitat in the Project Area; 1 additional species is a candidate for federal listing (USFWS, 2021a) (Appendix B).

Of the 12 species, 2 have the potential to occur in the Project Area: (1) the northern aplomado falcon (*Falco femoralis septentrionalis*), listed as endangered, and (2) the monarch butterfly (*Danaus plexippus*), a federal candidate species (i.e., a species that is not yet listed or proposed

for listing as a threatened or endangered species). Table 3 contains habitat descriptions for all 12 federal listed, proposed, or candidate species and a determination on their potential for occurrence in the Project Area. The following subsections provide detailed descriptions of the northern aplomado falcon and the monarch butterfly.

4.1.1 Northern Aplomado Falcon

The northern aplomado falcon was listed as endangered on February 25, 1986, and is listed as endangered in Texas. This colorful, long-winged, long-tailed raptor was once common in dry grasslands of the southwestern U.S. The main reason for its population decline and subsequent listing has been the loss of grassland habitat to farms, towns, intense overgrazing, and other land uses.

The Peregrine Fund and the USFWS began an aplomado falcon reintroduction program in 1985 to augment falcon populations in the northern Chihuahuan Desert (Peregrine Fund, 2021). More than 1,500 captive-raised falcons have been released through the program, resulting in a breeding population once again occurring in the U.S. The reintroduction program has been successful in Texas, but populations are still in decline in other parts of the species range in northern Mexico.

In Texas, aplomado falcons are found in the South Texas and Trans-Pecos regions (TPWD, 2021b). Their geographical distribution extends south to the southern tip of South America. In the U.S., they were found along yucca-covered sand ridges in coastal prairies, riparian woodlands in open grasslands, and desert grasslands with scattered mesquite and yucca. The amount of grass cover at occupied falcon sites varies, but is estimated to be around 40 percent, with an overall vegetation ground cover between 30 and 70 percent. Woody density is estimated to be typically less than 300 plants per hectare at nest sites (Cartron, 2010). Characterization of nesting habitat has been extrapolated from known nesting sites in Chihuahua, Mexico; the areas thought to be suitable habitat for nesting consist of open tobosa (*Pleuraphis mutica*) swale within a desert grassland/shrubland mosaic (Cartron, 2010). Aplomado falcons do not build their own nests, but take over old or even freshly constructed nests of other raptors such as red-tailed hawk (*Buteo jamaicensis*) and Swainson's hawk (*B. swainsoni*), or of corvids such as Chihuahuan raven (*Corvus cryptoleucus*).

There have been research-grade sightings of the northern aplomado falcon southeast and southwest of the Project Area. The location of the nearest sighting is approximately 50 miles southeast of the Project Area. The location of the other sighting is approximately 69 miles

southwest of the Project Area (iNaturalist, 2021). The Project Area contains Chihuahuan desert grassland with scattered shrubs and denser shrub vegetation along the swale that crosses the area from the north/northwest to the east. The swale contained mesquite trees (*Prosopis glandulosa*) and a very low density of soapweed yucca (*Yucca elata*). The Project Area has no nesting habitat in the form of tabosa swales, but the potential exists for the aplomado falcon to occur within the Project Area as a rare transient.

4.1.2 Monarch Butterfly

The monarch butterfly is considered a candidate for listing under the federal ESA. On December 15, 2020, the USFWS announced that listing the monarch butterfly as endangered or threatened is warranted, but precluded by higher-priority listing actions. There are generally no ESA requirements for candidate species, although the USFWS encourages any opportunity to conserve the species by taking it into consideration during project planning.

Known for its long-distance seasonal migrations, this large butterfly is distributed globally, having spread from North America and South America to other continents where milkweed species (the monarch's larval host plants) are present. In North America, there have been approximately 31 historical populations; of these, 27 are extant and 4 have unknown status. A total of 2 migratory populations remain, and data show that both are facing declining numbers and overall health (USFWS, 2020).

The primary drivers affecting the health of the two North American migratory populations are (1) loss and degradation of habitat (from conversion of grasslands to agriculture), (2) widespread use of herbicides, (3) logging/thinning at overwintering sites in Mexico, (4) incompatible management of overwintering sites, (5) urban development, and (6) drought.

There are two important migration routes in Texas for the monarch butterfly. Monarchs migrate through Texas both in the fall and the spring. During the fall, monarchs use two principal flyways. One is a 300-mile-wide path stretching from Wichita Falls to Eagle Pass. The second flyway is situated along the Texas coast. In spring, monarchs pass through Texas from Mexico, heading north and seeking emerging milkweed species on which to lay eggs (TPWD, 2021b).

The Project Area is outside of the fall migration route of the monarch butterfly. Monarch butterflies move through Texas during spring migration seeking milkweed species. While there are flowering plant species in the Project Area for foraging, no milkweed species were observed during the site survey for the butterfly to lay eggs on. There would therefore be a low potential for the monarch butterfly to occur within the Project Area.

4.2 State-Listed Rare Species

The list of Reeves County's state rare species was obtained from the TPWD (Appendix C), and was also reviewed as part of this evaluation (Table 4). It consists of 12 plants, 9 reptiles, 5 mollusks, 21 mammals, 3 insects, 6 fish, 1 crustacean, 10 birds, and 1 amphibian, for a total of 68 species. Table 4 provides habitat descriptions for these species—including 6 that are also federally listed—as well as the likelihood of their local occurrence and an assessment of the potential impacts from the Proposed Action.

One species, the roundtail horned lizard, a species of greatest conservation need, was observed within the Project Area. Other state-listed rare species, while not detected, nonetheless have the potential to occur within the Project Area. They include the following:

- *Amphibians:* Woodhouse's toad (*Anaxyrus woodhousii*)
- *Reptiles:* Texas horned lizard (*Phrynosoma cornutum*), western box turtle (*Terrapene ornata*) (low potential), western hog-nosed snake (*Heterodon nasicus*) (low potential), western rattlesnake (*Crotalus viridis*), gray-checkered whiptail lizard (*Aspidoscelis dixoni*), and longnosed leopard lizard (*Gambelia wislizenii*)
- *Mammals:* Kit fox (*Vulpes macrotis*) (low potential) and pronghorn (*Antilocapra americana*) (low potential)
- *Insects:* American bumblebee (*Bombus pensylvanicus*)
- *Birds:* Western burrowing owl (*Athene cunicularia hypugaea*), mountain plover (*Charadrius montanus*) (low potential), lark bunting (*Calamospiza melanocorys*) (low potential and only during the non-breeding season), and chestnut-collared larkspur (*Calcarius ornatus*) (also during the non-breeding season)
- *Plants:* Night-blooming cereus (*Peniocereus greggii* var. *greggii*)

Table 1 provides a list of all plant species observed during the biological survey. No plant species of concern were observed during the biological survey on September 16, 2021.

5. Effects Analysis

5.1 Northern Aplomado Falcon

Northern aplomado falcons have been documented in Reeves County, with the nearest location to the Project Area located approximately 50 miles to the southeast. The location of the other documented sighting is approximately 69 miles to the southwest of the Project Area (iNaturalist, 2021). No nesting habitat for the falcon was observed during the site survey. There is a potential for the northern aplomado falcon to occur in the Project Area, but only as a rare transient passing through. As such, any effect on the aplomado falcon, temporary (construction noise) or permanent (increased noise and road traffic from operation of the landfill, some loss of grassland), would be insignificant, especially as no nesting habitat is present and reseeding of native grasses would occur in all disturbed areas that are not used for the landfill facility.

No formal effect determination is provided in this BE, as there is no federal nexus for the Proposed Action and Section 7 consultation is not required. On the basis of the above analysis, the implementation of the Proposed Action will not violate any provisions of the ESA including under Section 9. This was confirmed by the U.S. Fish and Wildlife Service Austin Ecological Services Field Office when outreach was conducted on July 21, 2022. The agency responded that the Service does not provide written correspondence on non-Federal projects (Appendix A). This determination requires written concurrence from the USFWS.

5.2 Monarch Butterfly

There is a low potential for monarch butterflies to occur within the Project Area during spring migration. No effect determination is necessary for a candidate species. However, the USFWS encourages any opportunities for conservation of the species by taking it into consideration during project planning. In its review of the proposed project, the TPWD provided the following specific recommendations to promote conservation of the species in the Project Area (Appendix A):

> Incorporating pollinator conservation and management into the revegetation and maintenance plan for this project, such as promoting growth of native flowering species throughout the growing season. TPWD recommends revegetation efforts include planting or seeding native milkweed (*Asclepias* spp.) and nectar plants as funding and seed availability allow.
>
> Avoiding planting the non-native milkweed species black swallow-wort (*Cynanchum louiseae*) and pale swallow-wort (*C. rossicum*). Monarch butterflies will lay eggs on these plant species, but the

larvae are unable to feed and complete their life cycle. Additionally, these plant species can be highly invasive. TPWD also advises against planting the non-native tropical milkweed (*Asclepias curassavica*), a popular commercial nursery milkweed that can persist year-round in southern states. The year-round persistence of tropical milkweed fosters greater transmission of the protozoan *Ophryocystis elektroscirrha* (OE), increasing the likelihood that monarchs become infected with the debilitating parasite.

5.3 Wildlife and State-Listed, Rare Species

Wildlife observations during the biological survey are listed in Table 2 and state-listed, rare species for Reeves County are described and evaluated in Table 4. Out of the 68 rare species listed by the TPWD for Reeves County (Appendix C), a total of 15 may occur, or are even known to occur in the Project Area.

Short-term direct impacts to wildlife in the Project Area would include noise and ground disturbance during construction. Construction activities would likely result in the direct loss of some smaller, less-mobile species of wildlife, such as small mammals and reptiles, and displacement of more mobile species to adjacent undisturbed habitats. Potential nesting locations would be eliminated. The most common wildlife responses to noise and the presence of construction equipment and human presence are avoidance or accommodation. Avoidance would result in displacement of animals from an area larger than the actual disturbance area. The impacts of noise and disturbance from construction would be direct but short term.

With conservation measures in place, negligible short-term impacts during construction to wildlife would be anticipated.

Long-term, direct impacts to wildlife in the Project Area would include loss of habitat from the landfill cells, noise from operation of the landfill facility, and increased lighting. Additionally, there would be an increase in traffic from solid waste being delivered to the facility, potentially leading to an increase in direct mortality from vehicle collisions. It would be anticipated that the long-term direct impact to wildlife would be detrimental but negligible because most wildlife would be able to avoid the area and relocate to other, nearby habitat. The region currently contains fragmented habitat, as there is industrial, agricultural, and rural residential development in close proximity to the Project Area, mixed with scattered tracts of vacant and undeveloped land. It would be anticipated that species that have adapted to this type of fragmented habitat or smaller species would relocate to other surrounding lands, and that species that are sensitive to developed areas would be present only as casual or transient

occurrences. Therefore, long-term detrimental impacts would be negligible to wildlife, including Texas-listed rare species that are known to or have the potential to occur in the Project Area.

5.4 Plants

One federally endangered plant species and no threatened plant species are listed in the area of the Proposed Action within Reeves County. The federally listed Pecos sunflower (*Helianthus paradoxus*) has very restricted habitat, and was determined to not occur within or near the Project Area. Of the 12 state-listed plants for Reeves County, 1—the night-blooming cereus (*Peniocereus greggii* var. *greggii*)—was determined to have a low potential to occur within the Project Area. The night-blooming cereus is listed as a species of greatest conservation need and is state-ranked as imperiled for Reeves County. The Project Area has only marginal habitat for the night-blooming cereus due to the soil type (Table 4). The biological survey focused especially on areas of shrubs, and the species was not observed. The Proposed Action would therefore have negligible to no impact on the desert night-blooming cereus.

No other state-listed plant species were determined to have the potential to occur in the Project Area.

5.5 Cumulative Effects Analysis

As defined under the ESA, "cumulative effects" encompass only effects of future state or private activities reasonably certain to occur within the Project Area. After completion of the Proposed Action, planned future actions may include activities conducted by others. There are no known future activities beyond the Proposed Action that would be expected to impact local plants and wildlife. No additional actions by WST are planned and no cumulative effects to any listed resources are anticipated.

6. Conservation Measures

Conservation measures for the Proposed Action are provided by the TPWD (Appendix A). These conservation measures should be implemented to minimize any impacts on wildlife and plants of the Project Area. No prairie dog towns were present during the survey conducted on September 16, 2021. Therefore, it is DBS&A's opinion that the conservation measures recommended by the TPWD for the black-tailed prairie dog (*Cynomys ludovicianus*) would not

be necessary. The other measures identified in the TPWD correspondence or recommended by DBS&A should be incorporated as part of the design of the Proposed Action:

- General Conservation Measures
  - Outside of the footprint of the proposed landfill and construction area, the existing two-track roads in the Project Area should be used as primary access for all vehicles. A perimeter road will also be installed to provide access to the landfill cells.
  - Once construction is completed, all disturbed areas that are not used for the landfill facility should be reseeded with native grass and forb species, including milkweed species as outlined in Section 5.2 and by the TPWD (Appendix A).
  - As much as possible, existing disturbed and flat areas should be used for construction staging of all equipment and materials.
- Conservation Measures During Facility Operation
  - If lighting is proposed at the new landfill facility, TPWD recommends committing to dark-sky lighting practices. TPWD recommends minimizing sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal (Appendix A).
- Birds: If possible, construction activities should all take place outside of the migratory bird nesting season. If not, a pre-construction nesting survey of the Project Area should be conducted before construction begins.
- Reptiles: There are several reptiles with the potential to occur in the Project Area, including the roundtail horned lizard (documented during the biological survey) and Texas horned lizard. Conservation measures recommended by the TPWD have been abbreviated below. Full details are provided in Appendix A. DBS&A recommends that these measures be implemented.
  - Texas horned lizard
    - Provide contractor training for protected species.
    - Permitted biological monitor to be onsite during construction activities.
    - Follow horned lizard encounters procedures for avoidance or handling.
  - Recommendations for all reptiles (including Texas horned lizard)
    - Provide exclusion fencing if horned lizards are present on the site.

- Implement reduced speed limits in the Project Area to 15 mph.
- Cold weather work requirements, such as burrow disruption procedures.
- Implement trenching and excavation requirements during construction.
- Implement a no kill wildlife policy, including avoiding injury or harm to any snakes encountered during clearing and construction.
- Implement no-till drilling, hydromulching and/or hydroseeding; if erosion control blankets or mats are used, use materials that do not contain netting.
- Avoid impacts to burrows, if possible.
- Follow avoidance and translocation recommendations.
- Minimize disturbance to trees if possible.
- If possible, schedule construction outside of the spring (April-May) breeding season.

7. Conclusions

The Proposed Action is for the construction of a Type I MSW landfill. Conservation measures have been recommended as part of the project.

A biological survey was conducted on September 16, 2021 to observe field conditions, assess the likelihood of occurrence of special-status (including federal threatened and endangered) species, and evaluate potential impacts.

There is no critical habitat within the Project Area, as noted in the USFWS IPaC report generated for this project (Appendix B). This evaluation finds that the project will have no effect on critical habitat.

One federally listed species, the northern aplomado falcon, was determined to have the potential to occur within the Project Area, but only as a rare transient. As such, any effect on the species (from construction noise, increased noise or traffic during operation of the facility) would be insignificant, especially as no nesting habitat is present and reseeding of native grasses would occur in all disturbed areas that are not used for the landfill facility. No formal effect determination is provided in this BE, as there is no federal nexus for the Proposed Action and Section 7 consultation is not required. Importantly, however, implementation of the Proposed Action will not violate any provisions of the ESA including under Section 9

A total of 7 state-listed animal species were determined to have the potential to occur within the Project Area. With conservation measures (Section 6) implemented as part of the Proposed

Action, negligible to no impacts would be anticipated. One state-listed plant, the night-blooming cereus, was found to have a low potential to occur within the Project Area. However, because the night-blooming cereus was not observed during the biological survey, no impact to the species is anticipated as a result of the project.

The work will disturb vegetation within the Project Area, which in turn may affect local wildlife and habitat. Project impacts to non-listed species would include noise impacts, vegetation removal, and ground disturbance. With conservation measures implemented, these effects would likely be negligible.

8. Contacts Made

TPWD was consulted regarding the Proposed Action. Project (Project #46529) review comments were received on June 3, 2021.

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9. Preparers

This BE documents the findings of a biological survey conducted on September 16, 2021 and potential impacts from the proposed WST Landfill project. This BE was prepared by DBS&A biologists Dr. Jean-Luc Cartron, Julie Kutz, and York Morgan.

References

Cartron, J.L. 2010. *Raptors of New Mexico*. University of New Mexico Press.

Cornell Lab of Ornithology. 2021a. *All about birds: Chestnut-collared longspur*. Accessed October 18, 2021. <https://www.allaboutbirds.org/guide/Chestnut-collared_Longspur/overview>.

Cornell Lab of Ornithology. 2021b. *All about Birds: Lark bunting.* Accessed October 18, 2021. <https://www.allaboutbirds.org/guide/Lark_Bunting/maps-range>.

Cornell Lab of Ornithology. 2021c. *All about Birds: Mountain plover.* Accessed October 18, 2021. <https://www.allaboutbirds.org/guide/Mountain_Plover/overview>.

Desmond, M. and J.A. Montoya. 2006. *Status and distribution of Chihuahuan Desert grasslands in the United States and Mexico.* U.S. Forest Service Proceedings RMRS-P-40.

Dixon, J.R. 2000. *Amphibians and reptiles of Texas: Second Edition.* Texas A&M University Press.

Dixon, J.R. and J.E. Werler. 2005. *Texas snakes: A field guide.* University of Texas Press.

Drees, B.M. and J.A. Jackman. 1998. *A field guide to common Texas insects*. Gulf Publishing Company.

Elliott, L. 2016. *Descriptions of systems, mapping subsystems, and vegetation types for Texas*. Prepared for the Texas Parks and Wildlife Department.

Griffith, G.E., S.A. Bryce, J.M. Omernik, J.A. Comstock, A.C. Rogers, B. Harrison, S.L. Hatch, and D. Bezanson. 2004 *Ecoregions of Texas*. U.S. Geological Survey. Map scale 1:2,500,000.

iNaturalist. 2021. Observations, Texas. Accessed October 5, 2021 <https://www.inaturalist.org/>.

Jackman, J.A. 1999. *A Field guide to spiders & scorpions of Texas.* Gulf Publishing Company.

Natural Resources Conservation Service (NRCS). 2021. *Custom soil resource report.* USDA NRCS online soil report generator Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

Peregine Fund. 2021. *Species account: Aplomado falcon, Falco femoralis.* Accessed October 21, 2021. <https://www.peregrinefund.org/>.

Schmidly, D.J. 2004. *The mammals of Texas, Revised edition.* Texas Parks and Wildlife Department.

SW Biodiversity. 2021. SEINet Arizona-New Mexico. *Blepharidachne bigelovii* species account. <https://swbiodiversity.org/seinet/index.php>.

Texas Almanac. 2021. *Physical regions of Texas*. <https://texasalmanac.com/topics/environment/physical-regions-texas>.

Texas Department of Agriculture (TDA). 2021. Invasives database, Noxious weed list. Accessed September 2021. <https://www.texasinvasives.org/plant_database/tda_results.php>.

Texas Parks and Wildlife Department (TPWD). 2012. *Texas conservation action plan 2012 – 2016: Chihuahuan Deserts and Arizona – New Mexico Mountains Handbook*. Austin, Texas.

TPWD. 2021a. Response to request for coordination, Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas. June 3, 2021.

TPWD. 2021b. Annotated county lists of rare species, Reeves County. Last updated June 21, 2021. <https://tpwd.texas.gov/gis/rtest/>.

TPWD. 2021c. *Texas Ecosystem Analytical Mapper.* Accessed September 2021. <https://tpwd.texas.gov/landwater/land/programs/landscape-ecology/team/>.

TPWD. 2021d. TPWD County Lists of Protected Species and Species of Greatest Conservation Need, Reeves County. Last updated June 21, 2021. Accessed September 14, 2021. <https://tpwd.texas.gov/gis/rtest/>.

U.S. Department of Agriculture (USDA). 2021a. PLANTS Database. Plant list of accepted nomenclature, taxonomy, and symbols. <https://plants.usda.gov/home>.

USDA. 2021b. Soil Data Access (SDA) prime and other important farmlands, Texas, Reeves County. <https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html>.

U.S. Fish and Wildlife Service (USFWS). 2007. Northern Aplomado Falcon (*Falco Femoralis septentrionalis*) Fact Sheet. U.S. Department of Defence and USFWS. July 7, 2007.

USFWS. 2020. Monarch (*Danaus plexippus*) species status assessment report. V2.1. September 2020.

USFWS. 2021a. Texas Ecological Services. Information, Planning, and Conservation System (IPaC). Accessed September 14, 2021. <https://ecos.fws.gov/ipac/>.

USFWS. 2021b. National Wetlands Inventory. Accessed October 2021. <https://www.fws.gov/wetlands/>.

U.S. Geological Survey (USGS). 1981. Pecos West, TX. Topographic quadrangle 7.5 minute map. 1971, photorevised 1981.

USGS. 2004. National Gap Analysis Program, Provisional digital land cover map for the southwestern United States, version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

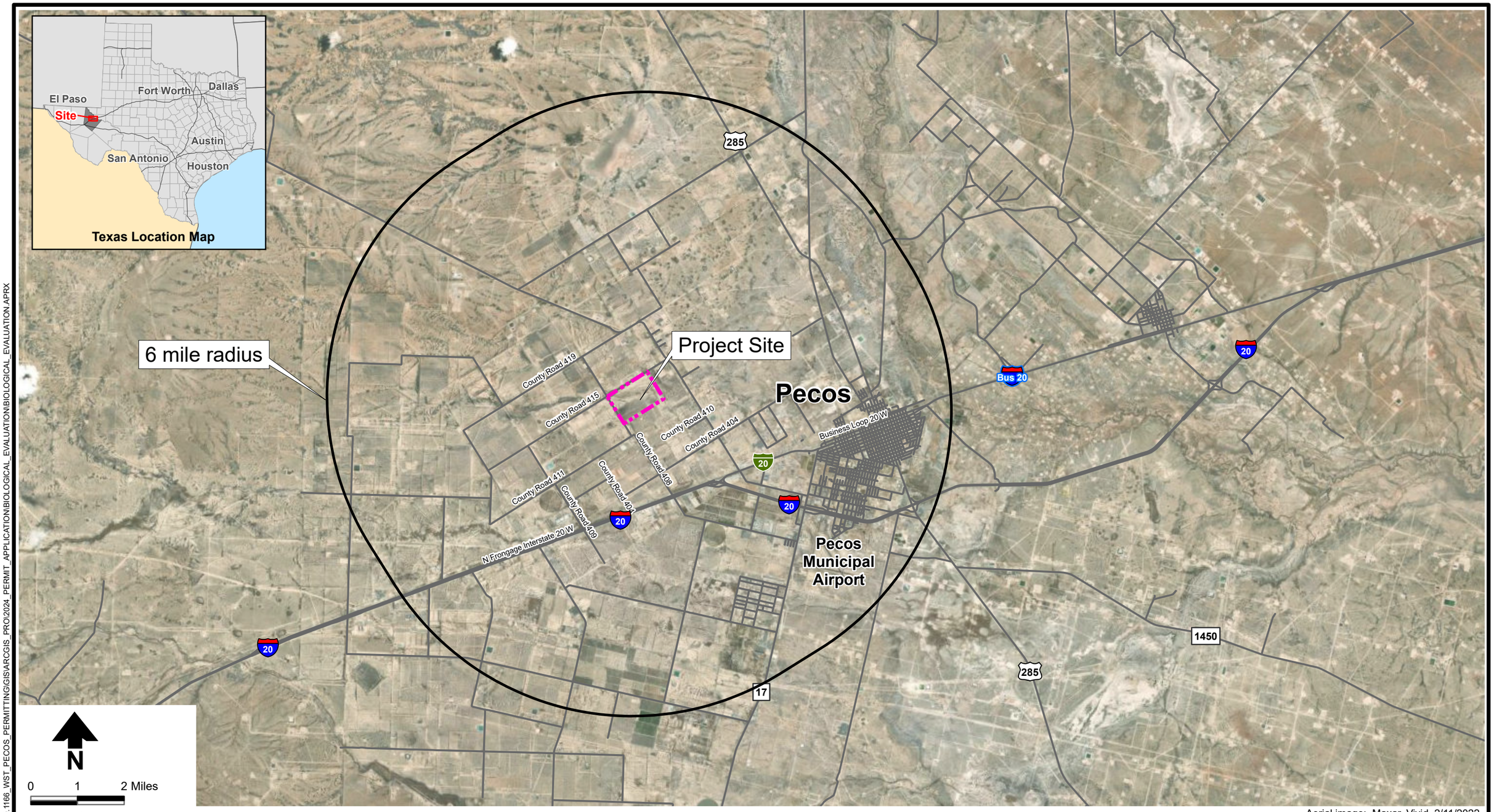
USGS. 2010. Pecos West, TX. Topographic quadrangle 7.5 minute map

USGS. 2021. Texas Geology Online Map. <https://txpub.usgs.gov/txgeology/>.

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Figures

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Aerial image: Maxar, Vivid 2/11/2022

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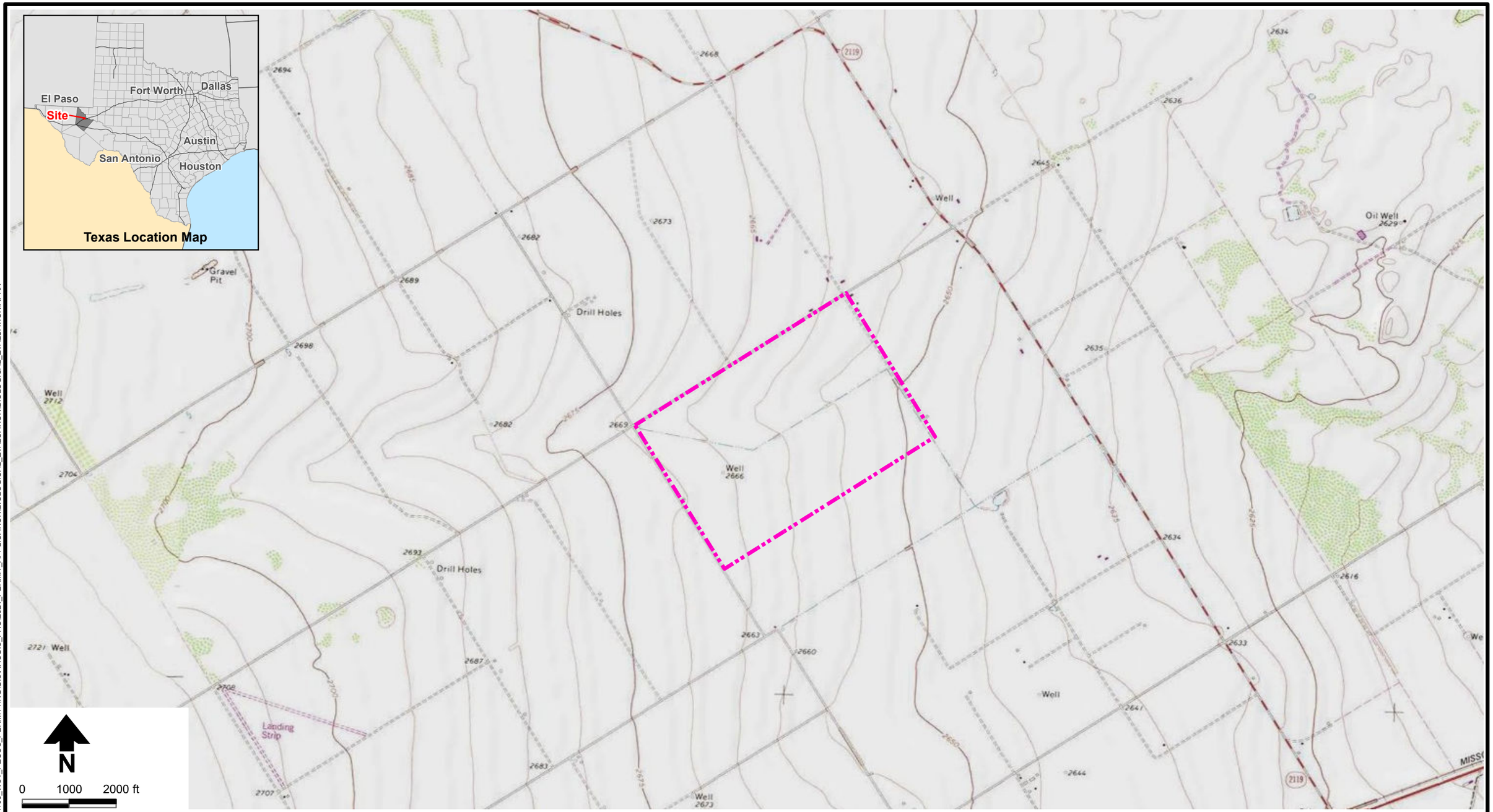
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WST LANDFILL

General Location Map

Figure 1



N

0 1000 2000 ft

Explanation

Site

Aerial image: Maxar, Vivid 2/11/2022

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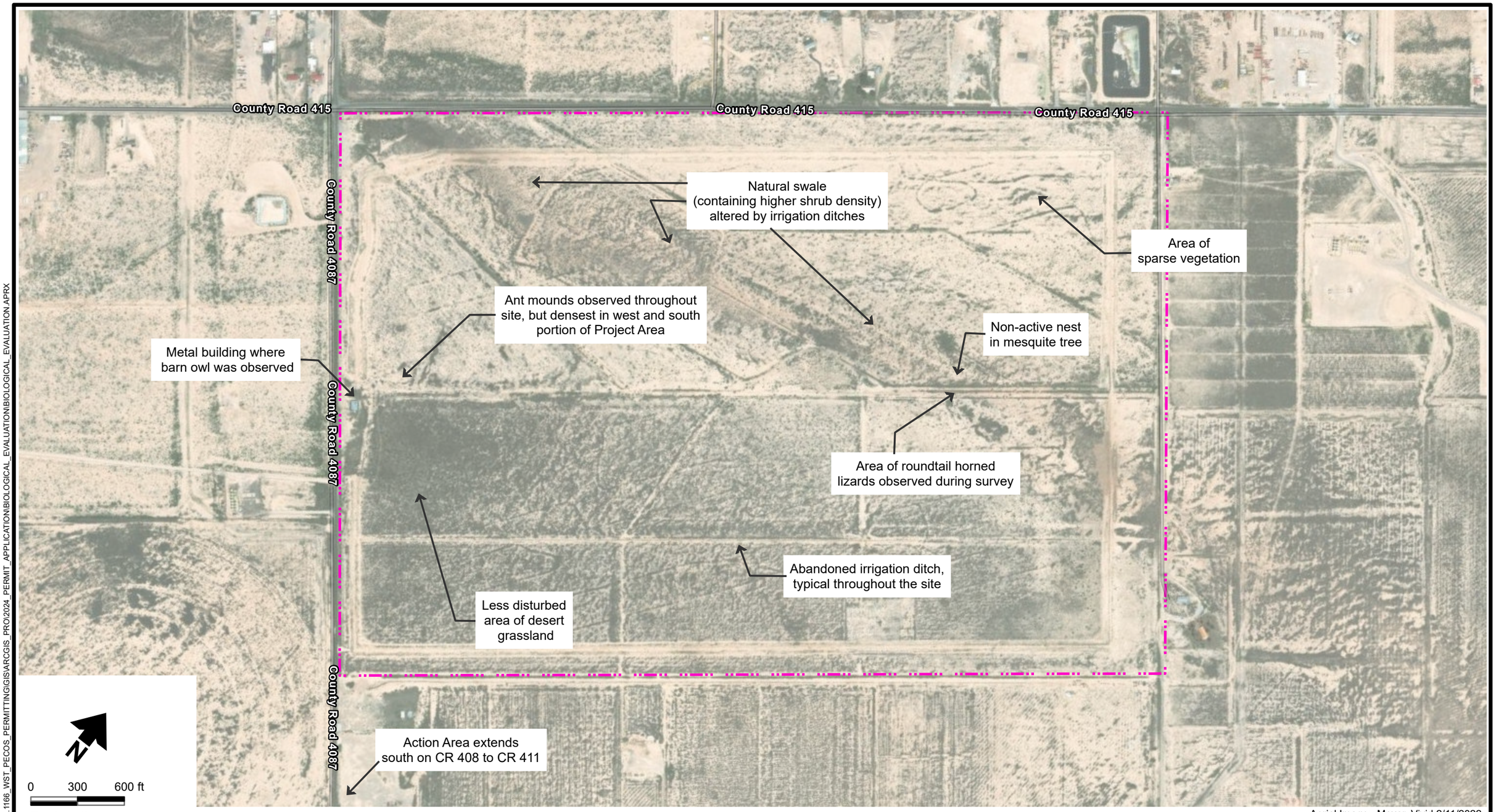
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WST LANDFILL

Topographic Map

Figure 2



Aerial Image: Maxar, Vivid 2/11/2022
Biological survey conducted
September 16, 2021

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Rev 2: July 2026 (Rev 0: March 2026)

WST LANDFILL
Biological Survey Map

Figure 3

R5UBFx

N

0 500 1000 ft

Explanation

- Site location
- 406, Southwest: Tobosa - Mesquite Grassland
- 407, Southwest: Tobosa Grassland
- 8200, Trans-Pecos: Sparse Creosotebush Scrub
- 8205, Trans-Pecos: Creosotebush Scrub
- 8600, Trans-Pecos: Desert Wash Barren
- 8606, Trans-Pecos: Desert Wash Shrubland
- 8807, Trans-Pecos: Loamy Plains Grassland
- 9000, Barren
- 9186, Native Invasive: Mesquite - Creosotebush Shrubland
- 9307, Row Crops
- 9411, Urban Low Intensity
- 10406, Trans-Pecos: Salty Desert Scrub
- 10407, Trans-Pecos: Salty Desert Grassland
- 11800, Trans-Pecos: Desert Pavement
- R5UBFx

Vegetation: Texas Parks and Wildlife
https://tpwd.texas.gov
Downloaded 20211021
Wetlands: US Fish & Wildlife Service Code: R5UBFx
https://www.fws.gov/
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WST LANDFILL
Biological Evaluation

Figure 4

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N

0 750 1500 ft

Explanation

- Site
- 11 - Dalby clay
- 16 - Hoban silty clay loam, 0 to 1 percent slopes
- 18 - Hodgins silty clay loam, 0 to 1 percent slopes
- 20 - Holloman-Reeves association, gently undulating
- 26 - Orla clay loam, 0 to 1 percent slopes
- 27 - Orla association, nearly level
- 31 - Reakor silty clay loam, 0 to 1 percent slopes
- 34 - Reeves clay loam, 0 to 1 percent slopes
- 41 - Upton gravelly loam, 0 to 2 percent slopes

Soil Data: USDA Natural Resources Conservation Service (NRCS)
(SSURGO) Spatial Version 5, July 15, 2020
https://websoilsurvey.sc.egov.usda.gov

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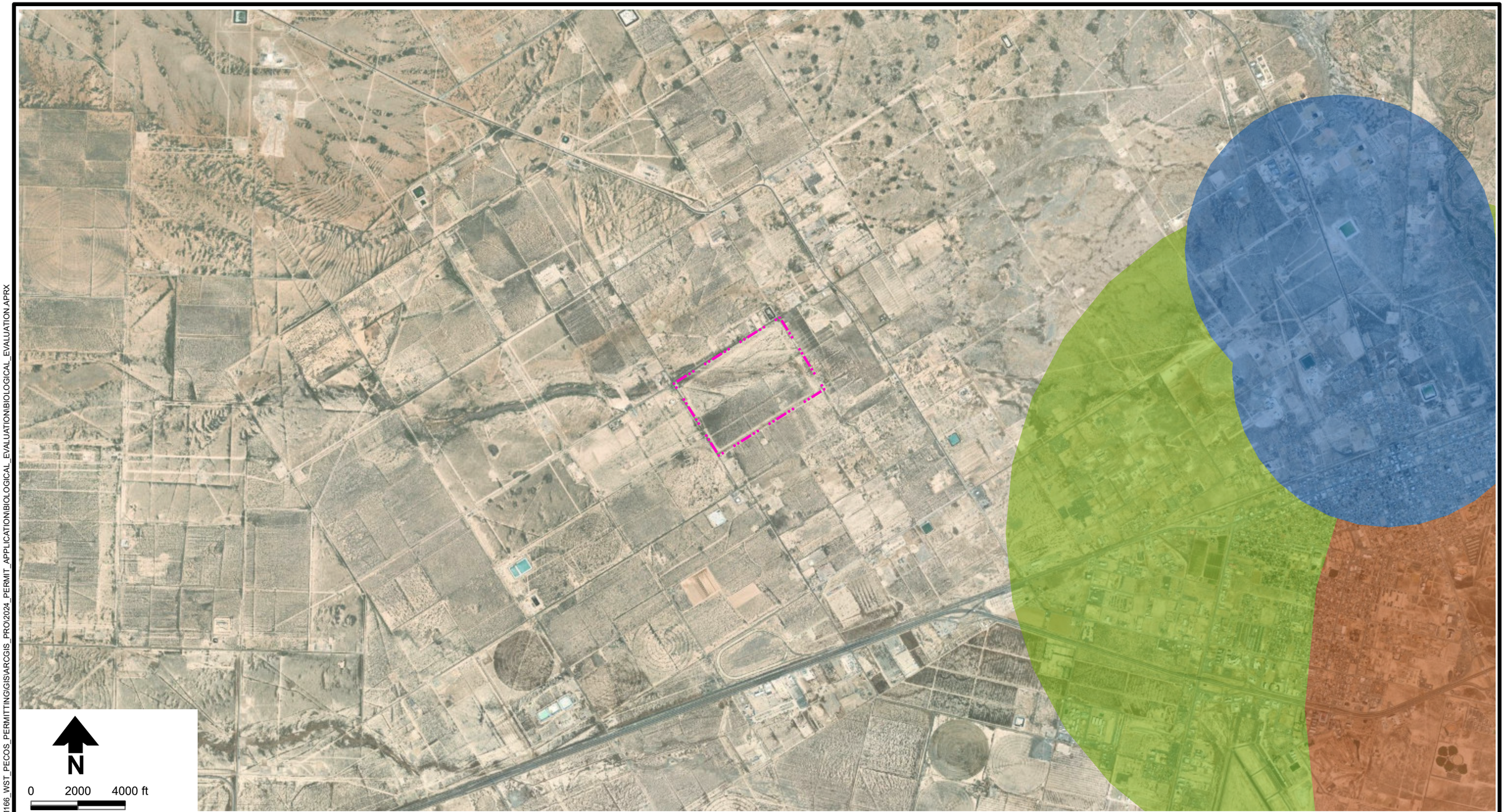
Rev 2: July 2026 (Rev 0: March 2026)

WST LANDFILL
Soils Map

Figure 5

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Aerial Image: Maxar, Vivid 2/11/2022

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WST LANDFILL

Texas Natural Diversity Data

Figure 6

Tables

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Table 1. Vegetation Species Observed during the Biological Survey
Page 1 of 2

Scientific Name	Common Name	Wetland Classification Indicator Code [a]	Native (N) or Introduced (I)	Family
Trees				
Prosopis glandulosa	Honey mesquite	FACU	N	Mimosaceae
Shrubs				
Atriplex canescens	Fourwing saltbush	—	N	Amaranthaceae
Gutierrezia sarothrae	Broom snakeweed	—	N	Asteraceae
Flourensia cernua	Tarbush	—	N	Asteraceae
Yucca elata	Soapweed yucca	—	N	Agavaceae
Echinocactus texensis	Horse crippler	—	N	Cactaceae
Opuntia sp.	Prickly pear	—	N	Cactaceae
Larrea tridentata	Creosote bush	—	N	Zygophyllaceae
Graminoids				
Sporobolus airoides	Alakali sacaton	—	N	Poaceae
Bouteloua breviseta	Gypsum grama	—	N	Poaceae
Aristida purpurea	Three-awn grass	—	N	Poaceae
Chloris virgata	Feather finger grass	—	N	Poaceae
Bouteloua hirsuta	Hairy grama	—	N	Poaceae
Bouteloua barbata	Six-weeks grama	—	N	Poaceae
Cynodon dactylon	Bermudagrass	—	I	Poaceae
Forbs				
Kali tragus	Tumbleweed (Russian thistle)	—	I	Amaranthaceae
Helianthus annuus	Annual sunflower	FACU	N	Asteraceae
Zinnia acerosa	Desert zinnia	—	N	Asteraceae
Machaeranthera tanacetifolia	Tansyaster	—	N	Asteraceae
Ratibida columnifera	Prairie coneflower	—	N	Asteraceae
Bahia absinthifolia	Hairyseed bahia	—	N	Asteraceae

Table 1. Vegetation Species Observed during the Biological Survey
Page 2 of 2

Scientific Name	Common Name	Wetland Classification Indicator Code [a]	Native (N) or Introduced (I)	Family
Forbs (cont.)				
Psilostrophe tagetina	Paperflower	—	N	Asteraceae
Lepidium alyssoides	Mesa pepperwort	—	N	Brassicaceae
Nerisyrenia linearifolia	White Sands fanmustard	—	N	Brassicaceae
Acacia angustissima	Acacia	—	N	Fabaceae
Dalea sp.	dalea	—	N	Fabaceae
Sphaeralcea angustifolia	Narrowleaf globe mallow	—	N	Malvaceae
Proboscidea parviflora	Double claw	—	N	Pedaliaceae
Solanum elaeagnifolium	Silver-leaf nightshade	—	N	Solanaceae
Verbena bracteata	verbena	—	N	Verbenaceae

[a] Classification from USDA National Wetland Plant List (Arid West Region)
Indicator definitions:

Indicator Code	*Indicator Status*	*Designation*	*Comment*
OBL	Obligate Wetland	Hydrophyte	Almost always occur in wetlands
FACW	Facultative Wetland	Hydrophyte	Usually occur in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte	Occur in wetlands and non-wetlands
FACU	Facultative Upland	Nonhydrophyte	Usually occur in non-wetlands, but may occur in wetlands
UPL	Obligate Upland	Nonhydrophyte	Almost never occur in wetlands

Table 2. Fauna Observed during the Biological Survey

Class	Family	Species
Invertebrates	Acrididae	Rainbow grasshopper (*Dactylotum bicolor*)
	Sphingidae	White-lined sphinx moth caterpillar (*Hyles lineata*)
	Nymphalidae	Variegated fritillary (*Euptoieta claudia*)
	Papilionidae	Painted lady butterfly (*Vanessa cardui*)
		Black swallowtail (*Papilio polyxenes*)
	Meloidae	Black and red blister beetle (*Megetra cancellata*)
	Tenebrionidae	Pinacate beetle "stinkbug" (*Eleodes* sp.)
	Phasmatidae	Walkingstick insect (*Diapheromera* sp.)
	Isoptera	Desert termite (*Gnathamitermes tubiformans*)
	Spirostreptidae	Desert millipede (*Orthoporus ornatus*)
	Formicidae	Harvester ant (*Pogonomyrmex barbatus*)
	Buthidae	Striped bark scorpion (*Centruroides vittatus*)
Reptiles	Phrynosomatidae	Southwestern fence lizard (*Sceloporus cowlesi*)
		Roundtail horned lizard (*Phrynosoma modestum*)
		Common side-blotched lizard (*Uta stansburiana*)
	Teiidae	Texas spotted whiptail lizard (*Aspidoscelis gularis*)
	Colubridae	Western coachwhip snake (*Masticophis flagellum testaceus*)
Birds	Tytonidae	Barn owl (*Tyto alba*)
	Columbidae	Mourning dove (*Zenaida macroura*)
	Passerellidae	Cassin's sparrow (*Peucaea cassinii*)
	Fringillidae	Lesser goldfinch (*Spinus psaltria*)
	Odontophoridae	Scaled quail (*Callipepla squamata*)
Mammals	Heteromyidae	Kangaroo rat (*Dipodomys* sp.)
	Canidae	Coyote (*Canis latrans*)
	Suidae	Domestic pig (Sus *domesticus*)
	Equidaea	Horse (*Equus caballus*)
	Mustelidae	American badger (*Taxidea taxus berlandieri*)
	Cricetidae	Woodrat (Neotoma sp.)
	Leporidae	Desert cottontail (Sylvilagus audubonii)
	Geomyidae	Pocket gopher (Geomys sp.)

Table 3. Federally Listed Species Included in the Analysis and Likelihood of Occurrence in the Project Area, Page 1 of 4

Species Category	Species	Status	Habitat Associations	Potential for Presence in Project Area
Birds	Piping plover (*Charadrius melodus*)	FT	Piping plovers use wide, flat, open, sandy beaches with very little grass or other vegetation. Nesting territories often include small creeks or wetlands.	According to the USFWS IPaC report, this species only needs to be considered under the following conditions: Wind Related Projects Within Migratory Route. No Impact.
	Mexican spotted owl (*Strix occidentalis*)	FT	Primarily within shaded, mesic, and cool canyons with steep sides that have mixed conifer, pine-oak, and riparian forest types. Forests used for roosting or nesting often contain moderate to high canopy closure, a wide range of tree sizes suggestive of uneven-age stands, large overstory trees of various species, and high plant species richness with adequate levels of residual plant cover to maintain fruits, seeds, and regeneration to provide for the needs of prey species.	The Project Area does not harbor any shaded, mesic, and cool steep-sided canyon or forest patches with moderate to dense canopy cover. There is no potential for the Mexican spotted owl to be present in the Project Area.
	Red knot (*Calidris canutus rufa*)	FT	The red knot is a shorebird that is one of the longest-distance migrants in the animal kingdom. Biologists have identified six subspecies, three of them living in the Western Hemisphere: C.c. islandica, C.c. roselaari, and C.c. rufa. Thhe red knot known as rufa winters at the tip of South America in Tierra del Fuego, in northern Brazil, throughout the Caribbean, and along the U.S. coasts from Texas to North Carolina. The rufa red knot breeds in the tundra of the central Canadian Arctic from northern Hudson Bay to the southern Queen Elizabeth Islands.	According to the USFWS IPaC report: This species only needs to be considered under the following conditions: Wind Related Projects Within Migratory Route. No Impact.

Table 3. Federally Listed Species Included in the Analysis and Likelihood of Occurrence in the Project Area, Page 2 of 4

Species Category	Species	Status	Habitat Associations	Potential for Presence in Project Area
Birds (cont.)	Northern aplomado falcon (*Falco femoralis septentrionalis*)	FE	In Texas, aplomado falcons are found in the south and in the Trans-Pecos region. Their distribution extends to the southern tip of South America. In the U.S., they are found along yucca-covered sand ridges in coastal prairies, riparian woodlands in open grasslands, and in desert grasslands with scattered mesquite and yucca. Aplomados do not build their own nests, but take over old or even freshly constructed nests of other raptors or corvids such as red-tailed hawk, Swainson's hawk, and Chihuahuan raven. There have been research-grade sightings of the aplomado falcon to the southeast and southwest of the Project Area. The location of the nearest sighting was approximately 50 miles to the southeast of the Project Area. The location of the other siting is approximately 69 miles to the southwest of the Project Area (iNaturalist, 2021).	The Project Area is within desert grassland, and does contain mesquite trees and very few yucca plants. Habitat is fractured in the region, and no nests of other raptors or corvids were observed during the site survey. There is a low potential for the aplomado falcon to occur in the Project Area, likely as a rare transient.
Fish	Comanche Springs pupfish (*Cyprinodon elegans*)	FE	Restricted to a small series of springs and their outflows, and man-made irrigation canals in the area of Balmorhea, Texas, including Phantom Springs (Jeff Davis County), San Solomon Springs, Griffin Springs and Toyah Creek (Reeves County). Originally in Comanche, San Solomon, and Phantom Cave springs, but presently restricted to San Solomon and Phantom Cave and associated springs, and downstream irrigation canals. Prefers fast-flowing water: found in constantly discharging springs and in swift-flowing water of canals and earthen ditches.	The Project Area is not within or near any springs or fresh water habitat. There is therefore no potential for the Comanche Springs pupfish to be present in the Project Area.

Table 3. Federally Listed Species Included in the Analysis and Likelihood of Occurrence in the Project Area, Page 3 of 4

Species Category	Species	Status	Habitat Associations	Potential for Presence in Project Area
Fish (cont.)	Pecos Gambusia (*Gambusia nobilis*)	FE	Endemic to the Pecos River basin in southeastern New Mexico and western Texas. Restricted to two locations in Texas (Balmorhea springs complex and Diamond Y Draw). Habitat consists of stenothermal springs, runs, cienegas, and irrigation canals carrying spring waters.	The Project Area is not within or near any surface water habitat. The Pecos River basin is approximately 6 miles east of the Project Area. There is no potential therefore for the Comanche Springs pupfish to be present in the Project Area.
Snails	Pecos Assiminea snail (*Assiminea pecos*)	FE	A member of the marine snail family, but represents the most inland snail of the genus; semiaquatic, usually found on moist ground or beneath emergent plants within a few centimeters of flowing water. The only known remaining Texas population is found near Fort Stockton, Pecos County; historical to the Pecos River Valley of New Mexico and Texas.	The Project Area does not harbor moist ground or emergent plants within a few centimeters of flowing water, and it is not located near Fort Stockton. Thus, there is no potential for the Pecos Assiminea snail to be present in the Project Area.
	Phantom springsnail (*Pyrgulopsis texana*)	FE	Endemic aquatic snail; known only from three spring systems and their associated outflows in Jeff Davis and Reeves counties. This species is vulnerable to the reduction of springflow, resulting from declining groundwater levels.	The Project Area does not contain any springs and is not located near the three spring systems where the phantom springsnail is found. Thus there is no potential for the phantom springsnail to be present in the Project Area.
	Phantom tryonia (*Tryonia cheatumi*)	FE	Endemic aquatic snail; known only from three spring systems and their associated outflows in Jeff Davis and Reeves counties. This species is vulnerable to the reduction of springflow, resulting from declining groundwater levels.	The Project Area does not contain any springs and is not near the three spring systems where the phantom tryonia is found. Thus there is no potential for the phantom tryonia to be present in the Project Area.

Table 3. Federally Listed Species Included in the Analysis and Likelihood of Occurrence in the Project Area, Page 4 of 4

Species Category	Species	Status	Habitat Associations	Potential for Presence in Project Area
Insects	Monarch butterfly (*Danaus plexippus*)	FC	There are two important migration routes in Texas for the monarch butterfly. Monarchs migrate through Texas both in the fall and the spring. During the fall, monarchs use two principal flyways, one is a 300-mile wide path stretching from Wichita Falls to Eagle Pass. The second flyway is situated along the Texas coast. In spring monarchs pass through Texas from Mexico, heading north and seeking emerging milkweed species to lay eggs on (TPWD, 2021b).	The Project Area is outside of the fall migration route of the monarch butterfly. There is potential for monarch butterflies to occur within the Project Area in the spring, but no milkweed species were observed during the site survey; therefore, there would be a low potential for occurrence of the monarch butterfly in the Project Area.
Crustaceans	Diminutive amphipod (*Gammarus hyalleloides*)	FE	Known only from Phantom Lake Spring; omnivorous; amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover. This species is vulnerable to reduction of springflow, resulting from declining groundwater levels.	The Project Area does not contain any springs, and is not located near Phantom Lake Spring where the diminutive amphipod is found. Thus there is no potential for the diminutive amphipod to be present in the Project Area.
Plants	Pecos sunflower (*Helianthus paradoxus*)	FT	Restricted to saline, calcareous, heavy-textured soils around cienegas; usually most abundant on perennially wet soils of subirrigated terraces just above the wettest sites. Flowering occurs in August-November.	The Project Area does not contain saline, calcareous, heavy-textured soils around cienegas. There is therefore no potential for the Pecos sunflower to be present in the Project Area.

FE = Federal endangered
FT = Federal threatened
FC = Federal candidate

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 1 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Amphibians					
Woodhouse's toad	*Anaxyrus woodhousii*	SGCN: Y SR: SU	A wide variety of terrestrial habitats are used by the Woodhouse's toad, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied. The species can be found in disturbed areas.	The Project Area does not contain forests, grasslands, and barrier island sand dunes or other prime habitat; however, this species occurs in a wide variety of habitats including disturbed areas.	There is a potential for the Woodhouse's toad to occur in the Project Area. With mitigation measures in place as outlined by the TPWD (TPWD, 2021c) (Appendix A) impacts to the toad would be negligible.
Birds					
American peregrine falcon	*Falco peregrinus anatum*	SGCN: Y SR: S2B	The American peregrine falcon is a year-round resident and local breeder in west Texas. It nests in tall cliff eyries; also, it is a migrant across the state from more northern breeding areas in the U.S. and Canada. It winters along the coast and farther south, and occupies a wide range of habitats during migration, including urban areas, coastal range and barrier islands. The species is a low-altitude migrant occurring with stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	Unlikely to occur in the Project Area as it does not contain tall cliff eyries, lake shores, coastlines, or barrier islands.	The Proposed Action would have no impact to the American peregrine falcon.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 2 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Chestnut-collared longspur	*Calcarius ornatus*	SGCN: Y SR: S3	According to the Partners in Flight's Landbird Conservation Plan (2016), this species has shown a continental decline of 85 percent. The chestnut-collared longspur occurs in open shortgrass settings, especially in patches with some bare ground. It is also found in rangelands and desert grasslands (Cornell Lab, 2021). It also occurs in grain sorghum fields and Conservation Reserve Program lands	The Project Area contains areas of desert grassland and disturbed ground with little vegetation. The range map for the chestnut-collared longspur shows the Project Area to be in the non-breeding range of the species (Cornell Lab, 2021a). It should be noted that because of the scale of the area covered, the range and season of the species is general and not specific to the Project Area or surrounding region.	While the Project Area is likely within the non-breeding range of the chestnut-collared longspur, with mitigation measures in place, as required for the Migratory Bird Treaty Act, that include construction outside of the nesting season, the Proposed Action would have no impact on the chestnut-collared longspur.
Franklin's gull	*Leucophaeus pipixcan*	SGCN: Y SR: S2N	The Franklin's gull is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual, consisting only of one or a few individuals at a given site (especially along the Gulf coastline). During migration, Franklin's gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.	Unlikely to occur in the Project Area as it does not contain any wetlands, lake shore, or islands.	The Proposed Action would have no impact on the Franklin's gull.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 3 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Lark bunting	*Calamospiza melanocorys*	SGCN: Y SR: S4B	According to Partners in Flight's Landbird Conservation Plan (2016), the lark bunting shows a continental population decline of 86 percent. Overall, it is a generalist in most short grassland settings, including those with some brushy component, plus certain agricultural lands that include grain sorghum. Suitable short grassland species include sideoats and blue gramas, sand dropseed, prairie junegrass (*Koeleria*), buffalograss, also with patches of bluestem and other mid-grass species. The lark bunting will frequent smaller patches of grasse,s or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. The lark bunting avoids urban areas and cotton fields.	While the Project Area is within a desert grassland with short grass with a shrub component, the species of grasses preferred by the lark bunting, such as sideoat and blue grama, were not prevalent in the Project Area. In addition, the range map for the lark bunting show the Project Area to be in the non-breeding range of the species (Cornell Lab, 2021b).	The Project Area does not contain species of grasses preferred by the lark bunting. The Project Area is within the range of the species that is considered non-breeding. There is therefore a low potential for the lark bunting to occur within the Project Area as a transient. Because of the low potential and with mitigation measures in place, as required for the Migratory Bird Treaty Act, that include construction outside of the nesting season, the Proposed Action would have no impact on the lark bunting.
Mountain plover	*Charadrius montanus*	SGCN: Y SR: S2	The mountain plover nests on high plains or shortgrass prairie, on the ground in shallow depressions. It may also nest in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet (Cornell Lab, 2021c). The nonbreeding habitat consists of shortgrass plains and bare, dirt (plowed) fields. The species is primarily insectivorous.	The Project Area is within desert grasslands containing saltbush and low densities of prickly pear and yucca.	The Project Area contains marginally suitable habitat for the mountain plover. With mitigation measures in place, as required for the Migratory Bird Treaty Act, that include construction outside of the nesting season, the Proposed Action would have no impact on the mountain plover.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 4 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Reddish egret	*Egretta rufescens*	SGCN: Y SR: S2B	The reddish egret is a resident of the Texas Gulf Coast. Habitat consists of brackish marshes, shallow salt ponds, and tidal flats. The species nests on the ground or in trees or bushes, and on dry coastal islands in brushy thickets of yucca and prickly pear.	Unlikely to occur in the Project Area, as it is not near the Texas Gulf Coast, has no brackish marshes, salt ponds, or tidal flats.	The Proposed Action would have no impact on the reddish egret.
Western burrowing owl	*Athene cunicularia hypugaea*	SGCN: Y SR: S2 SS: T	The western burrowing owl is found on open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports. The species nests and roosts in abandoned burrows. They are often associated with high densities of burrowing mammals, such as prairie dogs, ground squirrels, and tortoises.	No prairie dog towns were observed within the Project Area. There were burrows of rodents, including ground squirrels, located along some of the abandoned and deteriorated irrigation ditches, and along the swale that crosses the Project Area.	No burrowing owls were observed within the Project Area, however there are abandoned burrows within parts of the area, therefore there is potential for burrowing owls to occur. With mitigation measures in place, as required for the Migratory Bird Treaty Act, that include construction outside of the nesting season, the Proposed Action would have no impact on the burrowing owl.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 5 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	SGCN: Y SR: S4, S5B	The status of the western yellow-billed cuckoo applies only to the western populations beyond the Pecos River drainage to the west. The western yellow-billed cuckoo breeds in riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; deciduous woodlands with cottonwoods and willows. Dense understory foliage is important for nest site selection. The species nests in cottonwood trees, and hackberry; forages in similar riparian woodlands; breeding season is from mid-May-late September.	Unlikely to occur locally, as there is/are no riparian habitat, mesic vegetation, or deciduous woodlands in the Project Area.	The Proposed Action would have no impact on the western yellow-billed cuckoo.
White-faced ibis	*Plegadis chihi*	SGCN: Y SR: S4B SS: T	The white-faced ibis 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.	Unlikely to occur in the Project Area, as it has no freshwater marshes, sloughs, or brackish and saltwater habitats.	The Proposed Action would have no impact on the white-faced ibis.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 6 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Zone-tailed hawk	*Buteo albonotatus*	SGCN: Y SR: S3B SS: T	The zone-tailed hawk occurs in arid open country, including open deciduous or pine-oak woodland, mesa or mountain country, often near watercourses, and in wooded canyons and along tree-lined rivers along middle-slopes of desert mountains. The species nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions.	Unlikely to occur in the Project Area, which has no open deciduous or pine-oak woodland, mesa or mountain country, watercourses, or desert mountains.	The Proposed Action would have no impact on the zone-tailed hawk.
Crustaceans					
Diminutive amphipod	*Gammarus hyalelloides*	SGCN: Y SR: S1 SS: E	The diminutive amphipod is known only from Phantom Lake Spring; it is omnivorous. Amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover. It is vulnerable to reduction of springflow, resulting from declining groundwater levels.	Unlikely to occur in the Project Area, as it is not near Phantom Lake Spring.	The Proposed Action would have no impact on the diminutive amphipod.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 7 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Fish					
Comanche Springs pupfish	*Cyprinodon elegans*	SGCN: Y SR: S1 SS: E	The Comanche Springs pupfish is restricted to a small series of springs and their outflows, and man-made irrigation canals in the area of Balmorhea, Texas, including Phantom Springs (Jeff Davis County), San Solomon Springs, Griffin Springs, and Toyah Creek (Reeves County). The species prefers fast-flowing water. It was originally found in Comanche Springs, San Solomon, and Phantom Cave springs (Pecos and Reeves counties), but is presently restricted to San Solomon and Phantom Cave, and associated springs, and downstream irrigation canals; it is found in constantly discharging springs and in swift-flowing water of canals and earthen ditches.	Unlikely to occur in the Project Area, as it has no springs or active man-made irrigation canals.	The Proposed Action would have no impact on the Comanche Springs pupfish.
Headwater catfish	*Ictalurus lupus*	SGCN: Y SR: S1, S2 SS: T	The headwater catfish was originally found throughout streams of the Edwards Plateau and Rio Grande basin, it is currently limited to the Rio Grande watershed, including the Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers.	Unlikely to occur in the Project Area, as the Pecos River is the closest perennial surface water source, and it is located approximately 5 miles east of the Project Area.	The Proposed Action would have no impact on the headwater catfish.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 8 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Pecos gambusia	*Gambusia nobilis*	SGCN: Y SR: S2 SS: E	The Pecos gambusia is endemic to the Pecos River basin in southeastern New Mexico and western Texas. Restricted to two locations in Texas (Balmorhea springs complex and Diamond Y Draw). Habitat consists of stenothermal springs, runs, cienegas and irrigation canals carrying spring waters.	Unlikely to occur in the Project Area, as the Pecos River is the closest perennial water source, and it is located approximately 5 miles east of the Project Area.	The Proposed Action would have no impact on the Pecos gambusia.
Pecos pupfish	*Cyprinodon pecosensis*	SGCN: Y SR: S1 SS: T	The Pecos pupfish was originally found in the Pecos River basin, but presently is restricted to its upper basin only. Shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkholes represent Pecos pupfish habitats.	Unlikely to occur in the Project Area, as the Pecos River is the closest perennial water source, and it is located approximately 5 miles east of the Project Area.	The Proposed Action would have no impact on the Pecos pupfish.
Roundnose minnow	*Dionda episcopa*	SGCN: Y SR: S1 SS: T	The roundnose minnow is found in the Pecos River and in Limpia Creek, where it is restricted to clear, spring-fed waters having little temperature variation.	Unlikely to occur in the Project Area, as the Pecos River is the closest perennial water source, and it is located approximately 5 miles east of the Project Area.	The Proposed Action would have no impact on the roundnose minnow.
Speckled chub	*Macrhybopsis aestivalis*	SGCN: Y SR: S1, S2 SS: T	The speckled chub is found throughout the Rio Grande and lower Pecos River but occurs most frequently between the Río Conchos confluence and the Pecos River. Habitat consists of flowing water over coarse sand and fine gravel substrates in streams; typically found in raceways and runs.	Unlikely to occur in the Project Area, as the Pecos River is the closest perennial water source, and it is located approximately 5 miles east of the Project Area.	The Proposed Action would have no impact on the speckled chub.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 9 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Insects					
American bumblebee	*Bombus pensylvanicus*	SGCN: Y SR: SNR	Populations of American bumblebees have declined across the U.S., due to several factors including pesticide use, habitat loss and climate change. They continue to be widespread across southern states, including Texas. Bumblebees forage among seasonal wildflowers, starting with the queen in the spring, then the offspring of the queen through the remaining seasons until fall.	The Project Area and surrounding region contain seasonal wildflowers.	Because of the large range of habitat for the American bumblebee, there would continue to be foraging habitat outside of the Project Area and with conservation measures including the reseeding with forbs, impacts from the Proposed Action on the American bumblebee would be negligible.
Balmorhea saddle-case caddisfly	*Protoptila balmorhea*	SGCN: Y SR: S1	The larvae of the Balmorhea saddle-case caddisfly make turtle-shaped cases of small pebbles attached to the underside of stones in swift-flowing streams and rivers.	Unlikely to occur in the Project Area, as it has no streams or rivers.	The Proposed Action would have no impact on the Balmorhea saddle-case caddisfly
Fuzzy epitragini	*Epitragosoma arenaria*	SGCN: Y SR: SNR	The fuzzy epitragini are locally abundant in the Llano Estacado area of western Texas on stems of Havard's panicgrass (*Panicum havardii*). Considered a sand-dwelling insect.	There are no Havard's panicgrass species in the Project Area.	The Proposed Action would have no impact on the *Epitragosoma arenaria*.
Mammals					
Big brown bat	*Eptesicus fuscus*	SGCN: Y SR: S5	The big brown bat occurs in any wooded areas or woodlands of Texas, except in the south. The species is found in riparian areas in west Texas.	Unlikely to occur in the Project Area, where there are no woodlands or riparian areas.	The Proposed Action would have no impact on the big brown bat.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 10 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Big free-tailed bat	*Nyctinomops macrotis*	SGCN: Y SR: S3	Habitat data for the big free-tailed bat is sparse, but records indicate that the species prefers to roost in crevices and cracks in high canyon walls, yet will also use buildings. Reproduction data are equally sparse, but the species is known to give birth to single offspring in late June-early July; females gather in nursery colonies; winter habits are undetermined, but the species may hibernate in the Trans-Pecos; opportunistic insectivore.	Unlikely to occur in the Project Area, as it has no high canyon walls.	The Proposed Action would have no impact on the big free-tailed bat.
Black bear	*Ursus americanus*	SGCN: Y SR: S3 SS: T	The black bear is a generalist, but it is primarily associated with woodlands and forests. Historically, the species was found throughout Texas. It is found in the Chisos Mountains, where it prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of the Trans-Pecos (Black Gap Wildlife Management Area), and Edwards Plateau in juniper-oak habitat. For the subspecies *luteolus*, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine, marsh, bottomland hardwoods, and large tracts of inaccessible forested areas are all used.	Unlikely to occur in the Project Area, as it does not contain any woodlands or forests.	The Proposed Action would have no impact on the black bear.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 11 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Black-tailed prairie dog	*Cynomys ludovicianus*	SGCN: Y SR: S3	The black-tailed prairie dog is associated with dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. The species lives in large family groups.	Unlikely to occur in the Project Area, as no prairie dog towns were observed during the biological survey.	The Proposed Action would have no impact on the black-tailed prairie dog.
Cave myotis bat	*Myotis velifer*	SGCN: Y SR: S2, S3	The cave myotis bat is colonial and cave-dwelling; it also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned cliff swallow (*Hirundo pyrrhonota*) nests. This species roosts in clusters of up to thousands of individuals. It is known to hibernate in limestone caves of the Edwards Plateau and gypsum caves of the Panhandle during winter.	Unlikely to occur in the Project Area, as it has no roosting habitat preferred by the cave myotis.	The Proposed Action would have no impact on the cave myotis bat.
Davis Mountains cottontail	*Sylvilagus robustus*	SGCN: Y SR: S3	The Davis Mountains cottontail is primarily limited to the Davis Mountains in the Trans Pecos. It prefers brushy pastures, brushy edges of cultivated fields, and well-drained streamsides. It is active mostly at twilight and at night, where it may forage in a variety of habitats, including open pastures, meadows, or even lawns; resting during daytime in thickets or in underground burrows and small culverts; feeding on grasses, forbs, twigs and bark. It is not sociable and is seldom seen feeding in groups.	Unlikely to occur in the Project Area, as it is not within or near the Davis Mountains.	The Proposed Action would have no impact on the Davis Mountains cottontail.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 12 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Eastern red bat	*Lasiurus borealis*	SGCN: Y SR: S4	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". Likely associated with any forested area in east, central, and north Texas but can occur statewide.	Unlikely to occur in the Project Area, as it has no forested land or coastline.	The Proposed Action would have no impact on the eastern red bat.
Gray-footed chipmunk	*Tamias canipes*	SGCN: Y SR: S2, S3	The gray-footed chipmunk is a high elevation (5,900 to 8,200 feet) forest-dwelling chipmunk occurring in dense stands of mixed timber, and on brushy hillsides with rock crevices or downed logs along forest edges. The species occurs in Texas only in the Sierra Diablo and Guadalupe Mountains in the Trans-Pecos, where its favorite habitat is downed logs near edges of clearings. It also occurs in dense stands of mixed timber (oaks, pines, firs) and on brushy hillsides, especially with rock crevices.	Unlikely to occur in the Project Area, as it has no high-elevation forest.	The Proposed Action would have no impact on the gray-footed chipmunk.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 13 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Hoary bat	*Lasiurus cinereus*	SGCN: Y SR: S4	Hoary bats are highly migratory, high-flying bats that have been documented throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain farther north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species), but are also found in unforested parts of the state and in lowland deserts. Tend to be captured over water and large, open flyways.	Unlikely to occur in the Project Area, as it has no forested land or water. The Project Area is within lowland deserts, but the hoary bat would likely only occur as a transient as there is no roosting habitat.	The Proposed Action would have no impact on the hoary bat.
Hooded skunk	*Mephitis macroura*	SGCN: Y SR: S1, S2	The hooded skunk is found in rocky canyons and in damp riparian corridors at low elevations, rarely reaching 6,000 feet. It avoids man-made habitations. The species is only known from the Trans-Pecos regions along the Rio Grande.	Unlikely to occur in the Project Area, as it has no canyons or riparian corridors.	The Proposed Action would have no impact on the hooded skunk.
Kit fox	*Vulpes macrotis*	SGCN: Y SR: S1, S2	The kit fox is found in open desert grassland, avoiding rugged, rocky terrain and wooded areas.	The Project Area is within open desert grassland. However, habitat would be marginal as there is development, including houses with dogs and industrial development, in nearby proximity.	There is a potential for the kit fox to occur in the Project Area; however, because of the proximity of development, it would be unlikely to den in the Project Area. The Proposed Action would have no impact on the kit fox.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 14 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Long-legged myotis bat	*Myotis volans*	SGCN: Y SR: S1, S2	The long-legged myotis bat is found in pine-oak woodland to grassland ecotone, in the higher elevations of the Trans-Pecos. Habitat also includes high, open woods and mountainous terrain; nursery colonies (which may contain several hundred individuals) form in summer in buildings, crevices, and hollow trees. The species does not use caves as day roosts, but may use such sites at night; single offspring is born in June-July.	Unlikely to occur in the Project Area, as it does not contain pine-oak woodland to grassland ecotone, and is not within the higher elevations of the Trans-Pecos region.	The Proposed Action would have no impact on the long-legged myotis bat.
Long-tailed weasel	*Mustela frenata*	SGCN: Y SR: S5	Habitat for the long-tailed weasel includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges and rocky desert scrub. This weasel usually lives close to water.	Unlikely to occur in the Project Area, as it does not contain brushlands, fence rows, upland woods and bottomland hardwoods, forest edges, or rocky desert scrub.	The Proposed Action would have no impact on the long-tailed weasel.
Mountain lion	*Puma concolor*	SGCN: Y SR: S2, S3	The mountain lion, a generalist species, is found in a wide range of habitats statewide. It is found most frequently in rugged mountains and riparian zones. The mountain lion generally avoids extensive grasslands.	Unlikely to occur in the Project Area, as it is not within rugged mountains or riparian zones. As the mountain lion is a generalist, there is a low potential for it to occur as a transient.	The Proposed Action would likely have no impact on the mountain lion.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 15 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Muskrat	*Ondatra zibethicus*	SGCN: Y SR: S5	The muskrat is found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. It is most abundant in areas with cattails (*Typha* sp.). The muskrat dens in bank burrows or conical houses of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso, and in southeastern Texas in the Houston area.	Unlikely to occur in the Project Area, as it has no surface water.	The Proposed Action would have no impact on the muskrat.
Pronghorn	*Antilocapra americana*	SGCN: Y SR: S5	The pronghorn prefers hilly and plateau areas of open grassland, desert-grassland, and desert-scrub, where it frequents south-facing slopes and other sheltered areas.	There is desert-grassland in the Project Area, but no hill or plateau areas. The Project Area vicinity contains fragmented habitat, as it is developed with industrial, residential, and road development.	While the Project Area is within desert grassland, the region is highly fragmented. Therefore, there is potential for the pronghorn to occur, but only as a transient occurrence. The Proposed Action would therefore likely have no impact on the pronghorn.
Rock mouse	*Peromyscus nasutus*	SGCN: Y SR: S4	The rock mouse is associated with rocky areas and talus slopes above 6,000 feet. General vegetation associations of the species include madrone, oak, maple, juniper, pinyon and ponderosa pine.	Unlikely to occur in the Project Area, as it is not within rocky areas or talus slopes above 6,000-foot elevation.	The Proposed Action would have no impact on the rock mouse.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 16 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Townsend's big-eared bat	*Corynorhinus townsendii*	SGCN: Y SR: S3	In Texas, habitat for the Townsend's big-eared bat ranges from desert scrub to pinyon-juniper woodland, consistently in areas with canyons or cliffs. The species roosts in caves, crevasses, trees, and buildings in the Panhandle and Trans-Pecos.	Unlikely to occur in the Project Area, as it has no canyons, caves, trees, or cliffs for roosting habitat.	The Proposed Action would have no impact on the Townsend's big-eared bat.
Western hog-nosed skunk	*Conepatus leuconotus*	SGCN: Y SR: S4	Habitats of the western hog-nosed skunk include woodlands, grasslands and damp areas, as well as deserts, to an elevation of 7,200 feet. Most common in rugged, rocky canyon country.	Unlikely to occur in the Project Area, as it does not have any canyons.	The Proposed Action would have no impact on the western hog-nose skunk.
Western small-footed myotis bat	*Myotis ciliolabrum*	SGCN: Y SR: S3	The western small-footed myotis bat occurs in mountain ranges of the Trans-Pecos, usually in wooded areas. The species is also found in grassland and desert scrub habitats where it roosts beneath slabs of rock, and behind loose tree bark. It is also found in buildings. The maternity colonies are often small and located in abandoned houses, barns, and other similar structures. The species occurs in Texas only during spring and summer months.	Unlikely to occur in the Project Area, as it is not within the mountainous regions of the Trans-Pecos.	The Proposed Action would have no impact on the western small-footed myotis bat.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 17 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Western spotted skunk	*Spilogale gracilis*	SGCN: Y SR: S5	The western spotted skunk is found in brushy canyons, rocky outcrops (rimrock) on hillsides, and walls of canyons. It occurs in semi-arid brushlands in the U.S., and in wet tropical forests in Mexico. When inactive or bearing young, the species occupies dens in rocks, burrows, hollow logs, brush piles, or under buildings.	Unlikely to occur in the Project Area, as it does not contain any canyons, rocky outcrops, or brushland.	The Proposed Action would have no impact on the western spotted skunk.
Mollusks					
Brune's tryonia	*Tryonia brunei*	SGCN: Y SR: S1	Brune's tryonia is an endemic freshwater snail and is benthic. It currently is only found in modified waters Phantom Lake Spring. The species is abundant on firm substratum and in soft mud before modification, and is vulnerable to declining groundwater levels resulting in the reduction of springflow.	Unlikely to occur in the Project Area, as it is not near the Phantom Lake Spring or any other springs.	The Proposed Action would have no impact on the Brune's tryonia.
Pecos assiminea snail	*Assiminea pecos*	SGCN: Y SR: S1 SS: E	A member of the marine snail family, the Pecos assiminea snail represents the most inland snail of the genus. It is semiaquatic, usually found on moist ground or beneath emergent plants, within a few centimeters of flowing water. The only known remaining Texas population is near Fort Stockton, Pecos County. The species is historical to the Pecos River Valley of New Mexico and Texas.	Unlikely to occur in the Project Area, as it has no moist soils and no water source.	The Proposed Action would have no impact on the Pecos assiminea snail.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 18 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Phantom springsnail	*Pyrgulopsis texana*	SGCN: Y SR: S1 SS: E	The phantom springsnail is an endemic aquatic snail that is known only from three spring systems and associated outflows in Jeff Davis and Reeves counties. It is vulnerable to reduction of springflow resulting from declining groundwater levels.	Unlikely to occur in the Project Area, as it has no springs.	The Proposed Action would have no impact on the phantom springsnail.
Phantom tryonia	*Tryonia cheatumi*	SGCN: Y SR: S1 SS: E	The phantom tryonia is an endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties. It is vulnerable to reduction of springflow resulting from declining groundwater levels.	Unlikely to occur in the Project Area, as it has no springs.	The Proposed Action would have no impact on the phantom tryonia.
Texas hornshell	*Popenaias popeii*	SGCN: Y SR: S1 SS: E	The Texas hornshell occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. The species can also occur in riffles that are clean swept of soft silt. It is not known to occur in reservoirs.	Unlikely to occur in the Project Area, as it has no streams or rivers.	The Proposed Action would have no impact on the Texas hornshell.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 19 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Reptiles					
Gray-checkered whiptail	*Aspidoscelis dixoni*	SGCN: Y SR: S2	The gray-checkered whiptail is a terrestrial species found in rocky plains, dry washes, canyon bottoms, and desert scrub (ocotillo, creosotebush, opuntia). It is generally found on rocky soils of desert shrublands and degraded grasslands on alluvial benches, canyon bottoms, and lower, southwestern mountain slopes. The species is fast-moving and heat/drought tolerant, and can occur in a wide-variety of dry habitats covering large areas. There are research grade sightings in the region to the northeast and east of the Project Area, with the closest recorded sighting approximately 14 miles from the Project Area (iNaturalist, 2021).	The Project Area does not contain prime habitat; however, this species occurs in a wide variety of habitats and there are research-grade sightings documented within 20 miles (iNaturalist, 2021). There is a potential for the gray-checkered whiptail to occur in the Project Area.	With mitigation measures in place, as outlined by the TPWD (Appendix A), impacts would be negligible.
Longnose Leopard Lizard	*Gambelia wislizenii*	SGCN: Y SR: S5	The longnose leopard lizard occurs in open gravelly or sandy habitats that are sparsely vegetated with scattered brush. When threatened, this lizard will retreat to brush piles and rodent burrows to escape.	The Project Area contains sandy habitat with areas of sparse vegetation and scattered brush, so there is potential for the longnose leopard lizard to occur in the Project Area.	With mitigation measures in place, as outlined by the TPWD (Appendix A), impacts to the longnosed leopard lizard would be negligible.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 20 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Rio Grande river cooter	*Pseudemys gorzugi*	SGCN: Y SR: S2	The Rio Grande river cooter is an aquatic species found in rivers, spring-fed tributary streams, beaver ponds, and stock tanks. Occupied waters may have a muddy, sandy, or rocky bottom, and may or may not contain aquatic vegetation.	Unlikely to occur in the Project Area, as it has no aquatic habitat.	The Proposed Action would have no impact on the Rio Grande river cooter.
Roundtail Horned Lizard	*Phrynosoma modestum*	SGCN: Y SR: S5	The roundtail horned lizard seems to prefer rocky or gravelly substrates in open areas that are sparsely vegetated.	Three roundtail horned lizards (of different generations) were observed during the site survey in the northeastern portion of the Project Area.	The roundtail horned lizard was documented as occurring within the Project Area. With mitigation measures in place, as outlined by the TPWD (Appendix A), impacts to the roundtail horned lizard would be negligible.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 21 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Texas horned lizard	*Phrynosoma cornutum*	SGCN: Y SR: S3 SS: T	The Texas horned lizard is a terrestrial species occupying open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees. Soil may vary in texture from sandy to rocky, where the species burrows into soil. The species enters rodent burrows, or hides under rocks when inactive, and occurs at elevations of up to 6,000 feet, but is largely limited below the pinyon-juniper zone on mountains in the Big Bend area. The Texas horned lizard is often associated with harvester ant (*Pogonomyrmex barbatus*) mounds.	There is open habitat with sparse vegetation, prairie, scattered brush and trees in the Project Area, as well as harvester ant colonies. There is potential for the Texas horned lizard to occur within the Project Area. There is one documented sighting from the TNDD occurrence listing (TNDD, 2021), and one research grade iNaturalist sighting was documented approximately 2 miles southeast of the Project Area (iNaturalist, 2021).	With mitigation measures in place, as outlined in the TPWD coordination letter (Appendix A), impacts to the Texas horned lizard from the Proposed Action would be negligible.
Western box turtle	*Terrapene ornata*	SGCN: Y SR: S3	Ornate or western box turtles 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), or enter burrows made by other species.	The Project Area is within desert grasslands, but not prairie grassland. Habitat would be very marginally suitable for western box turtle. The Project Area does not contain open woodland. Surface water exists only after storm events.	With the proposed mitigation measures in place, the Proposed Action would have no impact on the western box turtle.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 22 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Western hognose snake	*Heterodon nasicus*	SGCN: Y SR: S4	The western hognose snake is a terrestrial species found in shortgrass or mixed grass prairie, with gravely or sandy soils. It is often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.	Unlikely to occur in the Project Area. There is/are desert grassland and sandy soils within the Project Area; however, there is no mesic habitat or mixed grass prairie and very little shrub encroached grassland. Habitat would be marginally suitable for the western hognose snake.	With the proposed mitigation measures in place, the Proposed Action would have no impact on the western hognose snake.
Western massasauga	*Sistrurus tergeminus*	SGCN: Y SR: S3, S4	The western massasauga is a terrestrial species found in shortgrass or mixed grass prairie, with gravel or sandy soils. The species is found in draws, floodplains, and more mesic habitats within the arid landscape. It frequently occurs in shrub encroached grasslands. Two research-grade sightings of the western massasauga were documented north and northeast of Pecos, Texas (iNaturalist, 2021). From Google Earth aerial imagery of the area, both locations appear to be in rocky draws that are tributaries to the Pecos River.	Unlikely to occur in the Project Area, as it has no prairie, gravel soils, draws, or mesic habitat or shrub encroached grassland preferred by the species.	The Proposed Action would have no impact on the western massasauga.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 23 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Western rattlesnake	*Crotalus viridis*	SGCN: Y SR: S5	The western rattlesnake is a terrestrial species found in dry desert and prairie grasslands, shrub desert rocky hillsides, and edges of arid and semiarid river breaks. There are several research-grade iNaturalist observations for the western rattlesnake located within Reeves County, all to the east of the Pecos River and beyond, and south of I-10 (iNaturalist, 2021).	The Project Area is within the dry desert grasslands, but does not contain rocky hillsides or river breaks. There is potential for the western rattlesnake to occur within the Project Area.	With mitigation measures in place, the Proposed Action would have no impact on the western rattlesnake.
Plants					
Bigelow's desert grass	*Blepharidachne bigelovii*	SGCN: Y SR: S3	Bigelow's desert grass is restricted to xeric limestone or various gypsum-influenced habitats. It is perennial, with flowering and fruiting occurring from March-December. It occurs on rocky slopes in west Texas, adjacent New Mexico and northern Mexico (SW Biodiversity, 2021)	Unlikely to occur in the Project Area, as it is not within limestone or gypsum-influenced habitat on rocky slopes.	The Proposed Action would have no impact on the Bigelow's desert grass.
Cienega false clappia-bush	*Pseudoclappia arenaria*	SGCN: Y SR: S3	The Cienega false clappia-bush is found mostly in alkali sacaton (*Sporobolus airoides*) grasslands on alkaline, gypseous, or saline soils of alluvial flats around cienegas, playa lakes and other desert wetlands. It is perennial, and flowering occurs in spring-summer.	Unlikely to occur in the Project Area, as it is not in alkaline, gypseous or saline soils of alluvial flats around cienegas, playa lakes and other desert wetlands.	The Proposed Action would have no impact on the Cienega false clappia-bush.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 24 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Desert night-blooming cereus	*Peniocereus greggii var. greggii*	SGCN: Y SR: S2	The desert night-blooming cereus is found in Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations of 3,900-4,900 ft, on slopes, benches, arroyos, flats, and washes. Flowering is synchronized over a few nights in early May (more rarely April) to late June, when almost all mature plants bloom. The flowers last only one day and open just after dark. The species is typically found growing through and supported by shrubs, especially *Larrea divaricata* and *Prosopis glandulosa*.	The Project Area is within Chihuahuan desert grassland with some shrubs. The soils are not alluvial or gravelly but a sandy loam to a sandy loam clay. There is a low potential for the desert night-blooming cereus to be present within the Project Area.	The biological survey focused especially on areas of shrubs, and the species was not observed. Because of the low potential for occurrence, the Proposed Action would likely have negligible to no impact on the desert night-blooming cereus.
Grayleaf rock-daisy	*Perityle cinerea*	SGCN: Y SR: S2	The grayleaf rock-daisy is found in crevices in dry limestone caprock or mesas, with flowering occurring from spring-fall.	Unlikely to occur in the Project Area, as it has no limestone caprock or mesas.	The Proposed Action would have no impact to the grayleaf rock-daisy.
Gyp locoweed	*Astragalus gypsodes*	SGCN: Y SR: S2	The gyp locoweed is endemic to the gypsum flats and low-gullied gypseous hills of the Permian-aged Castile Formation. The preferred soils are gypsum or stiff gypseous clay soil on low rolling hills, mostly in low elevations in the middle Pecos River valley. Many of the known locations are on the Castile Formation (Permian). Flowering occurs from March-June.	Unlikely to occur in the Project Area, as it has no gypsum flats or low gullied gypseous hills.	The Proposed Action would have no impact to the gyp locoweed.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 25 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Hinckley's spreadwing	*Eurytaenia hinckleyi*	SGCN: Y SR: S3	The Hinckley's spreadwing is found on loose, sandy soils of the Monahans/Kermit Sandhills. It is an annual plant, and flowering/fruiting occurs in May-July.	Unlikely to occur in the Project Area, as it is not within the Monahans/Kermit Sandhills.	The Proposed Action would have no impact to the Hinckley's spreadwing.
Lyreleaf twistflower	*Streptanthus carinatus ssp. carinatus*	SGCN: Y SR: S3	The lyreleaf twistflower occurs on igneous and limestone slopes and alluvial fans.	Unlikely to occur in the Project Area, as it is not located along igneous or limestone slopes or in alluvial fans.	The Proposed Action would have no impact to the lyreleaf twistflower.
Neglected sunflower	*Helianthus neglectus*	SGCN: Y SR: S2	The neglected sunflower is found on deep sands on rolling hills and dunes of Pleistocene sand sheets, often associated with Havard's shin oak dwarf woodlands or mesquite-sand sage woodlands. Flowering occurs in July-September.	Unlikely to occur in the Project Area, as it has no rolling hills or dunes of Pleistocene sand sheets.	The Proposed Action would have no impact on the neglected sunflower.
Pecos sunflower	*Helianthus paradoxus*	SGCN: Y SR: S1 SS: T	The Pecos sunflower is restricted to saline, calcareous, heavy-textured soils around cienegas, and is usually most abundant on perennially wet soils of sub-irrigated terraces just above the wettest sites. Flowering occurs from August-November.	Unlikely to occur in the Project Area, as it is not within any cienegas or other wet habitat.	The Proposed Action would have no impact on the Pecos sunflower.

Table 4. State-Listed Species Evaluated for their Potential Occurrence in the Project Area and for Potential Impacts, Page 26 of 26

Species		Status	Habitat [a]	Potential for Occurrence	Potential Impacts
Texas claret-cup cactus	*Echinocereus coccineus var. paucispinus*	SGCN: Y SR: S3	The Texas claret-cup cactus is found in mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland, or juniper woodland on limestone mesas, mostly in association with rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering occurs in March-April.	The Project Area is not in mountains, hills, mesas, igneous, limestone or other habitat preferred by the Texas claret-cup cactus.	The Proposed Action would have no impact on the Texas claret-cup cactus.
Wright's beardtongue	*Penstemon wrightii*	SGCN: Y SR: S3	The Wright's beardtongue occurs mostly in montane grasslands and woodlands. It is perennial with flowering taking place from April-August and fruiting May-August.	Unlikely to occur in the Project Area, as it is not in montane grasslands and woodlands.	The Proposed Action would have no impact on the Wright's beardtongue.
Wright's trumpets	*Acleisanthes wrightii*	SGCN: Y SR: S2	The Wright's trumpets species occurs in open semi-desert grasslands and shrublands, on shallow stony soils over limestone on low hills and flats. It is perennial with flowering occurring spring-fall, and likely also in response to rains.	Unlikely to occur in the Project Area, as it is not in low hills of limestone.	The Proposed Action would have no impact on the Wright's trumpets.

[a] Habitat descriptions from the TPWD annotated county list of rare species for Reeves County (TPWD, 2021b) and supplemented as noted with other references.
SGCN: Species of Greatest Conservation Need
State Rank (SR) Definitions: S1 Critically Imperiled; S2 Imperiled; S3 Vulnerable; S4 Apparently Secure; S5 Secure; SH Possibly Extirpated; SNR Unranked; SNA Not Applicable; SU Unrankable; G#G# or S#S# Range Rank—A numeric range rank (e.g., G2G3 or S2S3) is used to indicate the range of uncertainty in the status of a species or community. Ranges cannot skip more than one rank (e.g., GU should be used rather than G1G4).
State Status (SS) Definitions: T Threatened; E Endangered

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Appendix A

TPWD Coordination Response Letter

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Carter P. Smith
Executive Director

June 3, 2021

Mr. Gundar Peterson, P.E.
Vice President
Daniel B. Stephens & Associates, Inc.
6020 Academy Road NE, Suite 100
Albuquerque, NM 87109

RE: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Mr. Peterson:

Texas Parks and Wildlife Department (TPWD) has received the request for coordination regarding the proposed project referenced above located in Reeves County. TPWD staff has reviewed the information provided and offers the following information, comments, and recommendations concerning this project.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011. For tracking purposes, please refer to TPWD project number 46529 in any return correspondence regarding this project.

Project Description

The information provided included the following project description:

"On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill."

"The property is largely undeveloped, except for a barn and water filling station, and a new municipal solid waste landfill with a disposal footprint of approximately 192 acres is proposed. Twelve landfill cells have been designed, and each will be approximately 390 feet wide by 960 feet long. The maximum excavation will be 30 feet."

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General Construction Recommendations

TPWD would like to provide the following general construction recommendations to assist in project planning.

Recommendation: TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from the construction area. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated with site-specific native species. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities. TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no wildlife species have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.

Recommendation: For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should not contain netting, but if it must contain netting it should contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. TPWD recommends avoiding the use of plastic mesh matting.

Impacts to Vegetation/Wildlife Habitat

The information provided states “Vegetation will be cleared from the area where the landfill cells are constructed, but no changes will be made to the existing vegetation outside of the areas of construction” and “Vegetation species found in the area include creosote bush (*Larrea tridentate*), tarbush (*Flourensia cernua*), fourwing saltbush (*Atripex canescens*), mesquite (*Prosopis* sp.), gyp grama (*Bouteloua breviseta*), and alkali sacaton (*Sporoblus airoides*). As shown in the photos, the dominant vegetation type on the property is grass, although small to large shrubs are also present.” TPWD would like to provide the following

vegetation removal, revegetation, and landscaping recommendations to assist in project planning.

Recommendation: TPWD recommends reducing the amount of vegetation proposed for clearing if possible and minimizing clearing of native vegetation, particularly mature native trees, riparian vegetation, and shrubs to the greatest extent practicable. TPWD recommends in-kind on-site replacement/restoration of the native vegetation wherever practicable. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. Vegetation management should include removing invasive species early on while allowing the existing native plants to revegetate the disturbed areas. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database for regionally adapted native species that would be appropriate for landscaping and revegetation.

Landscaping for Monarch Butterflies

In December 2020, the U.S. Fish and Wildlife Service (USFWS) determined that Endangered Species Act (ESA) listing for the monarch butterfly (*Danaus plexippus*) was warranted; however, listing was precluded by higher priority listing actions. Currently, the monarch butterfly is a candidate for listing and USFWS will review the species status annually until a proposal for listing is developed.

Significant declines in the population of migrating monarch butterflies have led to widespread concern about this species and the long-term persistence of the North American monarch migration. As part of an international conservation effort TPWD has developed the *Texas Monarch and Native Pollinator Conservation Plan*, and one of the broad categories of action in this plan is to augment larval feeding and adult nectaring opportunities.

Recommendation: TPWD recommends incorporating pollinator conservation and management into the revegetation and maintenance plan for this project, such as promoting growth of native flowering species throughout the growing season. TPWD recommends revegetation efforts include planting or seeding native milkweed (*Asclepias* spp.) and nectar plants as funding and seed availability allow. Information about monarch biology, migration, and butterfly gardening can be found on the Monarch Watch website.

Recommendation: TPWD advises against planting the non-native milkweed species black swallow-wort (*Cynanchum louiseae*) and pale swallow-wort (*C. rossicum*). Monarch butterflies will lay eggs on these plant species, but the larvae are unable to feed and complete their life cycle. Additionally, these plant species can be highly invasive. TPWD also advises against planting the non-native tropical milkweed (*Asclepias curassavica*), a popular commercial nursery milkweed that can persist year-round in southern states. The year-round persistence of tropical milkweed fosters greater transmission of the

protozoan *Ophryocystis elektroscirrha* (OE), increasing the likelihood that monarchs become infected with the debilitating parasite.

Facility Lighting

Sky glow as a result of light pollution can have negative impacts on wildlife and ecosystems by disrupting natural day and night cycles inherent in managing behaviors such as migration, reproduction, nourishment, sleep, and protection from predators. Wildlife impacts from light pollution is of concern to TPWD.

Recommendation: If lighting is proposed at the new landfill facility, TPWD recommends committing to dark-sky lighting practices. When lighting is added, TPWD recommends minimizing sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. TPWD recommends using the minimum amount of night-time lighting needed for safety and security and to use dark-sky friendly lighting that is on only when needed, down-shielded, as bright as needed, and minimizing blue light emissions. Appropriate lighting technologies and beneficial management practices (BMPs) can be found on the International Dark-Sky Association website.

Federal Laws

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The USFWS Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Recommendation: TPWD recommends excluding vegetation clearing activities during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be disturbed by operations. TPWD recommends performing active bird nest surveys no more than five days prior to planned clearing or construction. TPWD recommends that a minimum 150-foot buffer of vegetation remain around any nests that are observed prior to disturbance. Any vegetation (such as trees, shrubs, and grasses) or other open areas where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

State Laws

Parks and Wildlife Code – Chapter 64, Birds

Texas Parks and Wildlife Code Section 64.002, regarding protection of nongame birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. Texas Parks and Wildlife Code Section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl.

> **Recommendation:** Please review the *Migratory Bird Treaty Act* section above for recommendations as they are also applicable for Chapter 64 of the Texas Parks and Wildlife Code compliance.

Parks and Wildlife Code, Section 68.015 – State-listed Species

Texas Parks and Wildlife Code regulates state-listed threatened and endangered animal species. The capture, trap, take, or killing of state-listed threatened and endangered animal species is unlawful unless expressly authorized under a permit issued by USFWS or TPWD. The *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found on the Wildlife Habitat Assessment Program website. State-listed species may only be handled by persons with authorization obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Texas horned lizard (*Phrynosoma cornutum*)

The project area may provide suitable habitat for the state-listed threatened Texas horned lizard. There is a Texas Natural Diversity Database (TXNDD) record for the Texas horned lizard located approximately 5.0 miles from the project area. TPWD also notes that there are several research-grade iNaturalist (www.inaturalist.org) observations for this species located within the general vicinity of Pecos. The Texas horned lizard inhabits open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees and soil may vary in texture from sandy to rocky.

If present in the project area, the Texas horned lizard could be impacted by ground disturbing activities from construction. A useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant (*Pogonomyrmex barbatus*) mounds since harvester ants are the primary food source of Texas horned lizards. Texas horned lizards may hibernate on-site in loose soils a few inches below ground during the cool months from September/October to March/April. Construction in these areas could harm hibernating lizards. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. If horned lizards (nesting, gravid females, newborn young, lethargic from cool temperatures

or hibernation) cannot move away from noise and approaching construction equipment in time, they could be affected by construction activities.

Recommendation: TPWD recommends implementing the following BMPs to assist in minimizing potential impacts to the Texas horned lizard. Implementing the following BMPs could also help minimize impacts to a variety of native wildlife species that may inhabit the project area:

Contractor Training for Protected Species – TPWD recommends providing training for project contractors prior to the construction of the proposed project. Wildlife training should consist of identification of Texas horned lizards and their primary food source (harvester ants), and the proper protocol to avoid impact if a Texas horned lizard or other rare or protected species is encountered. TPWD recommends instructing contractors to avoid impacts to harvester ant mounds where feasible. TPWD understands that ant mounds in the direct path of construction would be difficult to avoid, but contractors should be mindful of these areas when deciding where to place project specific locations and other disturbances associated with construction.

Biological Monitor – TPWD recommends that a permitted biologist be on-site during construction activities, especially during site clearing and trenching, to look for protected species, advise the construction crews on appropriate action if horned lizards are observed, and relocate any protected individuals that are in imminent harm. Biologists must be authorized to handle horned lizards and other state-listed species. If a biological monitor cannot be on-site during construction, site personnel should be trained for encounters with protected species and a qualified biologist should be notified of the siting and consulted on appropriate action.

Horned Lizard Encounters – If Texas horned lizards are encountered, they should be avoided and allowed to leave the project area on their own. If a horned lizard must be relocated, TPWD recommends relocating them off-site to an area that is close-by and contains similar habitat. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100 to 200 yards from the initial encounter location. After horned lizard removal, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude horned lizards and other reptiles.

The exclusion fence should be constructed and maintained as follows:

- The exclusion fence should be constructed with metal flashing or drift fence material. Rolled erosion control mesh material should not be used.

- The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.
- The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated with site-specific native species.

Speed Limits – TPWD recommends reducing speed limits in the project area to at least 15 mph to help prevent vehicle-induced mortality of this species.

Work During Cold Weather – If construction activities take place during cold weather, it is recommended that construction personnel stay observant of activities that may harm the Texas horned lizard, such as disruption of burrows. In cold weather, this species will use burrows or pallets near the base of vegetation for shelter. Their slow metabolism in cold weather can reduce movements, restricting their ability to flee from danger.

Trenches – To avoid direct harm to state-listed species and other wildlife that may occur in the project area, TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no Texas horned lizards or other wildlife have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling. As previously mentioned, if state-listed species are trapped in trenches, they should be removed by personnel permitted by TPWD to handle state-listed species.

No Kill Wildlife Policy – TPWD recommends implementing a "No Kill Wildlife Policy" during the construction and operation of the site. This policy prevents inadvertently killing protected species that may be mistaken for common species.

Species of Greatest Conservation Need

In addition to state and federally-protected species, TPWD tracks Species of Greatest Conservation Need (SGCN) and other special features and natural communities that are not listed as threatened or endangered. These species and communities are tracked in the TXNDD, and TPWD actively promotes their conservation. TPWD considers it important to evaluate and, if necessary, minimize impacts to SGCN and their habitat to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future.

Western box turtle (*Terrapene ornata*)

There are several research-grade iNaturalist observations for the western box turtle located within Reeves County. The western box turtle occurs throughout Texas, typically in open habitats such as prairie grasslands, pastures, fields, sandhills, and open woodlands. Adults have a home-range size of approximately 6 to 14 acres. This species is active spring through fall with courtship and mating occurring primarily in the spring. For shelter, they burrow into soil (e.g., under plants such as yucca) or enter burrows made by other species. Eggs are laid in nests dug in soft well-drained soil in open areas. Western box turtles are threatened by habitat loss and fragmentation, vehicle strikes on roads, and collection for the pet trade and food markets. The project area may provide suitable habitat for this species.

Gray-checkered whiptail (*Aspidoscelis dixoni*)

There are several research-grade iNaturalist observations for the gray-checkered whiptail located within Reeves County. This species inhabits rocky plains, dry washes, canyon bottoms, and desert scrub (ocotillo, creosotebush, opuntia). The project area may provide suitable habitat for this species.

Western rattlesnake (*Crotalus viridis*)

There are several research-grade iNaturalist observations for the western rattlesnake located within Reeves County. The western rattlesnake inhabits grasslands, both desert and prairie, as well as shrub desert rocky hillsides. This species can also be found at the edges of arid and semi-arid river breaks. The project area may provide suitable habitat for this species.

Western massasauga (*Sistrurus tergeminus*)

There is a research-grade iNaturalist observation for the western massasauga located within Reeves County. The western massasauga is common in gently rolling prairies occasionally broken by creek valleys or rocky hillsides. The project area may provide suitable habitat for this species.

Recommendations: TPWD recommends implementing the following BMPs to minimize impacts to the above-listed terrestrial reptile SGCN.

- As previously stated, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should not contain netting, but if it must contain netting it should contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. TPWD recommends avoiding the use of plastic mesh matting.
- As previously stated, for open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.

- Identify locations of burrows on the project site and avoid impacts to burrows if feasible.
- TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100 to 200 yards from the initial encounter location.
- Inform contractors that if reptiles are found on the project site allow species to safely leave the project area.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible.
- Contractors should be advised of potential occurrence in the project area, and to avoid harming these species if encountered.
- Due to increased activity (mating) of reptiles during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (April-May) season. Also, timing ground disturbing activities before October when reptiles become less active and may be using burrows in the project area is also encouraged.

Recommendation: Because snakes are generally perceived as a threat and killed when encountered, and since the project area contains suitable habitat for the western massasauga and the western rattlesnake, TPWD recommends construction personnel and contractors be advised to avoid injury or harm to all snakes encountered during clearing and construction. Injury to humans usually occurs when the snake becomes agitated following harassment or when someone attempts to handle a recently dead venomous snake that still contains its bite reflex. Therefore, contractors should avoid contact with snakes if encountered and allow all native snakes to safely leave the premises.

Black-tailed Prairie dog (*Cynomys ludovicianus*)

There are several TXNDD records for the black-tailed prairie dog located within Reeves County. Black-tailed prairie dogs inhabit dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. The black-tailed prairie dog is a keystone species that provides food and/or shelter for rare species tracked by TPWD such as the ferruginous hawk and the western burrowing owl, as well as many other wildlife species. There may be suitable habitat for this species within the project area.

Recommendation: TPWD recommends avoiding disturbance of prairie dog towns or burrows and species that depend on them. TPWD recommends avoiding these areas during construction and installing exclusion fence to keep prairie dogs from entering the project area. If prairie dog burrows will be disturbed as a result of the proposed project, TPWD recommends non-harmful exclusion methods be used to encourage the animals to vacate the area prior to disturbance and discourage them from returning to the area during construction. If prairie dogs are encountered on the project site, TPWD recommends contacting a prairie dog relocation specialist. If impacting a

portion of a larger colony, time relocation efforts and/or humane removal immediately before construction to discourage recolonization of the project area.

Western burrowing owl (*Athene cunicularia hypugaea*)

There are several eBird (www.ebird.org) observations for the western burrowing owl located within the general vicinity of Pecos. There are also several research-grade iNaturalist observations for this species located within Reeves County. The western burrowing owl is a ground-dwelling owl that uses the burrows of prairie dogs and other fossorial animals for nesting and roosting. When natural burrows are limited, this species will breed in urban habitats which may lead to problems for the owls or their young. The owls opportunistically live and nest in road and railway rights-of-way, parking lots, baseball fields, school yards, golf courses, and airports. They have also been found nesting on campuses, in storm drains, drainage pipes, and cement culverts, on banks, along irrigation canals, under asphalt or wood debris piles, or openings under concrete pilings or asphalt. The burrowing owl is protected under the MBTA, and take of these birds, their nests, and eggs is prohibited. Potential impacts to the burrowing owl could include habitat removal as well as displacement and/or destruction of nests and eggs if ground disturbance occurs during the breeding season. There may be suitable habitat for this species within the project area.

Recommendation: TPWD recommends avoiding disturbance of mammal burrows or other suitable habitat during the construction of the proposed project. As previously mentioned, TPWD recommends conducting project activities outside the breeding season (March 15 to September 15). Nesting areas and burrows should be protected from intensive disturbance during incubation. Excavation of an active nest burrow may destroy eggs, young owls, or even adults and is violation of the MBTA. If nesting owls are found inhabiting the project area, disturbance should be avoided until the eggs have hatched and the young have fledged.

Evaluation of SGCN

TPWD notes that it is the responsibility of the project proponent to evaluate all of the species listed on the TPWD Rare, Threatened, and Endangered Species of Texas by County online application (RTEST or TPWD county list), not just state and federally-listed species, and to determine if those species have habitat within the project area and if those species have the potential to be impacted by the construction of the proposed project.

Recommendation: Please review the TPWD county list for Reeves County because species in addition to those discussed in this letter could be present within the project area depending upon habitat availability. TPWD recommends including a discussion and evaluation of potential impacts to

SGCN (in addition to state-listed and federally-listed species) for all projects coordinated with this office. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally-listed species.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, considering all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting all wildlife, regardless of listing status.

Texas Natural Diversity Database

The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and cannot be used as presence/absence data. They represent species that could potentially be in your project area. This information cannot be substituted for field surveys.

Recommendation: The TXNDD is updated continuously based on new, updated and undigitized records; therefore, TPWD recommends requesting the most recent TXNDD data on a regular basis. For questions regarding a record or to request the most recent data, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

Recommendation: To aid in the scientific knowledge of a species' status and current range, TPWD encourages project proponents and their contractors report all encounters of SGCN, state-listed, and federally-listed species to the TXNDD according to the data submittal instructions found on the TXNDD website.

TPWD strives to respond to requests for project review within a 45-day comment period. Responses may be delayed due to workload and lack of staff. Failure to meet the 45-day review timeframe does not constitute a concurrence from TPWD that the proposed project will not adversely impact fish and wildlife resources.

TPWD appreciates the opportunity to provide comments and recommendations for this project. If you have any questions, please contact me at (512) 389-8054 or Jessica.Schmerler@tpwd.texas.gov.

Sincerely,

Jessica Schmerler

Jessica E. Schmerler, CWB
Wildlife Habitat Assessment Program
Wildlife Division

JES:46529

From:	Williams, Christina
To:	Herrmann, Grace
Cc:	Ewing, Amy; Peterson, Gundar; Jayne, Kelly
Subject:	FW: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas
Date:	Thursday, July 21, 2022 2:23:37 PM
Attachments:	USFWS Follow-Up Coordination Ltr_Permian Landfill_7-21-2022.pdf

Good Afternoon,

Thank you for your email. I wasn't sure whether the attached document is intended to initiate a section 7 consultation, since a section 7 consultation is between another Federal agency and the U.S Fish and Wildlife Service. I do not see any mention of another Federal agency. In general, the Service does not provide written correspondence on non-Federal projects. If there is another Federal agency involved in the project, then they would need to initiate consultation with us. Here is a link to more details about section 7 consultations: https://www.fws.gov/service/esa-section-7-consultation

Please let me know if I can be of further assistance.

Thank you,

Christina

Christina Williams
Division Supervisor
Consultations and HCPs
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, Texas 78758
~~Of. 512-490-0057, ext. 235~~
Cell 512-850-0980

From: Yeargan, Catherine <catherine_yeargan@fws.gov>
Sent: Thursday, July 21, 2022 2:59 PM
To: Williams, Christina <christina_williams@fws.gov>
Subject: Fw: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

FYI

Thanks,
Catherine

From: Herrmann, Grace <gherrmann@geo-logic.com>
Sent: Thursday, July 21, 2022 2:53 PM
To: Yeargan, Catherine <catherine_yeargan@fws.gov>
Cc: Ewing, Amy <aewing@geo-logic.com>; Peterson, Gundar <gpeterson@geo-logic.com>; Jayne, Kelly <kjayne@geo-logic.com>
Subject: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

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Ms. Yeargan,

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a proposed Type I municipal solid waste facility in north-central Reeves County called the WST Permian Landfill. This correspondence is a follow-up to the letter we sent to Jacob Ogdee last year. I've attached a letter with the biological assessment for your review and we're requesting a written response, as required by the TCEQ, within 30 days.

Thank you in advance for your time and consideration. Please call if you have questions or concerns.

Regards,

Grace Herrmann, EI
Staff Engineer

Daniel B. Stephens & Associates, Inc.
Hydrology¦Engineering¦Geoscience

A Geo-Logic Company

Providing solutions for water, natural resources, and the environment

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Appendix B

USFWS IPaC Report

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
Phone: (512) 490-0057 Fax: (512) 490-0974
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

In Reply Refer To: September 14, 2021
Consultation Code: 02ETAU00-2021-SLI-2118
Event Code: 02ETAU00-2021-E-04386
Project Name: WST Permian Landfill

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that *may* occur within the county of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* - the proposed action will not affect federally listed species or critical habitat. A “no effect” determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* - adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action “is likely to adversely affect” the listed species. The analysis should consider all interrelated and interdependent actions. An “is likely to adversely affect” determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered

Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/communication-towers.php. Additionally, wind energy projects should follow the wind energy guidelines

https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php) for minimizing impacts to migratory birds and bats.

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
(512) 490-0057

Project Summary

Consultation Code: 02ETAU00-2021-SLI-2118
Event Code: Some(02ETAU00-2021-E-04386)
Project Name: WST Permian Landfill
Project Type: LAND - DISPOSAL / TRANSFER
Project Description: Proposed Type I municipal solid waste landfill
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@31.43206775,-103.57851061487686,14z



Counties: Reeves County, Texas

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Northern Aplomado Falcon *Falco femoralis septentrionalis* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Fishes

NAME	STATUS
Comanche Springs Pupfish *Cyprinodon elegans* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7282	Endangered
Pecos Gambusia *Gambusia nobilis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/460	Endangered

Snails

NAME	STATUS
Pecos Assiminea Snail *Assiminea pecos* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4519	Endangered
Phantom Springsnail *Pyrgulopsis texana* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/465	Endangered
Phantom Tryonia *Tryonia cheatumi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4779	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Diminutive Amphipod *Gammarus hyalleloides* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/224	Endangered

Flowering Plants

NAME	STATUS
Pecos (=puzzle, =paradox) Sunflower *Helianthus paradoxus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7211	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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Appendix C

TPWD Annotated County List of Rare Species

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Last Update: 6/22/2021

REEVES COUNTY

AMPHIBIANS

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

BIRDS

American peregrine falcon *Falco peregrinus anatum*

Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2B

chestnut-collared longspur *Calcarius ornatus*

According to Partners in Flight's Landbird Conservation Plan (2016), this species has a continental decline of 85%. 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*

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of a

lark bunting *Calamospiza melanocorys*

According to Partners in Flight's Landbird Conservation Plan (2016), this species has a continental decline of 86%. 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*

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

reddish egret *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2B

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

western yellow-billed cuckoo *Coccyzus americanus occidentalis*

Status applies only to western population beyond the Pecos River Drainage; breeds in riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; deciduous woodlands with cottonwoods and willows; dense understory foliage is important for nest site selection; nests in willow, mesquite, cottonwood, and hackberry; forages in similar riparian woodlands; breeding season mid-May-late Sept.

Federal Status: LT	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T2T3	State Rank: S4S5B

white-faced ibis *Plegadis chihi*

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

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of a

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

CRUSTACEANS

diminutive amphipod *Gammarus hyalelloides*

Known only from Phantom Lake Spring; omnivorous; amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover; vulnerable to reduction of springflow resulting from declining levels of groundwater

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

FISH

Comanche Springs pupfish *Cyprinodon elegans*

Restricted to small series of springs and their outflows, and man-made irrigation canals in the area of Balmorhea, Texas, including Phantom Springs (Jeff Davis County), San Solomon Springs, Giffin Springs and Toyah Creek (Reeves County). Native range: Comanche, Phantom Cave, San Solomon springs (Pecos and Reeves counties). Prefers fast-flowing water. Originally in Comanche Springs, San Solomon, and Phanton Cave, presently restricted to San Solomon and Phantom Cave and associated springs, and downstream irrigation canals; found in constantly discharging springs and in swift-flowing water of canals and earthen ditches

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

headwater catfish *Ictalurus lupus*

Originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1S2

Pecos gambusia *Gambusia nobilis*

Endemic to the Pecos River basin in southeastern New Mexico and western Texas. Restricted to two locations in Texas (Balmorhea springs complex and Diamond Y Draw). Stenothermal springs, runs, ciénegas and irrigation canals carrying spring waters.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

DISCLAIMER

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Pecos pupfish *Cyprinodon pecosensis*

Originally Pecos River basin, presently restricted to upper basin only; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1

roundnose minnow *Dionda episcopa*

Pecos River and Limpia Creek. Restricted to clear, spring-fed waters having little temperature variation.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1

speckled chub *Macrhybopsis aestivalis*

Found throughout the Rio Grande and lower Pecos River but occurs most frequently between the Río Conchos confluence and the Pecos River. Flowing water over coarse sand and fine gravel substrates in streams; typically found in raceways and runs.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S1S2

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

Balmorhea saddle-case caddisfly *Protoptila balmorhea*

Oviparous; larvae make turtle-shaped cases of small pebbles attached to the underside of stones in swift-flowing streams and rivers

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

No accepted common name *Epitragosoma arenaria*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

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

DISCLAIMER

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big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

black bear *Ursus americanus*

Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. luteolus, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

black-tailed prairie dog *Cynomys ludovicianus*

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

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

Davis Mountains cottontail *Sylvilagus robustus*

Primarily limited to the Davis Mountains in the Trans Pecos . Brushy pastures, brushy edges of cultivated fields, and well-drained streamsides; active mostly at twilight and at night, where they may forage in a variety of habitats, including open pastures, meadows, or even lawns; rest during daytime in thickets or in underground burrows and small culverts; feed on grasses, forbs, twigs and bark; not sociable and seldom seen feeding

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S3

DISCLAIMER

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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

gray-footed chipmunk *Tamias canipes*

High elevation (1800-2500 meters) forest-dwelling chipmunk occurring in dense stands of mixed timber and on brushy hillsides with rock crevices or downed logs along forest edges. Occurs in Texas only in the Sierra Diablo and Guadalupe Mountains in the Trans-Pecos; favorite habitat is downed logs near edges of clearings; also occur in dense stands of mixed timber (oaks, pines, firs) and on brushy hillsides, especially with rock

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2S3

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

hooded skunk *Mephitis macroura*

Rocky canyons & riparian corridors at low elevations, rarely to 6000 feet. Avoids man-made habitations. Only known from the Trans-Pecos regions along the Rio Grande.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1S2

kit fox *Vulpes macrotis*

Open desert grassland; avoids rugged, rocky terrain and wooded areas.

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4	State Rank: S1S2

long-legged myotis bat *Myotis volans*

Found in pine-oak woodland to grassland ecotone, higher elevations of Trans-Pecos.High, open woods and mountainous terrain; nursery colonies (which may contain several hundred individuals) form in summer in buildings, crevices, and hollow trees; apparently does not use caves as day roosts, but may use such sites at night; single offspring born June-July.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S1S2

DISCLAIMER

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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

Muskrat *Ondatra zibethicus*

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

pronghorn *Antilocapra americana*

Prefers hilly & plateau areas of open grassland, desert-grassland, & desert-scrub, where it frequents south-facing slopes & other sheltered areas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

rock mouse *Peromyscus nasutus*

Rocky areas and talus slopes above 6000 feet. General vegetation associations include madrone, oak, maple, juniper, pinyon and ponderosa pine.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

Townsend's big-eared bat *Corynorhinus townsendii*

In Texas, habitat ranges from desert scrub to pinyon-juniper woodland, consistently in areas with canyons or cliffs (Schmidly 1991). Roosts in caves, crevases, trees, and buildings in the Panhandle and Trans-Pecos.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3?

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

DISCLAIMER

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western small-footed myotis bat *Myotis ciliolabrum*

Mountainous regions of the Trans-Pecos, usually in wooded areas, also found in grassland and desert scrub habitats; roosts beneath slabs of rock, behind loose tree bark, and in buildings; maternity colonies often small and located in abandoned houses, barns, and other similar structures; apparently occurs in Texas only during spring and summer months; insectivorous

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western spotted skunk *Spilogale gracilis*

Brushy canyons, rocky outcrops (rimrock) on hillsides and walls of canyons. In semi-arid brushlands in U.S., in wet tropical forests in Mexico. When inactive or bearing young, occupies den in rocks, burrow, hollow log, brush pile, or under building.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

MOLLUSKS

Brune's tryonia *Tryonia brunei*

Endemic freshwater snail; benthic; currently only found in modified waters Phantom Lake Spring; abundant on firm substratum and in soft mud before modification; vulnerable to declining groundwater resulting in reduction of springflow

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Pecos assiminea snail *Assiminea pecos*

A member of the marine snail family, but represents the most inland snail of the genus; semiaquatic, usually found on moist ground or beneath

Federal Status: LE	State Status: E	SGCN: Y
Endemic:	Global Rank: G1	State Rank: S1

Phantom springsnail *Pyrgulopsis texana*

Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

phantom tryonia *Tryonia cheatumi*

Endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

DISCLAIMER

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Texas Hornshell *Popenaias popeii*

Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

Federal Status: LE | State Status: E | SGCN: Y
Endemic: N | Global Rank: G1 | State Rank: S1

REPTILES

gray-checkered whiptail *Aspidoscelis dixoni*

Terrestrial: The habitat comprises rocky plains, dry washes, canyon bottoms, and desert scrub (ocotillo, creosotebush, opuntia) (Bartlett and Bartlett 1999); generally on rocky soils of desert shrublands and degraded grasslands on alluvial benches, canyon bottoms, and lower southwestern mountain slopes (Scudday 1973, Degenhardt et al. 1996).

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S2

Longnose Leopard Lizard *Gambelia wislizenii*

This species occurs in open gravelly or sandy habitats that are sparsely vegetated with scattered brush. When threatened, this lizard will retreat to brush piles and rodent burrows to escape.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S5

Rio Grande river cooter *Pseudemys gorzugi*

Aquatic: Habitat includes rivers and their more permanent spring-fed tributary streams, beaver ponds, and stock tanks (Garrett and Barker 1987). Occupied waters may have a muddy, sandy, or rocky bottom, and may or may not contain aquatic vegetation (Degenhardt et al. 1996).

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: S2

Roundtail Horned Lizard *Phrynosoma modestum*

This species seems to prefer rocky or gravelly substrates in open areas that are sparsely vegetated.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S5

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

DISCLAIMER
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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

western hognose snake *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

western massasauga *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

western rattlesnake *Crotalus viridis*

Terrestrial: Dry desert and prairie grasslands, shrub desert rocky hillsides; edges of arid and semi-arid river breaks.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

PLANTS

Bigelow's desert grass *Blepharidachne bigelovii*

Restricted to xeric limestone or various gypsum-influenced habitats; Perennial; Flowering March-Dec; Fruiting March-Dec

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

cienega false clappia-bush *Pseudoclappia arenaria*

Mostly in alkali sacaton (Sporobolus airoides) grasslands on alkaline, gypseous or saline soils of alluvial flats around cienegas, playa lakes and other desert wetlands; Perennial; Flowering spring-summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of a

desert night-blooming cereus *Peniocereus greggii var. greggii*

Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations, 1200-1500 m (3900-4900 ft), on slopes, benches, arroyos, flats, and washes; flowering synchronized over a few nights in early May to late June when almost all mature plants bloom, flowers last only one day and open just after dark, may flower as early as April

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4T3	State Rank: S2

grayleaf rock-daisy *Perityle cinerea*

Crevices in dry limestone caprock of mesas; flowering spring-fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

gyp locoweed *Astragalus gypsodes*

Gypsum or stiff gypseous clay soils on low rolling hills, mostly low elevations in the middle Pecos River valley; many of the known locations are on the Castile Formation (Permian); flowering March-June

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Hinckley's spreadwing *Eurytaenia hinckleyi*

Loose sandy soils of the Monahans/Kermit Sandhills; Annual; Flowering/Fruiting May-July

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

lyreleaf twistflower *Streptanthus carinatus ssp. carinatus*

Occurs on igneous and limestone slopes and alluvial fans (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T3T4	State Rank: S3

neglected sunflower *Helianthus neglectus*

Deep sands on rolling hills and dunes of Pleistocene sand sheets, often associated with Havards shin oak dwarf woodlands or mesquite-sand sage woodlands; flowering July-September

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2Q	State Rank: S2

Pecos sunflower *Helianthus paradoxus*

Restricted to saline, calcareous, heavy-textured soils around cienegas; usually most abundant on perennially wet soils of subirrigated terraces just above the wettest sites; flowering August-November

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of a

Texas claret-cup cactus *Echinocereus coccineus var. paucispinus*

Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedin 2004).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3	State Rank: S3

Wright's beardtongue *Penstemon wrightii*

Occurs mostly in montane grasslands and woodlands; Perennial; Flowering April-Aug; Fruiting May-Aug

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

Wright's trumpets *Acleisanthes wrightii*

Open semi-desert grasslands and shrublands on shallow stony soils over limestone on low hills and flats; Perennial; Flowering spring-fall, probably also in response to rains

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of a

Appendix D

Photographs

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1. View from the west-central area to the east-southeast of grasslands



2. Southern portion of site



3. Disturbed area in the central-southeast part of site



4. View to the north from the central-eastern part of the site



5. View of the northeast part of the site



6. View to the south from the northwest part of the site



7. The west-northwest part of the site, with swale shown beyond by denser line of mesquite trees



8. Swale that crosses the site, showing denser ground cover, creosote bush, and mesquite trees



9. Example of denser vegetation in area of the swale that crosses the site from northwest to east-southeast



10. Former irrigation ditch through Chihuahuan desert grassland in southwestern part of site



11. Example of eroded irrigation ditch that could harbor reptiles



12. Metal building near gate and roadway that contained roosting barn owl



13. Example of ant mound near gate entrance



14. Roundtailed horned lizards observed in the central-east portion of the site



15. Vacant nest in mesquite tree in the swale that cuts across the site from northwest to southeast



16. Domestic or feral pig skull observed in northern part of site



17. Badger hole observed in the northwest part of site



18. Pack rat nest located in debris left on site



19. Western coachwhip snake



20. Roundtail horned lizard

Appendix E

Texas Natural Diversity Database Species Occurrence List

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a Geo-Logic Company

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Occurrence List for Quads Surrounding Request Area

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Astragalus gypsodes	gyp locoweed	5			3574
Cyprinodon pecosensis	Pecos pupfish	12	T		937
Helianthus paradoxus	Pecos sunflower	6	T	LT	5789
Ictalurus lupus	headwater catfish	27	T		13982
Macrhybopsis aestivalis	speckled chub	30	T		13512
Perityle cinerea	grayleaf rock-daisy	2			4032
Phrynosoma cornutum	Texas horned lizard	68	T		14502
Pseudoclappia arenaria	cienega false clappia-bush	1			5445
Pseudoclappia arenaria	cienega false clappia-bush	2			2381
Pseudoclappia arenaria	cienega false clappia-bush	3			8238

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Biological Evaluation Correspondence

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Texas Parks and Wildlife Department

DBS&A
a Geo-Logic Company

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April 23, 2021

Ms. Jessica Schmerler
Texas Parks & Wildlife Department
Wildlife Habitat Assessment Program
WHAB@tpwd.texas.gov

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Ms. Schmerler:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the Texas Parks & Wildlife Department (TPWD) to request a project review per 30 TAC 330.61(n). We have included figures showing the location of the proposed facility (Figure 1), topography and photograph locations (Figure 2), and aerial photography (Figure 3). Site photographs are provided as Attachment 1. Land use in the vicinity of the site is for agriculture, oil and gas development, rural residences, and undeveloped land.

A biological assessment to determine the effect of the facility on endangered or threatened species has not been prepared; however, a TPWD project review request form is included as Attachment 2. Summaries of a 2014 U.S. Fish and Wildlife Service (USFWS) consultation for the subject property, recent review of the rare, threatened, and endangered species of Texas for Reeves County, and current Texas Natural Diversity Database (TXNDD) data for the project and surrounding area are discussed below.

In August 2014, HDR received a consultation from the USFWS on the subject property under consultation tracking number 02ETAU00-2014-SLI-0380 as part of property pre-purchase activities (Attachment 3). This consultation resulted in a list of 12 threatened or endangered species to consider in an effects analysis for a project on this property, including the following:

- *Federal Endangered Species*: Interior least tern (wind energy projects condition), northern aplomado falcon, diminutive amphipod (crustacean), Comanche Springs pupfish, Pecos gambusia (fish), Pecos assiminea snail, phantom springsnail, and phantom Tryonia (snail)

- *Federal Threatened Species:* Mexican spotted owl, piping plover (wind energy projects condition), and Pecos sunflower
- *Federal Proposed Threatened Species:* Red knot (wind energy projects condition)

Based on the USFWS Critical Habitat Mapper, the only critical habitat that has been designated in Reeves County is for the phantom tryonia (snail), and these areas are located in southwestern Reeves County, over 30 miles southwest of the proposed facility location.

The rare, threatened, and endangered species of Texas for Reeves County were reviewed in 2020, during development of the current landfill permit application. Species currently listed as endangered or threatened in Reeves County include the following:

- *Federal Endangered listings:* Diminutive amphipod (crustacean), Comanche Springs pupfish, Pecos gambusia (fish), Pecos assiminea snail, phantom springsnail, phantom tryonia (snail), and Texas hornshell (freshwater mussel)
- *Federal Threatened listings:* Pecos sunflower
- *State Endangered listings:* Diminutive amphipod (crustacean), Comanche Springs pupfish, Pecos gambusia (fish), Pecos assiminea snail, phantom springsnail, phantom tryonia (snail), and Texas hornshell (freshwater mussel)
- *State Threatened listings:* Black bear, American peregrine falcon, reddish egret, white-faced ibis, zone-tailed hawk, headwater catfish, Pecos pupfish, roundnose minnow, speckled chub (fish), Texas horned lizard, and Pecos sunflower

The TXNDD data on rare, threatened, and endangered species, natural communities, and other significant features of concern to the TPWD were obtained on April 2, 2021. The proposed project is located within the Pecos West U.S. Geological Survey (USGS) 7.5-minute quadrangle area. A summary of the TXNDD data follows:

- The element occurrence (EO) list for the USGS 7.5 minute quadrangles surrounding the request area includes 5 species: gyp locoweed (*Astragalus gypsodes*) (no state or federal listing), Pecos sunflower (*Helianthus paradoxus*) (state threatened and federal threatened listings), grayleaf rock-daisy (*Perityle cinerea*) (no state or federal listing), Texas horned lizard (*Phrynosoma cornutum*) (state threatened listing, no federal listing), and cienega false clappia-bush (*Pseudoclappia arenaria*) (no state or federal listing).

- The EO report includes 7 records: 3 for fish (Pecos pupfish [*Cyprinodon pecosensis*], headwater catfish [*Ictalurus lupus*], and speckled chub [*Macrhybopsis aestivalis*]). No surface water features are present near the proposed project's location, and the Pecos River is located approximately 6 miles to the east. The other EO report records are for grayleaf rock-daisy (*Perityle cinerea*) and cienega false clappia-bush (*Pseudoclappia arenaria*). The grayleaf rock-daisy record lists this species as imperiled and very rare both in the state and

globally, and includes 5 historical occurrence records for this species, with no field information. The EO report includes 3 records for the cienega false clappia-bush. This species is listed as rare or uncommon in the state and very rare globally. The EO records for this species include information about a total of 4 occurrences between July 1947 and June 1971 at a location 1 mile north of Pecos, Texas near U.S. Highway 285, 2 occurrences in June 1943 and 196? (no date) 2 miles north of Pecos, Texas near U.S. Highway 285, and 1 occurrence in September 1939 at Toyah Lake located 3.66 miles southeast of Pecos, Texas on U.S. Highway 285.

- The source feature (SF) list for the surrounding area includes one species: Texas horned lizard (*Phrynosoma cornutum*).

Please provide an evaluation of the proposed facility's potential impacts to wildlife and habitat, including rare, threatened, and endangered species, as well as impacts to other significant resources, and any concerns regarding the proposed facility or project area.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

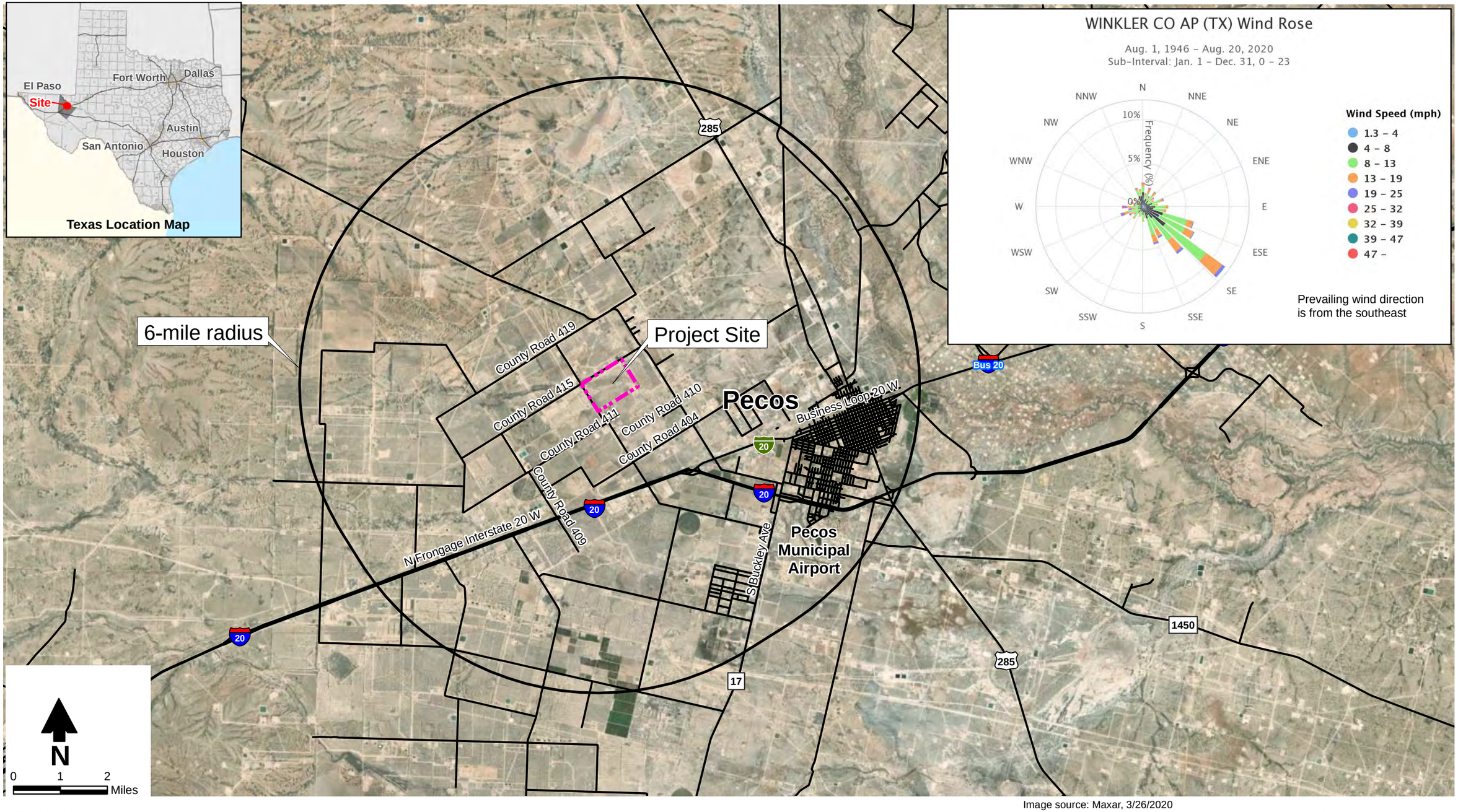
Gundar Peterson, P.E.
Vice President

AE/rpf
Attachments

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Figures

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Explanation

Site

Texas Department of Transportation road

Image source: Maxar, 3/26/2020
Road source: Texas Department of Transportation (http://gis-txdot.opendata.arcgis.com/)
Wind data: Midwestern Regional Climate Center (MRCC) (https://mrcc.illinois.edu/CLIMATE/)

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Daniel B. Stephens & Associates, Inc.
8/25/2020 JN DB20.1166

WEST SUN TEX PERMIT APPLICATION

General Location Map

Figure 1



x Photo 2, South

x Photo 1, East

Photo 8, North x

x Photo 3, North and Photo 4, West

x Photo 7, Southwest

Photo 6, North x

x Photo 5, East

TEXAS

CO RD 416
CO RD 415
CO RD 405
CO RD 419
CO RD 415
HOG RD
CO RD 408
CO RD 404
RANCH RD 2119
CO RD 411
BUS 20
EVERGREEN DR
WESTERN AVE

N

0 1000 2000 Feet

Explanation

Site

Image source: Esri, et al., 2020

Pecos West is the USGS 7.5 minute quadrangle map that includes the project area.

WEST SUN TEX PERMIT APPLICATION

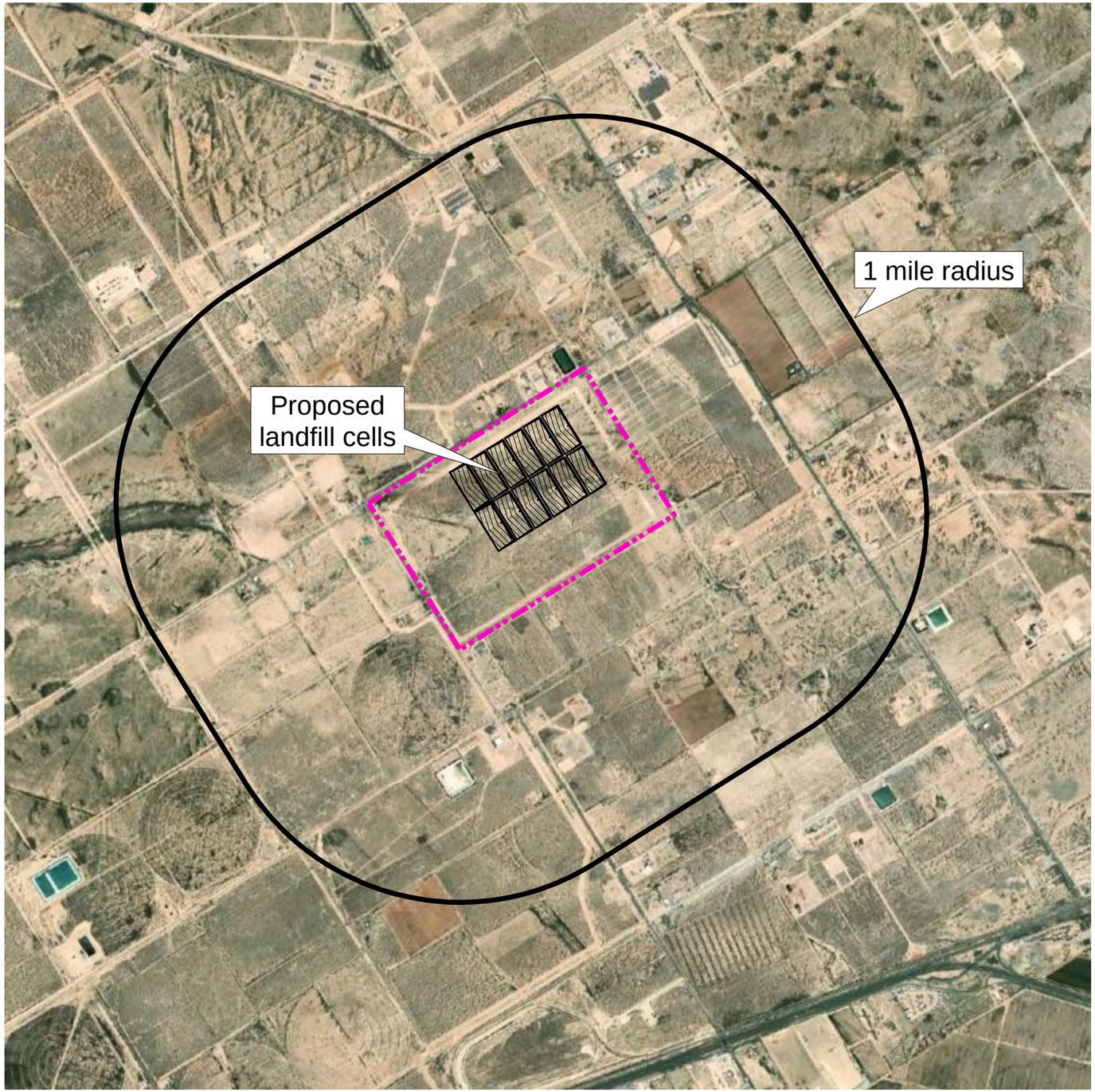
Topographic Map

Figure 2

Daniel B. Stephens & Associates, Inc.

8/25/2020 JN DB20.1166

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N

0 1200 2400
Feet

Explanation

Site location

Image source: Maxar, 3/26/2020

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Daniel B. Stephens & Associates, Inc.
8/28/2020 JN DB20.1166

WEST SUN TEX PERMIT APPLICATION
Aerial Photography

Figure 3

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Attachment 1

Photographs

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1. View to east from water fill station, southeast corner of CR 408-CR 415 intersection



2. View to south from CR 415 at eastern property boundary



3. View to north from southeast corner of the property



4. View to west from southeast corner of the property



5. View to east from CR 408 near southern property boundary



6. View to north along CR 408, with corrugated-clad pole barn and fenced laydown yard in middle distance



7. Close-up of the barn (view to southwest)



8. View to north from water filling station pull-off on CR 408, southeast corner of CR 408-CR 415 intersection

Attachment 2

Project Review Request Form

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Project Coordination and Review Requests

(Including Threatened and Endangered Species)

EARLY PROJECT COORDINATION

If you are in the information gathering phase of project coordination and assessment, ***in lieu of*** submitting a Project Review form or a letter request, you may obtain information from the following Texas Parks and Wildlife Department (TPWD) sources regarding sensitive resource information for use in your analyses. TPWD recommends you use at least the following two sources of information when analyzing for project impacts to sensitive resources, including before submitting a request for TPWD review and recommendations.

RARE, THREATENED, AND ENDANGERED SPECIES OF TEXAS BY COUNTY - This database includes lists of species known to occur and potentially occurring in Texas at the county level. It can be accessed online at: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/ or by contacting our administrative staff at (512) 389-4571. Appropriate use and interpretation of the county level lists are the responsibility of the recipient.

TEXAS NATURAL DIVERSITY DATABASE (TXNDD) – The TXNDD is publicly available location specific data on rare, threatened and endangered species, natural communities and other significant features of conservation concern to TPWD. This information can be obtained by submitting a data request to txndd@tpwd.state.tx.us. Response to a data request will include available TXNDD records, reports, and geographic information system compatible shapefiles of recorded locations for species and other rare resources on the U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle of the project and surrounding area. Responses generally take a maximum of five business days from receipt of the request. Appropriate use and interpretation of TXNDD data are the responsibility of the recipient.

WILDLIFE HABITAT ASSESSMENT (WHAB) PROGRAM REVIEW

PROJECT REVIEW REQUESTS – The WHAB Program can provide a review of your assessment, after your analysis for impacts using the above two data sources. Please complete the WHAB Review Request form (attached; use Word format for fill-in version), or use the form as an outline of information to include with your letter request. The WHAB Program response will provide an evaluation of your environmental assessment for impacts to fish and wildlife and their habitats, including rare, threatened, and endangered species, other significant resources and concerns presently known or potentially occurring in the vicinity of your project. WHAB Program responses generally take 4 to 6 weeks on average from receipt, depending on the size of your request.

The request should include all the information listed on the next two pages and be sent to the address shown on the last page. The more pertinent information you provide, the more customized our review, and the faster our turnaround. Review requests submitted without adequate project detail may cause a delay in our response as we will need to contact you and wait for supplemental information. The potential for adverse impacts to natural resources from project activities varies based on the type of activity; location; season; vegetation; present physical features (both natural and man-made); degree of disturbance; planned avoidance, minimization, mitigation, enhancement, and restoration measures; species-specific tolerance levels; etc. Current color photographs and aerial photographs of the site greatly facilitate the review process. Complete information allows us to more accurately assess the potential for project impacts, as well as, assists us in narrowing the list of rare, threatened, and endangered species and other natural resources that may need to be addressed further.

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests
(Including Threatened and Endangered Species)

Name: **Gundar Peterson, P.E.** Date: **4/23/2021**

Your Company: **Daniel B. Stephens & Associates, Inc.** Phone: (**505**) **822-9400**

Your Company Address: **6020 Academy Rd. NE, Suite 100** Fax: (**505**) **822-8877**

City, State, Zip: **Albuquerque, New Mexico 87109** E-mail: **gpeterson@geo-logic.com**

Project Title, Number and Site Location: **WST Permian Landfill, 5 miles NNW of Pecos, TX, at intersection of CR 408 & 415** County(ies): **Reeves**

1. Scope of Project:

(a) What regulations will this review help you to comply with? OR, if not regulatory, why is the review being requested? Who is the project sponsor?

DBS&A is requesting a project review, as required by 30 TAC 330.61(n), in support of an application that is being submitted to the Texas Commission on Environmental Quality for a new municipal solid waste landfill. The property owner is West Sun Tex, LLC (WST), and Daniel B. Stephens & Associates, Inc. (DBS&A) is working on their behalf.

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent, boundaries, length & width, waterways, vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed)

The site is located in north-central Reeves County, approximately 5 miles west-northwest of Pecos, Texas (see Figures 1 and 2). The full property is the northern 440 acres of Section 46, Block 4, H. & G.N. RR Co. Survey. The site is permitted as an oil and gas disposal facility by the Railroad Commission of Texas, and WST is proposing to permit half of the property as a new municipal solid waste landfill instead.

The property is largely undeveloped, except for a barn and water filling station, and a new municipal solid waste landfill with a disposal footprint of approximately 192 acres is proposed (see Figure 3). Twelve landfill cells have been designed, and each will be approximately 390 feet wide by 960 feet long. The maximum excavation will be 30 feet.

Vegetation will be cleared from the area where the landfill cells are constructed, but no changes will be made to the existing vegetation outside of the areas of construction. The photos provided in Attachment 1 provide documentation of the site's current vegetation. The site does not include any waterways.

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what contaminant pathways are being evaluated?

Not applicable

(d) Schedule of activities – Approximately when (which calendar months, how many years) will the project be active on the site?

Activities at the proposed landfill will be year round, with site closure after 100 years.

2. Vegetation: Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

Vegetation species found in the area include creosote bush (Larrea tridentate), tarbush (Flourensia cernua), fourwing saltbush (Atripex canescens), mesquite (Prosopis sp.), gyp grama (Bouteloua breviseta), and alkali sacaton (Sporoblus airoides). As shown in the photos, the dominant vegetation type on the property is grass, although small to large shrubs are also present.

3. Other Natural Resources/Physical Features:

(a) Soils, geology, watercourses, aquifers, flood zones, etc.

The Natural Resources Conservation Service (NRCS) completed a custom soils report for Reeves County in August 2014, which identified five soil units at the project site, including Hoban silty clay loam, Hodgins silty clay loam, Orla clay loam, Reeves clay loam, and Upton gravelly loam.

The Pecos Valley alluvium outcrops at the site, and these sediments consist of caliche, clay, silt, sand, gravel, and boulder-sized material. These sediments are up to 1,000 feet thick in this area. The Pecos Valley alluvium sediments were deposited unconformably on older formations, including the Dockum Group and Rustler Formation.

The site does not include any watercourses. A delineation of waters of the U.S., including wetlands, was performed on the subject property in August 2014 by HDR. Based on the review of topographic maps and aerial photography, areas potentially containing waters of the U.S. and wetlands were evaluated in the field. HDR identified one drainage feature in the study area that was not considered a water of the U.S., but was instead characterized as a drainage ditch in uplands. No wetlands were identified on the property.

The Pecos Valley aquifer consists of more than 1,700 feet of Tertiary and Quaternary alluvial sediments that are present in two hydrologically separate, approximately north- to south-trending solution basins known as the Pecos and Monument Draw troughs. Most of Reeves County, including the facility location, is within the Pecos Basin.

The area where the proposed facility is located is unmapped by the Federal Emergency Management Administration (FEMA), so no 100-year floodplain information is available for this area. There are no major surface water features located in the vicinity of the site; however, numerous ditches and canals flow through the vicinity and carry surface drainage toward the Pecos River, which is located approximately 6 miles east of the study area. The Pecos River floodplain does not extend this far to the west.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

The proposed facility is located in an area with flat topography, dominated by desert scrub and grass vegetation. The subject property was previously cultivated and has been disturbed.

Listed species known to occur in areas near the proposed facility location include the Pecos sunflower (Helianthus paradoxus) (state threatened and federal threatened listings), and Texas horned lizard (Phrynosoma cornutum) (state threatened listing).

The only critical habitat that has been designated in Reeves County is for the phantom tryonia (snail) in areas located in southwestern Reeves County, over 30 miles southwest of the proposed facility location.

4. **Existing Site Development:** Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.

The site is undeveloped, with the exception of an old barn located just east of CR 408 on the western edge of the property, and a water filling station in the northwest corner of the property.

5. **Historic Use/Function of Site:** Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?

Agriculture, but the property has been out of production for over 20 years. The subject property has been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas, although this facility has not been constructed yet. WST plans to use approximately half of the property for municipal solid waste disposal instead. There are numerous oil and gas facilities and industrial yards adjacent to and within 1 mile of the subject property.

Regarding cultural resources, a project review request has been sent to the Texas Historical Commission.

The proposed project will not cross or impact state or federal land, or local parklands.

6. **Has a threatened and endangered species survey or assessment,** wetland delineation, or other biological assessment already been performed? (In general, TPWD recommends an on-site habitat assessment be performed.) [x] Yes [ ] No

(a) If yes, provide surveyor name, qualifications, methods or protocols, acreage surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

See HDR, 2014 (Attachment 3). HDR Engineering, Inc. performed a delineation of waters of the United States, including wetlands, on the subject property (432 acres) in August 2014. The field survey was conducted by HDR staff Brandon Tate and Ben Janik on August 26 and 27, 2014, in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and 2008 Regional Supplement for the Arid West Region. Based on the review of topographic maps and aerial photography, areas potentially containing waters of the United States and wetlands were evaluated using routine on-site delineation methods. The study area was found to include one non-jurisdictional drainage channel, not considered to be a water of the United States, and no wetlands.

The study area was also evaluated for potential occurence of Federal and State listed species and suitable habitats during this survey. The report found that the subject property did not contain suitable habitat for any species listed as Federal or State threatened or endangered.

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)
(Including Threatened and Endangered Species)

6. (b) If yes, please provide results and copy of survey/assessment report.

7. **Could current on-site or adjacent habitat support rare species?** ☐ Yes ☒ No
Specifically, explain why or why not.

Pecos sunflower habitat includes permanently wet but infrequently flooded soils associated with cienegas (desert marshes with high salt content), and the subject property does not include suitable habitat for this species. Texas horned lizard habitat includes arid and semiarid open areas with sparse plant cover, and the species is found throughout much of Texas. This species could be present on the subject property, but there is a lot of other undeveloped property similar to the subject property located nearby, so Texas horned lizards are not expected to be impacted by the proposed facility.

8. **Provide a description of potential negative direct and indirect impacts** from proposed project activities or former and current site activities, such as types of habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.

The proposed municipal solid waste facility will have a 192 acre disposal footprint, and the facility is expected to remain active for 100 years. This property has already been permitted as an oil and gas disposal facility by the Railroad Commission, so the proposed project will not increase the area of habitat to be degraded or lost over this period.

9. **Provide a description of planned beneficial mitigation and enhancements** or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).

Upon landfill closure, a 60-mil HDPE geomembrane final cover will be installed over the waste material, in accordance with §330.457(a)(1). The geomembrane will be overlain with a clay-rich soil cover layer, consisting of a minimum of 18 inches of earthen material with a coefficient of permeability no greater than 1 x 10-5 centimeters/second (cm/sec). A 6-inch deep vegetative layer will be placed on top of the clay-rich fill material, and will serve as the erosion control layer in accordance with §330.457(a)(3).

10. **Include copies of coordination with other agencies** relevant to impacts or enhancements of natural resources for this project, or agency & contact name.

11. **Clearly delineate exact location of site and its boundaries** using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and a scale that allows us to find your site **and** accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference)

12. **Originals or color-copy photographs** of site and surrounding area with captions or narratives.

13. **Aerial photographs with pertinent features labeled**. Aerials should show the year photograph was taken.

Send completed form to:

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program

4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.

Attachment 3

2014 HDR Report

Complete report provided elsewhere in application; not reproduced here.

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Jayne, Kelly

From: Kutz, Julie
Sent: Wednesday, March 27, 2024 5:26 PM
To: jessica.schmerler@tpwd.texas.gov
Cc: Jayne, Kelly; Cartron, Jean-Luc
Subject: (WST) Permian Landfill Project
Attachments: Biological Evaluation_WST Landfill_3-27-2024.pdf

Dear Ms. Schmerler,

The above referenced project is moving toward the final application for a MSW landfill for the City of Pecos. As part of the process, TPWD was consulted regarding the Proposed Action, Project (Project #46529) and review comments were received on June 3, 2021. A final Biological Evaluation has been prepared and the TPWD recommended conservation measures are included in the document. The BE is attached for your information.

We greatly appreciate the TPWD's time for review and input for this project. Please let me know if you have any questions.

Thank you,
Julie

Julie Kutz
Biologist

Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company

6020 Academy NE, Suite 100
Albuquerque, New Mexico 87109-3315
Office: (505) 822-9400 | Direct: (505) 353-9103 | Mobile: (505) 715-9140
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U.S. Fish and Wildlife Service

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April 20, 2021

Ms. Tanya Sommer
U.S. Fish and Wildlife Service
Austin Ecological Services Field Office
Tanya_Sommer@fws.gov

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Ms. Sommer:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the U.S. Fish and Wildlife Service (USFWS) to request a project review per 30 TAC 330.61(n). We have included figures showing the location of the proposed facility (Figure 1), topography and photograph locations (Figure 2), and aerial photography (Figure 3). Site photographs are provided as Attachment 1. Land use in the vicinity of the site is for agriculture, oil and gas development, rural residences, and undeveloped land.

A biological assessment to determine the effect of the facility on endangered or threatened species has not been prepared; however, in August 2014, HDR received a consultation from the USFWS on the subject property, under consultation tracking number 02ETAU00-2014-SLI-0380, as part of property pre-purchase activities (Attachment 2). This consultation resulted in a list of 12 threatened or endangered species to consider in an effects analysis for a project on this property, including the following:

- *Federal Endangered Species*: Interior least tern (wind energy projects condition), northern aplomado falcon, diminutive amphipod (crustacean), Comanche Springs pupfish, Pecos gambusia (fish), Pecos assiminea snail, phantom springsnail, and phantom Tryonia (snail)
- *Federal Threatened Species:* Mexican spotted owl, piping plover (wind energy projects condition), and Pecos sunflower
- *Federal Proposed Threatened Species:* Red knot (wind energy projects condition)

A wind energy project is not being proposed for the subject property.

Based on the USFWS Critical Habitat Mapper, the only critical habitat that has been designated in Reeves County is for the phantom tryonia (snail), and these areas are located in southwestern Reeves County, more than 30 miles southwest of the proposed facility location.

The USFWS Information for Planning and Consultation (IPaC) resources list was reviewed in 2020 during development of the current landfill permit application. Species listed as endangered or threatened in Reeves County included the following:

- *Federal Endangered:* Diminutive amphipod (crustacean), Comanche Springs pupfish, Pecos gambusia (fish), Pecos assiminea snail, phantom springsnail, phantom tryonia (snail), and Texas hornshell (freshwater mussel)
- *Federal Threatened:* Pecos sunflower

A biological assessment to determine the effect of the facility on the endangered or threatened species has not been prepared, as we do not anticipate that the proposed facility and its operation will result in the destruction or adverse modification of the critical habitat of endangered or threatened species, and will not cause or contribute to the taking of any endangered or threatened species. We are requesting your review of these conclusions regarding the federally listed species in this area.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Gundar Peterson, P.E.
Vice President

AE/rpf
Attachments

Figures

See figures attached to TPWD letter; not reproduced here.

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Attachment 1

Photographs

See photographs attached to TPWD letter; not reproduced here.

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Attachment 2

2014 HDR Report

Complete report provided elsewhere in application; not reproduced here.

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DBS&A
Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company

July 21, 2022

Ms. Catherine Yeargan
Field Supervisor (Acting)
U.S. Fish and Wildlife Service
Austin Ecological Services Field Office
catherine_yeargan@fws.gov

Re: Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

Dear Ms. Yeargan:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Permian Landfill (Proposed Action). The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the U.S. Fish and Wildlife Service (USFWS) to request a project review per 30 TAC 330.61(n). A previous project review packet was emailed to the USFWS Austin Ecological Services Field Office on April 20, 2021, and one of our staff discussed the proposed project with Jacob Ogdee from the Austin Ecological Services Field Office on May 12, 2021. Since then, a biological assessment was prepared to assess the potential impacts of the Proposed Action on state and federal protected natural resources (Attachment 1). Land use in the vicinity of the site is for agriculture, oil and gas development, rural residences, and undeveloped land.

As discussed in the biological assessment, a biological survey was conducted on September 16, 2021 to observe field conditions, assess the likelihood of occurrence of special-status species, and evaluate potential impacts. There is no critical habitat within the Project Area, as noted in the USFWS IPaC report generated for this project, so the evaluation found that the project will have no effect on critical habitat. One federally listed species, the northern aplomado falcon, was determined to have the potential to occur within the Project Area or Action Area, but only as a rare transient. As such, any effect on the species (from construction noise, increased noise or traffic during operation of the facility) would be insignificant, especially as no nesting habitat is present and reseeding of native grasses would occur in all disturbed areas that are not used for the landfill facility. The biological assessment determined that the Proposed Action may affect, but is not likely

to adversely affect the northern aplomado falcon; however, we understand that this determination requires written concurrence from the USFWS.

A total of 7 state-listed animal species were determined to have the potential to occur within the Project Area. With the implementation of conservation measures that are proposed as part of the Proposed Action, negligible to no impacts to these species are anticipated. One state-listed plant, the night-blooming cereus, was found to have a low potential to occur within the Project Area. However, because the night-blooming cereus was not observed during the biological survey, no impact to the species is anticipated as a result of the project.

The Proposed Action will disturb vegetation within the Project Area, which in turn may affect local wildlife and habitat. Project impacts to non-listed species would include noise impacts, vegetation removal, and ground disturbance. With the implementation of conservation measures, these effects would likely be negligible.

We are requesting your review of these conclusions, as well as a written response to this project review request, as required by TCEQ.

Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Gundar Peterson, P.E.
Vice President

AE/rpf
Attachments

From:	Williams, Christina
To:	Herrmann, Grace
Cc:	Ewing, Amy; Peterson, Gundar; Jayne, Kelly
Subject:	FW: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas
Date:	Thursday, July 21, 2022 2:23:37 PM
Attachments:	USFWS Follow-Up Coordination Ltr_Permian Landfill_7-21-2022.pdf

Good Afternoon,

Thank you for your email. I wasn't sure whether the attached document is intended to initiate a section 7 consultation, since a section 7 consultation is between another Federal agency and the U.S Fish and Wildlife Service. I do not see any mention of another Federal agency. In general, the Service does not provide written correspondence on non-Federal projects. If there is another Federal agency involved in the project, then they would need to initiate consultation with us. Here is a link to more details about section 7 consultations: https://www.fws.gov/service/esa-section-7-consultation

Please let me know if I can be of further assistance.

Thank you,

Christina

Christina Williams
Division Supervisor
Consultations and HCPs
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, Texas 78758
~~Of. 512-490-0057, ext. 235~~
Cell 512-850-0980

From: Yeargan, Catherine <catherine_yeargan@fws.gov>
Sent: Thursday, July 21, 2022 2:59 PM
To: Williams, Christina <christina_williams@fws.gov>
Subject: Fw: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

FYI

Thanks,
Catherine

From: Herrmann, Grace <gherrmann@geo-logic.com>
Sent: Thursday, July 21, 2022 2:53 PM
To: Yeargan, Catherine <catherine_yeargan@fws.gov>
Cc: Ewing, Amy <aewing@geo-logic.com>; Peterson, Gundar <gpeterson@geo-logic.com>; Jayne, Kelly <kjayne@geo-logic.com>
Subject: [EXTERNAL] Response Requested - Proposed Permian Landfill TCEQ Permit Application, Reeves County, Texas

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Ms. Yeargan,

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality for a proposed Type I municipal solid waste facility in north-central Reeves County called the WST Permian Landfill. This correspondence is a follow-up to the letter we sent to Jacob Ogdee last year. I've attached a letter with the biological assessment for your review and we're requesting a written response, as required by the TCEQ, within 30 days.

Thank you in advance for your time and consideration. Please call if you have questions or concerns.

Regards,

Grace Herrmann, EI
Staff Engineer

Daniel B. Stephens & Associates, Inc.
Hydrology¦Engineering¦Geoscience

A Geo-Logic Company

Providing solutions for water, natural resources, and the environment

6020 Academy Road NE, Suite 100¦Albuquerque, New Mexico 87109
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Phase I Environmental Site Assessment

DBS&A
a Geo-Logic Company

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Phase I Environmental Site Assessment

West Sun Tex Property Pre-purchase Activities

Reeves County, Texas

Prepared for:

West Sun Tex, LLC
14755 Preston Road, Suite 600
Dallas, TX 75254

Prepared by:

HDR Inc.
17111 Preston Road, Suite 200
Dallas, Texas 75248

Table of Contents

Executive Summary ..... **iv**

1.0 Introduction **1**

1.1 Purpose 1

1.2 Report Users 2

1.3 ESA Methodology 2

1.4 Scope of Services, Significant Assumptions, and Limitations 2

2.0 Site Description **5**

2.1 Location and Legal Description 5

2.2 Site and Vicinity Characteristics 5

2.3 Description of Structures, Roads, and Other Site Improvements 5

2.4 Area Geology and Hydrogeology 5

3.0 User-Provided Information **7**

4.0 Records Review **8**

4.1 Environmental Records Review 8

4.2 Agency File Review ..... **Error! Bookmark not defined.**

4.3 Historical Use Information 8

4.4 Environmental Liens and Additional Information 9

4.5 Summary of Previous Environmental Investigations **Error! Bookmark not defined.**

4.6 Interviews 10

4.7 Site Reconnaissance 10

4.8 Utilities 10

5.0 Data Gap Analysis **11**

6.0 Findings, Opinions, and Conclusions **12**

6.1 Findings 12

6.2 Opinions 13

6.3 Conclusions 14

7.0 Recommendations **15**

8.0 Qualifications of Environmental Professionals **16**

8.1 Signatures and Qualifications 16

9.0 References **17**

Tables

Table 1—Summary of Environmental Database Search 8
Table 2—Summary of Findings.....13

Appendices

Appendix A—Figures
Appendix B—Governmental Database Search Results
Appendix C—Historical Aerial Photographs
Appendix D—Historical Topographic Maps
Appendix E—Site Photographs

List of Acronyms

AAI	All Appropriate Inquiry
AIRS	Aerometric Information Retrieval System
AMSL	Above Mean Sea Level
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BGS	Below Ground Surface
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	Corrective Action Report
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Index System
FRDS	Federal Reporting Data System
FUDS	Formerly Used Defense Site
FUIS	Federal Underground Injection Control
HSS	Historic Service Station
IBC	Intermediate Bulk Container
LPST	Leaking Petroleum Storage Tank
LUST	Leaking Underground Storage Tank
MINES	Mines Master Index File
NFRAP	No Further Remedial Action Planned
NPL	National Priority List
NWI	National Wetlands Inventory
RCRA	Resource Conservation and Recovery Act
RCRIS LQG	Resource Conservation and Recovery Information System Large Quantity Generators
RCRIS SQG	Resource Conservation and Recovery Information System Small Quantity Generators
RCRIS TSD	Resource Conservation and Recovery Information System Treatment, Storage, and Disposal
REC	Recognized Environmental Condition
SI	Site Inspection
Spills	Spills Database
SRP	Site Remediation Program
SWF/LF	Solid Waste Facilities/Landfill
TCEQ	Texas Commission on Environmental Quality
TNRCC	Texas Natural Resource Conservation Commission
USACE	U.S. Army Corps of Engineers
USGS	United States Geological Survey
UST	Underground Storage Tank

Note: A more complete acronym list is located in the Governmental Database Report, Appendix B.

EXECUTIVE SUMMARY

HDR has conducted a Phase I Environmental Site Assessment (ESA) for West Sun Tex, LLC, in association with pre-purchase activities for a property located west of Pecos, in Reeves County, Texas. The subject property and one mile buffer zone, referenced herein as the "Study Area", consists of a one mile radius around the approximately 432 acre subject property (Appendix A, Figure 1).

The property and the surrounding area consist of a mix of agricultural and undeveloped land, with interspersed rural residences and oil and gas development. The Study Area (Appendix A, Figure 1) is located north of Interstate Highway 20 (I-20) and west of the town of Pecos near the intersection of County Road 415 and County Road 408. The subject property is bordered to the north by County Road 415 and the west by County Road 408. The south end of the subject property is open to the adjoining property, and the east side is bordered by an unnamed gravel road.

This Phase I ESA identifies Recognized Environmental Conditions (RECs) that may adversely affect the Study Area, and was conducted in accordance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-13. This report includes a summary of the site reconnaissance conducted on August 26 and 27, 2014; a review of environmental databases; a review of historical data sources; and personal interviews. Any exceptions to or deletions from the ASTM-prescribed scope are described later in this report.

The ESA Process resulted in the following findings, opinions, conclusions, and recommendations:

Findings

The Environmental Data Resources (EDR) report identified five listings in the federal, state, local, EDR, or tribal databases for the Study Area.

HDR reviewed the listings identified within the database search area. Listings are described in further detail in section 4. The listings were not determined to be of concern to the Study Area based on factors such as distance, hydraulic gradient, geology, or clean-up status.

General findings of this assessment include the following:

- The Study Area lies within the Delaware Basin in the Southern High Plains Physiographic Province. Topography in the area is characterized by playas and basin floors consisting of salt flats, dunes, and windblown sands. Additional geographic features include the Pecos River, located approximately six miles east of the Study Area. Surface geologic formations located within the Study Area consist primarily of unconsolidated quaternary deposits. Additionally, evaporites such as gypsite are also found in the vicinity of the Study Area. Surface drainage within the Study Area is to the east, toward the Pecos River.
- The predominant land uses in the vicinity of the Study Area are agriculture, rural residences, oil and gas production, and undeveloped. The subject property has been subject to cultivation for crop production in the past, but it has been out of cultivation since the early 1990s. Many facilities associated with oil and gas development are located within the Study Area, including production facilities, lined water storage ponds, and injection facilities.
- The EDR report identified five listings in the federal, state, local, EDR, or tribal databases for the Study Area. Four of those sites are classified as TIER 2 sites and are oil and gas production facilities. The fifth site identified within the Study Area is classified as a Formerly Used Defense Site (FUDS) site.

- An unused well pad with two associated pits was located within the southern border of the subject property. The pad displayed poor maintenance, and no signs of drilling prior to the site visit, on August 26 and 27, 2014.
- An area of uncontrolled dumping (empty 55-gallon drums and other debris) was located on the western border of the subject property. Additionally, numerous empty drums were scattered across the subject property. Two drums displayed labels that indicated the drums at one time contained lubricants and degreasers. Some of the empty drums may have been blown onto the subject property from an equipment yard, located adjacent and to the east of the subject property. The uncontrolled dump site and scattered empty drums showed no signs of releases that cased surface staining.
- An equipment yard containing intermediate bulk containers (IBC) and drums with unknown contents is located adjacent to the east boundary of the subject property. This area is considered a potential source for the drums located on the east side of the subject property.

The following table summarizes the findings of this Phase I ESA:

Map Code (1)	Site Name/Former Name (2)	Location (3)	Site Operations or Use and potential hazmat issues (4)	Data Source(5)	Risk Rank L/ M/ I/ H(6)
A	Donaldson 4-54 1H	-103.6025, 31.4421	TIER 2 Site—oil/gas production facility	R, D, H	L
B	Two Oaks Yost Battery	-103.5823, 31.4256	TIER 2 Site—oil/gas production facility	R, D, H	L
C	Two Oaks Hermosa-1	-103.5755, 31.4239	TIER 2 Site—oil/gas production facility	R, D, H	L
D	Two Oaks Hermosa-2	-103.5837, 31.4156	TIER 2 Site—oil/gas production facility	R, D, H	L
E	Pecos AAF High AUX FLD #1	-103.5916, 31.4340	FUDS Site	R, D, H	L
F	Well Pad and Open Pits	-103.5798, 31.4302	Unused Well Pad and Open Pits	R, H,I	L
G	Uncontrolled dump site	-103.5906, 31.4282	Uncontrolled dump site	R, H	L
H	Drum Sites	-103.5884, 31.4297 -103.5759, 31.4339 -103.5759, 31.4337 -103.5761, 31.4333	Drum Sites	R	L
I	Equipment Yard with Drums and IBC Tanks	-103.5754, 31.4340	Drums and IBC Tanks storage	R, H	L

Note: RECs are shown in bold.
(1) Corresponds to location of site as indicated on Figures
(2) Business/descriptive name
(3) Location of facility in longitude/latitude
(4) Description of site operations / key site use relative to hazmat issues
(5) Indicates primary information sources for listing: R=Reconnaissance, I=Interview, D=Database, H=Historical Documentation
(6) Risk Rank indicates the risk to the project

Opinion

HDR has reviewed the stated data sources, which are part of the ASTM E 1527-13 assessment protocol. Based upon the review of the data, HDR has developed an opinion that the conditions present at the Study Area represent de minimis conditions, and are not considered to be RECs.

Conclusion

Based upon the above-detailed Findings and Opinions, HDR concludes that no RECs have been identified for the Study Area, as described in the Findings section above. The following statement is required by ASTM E 1527-13 as a positive declaration of whether RECs were found:

> *HDR has performed a Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13 of the Study Area in Reeves County, Texas. Any exceptions to or deletions from these practices are described in previous sections of this report. This report revealed no RECs in connection with the Study Area.*

Recommendations

Recommendations included in this report were developed through the investigative procedures described in the Scope of Services, Significant Assumptions, and Limitations sections of this report (See Section 1.4). These findings should be reviewed within the context of the limitations provided in the Limitations section. Based upon the lack of the identification of RECs for the Study Area, HDR makes the following recommendations:

Recommendation 1

In the event that any future contractor encounters previously undiscovered contamination at the subject property, contractors should immediately stop all subsurface activities. If debris is found, an odor is identified, or significantly stained soil is visible, contractors should be instructed to follow all applicable regulations regarding discovery and response for hazardous materials encountered during any proposed construction process.

Recommendation 2

HDR recommends that West Sun Tex consider the “shelf life” of Phase I documents in determining risk. ASTM E 1527-13 states that a conforming “Phase I” report is valid for a period of 180 days, and may be updated during the 180 days to a 1-year timeframe. The report is valid for use in any of the CERCLA defenses ONLY if it is updated within this time frame. If greater than one year passes from the final report date, the Phase I effort would need to be repeated to remain in compliance with ASTM and the “All Appropriate Inquiry” protection.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I ESA is to document the evaluation of the Study Area for indications of “Recognized Environmental Conditions.”

ASTM Practice E 1527-13 defines the following categories of Recognized Environmental Condition (REC):

REC:

The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions (see definition below).

ASTM E 1527-13 defines “release” as a release of any hazardous substance or petroleum product and shall have the same meaning as the definition of “release” in CERCLA 42 U.S.C. § 9601(22).

Historical REC (HREC):

A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

Controlled REC (CREC):

A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a “no further action” letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

Additional conditions that are not included under the definitions of a REC, but are defined by ASTM Practice E 1527-13 include:

De minimis:

A condition that generally does not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be “de minimis conditions” are neither recognized environmental conditions nor are they controlled Recognized Environmental Conditions.

Business Environmental Risk:

A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.

Consideration of business environmental risk issues may involve addressing one or more non-scope considerations.

1.2 Report Users

HDR received authorization from West Sun Tex, LLC, to conduct a Phase I ESA of the Study Area. The Study Area (Appendix A, Figure 1) is located north of interstate 20 and west of the town of Pecos, near the intersection of County Road 415 and County Road 408, in Reeves County, Texas. This Phase I ESA has been prepared for the West Sun Tex, LLC, and only West Sun Tex, LLC, has the right to rely on the contents of this Phase I ESA without written authorization.

1.3 ESA Methodology

In addition to the ASTM-based "REC" classification of a site, HDR also employs a relative risk ranking system that includes several investigative elements to describe "sites of concern" located within a Study Area. A site of concern is a site that the investigative process has determined to have sufficient possibility of contamination which warrants special attention during the Phase I investigation. A site of concern may or may not ultimately be classified as a REC site as defined by ASTM, yet still may be "of concern" and is therefore highlighted in the report. A site of concern may or may not be carried forward in recommendations for further investigation, depending upon the specific issues associated with the site.

Once the elements of the investigation process were completed, HDR categorized identified sites using a subjective risk ranking system—classifying the sites as low-risk, moderate-risk, high-risk, or (in some instances) indeterminate. The following paragraphs provide general descriptions of each category.

Low-risk sites are those sites that have few indications of potential for release of hazardous materials. In some instances, sites that have had a hazardous materials issue in the past but have been remediated with approval of the local or state environmental agency (or EPA) may qualify as low-risk. Examples of low-risk sites include undeveloped or agricultural property; residential property; or benign commercial properties such as office buildings, warehouses, distribution facilities, or municipal facilities with no listed violation.

Moderate-risk sites are those sites that have some indications of possible hazardous materials issues. A moderate-risk site may appear on a database as having a permit to handle hazardous materials but has recorded no violations to date. Another way that a site could be interpreted as moderate risk would be if the environmental records search indicated no listing but the site is an auto repair facility with visible surface staining. Examples of moderate-risk sites include auto repair garages, welding shops, or manufacturing facilities with minor listings in the environmental database.

High-risk sites are those sites that have a high potential for releasing hazardous materials to the soil or groundwater, or have a recorded release issue. Examples of high-risk sites include current service stations, bulk fueling terminals, sites listed in environmental databases as having had a release, or a known release that has not been remediated.

Indeterminate sites are those which, at the time of report preparation, did not include sufficient information to include a high, medium, or low ranking. Indeterminate sites often require additional file review to determine the details of any related environmental issues at the site.

1.4 Scope of Services, Significant Assumptions, and Limitations

The services provided for this project consisted of the following:

- Provide a description of the Study Area including current land uses (Sections 2.1 and 2.2)
- Provide a general description of the topography, soils, geology, and

groundwater flow (Section 2.4)

- Review reasonably ascertainable and reviewable regulatory information published by federal, state, local, tribal, health, and/or environmental agencies pertaining to the Study Area (Section 4.1).
- Review historical data sources for the Study Area, including aerial photographs, topographic maps, fire insurance maps, city directories, and other readily available development data (Section 4.2)
- Conduct an area reconnaissance and an environmental review—including a visual review of adjoining properties—with a focus on indications of hazardous substances, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal pits and sumps, and utilities (Section 4.5)
- Interview current owner of the Study Area and interview other persons with knowledge of the development history of the Study Area (Section 4.6).
- Determine data gaps in the information obtained and comment on their significance in identifying RECs for the Study Area (Section 5)
- Prepare a written report of methods, findings, opinions, and conclusions (Section 6).

The goal of this scope of services is to assist the user in identifying conditions in the Study Area that may indicate risks regarding hazardous materials storage, disposal, or other impacts. The resulting report may qualify the user for relief from liabilities as one of three "defenses" identified in the 2002 Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 9607 (All Appropriate Inquiry subsections). These three defenses include:

1. The "innocent landowner" defense to potential liabilities under 42 United States Code [U.S.C.] § 9601
2. The "contiguous project corridor owner" defense pursuant to 42 U.S.C. § 9607q
3. The "bona fide prospective purchaser" defense pursuant to 42 U.S.C. §9607r

Federal regulations at (42 U.S.C §9601(35)(A) & (B),§9607(b)(3), §9607(q); and §9607(r)), promulgated by the United States (U.S.) Environmental Protection Agency (EPA), require that liability release be based (in part) on completion of All Appropriate Inquiries (AAI) prior to purchase of a property. Those inquiries are documented by Phase I reports, or Environmental Site Assessments (ESAs). EPA has agreed that the recently developed ASTM guidance (ASTM Practice E 1527-13:3.2.6) specifies and interprets AAI requirements.

A user is defined by ASTM Practice E 1527-13 as the party seeking to use Practice E 1527 to complete an ESA of the Study Area and may include a potential purchaser of land in the Study Area, a potential tenant of the Study Area, an owner of land in the Study Area, a lender, or a Study Area manager. Investigative areas not included in the standard ASTM ESA scope include: asbestos, lead-based paint, lead in drinking water, radon or urea formaldehyde, wetland issues, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, and high voltage power lines.

Indoor air quality from sources such as mold and asbestos is not included in the ASTM standard except to the extent that indoor air impacts are related to Superfund release and/or caused by releases of hazardous substances into subsurface soil or groundwater (vapor intrusion).

The potential for vapor encroachment or intrusion into structures in the Study Area is considered and identified from onsite or offsite sources based on the experience of the Environmental Professional.

The scope of services for ESA projects also does not include the completion of soil borings, the installation of groundwater monitoring wells, or the collection of soil or groundwater samples. State and national policies and standards relevant to vapor intrusion are in flux and subject to change.

HDR has made certain assumptions in preparing the scope of this assessment:

- Data gathered from public information sources (i.e., libraries or public regulatory agencies) are accurate and reliable.
- Site operations reflect site conditions relative to potential releases, and no intentional concealment of environmental conditions or releases has occurred.
- Interview information is directly reported as gathered by the assessor and is limited by the accuracy of the interviewee's recollection and experience.
- Published geologic information and site observations made by the Environmental Professional are used to estimate likely contaminant migration pathways in the subsurface. These estimates by the Environmental Professional are limited in accuracy and are generally cross-referenced with existing information about similar sites and environmental releases in the area.
- Regulatory information is limited to sites identified after the late 1980s because reliable records were not kept by regulatory agencies prior to that time frame.

The findings and conclusions presented in this report are based on the procedures described in ASTM Practice E 1527-13, informal discussions with various agencies, a review of the available literature cited in this report, conditions noted at the time of this Phase I ESA, and HDR's interpretation of the information obtained as part of this Phase I ESA. The findings and conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of the information provided by others.

An ESA cannot entirely eliminate uncertainty regarding the potential for RECs. Conducting this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with a Study Area within reasonable limits of time and cost. In conducting its services, HDR used a degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. This Phase I ESA conforms to the level of documentation required in ASTM Practice E 1527-13. However, HDR may omit discussion of certain records, (i.e., sources deemed, in HDR's professional opinion, to be inapplicable, or of limited value, to the specific needs of this client). In accordance with ASTM, however, if the lack of available documentation results in a data gap, this data gap is identified herein, and its significance is discussed.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Study Area consists of a one mile radius around the approximately 432 acre subject property, located in Reeves County, Texas. The Study Area consists of a mix of agricultural and undeveloped land, with interspersed rural residences and oil and gas development. The Study Area (Appendix A, Figure 1) is located north of interstate 20 and west of the town of Pecos, near the intersection of County Road 415 and County Road 408. The subject property is bordered to the north by County Road 415 and the west by County Road 408. The south end of the subject property is open to the adjoining property, and the east side is bordered by an unnamed gravel road.

Please refer to the Project Location and Site Detail Maps (Figures 1 and 2, Appendix A) for further detail.

2.2 Site and Vicinity Characteristics

The United States Geological Survey (USGS) 7.5-minute quadrangle map for Pecos, Texas indicates that the elevation of the Study Area ranges from approximately 2,685 to 2,630 feet above mean sea level (amsl). The topography near the Study Area is characterized by playas and basin floor that consist of salt flats, dunes, and windblown sands. The topography and geographic location related to area hydrologic features suggest that both surface and shallow groundwater flow east toward the Pecos River.

2.3 Description of Structures, Roads, and Other Site Improvements

The Study Area is crisscrossed by paved and unpaved roads, both public and private. Farm and ranch houses with associated outbuildings are scattered throughout the Project Area, as are oil field equipment and processing locations, and active and abandoned well sites.

The subject property has been used for cultivation in the past, but is currently fallow. Site improvements include multiple water wells and a metal barn with a concrete floor on the western side of the subject property.

2.4 Area Geology and Hydrogeology

The Study Area lies within the Delaware Basin in the Southern High Plains Physiographic Province. Surface geologic formations located within the Study Area consist primarily of deep unconsolidated quaternary deposits. Additionally, evaporites such as gypsite are also found in the vicinity of the Study Area.

Surface drainage within the Study Area is east toward the Pecos River. Depth to shallow groundwater in the vicinity of the Study Area is unknown, but it likely varies according to seasonal influences based on the geology present. Regional Groundwater flow in the Pecos Valley Aquifer system is expected to flow to the southwest toward the central portion of the Pecos Trough (Meyer et al., 2012).

3.0 USER-PROVIDED INFORMATION

West Sun Tex, LLC, provided HDR with a map identifying the property proposed for purchase. HDR was not provided with information from the client that indicated that it:

- is unaware of any environmental cleanup liens against the property
- has no specialized knowledge relating to the property or nearby properties
- expressed no opinion as to whether the purchase price being paid for the property reflects fair market value
- has no knowledge of past uses of the property
- has no knowledge of any chemicals that are, or were, present on the property
- has no knowledge of any spills or chemical releases on the property
- has no knowledge of any environmental cleanups that may have taken place on the property
- has no knowledge of the presence of contamination on the property

4.0 RECORDS REVIEW

4.1 Environmental Records Review

Environmental Data Resources, Inc. (EDR) was contracted by HDR to complete a database search of federal, state, and tribal environmental records for the project site. The database search was produced for the project site by EDR on August 19, 2014. The databases searched included federal, state, local, and tribal databases, as defined by ASTM E 1527-13, plus EDR proprietary databases. The results of the database search are summarized in Table 1 and the following paragraphs. A complete copy of the EDR environmental database report is included in Appendix B.

Table 1—Summary of Environmental Database Search

Database	Description	Listings in Search Radius	Listings of Concern to the Study Area
FEDERAL ASTM STANDARD			
FUDS	Formerly Used Defense Sites. The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.	1	0
STATE and LOCAL ASTM STANDARD			
TIER 2	Tier 2 Chemical Inventory Reports. A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.	4	0

The EDR report identified five listings in the federal, state, local, EDR, or tribal databases for the Study Area, corresponding to five individual sites.

HDR reviewed the listings identified within the database search area. Listings are described in further detail in the following sections. The five listings were not of concern to the Study Area based on factors such as distance, hydraulic gradient, geology, or clean-up status.

Federal Records

The EDR report identified 1 site within the federal databases. Specific details are as follows:

- The EDR report lists one record from the FUDS database (Pecos AAF High AUX FLD #1). Due to the lack of any noted contamination, this site is not considered to be of concern to the Study Area.

State Records

The EDR report identified four sites within the state databases. Specific details are as follows:

- The EDR report identified four sites in the TIER 2 database. All four sites are oil/gas production facilities, and not considered to be of concern to the Study Area.

4.2 Historical Use Information

The objective of reviewing historical use information is to develop a history of previous land uses at and in the vicinity of the Study Area, and to assess these uses for potential hazardous materials impacts that may affect the Study Area. HDR reviewed those historical sources that

were reasonably ascertainable and likely to provide useful information, as defined by the ASTM standard.

4.2.1 Fire Insurance Maps

Fire insurance maps are produced by private fire insurance companies to indicate uses of the Study Area on specified dates. No map coverage exists for the Study Area.

4.2.2 City Directory Information

City directories were not available for this area.

4.2.3 Historical Aerial Photographs

Historical aerial photographs are valuable for the environmental assessor to review features of the Study Area over a long period of time. HDR reviewed historical aerial photographs (Appendix C) for the following years: 1954, 1969, 1977, 1984, 1996, 2004, 2010, and 2012.

1954: The Study Area consisted mainly of undeveloped and agricultural land, with minimal residential development in the area. The subject property was undeveloped during this time. Only unpaved county roads were present within the Study Area.

1969: The Study Area remained mostly undeveloped/agricultural land. No significant infrastructural changes were noted in the 1969 aerial photograph. By this time, the subject property had undergone agricultural development.

1977: Additional agricultural development was located throughout the Study Area, but the majority of the Study Area remained undeveloped. Larger multi-lane roads had been constructed, and Ranch Rd 2119 was present east of the subject property.

1984: Well pad sites and additional rural residential development were present within the Study Area.

1996: The Study Area was largely unchanged from the 1984 aerial photograph.

2004: The Study Area was largely unchanged from the 1996 aerial photograph.

2010: The unused well pad and associated pits located on the southern border of the subject property were present, and showed no signs of active use.

2012: The Study Area was largely unchanged from the 2010 aerial photograph.

4.2.4 Historical Topographic Maps

Historical topographic maps provide an overview of the area relative to potential previous land uses. HDR reviewed historical topographic maps (Appendix D) of the Subject Property and surrounding area dated 1928, 1971, 1981, and 1986. These maps served to verify the information gathered in the historic aerial photograph review.

4.3 Environmental Liens and Additional Information

No information regarding the chain-of-title ownership history or environmental liens recorded against the project corridor was provided by the user. Environmental lien searches were not conducted as part of the scope of work for this project.

4.4 Interviews

4.4.1 Site Interviews

HDR personnel spoke with Mr. Ysidro Renteria, current owner of the subject property. Mr. Renteria stated that the property has been farmed since before his involvement began in 1978. While operated by Mr. Renteria, the property was used to grow cotton until the early 1990s. The land was later entered into the Conservation Reserve Program. Treflan was used as his primary herbicide, and the property holds very little tailwater accumulation. Mr. Renteria stated that the drilling pad and associated pits were constructed by Chesapeake Energy, but they never drilled a well. Mr. Renteria had no knowledge of the drums located in the central and eastern portion of the subject property and said they were not his. He also was unaware of any trash piles or other waste disposal on the subject property.

4.5 Site Reconnaissance

On August 26 and 27, 2014, HDR conducted a reconnaissance of the Study Area in Reeves County, Texas. The Study Area's boundaries consisted of a one mile radius surrounding the subject property. Access to the subject property was unrestricted, and reconnaissance was conducted on foot. The Study Area consisted of undeveloped agricultural properties, with rural residences and oil and gas operations. The agricultural properties are mainly for private, non-commercial use, and some areas are no longer being used for cultivating crops. Nine active oil and gas production or processing facilities were located within the Study Area.

The subject property has been utilized for cultivation and crop production in the past, but has been out of cultivation for approximately 20 years. An area of uncontrolled dumping containing empty 55-gallon drums and other debris was located on the western border of the subject property directly adjacent to a metal building (see Appendix E). Additionally, numerous empty drums were scattered across the subject property. Two drums displayed labels that indicated the drums at one time contained lubricants and degreasers. Some of the empty drums may have been blown onto the subject property from an equipment yard, located adjacent to the east of the subject property border. This equipment yard contained intermediate bulk containers (IBCs) and drums with unknown contents. This area is considered a potential source for the drums located on the east side of the subject property.

An unused well pad with two associated pits was located within the southern border of the subject property. Indications at the pad included signs of poor maintenance, and no signs of equipment or use. The pits contained salt accumulations in low spots where the liners were still intact.

Photographs taken during the site reconnaissance are located in Appendix E.

4.6 Utilities

HDR identified signs indicating subsurface municipal utilities such as electrical and telecommunications cable. Pole-mounted transformers were noted in a few locations, but no large power substations or step-down transformers were noted. Given the age of the development in some parts of the Study Area, it is possible that PCB-containing transformers could be present. No spills or hazardous materials response events were noted in the governmental database report. Numerous subsurface pipelines are located within the Study Area.

5.0 DATA GAP ANALYSIS

The ASTM E 1527-13 standards require a listing of "data gaps," including data failure, encountered during the investigative process that may affect the validity of the conclusions drawn by the Environmental Professional. The ASTM E 1527-13:12.7 standard also requires that the Environmental Professional estimate the relative importance of the data gaps. Generally, gaps in available data are related to the availability of historical data sources for specific sites of concern. The Environmental Professional uses multiple historical data sources as a method to provide coverage for data gaps. Historical information is collected on a recurring basis, and the passage of time between data sets may or may not constitute a significant gap in data coverage. For this project, the following items may constitute a data gap as defined by ASTM E 1527-13.

Specifically for this Assessment; the following data gaps are noted as

- Absence of Sanborn fire insurance maps
- Absence of city directory information
- Absence of interview information prior to the late 1970s

The inability to obtain and review the Sanborn fire insurance maps, city directory information, and interview information prior to the late 1970s does not present significant data gaps, because of the presence of other supporting historical information.

6.0 FINDINGS, OPINIONS, AND CONCLUSIONS

HDR has conducted a Phase I Environmental Site Assessment (ESA) for West Sun Tex LLC, in association with pre-purchase activities for a property located west of Pecos in Reeves County, Texas.

The Phase I ESA was performed in accordance with the scope and limitations of ASTM Practice E 1527-13. Any exceptions to, or deletions from, this practice are described previously in this report. Included in this Phase I ESA are a summary of the site reconnaissance conducted on August 26 and 27, 2014; a review of the environmental database search report; historical data sources and other records; and interviews with available personnel knowledgeable about the Study Area.

6.1 Findings

The Environmental Data Resources (EDR) report identified five listings in the federal, state, local, EDR, or tribal databases for the Study Area.

HDR reviewed the listings identified within the database search area. Listings are described in further detail in section 4. The listings were not determined to be of concern to the Study Area based on factors such as distance, hydraulic gradient, geology, or clean-up status.

General findings of this assessment include the following:

- The Study Area lies within the Delaware Basin in the Southern High Plains Physiographic Province. Topography in the area is characterized by playas and basin floors consisting of salt flats, dunes, and windblown sands. Additional geographic features include the Pecos River, located approximately six miles east of the Study Area. Surface geologic formations located within the Study Area consist primarily of unconsolidated quaternary deposits. Additionally, evaporites such as gypsite are also found in the vicinity of the Study Area. Surface drainage within the Study Area is to the east, toward the Pecos River.
- The predominant land uses in the vicinity of the Study Area are agriculture, rural residences, oil and gas production, and undeveloped. The subject property has been subject to cultivation for crop production in the past, but it has been out of cultivation since the early 1990s. Many facilities associated with oil and gas development are located within the Study Area, including production facilities, lined water storage ponds, and injection facilities.
- The EDR report identified five listings in the federal, state, local, EDR, or tribal databases for the Study Area. Four of those sites are classified as TIER 2 sites and are oil and gas production facilities. The fifth site identified within the Study Area is classified as a Formerly Used Defense Site (FUDS) site.
- An unused well pad with two associated pits was located within the southern border of the subject property. The pad displayed poor maintenance, and no signs of drilling prior to the site visit, on August 26 and 27, 2014.
- An area of uncontrolled dumping (empty 55-gallon drums and other debris) was located on the western border of the subject property. Additionally, numerous empty drums were scattered across the subject property. Two drums displayed labels that indicated the drums at one time contained lubricants and degreasers. Some of the empty drums may have been blown onto the subject property from an equipment yard, located adjacent to the east of the subject property. The uncontrolled dump site and scattered empty drums showed no signs of releases that cased surface staining.

- An equipment yard containing intermediate bulk containers (IBC) and drums with unknown contents is located adjacent to the east boundary of the subject property. This area is considered a potential source for the drums located on the east side of the subject property.

The following table summarizes the findings of this Phase I ESA:

Table 2—Summary of Findings

Map Code (1)	Site Name/Former Name (2)	Location (3)	Site Operations or Use and potential hazmat issues (4)	Data Source(5)	Risk Rank L/ M/ I/ H(6)
A	Donaldson 4-54 1H	-103.6025, 31.4421	TIER 2 Site—oil/gas production facility	R, D, H	L
B	Two Oaks Yost Battery	-103.5823, 31.4256	TIER 2 Site—oil/gas production facility	R, D, H	L
C	Two Oaks Hermosa-1	-103.5755, 31.4239	TIER 2 Site—oil/gas production facility	R, D, H	L
D	Two Oaks Hermosa-2	-103.5837, 31.4156	TIER 2 Site—oil/gas production facility	R, D, H	L
E	Pecos AAF High AUX FLD #1	-103.5916, 31.4340	FUDS Site	R, D, H	L
F	Well Pad and Open Pits	-103.5798, 31.4302	Unused Well Pad and Open Pits	R, H,I	L
G	Uncontrolled dump site	-103.5906, 31.4282	Uncontrolled dump site	R, H	L
H	Drum Sites	-103.5884, 31.4297 -103.5759, 31.4339 -103.5759, 31.4337 -103.5761, 31.4333	Drum Sites	R	L
I	Equipment Yard with Drums and IBC Tanks	-103.5754, 31.4340	Drums and IBC Tanks storage	R, H	L

Note: RECs are shown in bold.
(1) Corresponds to location of site as indicated on Figures
(2) Business/descriptive name
(3) Location of facility in longitude/latitude
(4) Description of site operations / key site use relative to hazmat issues
(5) Indicates primary information sources for listing: R=Reconnaissance, I=Interview, D=Database, H=Historical Documentation
(6) Risk Rank indicates the risk to the project

6.2 Opinions

HDR has reviewed the stated data sources, which are part of the ASTM E 1527-13 assessment protocol. Based upon the review of the data, HDR has developed an opinion that the conditions present at the Study Area represent de minimis conditions, and are not considered to be RECs.

6.3 Conclusions

Based upon the above-detailed Findings and Opinions, HDR concludes that no RECs have been identified for the Study Area, as described in the Findings section above. The following statement is required by ASTM E 1527-13 as a positive declaration of whether RECs were found:

> *HDR has performed a Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13 of the Study Area in Reeves County, Texas. Any exceptions to or deletions from these practices are described in previous sections of this report. This report revealed no RECs in connection with the Study Area.*

7.0 RECOMMENDATIONS

Recommendations included in this report were developed through the investigative procedures described in the Scope of Services, Significant Assumptions, and Limitations sections of this report (See Section 1.4). These findings should be reviewed within the context of the limitations provided in the Limitations section. Based upon the lack of the identification of RECs for the Study Area, HDR makes the following recommendations:

Recommendation 1

In the event that any future contractor encounters previously undiscovered contamination at the subject property, contractors should immediately stop all subsurface activities. If debris is found, an odor is identified, or significantly stained soil is visible, contractors should be instructed to follow all applicable regulations regarding discovery and response for hazardous materials encountered during any proposed construction process.

Recommendation 2

HDR recommends that West Sun Tex consider the “shelf life” of Phase I documents in determining risk. ASTM E 1527-13 states that a conforming “Phase I” report is valid for a period of 180 days, and may be updated during the 180 days to a 1-year timeframe. The report is valid for use in any of the CERCLA defenses ONLY if it is updated within this time frame. If greater than one year passes from the final report date, the Phase I effort would need to be repeated to remain in compliance with ASTM and the “All Appropriate Inquiry” protection.

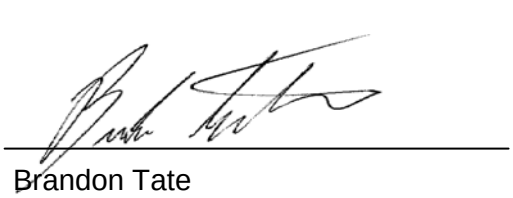
8.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

8.1 Signatures and Qualifications

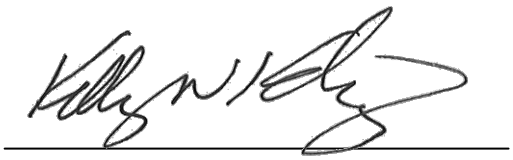
We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 Code of Federal Regulations [C.F.R.] Part 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquires in conformance with standards and practices set forth in 40 CFR Part 312.

The preceding report has been prepared in general conformance with standard industry practice for performance of ESAs, and includes the applicable portions of the investigation procedures codified in ASTM E 1527-13, *Standard Practice for Environmental Site Assessments: Environmental Site Assessment Process*. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated in this report and in the ASTM standard. The report also complies with specific requirements supplied by the client.



Brandon Tate
Environmental Professional



Kelly W. Kading, CPG
Environmental Professional
Senior Professional Associate

8.1.1 Qualifications of Environmental Professionals

This Phase I ESA was performed by the following HDR personnel:

Mr. Brandon Tate has multiple years of experience in geologic and hydrogeologic investigations, the assessment of impacted properties, and compliance with environmental regulations. His areas of expertise include site characterization, environmental permitting, and field sampling techniques. He has prepared numerous permits in support of mining, roadway, rail, and other major infrastructure projects.

Quality Assurance / Quality Control was performed by the following HDR Personnel:

Mr. Kelly W. Kading, CPG, an Environmental Professional as defined by ASTM E 1527-13, has more than 27 years of experience in assessment and remediation of impacted properties and compliance with environmental regulations. He has a B.S. in Geology from Colorado State University and is a Certified Professional Geologist (#9173). He specializes in forensic investigation of hazardous materials-impacted properties for municipal and state agencies, as well as commercial clients. His experience covers assessment of more than 3,000 properties ranging from agricultural land to multigenerational industrial properties in 34 states and 2 foreign countries. He is highly knowledgeable of federal, state, and local environmental regulations and standards and has served on the National Board of Directors of the Academy of Certified Hazardous Materials Managers.

9.0 REFERENCES

ASTM Practice E 1527-13. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

Environmental Data Resources, Inc., Aerial Photo Decade Package. Pecos, TX 79772. Inquiry 4041169.6. August 20, 2014.

Environmental Data Resources, Inc., Report. 2014. West Sun Tex Property Pre-Purchase Activities. EDR DataMap Corridor Study, Inquiry Number 4041169.7s. August 19, 2014.

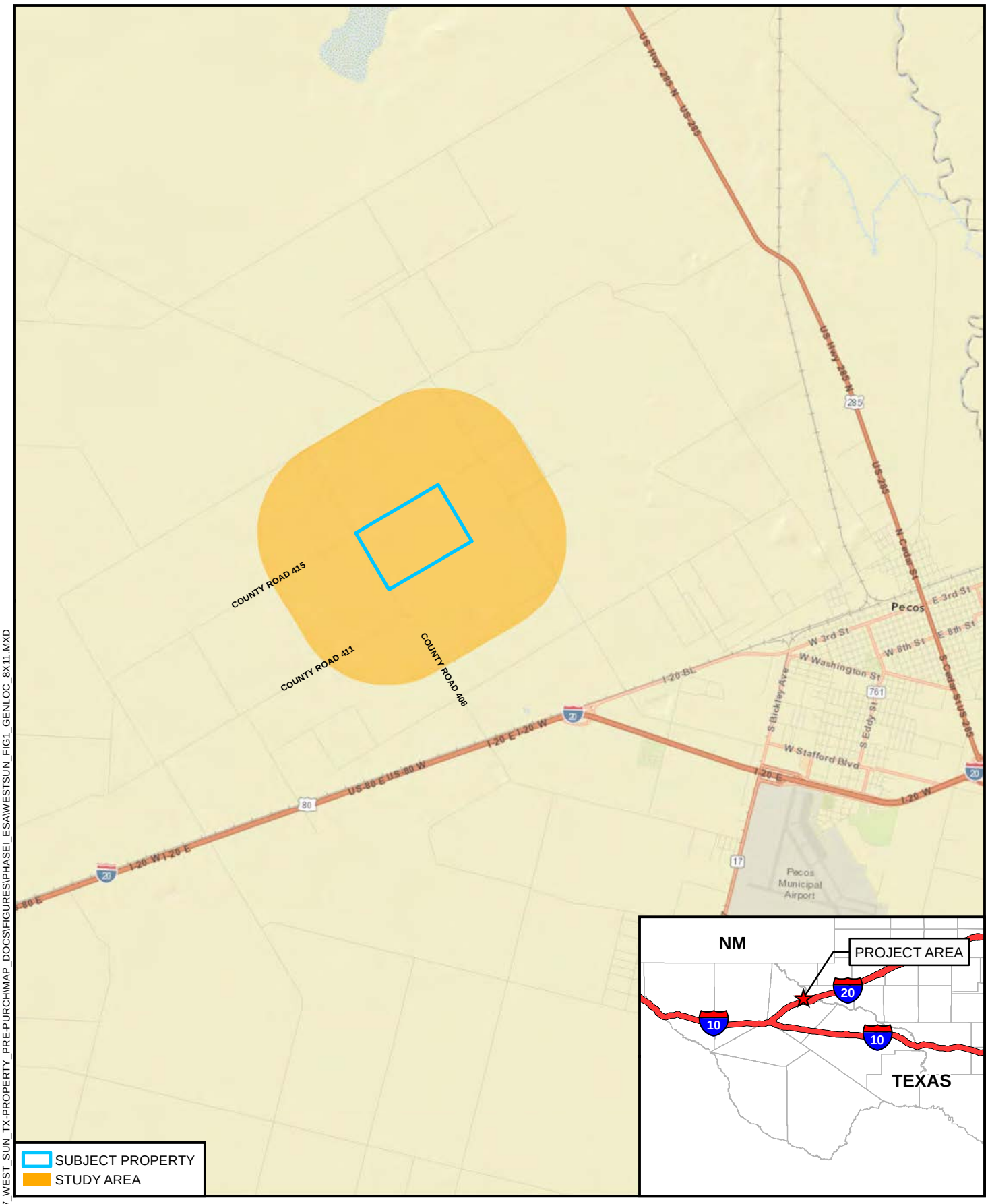
Environmental Data Resources, Inc., Historical Topographic Maps. Pecos, TX 79772. Inquiry 4041169.5. August 19, 2014.

Meyer, J.; M. Wise; and S. Kalaswad, ., 2012, Pecos Valley Aquifer, West Texas: Structure and Brackish Groundwater, Texas Water Development Board, Report 382, 86 p.

U.S. Army Corps of Engineers, Formerly Used Defense Sites Inventory <http://www.usace.army.mil/Missions/Environmental/FormerlyUsedDefenseSites/FUDSInventory.aspx>.

Interview. September 3, 2014. Mr. Ysidro Renteria, Property Owner

Appendix A—Figures

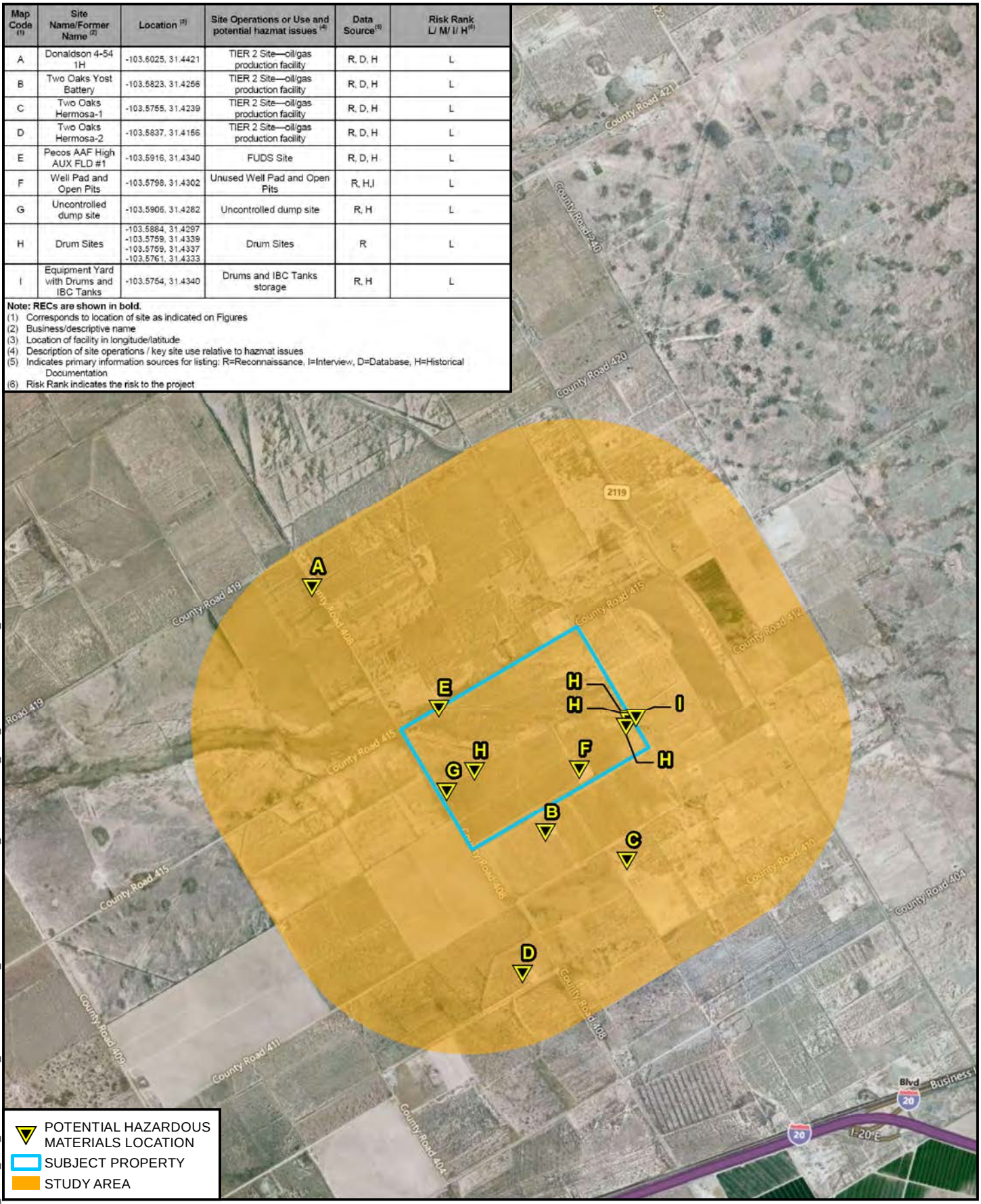


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WEST SUN TEX **PROPERTY PRE-PURCHASE** PROJECT LOCATION	N 0 1 2 MILES	**WEST SUN TEX, LLC**	SEPT 2014 | FIGURE 1

Map Code [1]	Site Name/Former Name [2]	Location [3]	Site Operations or Use and potential hazmat issues [4]	Data Source [5]	Risk Rank L/ M/ I/ H [6]
A	Donaldson 4-54 1H	-103.6025, 31.4421	TIER 2 Site—oil/gas production facility	R, D, H	L
B	Two Oaks Yost Battery	-103.5823, 31.4256	TIER 2 Site—oil/gas production facility	R, D, H	L
C	Two Oaks Hermosa-1	-103.5755, 31.4239	TIER 2 Site—oil/gas production facility	R, D, H	L
D	Two Oaks Hermosa-2	-103.5837, 31.4156	TIER 2 Site—oil/gas production facility	R, D, H	L
E	Pecos AAF High AUX FLD #1	-103.5916, 31.4340	FUDS Site	R, D, H	L
F	Well Pad and Open Pits	-103.5798, 31.4302	Unused Well Pad and Open Pits	R, H,I	L
G	Uncontrolled dump site	-103.5906, 31.4282	Uncontrolled dump site	R, H	L
H	Drum Sites	-103.5884, 31.4297 -103.5759, 31.4339 -103.5759, 31.4337 -103.5761, 31.4333	Drum Sites	R	L
I	Equipment Yard with Drums and IBC Tanks	-103.5754, 31.4340	Drums and IBC Tanks storage	R, H	L

Note: RECs are shown in bold.
(1) Corresponds to location of site as indicated on Figures
(2) Business/descriptive name
(3) Location of facility in longitude/latitude
(4) Description of site operations / key site use relative to hazmat issues
(5) Indicates primary information sources for listing: R=Reconnaissance, I=Interview, D=Database, H=Historical Documentation
(6) Risk Rank indicates the risk to the project



FILE: O:\237817_037_WEST_SUN_TX-PROPERTY_PRE-PURCH\MAP_DOCS\FIGURES\PHASEI_ESA\WESTSUN_FIG2_POTENTIALHAZMAT_8X11.MXD

WEST SUN TEX
PROPERTY PRE-PURCHASE
POTENTIAL HAZARDOUS MATERIALS LOCATIONS

N
0 2,000 4,000
FEET

WEST SUN TEX, LLC

SEPT 2014 | FIGURE 2

Appendix B—EDR Report

West Sun Tex Property Pre-Purchase Activities
Pecos, TX 79772

Inquiry Number: 4041169.7s
August 19, 2014

EDR DataMap™ Area Study

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

PECOS, TX 79772
PECOS, TX 79772

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Treatment, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System

PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
FINDS ..... Facility Index System/Facility Registry System
RAATS ..... RCRA Administrative Action Tracking System
RMP ..... Risk Management Plans
PRP ..... Potentially Responsible Parties
US AIRS ..... Aerometric Information Retrieval System Facility Subsystem
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
LEAD SMELTERS ..... Lead Smelter Sites
US FIN ASSUR ..... Financial Assurance Information
COAL ASH DOE ..... Steam-Electric Plant Operation Data
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US HIST CDL ..... National Clandestine Laboratory Register
FEMA UST ..... Underground Storage Tank Listing
PCB TRANSFORMER ..... PCB Transformer Registration Database
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
FEDERAL FACILITY ..... Federal Facility Site Information listing

STATE AND LOCAL RECORDS

SHWS ..... State Superfund Registry
IOP ..... Innocent Owner/Operator Program
SWF/LF ..... Permitted Solid Waste Facilities
CLI ..... Closed Landfill Inventory
NPDES ..... NPDES Facility List
UIC ..... Underground Injection Wells Database Listing
SWRCY ..... Recycling Facility Listing
WasteMgt ..... Commercial Hazardous & Solid Waste Management Facilities
LPST ..... Leaking Petroleum Storage Tank Listing
UST ..... Petroleum Storage Tank Database
DEL SHWS ..... Deleted Superfund Registry Sites
LIENS ..... Environmental Liens Listing
AST ..... Petroleum Storage Tank Database
SPILLS ..... Spills Database
AUL ..... Sites with Controls
VCP ..... Voluntary Cleanup Program Database
PRIORITYCLEANERS ..... Dry Cleaner Remediation Program Prioritization List
DRYCLEANERS ..... Drycleaner Registration Database Listing
BROWNFIELDS ..... Brownfields Site Assessments
ENF ..... Notice of Violations Listing
Ind. Haz Waste ..... Industrial & Hazardous Waste Database
ED AQUIF ..... Edwards Aquifer Permits
AIRS ..... Current Emission Inventory Data
MSD ..... Municipal Settings Designations Database
RWS ..... Radioactive Waste Sites
HIST LIENS ..... Environmental Liens Listing
IHW CORR ACTION ..... IHW CORR ACTION
COAL ASH ..... Coal Ash Disposal Sites
GCC ..... Groundwater Contamination Cases

TRIBAL RECORDS

INDIAN RESERV ..... Indian Reservations

EXECUTIVE SUMMARY

INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
INDIAN UST ---------- Underground Storage Tanks on Indian Land
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat ---------- EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners ---------- EDR Exclusive Historic Dry Cleaners
RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 12/31/2012 has revealed that there is 1 FUDS site within the searched area.

Site	Address	Map ID	Page
PECOS AAF HIGH AUX FLD #1		2	15

STATE AND LOCAL RECORDS

TIER 2: A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

A review of the TIER 2 list, as provided by EDR, and dated 12/31/2012 has revealed that there are 4 TIER 2 sites within the searched area.

Site	Address	Map ID	Page
DONALDSON 4-54 1H		1	4
TWO OAKS- YOST BATTERY	31.425482N, -103.581858	3	16
TWO OAKS-HERMOSA #1	31.42378N; -103.575047	4	19
TWO OAKS-HERMOSA #2	31.415474; -103.583204	5	22

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA NonGen / NLR	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	1
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
ODI	0
DEBRIS REGION 9	0
US MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	0
RAATS	0
RMP	0
PRP	0
US AIRS	0
EPA WATCH LIST	0
2020 COR ACTION	0
LEAD SMELTERS	0
US FIN ASSUR	0
COAL ASH DOE	0

MAP FINDINGS SUMMARY

Database	Total Plotted
SCRD DRYCLEANERS	0
US HIST CDL	0
FEMA UST	0
PCB TRANSFORMER	0
COAL ASH EPA	0
FEDERAL FACILITY	0

STATE AND LOCAL RECORDS

SHWS	0
IOP	0
SWF/LF	0
CLI	0
NPDES	0
UIC	0
SWRCY	0
WasteMgt	0
LPST	0
UST	0
DEL SHWS	0
LIENS	0
AST	0
SPILLS	0
AUL	0
VCP	0
PRIORITYCLEANERS	0
DRYCLEANERS	0
BROWNFIELDS	0
ENF	0
Ind. Haz Waste	0
ED AQUIF	0
AIRS	0
MSD	0
TIER 2	4
RWS	0
HIST LIENS	0
IHW CORR ACTION	0
COAL ASH	0
GCC	0

TRIBAL RECORDS

INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0

EDR PROPRIETARY RECORDS

EDR MGP	0

MAP FINDINGS SUMMARY

Database	Total Plotted
EDR US Hist Auto Stat	0
EDR US Hist Cleaners	0
RGA LF	0
RGA HWS	0

NOTES:

Sites may be listed in more than one database

1 **DONALDSON 4-54 1H** **TIER 2** **S113697446** **N/A**

LAT/LONG, TX 79772

TIER 2:

Facility Id/Name:	FATR201294VNCL08X06K/DONALDSON 4-54 1H

Facility Info:

Id Type:	NAICS
Description:	Crude Petroleum and Natural Gas Extraction
Id:	211111
Last Modified:	3/1/2013
Reporting Year:	2012
Facility Country:	USA
Facility Department:	Not reported
Facility Date Modified:	5/8/2013
Date Tier 2 Signed:	2-28-2013
Mailing Address:	Not reported
Mailing City/State/Country:	Not reported
Dikes/Other Safeguard Meas Emp:	Not reported
All Chemicals Same As Last Year:	Not reported
State Fees Total:	Not reported
Number Of Employess On Site:	Not reported
Site Map:	Not reported
Fire District:	Pecos Volunteer Fire Department
Submitted By:	Gerald Carrillo
Latitude:	31.442
Longitude:	-103.602
Lat/Long Location Desc:	CE - Center of Facility
Lat/Long Method:	G0 - GPS (Other)

Contact:

Contact Email:	gerald.carrillo@bhpbilliton.com
Contact Mail Address:	115 W. 3rd St
Contact City/State/Zip:	Pecos, TX 79772
Contact Mail Country:	USA
Contact Type 1:	Emergency Contact
Contact Type 2:	Regulatory Point of Contact
Contact Name:	Gerald Carrillo
Title:	PPU-HSEC Superintendent
Modification Date:	3/9/2013

Contact:

Contact Email:	brian.downing@bhpbilliton.com
Contact Mail Address:	115 W. 3rd St
Contact City/State/Zip:	Pecos, TX 79772
Contact Mail Country:	USA
Contact Type 1:	Emergency Contact
Contact Name:	Brian Downing
Title:	Production Superintendent
Modification Date:	3/9/2013

Contact:

Contact Email:	Not reported
Contact Mail Address:	1360 Post Oak Blvd., Suite 150

DONALDSON 4-54 1H (Continued) **S113697446**

Contact City/State/Zip:	Houston, TX 77056
Contact Mail Country:	USA
Contact Type 1:	Owner / Operator
Contact Name:	Petrohawk Operating Company - Permian
Title:	Owner/Operator
Modification Date:	3/9/2013

Chemical Inventory:

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Acrolein
Chemical Inv Record Id:	CVTR201294VNCL0920AP
CAS Number:	107-02-8
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	T
Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	T
Gas:	Not reported
Liquid:	T
Mixture Form:	Not reported
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	T
Reactive Hazard:	T
Solid:	Not reported
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCL0930B5
Chemical Inventory Record Id:	CVTR201294VNCL0920AP
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Plastic or non-metallic drum
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Barite
Chemical Inv Record Id:	CVTR201294VNCM0940F9
CAS Number:	7727-43-7
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported

DONALDSON 4-54 1H (Continued) **S113697446**

Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	Not reported
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	T
Reactive Hazard:	T
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM0950G7
Chemical Inventory Record Id:	CVTR201294VNCM0940F9
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Silo
Number Code/Storage Pressure:	2
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Bentonite
Chemical Inv Record Id:	CVTR201294VNCM0960JH
CAS Number:	1302-78-9
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	Not reported
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	T
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM0970KE
Chemical Inventory Record Id:	CVTR201294VNCM0960JH
Amt Of Sub Stored Or Transported:	Not reported

DONALDSON 4-54 1H (Continued) **S113697446**

Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013
Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Cellulose
Chemical Inv Record Id:	CVTR201294VNCM0980N5
CAS Number:	Not reported
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM0990NM
Chemical Inventory Record Id:	CVTR201294VNCM0980N5
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013
Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Crystalline silica, quartz
Chemical Inv Record Id:	CVTR201294VNCM09A0QX
CAS Number:	14808-60-7
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	75

DONALDSON 4-54 1H (Continued) **S113697446**

Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	T
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM09B0RU
Chemical Inventory Record Id:	CVTR201294VNCM09A0QX
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Silo
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Diesel
Chemical Inv Record Id:	CVTR201294VNCM09C0U4
CAS Number:	68476-34-6
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	100,000 - 999,999 pounds
Max Daily Amount:	100,000 - 999,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	T
Gas:	Not reported
Liquid:	T
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM09D0V1
Chemical Inventory Record Id:	CVTR201294VNCM09C0U4
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Above ground tank

DONALDSON 4-54 1H (Continued) **S113697446**

Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: Near Well Head
Last Modified: 3/7/2013

Facility Id: FATR201294VNCL08X06K
Chemical Name: Fly Ash
Chemical Inv Record Id: CVTR201294VNCM09E0XB
CAS Number: 68131-74-8
Chemical Same As Last Year: Not reported
Acute Health Risks: T
Average Daily Amount: 100,000 - 999,999 pounds
Max Daily Amount: 100,000 - 999,999 pounds
Max Amount In Largest Container: Not reported
Chronic Health Risks: T
EHS Substance: Not reported
Last Modified: 3/7/2013
Days On Site: 75
Fire Hazard: Not reported
Gas: Not reported
Liquid: Not reported
Mixture Form: T
Sudden Release Of Pressure Haz: Not reported
Pure Form: Not reported
Reactive Hazard: Not reported
Solid: T
Trade Secret: Not reported
Contact Label: Not reported
Label Code: TX2012
Trade Secret: Not reported

Chemical Inventory Location:
Record Key: CLTR201294VNCM09F0Y9
Chemical Inventory Record Id: CVTR201294VNCM09E0XB
Amt Of Sub Stored Or Transported: Not reported
Amount Units: pounds
Type Of Storage: Bag
Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: Near Well Head
Last Modified: 3/7/2013

Facility Id: FATR201294VNCL08X06K
Chemical Name: Glutaraldehyde
Chemical Inv Record Id: CVTR201294VNCM09G103
CAS Number: 111-30-8
Chemical Same As Last Year: Not reported
Acute Health Risks: T
Average Daily Amount: 10,000 - 99,999 pounds
Max Daily Amount: 10,000 - 99,999 pounds
Max Amount In Largest Container: Not reported
Chronic Health Risks: T
EHS Substance: Not reported
Last Modified: 3/7/2013
Days On Site: 20
Fire Hazard: T
Gas: Not reported

DONALDSON 4-54 1H (Continued) **S113697446**

Liquid:	T
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	T
Solid:	Not reported
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM09H110
Chemical Inventory Record Id:	CVTR201294VNCM09G103
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Tote bin
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Lime
Chemical Inv Record Id:	CVTR201294VNCM09J13A
CAS Number:	1305-78-8
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	20
Fire Hazard:	T
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	T
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCM09K147
Chemical Inventory Record Id:	CVTR201294VNCM09J13A
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4

DONALDSON 4-54 1H (Continued) **S113697446**

Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013
Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Limestone
Chemical Inv Record Id:	CVTR201294VNCM09L16H
CAS Number:	1317-65-3
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	75
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09M17F
Chemical Inventory Record Id:	CVTR201294VNCM09L16H
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013
Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Mica Fine
Chemical Inv Record Id:	CVTR201294VNCN09N19R
CAS Number:	12001-26-2
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	20
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	Not reported

DONALDSON 4-54 1H (Continued) **S113697446**

Sudden Release Of Pressure Haz:	Not reported
Pure Form:	T
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09P1AN
Chemical Inventory Record Id:	CVTR201294VNCN09N19R
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Modified acrylamide copolymer
Chemical Inv Record Id:	CVTR201294VNCN09Q1CG
CAS Number:	Not reported
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	20
Fire Hazard:	T
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09R1DD
Chemical Inventory Record Id:	CVTR201294VNCN09Q1CG
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

DONALDSON 4-54 1H (Continued) **S113697446**

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Portland Cement
Chemical Inv Record Id:	CVTR201294VNCN09S1FP
CAS Number:	65997-15-1
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	100,000 - 999,999 pounds
Max Daily Amount:	100,000 - 999,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	20
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09T1GM
Chemical Inventory Record Id:	CVTR201294VNCN09S1FP
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Silo
Number Code/Storage Pressure:	2
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Resin coated sand
Chemical Inv Record Id:	CVTR201294VNCN09U1JX
CAS Number:	Not reported
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	1,000,000 - 9,999,999 pounds
Max Daily Amount:	1,000,000 - 9,999,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	20
Fire Hazard:	T
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported

DONALDSON 4-54 1H (Continued) **S113697446**

Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09V1KU
Chemical Inventory Record Id:	CVTR201294VNCN09U1JX
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Silo
Number Code/Storage Pressure:	2
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	SALT 96%
Chemical Inv Record Id:	CVTR201294VNCN09W1N4
CAS Number:	7647-14-5
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	30
Fire Hazard:	T
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09X1P1
Chemical Inventory Record Id:	CVTR201294VNCN09W1N4
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Bag
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Facility Id:	FATR201294VNCL08X06K
Chemical Name:	Salt Gel

DONALDSON 4-54 1H (Continued) **S113697446**

Chemical Inv Record Id:	CVTR201294VNCN09Y1QV
CAS Number:	12174-11-7
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/7/2013
Days On Site:	30
Fire Hazard:	T
Gas:	Not reported
Liquid:	Not reported
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR201294VNCN09Z1RT
Chemical Inventory Record Id:	CVTR201294VNCN09Y1QV
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Tote bin
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	Near Well Head
Last Modified:	3/7/2013

Notes:	Not reported
Validation:	Not reported

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2 **PECOS AAF HIGH AUX FLD #1** **FUDS** **1008196541**
N/A

PECOS, TX

FUDS:

Federal Facility ID:	TX9799F6716
FUDS #:	K06TX0551
INST ID:	61717
Facility Name:	PECOS AAF HIGH AUX FLD #1
City:	PECOS
State:	TX
EPA Region:	06
County:	REEVES
Congressional District:	23
US Army District:	Fort Worth District (SWF)
Fiscal Year:	2012
Telephone:	817-886-1312

PECOS AAF HIGH AUX FLD #1 (Continued) **1008196541**

NPL Status:	Not Listed
RAB:	Not reported
CTC:	93
Current Owner:	Private Sector
Current Prog:	Not reported
Future Prog:	Not reported
Acreage:	Not reported
Description:	643.34 ACRES
History:	USED AS AN AUXILIARY LANDING FIELD
Latitude:	31.433889
Longitude:	-103.591111

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3 **TWO OAKS- YOST BATTERY** **TIER 2** **S113684923**
31.425482N, -103.581858 **N/A**
PECOS, TX 79772

TIER 2:

Facility Id/Name:	FATR20128MM3EV01YPY2/TWO OAKS- YOST BATTERY

Facility Info:

Id Type:	NAICS
Description:	Crude Petroleum and Natural Gas Extraction
Id:	211111
Last Modified:	6/7/2012
Id Type:	SIC
Description:	OIL AND GAS FIELD EXPLORATION
Id:	1382
Last Modified:	6/7/2012
Reporting Year:	2012
Facility Country:	USA
Facility Department:	Not reported
Facility Date Modified:	5/8/2013
Date Tier 2 Signed:	03/08/2013
Mailing Address:	P.O. Box 50272
Mailing City/State/Country:	Midland, TX USA
Dikes/Other Safeguard Meas Emp:	Not reported
All Chemicals Same As Last Year:	T
State Fees Total:	Not reported
Number Of Employess On Site:	Not reported
Site Map:	Not reported
Fire District:	Not reported
Submitted By:	Cindy Delgado
Latitude:	31.425482
Longitude:	-103.581858
Lat/Long Location Desc:	CE - Center of Facility
Lat/Long Method:	G4 - GPS (Precise Positioning Service)

Contact:

Contact Email:	Not reported
Contact Mail Address:	P.O.Box 50272
Contact City/State/Zip:	Midland, TX 79710
Contact Mail Country:	USA
Contact Type 1:	Emergency Contact
Contact Name:	Devin Garner
Title:	Field Supervisor
Modification Date:	3/28/2013

TWO OAKS- YOST BATTERY (Continued) **S113684923**

Contact:
- Contact Email: cthomas@treyresources.net
- Contact Mail Address: P.O. Box 50272
- Contact City/State/Zip: Midland, TX 79710
- Contact Mail Country: USA
- Contact Type 1: Emergency Contact
- Contact Type 2: Owner / Operator
- Contact Name: Cleve Thomas
- Title: Field Suspervisor
- Modification Date: 3/28/2013

Contact:
- Contact Email: dthomas@treyresources.net
- Contact Mail Address: P.O.Box 50184
- Contact City/State/Zip: Midland, TX 79710
- Contact Mail Country: USA
- Contact Type 1: Owner / Operator
- Contact Name: Dave Thomas
- Title: Not reported
- Modification Date: 3/28/2013

Contact:
- Contact Email: jov83@windstream.net
- Contact Mail Address: Not reported
- Contact City/State/Zip: Not reported
- Contact Mail Country: USA
- Contact Type 1: Emergency Contact
- Contact Name: Joe Varela
- Title: Not reported
- Modification Date: 3/28/2013

Chemical Inventory:
- Facility Id: FATR20128MM3EV01YPY2
- Chemical Name: Produced Hydrocarbons
- Chemical Inv Record Id: CVTR20128MM3YR02B5F8
- CAS Number: 8002-05-9
- Chemical Same As Last Year: Not reported
- Acute Health Risks: T
- Average Daily Amount: 10,000 - 99,999 pounds
- Max Daily Amount: 10,000 - 99,999 pounds
- Max Amount In Largest Container: Not reported
- Chronic Health Risks: Not reported
- EHS Substance: Not reported
- Last Modified: 3/28/2013
- Days On Site: 365
- Fire Hazard: T
- Gas: Not reported
- Liquid: T
- Mixture Form: Not reported
- Sudden Release Of Pressure Haz: T
- Pure Form: T
- Reactive Hazard: Not reported
- Solid: T

TWO OAKS- YOST BATTERY (Continued) **S113684923**

Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR20128MM3ZT02C2ML
Chemical Inventory Record Id:	CVTR20128MM3YR02B5F8
Amt Of Sub Stored Or Transported:	300
Amount Units:	barrels
Type Of Storage:	Above ground tank
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	on site
Last Modified:	3/28/2013

Record Key:	CLTR20129575S805SBUX
Chemical Inventory Record Id:	CVTR20128MM3YR02B5F8
Amt Of Sub Stored Or Transported:	300
Amount Units:	barrels
Type Of Storage:	Above ground tank
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	on site
Last Modified:	3/28/2013

Facility Id:	FATR20128MM3EV01YPY2
Chemical Name:	Produced Water
Chemical Inv Record Id:	CVTR20129575SR05TSNQ
CAS Number:	7647-14-5
Chemical Same As Last Year:	Not reported
Acute Health Risks:	T
Average Daily Amount:	0 - 99 pounds
Max Daily Amount:	0 - 99 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/28/2013
Days On Site:	365
Fire Hazard:	T
Gas:	Not reported
Liquid:	T
Mixture Form:	T
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	Not reported
Reactive Hazard:	T
Solid:	Not reported
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR20129575TX05UTG1
Chemical Inventory Record Id:	CVTR20129575SR05TSNQ
Amt Of Sub Stored Or Transported:	500

TWO OAKS- YOST BATTERY (Continued) **S113684923**

Amount Units:	barrels
Type Of Storage:	Above ground tank
Number Code/Storage Pressure:	1
Number Code/Storage Temperature:	4
Desc of Loc(Or Transported) Subs:	on site
Last Modified:	3/28/2013
Notes:	Not reported
Validation:	Not reported

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4 **TWO OAKS-HERMOSA #1** **TIER 2** **S113684927**
31.42378N; -103.575047 **N/A**
PECOS, TX 79772

TIER 2:

Facility Id/Name:	FATR20128MMA2803RN61/TWO OAKS-HERMOSA #1

Facility Info:

Id Type:	SIC
Description:	OIL AND GAS FIELD EXPLORATION
Id:	1382
Last Modified:	6/7/2012
Id Type:	NAICS
Description:	Crude Petroleum and Natural Gas Extraction
Id:	211111
Last Modified:	6/7/2012
Reporting Year:	2012
Facility Country:	USA
Facility Department:	Not reported
Facility Date Modified:	5/8/2013
Date Tier 2 Signed:	03/08/2013
Mailing Address:	P.O. Box 50272
Mailing City/State/Country:	Midland, TX USA
Dikes/Other Safeguard Meas Emp:	Not reported
All Chemicals Same As Last Year:	Not reported
State Fees Total:	Not reported
Number Of Employess On Site:	Not reported
Site Map:	Not reported
Fire District:	Not reported
Submitted By:	Cindy Delgado
Latitude:	31.423783
Longitude:	-103.575047
Lat/Long Location Desc:	CE - Center of Facility
Lat/Long Method:	G4 - GPS (Precise Positioning Service)

Contact:

Contact Email:	cthomas@treyresources.net
Contact Mail Address:	P.O. Box 50272
Contact City/State/Zip:	Midland, TX 79710
Contact Mail Country:	USA
Contact Type 1:	Emergency Contact
Contact Type 2:	Owner / Operator
Contact Name:	Cleve Thomas
Title:	Field Suspervisor
Modification Date:	3/28/2013

TWO OAKS-HERMOSA #1 (Continued) **S113684927**

Contact:
- Contact Email: dthomas@treyresources.net
- Contact Mail Address: P.O.Box 50184
- Contact City/State/Zip: Midland, TX 79710
- Contact Mail Country: USA
- Contact Type 1: Owner / Operator
- Contact Name: Dave Thomas
- Title: Not reported
- Modification Date: 3/28/2013

Contact:
- Contact Email: Not reported
- Contact Mail Address: P.O.Box 50272
- Contact City/State/Zip: Midland, TX 79710
- Contact Mail Country: USA
- Contact Type 1: Emergency Contact
- Contact Name: Devin Garner
- Title: Field Supervisor
- Modification Date: 3/28/2013

Contact:
- Contact Email: jov83@windstream.net
- Contact Mail Address: Not reported
- Contact City/State/Zip: Not reported
- Contact Mail Country: USA
- Contact Type 1: Emergency Contact
- Contact Name: Joe Varela
- Title: Not reported
- Modification Date: 3/28/2013

Chemical Inventory:
- Facility Id: FATR20128MMA2803RN61
- Chemical Name: Produced Hydrocarbons
- Chemical Inv Record Id: CVTR20128MMA7Z042LPV
- CAS Number: 8002-05-9
- Chemical Same As Last Year: T
- Acute Health Risks: T
- Average Daily Amount: 10,000 - 99,999 pounds
- Max Daily Amount: 10,000 - 99,999 pounds
- Max Amount In Largest Container: Not reported
- Chronic Health Risks: T
- EHS Substance: Not reported
- Last Modified: 3/28/2013
- Days On Site: 365
- Fire Hazard: T
- Gas: Not reported
- Liquid: T
- Mixture Form: Not reported
- Sudden Release Of Pressure Haz: Not reported
- Pure Form: T
- Reactive Hazard: Not reported
- Solid: T
- Trade Secret: Not reported

TWO OAKS-HERMOSA #1 (Continued) **S113684927**

Contact Label: Not reported
Label Code: TX2012
Trade Secret: Not reported

Chemical Inventory Location:
Record Key: CLTR20128MMA8Y043F52
Chemical Inventory Record Id: CVTR20128MMA7Z042LPV
Amt Of Sub Stored Or Transported: Not reported
Amount Units: pounds
Type Of Storage: Above ground tank
Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: on site
Last Modified: 3/28/2013

Facility Id: FATR20128MMA2803RN61
Chemical Name: Produced Water
Chemical Inv Record Id: CVTR20129575VA05V0FY
CAS Number: 7647-14-5
Chemical Same As Last Year: Not reported
Acute Health Risks: T
Average Daily Amount: 0 - 99 pounds
Max Daily Amount: 0 - 99 pounds
Max Amount In Largest Container: Not reported
Chronic Health Risks: T
EHS Substance: Not reported
Last Modified: 3/28/2013
Days On Site: 365
Fire Hazard: T
Gas: Not reported
Liquid: T
Mixture Form: T
Sudden Release Of Pressure Haz: Not reported
Pure Form: Not reported
Reactive Hazard: T
Solid: Not reported
Trade Secret: Not reported
Contact Label: Not reported
Label Code: TX2012
Trade Secret: Not reported

Chemical Inventory Location:
Record Key: CLTR20129575W605WS1W
Chemical Inventory Record Id: CVTR20129575VA05V0FY
Amt Of Sub Stored Or Transported: 210
Amount Units: barrels
Type Of Storage: Above ground tank
Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: on site
Last Modified: 3/28/2013

Notes: Not reported
Validation: Not reported

5 **TWO OAKS-HERMOSA #2** **TIER 2** **S113684928**
31.415474; -103.583204 **N/A**
PECOS, TX 79772

TIER 2:
Facility Id/Name: FATR20128MMA9D045U0B/TWO OAKS-HERMOSA #2

Facility Info:
Id Type: NAICS
Description: Crude Petroleum and Natural Gas Extraction
Id: 211111
Last Modified: 6/7/2012
Id Type: SIC
Description: OIL AND GAS FIELD EXPLORATION
Id: 1382
Last Modified: 6/7/2012
Reporting Year: 2012
Facility Country: USA
Facility Department: Not reported
Facility Date Modified: 5/8/2013
Date Tier 2 Signed: 03/08/2013
Mailing Address: P.O. Box 50272
Mailing City/State/Country: Midland, TX USA
Dikes/Other Safeguard Meas Emp: Not reported
All Chemicals Same As Last Year: T
State Fees Total: Not reported
Number Of Employess On Site: Not reported
Site Map: Not reported
Fire District: Not reported
Submitted By: Cindy Delgado
Latitude: 31.415474
Longitude: -103.583201
Lat/Long Location Desc: CE - Center of Facility
Lat/Long Method: G4 - GPS (Precise Positioning Service)

Contact:
Contact Email: Not reported
Contact Mail Address: P.O.Box 50272
Contact City/State/Zip: Midland, TX 79710
Contact Mail Country: USA
Contact Type 1: Emergency Contact
Contact Name: Devin Garner
Title: Field Supervisor
Modification Date: 3/28/2013

Contact:
Contact Email: cthomas@treyresources.net
Contact Mail Address: P.O. Box 50272
Contact City/State/Zip: Midland, TX 79710
Contact Mail Country: USA
Contact Type 1: Emergency Contact
Contact Type 2: Owner / Operator
Contact Name: Cleve Thomas
Title: Field Suspervisor
Modification Date: 3/28/2013

TWO OAKS-HERMOSA #2 (Continued) **S113684928**

Contact:

Contact Email:	dthomas@treyresources.net
Contact Mail Address:	P.O.Box 50184
Contact City/State/Zip:	Midland, TX 79710
Contact Mail Country:	USA
Contact Type 1:	Owner / Operator
Contact Name:	Dave Thomas
Title:	Not reported
Modification Date:	3/28/2013

Contact:

Contact Email:	jov83@windstream.net
Contact Mail Address:	Not reported
Contact City/State/Zip:	Not reported
Contact Mail Country:	USA
Contact Type 1:	Emergency Contact
Contact Name:	Joe Varela
Title:	Not reported
Modification Date:	3/28/2013

Chemical Inventory:

Facility Id:	FATR20128MMA9D045U0B
Chemical Name:	Produced Hydrocarbons
Chemical Inv Record Id:	CVTR20128MMAEU04GJ72
CAS Number:	8002-05-9
Chemical Same As Last Year:	T
Acute Health Risks:	T
Average Daily Amount:	10,000 - 99,999 pounds
Max Daily Amount:	10,000 - 99,999 pounds
Max Amount In Largest Container:	Not reported
Chronic Health Risks:	T
EHS Substance:	Not reported
Last Modified:	3/28/2013
Days On Site:	365
Fire Hazard:	T
Gas:	Not reported
Liquid:	T
Mixture Form:	Not reported
Sudden Release Of Pressure Haz:	Not reported
Pure Form:	T
Reactive Hazard:	Not reported
Solid:	T
Trade Secret:	Not reported
Contact Label:	Not reported
Label Code:	TX2012
Trade Secret:	Not reported

Chemical Inventory Location:

Record Key:	CLTR20128MMAFX04HGA5
Chemical Inventory Record Id:	CVTR20128MMAEU04GJ72
Amt Of Sub Stored Or Transported:	Not reported
Amount Units:	pounds
Type Of Storage:	Above ground tank
Number Code/Storage Pressure:	1

TWO OAKS-HERMOSA #2 (Continued) **S113684928**

Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: on site
Last Modified: 3/28/2013

Facility Id: FATR20128MMA9D045U0B
Chemical Name: Produced Water
Chemical Inv Record Id: CVTR201295762K05X9G2
CAS Number: 7647-14-5
Chemical Same As Last Year: Not reported
Acute Health Risks: T
Average Daily Amount: 0 - 99 pounds
Max Daily Amount: 0 - 99 pounds
Max Amount In Largest Container: Not reported
Chronic Health Risks: T
EHS Substance: Not reported
Last Modified: 3/28/2013
Days On Site: 365
Fire Hazard: T
Gas: Not reported
Liquid: T
Mixture Form: T
Sudden Release Of Pressure Haz: Not reported
Pure Form: Not reported
Reactive Hazard: T
Solid: Not reported
Trade Secret: Not reported
Contact Label: Not reported
Label Code: TX2012
Trade Secret: Not reported

Chemical Inventory Location:
Record Key: CLTR201295763C05YZGS
Chemical Inventory Record Id: CVTR201295762K05X9G2
Amt Of Sub Stored Or Transported: 210
Amount Units: gallons
Type Of Storage: Above ground tank
Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: on site
Last Modified: 3/28/2013

Record Key: CLTR201295763P05Z96N
Chemical Inventory Record Id: CVTR201295762K05X9G2
Amt Of Sub Stored Or Transported: 210
Amount Units: barrels
Type Of Storage: Above ground tank
Number Code/Storage Pressure: 1
Number Code/Storage Temperature: 4
Desc of Loc(Or Transported) Subs: on site
Last Modified: 3/28/2013

Notes: Not reported
Validation: Not reported

Count: 34 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PECOS	S116696116	WEST TEXAS GAS CO	10TH & CEDAR	79772	LPST
PECOS	S113912948	WEST TEXAS GAS INC	10TH ST		GCC
PECOS	A100120469	BRISCOE FARMS	10900 HWY 17	79772	AST
PECOS	S105836370	INTRATEX GAS CO	HIGHWAY 18	79772	Ind. Haz Waste
PECOS	S102744921	ACID DELINTERS PECOS	HWY 80	79772	Ind. Haz Waste, IHW CORR ACTION
PECOS	1007210805	ACID DELINTERS INC	HIGHWAY 80 1 MI N	79772	CORRACTS, RCRA-TSDF, RCRA Nor / NLR
PECOS	S103602745	M-I DRILLING FLUIDS PECOS	HWY 80 W	79772	Ind. Haz Waste
PECOS	1016170761	PECOS MERCURY SPILL	623 S. ASH STREETSEP*2013	79772	CERCLIS
PECOS	1016258255	W R GRACE & CO	BALMORHEA HIGHWAY		ICIS, FINDS
PECOS	S116698968	WEST TEXAS GAS PECOS WAREHOUSE	2273 BUSINESS LOOP I-20 WEST, WEST OF MONAHANS 1.5 MILES	79772	LPST
PECOS	1003874389	PECOS VALLEY FLY SERVICE	4MI.S.OF CITY ON HWY.17	79772	CERC-NFRAP
PECOS	1004788286	BATTERY RECLAMATION UNIVERSAL WORK SITE	7 COUNTY ROAD 202		RCRA NonGen / NLR, FINDS
PECOS	S107015169	CULBERSON PLANT, 45 MILES NO.WEST OF PECOS, AT FREEPORT SULF	CULBERSON PLANT, 45 MILES NO.WEST OF PECOS, AT FREEPORT SULF		SPILLS
PECOS	S116701666	CULBERSON PROPERTY	END OF FM 2119		LPST
PECOS	S116699814	VARELA SERVICE STATION 1	1304 E HIGHWAY 80	79772	LPST
PECOS	S112002651	CAPITOL AGGREGATES, INC. - HOBAN SAND & GRAVEL	7001 SOUTH HWY 17	79772	TIER 2
PECOS	S111042604	CAPITOL AGGREGATES LTD - HOBAN SAND & GRAVEL	7001 SOUTH HWY 17	79772	TIER 2
PECOS	S113684668	WTG FUELS, INC./PECOS-CATALYST	2800 S. HWY 17	79772	TIER 2
PECOS	S112007357	WTG FUELS, INC./PECOS-MACHEN CONTRACTING, INC.	2800 S. HWY 17	79772	TIER 2
PECOS	S111053697	HOBAN GIN COMPRESSOR STATION	13 MILES SOUTH OF PECOS AT INTERSECTION OF RANCH RD 869 AND	79772	TIER 2
PECOS	1006170013	TRANS PECOS MATERIALS, A DIV CAPITOL	16 MILES S FROM PECOS, TX ON W		FINDS, US AIRS
PECOS	S115127030	PECOS CITY TRANSFER STATION FACILITY	1.8 MILES S OF IH 20 0.4 MILES E OF US HIGHWAY 17		RGA LF
PECOS	1004602731	CAPITOL AGGREGATES HOBAN PLANT	17 MILES SOUTH OF PECOS ON HWY		FINDS, US AIRS
PECOS	S115124448	CITY OF PECOS LANDFILL	1.4 MILES S OF IH 20 849 FEET E OF STATE HIGHWAY 17 SW CORNE		RGA LF
PECOS	1016136737	ANCHOR WEST INC.	200 EAST PALMER STREET		FINDS
PECOS	1011815462	ANCHOR WEST INC.	200 EAST PALMER STREET	79772	RMP
PECOS	S111218210	PROPERTY AT CR 336 E OF CR 332	PROPERTY AT CR 336 E OF CR 332	79772	SPILLS, ENF
PECOS	1003874339	LUKINS FLYING SERVICE	1 MI S OF INT OF HWY 17 & I20	79772	CERC-NFRAP
PECOS	S115120774		1.8 MI. S. OF INTERSTATE HWY-20 & 0.4 MI. E. OF HWY-17		RGA LF
PECOS	S115127036	PECOS TRANSFER STATION	1.8 MI. S. OF INTERSTATE HWY-20 & 0.4 MI. E. OF HWY-17		RGA LF
PECOS	1014202216	BATTERY RECLAMATION, INC.	2110 WESTERN AVE.	79772	CERCLIS, LEAD SMELTERS
REEVES COUNTY	S109978515	BROGADO SITE	TURN NORTH ON STATE HWY 17 AT BROGADO TX ONTO CR 316 GO DOWN		SWF/LF
VERHALEN	S108876840	MADERA VALLEY WATER SUPPLY CORPORATION	7230 HIGHWAY 17	79772	TIER 2
VERHALEN	S108449475	CAPITOL AGGREGATES LTD. -HOBAN SAND AND GRAVEL	17 MILES SOUTH OF PECOS ON HWY 17	79772	TIER 2

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/19/2014
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 116

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/19/2014
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 116

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/03/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 04/01/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 105

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/06/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 25

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 07/03/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/18/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 55

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 18

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/24/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 31

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/10/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/25/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/25/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 01/30/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 132

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 05/06/2014
Date Data Arrived at EDR: 05/16/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/18/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2014
Date Data Arrived at EDR: 07/10/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 18
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/10/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/18/2013
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 03/12/2014
Number of Days to Update: 13

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 05/23/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Biennially

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2014
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 38

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/14/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Quarterly

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/18/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Varies

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/25/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Varies

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/31/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 151

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 03/14/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 47

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/11/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/01/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 25
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36
Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/15/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/15/2014
Next Scheduled EDR Contact: 11/24/2014
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 06/04/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

SHWS: State Superfund Registry

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 07/03/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/31/2014
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5680
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Semi-Annually

IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 04/14/2014
Date Data Arrived at EDR: 04/22/2014
Date Made Active in Reports: 05/08/2014
Number of Days to Update: 16

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5894
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/23/2014
Date Data Arrived at EDR: 06/25/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 14

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6706
Last EDR Contact: 07/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CLI: Closed Landfill Inventory

Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas. For current information regarding any of the sites included in this database, contact the appropriate Council of Governments agency.

Date of Government Version: 08/30/1999
Date Data Arrived at EDR: 09/28/2000
Date Made Active in Reports: 10/30/2000
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

H-GAC CLI: Houston-Galveston Closed Landfill Inventory

Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 02/12/2014
Date Data Arrived at EDR: 04/24/2014
Date Made Active in Reports: 05/08/2014
Number of Days to Update: 14

Source: Houston-Galveston Area Council
Telephone: 832-681-2518
Last EDR Contact: 07/07/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 05/07/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/18/2013
Number of Days to Update: 70

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6627
Last EDR Contact: 07/21/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Varies

CAPCOG LI: Capitol Area Landfill Inventory

Permitted and unpermitted landfills for the CAPCOG region. Serving Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Llano, Travis, and Williamson Counties.

Date of Government Version: 08/02/2007
Date Data Arrived at EDR: 05/02/2013
Date Made Active in Reports: 06/07/2013
Number of Days to Update: 36

Source: Capital Area Council of Governments
Telephone: 512-916-6000
Last EDR Contact: 07/11/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

NCTCOG LI: North Central Landfill Inventory

North Central Texas Council of Governments landfill database.

Date of Government Version: 07/07/2014
Date Data Arrived at EDR: 07/07/2014
Date Made Active in Reports: 08/01/2014
Number of Days to Update: 25

Source: North Central Texas Council of Governments
Telephone: 817-695-9223
Last EDR Contact: 07/07/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 06/04/2014
Date Data Arrived at EDR: 06/05/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 42

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4591
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SWRCY: Recycling Facility Listing
A listing of recycling facilities in the state.

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 06/04/2014
Date Made Active in Reports: 06/13/2014
Number of Days to Update: 9
Source: TCEQ
Telephone: 512-239-6700
Last EDR Contact: 08/15/2014
Next Scheduled EDR Contact: 12/01/2014
Data Release Frequency: Varies

WASTEMGT: Commercial Hazardous & Solid Waste Management Facilities
This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 03/01/2014
Date Data Arrived at EDR: 04/11/2014
Date Made Active in Reports: 05/08/2014
Number of Days to Update: 27
Source: Texas Commission on Environmental Quality
Telephone: 512-239-2920
Last EDR Contact: 07/11/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

LPST: Leaking Petroleum Storage Tank Database
An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/28/2014
Date Data Arrived at EDR: 07/30/2014
Date Made Active in Reports: 08/01/2014
Number of Days to Update: 2
Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 07/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

UST: Petroleum Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 07/30/2014
Number of Days to Update: 28
Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

DEL SHWS: Deleted Superfund Registry Sites
Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 07/03/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/31/2014
Number of Days to Update: 28
Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

LIENS: Environmental Liens Listing
The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 06/12/2014
Number of Days to Update: 13
Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 07/30/2014
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

SPILLS: Spills Database
Spills reported to the Emergency Response Division.

Date of Government Version: 05/13/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 06/12/2014
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2507
Last EDR Contact: 07/21/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Quarterly

AUL: Sites with Controls
Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 04/23/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 05/14/2014
Number of Days to Update: 19

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/21/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database
The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 04/23/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 05/08/2014
Number of Days to Update: 13

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

VCP RRC: Voluntary Cleanup Program Sites
The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 07/10/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 28

Source: Railroad Commission of Texas
Telephone: 512-463-6969
Last EDR Contact: 07/10/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing
A listing of drycleaning facilities.

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 29

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 06/12/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List
A listing of dry cleaner related contaminated sites.

Date of Government Version: 03/01/2014
Date Data Arrived at EDR: 03/12/2014
Date Made Active in Reports: 04/18/2014
Number of Days to Update: 37

Source: Texas Commisision on Environmenatl Quality
Telephone: 512-239-5658
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

BROWNFIELDS: Brownfields Site Assessments

Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 02/04/2014
Date Data Arrived at EDR: 04/09/2014
Date Made Active in Reports: 05/14/2014
Number of Days to Update: 35

Source: TCEQ
Telephone: 512-239-5872
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Semi-Annually

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 07/15/2014
Date Data Arrived at EDR: 07/17/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 21

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6012
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Semi-Annually

Ind. Haz Waste: Industrial & Hazardous Waste Database

Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 07/10/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0985
Last EDR Contact: 07/10/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Annually

ED AQUIF: Edwards Aquifer Permits

A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 06/30/2014
Date Data Arrived at EDR: 07/11/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 27

Source: Texas Commission on Environmental Quality, Austin Region
Telephone: 512-339-2929
Last EDR Contact: 06/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

AIRS: Current Emission Inventory Data

The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/23/2014
Date Made Active in Reports: 06/20/2014
Number of Days to Update: 28

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/20/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Semi-Annually

MSD: Municipal Settings Designations Database

An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 06/24/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 07/31/2014
Number of Days to Update: 28
Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 06/23/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Varies

TIER 2: Tier 2 Chemical Inventory Reports
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/07/2013
Date Made Active in Reports: 07/22/2013
Number of Days to Update: 45
Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Annually

HIST LIENS: Environmental Liens Listing
This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40
Source: Texas Commission on Environmental Qualilty
Telephone: 512-239-2209
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

RWS: Radioactive Waste Sites
Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40
Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 05/23/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Semi-Annually

IHW CORR ACTION: IHW CORR ACTION
Industrial hazardous waste facilities with corrective actions.

Date of Government Version: 07/17/2014
Date Data Arrived at EDR: 07/18/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 20
Source: Texas Commission on Environmental Quality
Telephone: 512-239-5872
Last EDR Contact: 07/07/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

GCC: Groundwater Contamination Cases
Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued. The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/23/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 16
Source: Texas Commission on Environmental Quality
Telephone: 512-239-5690
Last EDR Contact: 06/02/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Annually

COAL ASH: Coal Ash Disposal Sites
A listing of facilities that use surface impoundments or landfills to dispose of coal ash.

Date of Government Version: 05/07/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/18/2013
Number of Days to Update: 70

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6624
Last EDR Contact: 08/05/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/18/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/01/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/28/2014
Date Data Arrived at EDR: 05/01/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 47

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/12/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 36

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/01/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 61
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/20/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/24/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 53
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/22/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/14/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 34
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 33
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/12/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/24/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 53

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/22/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/01/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/20/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 08/15/2014
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/01/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 47

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/07/2014
Date Data Arrived at EDR: 05/09/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 39

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/22/2014
Next Scheduled EDR Contact: 11/10/2014
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 05/30/2014
Date Data Arrived at EDR: 07/01/2014
Date Made Active in Reports: 08/15/2014
Number of Days to Update: 45

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/26/2013
Number of Days to Update: 178

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

TRAVIS COUNTY:

Historic Tank Records

A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/23/2012
Number of Days to Update: 55

Source: Department of Planning & Development Review
Telephone: 512-974-2715
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/23/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/17/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2014
Date Data Arrived at EDR: 05/07/2014
Date Made Active in Reports: 06/10/2014
Number of Days to Update: 34
Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/07/2014
Next Scheduled EDR Contact: 11/17/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26
Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29
Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 03/27/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 35
Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/21/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 48
Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Protective & Regulatory Services
Telephone: 512-438-3269

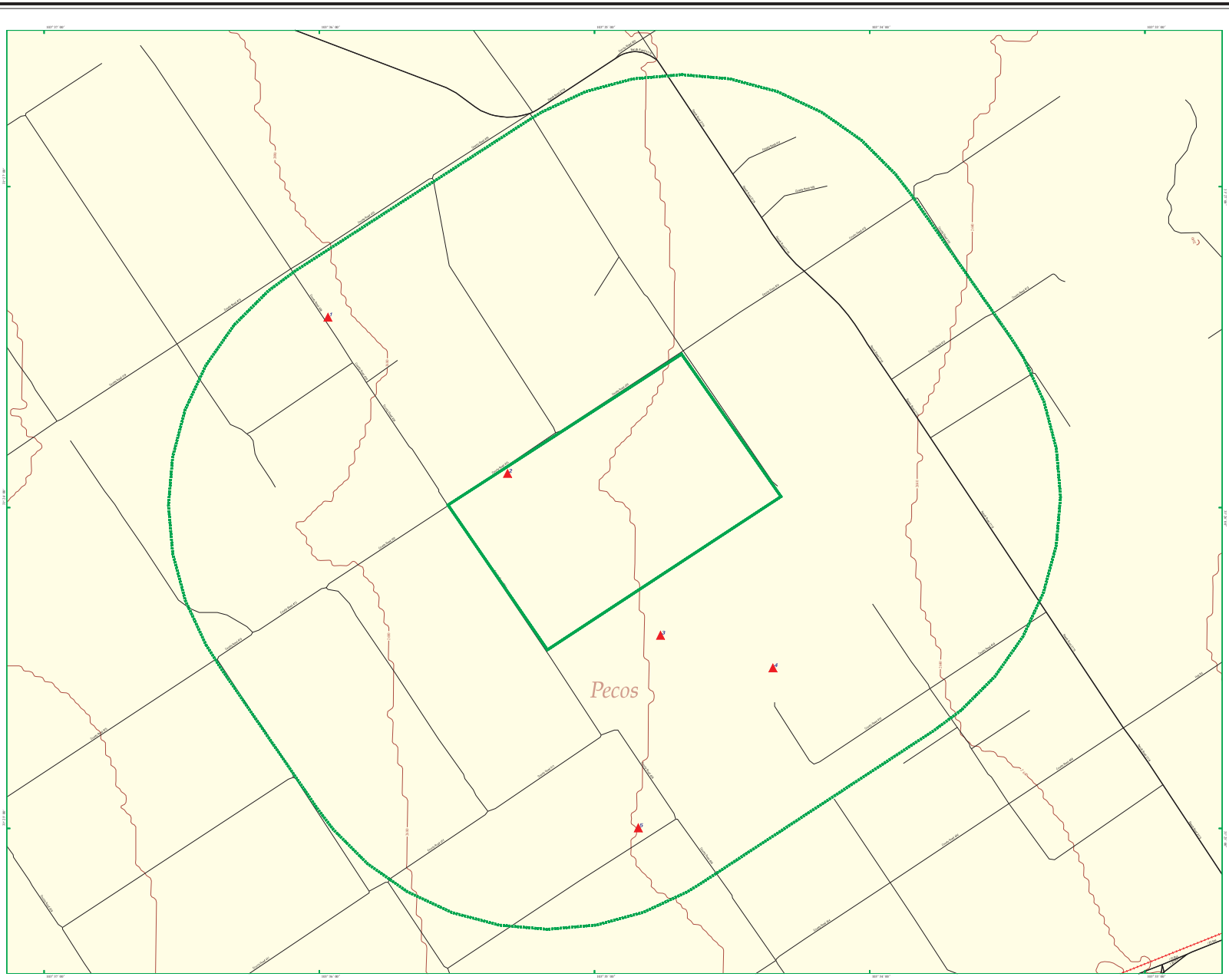
Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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EDR DataMap® Area Study

West Sun Tex Property
Pre-Purchase Activities

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA

N

Pecos, TX

0 1/4 1/2

Scale in Miles

EDR® Environmental Data Resources Inc

Appendix C—Historical Aerial Photographs

West Sun Tex Property Pre-Purchase Activities
West Sun Tex Property Pre-Purchase Activities
Pecos, TX 79772

Inquiry Number: 4041169.6
August 20, 2014

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography August 20, 2014

Target Property:

West Sun Tex Property Pre-Purchase Activities

Pecos, TX 79772

Year	***Scale***	***Details***	***Source***
1954	Aerial Photograph. Scale: 1"=1500'	Flight Year: 1954 Best Copy Available from original source	AMS
1969	Aerial Photograph. Scale: 1"=500'	Flight Year: 1969	USGS
1977	Aerial Photograph. Scale: 1"=500'	Flight Year: 1977 Best Copy Available from original source	TXDOT
1984	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1984 Best Copy Available from original source	USGS
1996	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1996	USGS/DOQQ
2004	Aerial Photograph. Scale: 1"=500'	Flight Year: 2004	USDA-CIR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	USDA/NAIP
2008	Aerial Photograph. Scale: 1"=500'	Flight Year: 2008	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP


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EDR


INQUIRY #: 4041169.6
YEAR: 1969
= 500'
N
EDR



INQUIRY #: 4041169.6

YEAR: 1977

= 500'

N

EDR


INQUIRY #: 4041169.6
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EDR


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EDR



INQUIRY #: 4041169.6

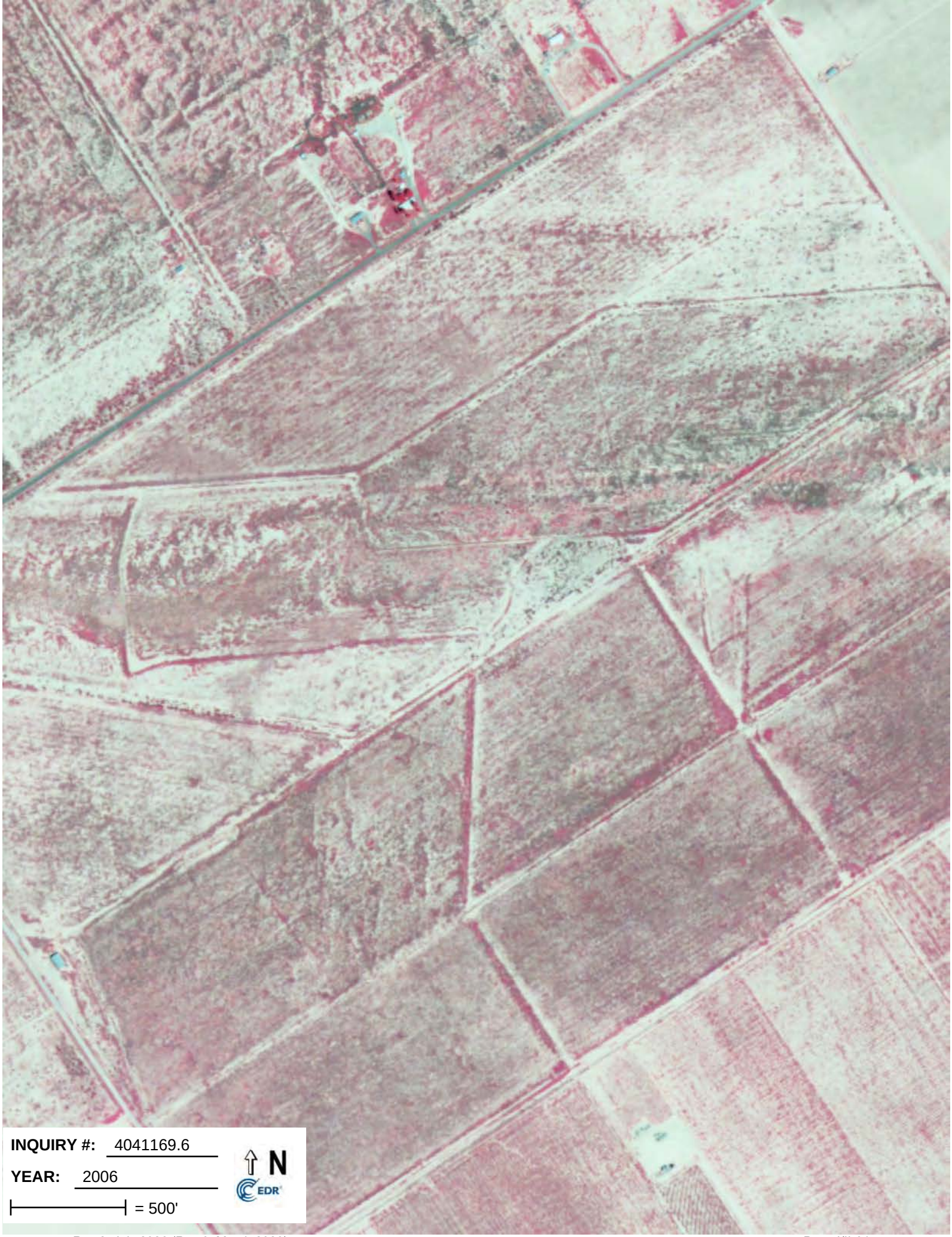
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= 500'

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EDR


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YEAR: 2005
= 500'
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EDR


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EDR


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YEAR: 2010
= 500'
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EDR


INQUIRY #: 4041169.6
YEAR: 2012
= 500'
N
EDR

Appendix D—Historical Topographic Maps

West Sun Tex Property Pre-Purchase Activities

West Sun Tex Property Pre-Purchase Activities

Pecos, TX 79772

Inquiry Number: 4041169.5

August 19, 2014

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

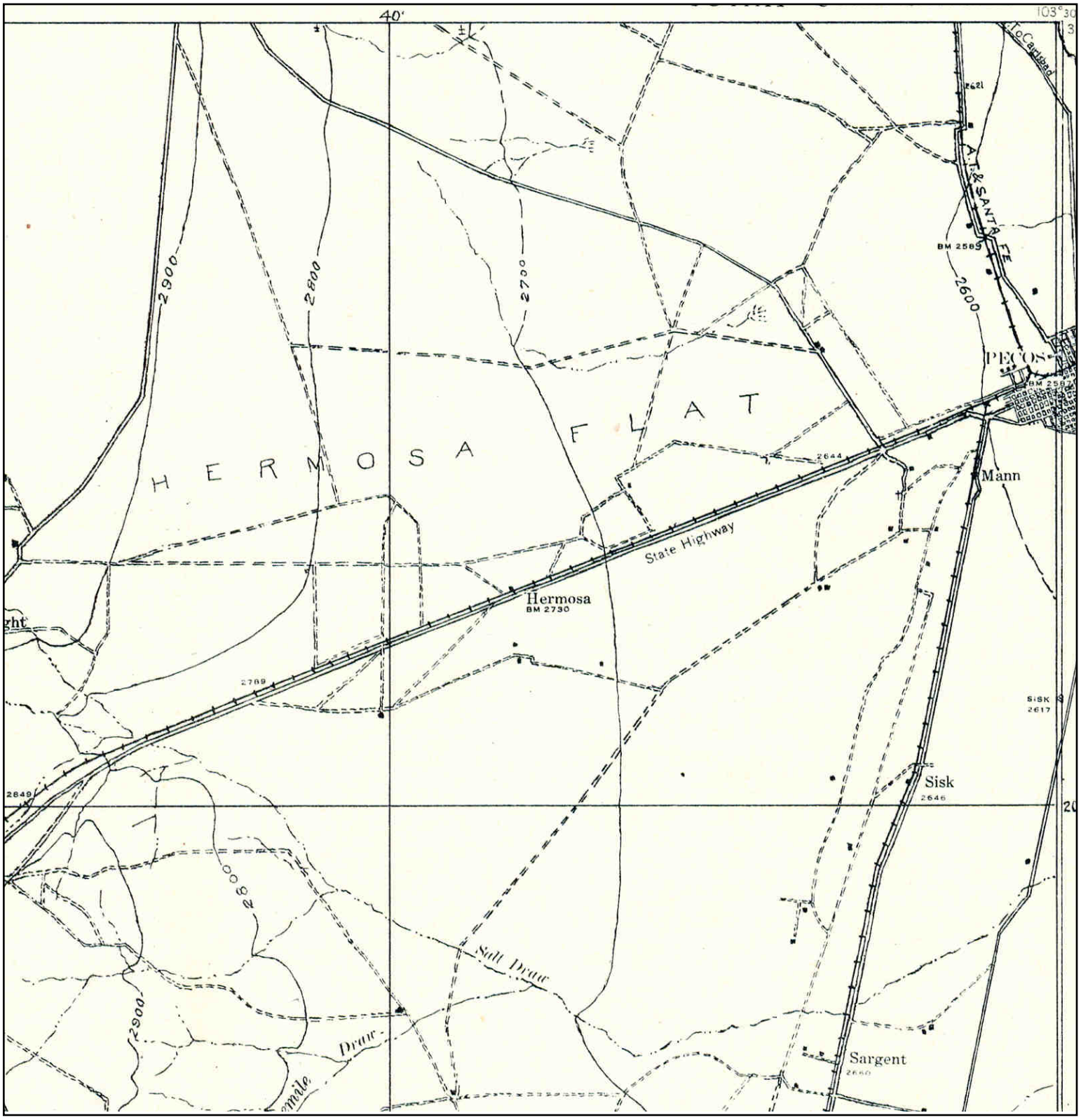
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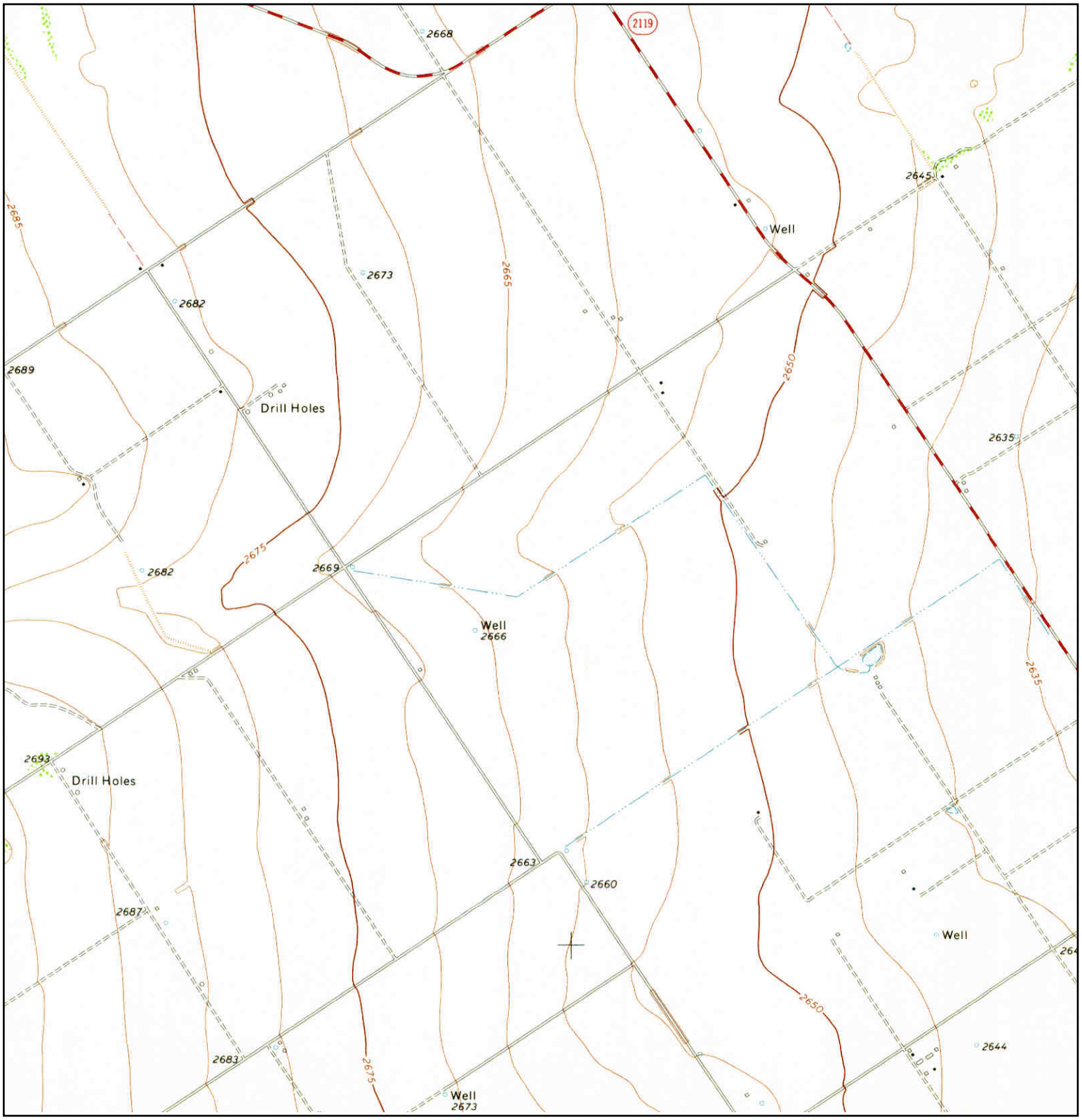
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Historical Topographic Map



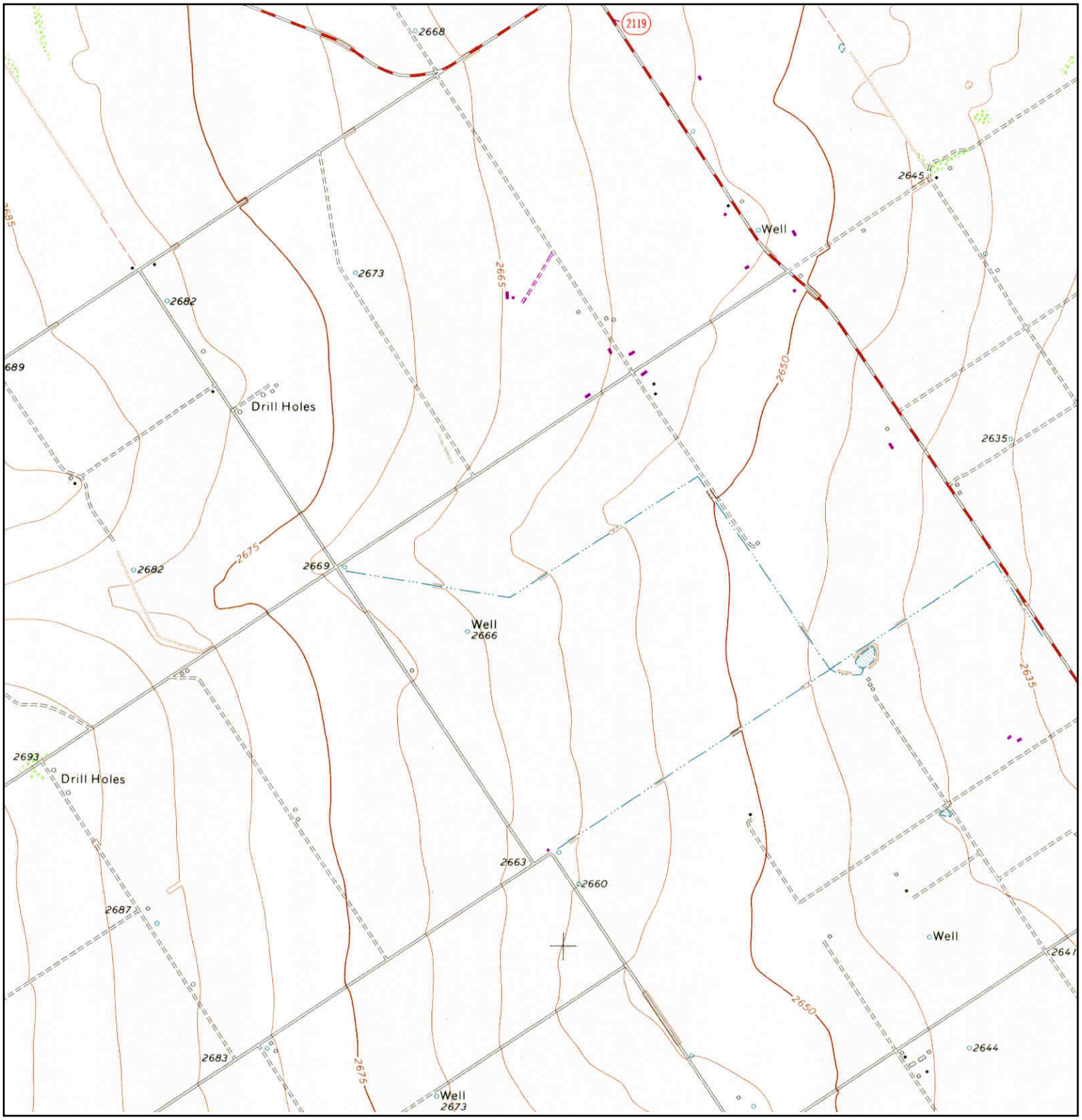
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		ADDRESS:	West Sun Tex Property Pre-Purchase Activities Pecos, TX 79772	CONTACT:	Brandon Tate
		LAT/LONG:	31.4325 / -103.5847	INQUIRY#:	4041169.5
				RESEARCH DATE:	08/19/2014

Historical Topographic Map



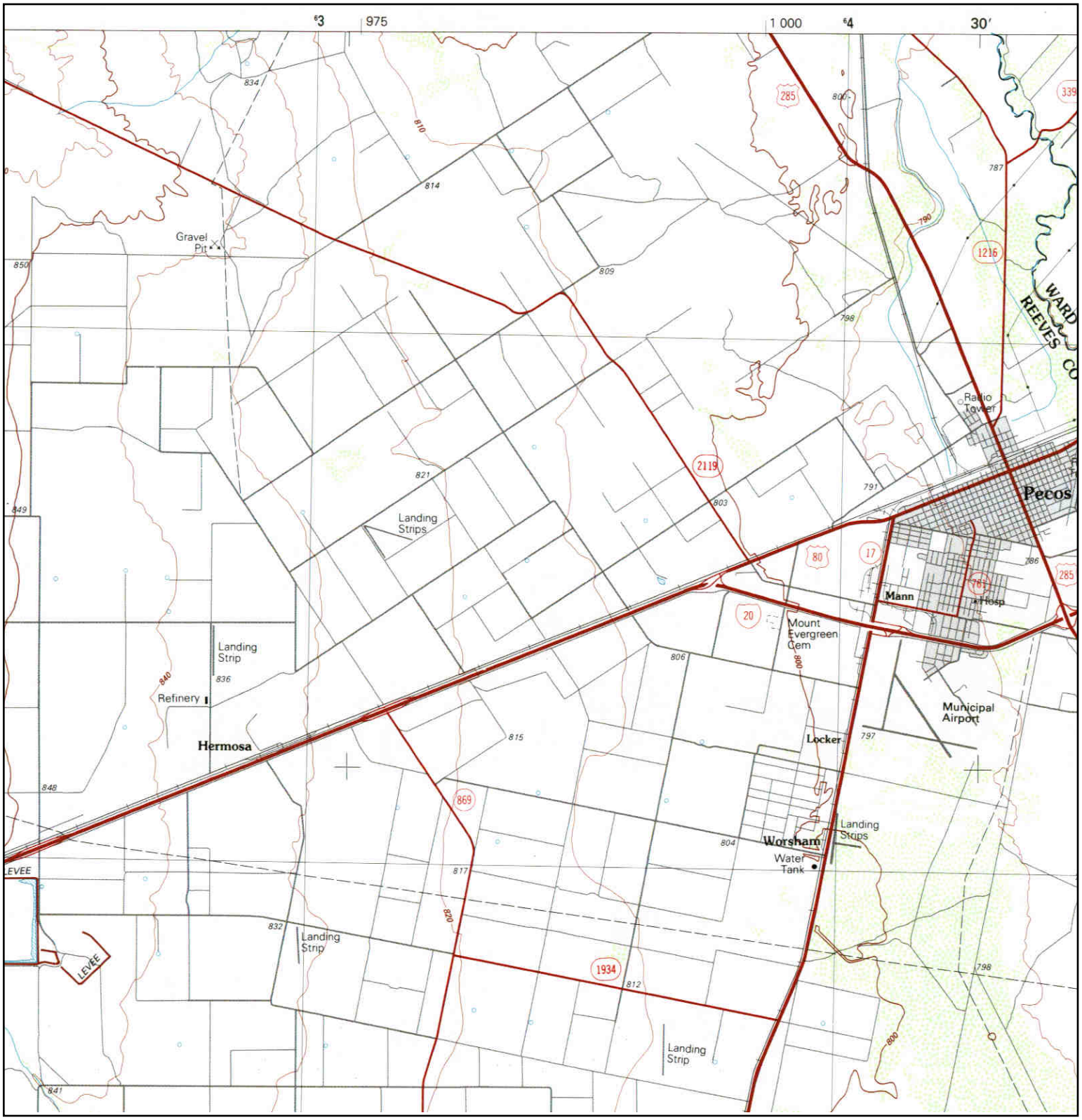
N	TARGET QUAD NAME: PECOS WEST MAP YEAR: 1971 SERIES: 7.5 SCALE: 1:24000	SITE NAME: West Sun Tex Property Pre-Purchase Activities ADDRESS: West Sun Tex Property Pre-Purchase Activities Pecos, TX 79772 LAT/LONG: 31.4325 / -103.5847	CLIENT: HDR Engineering, Inc. CONTACT: Brandon Tate INQUIRY#: 4041169.5 RESEARCH DATE: 08/19/2014

Historical Topographic Map



N	TARGET QUAD NAME: PECOS WEST MAP YEAR: 1981 PHOTOREVISED FROM :1971 SERIES: 7.5 SCALE: 1:24000	SITE NAME: West Sun Tex Property Pre-Purchase Activities ADDRESS: West Sun Tex Property Pre-Purchase Activities Pecos, TX 79772 LAT/LONG: 31.4325 / -103.5847	CLIENT: HDR Engineering, Inc. CONTACT: Brandon Tate INQUIRY#: 4041169.5 RESEARCH DATE: 08/19/2014

Historical Topographic Map



N	TARGET QUAD NAME: PECOS MAP YEAR: 1986 SERIES: 30 SCALE: 1:100000	SITE NAME:	West Sun Tex Property Pre-Purchase Activities	CLIENT:	HDR Engineering, Inc.
		ADDRESS:	West Sun Tex Property Pre-Purchase Activities Pecos, TX 79772	CONTACT:	Brandon Tate
		LAT/LONG:	31.4325 / -103.5847	INQUIRY#:	4041169.5
				RESEARCH DATE:	08/19/2014

Appendix E—Site Photographs

Representative Site Photographs
Phase I ESA
West Sun Tex Property Pre-Purchase Activities
Photos Taken August 26 and 27, 2014.



Photo 1. Typical topography and vegetation within the subject property.



Photo 2. Donaldson 4-54 1H production facility. Photo taken from public road. Photo corresponds to Map Code A.



Photo 3. Two Oaks Yost Battery production facility. Photo taken from public road. Photo corresponds to Map Code B.



Photo 4. Two Oaks Hermosa-1 production facility. Photo taken from public road. Photo corresponds to Map Code C.



Photo 5. Two Oaks Hermosa-2 production facility. Photo taken from public road. Photo corresponds to Map Code D.



Photo 6. Open pit associated with unused well pad in southern portion of subject property. Photo corresponds to Map Code F.



Photo 7. Open pit associated with unused well pad in southern portion of subject property. Note the salt accumulations on liner. Photo corresponds to Map Code F.



Photo 8. Uncontrolled dump site on west side of subject property. Photo corresponds to Map Code G.



Photo 9. Metal barn adjacent to uncontrolled dump site.



Photo 10. Drum site in western portion of the study area. Photo corresponds to Map Code H.



Photo 11. Drum site in eastern portion of the study area. Photo corresponds to Map Code H.



Photo 12. Drum site in eastern portion of the study area. Photo corresponds to Map Code H.



Photo 13. Drum site in eastern portion of the study area. Photo corresponds to Map Code H.



Photo 14. Equipment yard with drums and IBC tanks. Photo corresponds to Map Code I.

Delineation of Waters of the United States and Endangered Species Report

DBS&A
a Geo-Logic Company

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Delineation of Waters of the U.S. and Endangered Species Report

West Sun Tex Property
Pre-Purchase Activities

Prepared for:

West Sun Tex, LLC
14755 Preston Road, Suite 600
Dallas, TX 75254

Prepared by:



HDR Engineering, Inc.
17111 Preston Road, Suite 200
Dallas, Texas 75248

September 2014

Table of Contents

1.0 INTRODUCTION 1
2.0 STUDY AREA DESCRIPTION 1
3.0 WATERS OF THE U.S. DELINEATION 1
3.1 Methods 1
3.2 Results 2
4.0 THREATENED AND ENDANGERED SPECIES 2
5.0 SUMMARY 2
5.1 Section 404 Permitting Discussion 2
6.0 REFERENCES 3

List of Appendices

Appendix A: Figures
Appendix B: Site Photographs
Appendix C: USFWS Information, Planning, and Conservation System (IPAC) Letter and Results
TPWD County List

1.0 INTRODUCTION

This report presents the results of a delineation of waters of the United States (U.S.), including wetlands, performed on an approximately 432-acre study area in Reeves County, Texas. The study area is located north of interstate 20 and west of the town of Pecos near the intersection of County Road 415 and County Road 408. The study area is bordered to the north by County Road 415 and the east by County Roads 408. The south end of the property is open to the adjoining property and the east is bordered by an unnamed gravel road.

West Sun Tex is assessing the site in association with Pre-Purchase Activities.

The delineation and proposed jurisdictional determination of waters of the U.S., including wetlands, was conducted by HDR Engineering, Inc. (HDR) for West Sun Tex in support of an evaluation of potential permitting requirements of Section 404 of the Clean Water Act (CWA). A field survey for the following delineation was conducted on August 26 and 27, 2014, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the Regional Supplement for the Arid West Region (U.S. Army Corps of Engineers, 2008a). A jurisdictional determination on the findings of this report is subject to the review and regulatory authority of the U.S. Army Corps of Engineers (USACE).

HDR also evaluated the study area for potential occurrence of Federal and State listed (endangered, threatened, special concern) species and suitable habitats potentially used by the listed species of flora and fauna.

2.0 STUDY AREA DESCRIPTION

The study area is located near the city of Pecos in Reeves County, Texas (**Appendix A, Figure 1**). The predominant land uses in the vicinity of the study area are agriculture, rural residences, oil and gas production, and undeveloped. The study area has been subject to cultivation for crop production in the past; however, it appears to have been out of cultivation for some time. The vegetation in the study area has returned to typical desert shrubs and grasses. Some of the species commonly found in the study area are creosote bush (*Larrea tridentate*), tarbush (*Flourensia cernua*), fourwing saltbush (*Atripex canescens*), mesquite (*Prosopis sp*.), gyp grama (*Bouteloua breviseta*), and alkali sacaton (*Sporoblus airoides*).

The study area is dominated by flat topography that gently slopes to the east. Numerous ditches and canals flow through the vicinity and carry surface drainage toward the Pecos River approximately 6 miles east of the study area.

3.0 WATERS OF THE U.S. DELINEATION

3.1 Methods

A recent topographic map of the study area and one-meter resolution digital aerial photography (USDA FSA, 2012) were used to identify potential locations for waters of the U.S. and areas prone to wetland development. Waters of the U.S., including wetlands, were delineated on August 26 and 27, 2014, by HDR staff Brandon Tate and Ben Janik. The survey was conducted in accordance with the USACE 1987 Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement for the Great Plains Arid West Region (USACE, 2008a).

Based on the review of topographic maps and aerial photography, areas potentially containing waters of the U.S. (i.e., stream corridors) and wetlands (areas adjacent to streams or with little slope and depressional areas) were evaluated using routine on-site delineation methods. The delineations in areas with field access were recorded using a sub-meter Geo XT Global Positioning System (GPS) unit and the entire boundary was mapped as a data layer using ArcGIS 10.2.

3.2 Results

3.2.1 Waters of the U.S.

Based on this evaluation, no waters of the U.S. were identified within the study area.

3.2.2 Features that are not Waters of the U.S.

One drainage feature was identified in the study area that is not considered a water of the U.S. The delineation map in **Appendix A (Figure 2)** depicts this non-jurisdictional feature. The non-jurisdictional feature is characterized as a drainage ditch, in uplands, based on the most recently approved guidance from the USACE and EPA (USACE, 2008b). Representative photographs are provided in **Appendix B**.

4.0 THREATENED AND ENDANGERED SPECIES

The study area is located in northeast Reeves County, Texas. The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPAC) letter and results, as well as the Texas Parks and Wildlife Department (TPWD) County List, are located in **Appendix C**. The tables in **Appendix C** list wildlife and plant species possibly found within Reeves County that are considered by USFWS and the TPWD to be endangered, threatened, or rare.

There are numerous State and Federally listed species for Reeves County. The IPAC results indicate that there are no known critical habitats within the study area. Also, a search of the Texas Natural Diversity Database (TXNDD) found no occurrences of Federal or State listed species within the vicinity of the study area. Furthermore, the study area consists of previously cultivated land. The previously disturbed nature of the site and lack of habitat preclude the likely presence within the study area of listed species known to occur in Reeves County.

5.0 SUMMARY

The study area contains one non-jurisdictional drainage channel that is not considered a water of the U.S., and does not contain any suitable habitat for Federal and State listed endangered or threatened species.

5.1 Section 404 Permitting Discussion

This delineation and proposed jurisdictional determination of the study area is based on the best professional judgment of HDR's environmental staff, with professional experience with similar resources in the region. However, it does not constitute a final Jurisdictional Determination or significant nexus determination which can only be officially rendered by the USACE Albuquerque District Regulatory Branch and EPA through the formal review process.

6.0 REFERENCES

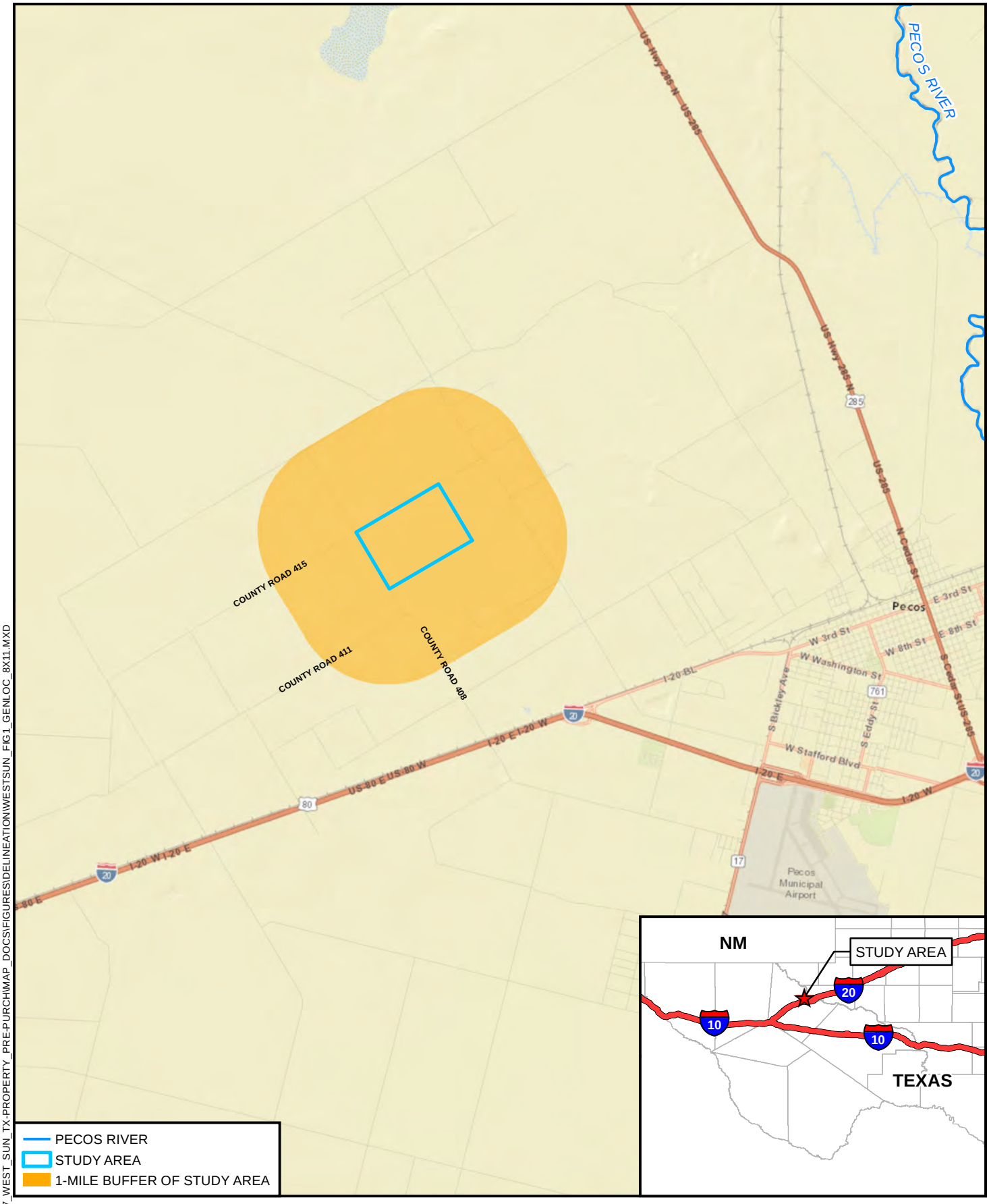
Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, Department of the Army, Waterways Experiment Station.

United States Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Army Corps of Engineers (USACE). 2008b. Clean Water Act jurisdiction following the U.S. Supreme Court's decision in Rapanos v. United States and Carabell v. United States. U.S. Army Corps of Engineers, Washington, D.C., USA.

United States Department of Agriculture Farm Service Agency (USDA FSA). 2012. Digital Aerial Photography. Reeves County. 1m resolution. National Agriculture Imagery Program.

Appendix A:
Figures



FILE: O:\237817_037_WEST_SUN_TX-PROPERTY_PRE-PURCH\MAP_DOCS\FIGURES\DELINEATION\WESTSUN_FIG1_GENLOC_8X11.MXD

WEST SUN TEX **PROPERTY PRE-PURCHASE** PROJECT LOCATION	N 0 1 2 MILES	**WEST SUN TEX, LLC**	SEPT 2014 | FIGURE 1



FILE: O:\237817_037_WEST_SUN_TX-PROPERTY_PRE-PURCH\MAP_DOCS\FIGURES\DELINEATION\WESTSUN_FIG2_WOTUS_8X11.MXD

WEST SUN **PROPERTY PRE-PURCHASE** DELINEATION OF WATERS OF THE U.S.	N 0 500 1,000 FEET	**WEST SUN TEX, LLC**	SEPT 2014 | FIGURE 2

Appendix B:
Site Photographs

Representative Site Photographs
Delineation of Waters of the U.S. and Endangered Species Report
West Sun Tex Property Pre-purchase Activities
Photos Taken August 26 and 27, 2014



Photo 1. Typical upland habitat within the study area.



Photo 2. Typical upland habitat within the study area with sparse vegetation.



Photo 3. West end of Non-jurisdictional drainage ditch.



Photo 4. East end of Non-jurisdictional drainage ditch.

Appendix C:
USFWS Information, Planning, and Conservation System (IPAC) Letter and Results
TPWD County List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 BURNET ROAD, SUITE 200
AUSTIN, TX 78758
PHONE: (512)490-0057 FAX: (512)490-0974
URL: www.fws.gov/southwest/es/AustinTexas/;
www.fws.gov/southwest/es/EndangeredSpecies/lists/

Consultation Tracking Number: 02ETAU00-2014-SLI-0380 August 21, 2014
Project Name: Property Pre-Purchase Activities

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that *may* occur within the county of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* – the proposed action will not affect federally listed species or critical habitat. A “no effect” determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* – the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* – adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action “is likely to adversely affect” the listed species. The analysis should consider all interrelated and interdependent actions. An “is likely to adversely affect” determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtintro.html. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html. Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html).

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Property Pre-Purchase Activities

Official Species List

Provided by:

Austin Ecological Services Field Office
10711 BURNET ROAD, SUITE 200
AUSTIN, TX 78758
(512) 490-0057
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

Consultation Tracking Number: 02ETAU00-2014-SLI-0380
Project Type: Land - Acquisition
Project Description: Property Acquisition in Reeves County, Texas

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-103.5828085 31.4562516, -103.5584695 31.4263192, -103.5861756 31.4103954, -103.6100966 31.4410247, -103.5828085 31.4562516)))

Project Counties: Reeves, TX

Endangered Species Act Species List

There are a total of 12 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Least tern *(Sterna antillarum)* Population: interior pop.	Endangered		Wind Energy Projects
Mexican Spotted owl *(Strix occidentalis lucida)* Population: Entire	Threatened	Final designated	
northern aplomado falcon *(Falco femoralis septentrionalis)* Population: Entire, except where listed as an experimental population	Endangered		
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened	Final designated	Wind Energy Projects
Red Knot *(Calidris canutus rufa)*	Proposed Threatened		Wind Energy Projects
Crustaceans			
Diminutive Amphipod *(Gammarus hyalleloides)*	Endangered	Final designated	
Fishes			
Comanche Springs pupfish	Endangered		

(Cyprinodon elegans) Population: Entire			
Pecos gambusia *(Gambusia nobilis)* Population: Entire	Endangered		
Flowering Plants			
Pecos sunflower *(Helianthus paradoxus)*	Threatened	Final designated	
Snails			
Pecos Assiminea snail *(Assiminea pecos)*	Endangered	Final designated	
Phantom Springsnail *(Pyrgulopsis texana)*	Endangered	Final designated	
Phantom Tryonia *(Tryonia cheatumi)*	Endangered	Final designated	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

REEVES COUNTY

BIRDS

		Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*	DL	T

year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Arctic Peregrine Falcon	*Falco peregrinus tundrius*	DL	

migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Baird's Sparrow *Ammodramus bairdii*

shortgrass prairie with scattered low bushes and matted vegetation; mostly migratory in western half of State, though winters in Mexico and just across Rio Grande into Texas from Brewster through Hudspeth counties

Ferruginous Hawk *Buteo regalis*

open country, primarily prairies, plains, and badlands; nests in tall trees along streams or on steep slopes, cliff ledges, river-cut banks, hillsides, power line towers; year-round resident in northwestern high plains, wintering elsewhere throughout western 2/3 of Texas

Interior Least Tern	*Sterna antillarum athalassos*	LE	E

subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Montezuma Quail *Cyrtonyx montezumae*

open pine-oak or juniper-oak with ground cover of bunch grass on flats and slopes of semi-desert mountains and hills; travels in pairs or small groups; eats succulents, acorns, nuts, and weed seeds, as well as various invertebrates

Mountain Plover *Charadrius montanus*

breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

Northern Aplomado Falcon	*Falco femoralis septentrionalis*	LE	E

open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species

REEVES COUNTY

BIRDS

		Federal Status	State Status
Peregrine Falcon	*Falco peregrinus*	DL	T

both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, F.p. tundrius is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.

Prairie Falcon *Falco mexicanus*

open, mountainous areas, plains and prairie; nests on cliffs

Reddish Egret	*Egretta rufescens*		T

resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Snowy Plover *Charadrius alexandrinus*

formerly an uncommon breeder in the Panhandle; potential migrant; winter along coast

Sprague's Pipit	*Anthus spragueii*	C	

only in Texas during migration and winter, mid September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare further west; sensitive to patch size and avoids edges.

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

Western Snowy Plover *Charadrius alexandrinus nivosus*

uncommon breeder in the Panhandle; potential migrant; winter along coast

Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C;NL	

status applies only to western population beyond the Pecos River Drainage; breeds in riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; deciduous woodlands with cottonwoods and willows; dense understory foliage is important for nest site selection; nests in willow, mesquite, cottonwood, and hackberry; forages in similar riparian woodlands; breeding season mid-May-late Sept

Zone-tailed Hawk	*Buteo albonotatus*		T

arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

REEVES COUNTY

CRUSTACEANS		Federal Status	State Status
Pecos amphipod	*Gammarus pecos*	E	

endemic aquatic amphipod; omnivorous; amphipods are active mostly at night and spend daylight hours hiding under vegetation and other cover; vulnerable to reduction of springflow resulting from declining levels of groundwater

FISHES		Federal Status	State Status
Comanche Springs pupfish	*Cyprinodon elegans*	LE	E

originally in Comanche Springs, San Solomon, and Phanton Cave, presently restricted to San Solomon and Phantom Cave and associated springs, and downstream irrigation canals; found in constantly discharging springs and in swift-flowing water of canals and earthen ditches, vulnerable to hybridization with C. variegatus

Headwater catfish *Ictalurus lupus*

originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers

Pecos gambusia	*Gambusia nobilis*	LE	E

Pecos River and tributaries; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats

Pecos pupfish	*Cyprinodon pecosensis*		T

originally Pecos River basin, presently restricted to upper basin only; shallow margins of clear, vegetated spring waters high in calcium carbonate, as well as in sinkhole habitats

INSECTS		Federal Status	State Status
A tiger beetle	*Cicindela hornii*		

grassland/herbaceous; burrowing in or using soil; dry areas on hillside or mesas where soil is rocky or loamy and covered with grasses, invertivore; diurnal, hibernates/aestivates, active mostly for several days after heavy rains. the life cycle probably takes two years so larvae would always be present in burrows in the soil

Arroyo darner *Aeshna dugesi*

creek, high - moderate gradient; eggs laid in aquatic plants, larvae cling to bottom of pools of streams, adults forage widely in pools in streams, from desert up to pine-oak zone; invertivore, diurnal; larvae overwinter, flight season late June to early September

Balmorhea saddle-case caddisfly *Protoptila balmorhea*

oviparous; larvae make turtle-shaped cases of small pebbles attached to the underside of stones in swift-flowing streams and rivers

Leonora's dancer damselfly *Argia leonorae*

REEVES COUNTY

INSECTS

Federal Status State Status

south central and western Texas; small streams and seepages

MAMMALS

Federal Status State Status

Big free-tailed bat *Nyctinomops macrotis*

habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Black bear *Ursus americanus* T/SA;NL T

bottomland hardwoods and large tracts of inaccessible forested areas; due to field characteristics similar to Louisiana Black Bear (LT, T), treat all east Texas black bears as federal and state listed Threatened

Black-footed ferret *Mustela nigripes* LE

extirpated; inhabited prairie dog towns in the general area

Black-tailed prairie dog *Cynomys ludovicianus*

dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

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

Davis Mountains cottontail *Sylvilagus floridanus robustus*

brushy pastures, brushy edges of cultivated fields, and well-drained streamsides; active mostly at twilight and at night, where they may forage in a variety of habitats, including open pastures, meadows, or even lawns; rest during daytime in thickets or in underground burrows and small culverts; feed on grasses, forbs, twigs and bark; not sociable and seldom seen feeding together

Gray wolf *Canis lupus* LE E

extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands

Pale Townsend's big-eared bat *Corynorhinus townsendii pallescens*

roosts in caves, abandoned mine tunnels, and occasionally old buildings; hibernates in groups during winter; in summer months, males and females separate into solitary roosts and maternity colonies, respectively; single offspring born May-June; opportunistic insectivore

Pecos River muskrat *Ondatra zibethicus ripensis*

creeks, rivers, lakes, drainage ditches, and canals; prefer shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and sedges; live in dome-shaped lodges constructed of vegetation; diet is mainly vegetation; breed year round

REEVES COUNTY

MAMMALS

		Federal Status	State Status

Pocketed free-tailed bat *Nyctinomops femorosaccus*

semiarid desert grasslands; roosts in caves cliff crevices under building roof tiles; feed on insects; females bear one pup per season Jul - Aug

Yuma myotis bat *Myotis yumanensis*

desert regions; most commonly found in lowland habitats near open water, where forages; roosts in caves, abandoned mine tunnels, and buildings; season of partus is May to early July; usually only one young born to each female

MOLLUSKS

		Federal Status	State Status

Brune's tryonia *Tryonia brunei*

endemic freshwater snail; benthic; currently only found in modified waters Phantom Lake Spring; abundant on firm substratum and in soft mud before modification; vulnerable to declining groundwater resulting in reduction of springflow

False spike mussel *Quadrula mitchelli* T

possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins

Pecos assiminea snail *Assiminea pecos* E E

a member of the marine snail family, but represents the most inland snail of the genus; semiaquatic, usually found on moist ground or beneath emergent plants within a few centimeters of flowing water; only known remaining Texas population at near Fort Stockton, Pecos County; historical to the Pecos River Valley of New Mexico and Texas

Phantom springsnail *Pyrgulopsis texana* E

endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

Phantom tryonia *Tryonia cheatumi* E

endemic aquatic snail; known only from three spring systems and associated outflows in Jeff Davis and Reeves counties; vulnerable to reduction of springflow resulting from declining levels of groundwater

Texas hornshell *Popenaias popeii* C T

both ends of narrow shallow runs over bedrock, in areas where small-grained materials collect in crevices, along river banks, and at the base of boulders; not known from impoundments; Rio Grande Basin and several rivers in Mexico

REPTILES

		Federal Status	State Status

Texas horned lizard *Phrynosoma cornutum* T

REEVES COUNTY

REPTILES

Federal Status State Status

open, arid and semi-arid regions with sparse vegetation, including grass, 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; breeds March-September

PLANTS

Federal Status State Status

Desert night-blooming cereus *Peniocereus greggii var greggii*

Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations, 1200-1500 m (3900-4900 ft), on slopes, benches, arroyos, flats, and washes; flowering synchronized over a few nights in early May to late June when almost all mature plants bloom, flowers last only one day and open just after dark, may flower as early as April

Grayleaf rock-daisy *Perityle cinerea*

Texas endemic; crevices in dry limestone caprock of mesas; flowering spring-fall

Gyp locoweed *Astragalus gypsodes*

gypsum or stiff gypseous clay soils on low rolling hills, mostly low elevations in the middle Pecos River valley; many of the known locations are on the Castile Formation (Permian); flowering March-June

Pecos/Puzzle sunflower *Helianthus paradoxus* LT T

restricted to saline, calcareous, heavy-textured soils around cienegas; usually most abundant on perennially wet soils of subirrigated terraces just above the wettest sites; flowering August-November

Wright's trumpets *Acleisanthes wrightii*

open semi-desert grasslands and shrublands on shallow stony soils over limestone on low hills and flats; flowering spring-fall, probably also in response to rains

U.S. Army Corps of Engineers Correspondence

DBS&A
a Geo-Logic Company

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March 15, 2024

Lt. Col. Jerre V. Hansbrough, Albuquerque District Commander, and
Mr. Jacob Pauley, Deputy District Engineer for Programs and Project Management
U.S. Army Corps of Engineers
Albuquerque, NM District
4101 Jefferson Plaza, NE
Albuquerque, NM 87109

Re: Proposed WST Landfill TCEQ Permit Application, Reeves County, Texas

Dear Lt. Col. Hansbrough and Mr. Pauley:

On behalf of West Sun Tex, LLC (WST), Daniel B. Stephens & Associates, Inc. (DBS&A) is preparing a permit application to be submitted to the Texas Commission on Environmental Quality (TCEQ) for a proposed Type I municipal solid waste (MSW) facility in north-central Reeves County called the WST Landfill. The facility property is located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415. The site latitude and longitude are 31.432400 and –103.585408. The facility entrance will be off of CR 408. The subject property has already been permitted as an oil and gas waste disposal facility by the Railroad Commission of Texas; however, WST is proposing to permit half of the 440-acre property as an MSW landfill.

This letter is being sent to the U.S. Army Corps of Engineers (USACE), Albuquerque District for coordination purposes per 30 TAC 330.23(b) to determine the need for a permit from USACE. We have included Figure I/II-5-2, which shows the location of the proposed facility and a 6-mile radius around the proposed facility. The property is bordered to the north by CR 415, to the west by CR 408 (also labeled as CR 4087 for the length of the section), and to the east by an unnamed gravel road, and the southern end is open to the adjoining property.

A delineation of waters of the U.S., including wetlands, was performed on the subject property in 2014 by HDR (Attachment 1). A field survey was conducted on August 26 and 27, 2014 in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2008 Regional Supplement for the Arid West Region, in support of an evaluation of potential permitting requirements of Section 404 of the Clean Water Act. Based on the review of topographic maps and aerial photography, areas potentially containing waters of the U.S. and wetlands were evaluated in the field. HDR identified one drainage feature in the study area that was not considered a water of the U.S., but was instead characterized as a drainage ditch in uplands. Based on the HDR evaluation (Attachment 1), no waters of the U.S. were identified within the study area, and the subject property does not include any wetlands.

We understand that a jurisdictional determination on the findings of this report is subject to the review and regulatory authority of the USACE. Please review the attached report regarding the proposed facility, whether it may affect waters of the U.S., and whether a permit from the U.S. Army Corps of Engineers will be required.

This document was provided in April 2021 to USACE for review and comment. This submittal is being provided as part of a new permit application submittal.

We are requesting a written response within 30 days. We assume that no response in that time indicates concurrence. Please contact me at (505) 822-9400 if you have any questions about the attached information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Gundar Peterson, P.E.
Vice President

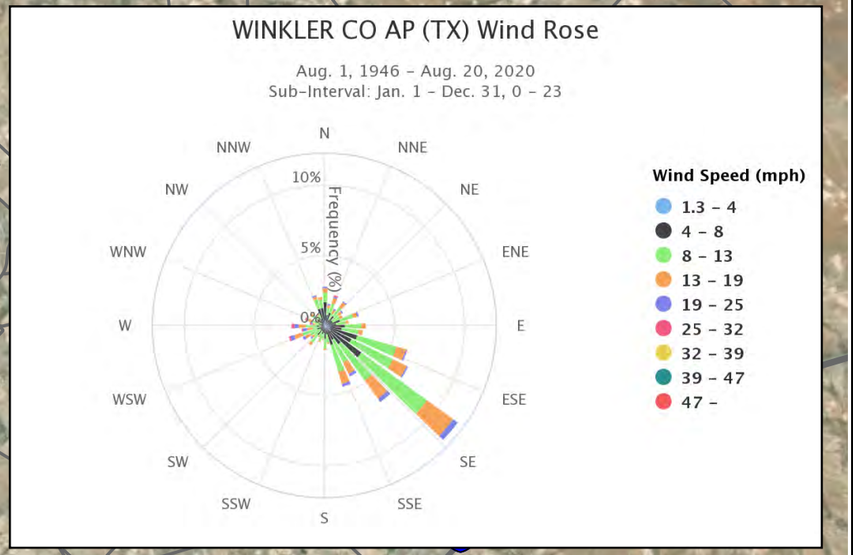
Kelly Jayne
Project Manager

KJ/rpf
Attachments

Figure

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6 mile radius

Project Site

Pecos

Pecos Municipal Airport

285

Bus 20

20

County Road 419
County Road 415
County Road 410
County Road 404
County Road 409
County Road 411
Business Loop 20 W
N Frongage Interstate 20 W

1450

17

N

0 1 2 Miles

Explanation

Site

Texas Department of Transportation road

Aerial image: Maxar, Vivid 2/11/2022

S:\PROJECTS\DB20.1166_WST_PECOS_PERMITTING\GIS\ARCGIS_PRO\2024_PERMIT_APPLICATION\2024_PART_I_II\2024_PART_I_II_APRX

DBS&A a Geo-Logic Company

3/5/2024 DB20.1166

Rev 2: July 2026 (Rev 0: March 2026)

WST LANDFILL

General Location Map

Figure I/II-5-2

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Attachment 1

2014 HDR Report

Provided in full elsewhere in application; not reproduced here.

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT REGULATORY DIVISION
NEW MEXICO & NW TEXAS BRANCH, ALBUQUERQUE OFFICE
4101 JEFFERSON PLAZA NE
ALBUQUERQUE, NEW MEXICO 87109-3435

May 9, 2024

Regulatory Division

SUBJECT: No Permit Required – (SPA-2024-00121)

Daniel B. Stephens & Associates, Inc.
Attn: Gundar Peterson
6020 Academy Rd NE
Suite 100
Albuquerque, NM 87109
gpeterson@goe-logic.com

Dear Mr. Peterson:

We are responding to your request for a determination of Department of the Army permit requirements for the proposed DBS&A WST Landfill, Reeves County located at approximately latitude 31.4324, longitude -103.585408, in Reeves County, Texas. The work, as described in your submission, will consist of construction of a Municipal Solid Waste facility. We have assigned Action No. SPA-2024-00121 to this project. Please reference this number in all future correspondence concerning the project.

Based on the information provided, we have determined that a Department of the Army permit is not required since the site consists entirely of uplands. However, it is incumbent upon you to remain informed of any changes in the U.S. Army Corps of Engineers (Corps) Regulatory Program regulations and policy as they relate to your project. If your plans change such that waters of the United States could be impacted by the proposed project, please contact our office for a reevaluation of permit requirements.

We have determined that the unnamed drainage ditch found on the property is not waters of the United States because it does not meet the definition of a Tributary having relatively permanent, standing or continuously flowing bodies of water and therefore is excluded from regulation as Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water ((b)(3)).

We are enclosing a copy of the Approved Jurisdictional Determination Form(s) for your review area (Enclosure 2). A copy of this JD is also available at http://www.spa.usace.army.mil/reg/JD. This approved JD is valid for 5 years from the date of this letter unless new information warrants revision of the determination before the expiration date. If you intend to conduct work that could result in a discharge of dredged or fill material into waters of the United States, please contact this office for a determination of Department of the Army permit requirement.

The delineation included herein has been conducted to identify the location and extent of the aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of an NRCS Certified Wetland Determination with the local USDA service center, prior to starting work.

You may accept or appeal this approved JD or provide new information in accordance with the attached Notification of Administration Appeal Options and Process and Request for Appeal (Enclosure 3). If you elect to appeal this approved JD, you must complete Section II of the form and return it to the Army Engineer Division, South Pacific, CESPD-PDS-O, Attn: Travis Morse, Administrative Appeal Review Officer, by email at w.travis.morse@usace.army.mil within 60 days of the date of this notice. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

Please refer to identification number SPA-2024-00121 in any correspondence concerning this project. If you have any questions, please contact me by email at Sarrah.C.Kubinec@usace.army.mil, or telephone at 505-290-7079.

Sincerely,



Sarrah C. Kubinec
Project Manager
New Mexico/ Texas Branch

Enclosures

cc: Kelly Jayne, Daniel B. Stephens & Associates, Inc., 6020 Academy Rd NE, Albuquerque, NM 87109, kjayne@geo-logic.com

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ALBUQUERQUE DISTRICT
4101 JEFFERSON PLAZA NE
ALBUQUERQUE, NM 87109

May 9, 2024

CESPA-RDS

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1] SPA-2024-00121[2].

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[3] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[4]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[5] the 2023 Rule as amended,

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] When documenting aquatic resources within the review area that are jurisdictional under the Clean Water Act (CWA), use an additional MFR and group the aquatic resources on each MFR based on the TNW, the territorial seas, or interstate water that they are connected to. Be sure to provide an identifier to indicate when there are multiple MFRs associated with a single AJD request (i.e., number them 1, 2, 3, etc.).
[3] 33 CFR 331.2.
[4] Regulatory Guidance Letter 05-02.
[5] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

1. SUMMARY OF CONCLUSIONS.

    a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

        i. The upland drainage ditch identified in the submitted delineation, is not a water of the United States

2. REFERENCES.

    a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

    b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

    c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. The review area consists of a 440-acre parcel located approximately 5 miles west-northwest of Pecos, Texas, at the intersection of County Road (CR) 408 and CR 415 at approximately Latitude 31.4324, Longitude -103.585408 in Reeves County. The applicant has requested the review of one (1) aquatic resource located within the review area (i.e., an unnamed, upland drainage ditch).

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. The ditch was built wholly in uplands. The aquatic resources within the review area have no connection to a TNW, territorial sea, or interstate water.

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. The ditch was built wholly in uplands. The aquatic resources onsite do not have a surface water connection to a TNW. There were no flow paths identified between the aquatic resources within the review area and the Pecos River, approximately 6 miles to the east.

6. SECTION 10 JURISDICTIONAL WATERS[6]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[7] N/A

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

    a. Traditional Navigable Waters (TNWs) (a)(1)(i): N/A

    b. The Territorial Seas (a)(1)(ii): N/A

    c. Interstate Waters (a)(1)(iii): N/A

    d. Impoundments (a)(2): N/A

    e. Tributaries (a)(3): N/A

    f. Adjacent Wetlands (a)(4): N/A

    g. Additional Waters (a)(5): N/A

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

[6] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce or is presently incapable of such use because of changed conditions or the presence of obstructions.
[7] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[8]

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

   The drainage ditch passes through the entire parcel, starting at the northwest corner and exiting on the east side at an unnamed dirt road. The ditch is located in uplands and has no connection to other waters. The delineation study determined that the ditch may have been an irrigation ditch in the past when agriculture was active in the parcel vicinity. The area appears to have been out of cultivation for more than 10 years and there is no evidence of regular flows or an ordinary high-water mark. The vegetation has reverted to typical desert shrubs and grasses and the existing ditch appears to only carry flow in response to precipitation events, therefore, the drainage ditch is non-jurisdictional.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

   a. Google Earth imagery (04/2023, 04/2020, 02/2019, 04/2013, 05/2011, 09/2008, 10/2005)

   b. National Wetlands Inventory Mapper

   c. National Regulatory Viewer

      a. Topo Quad Index
      b. CWA Canals

   d. USGS National Hydrography Dataset (Accessed 4/22/2024)

[8] 88 FR 3004 (January 18, 2023)

e. USGS Topo Map Pecos West, TX 2022

10. OTHER SUPPORTING INFORMATION. Aquatic resource delineation submitted by the applicant titled *Delineation of Waters of the U.S. and Endangered Species Report, West Sun Tex Property* dated September 2014. Based on the information provided, the Corps has determined that the site is comprised entirely of uplands.

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: DBS & Associates, Inc., Attn: Mr. Peterson	File Number: SPA-2024-00121	Date: May 9, 2024
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable
You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial
You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable
You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:

Sarrah C. Kubinec
Project Manager
New Mexico/ Texas Branch

U.S. Army Corps of Engineers
New Mexico/Texas Branch
Phone: 505-290-7079,
Email: Sarrah.C.Kubinec@usace.army.mil

If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:

Travis Morse
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
450 Golden Gate Avenue,
San Francisco, CA 941021455
Phone: 213-452-3146
Email: w.travis.morse@usace.army.mil

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

Attachment I/II-12

Seismic Information

DBS&A
a Geo-Logic Company

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U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition

Conterminous U.S. 2014 (v4.0.x)

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

31.4324

Time Horizon

Return period in years

2475

Longitude

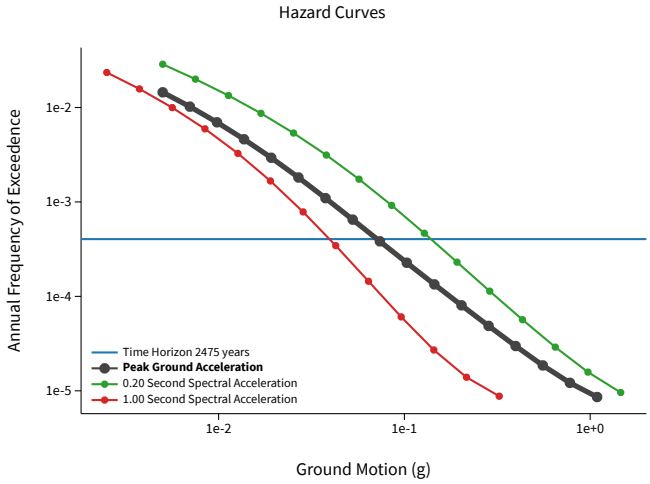
Decimal degrees, negative values for western longitudes

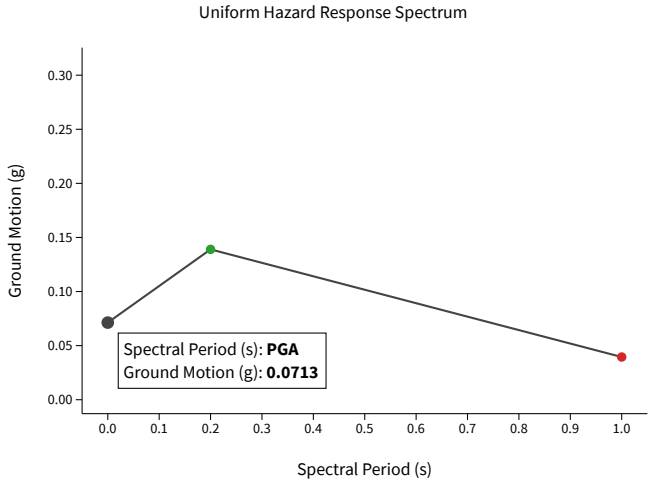
-103.585408

Site Class

760 m/s (B/C boundary)

Hazard Curve





View Raw Data