OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

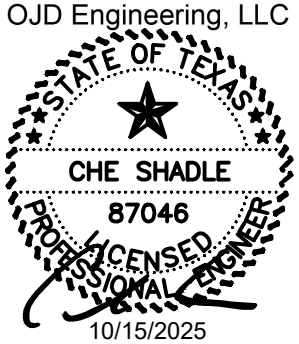
TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker, Lipscomb County
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393
Wolfforth | Amarillo

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2420 Lakeview Dr. Amarillo, TX. 79109
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www.OJDEngineering.com
Engineering Firm # 4393 - Surveying Firm # 10090900

Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 10/15/2025
Facility Name: City of Booker Landfill
Permit or Registration No.: 1943A

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 30694263 (from subject line of TCEQ letter regarding initial submission)

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

Table 1 - Municipal Solid Waste Correspondence

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

Table 2 - Industrial & Hazardous Waste Correspondence

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

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]:
City of Booker Landfill

Site Operator (Permittee or Registrant Name)[4]:
City of Booker

MSW Authorization Number: 1943A

Initial Submission Date: December 31, 2024

Revision Date: October 15, 2025

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: _____

☒ Check (send to TCEQ Financial Administration Division)

Payor Name: City of Booker Check Number: 31749

5. Electronic Versions of Application

TCEQ will publish electronic versions of the application online. Applicants must provide a clean copy of the administratively complete application and technically complete application. TCEQ will also publish electronic versions of NOD responses online.

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

☒ Applicant ☐ Agent in Service ☐ Consultant

Contact Name: Karen Haddon

Title: _____

Email Address [redacted]

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: _____

8. Public Place for Copy of Application

Name of the Public Place: City of Booker City Hall

Physical Address: 222 S Main Street

City: Booker County: Lipscomb State: TX Zip Code: 79005

Phone Number: 806.658.4579

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):			

PAGE REVISION DATE: 10/15/2025

12. General Information About the Facility

Facility Regulated Entity Name:
City of Booker Landfill

Contact Name: Guillermo Estrada Title: Director of Public Works

MSW Authorization Number (if existing): 1943A

Regulated Entity Reference Number: **RN** 101478121

Physical or Street Address (if available): _____

City: Booker County: Lipscomb State: TX Zip Code: 79005

Phone Number: 806.658.4579

Latitude (decimal degrees, six decimal places): 36.492222°

Longitude (decimal degrees, six decimal places): 100.513611°

Elevation (above mean sea level): 2818 feet (benchmark elevation for landfills)

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

A 20 acre municipal solid waste facility located approximately 3 miles northeast of Booker, approximately 2 miles north of the intersection of CR 3 and State Highway 15, in Lipscomb County.

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

Travel 1 mile east on State Highway 15 from the intersection of State Highway 15 and State Highway 23 to County Road 3, and turn left (north) and travel approximately 2.5 miles to the entrance of the landfill located on the west right-of-way of County Road 3.

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.

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

16. Description of Proposed Facility or Changes to Existing Facility

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

The City of Booker is proposing an expansion of the 20.0 acre existing landfill to the adjoining 20.0 acres of land located to the south. The proposed landfill will receive 20 tons/day of Type I and Type IV wastes. These wastes are also classified as municipal solid waste and demolition/construction waste, which include Class II and Class III industrial waste and special waste. Neither Class I industrial waste nor hazardous wastes will be accepted at the proposed landfill.

17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: City of Booker

Customer Reference Number: **CN** 600770069

Contact Name: Guillermo Estrada Title: Director of Public Works

Mailing Address: P.O. Drawer M

City: Booker County: Lipscomb State: TX Zip Code: 79005

Phone Number: 806.658.4579

Email Address: [redacted]

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: OJD Engineering, LLC

Consultant Name: Che Shadle

Texas Board of Professional Engineers Firm Registration Number: F-4393

Contact Name: Clint Green Title: Engineering Technician/Designer

Mailing Address: 2420 Lakeview Drive

City: Amarillo County: Potter State: TX Zip Code: 79109

Phone Number: 806.352.7117

Email Address [redacted]

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: 4

District Engineer's Name: Blair E. Johnson

Mailing Address: 5715 Canyon Drive

City: Amarillo County: Randall State: TX Zip Code: 79110

Phone Number: 806.352.3200

Email Addres [redacted]

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: Lipscomb County

Contact Person's Name: Judge Dori Roots

Mailing Address: PO Box 69

City: Lipscomb County: Lipscomb State: TX Zip Code: 79056

Phone Number: 806.862.4131

Email Address: [redacted]

City Mayor Information

City Mayor's Name: Stephen Skipper

Mailing Address: PO Drawer M

City: Booker County: Lipscomb State: TX Zip Code: 79005

Phone Number: 806.658.4579

Email Address [redacted]

City Health Authority

Authority Name: Teare Memorial Clinic

Contact Person's Name: Lisa Brown

Contact Person's Title: Nurse Practitioner

Mailing Address: PO Box 550

City: Booker County: Lipscomb State: TX Zip Code: 79005

Phone Number: 806.658.4531

Email Address: [redacted]

County Judge Information

County Judge's Name: Dori Roots

Mailing Address: PO Box 69

City: Lipscomb County: Lipscomb State: TX Zip Code: 79056

Phone Number: 806.862.4131

Email Address: [redacted]

County Health Authority

Agency Name: Public Health Region 1 Lubbock

Contact Person's Name: Scott Milton, MD

Contact Person's Title: Regional Medical Director

Mailing Address: 6302 Lola Avenue - Mail Code 1899

City: Lubbock County: Lubbock State: TX Zip Code: 79424

Phone Number: 806.744.3577

Email Address: [redacted]

State Representative Information

House District Number: 87

State Representative's Name: Caroline Fairly

District Office Mailing Address: PO Box 2910

City: Austin County: Travis State: TX Zip Code: 78701

Phone Number: 512.463.0470

Email Address: [redacted]

State Senator Information

District Number: 31

State Senator's Name: Kevin Sparks

District Office Mailing Address: 620 S. Taylor Street, Suite 203

City: Amarillo County: Potter State: TX Zip Code: 79101

Phone Number: 806.374.8994

Email Address: [redacted]

Council of Governments (COG)

COG Name: Panhandle Regional Planning Commission

COG Representative's Name: Alex Gurrero

COG Representative's Title: Economic Development Director

Mailing Address: 415 SW 8th Avenue

City: Amarillo County: Potter State: TX Zip Code: 79105

Phone Number: 806.372.3381

Email Address: [redacted]

River Basin Authority

Authority Name: Canadian River Basin

Contact Person's Name: Drew Satterwhite

Watershed Sub-Basin Name: Lower North Fork

Mailing Address: PO Box 9

City: Sanford County: Hutchinson State: TX Zip Code: 79078

Phone Number: 806.865.3325

Email Address: [redacted]

Local Drainage or Flood Management Authority

Authority Name: Lipscomb County

Contact Person's Name: Dori Roots

Mailing Address: PO Box 69

City: Lipscomb County: Lipscomb State: TX Zip Code: 79056

Phone Number: 806.862.4131

Email Address: [redacted]

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: _____

Within Extraterritorial Jurisdiction of: Booker

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: Stephen Skipper Title: Mayor

Email Address: mayor@bookertx.ent

Signature: _____ Date: 10/09/2025

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, City of Booker to submit this application pursuant to 30 TAC 305.43(c).

Name: Stephen Skipper Title: Mayor

Email Address: City@bookertx.net

Signature: _____ Date: 10/04/2025

Notary

SUBSCRIBED AND SWORN to before me by the said Guadalupe Estrada

On this 9 day of October, 2025

My commission expires on the 25 day of June, 2027

_____

Notary Public in and for

Lipscomb, Texas (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

GUADALUPE ESTRADA
Notary Public, State of Texas
Notary ID# 12615871-7
My Commission Expires 06-25-2027

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: Stephen Skipper

Email Address: [redacted]

Signature: _____ Date: 10/09/2025

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: Stephen Skipper

Email Address: [redacted]

Signature: _____ Date: 10/09/2025

Notary

SUBSCRIBED AND SWORN to before me by the said Guadalupe Estrada

On this 9 day of October, 2025

My commission expires on the 25 day of June, 2027

_____

Notary Public in and for

Lipscomb, Texas (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

GUADALUPE ESTRADA
Notary Public, State of Texas
Notary ID# 12615871-7
My Commission Expires 06-25-2027

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)]	
Property Legal Description [30 TAC 330.59(d)(1)]	Appendix 1
Property Metes and Bounds Description [30 TAC 330.59(d)(1)]	Appendix 1
Facility Legal Description [30 TAC 330.59(d)(1)]	Appendix 1
Facility Metes and Bounds Description [30 TAC 330.59(d)(1)]	Appendix I - 3
Metes and Bounds Drawings [30 TAC 330.59(d)(1)]	Figure I - 3
On-Site Easements Drawing [30 TAC 330.61(c)(10)]	Figure I - 3
Land Ownership Map [30 TAC 330.59(c)(3)]	Figure I - 2
Landowners List [30 TAC 330.59(c)(3)]	Figure I - 2
Mailing Labels (in electronic file, in Avery 5160 format; see instructions) [30 TAC 281.5(7)]	Flash Drive
General Location Maps [30 TAC 330.59(c)(2)]	Figure I - 1
Texas Department of Transportation (TxDOT) County Map [30 TAC 330.59(c)(2)]	Figure II - 11
General Topographic Maps [30 TAC 330.61(e)]	Figure II - 9
Verification of Legal Status / Legal Authority (certificate of incorporation) [30 TAC 281.5 and 330.59(e)]	Part I
Evidence of Competency [30 TAC 330.59(f)]	Part I
Signatory Authority Documentation [30 TAC 305.44 and 330.59(g)]	
TCEQ Core Data Form(s) TCEQ-10400[6] [30 TAC 281.5(7)]	Forms

[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)]	Appendix 26
■ Public Involvement Plan Form TCEQ-20960[8]	Appendix 27
☐ Fee Payment Receipt	
☐ Confidential Documents	
☐ Waste Storage, Processing and Disposal Ordinances [Texas Health and Safety Code, Section 363.112[9]]	
☐ Final Plat Record of Property Description [30 TAC 330.59(d)(1)(B)]	
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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CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
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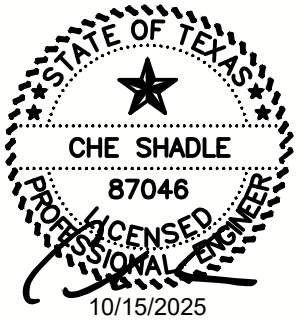
PART I

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
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Wolfforth | Amarillo

ph: 806 352.7117 2420 Lakeview Dr. Amarillo, TX. 79109 fax: 806 352.7188
www.OJDEngineering.com
Engineering Firm # 4393 - Surveying Firm # 10090900

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Figure I-1 – General Location Map

Figure I-2 – Land Ownership Map

Figure I-3 – Survey

Appendix 1 – Legal Descirption

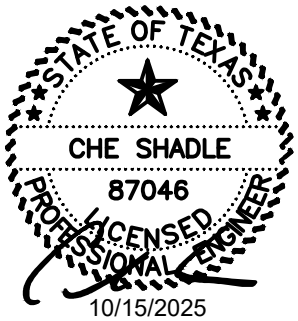
Appendix 2 – Property Owner Affidavit

Appendix 3 – Notice of Appointment

Appendix 4 – Copy of Check

Appendix 26 – Public Language Summary Form – TCEQ-20947

Appendix 27 – Public Involvement Plan Form – TCEQ-20960



10/15/2025
F-4393

12/31/24
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 – 6/9/25
NOD No. 3 – 10/15/25

PART I PERMIT APPLICATION

a) GENERAL

1) The City of Booker is applying for a Type IAE and Type IVAE Landfill that is permitted to accept less than 20 TPD of Type I and Type IV wastes. The facility will receive Type I and Type IV wastes via municipal collection and public disposal methods, which will be disposed of utilizing a trench disposal process.

2) Parts I, II, III, and IV are being submitted for this application.

3) Parts I, II, III, and IV are being submitted for this application.

b) QUALIFYING FOR ARID EXEMPTION

The City of Booker is applying for a Type IAE and Type IVAE Landfill that is permitted to accept less than 20 TPD of Type I and Type IV wastes. The total (combined) volume for the Type I and Type IV waste units is 288,239 CY. The total acreage for the facility is within the permit boundary is 40 acres and the total acreage of the waste disposal units is 9.06 acres. The average rate of disposal at the facility is less than 40 tons per day.

The criteria for qualifying for arid exemption as specified in 330.5(b)(1) are as follows:

(A) the facility disposes less than 20 tons per day based on an annual average of authorized waste in a Type IAE landfill unit and/or less than 20 tons per day based on an annual average of authorized waste in Type IVAE landfill unit for a total waste acceptance rate less than 40 tons per day for the facility considering all waste streams based on annual average;

(B) there is no evidence of existing groundwater contamination from the facility;

(C) the facility serves a community that has no practicable waste management alternative; and

(D) the facility is located in an area that receives less than or equal to 25 inches of annual average precipitation based on precipitation data from the nearest official precipitation recording station for the most recent 30-year reporting period.

c) FACILITY LOCATION

1) The site is located 2 1/2 miles northeast of the City of Booker on County Road 3.

2) The site is accessible to the citizens of Booker by the use of the State Highway 15 and County Road 3. These roads are all-weather roads, and should provide a safe and expedient roadway any time of year. The road will be adequate for dry conditions.

3) The longitudinal and latitudinal geographic coordinates for the facility are: Lat – 36° 29’ 32.00” N Long – 100° 30’ 49.00” W.

d) MAPS

1) General. All maps that are provided in this application include all the requirements set forth in §305.45

2) General location maps. A general location map has been provided with a scale of one-half inch equals one mile as Figure I-1.

3) Land ownership map with accompanying landowner list within a ¼ mile of the facility is provided as Figure I-2.

e) PROPERTY OWNER INFORMATION

1) Legal Description of the facility is provided as Appendix 1 and Survey as Figure I-3:

2) Appendix 2 is a property owner affidavit signed by the owner that includes the following:

A) acknowledgment that the State of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of the facility;

B) for facilities where waste will remain after closure, acknowledgement that the owner has 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 operation and closure of the landfill units in accordance with §330.19 of this title (relating to Deed Recordation); and

C) acknowledgement 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, if required, after closure for the purpose of inspection and maintenance.

f) LEGAL AUTHORITY

Verification of the City of Booker's legal status as required by §281.5 of this title has been verified. There are no individuals with 20% or more ownership in the facility.

g) EVIDENCE OF COMPETENCY

1) a list of all of the Texas solid waste sites the City of Booker has owned or operated within the last ten years has been Municipal Solid Waste Facility Permit Application No. MSW-1943, City of Booker, Lipscomb County, Texas.

2) The City of Booker has no direct financial interest in any other states, territories, or countries.

3) The executive director shall require that a licensed solid waste facility supervisor, as defined in Chapter 30 of this title (relating to Occupational Licenses and Registrations), be employed before commencing facility operation. The licensed solid waste facility supervisor for the site is

Guillermo Estrada, License Number – SW0006232, Expiration Date – 6/16/2027.

4) Guillermo Estrada – Director of Public Works MSW License #SW0006232

5) The City of Booker will use a 963 K Caterpillar Track Loader or equal for primary operations at the site

6) Not applicable

h) APPOINTMENTS

The City of Booker shall provide documentation that the person signing the application meets the requirements of §305.44 of this title (relating to Signatories to Applications). If the authority has been delegated, provide a copy of the document issued by the governing body of the owner or operator authorizing the person that signed the application to act as agent for the owner or operator. See Appendix 3 for Notice of Appointment.

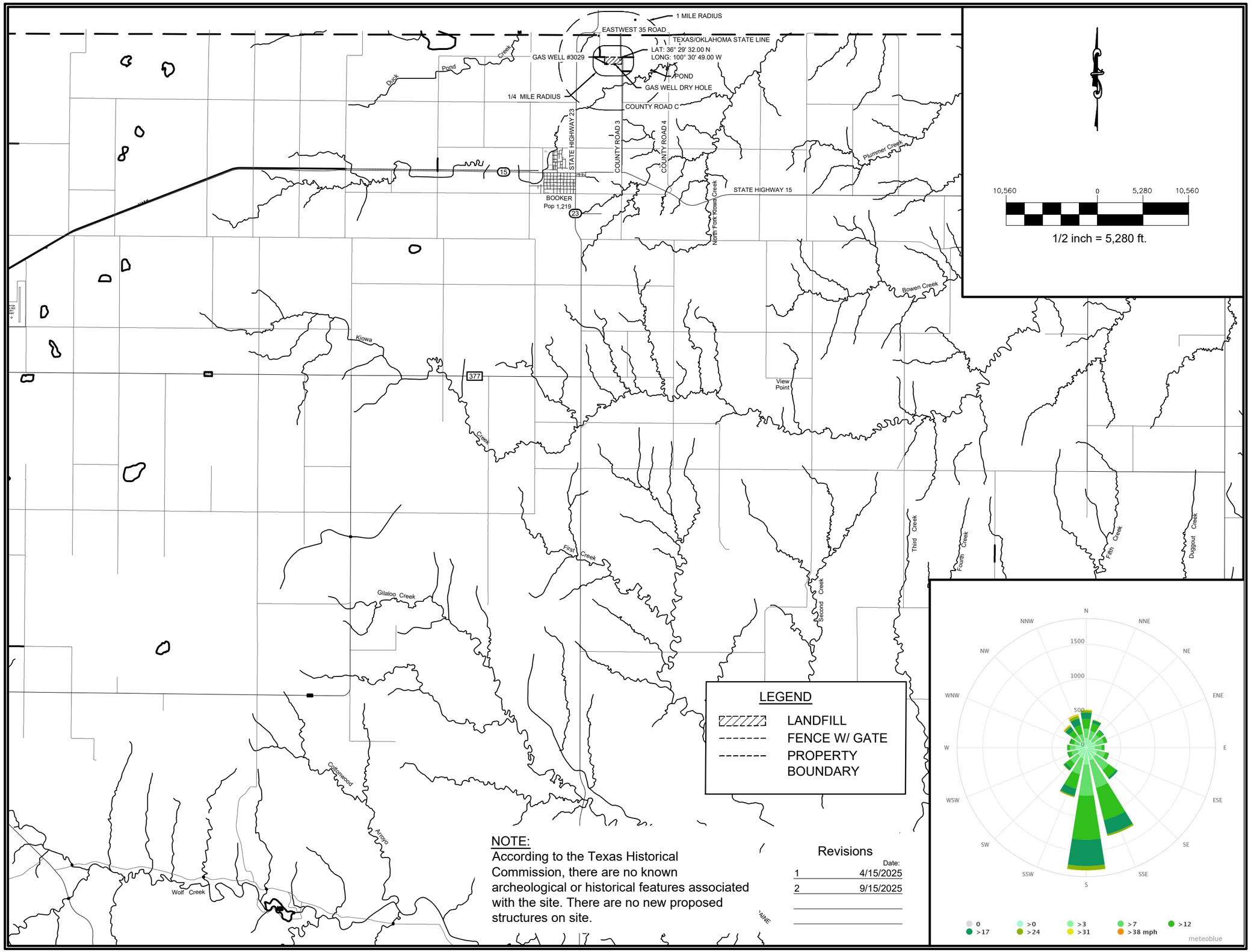
The individual responsible for publishing notices associated with the City of Booker Landfill will be:

Karen Haddon, City Secretary
PO Drawer M
Booker, TX 79005
[redacted]
806.658.4579

i) APPLICATION FEES

1) In accordance with §305.53 of this title (relating to Application Fee), the application fee is $2,050. A copy of the check is provided in Appendix 4.

2) Not applicable



NOTE:
According to the Texas Historical Commission, there are no known archeological or historical features associated with the site. There are no new proposed structures on site.

Revisions

	Date:
1	4/15/2025
2	9/15/2025

OJD Engineering, LLC
The Benchmark
Wellington | Amarillo | Wolfforth
www.OJDEngineering.com
F-4393

WELLINGTON
P.O. Box 543
Wellington, TX 79095
(806) 447-2503

WOLFFORTH
502 N. Dowden Road, Ste 102
Wolfforth, TX 79382
(806) 791-2300

AMARILLO
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

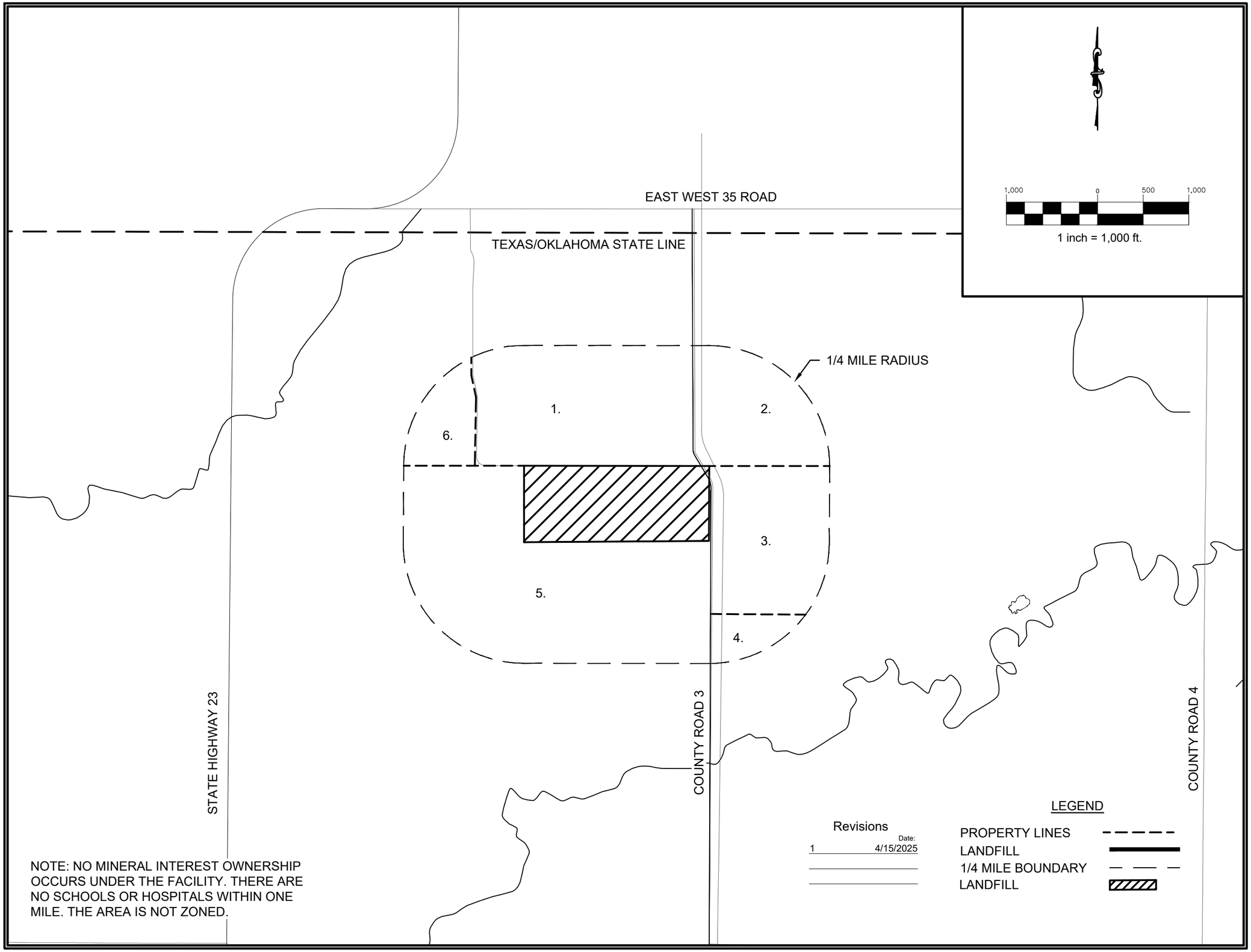
CITY OF BOOKER LANDFILL

GENERAL LOCATION MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1/2" = 5,280'

Figure
I-1



NOTE: NO MINERAL INTEREST OWNERSHIP OCCURS UNDER THE FACILITY. THERE ARE NO SCHOOLS OR HOSPITALS WITHIN ONE MILE. THE AREA IS NOT ZONED.

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2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

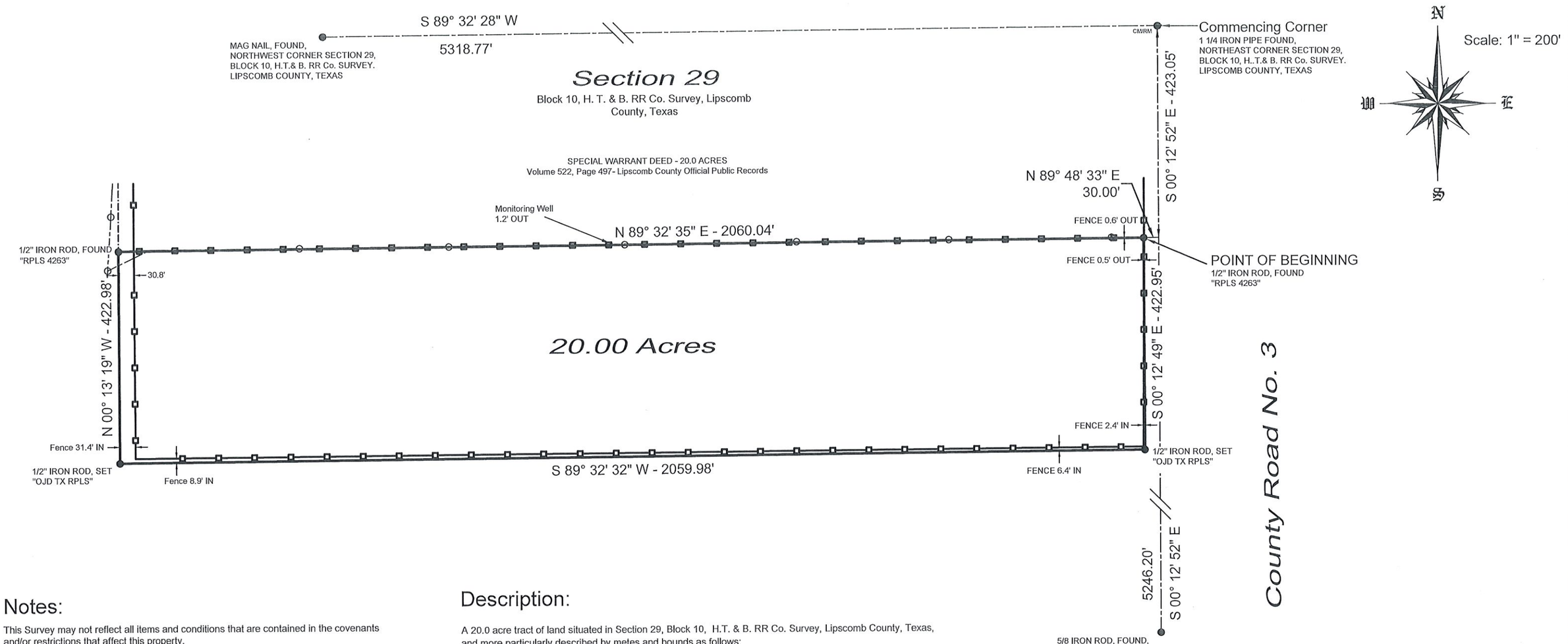
CITY OF BOOKER LANDFILL

LANDOWNERSHIP MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 1,000'

Figure
I-2



Notes:

This Survey may not reflect all items and conditions that are contained in the covenants and/or restrictions that affect this property.

This Survey is subject to any facts which may be disclosed by a full and accurate title search.

Records research performed with this survey was made only for the purpose of determining the boundary of this property and of the adjoining parcels. Record documents other than those shown on this survey may exist and encumber this property.

● = Monuments found and/or set as noted.

Portions of this plat are exaggerated for clarity.

All found corners are used as controlling monuments.

Bearing basis is per record plat, previous deed/survey or G. P. S. observation.

Only those easements furnished (paper or digital media) to the surveyor are shown hereon.

—o—o—o— = Fence (measured to center of post)

—— — —— — = Overhead Line (approximate location)

Description:

A 20.0 acre tract of land situated in Section 29, Block 10, H.T. & B. RR Co. Survey, Lipscomb County, Texas, and more particularly described by metes and bounds as follows;

BEGINNING at an 1/2 iron rod "RPLS 4263" found on the west right of way line of County Road No. 3 for the northeast corner of this tract, same being the southeast corner of a tract of land as recorded in Vol. 592, Pg. 497, Official Public Records of Lipscomb County, Texas, whence a 1 1/4" iron pipe found for the Northeast corner of Section 29 bears N. 89° 48' 33" E., 30.00 feet, and N. 00° 12' 52" W., 423.05 feet;

THENCE S. 00° 12' 49" E., along said west right-of-way line, a distance of 422.95 feet to a 1/2" iron rod "OJD TX RPLS" set for the southeast corner of this tract;

THENCE S. 89° 32' 32" W. a distance of 2059.98 feet to a 1/2" iron rod "OJD TX RPLS" set for the southwest corner of this tract;

THENCE N. 00° 13' 19" W. a distance of 422.98 feet to a 1/2" iron rod "RPLS 4263" found for the northwest corner of this tract;

THENCE N. 89° 32' 32" W. a distance of 2060.04 feet to the place of BEGINNING and containing 20.00 acres (871,296 square feet) of land.

Revisions Date:

1 4/15/2025

PROJECT #23-AE0097

Certification:

Survey Completed for **The City of Booker**

The undersigned does hereby certify that this plat of survey of the property described hereon represents the results of a survey made on the ground under my direction and supervision this the **3rd** day of **June, 2024**. This certification expressed or implied hereon applies only to the individuals explicitly listed above, and no other parties.

© ORIGINAL COPY OF 3

STATE OF TEXAS
REGISTERED
DAVID G. MILLER
5437
PROFESSIONAL
LAND SURVEYOR

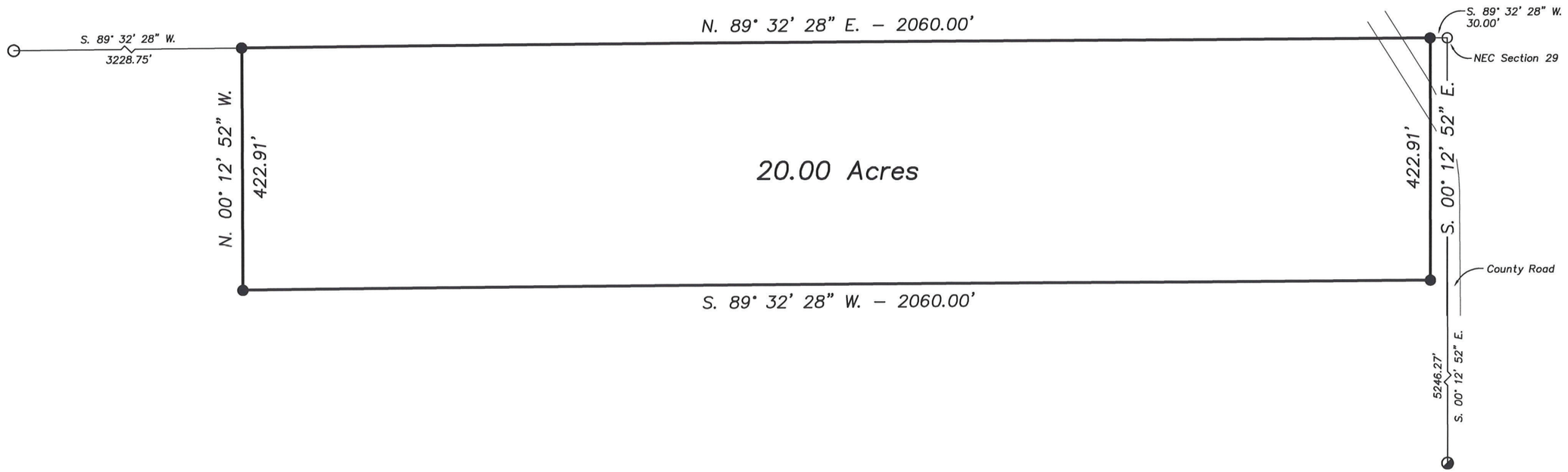
6-3-24

OJD Engineering, LLC
Consulting Engineers & Surveyors
806-352-7117
2420 Lakeview Dr.
Amarillo,Texas 79109
Firm No. 10090900

DRAWN BY: L.S.
FILE NAME: 20ac landfill tract - South.dwg

David G. Miller, R.P.L.S.
Registration No. 5437

FIGURE I-3



NOTE:
P.O.B. = POINT OF BEGINNING.

● = 1/2" iron rod w/yellow cap inscribed "RPLS 4263" set.

○ = 1–1/4" iron pipe found.

○ = Mag nail found.

◒ = 5/8" iron rod found.

Bearings based on U.S. State Plane of 1983 – Texas North.

Distances shown are grid distances.

STATE OF TEXAS : KNOW ALL MEN BY THESE PRESENTS,
COUNTY OF COLLINGSWORTH : that I, Richard E. Johnson, Registered Professional Land Surveyor, do hereby certify that I did cause to be surveyed on the ground the tract of land shown on this plat, and to the best of my knowledge and belief, the said description is true and correct.

IN WITNESS THEREOF, my hand and seal, this the 23rd day of February, A.D., 2016.

STATE OF TEXAS
REGISTERED
RICHARD E. JOHNSON
4263
PROFESSIONAL
LAND SURVEYOR

Richard E. Johnson
Registered Professional
Land Surveyor #4263

A Plat of a 20.00 acre tract of land out of the northeast quarter of Section 29, Block 10, H. T. & B. RR Co. Survey, Lipscomb County, Texas

SCALE: 1" = 200'	Firm No. 10090900	DRAWN BY: TW
DATE: Feb. 23, 2016		FILE NAME:

OJD Engineering, L.P.
Consulting Engineers & Surveyors

806–447–2503
P.O. Box 543
Wellington, Texas 79095

DRAWING NUMBER

FIGURE I-3

EXHIBIT A

A 40.00 acre tract of land situated in Section 29, Block 10, H.T.& B RR Co. Survey, Lipscomb County, Texas, being all of a 20.00 acre tract of land (Tract 1) as conveyed in the Special Warranty Deed recorded in Volume 522, Page 497, Official Public Records of Lipscomb County, Texas, and being all of a 20.00 acre tract of land (Tract 2) as conveyed in the Warranty Deed recorded under Clerk's File No. 071616, Official Public Records of Lipscomb County, Texas, said 40.00 acre tract of land being described by metes and bounds as follows:

COMMENCING at a 1 inch iron pipe found at the Northeast corner of said Section 29;

Thence South 89 degrees 32 minutes 28 seconds West, with the North line of said Section 29, a distance of 30.00 feet to a 1/2 inch iron rod with a yellow cap found at the Northeast corner of said Tract 1, same being the Northeast and BEGINNING CORNER of this tract;

THENCE South 00 degrees 12 minutes 51 seconds East, with the East line of said Tract 1, at a distance of 422.91 feet pass a 1/2 inch iron rod with a yellow cap found, being the Southeast corner of said Tract 1, same being the Northeast corner of said Tract 2, continuing, with the East line of said Tract 2, for a total distance of 845.86 feet to 1/2 inch iron rod with a green cap marked “OJD TX RPLS” (OJD cap) found, at the Southeast corner of said Tract 2, same being the Southeast corner of this tract;

THENCE South 89 degrees 32 minutes 32 seconds West, with the South line of said Tract 2, a distance of 2059.98 feet to a 1/2 inch iron rod with an OJD cap found at the Southwest corner of said Tract 2, same being the Southwest corner of this tract;

THENCE North 00 degrees 12 minutes 57 seconds West, with the West line of said tract 2, at a distance of 422.98 feet pass a 1/2 inch iron rod with a yellow cap found, being the Northwest corner of said Tract 2, same being the Southwest corner of said Tract 1, continuing, with the West line of said Tract 1, for a total distance of 845.52 feet to a 1/2 inch iron rod with a yellow cap found on said North line of Section 29, at the Northwest corner of said Tract 1, same being the Northwest corner of this tract;

THENCE North 89 degrees 32 minutes 28 seconds East, with said North line of Section 29 and the North line of said Tract 1, a distance of 2060.00 feet to the POINT OF BEGINNING.

* * * * * * * * * * * * * *

OJD Engineering, LLC
Consulting Engineers & Surveyors
806-352-7117
2420 Lakeview Dr.
Amarillo,Texas 79109
Firm No. 10090900

DRAWN BY: L. Snead
PROJECT #23-AE0095

June 25, 2025
David G. Miller, R.P.L.S.
Registration No. 5437

PROPERTY OWNER AFFIDAVIT

WHEREAS, the **City of Booker,** a municipal corporation, is the legal owner of site of proposed landfill. The site being legally described as:

A 40.00 acre tract of land situated in Section 29, Block 10, H.T.& B RR Co. Survey, Lipscomb County, Texas, being all of a 20.00 acre tract of land (Tract 1) as conveyed in the Special Warranty Deed recorded in Volume 522, Page 497, Official Public Records of Lipscomb County, Texas, and being all of a 20.00 acre tract of land (Tract 2) as conveyed in the Warranty Deed recorded under Clerk's File No. 071616, Official Public Records of Lipscomb County, Texas.

WHEREAS, the **City of Booker,** acknowledges that the State of Texas may hold the **City of Booker,** the legal owner of proposed site, either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of the site.

WHEREAS, the **City of Booker,** acknowledges that as the legal owner, it has a responsibility to file with the Lipscomb County deed records an affidavit to the public advising that the land has been used for a solids waste facility, at such time as the site actually begins operating as a municipal solid waste landfill facility.

WHEREAS, the **City of Booker,** acknowledges that the State of Texas shall have access to the property during the active life and for a period of not less than 30 years after closure for the purpose of inspection and maintenance.

Stephen Skipper, Mayor
City of Booker

STATE OF TEXAS COUNTY
OF LIPSCOMB

This instrument was acknowledged before me on the 27th day of June, 2025, by Stephen Skipper, Agent for the City of Booker.

Karen Diann Haddon
NOTARY PUBLIC - STATE OF TEXAS
ID# 126786753
COMM. EXP. 01-28-2029

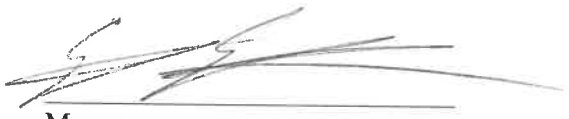
Notary Public printed name
Karen Haddon

NOTICE OF APPOINTMENT

WHEREAS, the City of Booker, a municipal corporation, is making application with the State of Texas to operate a Type I landfill and

WHEREAS, the governing body of the City of Booker, does this day appoint Che Shadle of OJD Engineering, LLC, a professional partnership of engineers, to be its engineer for purposes of landfill application.

Signed this 19th day of April, 2024.



Mayor

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

The City of Booker Landfill is proposing an expansion of the 20.00 acre existing landfill to the adjoining 20.00 acres of land located to the south.

B. Information About the Applicant

Name: City of Booker

Applicant Type: Municipal - Type I AE & Type IV AE

Facility Name: City of Booker Landfill

Permit Application Number: 1943A

Customer Number (CN): 6006770069

Regulated Entity Reference Number (RN): 101478121

C. Location of the Proposed Facility

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

A 40 acre municipal solid waste facility located approximately 3 miles northeast of Booker, approximately 2 miles north of the intersection of FM 3 and State Highway 15, in Lipscomb County.

Link to Map of Facility Location (TCEQ Location Mapper[2]): https://arcg.is/0fvCSD

D. Information about Facility Operation

What types of waste would be received?

Type I units will receive putrescible wastes, household wastes, brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste. Type IV units will receive brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste.

What geographical area would the wastes come from?

Booker, Darouzett, Follet, and unincorporated portions of Lipscomb County

[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?

Operation can occur any time between the hours of 8:00 AM and 5:00 PM, Mon. through Sat. Waste acceptance - Mon., Wed. Fri. 1:30 PM to 4:30 PM, Sat. 10 AM - 2:00 PM

At what rate would wastes be accepted?

The waste acceptance rate will be less than 20 tons per day (tpd) in the Type I unit, and less than 20 tons per day (tpd) of authorized waste in the Type IV unit.

How would wastes be managed?

The general sequence of filling operations; the city proposed to use a trench system to dispose of waste at the facility. An attendant will be at the gate to monitor all incoming loads of waste, the attendant will direct the disposer to the location of the open pit available for disposal of waste. The operator will cover the working area of the disposal pit at the end of each operating day with six-inches of well compacted earthen material.

E. Pollution Control Methods

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

City of Booker Landfill will utilize odor control and an odor neutralizing system to minimize onsite sources of odors, if deemed necessary. The odor control and neutralizing systems may be portable or stationary. The odor neutralizing systems will use a series of perforated pipes or nozzles connected to a blower or pump to dispense odor neutralizing agents into the air.

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

Windblown material and litter will be collected and returned to the active disposal area weekly, or more frequently as necessary to minimize unhealthy, unsafe, or unsightly conditions. Windblown or spilled waste and litter at the working face must be controlled by using engineering methods or measures, including portable panels, temporary fencing, and perimeter fencing or comparable engineering controls. Litter scattered throughout the site, along fences and access roads, and at the gate must be picked up once a day on the days the facility is in operation and properly managed. Spilled materials along the right-of-way will be picked up at least once daily.

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.

The City of Booker dose not feel that the landfill amendment to expand the existing landfill by adding

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 City of Booker is proposing an expansion of the 20.00 acre existing landfill to the adjoining 20.00 acres of land located to the south.

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.

(City)

Booker

(County)

Lipscomb

(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

75%

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

$27,124

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

35% - White, 1% - Black, 1 % - Native, 4%+ - Two+, Hispanic - 60%+

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

N/A

(e) Languages commonly spoken in area by percentage

N/A

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

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)

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)

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

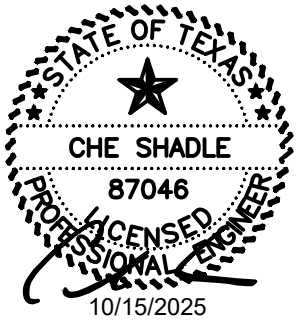
PART II

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

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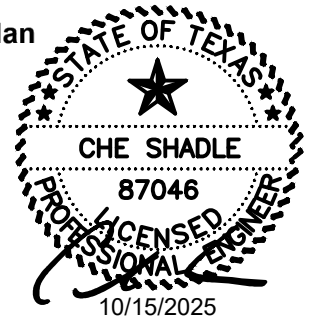
Figure II-5 – Site Development Plan

Figure II-6 – Site Layout Plan



10/15/2025
F-4393

12/31/24
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 – 6/9/25
NOD No. 3 – 10/15/25

Figure II-7 – Site Layout Details and Notes

Figure II-8 – Land Use Map

Figure II-9 - USGS Topo Map

Figure II-10 - Aerial Layout Map

Figure II-11 - TxDOT Map

Figure II-12 - Geologic Fault Map

Figure II-13 - Seismic Hazard Map

Figure II-14 - Hydrogeologic Conditions

Figure II-15 - Soils Map

Figure II-16 - Saturated Thickness Map

Figure II-17 - Regional Aquifer Map

Figure II-18 - Water Table Contour Map

Figure II-19 - Final Contour Map

Appendix 5 - TxDOT Correspondence

Appendix 6 - FAA Correspondence

Appendix 7 - Texas Parks and Wildlife Correspondence

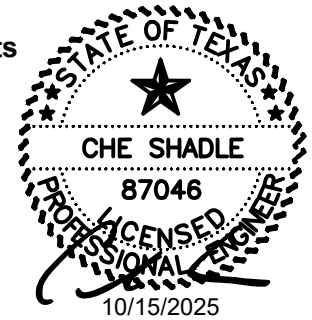
Appendix 8 - TPDES Permit Coverage

Appendix 9 - Transportation Data & Coordination Report

Appendix 10 - Texas Historical Commission Correspondence

Appendix 11 - Panhandle Regional Planning Commission Correspondence

Appendix 12 - Well Reports



10/15/2025
F-4393

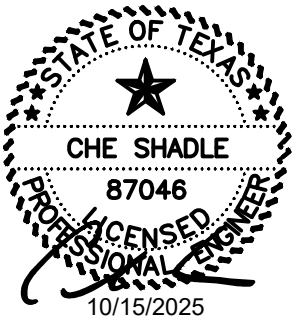
12/31/24
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 – 6/9/25
NOD No. 3 – 10/15/25

Appendix 13 - Field Notes

Appendix 21 - Landowner List

Appendix 22 - Drainage Calculations

Appendix 29 – Groundwater Report



10/15/2025
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PART II PERMIT APPLICATION

a) EXISTING CONDITIONS SUMMARY

The site is located 2 1/2 miles northeast of the City of Booker. There are eight (8) structures, and no inhabitable buildings located within 500 feet of the proposed site. Schools, licensed day care facilities, churches, hospitals, cemeteries, lakes, ponds, commercial, and recreational areas are not within one mile of the site. There are two (2) residences within one mile of the proposed site. There are no airports located within a five-mile radius of the site. There are no drainage easements within or adjacent to the site as well as archaeological sites, historical sites, and sites with exceptional aesthetic qualities. The existing conditions will not require any special design considerations.

b) WASTE ACCEPTANCE PLAN

1) The facility will have Type IAE Units and Type IV AE Units. The facility will have Type I AE units and Type IV AE units, and the waste acceptance rate will be less than 20 tons per day (tpd) in the Type I unit, and less than 20 tons per day (tpd) of authorized waste in the Type IV unit. The type of waste to be received at the facility shall be municipal solid waste such as household and commercial trash and garbage, construction demolition waste, brush, grease, oil, sludge, Class II Nonhazardous Industrial Waste, and Special Wastes as outlined in the Site Operating Plan. Type I units will receive putrescible wastes, household wastes, brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste for disposal. Type IV units will receive brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste for disposal. A method will be utilized to achieve at least 10% recycling or reuse of incoming material.

2) The acceptance and/or disposal of special waste is allowed for the following without further approval from the executive director provided the waste is handled in accordance with the noted provisions for each waste: 1.) Dead animals and/or slaughterhouse waste may be accepted at the Type I facility without further approval from the executive director provided the carcasses and/or slaughterhouse waste are covered by three feet of other solid waste or at least two feet of soil immediately upon receipt. 2.) Nonregulated asbestos-containing materials (non-RACM) may be accepted for disposal at the Type I facility provided the wastes are placed on the active working

face and covered in accordance Section 22.0 (Landfill Cover) of this document. Under no circumstances shall any material containing non-RACM be placed on any surface or roadway which is subject to vehicular traffic or disposed of by any other means by which the material could be crumbled into a friable state. 3.) Empty containers which have been used for pesticides, herbicides, fungicides, or rodenticides may be disposed of at the Type I facility provided that the containers are triple-rinsed prior to receipt at the site, the containers are rendered unusable prior to or upon receipt at the site, and the containers are covered by the end of the same working day they are received. Those containers for which triple-rinsing is not feasible or practical (e.g., paper bags, cardboard containers) may be disposed of under the following provision: 4.) Municipal hazardous waste from a conditionally exempt small quantity generator (CESQG) may be accepted at a Type I municipal solid waste site without further approval from the executive director provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator, and provided the landfill owner/operator is willing to accept the waste. 5.) Solidified sludge from the City of Booker Waste Water Treatment Facility can be accepted at the Type I site if the material has been sufficiently treated, de-watered and tested in accordance with the Method 9095 (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods” (EPA Publication Number SW-846) and is certified to contain no free liquids. If sludge is certified to contain no free liquids, then written notification to the executive director of the liquids processing activity is not required.

3) The acceptance and/or disposal of the following special wastes shall not be allowed:1.) Special waste from health-care-related facilities which includes animal waste, bulk human blood, blood products, body fluids, microbiological waste, pathological waste, and sharps. 2.) Soil contaminated by petroleum products, crude oils, or chemicals. 3.) Any waste stream other than household or commercial garbage, refuse, or rubbish. 4.) Class I nonhazardous waste not routinely collected with municipal solid waste. 5.) Septic tank pumping’s. 6.) Greases and grit trap wastes 7.) Wastes from commercial or industrial wastewater treatment plants; air pollution control facilities; tanks, drums, or containers used for shipping or storing any material that has been listed as hazardous constituent in 40 CFR, part 261, Appendix VIII but has not been list as a commercial chemical product in 40 CFR, Section 261.33 (e) or (f) 8.) Drugs, contaminated foods, or contaminated beverages, other than those contained in normal household wastes. 9.) Incinerator ash 10.) Soil contaminated by petroleum products, crude oils, or chemicals. 11.) Used oil 12.) Light ballasts and/or small capacitors containing PCB’s 13.) Waste from

oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas when those wastes are to be processed, treated, or disposed of at a solid waste management facility permitted under TAC 330. 14.) Wastes generated outside the boundaries of Texas that contain any industrial waste, any waste associated with oil, gas, or geothermal exploration, production, or development, or any other item listed as special waste. 15.) Lead acid batteries 16.) Used oil filters from internal combustion engines.

A) The population that will be contributing to the facility is approximately 1,905 people. The collection rate is approximately 5.0 pounds per capita per day. As a general rule, 10,000 people with a per capita collection rate of five pounds per day dispose of 10 to 15 acre-feet of solid waste in one year. Comparing this to a population of 2,000 people, the volume disposed will be approximately 2 acre-feet per year or 3,227 cubic yards. An estimated maximum annual waste for 5 years for the facility is 16,135 cubic yards. Acceptable wastes include typical municipal waste such as household and commercial trash and garbage, construction demolition waste, and brush.

B) The proposed facility is not a transfer station.

C) Due to the facility being located in a remote area with minimal population growth, the facility will likely see a minimal increase from year to year in the annual waste acceptance rate over the next 5 years. The estimated maximum annual waste acceptance rate is projected to be 3,227 cubic yards. The population for Booker from 2020 to 2023 decreased 3.65%. Population projections and growth trend models show to have no effect on the proposed municipal solid waste landfill.

1) In accordance with §330.9, the proposed facility requires a permit.

c) MAPS

General Location Maps. All maps that are provided in this application include all the requirements set forth in §330.59(c)

1) A wind rose with the prevailing wind direction has been provided on the General Location Map - Figure II-1.

2) A map has been provided as Figure II-4 – Well Map that provides the locations of all known water wells within 500 feet of the proposed permit boundary with the state well numbering system designator for Water Development Board “located wells”.

3) There are no residences within 500 feet of the proposed facility.

4) There are no schools, licensed day care facilities, churches, hospitals, cemeteries, lakes, ponds, commercial, or recreational areas located within one mile of the proposed site. A Site Development Plan has been provided as Figure II-5.

5) The site is accessible to the citizens of Booker by the use of the east State Highway 15 for 1 mile north on County Road 3 for approximately 2.5 miles to the entrance of the site on the west side of County Road 3. These roads are all-weather roads, and should provide a safe and expedient roadway any time of year. Highway 15 is paved asphalt. County Road 3 is a dirt/caliche road. The locations or the roads are shown in Figure II-1.

6) The latitude for the site is 36° 29’ 32.00” N and the longitude for the site is 100° 30’ 49.00” W.

7) The drainage pattern for this area is southeast towards the Plummer Creek fork of Kiowa Creek, which is located approximately 9.5 miles southeast of the proposed site.

8) There are no airports located within 6 miles of the proposed landfill.

9) The property boundary of the proposed facility is included in Figure II-5 – Site Development Plan. The property boundary is shown in the Survey in Figure II-3.

10) There are no drainage easements within one mile of the facility. There are no pipelines located within the facility. There is a permitted gas well location approximately 150’ west of the property and a dry hole location approximately 50’ south of the property.

11) The facility access control features include a fence and other security measures. These are inspected on a weekly basis. The facility must be secure enough to eliminate unauthorized entry. Any damages to the fencing and security will be noted, and repaired as soon as possible. The City of Booker commits to maintaining the fences, gates, and security locks

through the life of the facility. Access features are shown in Site Layout Plan as Figure II-6.

12) There are no known archaeological sites, historical sites, or sites with exceptional aesthetic qualities adjacent to the proposed facility.

d) FACILITY LAYOUT MAPS

1) A map showing the outline of the landfill units is shown in Site Layout Plan as Figure II-6.

2) A map showing the interior facility roadways, the general locations of main interior facility roadways that will provide access to fill areas is shown in Site Layout Plan as Figure II-6 and Site Layout Details as Figure II-7.

3) The facility is arid exempt and does not have groundwater monitoring wells.

4) A map showing the locations of buildings has been provided in Land Use Map as Figure II-8.

5) Graphic representations or marginal explanatory notes necessary to communicate the proposed construction sequence of the facility have been provided as seen necessary. Cover material will come from the new pits that are to be constructed once the previous pit is at capacity. Construction sequence of the facility is provided in Figure II-6. All pits will be utilized as both Type I & Type IV.

6) Fencing location for the facility has been shown in Site Layout Plan as Figure II-6.

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7) There are no 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. The landfill is located in a rural area;

8) The site entrance from the public access road is shown in Site Layout Plan as Figure II-6.

9) Landfill Units

A) Sectors with appropriate notations to communicate the types of wastes to be disposed of in individual sectors; the type of waste to be received at the facility shall be municipal solid waste, Class II Industrial Waste, Class III Industrial Wastes, and Special Wastes outlined in the Site Operating Plan. Class I Industrial Waste, RACM, and Hazardous Wastes shall not be accepted at the facility.

B) The general sequence of filling operations; the city proposed to use a trench system to dispose of waste at the facility.

C) Sequence of excavations and filling; cover material will come from the new pits that are to be constructed once the previous pit is at capacity. The final pit to be installed on the property shall have final cover applied from another on-site source. The sequence of development of trenches will begin with Pit Number 1 located in the most northeasterly portion of the landfill and move south and east in sequence, ending with Pit Number 28. See Figure II-6 for Pit Numbers.

D) The dimensions of the cells or trenches will vary in length from 401 to 473’ and be a width of 29’;

E) The City of Booker will install a final cover system that adheres to the closure requirements for MSW Landfill Units that receive waste on or after October 9, 1993. The maximum waste elevation and final cover for each pit is shown on Figure II-19 – Final Contour Map.

e) GENERAL TOPOGRAPHIC MAPS

A United States Geological Survey 7 1/2-minute quadrangle sheets or equivalent for the facility has been provided as Figure 9.

f) AERIAL PHOTOGRAPH

A) An aerial photograph approximately nine inches by nine inches with a scale within a range of one-inch equals 1,667 to one-inch equals 3,334 feet and showing the area within at lease a one-mile radius of the site boundaries has been provided as Aerial Layout Figure II-10;

B) Aerial photographs have been provided as Aerial Layout Figure II-10 to show growth trends. Population projections and growth trend models show to have no effect on the proposed municipal solid waste landfill.

g) LAND-USE MAP

This a map constructed of the facility showing the boundary of the facility and any existing zoning on or surrounding the property and actual uses (e.g., agricultural, industrial, residential, etc.) both within the facility and within one mile of the facility. The owner or operator shall make every effort to show the locations of residences, commercial establishments, schools, licensed day-care facilities, churches, cemeteries, ponds or lakes, and recreational areas within one mile of the facility boundary. Drainage, pipeline, and utility easements within the facility shall be shown. Access roads serving the facility shall be shown. A land-use map has been provided as Figure II-8. The boundary of the proposed site is shown in Figure II-3. The land is currently being used as natural pastureland.

h) IMPACT ON SURROUNDING AREA

A primary concern is that the use of any land for a municipal solid waste facility not adversely impact human health or the environment. The owner or operator shall provide information regarding the likely impacts of facility on cities, communities, groups or 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. To assist the commission in evaluating the impact of the site on the surrounding area, the owner or operator shall provide the following:

1) The site will not be subject to any zoning requirements. The proposed landfill site is situated so that it will not adversely impact human health or the environment.

2) The surrounding land uses within one mile of the proposed facility are primarily agriculture applications.

3) Population projections and growth trend models show to have no effect on the proposed municipal solid waste landfill. Based on US Census data the population growth trend has declined from 1,417 in 2020 to 1,267 in 2023 for the City of Booker, which is the largest concentrated population within 5 miles of the site.

4) There is one residence located within one mile of the site. The nearest residence is approximately 2,535’ north of the proposed landfill, divided by agricultural land.

5) There are no wells that exist within 500 feet of the site. There is a permitted gas well location approximately 150’ west of the property and a dry hole location approximately 50’ south of the property. Well locations are shown on the well map. A map for wells is shown as Figure II-4 of this report.

6) Any other information requested by the Executive Director.

i) TRANPORTATION

1) The site is accessible to the citizens of Booker by the use of the east State Highway 15 to north on County Road 3 for approximately 2.5 miles to the entrance of the site on the west side of County Road 3. These roads are all-weather roads, and should provide a safe and expedient roadway any time of year. Highway 15 is paved asphalt. County Road 3 is a dirt/caliche road. These roads will be adequate for dry conditions. The locations of the roads are shown in Figures II-5 and II-11.

2) The volume of traffic on the roads leading to the proposed facility will be very minimal. Traffic, as it stands now, is comprised of east bound State Highway 15, the small number of farmers and ranchers that have land near the site, and the city crew working on the City's property. The traffic to the site will have minimal to no adverse effects on the surrounding area. The current Annual Average Daily Traffic (AADT) for 2022 is 1,285. The expected volume of vehicular traffic estimated by TxDOT in 2042 is 914.

3) The expected volume of traffic to be generated by the facility on State Highway 15 within one mile of the proposed facility is minimal. The proposed facility location has minimal traffic, therefore, an increase in traffic to roads within one mile of the proposed facility is unexpected. The city delivers trash on Monday, Wednesday and Friday at a rate of one truck per day and Tuesday at a rate of 2 loads. The landfill is open to the public Monday, Wednesday, and Friday from 1:30 to 4:30 PM and Saturday from 10 AM to 2 PM. Tuesday and Thursday the landfill is closed to the public.

4) Improvements to the existing public roadway will be unnecessary, as the proposed facility will have a minimal impact on current roadway conditions. Coordination with the Texas Department of Transportation has been

provided in Appendix II-5. Transportation Data and Coordination Report is provided in Appendix II-9.

5) The proposed City of Booker Landfill is not located within five-mile radius of any large general public commercial airport runway or within six-mile radius of any small general service airport runway. A copy of coordination with the Federal Aviation Administration has been provided in Appendix II-6. Site hygiene, proper daily cover, and good waste management will be used as mitigation actions if bird activity increases.

j) GENERAL GEOLOGY AND SOILS STATEMENT

1) The site is physically located north of Booker, Texas and the general site topography is flat covered with grass and weeds. An open field binds the north, south, east and west of the site. On-site or local soil conditions that may result in significant differential settling:

   The site and vicinity soils consist of a silty clay loam from the Darrouzett and Estacado-Olton Complex association with mild to moderate slopes. For subsurface soil conditions refer See Figure II-15 – Soils Map.

   On-site or local geologic or geomorphologic features:

   The local geology is dominated by Quaternary and Tertiary deposits overlying older Paleozoic and Mesozoic sedimentary rocks. There are no unusual geologic features on or near the site that would produce unstable conditions. The site is gently sloping terrain, so the probability of erosion due to water is slight. However, without the proper amount of vegetative cover, this soil has a high probability of erosion due to wind. Even if unchecked, this erosion would be very moderate, and would not represent a surface or foundation stability hazard.

   On-site or local human-made features or events, both surface and subsurface:

   There are no known or observed on-site or local human-made features that would create unstable conditions on the site. There are no scraps in natural ground present.

2) There are no known or observed fault areas located at or near the proposed landfill expansion area. Therefore, all landfilling operations will be in

compliance with operating procedures regarding fault areas. A U.S. Geologic Fault Map with fault areas has been provided in Figure II-12.

3) Data was collected to verify if the proposed City of Booker Landfill site was within an area with a 10% or greater probability that the maximum horizontal acceleration in rock, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in 250 years. The landfill site does not appear to be located over active seismic faults. There are no evident geomorphic features that would indicate faulting or folding in the immediate proximity of the site. A FEMA seismic hazard map has been provided as Figure II-13.

4) Section §330.559 defines an unstable area as a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill. Examples of such areas are locations with poor foundation conditions, areas susceptible to mass movement, and karst terrains. The following factors were considered in our evaluation of the proposed City of Booker Landfill site with regard to this section using information obtained from USGS and FEMA. The results of the bores preformed in the soil boring report show no sign of unstable areas including karst terrain. As shown in the report, the most common soil within the boring were Lean Clays (CL) as they were the most dominant soil type from the surface to total depth in all of the borings. Nothing is present that would represent a karst terrain or any other unstable area that would impair the integrity of the landfill.

5) The following is the geology of the site provided by USGS. The soils at the site are predominantly Estacado-Olton complex, 0-3% slope, Darrouzett silty clay loam, 0-1% slope, and Paloduro, Veal and Portales soils, 3-5% slope. Each of these series consist of deep, moderately permeable soils formed on calcareous, loamy material.

k) GROUNDWATER AND SURFACE WATER

1) Information concerning site specific ground water is shown in Figures II-16, II-17, and II-18 of Parts I & II of the permit application. According to the North Plains Groundwater Conservation District in 2020 the Saturated Thickness at the proposed landfill area, and according to well logs nearest to the site the depth of water is 216’. Groundwater is deeper than 150’. A groundwater report has been provided as Appendix 29. Water depths are shown in Figure II-16. The Ogallala Aquifer is the source for water in this

area shown in Figure II-17. Water Table Contour Map - Figure II-18 illustrates the generalized direction of ground-water flow for the area.

2) Information concerning site specific surface water is shown in Figure II-14. The site is located on the relatively flat Northern High Plains. Drainage is generally southeast towards the North Fork-Kiowa Creek. There are no surface water bodies in the immediate area of the site. A site visit was conducted to locate any springs on or near the site. No springs were located during the inspection.

3) In compliance with the provisions of Clean Water Act §402, as amended, the location of the proposed City of Booker Landfill will comply with applicable Texas Pollutant Discharge Elimination System (TPDES)

   A) a certification statement indicating the owner/operator will obtain the appropriate TPDES permit coverage when required is provided in Appendix II-8.

4) The construction and operation of the municipal solid waste landfill unit or recovery operation shall not:

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

   B) violate any applicable toxic effluent standard or prohibition under the Toxic Pollutant List:

   C) 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; the following species have been documented within 2 miles of the proposed project area in the TXNDD: Lesser prairie-chicken, Black-tailed prairie dog, and Swift Fox and

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

I) ABANDONED OIL AND WATER WELLS

1) There are no abandoned oil or water wells located on the proposed site.

2) There are no oil wells or gas production well on the proposed site.

m) FLOODPLAINS AND WETLANDS STATEMENT

1) The proposed City of Booker Landfill is located in an unmapped area of the FEMA Flood Map Service Center. The proposed new site for the municipal solid waste landfill is the relatively flat Northern High Plains. The facility is located outside a FEMA study area. Flood Hazard Boundary Maps for unincorporated areas of Lipscomb County have not been published by FEMA. The 100-year flood elevation was computed at a point on North Fork-Kiowa Creek southeast of the site, where the county road crosses the creek. OJD Engineering performed a preliminary stormwater runoff analysis to determine an estimated elevation of the 100-year storm event. Point precipitation frequency (PF) estimates from NOAA Atlas, 14, Volume 11, Version 2, were entered into the HEC HMS4-12 Model. Drainage area topography and site topography was taken from a USGS 7½-minute series topographic map. The analysis was performed using the SCS Method for determining peak runoff. The Manning formula was used to estimate the water surface elevation when stream flow equals the maximum discharge for the 100-year storm event. To obtain a more precise floodplain elevation for this drainage area, more detailed topographic data would be required, and a dynamic stream profile analysis would be necessary. These steps are considered to be more detailed than required for the purpose of this certification. The results of the calculations are shown in Table 1.

Table 1. 100-Year Flood Zone Calculations

Drainage Area 2:	25.38 acres
100-Year 24-Hour Storm Event Volume	3.22 inches
Source: HEC HMS4-12 Model	
Peak Discharge:	76.4 cfs
100-Year Storm Depth:	0.46 ft
Dry Weather Channel Bottom Elevation:	2810.00 ft
100-Year Flood Elevation:	2830.46 ft
Site Elevation:	2830.00 ft

Landfill operations do not take place within the 100-year flood zone. The proposed City of Booker Landfill 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.

2) A review of the National Wetlands Inventory Maps was conducted, and concluded that it did not indicate a presence of wetlands in the area of the proposed site. Therefore, all landfill operations will be in compliance with all regulations regarding wetlands.

3) There are no wetlands located within the facility boundary.

n) ENDANGERED OR THREATENED SPECIES

1) The proposed facility will not have an adverse impact upon endangered or threatened species. The facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

2) A letter was written to the Texas Parks and Wildlife Department requesting information on endangered species. The letter to the agency is shown in Appendix 7 of this report.

o) TEXAS HISTORICAL COMMISSION REVIEW

A review letter has been submitted to the Texas Historical Commission documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. A response has been received from the Texas Historical Commission. Correspondence is provided in Appendix 10.

p) COUNCIL OF GOVERNEMENTS AND LOCAL GOVERNEMENT REVIEW

A review letter, as well as Parts I and II of the application have been submitted to the Panhandle Regional Planning Commission documenting compliance with the local solid waste plans. Correspondence is provided in Appendix 11.

q) EASEMENTS AND BUFFER ZONES

No solid waste activities will occur any easement, buffer zone, or right-of-way that crosses the facility.

For any new Type I landfill, the owner or operator shall establish and maintain a 125-foot buffer zone. A minimum separating distance of 125 feet will be maintained between solid waste processing and the disposal activities and the boundary of the site. See Figure II-6 of the Site Layout Plan for the location of the buffer zone. The buffer zone will not be narrower than that necessary to provide for safe passage for firefighting and other emergency vehicles.
Landfill Markers and Benchmark.

Landfill markers will be installed to clearly mark significant features. All markers will be steel, or wooden and will extend at least six feet above ground level. Markers will not be obscured by vegetation. Sufficient intermediate markers will be installed to show the required boundary. Markers shall be installed at:

1. site boundary
2. 125-foot buffer zone
3. landfill grid system

All markers will be color coded as follows:

1. black-boundary markers
2. yellow-buffer zone markers
3. white-grid markers

Site boundary markers will be placed at each corner of the site and along each boundary line at intervals no greater than 300 feet. Fencing may be placed within these markers as required.

Markers identifying the 125-foot buffer zone will be placed along each buffer zone boundary at all corners and between corners at intervals of 300 feet.

Easement and right-of-way markers will be placed along the centerline of an easement and along the boundary of a right-of-way at each corner within the site and at the intersection of the site boundary.

The City of Booker must maintain the visibility of all required landfill markers and the benchmark. The City of Booker shall inspect landfill markers on a monthly basis and maintain records of all inspections at the facility. The City of Booker shall replace markers within 15 days of removal, destruction, or a determination that the markers do not meet regulatory requirements.

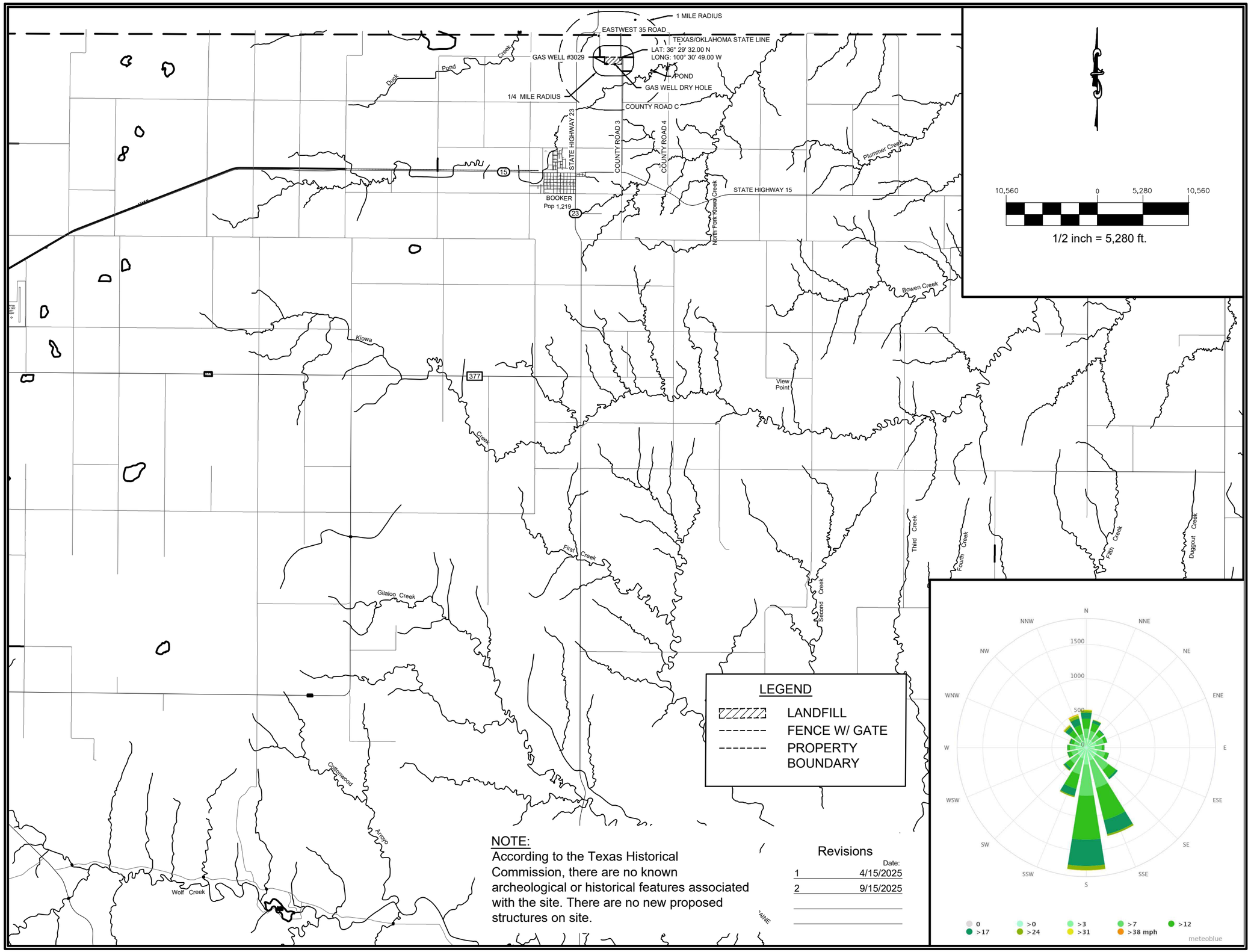
Landfill markers must be installed to clearly mark significant features. The executive director may modify specific marker requirements to accommodate unique site-specific conditions. The markers must be posts extending 6 feet above ground and not obscured. Where markers cannot be seen, immediate markers must be installed where feasible.

A landfill grid system will be installed at the facility. The grid system will encompass at least the areas expected to be filled within the next three-year period. Grid markers will be maintained throughout the active life of the site. The grid system will consist of lettered markers along two opposite sides, and numbered markers along the other two sides. Markers will be spaced no greater than 100 feet apart.

SLER or FMLER area markers will not be required at this facility.

Flood protection markers will not be required at this facility.

A permanent benchmark has been established at the site in a location shown on the Site Layout Plan (Figure II-6). This benchmark shall be a bronze survey marker set in concrete and will have the benchmark elevation and survey date stamped on it.



NOTE:
According to the Texas Historical Commission, there are no known archeological or historical features associated with the site. There are no new proposed structures on site.

Revisions

	Date:
1	4/15/2025
2	9/15/2025

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The Benchmark
Wellington | Amarillo | Wolfforth
www.OJDEngineering.com
F-4393

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WOLFFORTH
502 N. Dowden Road, Ste 102
Wolfforth, TX 79382
(806) 791-2300

AMARILLO
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

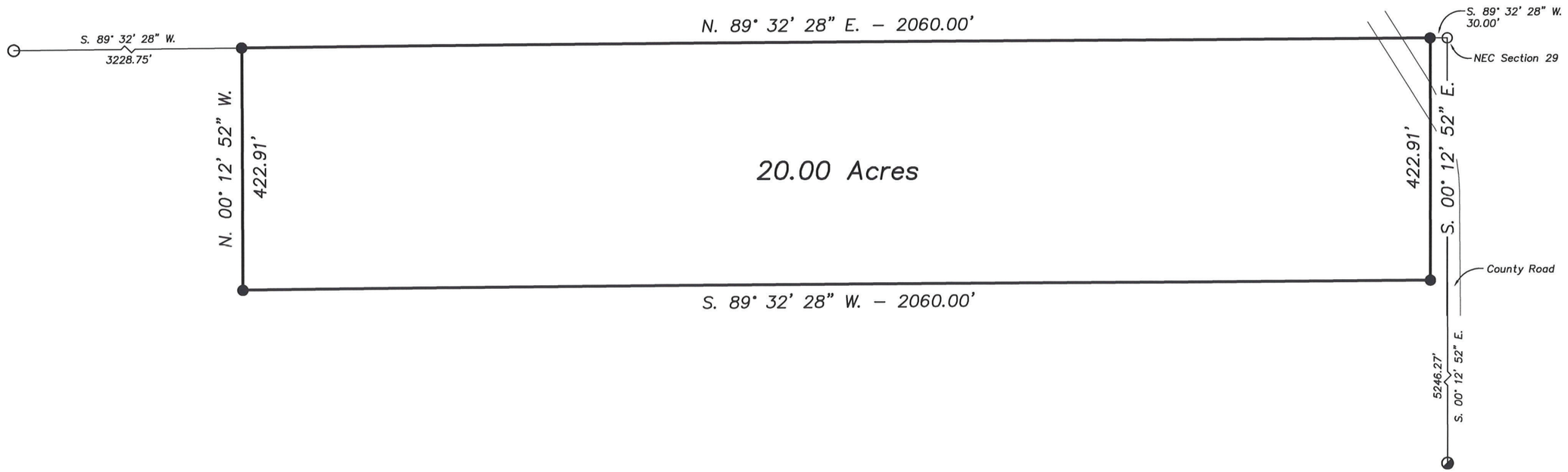
CITY OF BOOKER LANDFILL

GENERAL LOCATION MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1/2" = 5,280'

Figure
II-1



NOTE:
P.O.B. = POINT OF BEGINNING.

● = 1/2" iron rod w/yellow cap inscribed "RPLS 4263" set.

○ = 1–1/4" iron pipe found.

○ = Mag nail found.

◒ = 5/8" iron rod found.

Bearings based on U.S. State Plane of 1983 – Texas North.

Distances shown are grid distances.

STATE OF TEXAS : KNOW ALL MEN BY THESE PRESENTS,
COUNTY OF COLLINGSWORTH : that I, Richard E. Johnson, Registered Professional Land Surveyor, do hereby certify that I did cause to be surveyed on the ground the tract of land shown on this plat, and to the best of my knowledge and belief, the said description is true and correct.

IN WITNESS THEREOF, my hand and seal, this the 23rd day of February, A.D., 2016.

STATE OF TEXAS
REGISTERED
RICHARD E. JOHNSON
4263
PROFESSIONAL
LAND SURVEYOR

Richard E. Johnson
Registered Professional
Land Surveyor #4263

A Plat of a 20.00 acre tract of land out of the northeast quarter of Section 29, Block 10, H. T. & B. RR Co. Survey, Lipscomb County, Texas

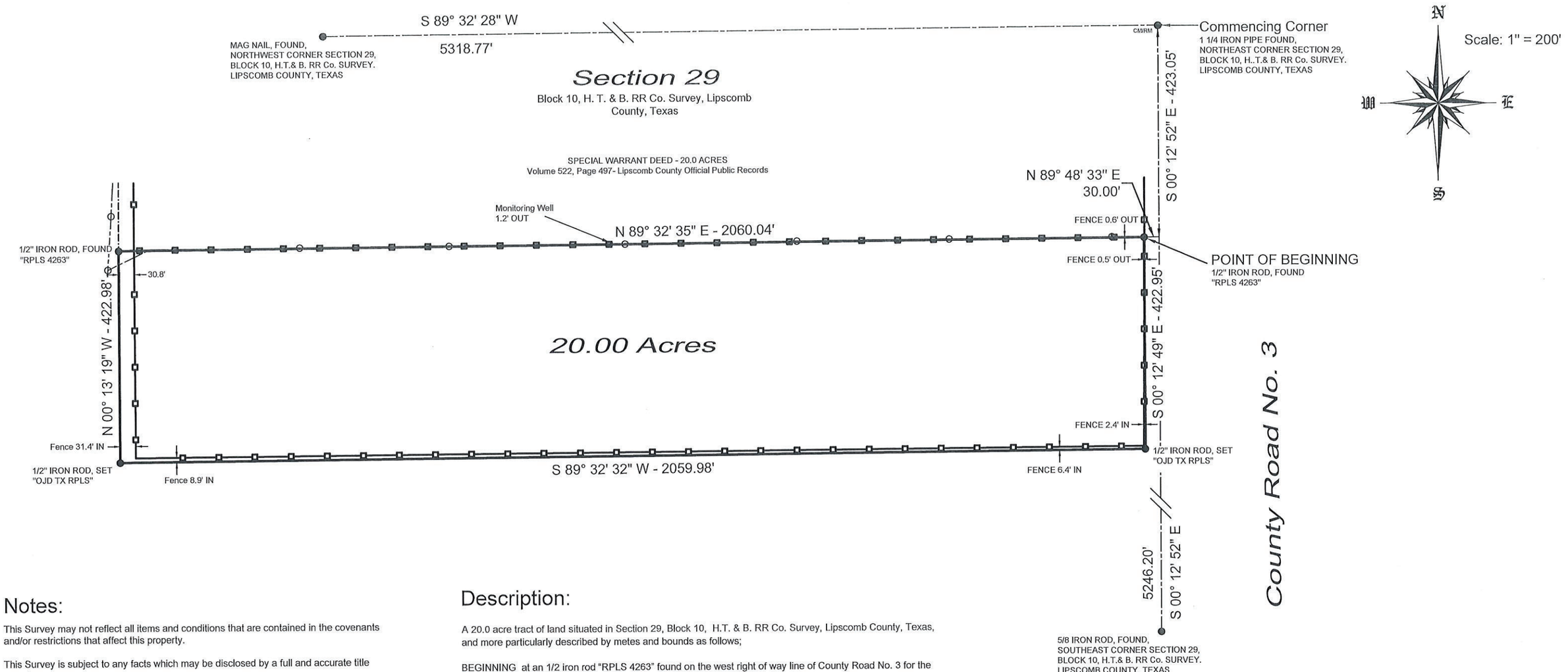
SCALE: 1" = 200'	Firm No. 10090900	DRAWN BY: TW
DATE: Feb. 23, 2016		FILE NAME:

OJD Engineering, L.P.
Consulting Engineers & Surveyors

806–447–2503
P.O. Box 543
Wellington, Texas 79095

DRAWING NUMBER

FIGURE II-3



Notes:

This Survey may not reflect all items and conditions that are contained in the covenants and/or restrictions that affect this property.

This Survey is subject to any facts which may be disclosed by a full and accurate title search.

Records research performed with this survey was made only for the purpose of determining the boundary of this property and of the adjoining parcels. Record documents other than those shown on this survey may exist and encumber this property.

● = Monuments found and/or set as noted.

Portions of this plat are exaggerated for clarity.

All found corners are used as controlling monuments.

Bearing basis is per record plat, previous deed/survey or G. P. S. observation.

Only those easements furnished (paper or digital media) to the surveyor are shown hereon.

= Fence (measured to center of post)

= Overhead Line (approximate location)

Description:

A 20.0 acre tract of land situated in Section 29, Block 10, H.T. & B. RR Co. Survey, Lipscomb County, Texas, and more particularly described by metes and bounds as follows;

BEGINNING at an 1/2 iron rod "RPLS 4263" found on the west right of way line of County Road No. 3 for the northeast corner of this tract, same being the southeast corner of a tract of land as recorded in Vol. 592, Pg. 497, Official Public Records of Lipscomb County, Texas, whence a 1 1/4" iron pipe found for the Northeast corner of Section 29 bears N. 89° 48' 33" E., 30.00 feet, and N. 00° 12' 52" W., 423.05 feet;

THENCE S. 00° 12' 49" E., along said west right-of-way line, a distance of 422.95 feet to a 1/2" iron rod "OJD TX RPLS" set for the southeast corner of this tract;

THENCE S. 89° 32' 32" W. a distance of 2059.98 feet to a 1/2" iron rod "OJD TX RPLS" set for the southwest corner of this tract;

THENCE N. 00° 13' 19" W. a distance of 422.98 feet to a 1/2" iron rod "RPLS 4263" found for the northwest corner of this tract;

THENCE N. 89° 32' 32" W. a distance of 2060.04 feet to the place of BEGINNING and containing 20.00 acres (871,296 square feet) of land.

Revisions	Date:
1	4/15/2025

PROJECT #23-AE0097

Certification:

Survey Completed for **The City of Booker**

The undersigned does hereby certify that this plat of survey of the property described hereon represents the results of a survey made on the ground under my direction and supervision this the **3rd** day of **June, 2024**. This certification expressed or implied hereon applies only to the individuals explicitly listed above, and no other parties.

© ORIGINAL COPY OF 3

STATE OF TEXAS
REGISTERED
DAVID G. MILLER
5437
PROFESSIONAL
LAND SURVEYOR

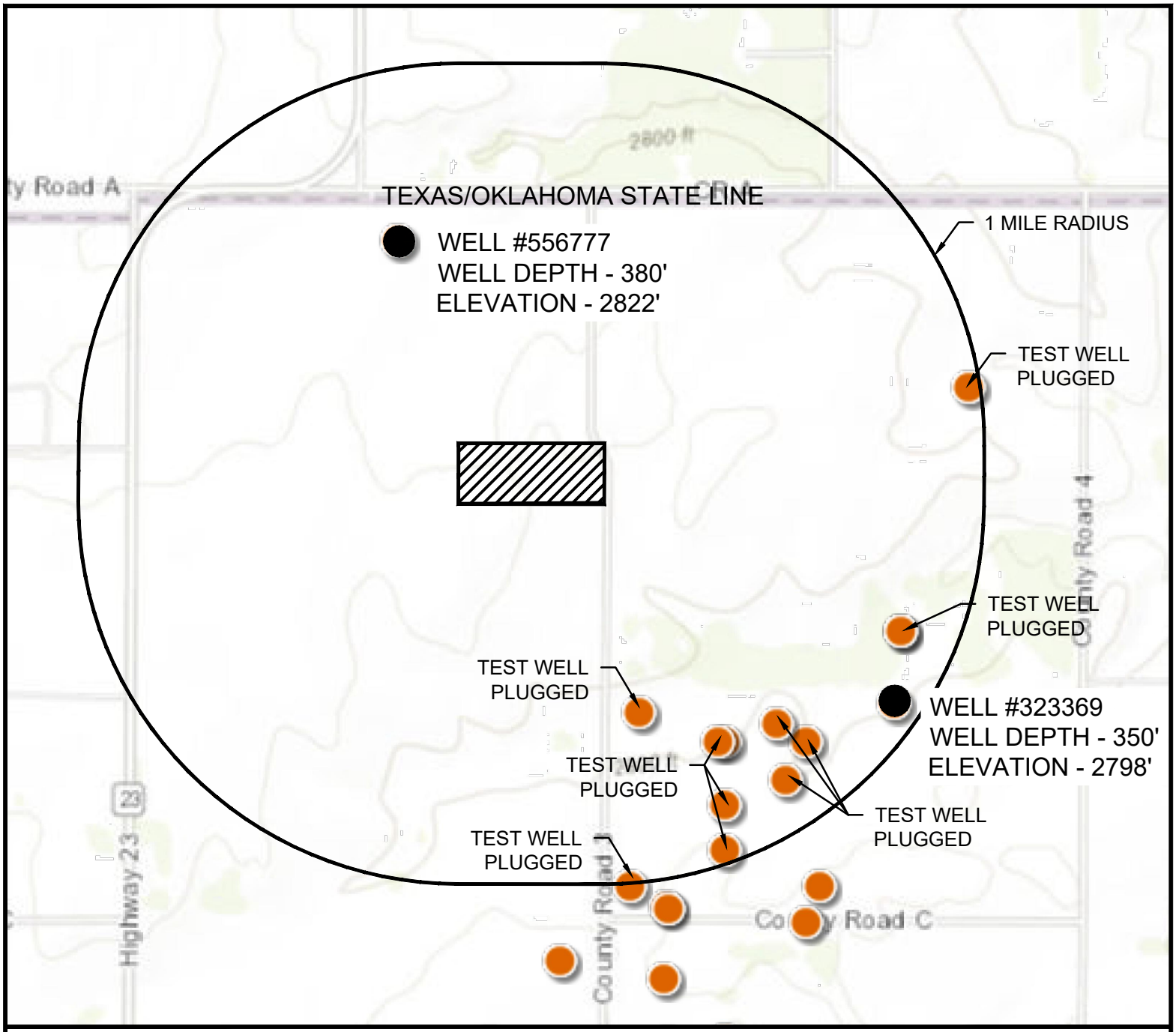
6-3-24

OJD Engineering, LLC
Consulting Engineers & Surveyors
806-352-7117
2420 Lakeview Dr.
Amarillo,Texas 79109
Firm No. 10090900

DRAWN BY: L.S.
FILE NAME: 20ac landfill tract - South.dwg

David G. Miller, R.P.L.S.
Registration No. 5437

FIGURE II-3



WELL MAP
CITY OF BOOKER LANDFILL

Date Submitted:	July 2024
Date Revised:	April 2025
Drawn By:	CCG
Scale:	1" = 2,000'

2,000 0 1,000 2,000

1 inch = 2,000 ft.

Revisions

	Date:
1	4/15/2025

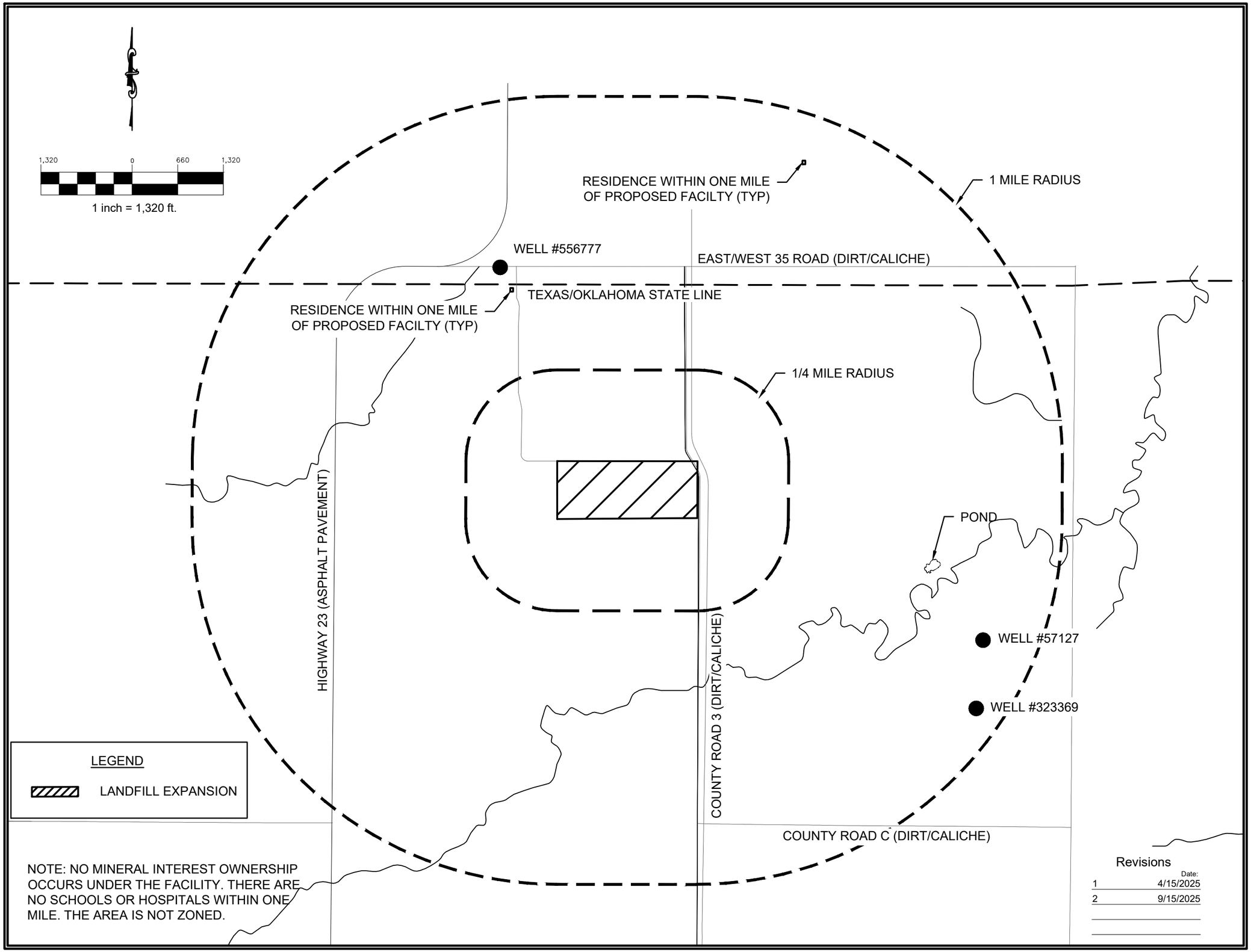
LEGEND

LANDFILL

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

4/15/2025

FIGURE II-4



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CITY OF BOOKER LANDFILL

SITE DEVELOPMENT PLAN

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/15/2025

Revisions

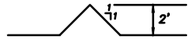
	Date:
1	4/15/2025
2	9/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 1,320'

Figure
II-5

SCALE: 1" = 200'

-200 0 100 200

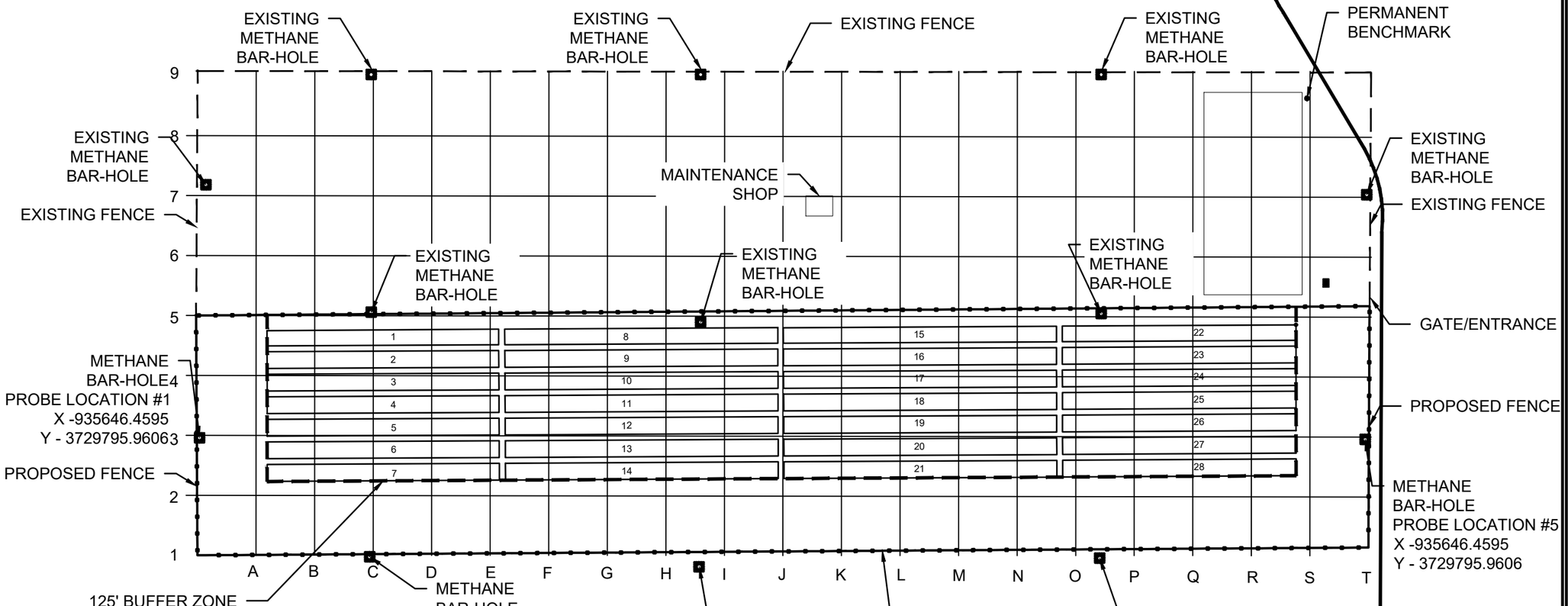


TYPICAL BERM DETAIL

NTS

LEGEND:

1. DETAIL SHOWN ABOVE. CONSTRUCTION OF THE BERM IS REQUIRED TO PREVENT RUNOFF FROM BECOMING CONTAMINATED.
2. NATURAL DRAINAGE OF THE AREA WILL NOT BE AFFECTED BY THE CONSTRUCTION OF THE PITS. RUNOFF WILL FLOW WILL FLOW AROUND THE BERMS SURROUNDING THE PITS AND CONTINUE ON ITS NATURAL COURSE.
3. OFF-SITE RUNOFF WILL NOT CROSS THE PERMITTED BOUNDARIES BECAUSE OF THE FACILITY'S LOCATION ON MILD TO MODERATE SLOPES. SEE FIGURES II-9 & III-9 (USGS TOPOGRAPHIC MAP) OF PARTS II&III OF THE APPLICATION .
4. THE WORST CASE DEPTH OF RUNOFF AFFECTING THE PITS WILL BE FROM THE WITHIN THE PERMITTED BOUNDARIES ONLY. INCLUDED IN THIS ATTACHMENT ARE CALCULATIONS USED TO DETERMINE THE THE DEPTH OF FLOW FOR THE WORST CASE RUNOFF SCENARIO. THE DEPTH OF FLOW CALCULATED IS 0.05 FEET ALONG THE EDGE OF THE MOST NORTH WESTERLY PIT. THIS IS WELL BELOW THE 2 FEET DESIGN HEIGHTH OF THE BERM AS SHOWN ABOVE IN THE TYPICAL BERM SECTION.
5. 100-YEAR AND 25-YEAR FLOW CALCULATIONS ARE INCLUDED AS PART OF THIS ATTACHMENT. THE 100 YEAR FLOOD ZONE CALCULATIONS ARE SHOWN IN APPENDIX 22 (LOCATION RESTRICTIONS) OF PARTS I&II OF THE APPLICATION.
6. RAINFALL INTENSITY/FREQUENCY CURVES WERE GENERATED USING RAINFALL DATA FROM THE U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU, RAINFALL FREQUENCY ATLAS OF THE UNITED STATES.
7. ADJOINING OFF-SITE CONTOURS ARE NOT PROVIDED BECAUSE FLOW FLOW FROM THESE AREAS DO NOT AFFECT THE LANDFILL BOUNDARIES.



LEGEND

PITS

LANDFILL

BUFFER ZONE

ROAD

NOTE: ALL PITS WILL BE UTILIZED AS BOTH TYPE I AND TYPE IV. WASTE DISPOSAL WILL BEGIN IN PIT 1 AND FOLLOW SYNCHRONIZATION TO PIT 28. ALL INCOMING WASTE WILL BE INSPECTED AT THE GATE AND DIRECTED BY LANDFILL EMPLOYEE FOR DISPOSAL IN PROPER PIT.

Revisions

	Date:
1	4/15/2025
2	6/10/2025
3	9/15/2025

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CITY OF BOOKER LANDFILL

SITE LAYOUT PLAN

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

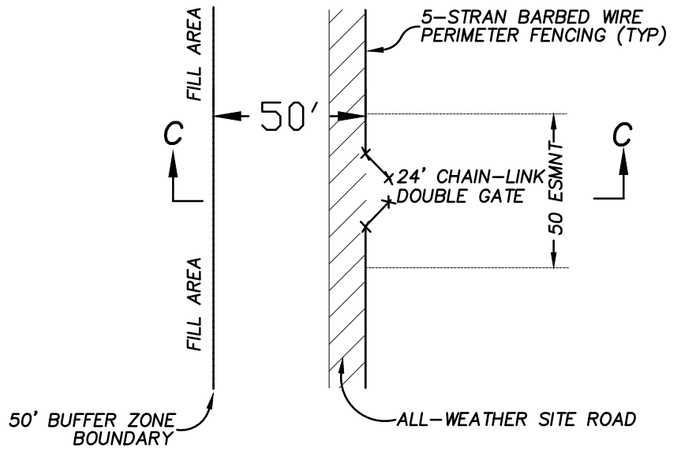
9/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 200'

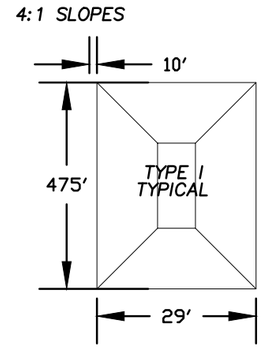
Figure II-6

NOTES:

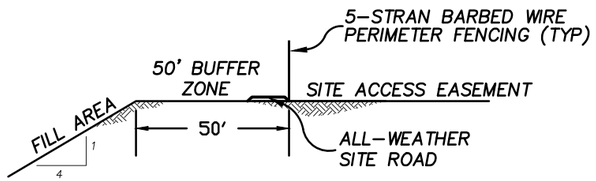
1. ONCE A PIT IS FILLED TO CAPACITY, THAT AREA SHALL BE CLOSED AND FINAL COVER SHALL BE INSTALLED.
2. PROGRESSION OF PIT INSTALLATION WILL BE FROM A–5 TO S–2. PITS WILL BE USED FOR TYPE I & TYPE IV WASTE.
3. THE SITE DRAINS TO THE NORTH ALONG THE NATURAL CONTOURS. THERE ARE NO SPECIAL DRAINAGE FEATURES ON THE SITE.
4. ACCESS TO THE SITE FROM THE CITY OF BOOKER IS EAST 1 MILE VIA STATE HIGHWAY 15 AND NORTH ON COUNTY ROAD 3 FOR 2.5 MILES.
5. A 5–STRAN BARBED WIRE FENCE WILL BE INSTALLED AROUND THE ENTIRE SITE. A 6' CHAIN LINK DOUBLE GATE WILL BE INSTALLED AT THE ENTRANCE FOR ADDED SECURITY.
6. AN ALL–WEATHER SITE ACCESS ROAD SHALL BE USED ON SITE.
7. FINAL COVER ELEVATION SHALL BE INSTALLED TO MATCH THE FINAL CONTOUR MAP. SEE FIGURE II–19.
8. LANDFILL MARKERS SHALL BE USED AS DIRECTED IN THE SITE OPERATING PLAN.
9. NO ON–SITE STRUCTURES WILL BE CONSTRUCTED AT THIS TIME.
10. NO WASTE WILL BE DEPOSITED WITHIN A FLOOD ZONE.
11. GAS MONITORING WILL BE PHASED IN AS PIT CONSTRUCTION PROGRESSES.
12. AREA USED FOR BULK RECYCLABLE ITEMS WILL CHANGE AS THE CONSTRUCTION OF THE PITS PROGRESS TO THAT AREA.
13. ALL–WEATHER SITE ROAD WILL BE RELOCATED AS THE PIT CONSTRUCTION PROGRESSES.
14. MAXIMUM WASTE ELEVATION OVER ENTIRE SITE WILL BE TO THE EXISTING GROUND ELEVATION. FINAL COVER WILL BE 2 FEET ABOVE THE MAXIMUM WASTE ELVATION.



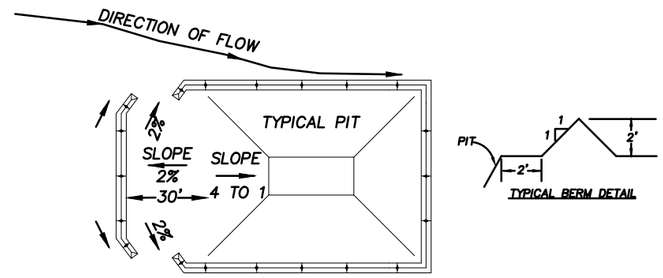
ENTRANCE DETAIL
1" = 50'



PIT DIMENSION DETAIL
NTS



ENTRANCE & BUFFER ZONE X–SECTION
1" = 50'



PIT ENTRANCE DETAIL
NTS

Revisions

	Date:
1	4/15/2025
2	10/15/2025

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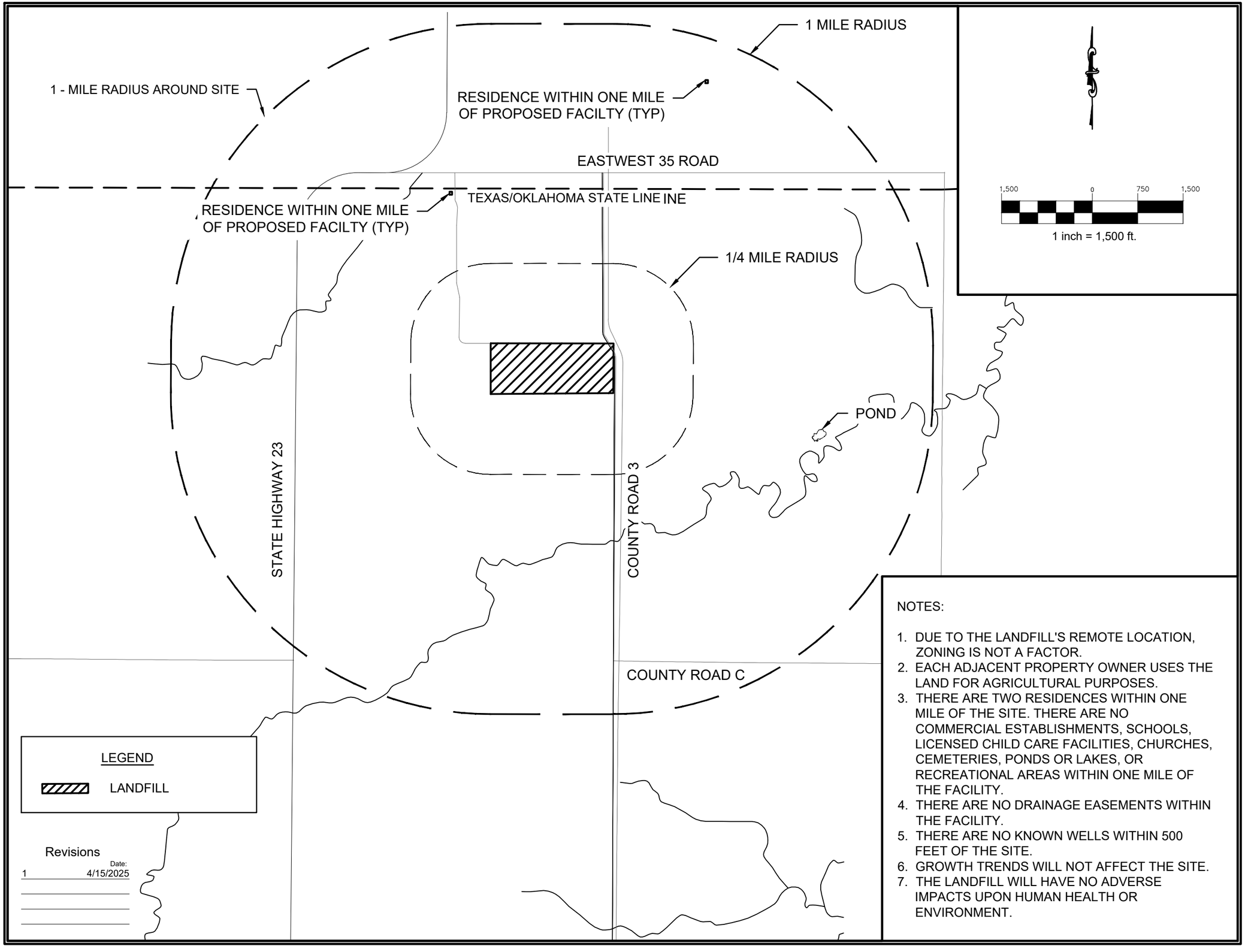
CITY OF BOOKER LANDFILL

SITE LAYOUT DETAILS AND NOTES

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
10/15/2025

Drawn By: CCG
Checked By: MCS
Scale: SHOWN

Figure
II-7



Revisions

	Date:
1	4/15/2025

NOTES:

1. DUE TO THE LANDFILL'S REMOTE LOCATION, ZONING IS NOT A FACTOR.
2. EACH ADJACENT PROPERTY OWNER USES THE LAND FOR AGRICULTURAL PURPOSES.
3. THERE ARE TWO RESIDENCES WITHIN ONE MILE OF THE SITE. THERE ARE NO COMMERCIAL ESTABLISHMENTS, SCHOOLS, LICENSED CHILD CARE FACILITIES, CHURCHES, CEMETERIES, PONDS OR LAKES, OR RECREATIONAL AREAS WITHIN ONE MILE OF THE FACILITY.
4. THERE ARE NO DRAINAGE EASEMENTS WITHIN THE FACILITY.
5. THERE ARE NO KNOWN WELLS WITHIN 500 FEET OF THE SITE.
6. GROWTH TRENDS WILL NOT AFFECT THE SITE.
7. THE LANDFILL WILL HAVE NO ADVERSE IMPACTS UPON HUMAN HEALTH OR ENVIRONMENT.

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CITY OF BOOKER LANDFILL

LANDUSE MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 1,500'

Figure
II-8

2,000 0 1,000 2,000

1 inch = 2,000 ft.

1 - MILE RADIUS AROUND SITE

WELL #550777

TEXAS/OKLAHOMA STATE LINE

WELL #529683

WELL #57127

WELL #351720

WELL #323369

WELL #351694

WELL #351716

WELL #351717

WELL #626345

WELL #351664

WELL #351669

WELL #351673

TEXAS

HOLLOW E0340

HOLLOW E0350

EW-34

EW-35

NS-140

NS-141

NS-142

Duck Pond Cr

N Fork Kiowa Cr

CO RD 30

CO RD 29

CO RD 3

CO RD 4

CO RD C

CHILTREE CO

LIPSCOMB CO

REVISIONS
1 4/15/25

LEGEND
WATER WELL
LANDFILL

USGS science for a changing world

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

FIGURE II-9

USGS TOPO MAP

4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

4/15/2025

Revisions

	Date:
1	4/15/2025

CITY OF BOOKER LANDFILL

AERIAL MAP

FIGURE II-10

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TEXAS/OKLAHOMA STATE LINE

Lat: 36° 29' 32.00"N
Long: 100° 30' 49.00"W

LANDFILL

1 MILE BOUNDARY

Duck Pond Creek

15

BOOKER
Pop 1,219

23

STATE HIGHWAY 15

Kiowa Creek

377

View Point

10,560 0 5,280 10,560

1/2 inch = 5,280 ft.

LEGEND

LANDFILL

Revisions	Date:
1	4/15/2025
2	9/15/2025

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CITY OF BOOKER LANDFILL

TXDOT MAP

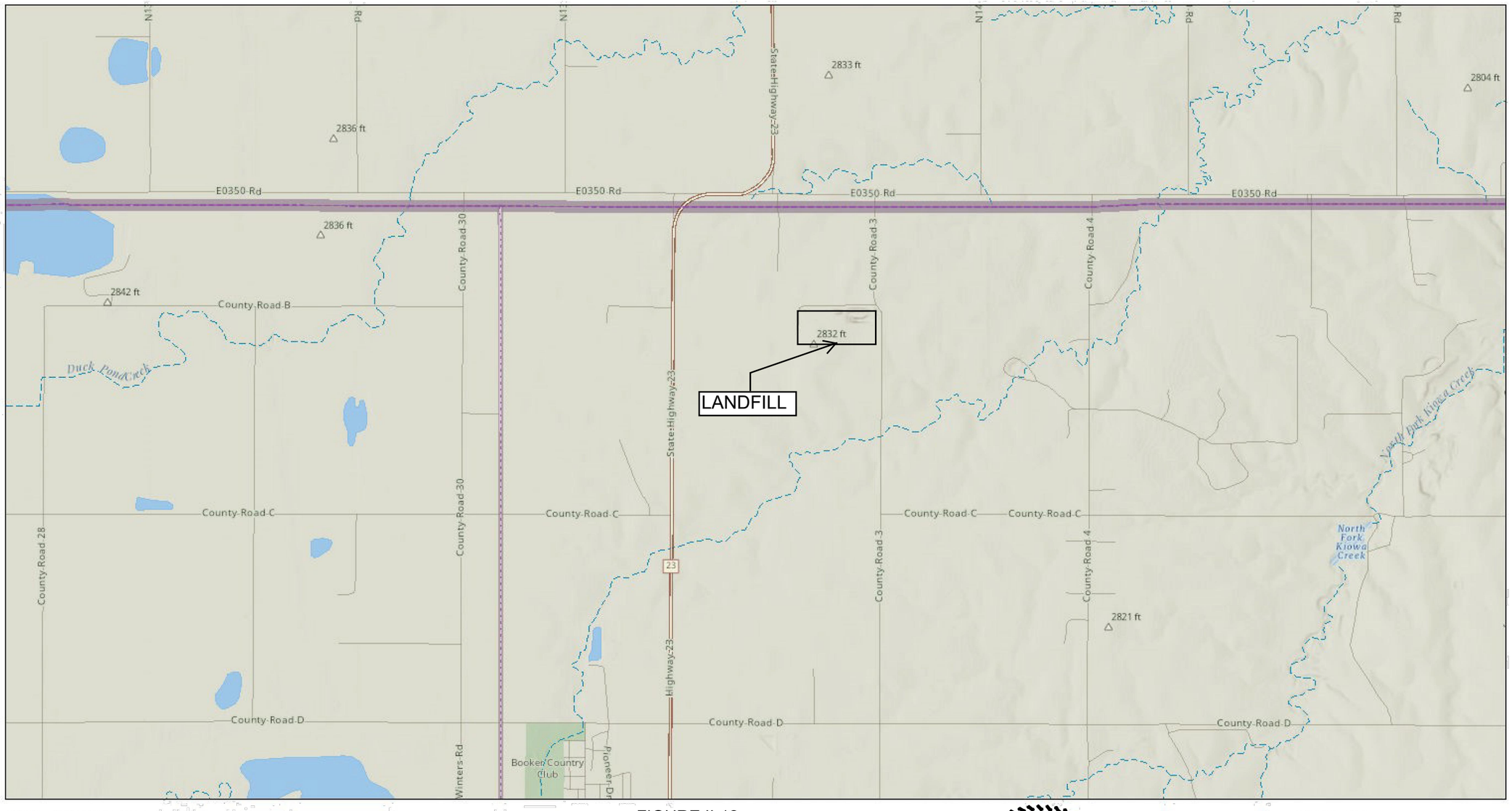
STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

9/16/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1/2" = 5,280'

Figure
II-11

U.S. Geological Survey Quaternary Faults



1/18/2024, 3:55:24 PM

FIGURE II-12

Fault Areas
- Class B
- historic
- late Quaternary
- latest Quaternary
- middle and late Quaternary

National Database
- Historic (< 150 years), well constrained location
- Historic (< 150 years), moderately constrained location
- Historic (< 150 years), inferred location
- Latest Quaternary (<15,000 years), well constrained location
- Latest Quaternary (<15,000 years), moderately constrained location
- Latest Quaternary (<15,000 years), inferred location
- Late Quaternary (< 130,000 years), well constrained location
- Late Quaternary (< 130,000 years), moderately contrained location
- Late Quaternary (< 130,000 years), inferred location
- Middle and late Quaternary (< 750,000 years), well constrained location
- Middle and late Quaternary (< 750,000 years), moderately constrained location
- Middle and late Quaternary (< 750,000 years), inferred location
- Undifferentiated Quaternary (< 1.6 million years), well constrained location
- Undifferentiated Quaternary (< 1.6 million years), moderately constrained location
- Undifferentiated Quaternary (< 1.6 million years), inferred location
- Unspecified age, well constrained location
- Unspecified age, moderately constrained location
- Unspecified age, inferred location
- Class B (various age), well constrained location
- Class B (various age), moderately constrained location
- Class B (various age), inferred location

STATE OF TEXAS
CHE SHADLE
87046
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PROFESSIONAL ENGINEER
4/17/2025
F-4393

1:36,112

0 0.35 0.7 1.4 mi
0 0.5 1 2 km

Revisions
1 Date: 4/15/2025

Esri, NASA, NGA, USGS, FEMA, Texas Parks & Wildlife, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

USGS

Sources: Esri, USGS | Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, Texas Parks & Wildlife, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | USGS |

*USGS
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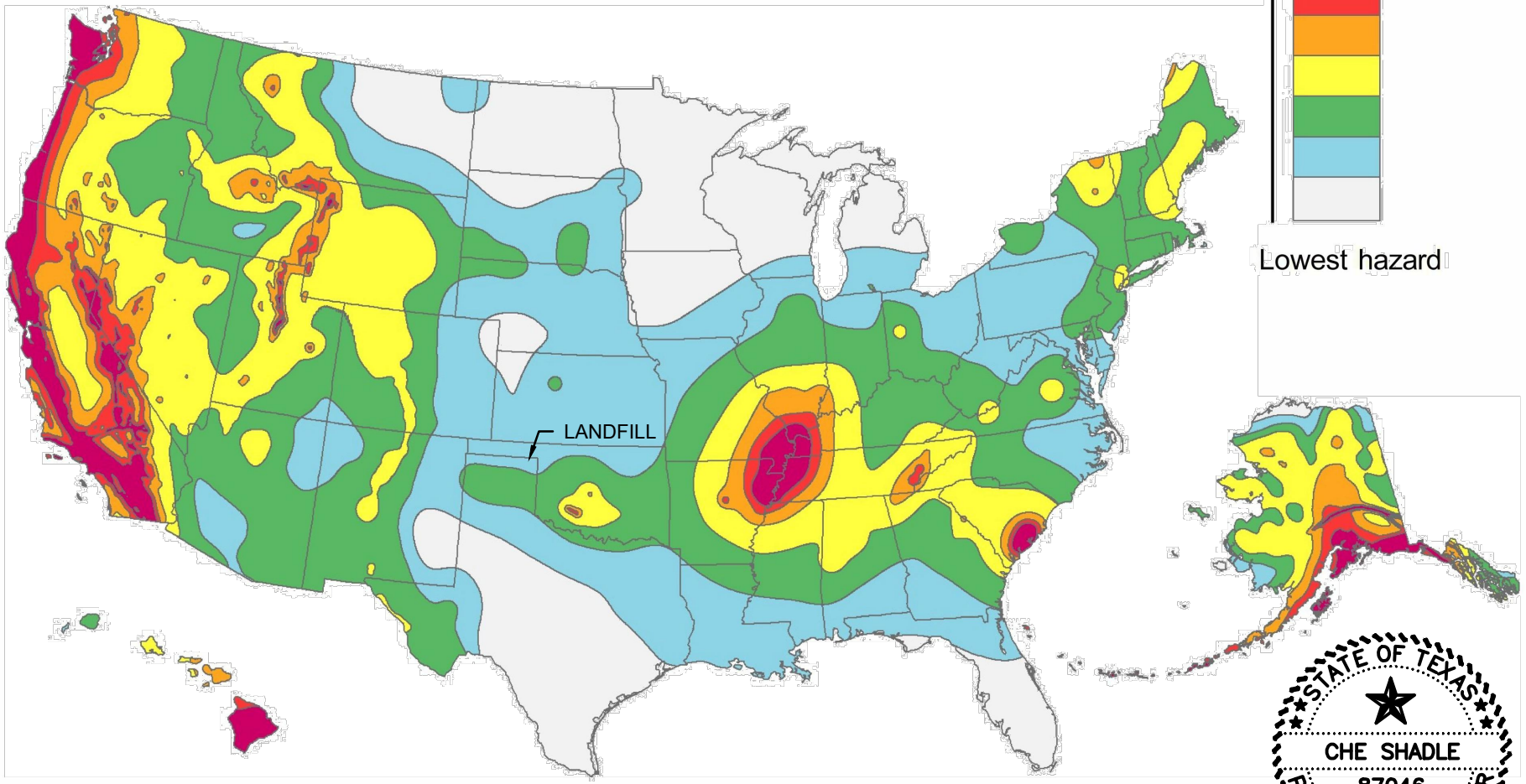

Published - March 9, 2022

FIGURE II-13

Revisions

	Date:
1	4/15/2025

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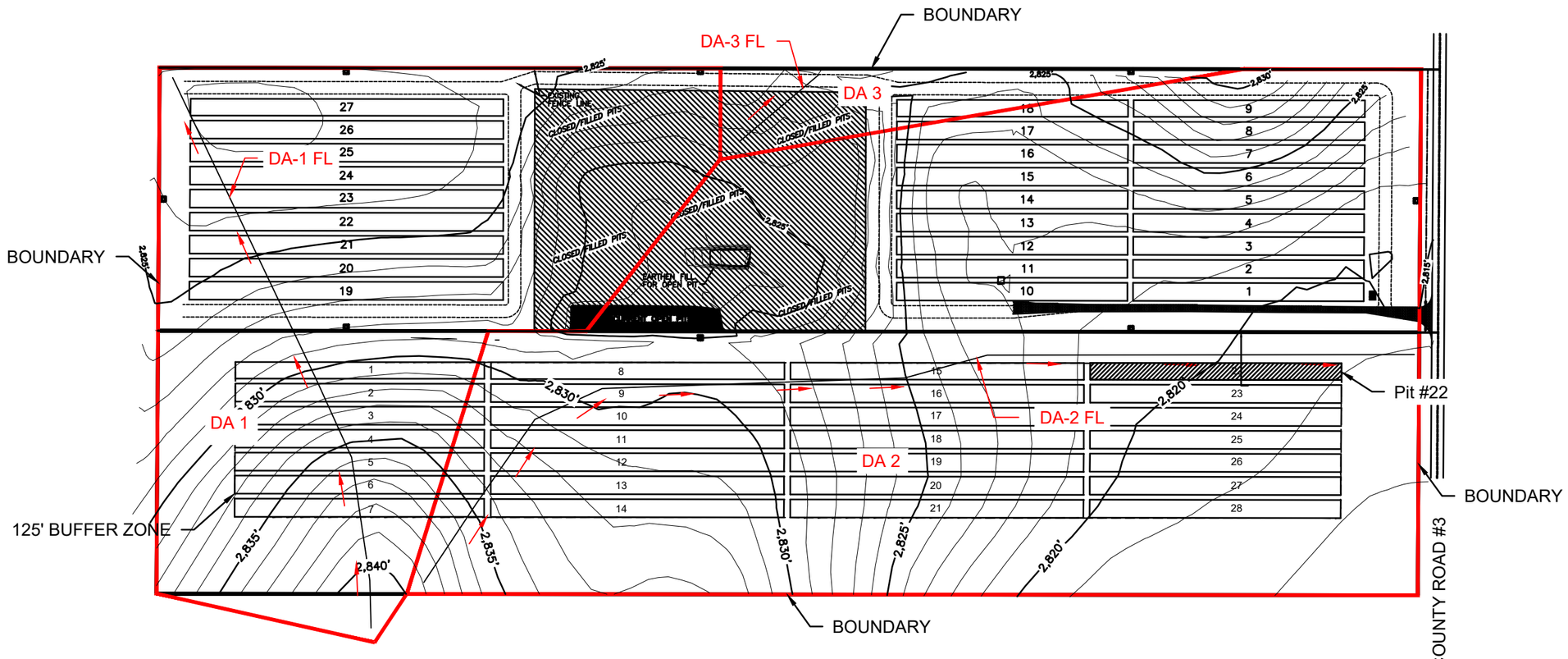
4/15/2025
F-4393

SCALE: 1" = 200'

200 0 100 200

1 inch = 200 ft.



Revisions

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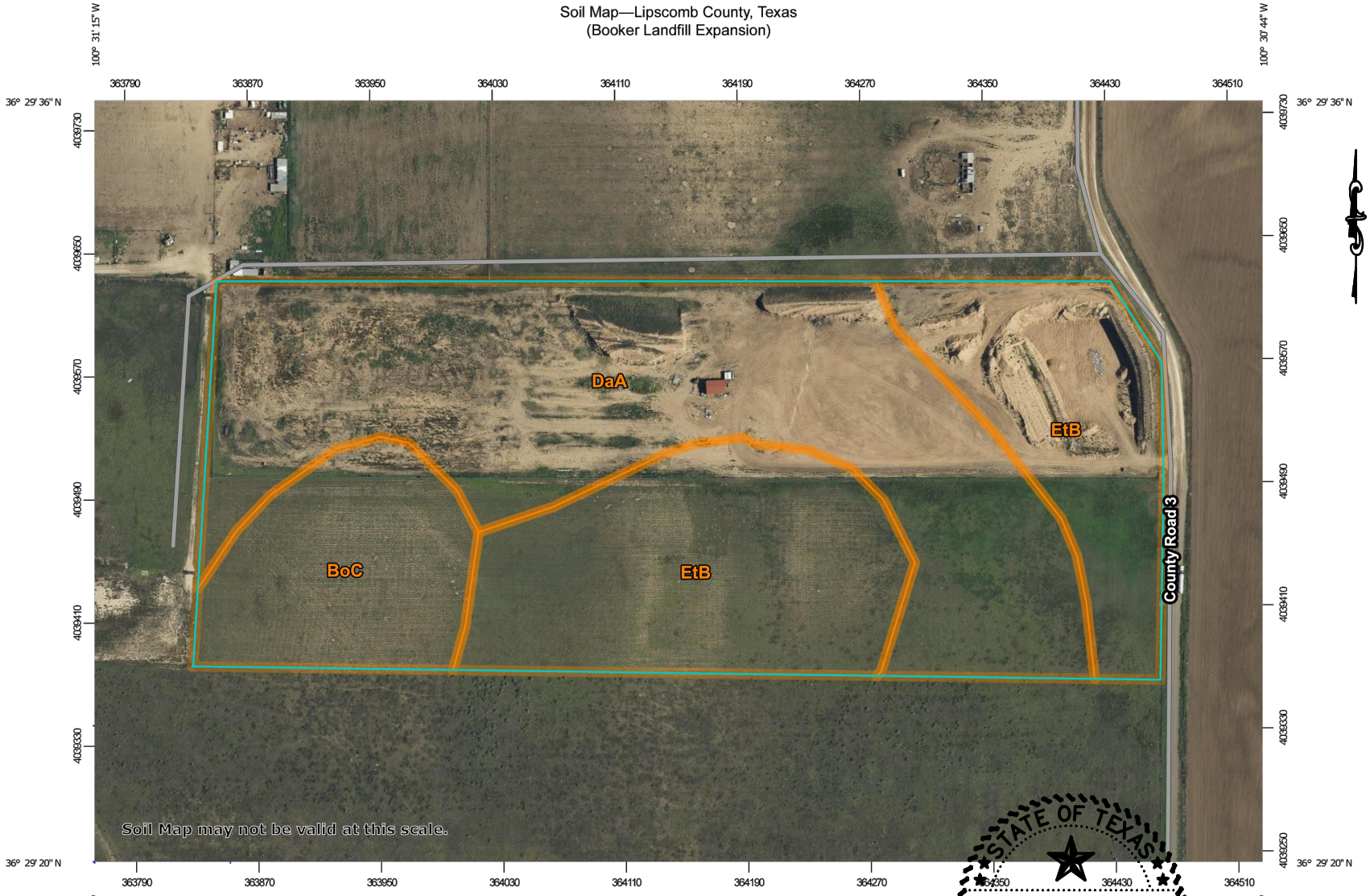
CITY OF BOOKER LANDFILL

HYDROGEOLOGIC CONDITIONS

STATE OF TEXAS
ETHAN B. JOHNSON
142301
LICENSED
PROFESSIONAL ENGINEER
4/15/25

Drawn By:	DV	Figure:
Checked By:	EBJ	II-14
Scale:	1" = 200'	

Soil Map—Lipscomb County, Texas
(Booker Landfill Expansion)



Map Scale: 1:3,490 if printed on A landscape (11" x 8.5") sheet.

N

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

Revisions

	Date:
1	4/15/2025

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4/15/2025
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USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

4/17/2025

Figure II-15

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lipscomb County, Texas
Survey Area Data: Version 20, Aug 30, 2024

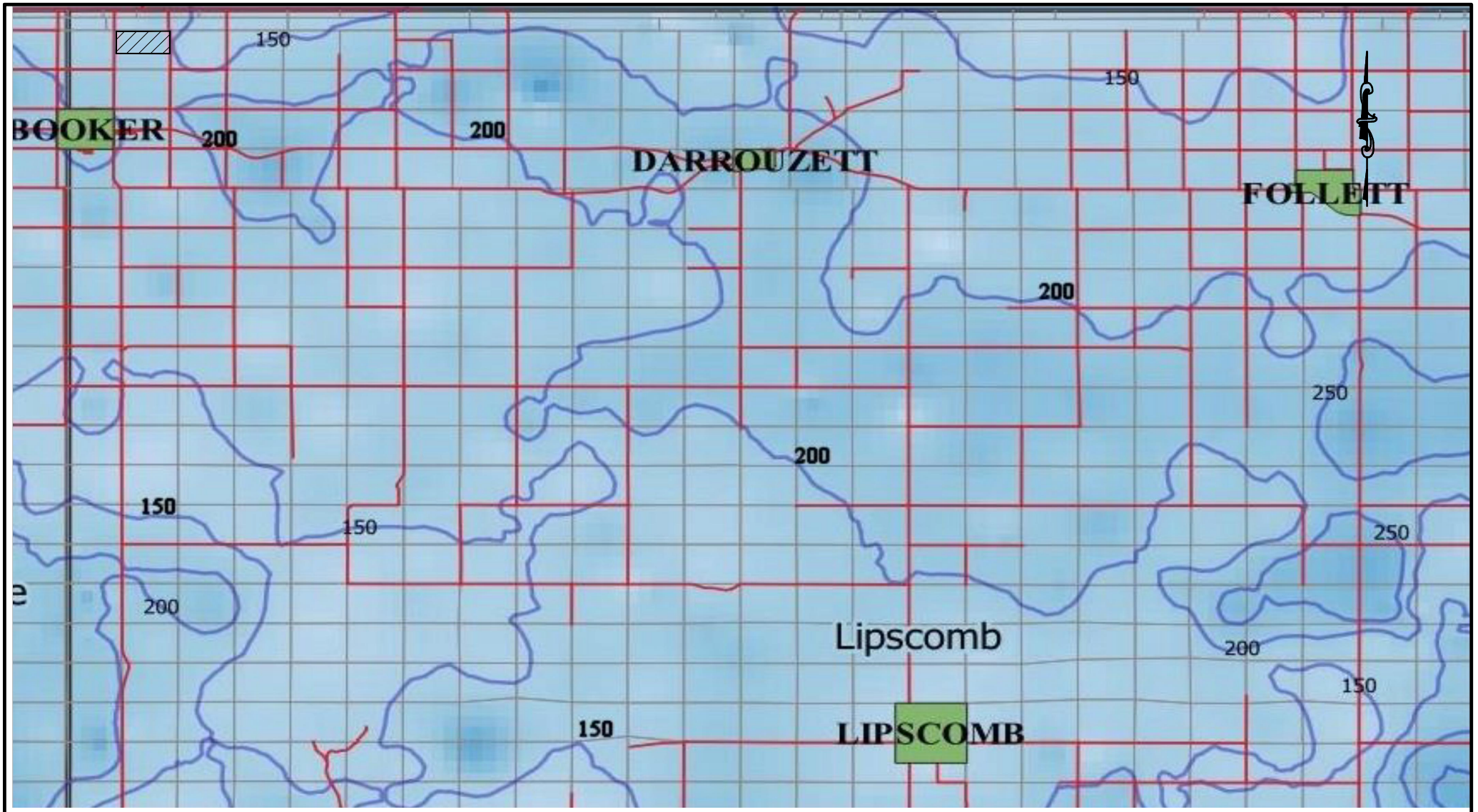
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 10, 2022—Sep 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BoC	Balko-Oslo silt loams, 2 to 5 percent slopes	5.3	13.6%
DaA	Darrouzett silty clay loam, 0 to 1 percent slopes	18.9	48.1%
EtB	Estacado-Olton complex, 0 to 3 percent slopes	15.1	38.3%
Totals for Area of Interest		**39.3**	**100.0%**



LEGEND

LANDFILL

Drawn By:	NPGCD
Checked By:	NPGCD
Scale:	NTS
Date:	2022 - 2023

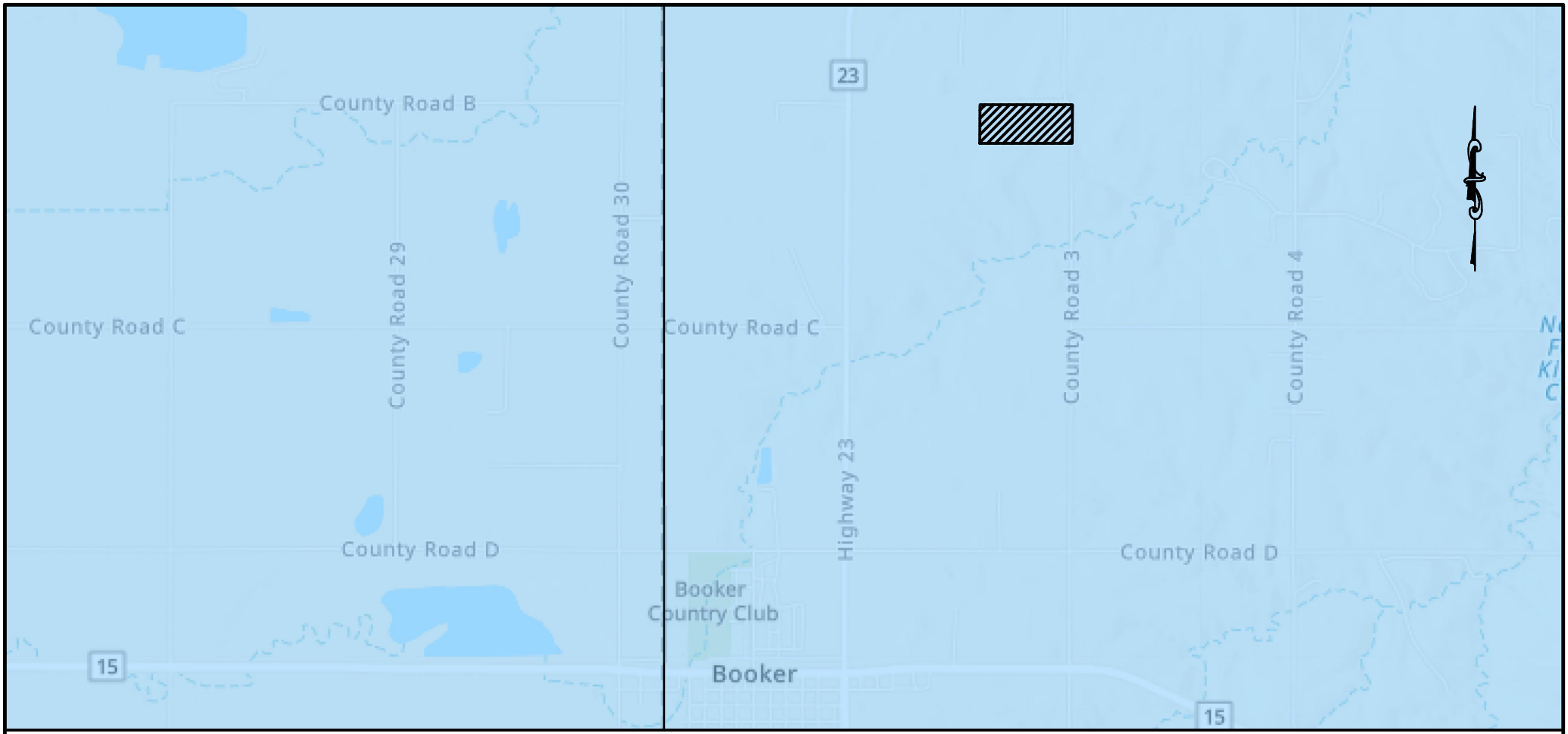
SATURATED THICKNESS MAP
FIGURE II-16

Revisions

Date:
4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

4/15/2025
F-4393



LEGEND

Ogallala Aquifer

Landfill

AQUIFER MAP
FIGURE II-17

Drawn By:	TWDB
Checked By:	TWDB
Scale:	N/A
Date:	2022 - 2023

Revisions

Date: 4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

4/15/2025
F-4393

North Plains GCD Map
Booker Landfill - Water Table Elevation
Created: July 31st 2024, 8:09am

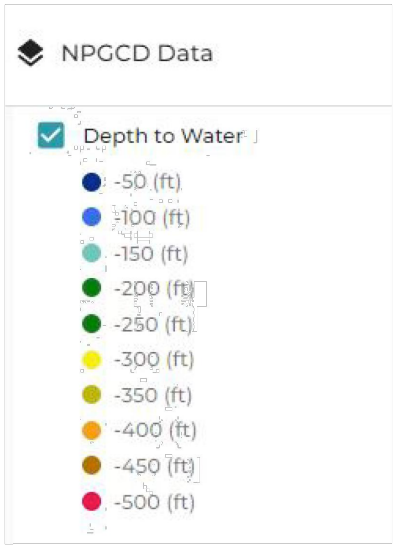


FIGURE II-18

Drawn By: NPGCD
Checked By: NPGCD
Scale: N/A
Date: January 2024

LEGEND

Landfill

Revisions

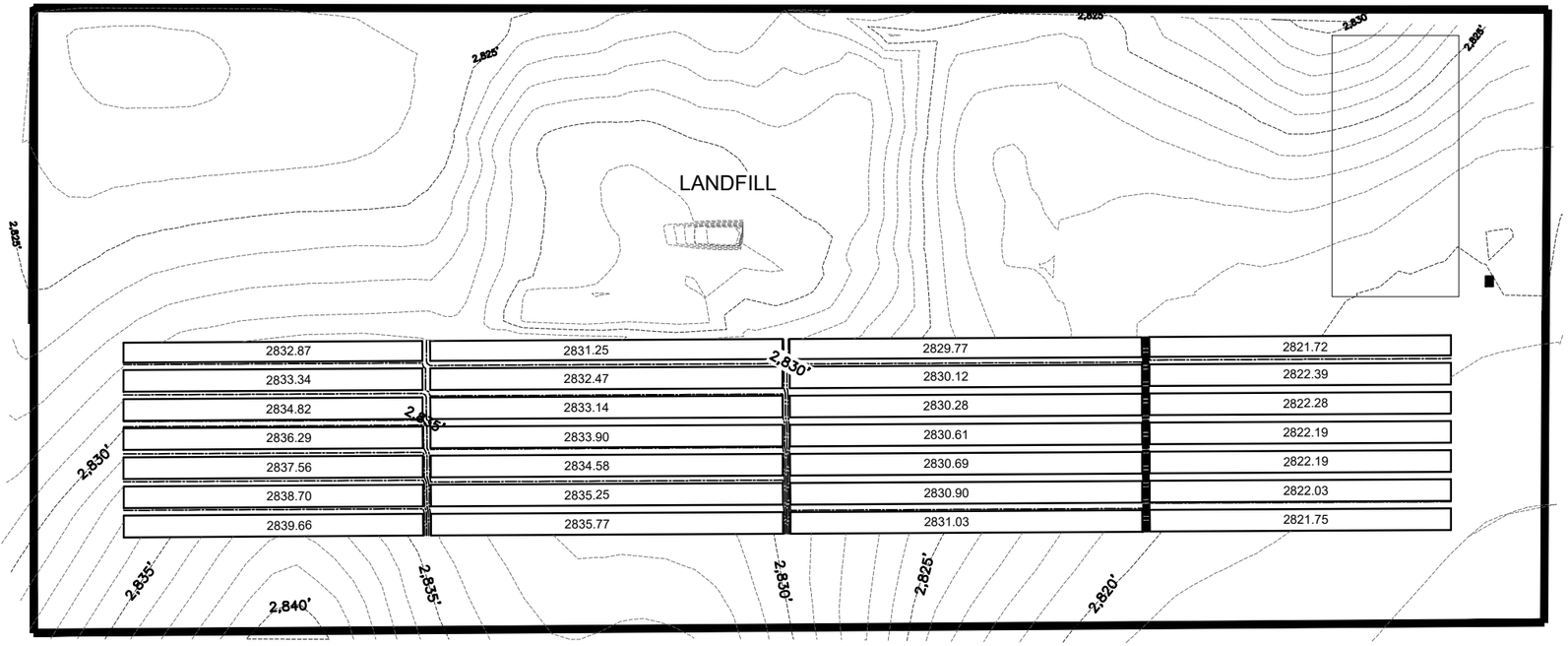
Date:
4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

4/15/2025
F-4393

SCALE: 1" = 200'

-200 0 100 200



2832.87	2831.25	2829.77	2821.72
2833.34	2832.47	2830.12	2822.39
2834.82	2833.14	2830.28	2822.28
2836.29	2833.90	2830.61	2822.19
2837.56	2834.58	2830.69	2822.19
2838.70	2835.25	2830.90	2822.03
2839.66	2835.77	2831.03	2821.75

LEGEND

PITS

LANDFILL

Revisions

Date:
4/15/2025
10/15/2025

OJD Engineering, LLC
The Benchmark
Wellington | Amarillo | Wolfforth
www.OJDEngineering.com F-4393

WELLINGTON
P.O. Box 543
Wellington, TX 79095
(806) 447-2503

WOLFFORTH
502 N. Dowden Road, Ste 102
Wolfforth, TX 79382
(806) 791-2300

AMARILLO
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

CITY OF BOOKER LANDFILL

FINAL CONTOUR MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
10/15/2025

Drawn By:	CCG	Figure	II-19
Checked By:	MCS		
Scale:	1" = 200'		

Docusign Envelope ID: CC587562-279E-49BE-A730-6D21A6625D2C

Texas Department of Transportation

5715 Canyon Drive | Amarillo, Texas 79110
806.356.3261
www.txdot.gov

11/21/24

Clint Green
OJD Engineering
2420 Lakeview Dr.
Amarillo TX 79109

Re: City of Booker
Municipal Solid Waste Landfill
Lipscomb County, Texas

Mr. Green,

The proposal has been reviewed and the additional traffic will not adversely affect TxDOT. This proposal is approved by TxDOT. If changes occur, please contact us so we may reevaluate.

Sincerely,

DocuSigned by:
Wes Kimmell
4091D73729A34DC...

Wes Kimmell, P.E.
Amarillo District Director of Operations

Docusign Envelope ID: CC587562-279E-49BE-A730-6D21A6625D2C

OJD Engineering
The Benchmark
FR-4393

TXDOT
OCT 2 2 2024
AMARILLO DISTRICT
MAILROOM

October 16, 2024

Blair Johnson, P.E.
District Engineer
Texas Department of Transportation
5715 Canyon Drive
Amarillo, TX 79110

Re: City of Booker
Municipal Solid Waste Landfill
Lipscomb County, Texas

Dear Mr. Johnson:

The City of Booker is in the process of obtaining a permit to operate and municipal solid waste landfill. We are requesting that you look over draft Part I and the location map that are attached to this letter, and inform us if this landfill would cause any problems due to traffic or any other matter associated with TxDOT.

Please call me if you have any questions.

Sincerely,

Clint Green

Attachments

Wellington | Amarillo | Wolfforth

ph: 806.352.7117 2420 Lakeview Dr. Amarillo, TX 79109 fax: 806.352.7188
www.OJDEngineering.com

OJD Engineering
The Benchmark
F#-4393

October 16, 2024

Rob Lowe
FAA
Southwest Region
10101 Hillwood Parkway
Fort Worth, TX 76177-1524

Re: City of Booker
Municipal Solid Waste Landfill
Lipscomb County, Texas

Dear Mr. Lowe:

The City of Booker is in the process of obtaining a permit to operate and municipal solid waste landfill. There are no airports located within 10,000 feet of any airport runway end used by turbojet or within 5,000 feet of any airport runway end used by only piston-type aircraft. We are requesting that you look over draft Part I and the location map that are attached to this letter, and inform us if this landfill would conflict with anything of interest to the FAA.

Please call me if you have any questions.

Sincerely,

Clint Green

Attachments

Wellington | Amarillo | Wolfforth

ph: 806.352.7117

2420 Lakeview Dr. Amarillo, TX 79109
www.OJDEngineering.com

fax: 806.352.7188

OE/AAA Pre-screening Results

Wed Sep 17 2025 14:49:56 GMT-0500 (Central Daylight Time)

Structure: Landfill

Latitude	Longitude	Height	Site Elevation	AMSL
36 29 31.85 N	100 30 48.56 W	2	2819	2821
36 29 23.94 N	100 30 47.24 W	2	2813	2815
36 29 23.99 N	100 31 12.56 W	2	2826	2828
36 29 32.24 N	100 31 12.68 W	2	2819	2821

Based on the information you provided, you are not required to file notice with the FAA.

OJD Engineering
The Benchmark
F#-4393

October 16, 2024

Laura Zebehazy
Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744-3291

Re: City of Booker
Municipal Solid Waste Landfill
Lipscomb County, Texas

Dear Ms. Zebehazy:

The City of Booker is requesting information on sensitive species and natural communities within or near the proposed landfill in Lipscomb County. A site map is attached to this letter.

Please call me if you have any questions.

Sincerely,

Clint Green

Attachments

Wellington | Amarillo | Wolfforth

ph: 806.352.7117

2420 Lakeview Dr. Amarillo, TX 79109
www.OJDEngineering.com

fax: 806.352.7188

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Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

David Yoskowitz, Ph.D.
Executive Director

November 26, 2024

Mr. Clint Green
OJD Engineering
2420 Lakeview Dr.
Amarillo, TX 79109

RE: City of Booker Municipal Solid Waste Landfill, Lipscomb County, Texas

Dear Mr. Green:

Texas Parks and Wildlife Department (TPWD) has received the request for review of the proposed project referenced above. TPWD staff has reviewed the information provided and offers the following comments and recommendations concerning this project. For tracking purposes, please refer to TPWD project number 53092 in any return correspondence regarding this project.

Project Description

The City of Booker is requesting information on sensitive species and natural communities within or near the proposed landfill in Lipscomb County.

Rare, Threatened, and Endangered Species of Texas (RTEST)

In addition to state and federally listed species, TPWD tracks species considered to be Species of Greatest Conservation Need (SGCN) that, due to limited distributions or declining populations, face threat of extirpation or extinction but currently lack the legal protections given to threatened or endangered species. Special landscape features, natural plant communities, and SGCN are rare resources for which TPWD actively promotes conservation, and TPWD considers it important to minimize impacts to such resources to reduce the likelihood of endangerment and preclude the need to list SGCN as threatened or endangered in the future. These species and communities are tracked in the Texas Natural Diversity Database (TXNDD). The TXNDD is updated continuously, and the most current and accurate data can be requested from the TXNDD website.

The following species have been documented within 2 miles of the proposed project area in the TXNDD:

- Lesser prairie-chicken (*Tympanuchus pallidicinctus*)
- Black-tailed prairie dog (*Cynomys ludovicianus*)
- Swift fox (*Vulpes velox*)

Please note that the absence of TXNDD information in the proximity does not imply that a species is absent from the project area. Given the small proportion of

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.texas.gov

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare and protected species, data from the TXNDD does 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 or be substituted for on the ground surveys.

> **Recommendation:** TPWD recommends reviewing the RTEST online application for Lipscomb County and requesting data records from the TXNDD. The U.S. Fish and Wildlife Service (USFWS) can be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species. For USFWS threatened and endangered species lists, please see the USFWS Information for Planning and Consultation 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. Please contact me at [redacted] or (806) 761-4930 ext. 4936 if you have any questions.

Sincerely,

Rick Hanson

Rick Hanson
Ecological and Environmental Planning Program
Wildlife Division
RH: 53092

TPDES CERTIFICATION STATEMENT

The State of Texas

County of Lipscomb

Before me, Stephen Skipper, Mayor (insert the name and character of the officer),

on this day acknowledge that the City of Booker will obtain the appropriate TPDES permit coverage when required.

Stephen Skipper, Mayor

(Seal)

KAREN DIANN HADDON
NOTARY PUBLIC - STATE OF TEXAS
ID# 12678675-3
COMM. EXP. 01-28-2025

Given under my hand and seal of office this 11th day of October, 2024.

(Notary's Signature)

Notary Public, State of Texas

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: City of Booker Landfill

MSW Permit No.: 1943A

Site Operator/Permittee Name and Mailing Address: Guillermo Estrada/City of Booker PO Drawer M Booker TX, 79005

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:

2. Date of submission of the coordination documents to TXDOT: 10/16/2024

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: *(Enter TxDOT's response to coordination correspondence)* See Attachment

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.

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)
State Highway 15	TxDOT			☐Yes ☐No
County Road 3	Lipscomb County			☐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

   A 20 acre municipal solid waste facility located approximately 3 miles northeast of Booker, approximately 2 miles north of the intersection of FM 3 and State Highway 15, in Lipscomb County.

2. Waste Acceptance Rates

   (a) Initial Waste Acceptance Rate: 20 tons/day

   (b) Estimated Maximum Waste Acceptance Rate at any Time During Facility Life: 20 tons/day

3. Hours of Operation and Site Life

   (a) a. Operating Hours: Monday thru Saturday 7 am to 6 pm.

   (b) b. Waste Acceptance Hours: 1:30 pm to 5:30 pm Tuesdays & Thursdays, Saturday 10 am to 2 pm

   (c) c. Estimated Site Life:

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

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

Vehicle Type	Traffic Volume to Facility (vehicles per day, vpd)	Traffic Volume from Facility (vpd)
Trucks	1	1
Employee Vehicles	1	1
Visitors Vehicles	10	10
Other Vehicles		
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic	12	12

(a) Describe the source(s) of or method(s) used to obtain the existing daily volume of traffic generated by the facility: Correspondence with City of Booker Director of Public Works

(b) Location(s) of traffic counts (if applicable):

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		
Employee Vehicles		
Visitors Vehicles		
Other Vehicles		
Summation of Daily Volume of Traffic to and from the Facility		
Total Daily Volume of Traffic		

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: Correspondence with City of Booker Director of Public Works. It is not anticipated that the new expansion will increase traffic.

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
Tx State Highway 15	1,285	1,116	2	2	N/A	70	N/A	Pavement/2	N/A	12	12

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

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

Please list major (signalized) roadway intersections for access roads within 1 mile of facility	Existing Capacity	Existing Level of Service

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:

The volume of traffic on the roads leading to the proposed facility will be very minimal. Traffic, as it stands now, is comprised of the small number of farmers and ranchers that have land near the site, and the City crew working on the City's property.

IX. Highway Beautification

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

1. Distance of Facility from Interstate or Primary Highway: 2.35 miles from State Hwy 15 and 0.6 miles from State Hwy 23

2. 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:

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:

   (b) Enter Date of FAA Response:

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.

XIII. Attachments

- Maps showing the facility boundary and roads within 1 mile of the facility.
- 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.

- 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.
- Documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions; and the response letter received from FAA.
- Other documents attached:

From: [redacted]
To:
Cc:
Subject:
Date: Thursday, October 24, 2024 9:14:27 AM

Che,
I have received a request for a solid waste location near Booker. We have a few questions that I need answers to before we proceed.

1. Are we planning to have another driveway other than SH 15 and CR 3?
2. I noticed you are estimating 20tons/day. Are we expecting a future growth to potentially encompass neighboring town?
3. I would like to know what to expect traffic wise in and out of this location on a daily basis.

Thanks,
Wes Kimmell, P.E.
Director of Maintenance
TxDOT- Amarillo District Office
(806)661-8239 Mobile

OJD Engineering
The Benchmark
F#-4393

October 16, 2024

Drew Sitters
Archeology Division
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711

Re: City of Booker
Municipal Solid Waste Landfill Permit
Lipscomb County, Texas

Dear Mr. Sitters:

The City of Booker is in the process of obtaining a permit to operate a municipal solid waste landfill. We are requesting that you look over draft Part I and the location map that are attached to this letter, and inform us if this landfill would be in conflict with anything of interest to the Texas Historical Commission.

Please call me if you have any questions.

Sincerely,

Clint Green

Attachments

Wellington | Amarillo | Wolfforth
ph: 806.352.7117
2420 Lakeview Dr. Amarillo, TX 79109
www.OJDEngineering.com
fax: 806.352.7188

From: [redacted]
To:
Subject: Municipal Solid Waste Landfill Permit MC124
Date: Thursday, November 7, 2024 9:44:49 AM

Re: Project Review under the Antiquities Code of Texas
THC Tracking #202502740
Date: 11/07/2024
Municipal Solid Waste Landfill Permit MC124
36* 29' 32.00" N Long - 100* 30' 49.00"W

Description: City of Booker obtaining permit to operate a municipal solid waste landfill.

Dear Clint Green:
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 and Drew Sitters, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No further review of potential effects to above-ground historic resources is required under the Antiquities Code of Texas. However, should this project ultimately include any federal involvement, additional consultation with THC/SHPO under Section 106 of the National Historic Preservation Act will be required.

Archeology Comments

- No effect on identified archeological sites or other cultural resources. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- No archeological survey of the project area is needed.

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: [redacted]

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 Joseph Bell, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

OJD Engineering
The Benchmark
F#-4393

October 16, 2024

Lori Gunn
Regional Services Program Coordinator
Panhandle Regional Planning Commission
P.O. Box 9257
Amarillo, TX 79105

Re: City of Booker
Municipal Solid Waste Landfill
Lipscomb County, Texas

Dear Ms. Gunn:

The City of Booker is in the process of obtaining a permit to operate a Type I-AE Solid Waste Landfill. We are requesting that you look over draft Part I and the location map that are attached to this letter, and inform us if this landfill would cause any problems.

Please call me if you have any questions.

Sincerely,

Clint Green

Attachments

Wellington | Amarillo | Wolfforth

ph: 806.352.7117 2420 Lakeview Dr. Amarillo, TX 79109 fax: 806.352.7188
www.OJDEngineering.com

From: [redacted]
[redacted]
Subject: City of Booker MSW Landfill Permit
Date: Friday, October 18, 2024 4:15:19 PM
Attachments: image001.png
PRPC_RSWMP_2022 thru 2042_final (4).pdf
Blank Plan Conformance_Permit Review_2022-2042.pdf
Importance: High

Good afternoon,

I received your letter in the mail regarding the permit for the Type I-AE Solid Waste Landfill for the City of Booker. There are few other documents that you will need to submit in addition to Part I as required per the Regional Solid Waste Management Plan. I have listed them down below.

1. Two (2) full copies of Part I and Part II of the application form;
2. One (1) originally signed copy of the Panhandle Regional Solid Waste Plan Conformance Checklist (which can be found in the Plan Conformance/Permit Review);
3. One (1) copy of any information which the applicant may view as helping to facilitate the Regional Solid Waste Management Advisory Committee (RSWMAC).

This information must be submitted under a cover letter which lists the following information;

1. The chief contact person for the application;
2. The contact information for that individual;
3. The name of the engineer representing the applicant;
4. The contact information for the applicant's engineer; and
5. The contact information for the TCEQ staff person to whom all review-related correspondence should be sent.

The submission documents and cover letter must be addressed and delivered to the PRPC's Regional Solid Waste Management Coordinator (which is myself) at the following address:

Other applicants have submitted it to PRPC just as they would TCEQ in three ring binders. You can submit that way if you would like but are not required to.

I have attached a full copy of the Regional Solid Waste Management Plan and a blank copy of the Plan Conformance Permit Review document to this email. I would like for you to know that we do have a meeting with the RSWMAC coming up soon on December 3rd, 2024. If at all possible, I would like to get this on the agenda for that meeting. I would need to have everything submitted by November 13th, 2024 to ensure that I am able to get this on/included in the agenda and submitted to the RSWMAC. Please let me know if you have any questions regarding this process. Have a good weekend.

Thank you,

Daphne Morcom
Regional Services Program Specialist
Panhandle Regional Planning Commission
PO Box 9257, Amarillo, TX 79105

WELL DATA REPORT

Site Location

The proposed Booker, Texas Municipal Solid Waste Landfill (MSWLF) will be located 2 ½ miles northeast of the City of Booker on County Road 3. The land surrounding the site is primarily pasture land, except for the east, which is bound by County Road 3.

Wells and Springs in the Site Vicinity

A site visit was made to locate existing wells and springs within a one-mile radius of the proposed site. Two (2) wells were found to exist within this area of the one-mile radius. A map showing the location of each well is attached to this report as Figure 4. The inventoried wells were developed in a major aquifer known as the Ogallala Aquifer. Attached to this report is a map obtained from the Texas Water Development Board labeled Booker MSW Landfill Aquifer. This map is shown as Figure 17. The Ogallala Aquifer consists of sand, gravel, clay, and silt and has a maximum thickness of 800 feet. Freshwater saturated thickness averages 200 feet. There are no known springs to exist in the vicinity of the proposed site.

The wells are numbered 323369 and 556777 on the map. A limited amount of information exists for the wells. Water well logs for each well is attached to this report; however, these wells are not available for testing. Well 323369 is used for irrigation on private land and 556777 is a domestic well on private land. Well Data for the wells is shown in the attached well reports.

Water Gradient

The ground-water gradient, as determined by comparing the static water level elevations, flows from the northeast to the southwest. This is illustrated in the map. Wells 323369 and 556777 are located northwest and southeast of the proposed landfill, therefore neither of the wells will be down gradient of the proposed landfill.

Revisions
Date:
_____
_____

STATE OF TEXAS WELL REPORT for Tracking #57127

Owner:	**Craig Custer Full Circle L-C**	Owner Well #:	**TH 1-05**
Address:	**P.O. Box 259 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**No Data**	Latitude:	**36° 29' 12" N**
		Longitude:	**100° 30' 07" W**
Well County:	**Lipscomb**	Elevation:	**2706 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Test Well**

Drilling Start Date: **4/6/2005** Drilling End Date: **4/6/2005**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.75**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Unknown**

Annular Seal Data: **No Data**

Seal Method: **Not Applicable**

Sealed By: **Unknown**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **2560**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Estimated**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
0 - 10 1 bag cement		
10 - 380 Natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L. T. Drilling Company**

P.O. Box 784
Sunray, TX 79086

Driller Name: **Lester James Taylor**

License Number: **1849**

Apprentice Name: **Diego Solano**

Apprentice Number: **WWDAPP00000621**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	**17**	**Surface top soil brown sandy clay**
17	**40**	**Caliche w/rock strips**
40	**180**	**Sand w/rock strips + clay strips**
180	**200**	**Fine to med fairly loose sand w/clay mix + clay strips**
200	**220**	**Fine fairly loose sand w/clay mix + sandy clay strips**
220	**240**	**Brown sandy clay w/sand strips**
240	**260**	**Brown sandy clay w/fine dirty sand strips**
260	**280**	**Fine fairly loose dirty sand w/clay mix + sandy clay strips**
280	**300**	**Med to coarse fairly loose sand w/gravel**
300	**320**	**Fairly loose coarse sand & gravel to red clay**
320	**340**	**Red clay & shale**
340	**360**	**Red clay & shale w/green shale strips**
360	**380**	**Red clay + shale w/soft clay strip**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #323369

Owner:	**Rex Hoover**	Owner Well #:	**No Data**
Address:	**P.O. Box 289 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**Sec28 Blk10 HTB TX**	Latitude:	**36° 29' 04" N**
		Longitude:	**100° 30' 08" W**
Well County:	**Lipscomb**	Elevation:	**2798 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **6/27/2013** Drilling End Date: **6/27/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**12.25**	**0**	**350**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**20**	**350**	**Gravel**	**#1 fine KS**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**20**	**6, cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **165 ft.** below land surface on **2013-06-27** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **Bailer** **Yield: 200+ GPM with 20 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
185	**Good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **3T Drilling, Inc.**

10870 Cluck Rd
Dumas, TX 79029

Driller Name: **Ray Teeter** License Number: **58514**

Comments: **Irrigation #2**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**100**	**topsoil, sandy clay, hard caliche, clay w/sandy clay & sand strip**
100	**160**	**sandy clay w/sand stips, clay strips**
160	**180**	**med to coarse sand**
180	**200**	**medium to coarse sand, sandy clay w/clay strip**
200	**240**	**sandy clay w/sand strips**
240	**260**	**medium sand w/sandy clay strips**
260	**280**	**sandy clay, clay strips**
280	**300**	**sandy clay, medium sand to small gravel**
300	**320**	**small gravel to 3/4"**
320	**340**	**gravel, white sandy clay, red clay**
340	**350**	**red clay, shale**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6" new steel, +2-3			
6" new PVC, blank, 3-240, 340-350			
6" new PVC, perf, 240-340, 0.050			

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351664

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 1-13**

Grid #: **04-36-3**

Latitude: **36° 28' 53" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144670

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/18/2013** Drilling End Date: **12/18/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**460**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-460 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**2**	**surface top soil**
2	**10**	**caliche**
10	**200**	**sandy with brown clay strips**
200	**220**	**fine and med loose sand with clay mix**
220	**240**	**fine and med loose sand with clay mix**
240	**260**	**brown clay with fine tight little sand**
260	**280**	**fine kind of loose sand with brown clay strips**
280	**300**	**fine tight sand with clay mix**
300	**340**	**red and brown clay with tight little sand**
340	**360**	**red and brown clay mix with loose sand and gravel**
360	**380**	**fine loose sand and gravel with clay mix**
380	**400**	**brown clay with fine tight little sand with gravel**
400	**420**	**fine tight little sand with mixed clay**
420	**440**	**fine tight little sand with red clay strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

440	**460**	**red clay**

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351669

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 2-13**

Grid #: **04-36-3**

Latitude: **36° 28' 48" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144671

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/18/2013** Drilling End Date: **12/18/2013**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
4.5	**0**	**440**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
5	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-440 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**7**	**surface top soil**
7	**180**	**sandy with brown clay strips**
180	**220**	**fine and med loose sand with clay mix**
220	**240**	**fine and med loose sand with clay mix**
240	**260**	**fine tight little sand with brown clay strips**
260	**280**	**fine tight little sand with brown and red clay strips**
280	**300**	**fine tight little sand with red and gray clay strips**
300	**320**	**fine tight little sand with red and gray clay strips**
320	**340**	**brown clay with fine tight sand and gravel**
340	**360**	**brown clay with fine tight sand and gravel**
360	**380**	**brown clay with fine tight sand and gravel**
380	**400**	**fine tight sand and gravel**
400	**420**	**gravel and tight sand and red clay strips**
420	**440**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351673

Owner: **Preferred Beef Group**

Address: **PO BOX 290 Booker, TX 79005**

Well Location: **Sec 28, Blk 10, HT&B TX**

Well County: **Lipscomb**

Owner Well #: **Th 4-13**

Grid #: **04-36-3**

Latitude: **36° 28' 44" N**

Longitude: **100° 30' 44" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144673

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/19/2013** Drilling End Date: **12/19/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**6**	**surface top soil**
6	**180**	**sandy with brown and tan and red clay strips**
180	**200**	**brown clay with tight little sand**
200	**220**	**fine and med sand**
220	**240**	**fine and med sand with red clay strips**
240	**260**	**fien loose sand with clay mix**
260	**280**	**fine loose sand with clay mix**
280	**300**	**fine loose sand with clay mix and gravel**
300	**320**	**fine loose sand with clay mix and gravel**
320	**340**	**fine loose sand with clay mix and gravel**
340	**360**	**fine loose sand with clay mix and gravel**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351694

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 8-13**

Grid #: **04-36-3**

Latitude: **36° 29' 03" N**

Longitude: **100° 30' 43" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144678

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/21/2013** Drilling End Date: **12/21/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**340**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-340 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**20**	**surface top soil**
20	**40**	**caliche with shale**
40	**200**	**sandy with brown clay strips**
200	**220**	**fine tight sand with clay mix**
220	**240**	**fine loose sand with clay mix**
240	**260**	**fine loose sand with clay mix and gravel**
260	**300**	**brown clay with fine tight little sand**
300	**320**	**fine loose sand and gravel with red clay strips**
320	**340**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351716

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 9-14**

Grid #: **04-36-3**

Latitude: **36° 29' 00" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144679

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/3/2014** Drilling End Date: **1/3/2014**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**3**	**surface top soil**
3	**40**	**caliche**
40	**200**	**sandy with brown clay stirps**
200	**220**	**fine little sand with brown clay strips**
220	**240**	**fine little loose sand with brown clay strips**
240	**260**	**fine little loose sand with brown clay strips**
260	**280**	**fine tight little sand with brown clay strips**
280	**300**	**fine tight little sand with clay mix**
300	**320**	**fine and med fairly loose sand**
320	**340**	**fine and med fairly loose sand and gravel**
340	**360**	**fine tight sand with red clay strips and gravel**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351717

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 10-14**

Grid #: **04-36-3**

Latitude: **36° 29' 00" N**

Longitude: **100° 30' 20" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144680

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/3/2014** Drilling End Date: **1/3/2014**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**7**	**surface top soil**
7	**40**	**caliche**
40	**180**	**sandy with brown clay strips**
180	**200**	**fine and med loose sand and shale**
200	**240**	**fine tight little sand with brown clay stirps**
240	**280**	**fine tight little sand with gravel and brown clay strips**
280	**320**	**fine tight little sand with clay mix**
320	**340**	**fine fairly loose sand with gravel and clay mix**
340	**360**	**fine and med tight sand with gravel and red clay strips**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351720

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 11-14**

Grid #: **04-36-3**

Latitude: **36° 29' 02" N**

Longitude: **100° 30' 24" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144682

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/4/2014** Drilling End Date: **1/4/2014**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
4.5	**0**	**400**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
5	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-400 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**5**	**surface top soil**
5	**30**	**caliche**
30	**200**	**sand with brown clay strips**
200	**240**	**fine tight sand with brown clay strips**
240	**280**	**fine tight sand with brown clay strips**
280	**340**	**fine tight sand with clay mix**
340	**360**	**fine fairly loose and gravel**
360	**380**	**fine fairly loose sand with red clay strips**
380	**400**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #529683

Owner:	**Rick Rousser**	Owner Well #:	**TH 1-19**
Address:	**PO Box 457 Sunray, TX 79086**	Grid #:	**04-37-1**
Well Location:	**Sec 7, BLK SS Booker, TX**	Latitude:	**36° 29' 38.87" N**
		Longitude:	**100° 29' 57.88" W**
Well County:	**Lipscomb**	Elevation:	**No Data**
			****Plugged Within 48 Hours****

****This well has been plugged**** **Plugging Report Tracking #192632**

Type of Work: **New Well** Proposed Use: **Test Well**

Drilling Start Date: **12/2/2019** Drilling End Date: **12/2/2019**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Plugged**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**20**	**Cement 2 Bags/Sacks**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **No Data**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Continent Inc.**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**20**	**surface top soil brown sandy clay & clay**
20	**43**	**caliche w/rock strips**
43	**180**	**sand w/clay strips**
180	**200**	**brown sandy clay w/fiie sand strips**
200	**220**	**brown sandy clay & clay to fine fairly loose sand w/clay mix**
220	**240**	**fine fairly loose sand w/clay mix & brown clay strips**
240	**260**	**med fine fairly loose sand w/little clay mix**
260	**280**	**fine little tight sand w/little clay mix to brown sandy clay & rock strips**
280	**300**	**brown sandy clay to med to coarse fairly loose sand w/gravel**
300	**320**	**med to coarse fairly loose sand w/gravel & clay strips**
320	**340**	**fine tight sand w/clay mix & gravel strips to red clay**
340	**360**	**red clay w/fine dirty sand strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

360	**380**	**fine fairly loose dirty sand w/gravel strips to red clay**

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STATE OF TEXAS WELL REPORT for Tracking #556777

Owner:	**Miranda Faviols**	Owner Well #:	**No Data**
Address:	**5466 E. Monroe Ave. Las Vegas, NV 89110**	Grid #:	**04-36-3**
Well Location:	**3 mi. North of Booker, Hwy 23 & E0350, 0.40 mi. East on E0350, South 0.10, East 300 ft. Booker, TX 79005**	Latitude:	**36° 29' 55.02" N**
		Longitude:	**100° 31' 16.02" W**
		Elevation:	**2822 ft. above sea level**
Well County:	**Lipscomb**		

Type of Work: **New Well** Proposed Use: **Domestic**

Drilling Start Date: **10/14/2020** Drilling End Date: **10/14/2020**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**9**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**20**	**380**	**Gravel**	**#1 Fine KS**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**20**	**Cement 5 Bags/Sacks**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used** **Surface Completion by Driller**

Water Level: **216 ft.** below land surface on **2020-10-14** Measurement Method: **Electric Line**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **Bailer** **Yield: 20 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
216 - 380	**Good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **3T Drilling, Inc.**

10870 Cluck Road
Dumas, TX 79029

Driller Name: **Ray Teeter** License Number: **58514**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**40**	**Topsoil**
40	**140**	**Sand & clay**
140	**180**	**Sand & clay**
180	**200**	**White sand**
200	**320**	**Sand & clay mix**
320	**370**	**Sand**
370	**380**	**Red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
5	**Riser**	**New Steel**	**0.258**	**2**	**3**
5	**Blank**	**New Plastic (PVC)**		**3**	**310**
5	**Perforated or Slotted**	**New Plastic (PVC)**	**0.050**	**310**	**370**
5	**Blank**	**New Plastic (PVC)**		**370**	**380**

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #626345

Owner:	**Scott Kruse Preferred Beef Group**	Owner Well #:	**TH 2-22**
Address:	**P.O. Box 290 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**SEC 28, BLK 10, HT & B Booker, TX**	Latitude:	**36° 28' 55.7" N**
		Longitude:	**100° 30' 22.64" W**
Well County:	**Lipscomb**	Elevation:	**No Data**
		****Plugged Within 48 Hours****	

****This well has been plugged**** **Plugging Report Tracking #225800**

Type of Work: **New Well** Proposed Use: **Test Well**

Drilling Start Date: **11/30/2022** Drilling End Date: **11/30/2022**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Plugged**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**20**	**Cement 2**

Seal Method: **Not Applicable**

Sealed By: **Driller**

Distance to Property Line (ft.): **1560' S 1989' W**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **NP groundwater interactive map**

Surface Completion: **No Data**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Continent Inc.**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**200**	**top soil & brown clay w/caliche strips & sand strips**
200	**220**	**fine to med sand w/clay strips**
220	**240**	**med fine fairly loose sand w/brown clay**
240	**300**	**fine to med fairly loose sand w/clay strips**
300	**320**	**fine to med to coarse fairly loose sand & clay strips**
320	**340**	**med & coarse fairly tight sand w/clay strips & red clay**
340	**360**	**med & coarse fairly tight sand w/clay strips & red clay**
360	**380**	**red clay w/soap stone strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

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(512) 334-5540

FIELD NOTES

Description:

A 20.0 acre tract of land situated in Section 29, Block 10, H.T. & B. RR Co. Survey, Lipscomb County, Texas, and more particularly described by metes and bounds as follows;

BEGINNING at a 1/2" iron rod “RPLS 4263” found on the west right of way line of County Road No. 3 for the northeast corner of this tract, same being the southeast corner of a tract of land as recorded in Vol. 592, Pg. 497, Official Public Records of Lipscomb County, Texas, whence a 1 1/4” iron pipe found for the Northeast corner of Section 29 bears N. 89° 48’ 33” E., 30.00 feet, and N. 00° 12’ 52” W., 423.05 feet;

THENCE S. 00° 12' 49" E., along said west right-of-way line, a distance of 422.95 feet to a 1/2" iron rod “OJD TX RPLS” set for the southeast corner of this tract;

THENCE S. 89° 32' 32" W. a distance of 2509.98 feet to a 1/2” iron rod “OJD TX RPLS” for the southwest corner of this tract;

THENCE N. 00° 13' 19" W. a distance of 422.98 feet to a 1/2” iron rod “RPLS 4263” found for the northwest corner of this tract.

THENCE N. 89° 32' 32" W. a distance of 2060.04 feet to the place of BEGINNING and containing 20.00 acres (871,296 square feet) of land.

Adjacent Land Owners of the Landfill

1) BRADY CAROL DIANE
97 PIONEER DR
BOOKER TX 79005

2) MASON STEPHEN G JR RT
1015 BROADWAY #130
OKLAHOMA CITY OK 73102

3) LIGHT VIRGINA S
7704 PROGRESS DR
AMARILLO TX 79119

4) JOHANNING JOHN
318 SE 1ST STREET
CAPE CORAL FL 33999

5) TEARE HARRY M TRUST
FBSW-TRUST DEPT
PO BOX 32552
AMARILLO TX 79120

6) MASON STEPHEN G JR RT
1015 BROADWAY #130
OKLAHOMA CITY OK 73102

	Flow Calculations			
	Post Drainage Calculations			
	DA 1			
Q = CIA				
Cover Description		Grass Cover		
		C=	0.3	
	Time of Concentration: Overland Flow			
	$t_i=.83(NL/S^{0.5})^{0.467}$			
	S=	0.01	ft/ft	
	L=	500.00	ft	
	N=	0.30	Grass	
	t_i=	25.25	min	
	Time of Concentration: Channelized Flow			
	$t_t=L/(60V)$			
	L=	451.95	ft	
	V=	2.5	ft/s	
	t_t=	3.01	min	
	$T_c=t_t+t_i$			
	t_c=	28.27	min	
	Lag	16.96	min	
	A	12.98	ac	
	Lipscomb Intensity			
	I_{25yr}=	4.7	in/hr	
	I_{100yr}=	5.9	in/hr	
	Flowrate: Rational Method			
	Q=CIA			
	Q_{25yr}=	**20.14**	cfs	
	Q_{100yr}=	**28.73**	cfs	

Flow Calculations			
Post Drainage Calculations			
DA 2			
Q = CIA			
Cover Description		Grass Cover	
		C=	0.3
Time of Concentration: Overland Flow			
$t_i=.83(NL/S^{0.5})^{0.467}$			
S=	0.01	ft/ft	
L=	500.00	ft	
N=	0.30	Grass	
t_i=	25.25	min	
Time of Concentration: Channelized Flow			
$t_t=L/(60V)$			
L=	1249	ft	
V=	2.4	ft/s	
t_t=	8.67	min	
$T_c=t_t+t_i$			
t_c=	33.93	min	
Lag	20.36	min	
A	25.38	ac	
Lipscomb Intensity			
I_{25yr}=	5.1	in/hr	
I_{100yr}=	6.3	in/hr	
Flowrate: Rational Method			
Q=CIA			
Q_{25yr}=	**42.71**	cfs	
Q_{100yr}=	**59.95**	cfs	

	Flow Calculations			
	Post Drainage Calculations			
	SCS Curve Number Method			
	DA 2			
Cover Description		Area dec. %	CN Value	
Fair Herbaceous (B)		0.570	71	
Fair Herbaceous ©		0.430	81	
CN Value - Composite B			75	
	Time of Concentration: Overland Flow			
	$t_i=.83(NL/S^{0.5})^{0.467}$			
	S=	0.01	ft/ft	
	L=	500.00	ft	
	N=	0.30	Grass	
	t_i=	25.25	min	
	Time of Concentration: Channelized Flow			
	$t_t=L/(60V)$			
	L=	1249	ft	
	V=	2.4	ft/s	
	t_t=	8.67	min	
	$T_c=t_t+t_i$			
	t_c=	33.93	min	
	Lag	20.36	min	
	A	25.38	ac	
Flowrate: SCS Curve Number Method				
Q_{25yr}=	50.2			
Q_{100yr}=	76.4			

Flow Rate Calculations for Temporary Berms					
Assumptions					
Worst Case: Proposed pit with largest runoff area.					
Pit Selected: Hatched Pit (#22).					
Runoff all drains toward the pit at parallel to its length (404' Side).					
Pit Length = 404 feet, Half of the pit will have the largest runoff = 26.5 feet					
Runoff at the berm approximates a channel 27 feet wide					
Drainage Area No. 2 Q_{100yr}=	**76.40**	cfs			
Calculated Depth at the edge of the pit berm					
Q = (1.49/n)*A*$R^{2/3}$*$S^{1/2}$					76.40
n = roughness coefficient					0.03
D = runoff water depth at berm					D feet
W = runoff channel width				27	ft
A = runoff channel cross-section area					27 x D square feet
R = runoff channel hydraulic radius = A/P					
P = wetted perimeter = channel width for wide channels					27 feet
R = 27 x D/27				0.7364	D feet
Q = (1.49/n)*A*R2/3*S1/2					
D = [Q/{(1.49/n)x358x$S^{1/2}$}]$^{0.6}$					
D = **0.74**					

OJD Engineering
The Benchmark

October 1, 2025

City of Booker
P.O. Box M
Booker, TX 79005

RE: Groundwater Monitoring at Landfill Site

Dear Karen:

I am providing this letter to inform you that groundwater monitoring is not required to at your landfill site. 30 TAC Section 330.63(e)(6)(a)-(l) of the Texas Administrative Code states “if the shallowest aquifer is more than 150 feet below the land surface at the site” then the site will be considered to have no evidence of groundwater contamination. Because you meet this criterion you can be considered for an arid exempt permit as defined by 30 TAC Section 330.63(e) which in-turn exempts you from 30 TAC Sections 330.403, 330.405 and 330.417 (relating to groundwater monitoring).

Sincerely ,

Clint Green, Engineering Technician

APPENDIX 29

Wolfforth | Amarillo

ph: 806 352.7117 2420 Lakeview Dr. Amarillo, TX. 79109 fax: 806 352.7188

www.OJDEngineering.com

Engineering Firm # 4393 - Surveying Firm # 10090900

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

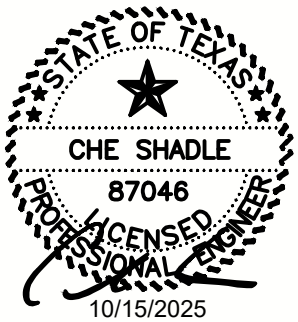
PART III

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

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Figure III-6 – Site Layout Plan

Figure III-7 – Site Layout Details

Figure III-8 – Land Use Map

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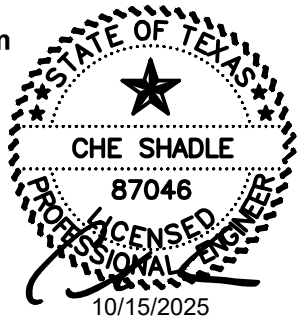
Figure III-15 - Soils Map

Figure III-16 - Saturated Thickness Map

Figure III-17 - Regional Aquifer Map

Figure III-18 - Water Table Contour Map

Figure III-20 - Flow Diagram



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F-4393

12/31/24
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 – 6/9/25
NOD No. 3 – 10/15/25

Figure III-21 - Pit Cross Section

Figure III-22 - Soil Boring Plan

Figure III-23 - Methane Monitoring Probe

Figure III-24 - Aquifer Map

Appendix 12 - Well Reports

Appendix 14 - Landfill Closure Plan

Appendix 15 - Landfill Post-Closure Care Plan

Appendix 16 - Closure Cost Estimate Form

Appendix 17 - Certificate of Eligibility

Appendix 18 - Stratigraphy and Lithology Data

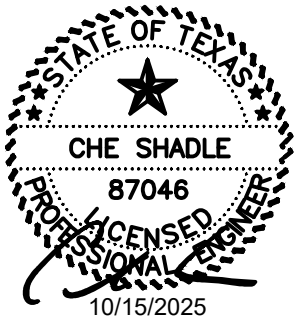
Appendix 19 - Post Closure Care Cost Estimate

Appendix 20 - Landfill Gas Management Plan

Appendix 24 – Soil Boring Plan

Appendix 25 – Manufacturer's Data for Gas Monitoring

Appendix 28 – Aquifer Report



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F-4393

PART III PERMIT APPLICATION

a) SITE DEVELOPMENT PLAN

The Site Development Plan demonstrates the general characteristics of the facility. The plan includes criteria that in the selection and design of a facility will provide for the safeguarding of the health, welfare, and physical property of the people and the environment through consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways. It defines the properties and characteristics of the waste and how it is disposed. The basic element of the site development plan is a Site Layout Plan. This map displays all essential components of the facility. The Site Layout Plan is shown as Figure III-6 and Site Layout Details and Notes as Figure III-7 to this plan.

b) GENERAL FACILITY DESIGN

1) During the hours that the landfill is closed, access will be controlled through the use of fencing and security. During operating hours, an attendant will control the access by monitoring each load brought to the site.

2) The city proposes to utilize a trench system to dispose of waste at the facility. Cover material will come from the new pit that is to be constructed once the previous pit is at capacity. The final pit to be installed on the property shall have final cover applied from another on-site source. The facility will have Type I AE and Type IV AE Units. The facility will have Type I AE and Type IV AE units, and the waste acceptance rate will be less than 20 tons per day (tpd) in the Type I unit and less than 20 tons per day (tpd) of authorized waste in the Type IV unit. No more than two trenches will be in use and receiving waste at any time during the life of the site.

   A) A flow diagram has been provided as Figure III-20 to indicate the storage, processing, and disposal sequences for the various types of wastes and feedstocks received.

   B) Schematic view drawing showing the various phases of collection, separation, processing, and disposal as applicable for the types or wastes and feedstocks received at the facility is provided in Site Layout Plan Figure III-6 and Site Layout Details and Notes Figure III-7.

C) City of Booker Landfill will utilize odor control and an odor neutralizing system to minimize onsite sources of odors, if deemed necessary. The odor control and neutralizing systems may be portable or stationary. The odor neutralizing systems will use a series of perforated pipes or nozzles connected to a blower or pump to dispense odor neutralizing agents into the air.

D) The proposed landfill will be an area of 40.00 acres that contains twenty-eight (28) disposal cells. The disposal cells range in size from 402' to 473' in length and be a width of 29'. The volume of the typical pit will be 10,161 CY. Please see the attached Site Layout Plan Figure III-6 for a layout of the site.

E) The proposed pits will be constructed utilizing a soil extraction method. The soil removed from the proposed pit will be stored on site to be used as daily cover and final cover.

F) The proposed site receives minimal runoff from the surrounding area because of how it is situated. The landfill pits are situated outside of the 100-year flood zone. The calculations showing the elevation of the 100-year flood zone relative to the facility are shown in the Certificate of Compliance with Location Restrictions. No floor drains or sumps will be necessary.

   To protect the waste from any on site runoff, protective berms are to be built around each pit. A typical pit cross-section showing the fill and protective berms is shown in Figure III-21.

G) Sludge waste that is received at the facility will be immediately screened and placed into a steel tank. If sludge is disposed of at the site, it will be immediately covered by other municipal solid waste. Soil will be used to cover sludge, if it is received as a final load of the day.

   Any used oil that is collected must be managed under a used oil authorization or transported to an authorized facility by an authorized transporter.

H) The operator will not discharge contaminated water without specific written authorization, from the Executive Director.

I) Facility is not a transfer station.

3) The City of Booker Landfill will use the following processes to ensure proper sanitation for the waste processing facility.

   A) The proposed site receives minimal runoff from the surrounding area because of how it is situated. The landfill pits are situated outside of the 100-year flood zone. The calculations showing the elevation of the 100-year flood zone relative to the facility are shown in the Certificate of Compliance with Location Restrictions. The 100-year maximum flood storm elevation is listed in Table 1. 100-Year Flood Zone Calculations Results on Page 7.

   To protect the waste from any on site runoff, protective berms are to be built around each pit. A typical pit cross-section showing the fill and protective berms is shown in Figure III-21.

   B) No operating areas of masonry, concrete, or other hard-surfaced materials that can be hosed down and scrubbed will exist.

   C) No areas exist that will require through cleaning with water or steam.

   D) No areas exist that adequate floor or sump drains to remove wash water exist.

4) Water pollution control. The City of Booker Landfill will not utilize cleaning methods resulting from the operation of solid waste processing facilities in a manner that will cause surface water or groundwater pollution on site. Stormwater which comes into contact with solid waste is considered contaminated and will be properly contained and managed. Contaminated water will be disposed at an authorized waste water treatment plant. Proposed protective berms that are shown in Figure III-21 will be utilized to protect the waste form any on site runoff.

5) Endangered species protection. The facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Should an endangered or threatened species be identified on site, no landfilling activities will occur in the vicinity until proper management can be implemented to address the situation.

c) FACILITY SURFACE WATER DRAINAGE REPORT

The City of Booker Landfill design will comply with the requirements of §330.303 of this title (relating to Surface Water Drainage for Municipal Solid Waste Facilities).

1) The site is located on the relatively flat Northern High Plains. The site is situated with gently sloping topographic highs on the southwest side sloping north and east. There are no surface water bodies in the immediate area of the site. The only flow across the site will be sheet flow generated within the permitted boundary. Flow across the site is such that drainage channels, culverts, holding ponds, and storm sewers are not necessary. Contaminated water will not enter or leave the permitted boundary; therefore, eliminating the need for any special surface water protection facilities. Groundwater will be protected through the use of the clay cover installed over the pit. The City of Booker Landfill will operate the landfill as a Type 1-AE facility, thus eliminating the need for a leachate collection system. Any leachate generated will be minimal, and considering the fact that the bottom of the trenches on this site will be a clay material, most of it will remain in the pit.

   The final cover system shall be composed of two feet of soil. The first 18 inches or more of cover (infiltration layer) shall be of clayey soil, classification SC or CL as defined in the “unified Soils Classification System” developed by the United States Army Corps of Engineers, compacted in layers of no more than six inches to minimize the potential for water infiltration.

   The final six inches of cover (erosion layer) shall be suitable topsoil that is capable of sustaining native plant growth and shall be seeded or sodded immediately following the application of the final cover in order to minimize erosion. The top surfaces and embankment slopes, with vegetative cover, have been designed for a peak flow of 1.0 ft/sec to 1.5 ft/sec.

   The coefficient of permeability of the infiltration layer shall in no case exceed $1X10^{-5}$ cm/sec.

   A) A drawing is attached to this report and is labeled Drainage Plan. This drawing demonstrates the drainage areas relative to the permitted boundary. The offsite drainage area that contributes to the entire watershed, where the 100-Year flood zone was calculated, is not shown

because it does not enter the permitted boundary. The 100-year maximum flood storm elevation is listed in Table 1. 100-Year Flood Zone Calculations Results on Page 7.

B) The proposed site is located approximately three miles northeast of the City of Booker. It is situated on 40.00 acres of land of land in Lipscomb County, Texas.

The city will use a trench fill system to dispose of waste. The typical trench will be 402’ to 473’ long, 29’ wide, and 20’ deep. The facility will be used to dispose of municipal solid waste, limbs, construction demolition, and white goods.

Based on where the site is located the only flow across the site will be sheet flow generated within the permitted boundary. Flow across the site is such that drainage channels, culverts, holding ponds, and storm sewers are not necessary. Contaminated water will not enter or leave the permitted boundary; therefore, eliminating the need for any special surface water protection facilities. Groundwater will be protected through the use of the clay cover installed over the pit. The City of Booker will operate the landfill as a Type 1-AE and Type IVAE facility, thus eliminating the need for a leachate collection system. Any leachate generated will be minimal, and considering the fact that the bottom of the trenches on this site will be a clay material, most of it will remain in the pit.

C) The proposed City of Booker Landfill site is bordered to the north by agricultural land. The east is bordered by agricultural land. The west and south are bordered by undeveloped agricultural land. The facility is located in an unmapped FEMA area. However, there is no base flood elevation determined for this area. Flood Hazard Boundary Maps for unincorporated areas of Lipscomb County have not been published by FEMA. See Figure III-9 (USGS Topographic Map) and Figure III-14 (Hydrogeologic Conditions) for the location of the watershed and the watershed outfall. The results of the calculations are shown in Table 1.

Table 1. 100-Year Flood Zone Calculation Results

Drainage Area 2:	25.38 acres

100-Year Storm Event:	3.22 inches
Source: HEC HMS4-12 Model	
Peak Discharge:	76.4 cfs
100-Year Storm Depth:	0.46 ft
Dry Weather Channel Bottom Elevation:	2810.00 ft
Site Elevation:	2830.00 ft

Attached to this plan are the calculations used to generate the results listed above (100-Year Flood Zone Data and Calculations). See Appendix 22.

D) The proposed City of Booker Landfill is located in an unmapped area of the FEMA Flood Map Service Center. The proposed new site for the municipal solid waste landfill is relatively flat Northern High Plains. The facility is located outside a FEMA study area. Flood Hazard Boundary Maps for unincorporated areas of Lipscomb County have not been published by FEMA. The 100-year flood elevation was computed at a point on North Fork-Kiowa Creek southeast of the site, where the county road crosses the creek. OJD Engineering performed a preliminary stormwater runoff analysis to determine an estimated elevation of the 100-year storm event. Point precipitation frequency (PF) estimates from NOAA Atlas, 14, Volume 11, Version 2, were entered into the HEC HMS4-12 Model. Drainage area topography and site topography was taken from a USGS 7½-minute series topographic map. The analysis was performed using the SCS Method for determining peak runoff. The Manning formula was used to estimate the water surface elevation when stream flow equals the maximum discharge for the 100-year storm event. To obtain a more precise floodplain elevation for this drainage area, more detailed topographic data would be required, and a dynamic stream profile analysis would be necessary. These steps are considered to be more detailed than required for the purpose of this certification. The results of the calculations are shown in Table 1.

i) The rainfall intensity used for the design of the facility was generated for a 100-Year storm event. The regulations call for a design using a 25-Year storm event; however, given the fact that there is no offsite

run-on due to ditches along the county road and adjacent property owners growing native grasses, and the permitted boundary is relatively small, a 100-Year storm event was used in the design to obtain a more decisive flow to check against the berm heights surrounding the active pit. The source for the rainfall frequency and intensity data comes from the U.S. Department of Commerce Weather Bureau, Technical Paper No. 40.

ii) There are no collection, drainage, or detention facilities required for the landfill site.

iii) The natural drainage of the site within the permitted boundary will not be significantly altered as a result of the landfill development. The final contours will differentiate from the existing contours approximately 1.5' higher when the landfill is filled to capacity. The berms that surround the active pits will fall along with the natural topography, thus allowing flow to proceed around the pit without greatly affecting the natural drainage.

iv) Temporary Berms will be constructed around each open pit to keep onsite runoff from entering the active face, top dome, and external embankments of the facility. Proper cover with native grass will be placed during closure and post-closure to prevent erosion. A cross-section of the berm is shown on the attached drawing. A more detailed drawing of berm locations and cross-sections is shown in Figure III-21.

2) Flood control and analyses. The City of Booker Landfill shall:

A) The proposed landfill is located in an area that is not mapped by FEMA; therefore, it is undetermined if the site is located within a 100-year floodplain. The area that is mapped is in Flood Zone A – No Base Flood Elevations Determined.

B) FEMA indicates the proposed facility to be located in an unmapped area.

C) Hydrogeologic Conditions, Figure III-14, provides contours associated with the proposed site.

D) The proposed landfill is in an area that is not mapped by FEMA. The area that is mapped is in Flood Zone A – No Base Flood Elevations Determined.

i) An approval from the governmental entity with jurisdiction under Texas Water Code, Construction of Levee without Approval of Plans, Levee Safety, as implemented by Chapter 301 will be requested if deemed necessary.

ii) A floodplain development permit from the county will be requested if deemed necessary.

iii) A Conditional Letter of Map Amendment from FEMA will be requested if deemed necessary.

iv) A Corps of Engineers Section 404 Specification of Disposal Sites for Dredged or Fill Material permit for construction of all necessary improvements will be requested if deemed necessary.

d) WASTE MANAGEMENT UNIT DESIGN

Storage and transfer units. The City of Booker Landfill shall:

1) The proposed landfill is not a storage or transfer facility.

   A) The proposed landfill is not a storage or transfer facility; therefore, no rapid processing will occur.

   B) The proposed landfill is not a storage or transfer facility. When contaminated water is discovered on site, it shall be collected and transported to an approved waste water treatment plant for proper disposal.

   C) The proposed landfill is not a storage or transfer facility; therefore, no design features will be utilized to specify the maximum allowable period of time that unprocessed and processed waste are to remain on site.

2) The proposed landfill will not have incineration units.

3) Surface Impoundments. The City of Booker Landfill shall:

   A) To protect the waste from any on site runoff, protective berms are to be built around each pit. A typical pit cross-section showing the fill and protective berms is shown in Figure III-21.

B) Calculations were used to determine the depth of flow for the worst-case runoff scenario. The depth of flow calculated is 0.41 feet along the edge of the most downstream pit. This is well below the 2 feet design height of the berm as shown in the typical berm detail in Figure III-7.

C) Applicants for Type I-AE and Type IV-AE are exempt from the Liner Quality Control Plan pursuant to Chapter 330.63(d)(5). If the owner or operator of a Type IAE or Type IV-AE landfill facility who has previously asserted eligibility for the arid exemption has knowledge or becomes aware of groundwater contamination from the facility within a one-mile radius of the unit, the facility no longer meets the definition of a Type I-AE or Type IV-AE landfill facility, the waste reduction program is ineffective (based upon an evaluation of trends established after a minimum period of a year), or a practicable alternative becomes available, the owner or operator shall notify in writing the executive director of such condition(s) and thereafter comply with Subchapter B, Subchapter H, and Subchapter J of this chapter on a schedule specified by the executive director. A Type I-AE or Type IV-AE landfill facility that meets the requirements of §330.5. Classification of Municipal Solid Waste Facilities shall maintain the integrity of any existing on-site groundwater monitor wells and make them available to the executive director for the collection of groundwater samples.

4) Landfill Units. The City of Booker Landfill shall specify:

A) During construction and operation of the facility, measures shall be taken to control runoff, erosion, and sedimentation from disturbed areas. Erosion and sedimentation control measures shall be inspected and maintained at least monthly and after each storm event that meets or exceeds the design storm event. Erosion and sedimentation controls shall remain functional until disturbed areas are stabilized with established permanent revegetation. The City of Booker Landfill shall maintain the on-site access road and mud control devices in such a manner as to minimize the buildup of mud on the access road and to maintain a safe road surface. All weather roads will be constructed and utilized for access from the entrance of the facility to the unloading areas. Interior roadways are shown on Figure III-8 – Land Use Map and Figure III-10 – Aerial Map.

B) The city proposes to utilize a trench system to dispose of waste at the facility. Cover material will come from the new pits that are to be

constructed once the existing pits are at capacity. The final pit to be installed on the property shall have final cover applied from another on-site source. The facility will have both Type IAE Units and Type IV-AE. The facility will have Type I AE units and Type IV-AE, and the waste acceptance rate will be less than 20 tons per day (tpd) in the Type I unit, and less than 20 tons per day (tpd) of authorized waste in the Type IV unit.

C) The elevation of the deepest excavation will be 2,797.00 The maximum elevation of waste will be 2,797.00 The maximum elevation of final cover elevation will be 2825.50.

D) A calculation of the estimated rate of solid waste deposition and operating life of the landfill unit. As a general rule, 10,000 people with a per capita collection rate of five pounds per day, dispose of 10 – 15 acre-feet of solid waste in one year. The proposed landfill will serve approximately 2,000 people, including the City of Booker and the southern and eastern most part of Lipscomb County. Based on the general rule, and using the number of approximate people the landfill will serve; the landfill will dispose of 2 acre-feet of solid waste in one year or 3,227 cubic yards.

E) Cross-sections consisting of plan and profiles across the facility clearly showing the top of the levee, top of the proposed fill (top of final cover), maximum elevation of proposed fill, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas are provided in Figure III-21.

F) Cross-sections will include construction and design details of compacted perimeter or toe berms that are proposed in conjunction with aboveground (aerial-fill) waste disposal areas.

G) The permit meets the design criteria because it has arid exempt status, therefore, the proposed landfill is exempt from a liner.

5) A certification of eligibility has been submitted to the executive director and a copy has been placed in the operating record. See Appendix 17 for certification of eligibility.

A) The certification of eligibility includes a statement certifying that the City of Booker Landfill meets all requirements contained in §330.5(b) of this title for exemptions from Subchapter H of this chapter (relating to Liner

System Design and Operation) and Subchapter J of this chapter (relating to Groundwater Monitoring and Corrective Action). See Appendix 28.

B) Documentation has been provided that the small MSW landfill facility receives for disposal an annual average of less than 20 tons per day of authorized types of waste in a Type IAE landfill unit and/or less than 20 tons per day of authorized types of waste in a Type IV AE landfill unit for a total waste acceptance rate less than 40 tons per day for the facility, based upon the most recent four reporting quarters or a certification that programs have been put in place, or will be implemented, to reduce the annual average to less than 20 tons per day based on an annual average for each landfill unit type within one year;

C) Documentation has been provided to there are no practicable waste management alternatives available.

i) The City of Booker current landfill has reached its maximum capacity. The cost to haul the waste to the available alternate exceeds 1.0% of the City of Booker's budget for public services.

ii) The City of Booker Landfill has been in operation since 1991, The proposed facility is adjacent to the south property line of the existing site.

iii) Based on the location of the existing site, the proposed plan is the best option to implement, given the community location.

D) According to weatherbase, the City of Booker receives an average annual rainfall amount of 21.29".

6) Type V mobile liquid waste processing units are not used at this facility. Not applicable.

A) Type V mobile liquid waste processing units are not used at this facility.

B) Type V mobile liquid waste processing units are not used at this facility.

7) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility.

A) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility. No excavation will occur.

i) No excavation of test pits will occur at this facility.

ii) No test pits will exist at this facility.

iii) No waste will be excavated at this facility.

iv) No test pits will exist at this facility.

v) No test pits will exist at this facility.

vi) No test pits will exist at this facility.

vii) No mining or recovery operations will occur at this facility.

viii) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility.

ix) No test pits will exist at this facility.

B) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility. No excavation will occur.

i) No processing will occur at this facility.

ii) No methods of excavating the buried waste materials will occur at this facility.

iii) No processes will be used to recover reusable or recyclable material will occur at this facility.

iv) No wet mining processes will occur at this facility.

v) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility.

vi) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility.

C) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility. No excavation will occur. A liner system will not be installed.

D) Type IX energy, material, gas recovery for beneficial use, or landfill mining waste processing units will not be utilized at this facility. No excavation will occur.

i) No excavation activities will occur at this facility.

ii) No excavation activities will occur at this facility.

iii) No excavation activities will occur at this facility.

iv) No excavation activities will occur at this facility.

8) Compost Units. Not applicable, as the City of Booker Landfill will not utilize any compost units.

A) Not applicable, as there are no mechanical composting systems.

B) Not applicable, as there is not a composting unit.

C) Not applicable, as there is not a composting unit.

v) No composting activities will occur at this facility.

i) No composting activities will occur at this facility.

ii) No composting activities will occur at this facility.

iii) No composting activities will occur at this facility.

iv) No composting activities will occur at this facility.

v) No composting activities will occur at this facility.

vi) No composting activities will occur at this facility.

vii) No composting activities will occur at this facility.

D) Not applicable, as there is not a composting unit.

E) Not applicable, as there is not a composting unit.

9) Type VI waste processing will not occur at this facility.

A) Liquid waste processing will not occur at this facility.

B) Type VI waste processing will not occur at this facility.

C) Type VI waste processing will not occur at this facility.

i) Type VI waste processing will not occur at this facility.

ii) Type VI waste processing will not occur at this facility.

e) GEOLOGY REPORT

This portion of the permit applies to owners and operators of MSW landfills, compost units, and if otherwise requested by the executive director. The geology report shall be prepared and signed by a qualified groundwater scientist. Previously prepared documents may be submitted but must be supplemented as necessary to provide the requested information. Sources and references for information must be provided. The geology report must contain the following information: See Appendix 24.

1) A description of the regional geology is provided in Appendix 24.

A) A map describing the stratigraphy and lithology is provided in Appendix 24.

B) A description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of using groundwater is provided in Appendix 18 and Appendix 24.

2) A description of the geologic process active in the vicinity is provided in Appendix 24. There is no known faulting in the area according to the U.S. Geological Survey Quaternary Faults, Figure II-12.

3) A description of the regional aquifers in the vicinity is provided in Appendix 24.

   A) The aquifer names and their association with geologic units are described in Appendix 24.

   B) The composition of the aquifer is provided in Appendix 24.

   C) The hydraulic properties of the aquifer are provided in Appendix 24.

   D) The Ogallala Aquifer is under-water table conditions.

   E) The Ogallala Aquifer is hydraulically connected to the Dockum Aquifer, Edwards-Trinity (High Plains) Aquifer, Edwards-Trinity (Plateau) Aquifer, Pecos Valley Aquifer, and Rita Blanca Aquifer.

   F) A regional aquifer and water-table contour map have been attached for the Ogallala Aquifer. See Figure III-16 and Figure III-17.

   G) The Ogallala Aquifer has an estimated groundwater flow rate of 61,339 acre-feet per year.

   H) Groundwater in Ogallala Aquifer to the north of the Canadian River is generally fresh, with total dissolved solids typically less than 400 milligrams per liter. However, water quality diminishes to the south, where large areas contain total dissolved solids in excess of 1,000 milligrams per liter, Increased salinity may be associated with evaporative concentration of groundwater in saline playa lakes in the southern portion of the aquifer, up flow of more saline groundwater from the underlying Dockum Aquifer and other sources.

   I) No data is available for the areas of recharge to the aquifers within five miles of the City of Booker Landfill.

   J) There are no wells that exist within 500 feet of the site. Well locations are shown on the well map. The wells located within one mile of the site

are used for either residential or livestock/agricultural purposes. A map for wells is shown as Figure III-4 of this report.

4) This report must describe all borings drilled on site to test soils and characterize groundwater and must include a site map drawn to scale showing the surveyed locations and elevations of the borings. Boring logs must include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses, or seams. Geophysical logs of the boreholes may be useful in evaluating the stratigraphy. Each boring must be presented in the form of a log that contains, at a minimum, the boring number; surface elevation and location coordinates; and a columnar section with text showing the elevation of all contacts between soil and rock layers, description of each layer using the unified soil classification, color, degree of compaction, and moisture content. A key explaining the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure must be provided. The boring plan, including locations and depths of all proposed borings, shall be approved by the executive director prior to initiation of the work. See Appendix 24 – Soil Boring Plan.

   A) A sufficient number of borings shall be performed to establish subsurface stratigraphy and to determine geotechnical properties of the soils and rocks beneath the facility. This information has been provided as the soil boring plan included as Appendix 24.

   B) Exempt from providing geology report.

   C) All borings have been conducted in accordance with established field exploration methods. This information has been provided as the soil boring plan included as Appendix 24.

   D) Installation, abandonment, and plugging of the borings in accordance with the rules of the commission. This information has been provided as the soil boring plan included as Appendix 24.

   E) The number and depth of borings may be modified because of site conditions with approval of the executive director. No modifications were needed.

F) Geophysical methods, such as electrical resistivity, may be used with authorization of the executive director to reduce the number of borings. No authorizations were needed.

G) Cross-sections must be prepared from the borings depicting the generalized strata at the facility. See Appendix 24.

H) A narrative that describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation has been provided in Appendix 24.

5) The report should provide geotechnical data that describes the geotechnical properties of the subsurface soil materials and a discussion with conclusions about the suitability of the soils and strata for the uses for which they are intended. All geotechnical tests shall be performed in accordance with industry practice and recognized procedures such as described below. A brief discussion of geotechnical test procedures including:

A) A laboratory report of soil characteristics determined from at least one sample from each soil layer or stratum that will form the bottom and side of the proposed excavation and from those that are less than 30 feet below the lowest elevation of the proposed excavation. Additional tests shall be performed, as necessary, to provide a typical profile of soil stratification within the site. No laboratory work need be performed on highly permeable soil layers such as sand or gravel. The samples shall be tested by a competent independent third-party soils laboratory.

B) Permeability tests performed according to one of the following standards on undisturbed soil samples. Permeability tests shall be performed using tap water or .05 Normal solution of calcium sulfate (CaSO4), and not distilled water, as the permeant. Those undisturbed samples that represent the sidewall of any proposed cell, pit, or excavation shall be tested for the coefficient of permeability on the sample's in-situ horizontal axis; all others shall be tested on the in-situ vertical axis. All test results shall indicate the type of tests used and the orientation of each tested sample. All calculations for the final coefficient of permeability tests result for each sample tested shall be included in the report.

C) The depth at which groundwater was encountered and records of after-equilibrium measurements in all borings. The cross-sections annotated to note the level at which groundwater was first encountered

and the level of groundwater after equilibrium is reached or just prior to plugging, whichever is later. This water-level information must also be presented on all borings and presented in a table format in the report

D) Records of water-level measurements in monitoring wells. Historic water-level measurements made during any previous groundwater monitoring shall be presented in a table for each well.

E) A tabulation of all relevant groundwater monitoring data from wells on site or on adjacent MSW landfill unit.

F) Identification of the uppermost aquifer and any lower aquifers that are hydraulically connected to it beneath the facility, including groundwater flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area)

6) A groundwater certification process has been used to meet the provisions necessary for a groundwater certification of the arid exemption as described in §330.5(b). Appendix 28.

A) A 7.5-minute or 15-minute United States Geological Survey quadrangle has been provided that includes the area within one mile of the facility boundary. The USGS map is shown in Figure III-9.

B) A site visit was made to locate existing wells and springs within a one-mile radius of the proposed site. Three wells were found to exist within this area and an additional well is located just beyond the one-mile radius. A map showing the location of each well is attached to this report as Figure III-4. The inventoried wells were developed in a major aquifer known as the Ogallala Aquifer. Attached to this report is a map obtained from the Texas Water Development Board labeled City of Booker Landfill Aquifer. This map is shown as Figure III-17. Water to the north of the Canadian River is generally fresh, with total dissolved solids concentrations typically less than 400 milligrams per liter. However, water quality diminishes to the south, where large areas contain total dissolved solids concentrations greater than 1,000 milligrams per liter. Increased salinity may be associated with evaporative concentration of groundwater in saline playa lakes in the southern portion of the aquifer, upflow of more saline groundwater from the underlying Dockum Aquifer, and other sources (Reedy and others, 2011). Arsenic, fluoride, nitrate, radionuclides, and selenium levels have been known to be in excess of

primary drinking water standards, primarily in the southern portion of the aquifer. Volcanic ash leaching in the aquifer is likely the source of arsenic, fluoride, selenium, and radionuclides. Sources of nitrate may come from agricultural activity in the area (Reedy and others, 2011).

The wells are numbered using their well ID's on the map. A limited amount of information exists for the wells. Water well logs for wells 323369 and 556777 are attached to this report. Both wells are owned by different individuals and are unavailable for testing. Well Data for wells 323369 and 556777 are shown in Figure III-4.

C) The ground-water gradient, as determined by comparing the static water level elevations, flows from the northwest to the southeast. This is illustrated in the map. Well 323369 is the only well likely to be down gradient of the proposed landfill, and the other well is up gradient. Hydraulic conductivity values range from 30 to 200 feet daily. The ground-water gradient is shown in Figure III-18.

D) There are no water samples available from wells 323369 or 556777 and no data is available from the Texas Water Development Board.

E) No wells are located on property owned by the City; therefore, no wells are available for testing.

i) chloride - unavailable;

ii) nitrate (as N) - unavailable;

iii) sulfate - unavailable;

iv) total dissolved solids - unavailable;

v) specific conductance - unavailable;

vi) pH - unavailable;

vii) chromium – unavailable

viii) non-purgeable organic carbon - unavailable; and

F) Well 323369 is an irrigation well and 556777 is a private residence well. These wells are unavailable for testing.

G) Not applicable, there are no wells owned by the City of Booker available for testing.

H) A report has been attached that includes data from subparagraphs (A) – (F) as Appendix 12.

i) a map showing all known wells, springs, facility boundaries, sampling points, etc.;

ii) a map showing all known wells, springs, facility boundaries, sampling points, etc.;

iii) chemical analyses, testing unavailable; see Appendix 28

iv) logs and construction information for the sampled wells and description;

v) text describing methods of investigation, such as sampling and water-level measurements; and

vi) conclusions with respect to presence or lack of evidence of groundwater contamination by the facility;

I) The testing was unable to be provided due to the lack of wells that are accessible in the area.

J) With the lack of wells or springs present in the facility area, it has been deemed to be “no evidence of groundwater contamination”; based on the lack of appropriate sampling points. There is no attached groundwater report for the site;

K) If there is no evidence of groundwater contamination by the landfill, the qualified groundwater scientist who reviewed the data and reached the conclusions shall sign and seal a statement in the following format: I (we) have reviewed the groundwater data described in a report submitted with this certification and have found no evidence that the City of Booker Landfill located 1.5 east of the Booker City Limits in Lipscomb

County, Texas has contaminated groundwater in the uppermost aquifer; and

L) the executive director may accept information and data, other than described in this paragraph, as showing that there is no evidence of groundwater contamination by the landfill, if the information and data are deemed to be adequate for such a determination.

f) GROUNDWATER SAMPLING AND ANALYSIS PLAN

Not applicable as the permit is for a Type IAE or Type IVAE municipal solid waste landfill.

g) LANDFILL GAS MANAGEMENT PLAN

A landfill gas management plan is shown in Appendix 20.

h) CLOSURE PLAN

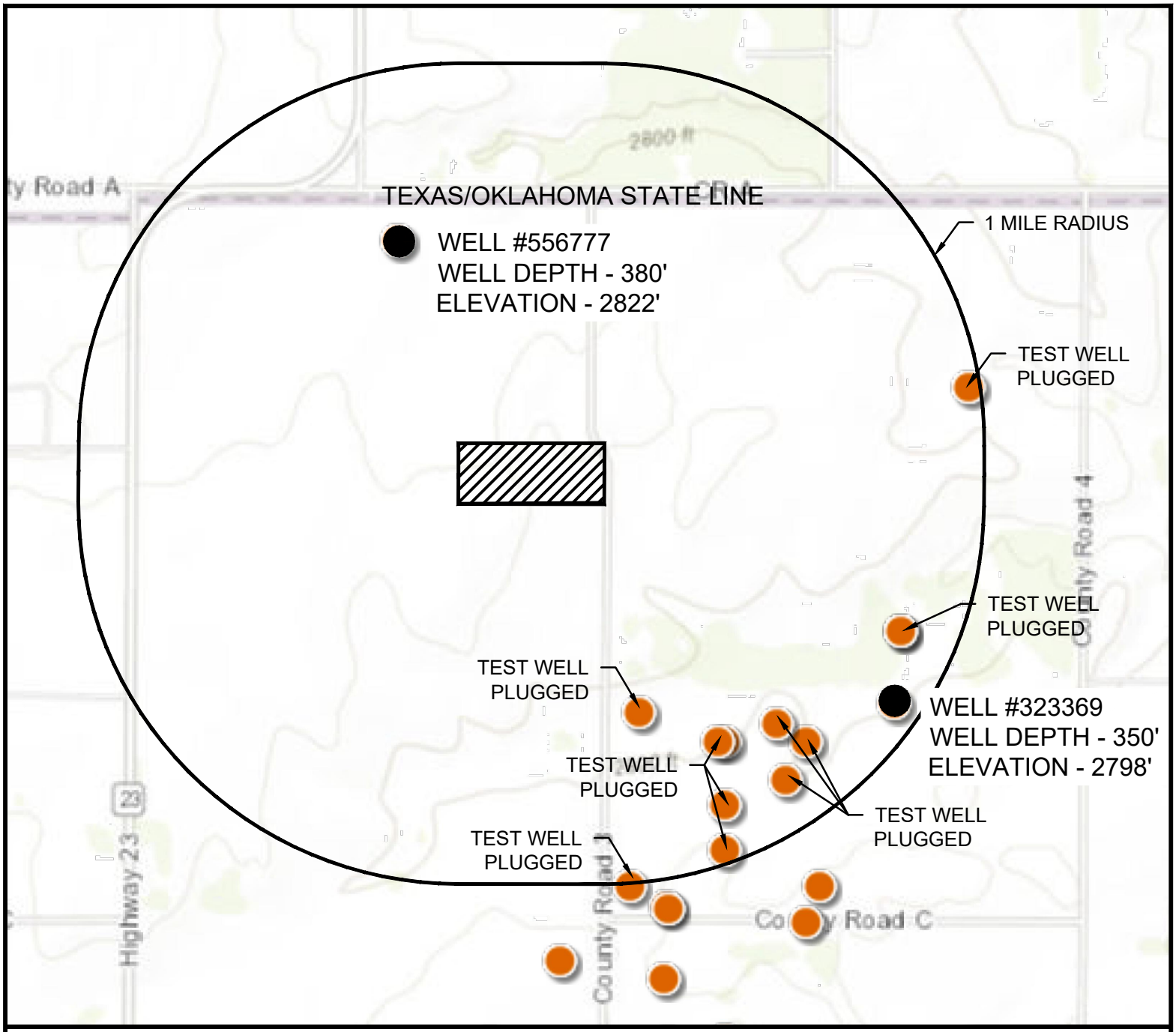
A landfill closure plan is shown in Appendix 14.

i) POST-CLOSURE PLAN

A landfill post-closure plan is shown in Appendix 15. A landfill post-closure care cost estimate is shown in Appendix 19.

j) COST ESTIMATE FOR CLOSURE AND POST-CLOSURE CARE

A cost estimate for closure and post-closure care is shown in Appendices 16 and 15.



WELL MAP
CITY OF BOOKER LANDFILL

Date Submitted:	July 2024
Date Revised:	April 2025
Drawn By:	CCG
Scale:	1" = 2,000'

2,000 0 1,000 2,000

1 inch = 2,000 ft.

Revisions

	Date:
1	4/15/2025

LEGEND

LANDFILL

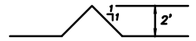
STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

4/15/2025

FIGURE III-4

SCALE: 1" = 200'

-200 0 100 200

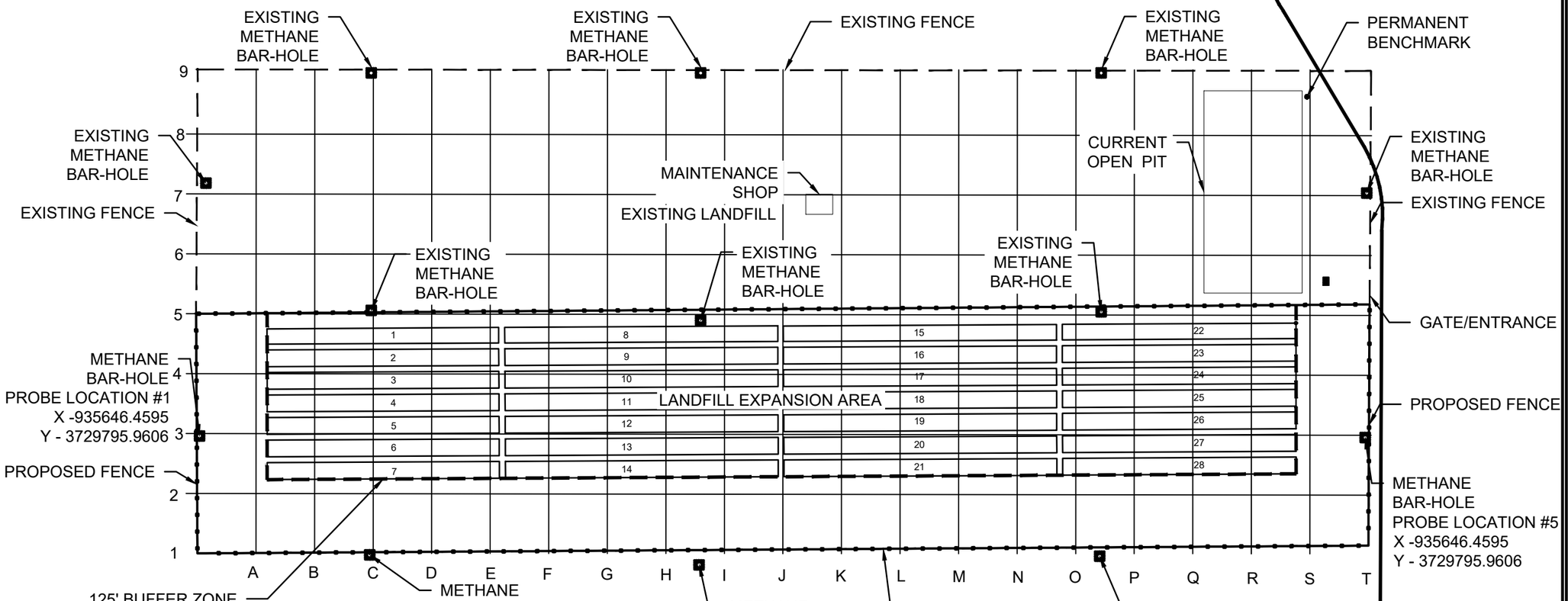


TYPICAL BERM DETAIL

NTS

LEGEND:

1. DETAIL SHOWN ABOVE. CONSTRUCTION OF THE BERM IS REQUIRED TO PREVENT RUNOFF FROM BECOMING CONTAMINATED.
2. NATURAL DRAINAGE OF THE AREA WILL NOT BE AFFECTED BY THE CONSTRUCTION OF THE PITS. RUNOFF WILL FLOW WILL FLOW AROUND THE BERMS SURROUNDING THE PITS AND CONTINUE ON ITS NATURAL COURSE.
3. OFF-SITE RUNOFF WILL NOT CROSS THE PERMITTED BOUNDARIES BECAUSE OF THE FACILITY'S LOCATION ON MILD TO MODERATE SLOPES. SEE FIGURE II-9 & III-9 (USGS TOPOGRAPHIC MAP) OF PARTS II&III OF THE APPLICATION .
4. THE WORST CASE DEPTH OF RUNOFF AFFECTING THE PITS WILL BE FROM THE WITHIN THE PERMITTED BOUNDARIES ONLY. INCLUDED IN THIS ATTACHMENT ARE CALCULATIONS USED TO DETERMINE THE THE DEPTH OF FLOW FOR THE WORST CASE RUNOFF SCENARIO. THE DEPTH OF FLOW CALCULATED IS 0.05 FEET ALONG THE EDGE OF THE MOST NORTH WESTERLY PIT. THIS IS WELL BELOW THE 2 FEET DESIGN HEIGHTH OF THE BERM AS SHOWN ABOVE IN THE TYPICAL BERM SECTION.
5. 100-YEAR AND 25-YEAR FLOW CALCULATIONS ARE INCLUDED AS PART OF THIS ATTACHMENT. THE 100 YEAR FLOOD ZONE CALCULATIONS ARE SHOWN IN APPENDIX 22 (LOCATION RESTRICTIONS) OF PARTS I&II OF THE APPLICATION.
6. RAINFALL INTENSITY/FREQUENCY CURVES WERE GENERATED USING RAINFALL DATA FROM THE U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU, RAINFALL FREQUENCY ATLAS OF THE UNITED STATES.
7. ADJOINING OFF-SITE CONTOURS ARE NOT PROVIDED BECAUSE FLOW FLOW FROM THESE AREAS DO NOT AFFECT THE LANDFILL BOUNDARIES.



LEGEND

PITS
LANDFILL
BUFFER ZONE
ROAD

NOTE: ALL PITS WILL BE UTILIZED AS BOTH TYPE I AND TYPE IV. WASTE DISPOSAL WILL BEGIN IN PIT 1 AND FOLLOW SYNCHRONIZATION TO PIT 28. ALL INCOMING WASTE WILL BE INSPECTED AT THE GATE AND DIRECTED BY LANDFILL EMPLOYEE FOR DISPOSAL IN PROPER PIT.

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CITY OF BOOKER LANDFILL

SITE LAYOUT PLAN

CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

9/15/2025

Revisions

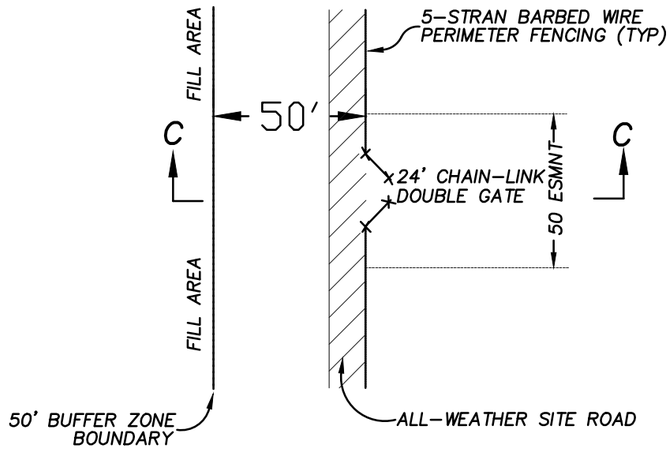
	Date:
1	4/15/2025
2	6/9/2025
3	9/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 200'

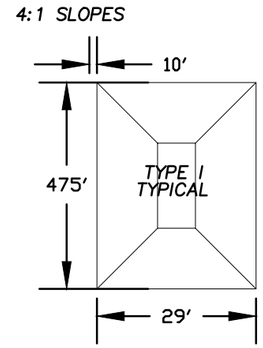
Figure III-6

NOTES:

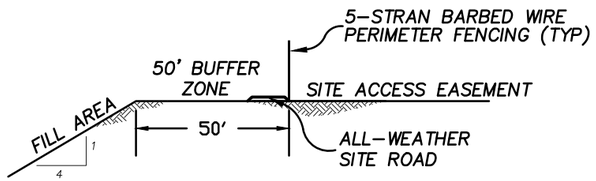
1. ONCE A PIT IS FILLED TO CAPACITY, THAT AREA SHALL BE CLOSED AND FINAL COVER SHALL BE INSTALLED.
2. PROGRESSION OF PIT INSTALLATION WILL BE FROM A–5 TO S–2. PITS WILL BE USED FOR TYPE I & TYPE IV WASTE.
3. THE SITE DRAINS TO THE NORTH ALONG THE NATURAL CONTOURS. THERE ARE NO SPECIAL DRAINAGE FEATURES ON THE SITE.
4. ACCESS TO THE SITE FROM THE CITY OF BOOKER IS EAST 1 MILE VIA STATE HIGHWAY 15 AND NORTH ON COUNTY ROAD 3 FOR 2.5 MILES.
5. A 5–STRAN BARBED WIRE FENCE WILL BE INSTALLED AROUND THE ENTIRE SITE. A 6' CHAIN LINK DOUBLE GATE WILL BE INSTALLED AT THE ENTRANCE FOR ADDED SECURITY.
6. AN ALL–WEATHER SITE ACCESS ROAD SHALL BE USED ON SITE.
7. FINAL COVER ELEVATION SHALL BE INSTALLED TO MATCH THE FINAL CONTOUR MAP. SEE FIGURE II–19.
8. LANDFILL MARKERS SHALL BE USED AS DIRECTED IN THE SITE OPERATING PLAN.
9. NO ON–SITE STRUCTURES WILL BE CONSTRUCTED AT THIS TIME.
10. NO WASTE WILL BE DEPOSITED WITHIN A FLOOD ZONE.
11. GAS MONITORING WILL BE PHASED IN AS PIT CONSTRUCTION PROGRESSES.
12. AREA USED FOR BULK RECYCLABLE ITEMS WILL CHANGE AS THE CONSTRUCTION OF THE PITS PROGRESS TO THAT AREA.
13. ALL–WEATHER SITE ROAD WILL BE RELOCATED AS THE PIT CONSTRUCTION PROGRESSES.
14. MAXIMUM WASTE ELEVATION OVER ENTIRE SITE WILL BE TO THE EXISTING GROUND ELEVATION. FINAL COVER WILL BE 2 FEET ABOVE THE MAXIMUM WASTE ELVATION.



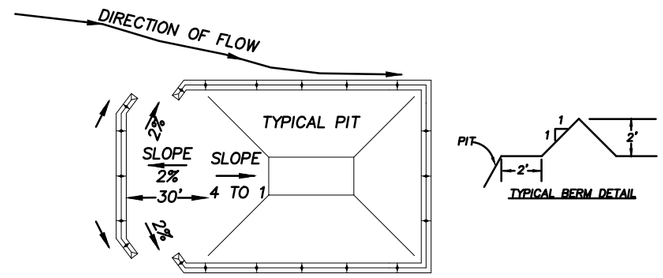
ENTRANCE DETAIL
1" = 50'



PIT DIMENSION DETAIL
NTS



ENTRANCE & BUFFER ZONE X–SECTION
1" = 50'



PIT ENTRANCE DETAIL
NTS

Revisions

	Date:
1	4/15/2025
2	10/15/2025

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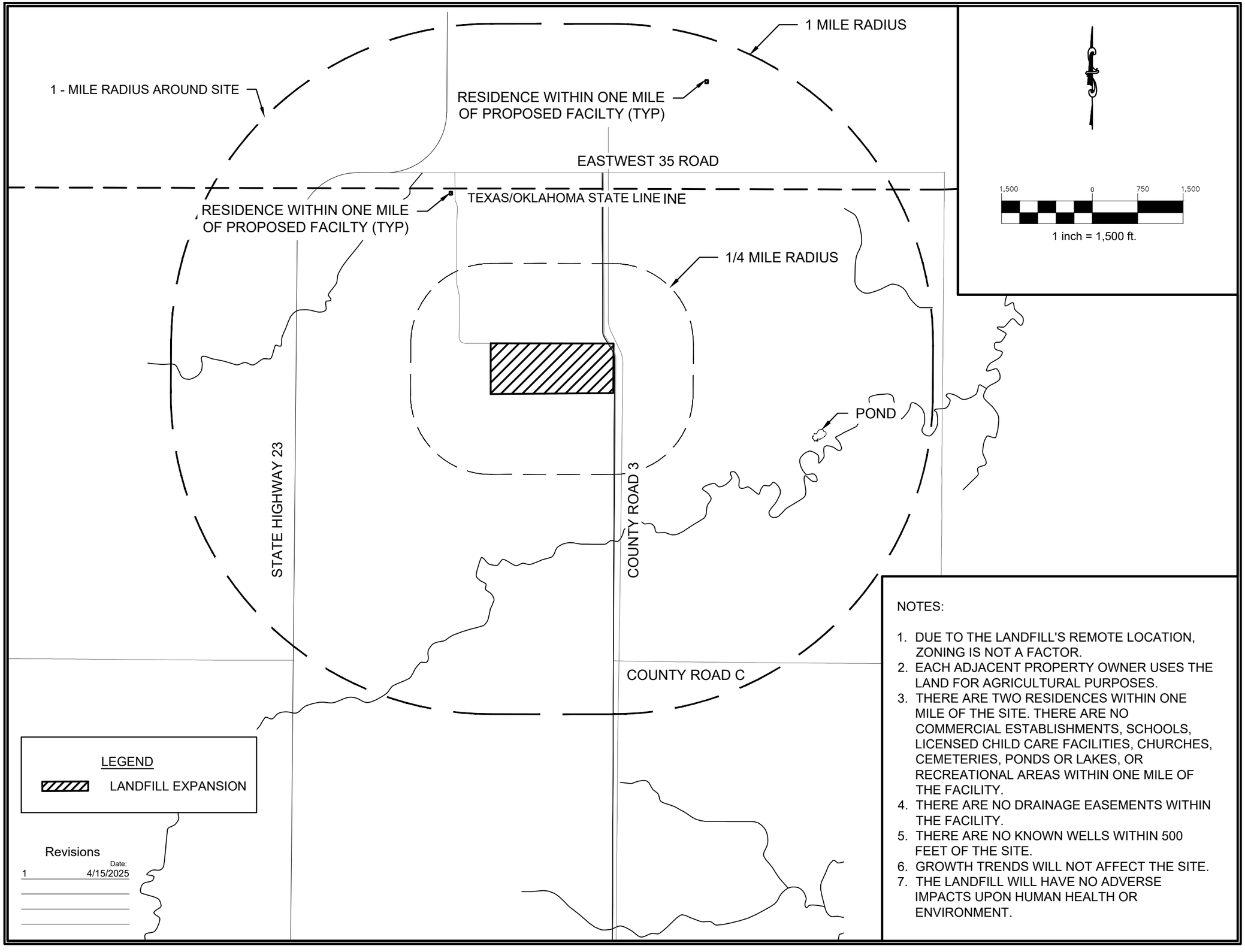
CITY OF BOOKER LANDFILL

SITE LAYOUT DETAILS AND NOTES

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
10/15/2025

Drawn By: CCG
Checked By: MCS
Scale: SHOWN

Figure
III-7



Revisions

	Date:
1	4/15/2025

NOTES:

1. DUE TO THE LANDFILL'S REMOTE LOCATION, ZONING IS NOT A FACTOR.
2. EACH ADJACENT PROPERTY OWNER USES THE LAND FOR AGRICULTURAL PURPOSES.
3. THERE ARE TWO RESIDENCES WITHIN ONE MILE OF THE SITE. THERE ARE NO COMMERCIAL ESTABLISHMENTS, SCHOOLS, LICENSED CHILD CARE FACILITIES, CHURCHES, CEMETERIES, PONDS OR LAKES, OR RECREATIONAL AREAS WITHIN ONE MILE OF THE FACILITY.
4. THERE ARE NO DRAINAGE EASEMENTS WITHIN THE FACILITY.
5. THERE ARE NO KNOWN WELLS WITHIN 500 FEET OF THE SITE.
6. GROWTH TRENDS WILL NOT AFFECT THE SITE.
7. THE LANDFILL WILL HAVE NO ADVERSE IMPACTS UPON HUMAN HEALTH OR ENVIRONMENT.

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CITY OF BOOKER LANDFILL

LANDUSE MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
4/15/2025

Drawn By:	CCG
Checked By:	MCS
Scale:	1" = 1,500'

Figure
III-8

2,000 0 1,000 2,000

1 inch = 2,000 ft.

1 - MILE RADIUS AROUND SITE

WELL #550777

TEXAS/OKLAHOMA STATE LINE

WELL #529683

WELL #57127

WELL #351720

WELL #323369

WELL #351694

WELL #351716

WELL #351717

WELL #626345

WELL #351664

WELL #351669

WELL #351673

REVISIONS
1 4/15/25

LEGEND
WATER WELL
LANDFILL

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

FIGURE lil-9

USGS TOPO MAP

4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

4/15/2025

Revisions

	Date:
1	4/15/2025

CITY OF BOOKER LANDFILL

AERIAL MAP

FIGURE III-10

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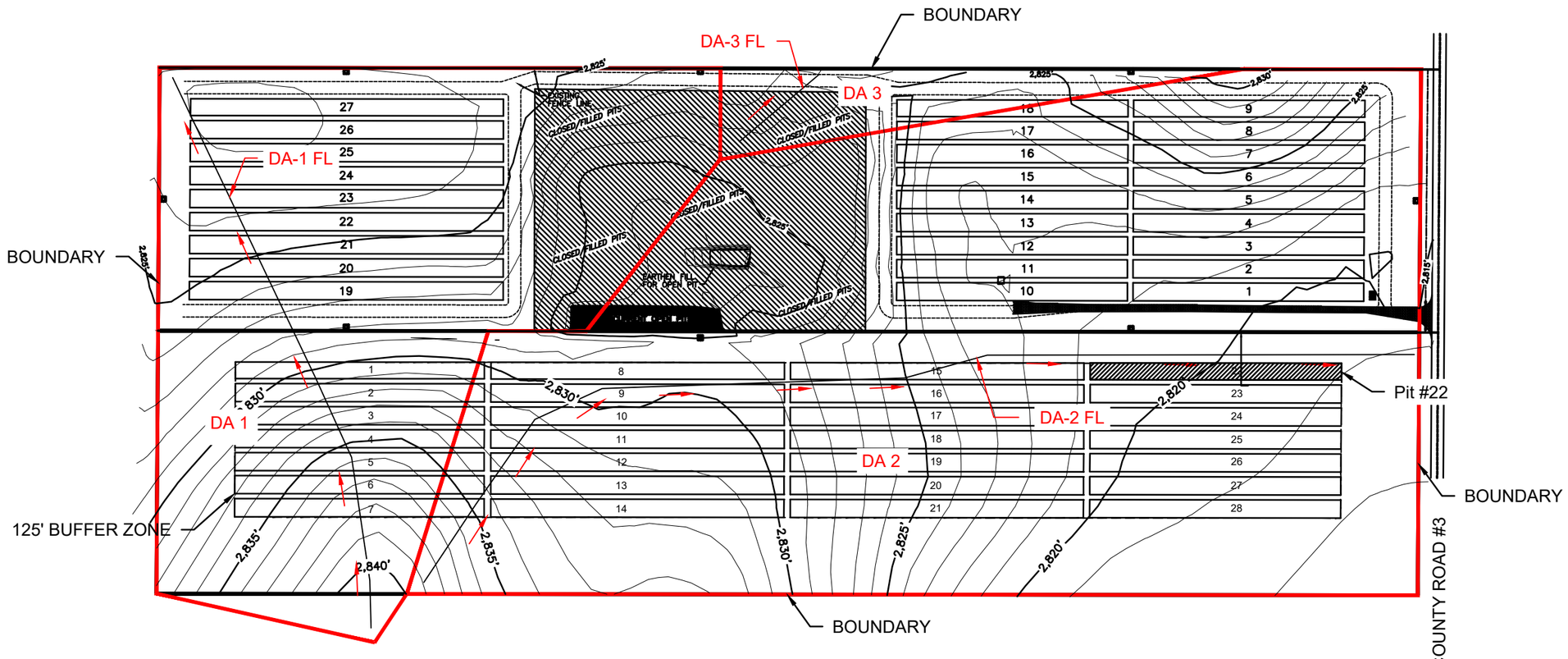
SCALE: 1" = 200'

200 0 100 200

1 inch = 200 ft.



Revisions

4/17/2025 Date:

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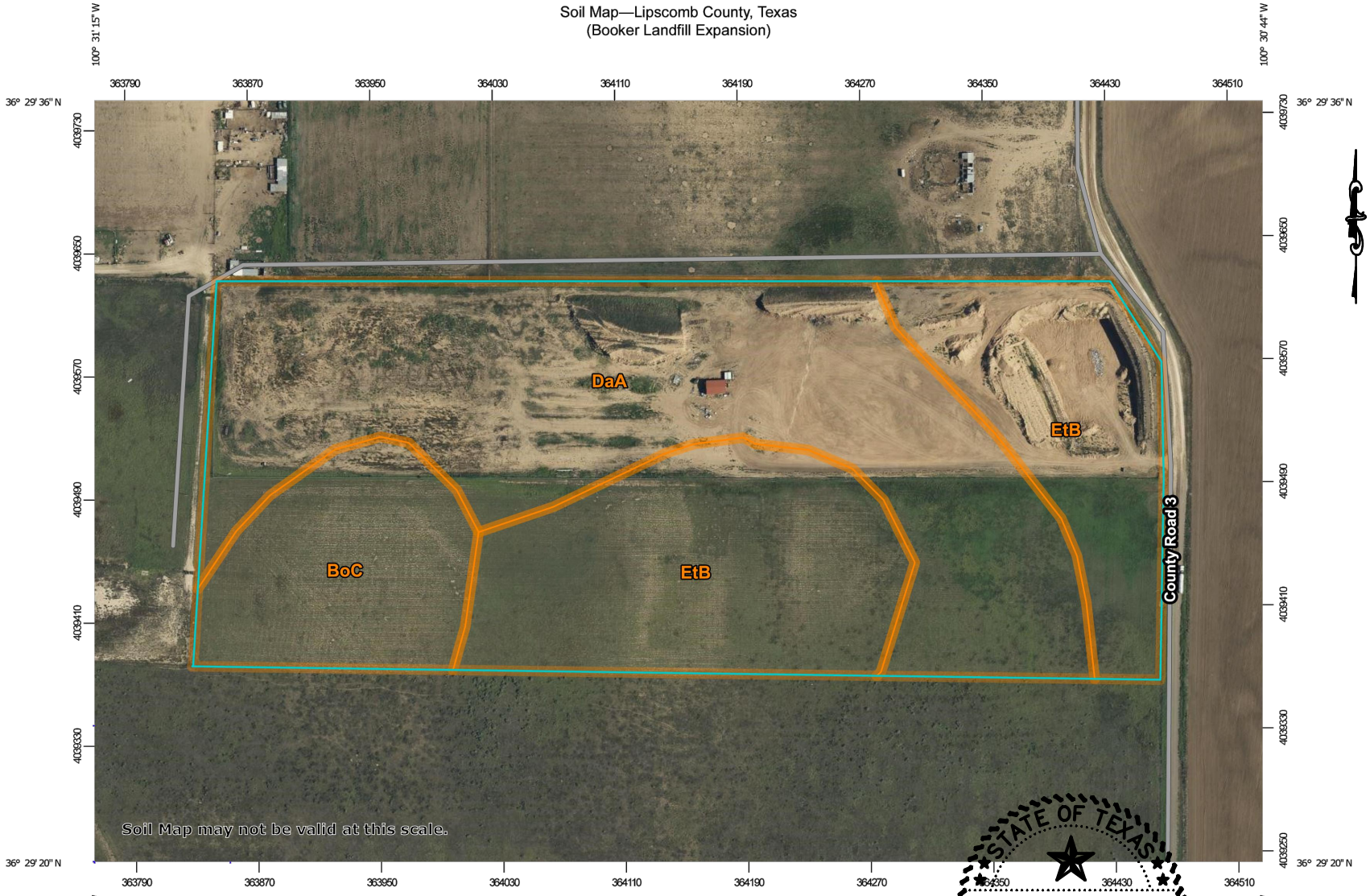
CITY OF BOOKER LANDFILL

HYDROGEOLOGIC CONDITIONS

STATE OF TEXAS
ETHAN B. JOHNSON
142301
LICENSED PROFESSIONAL ENGINEER
4/15/25

Drawn By:	DV	Figure:
Checked By:	EBJ	III-14
Scale:	1" = 200'	

Soil Map—Lipscomb County, Texas
(Booker Landfill Expansion)



Map Scale: 1:3,490 if printed on A landscape (11" x 8.5") sheet.

N

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

Revisions

	Date:
1	4/15/2025

STATE OF TEXAS
CHE SHADLE
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LICENSED
PROFESSIONAL ENGINEER
4/15/2025
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USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

4/17/2025

Figure III-15

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lipscomb County, Texas
Survey Area Data: Version 20, Aug 30, 2024

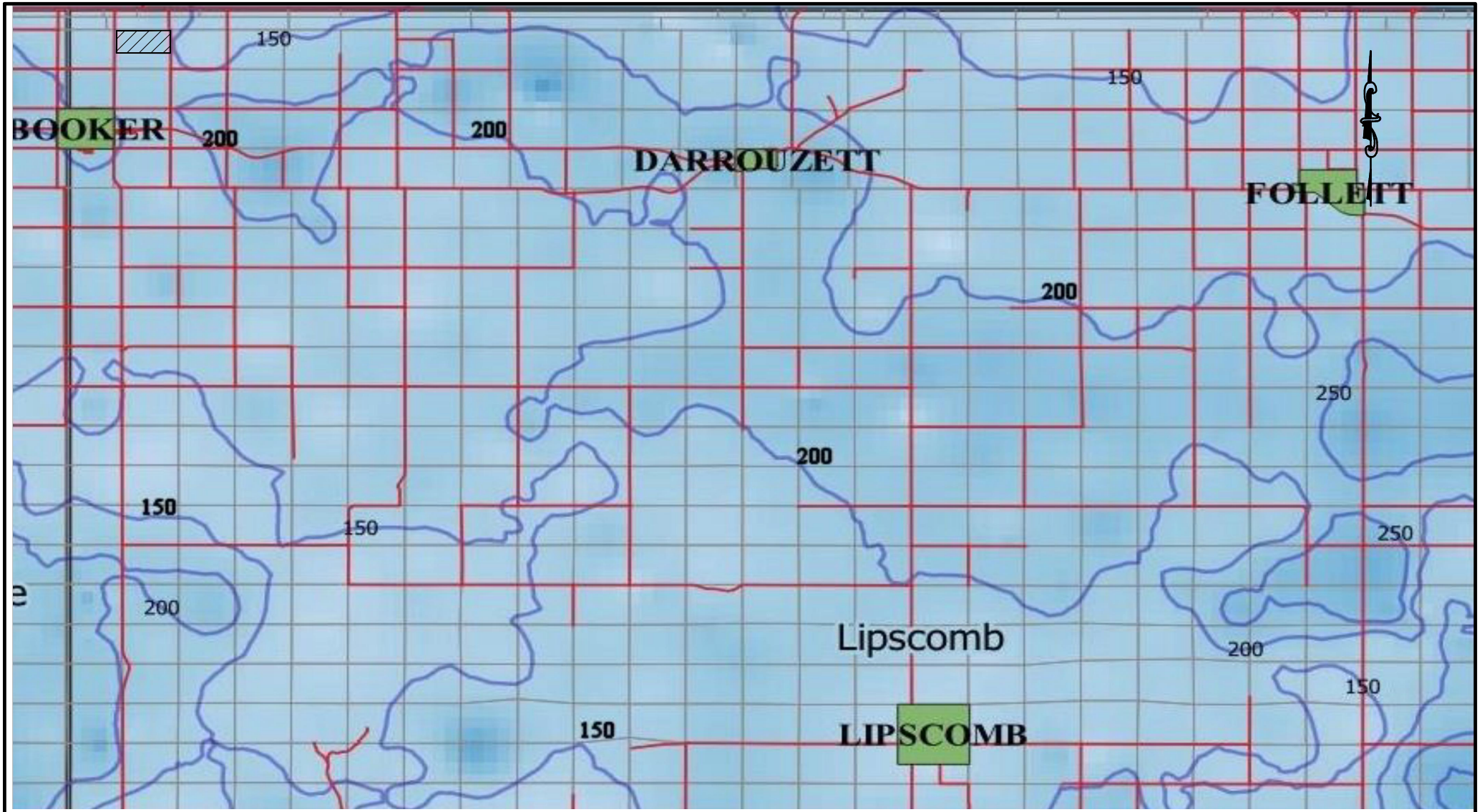
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 10, 2022—Sep 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BoC	Balko-Oslo silt loams, 2 to 5 percent slopes	5.3	13.6%
DaA	Darrouzett silty clay loam, 0 to 1 percent slopes	18.9	48.1%
EtB	Estacado-Olton complex, 0 to 3 percent slopes	15.1	38.3%
Totals for Area of Interest		**39.3**	**100.0%**



LEGEND

LANDFILL

Drawn By: NPGCD
Checked By: NPGCD
Scale: NTS
Date: 2022 - 2023

SATURATED THICKNESS MAP
FIGURE III-16

Revisions

Date:
4/15/2025

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4/15/2025
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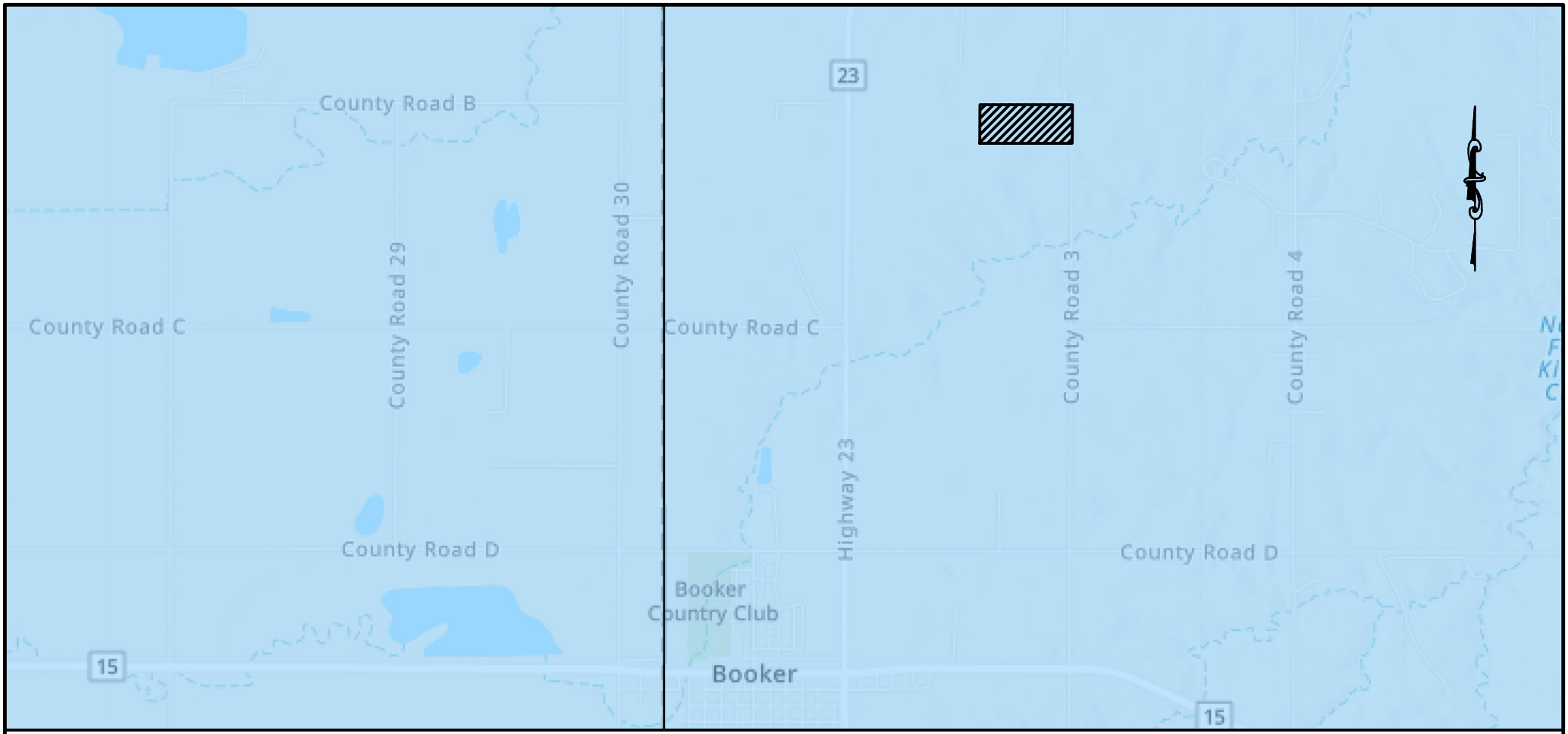

LEGEND

Ogallala Aquifer

Landfill

AQUIFER MAP
FIGURE III-17

Drawn By:	TWDB
Checked By:	TWDB
Scale:	N/A
Date:	2022 - 2023

Revisions

Date: 4/15/2025

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER

4/15/2025
F-4393

North Plains GCD Map
Booker Landfill - Water Table Elevation
Created: July 31st 2024, 8:09am

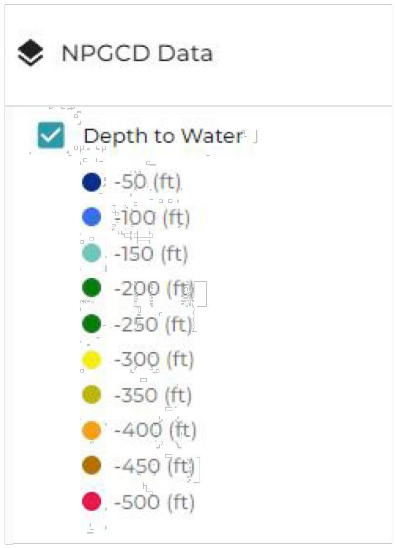

FIGURE III-18

Drawn By: NPGCD
Checked By: NPGCD
Scale: N/A
Date: January 2024

LEGEND

Landfill

Revisions

Date:
4/15/2025

STATE OF TEXAS
CHE SHADLE
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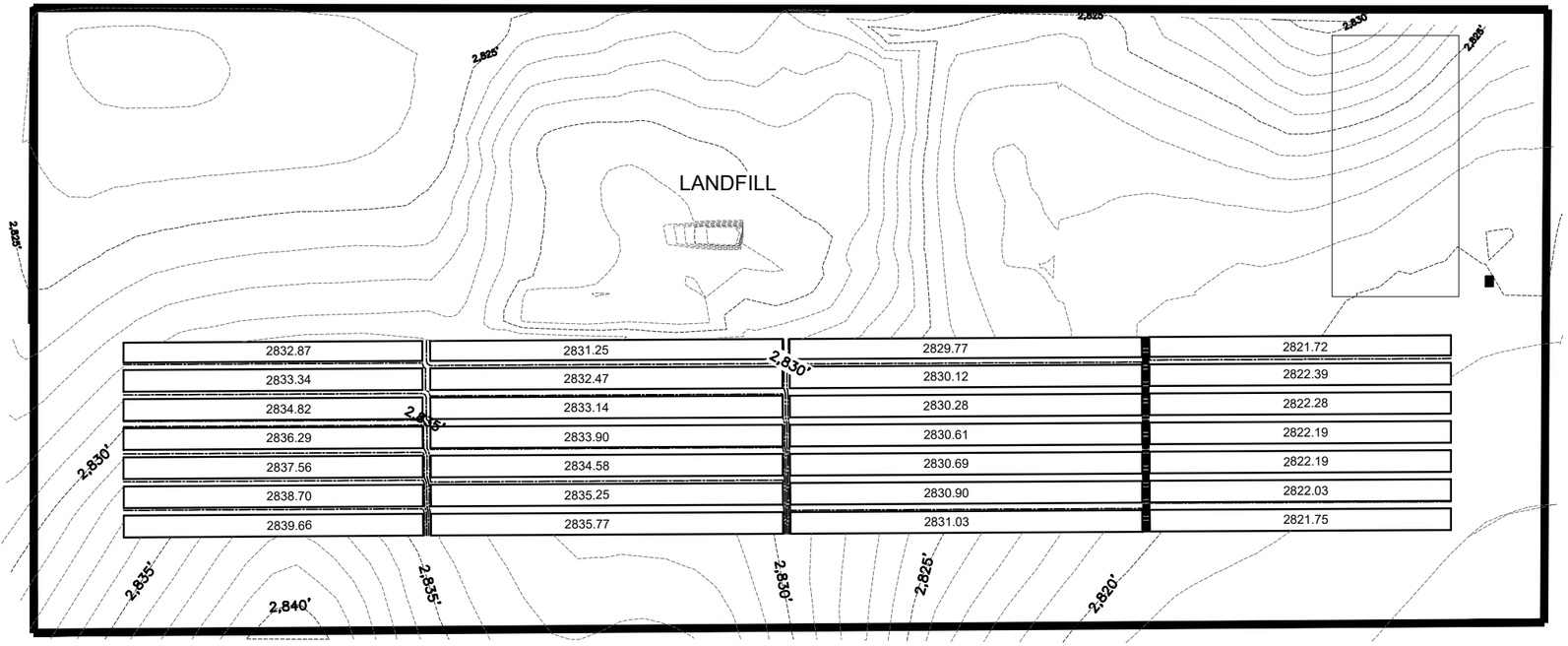
PROFESSIONAL ENGINEER

4/15/2025
F-4393

SCALE: 1" = 200'

200 0 100 200



2832.87	2831.25	2829.77	2821.72
2833.34	2832.47	2830.12	2822.39
2834.82	2833.14	2830.28	2822.28
2836.29	2833.90	2830.61	2822.19
2837.56	2834.58	2830.69	2822.19
2838.70	2835.25	2830.90	2822.03
2839.66	2835.77	2831.03	2821.75

LEGEND

PITS

LANDFILL

Revisions

Date:
4/15/2025
10/15/2025

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502 N. Dowden Road, Ste 102
Wolfforth, TX 79382
(806) 791-2300

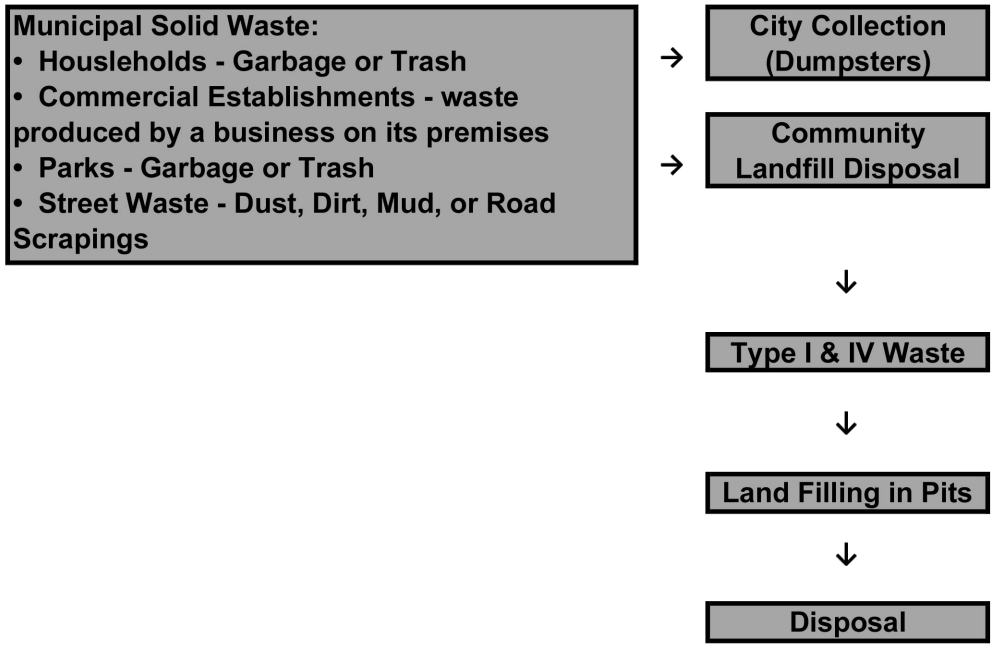
AMARILLO
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

CITY OF BOOKER LANDFILL

FINAL CONTOUR MAP

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
10/15/2025

Drawn By:	CCG	Figure	III-19
Checked By:	MCS		
Scale:	1" = 200'		



Flow Diagram

FIGURE 20

Revisions

	Date:
1	9/15/2025

STATE OF TEXAS
CHE SHADLE
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PROFESSIONAL ENGINEER

9/15/2025
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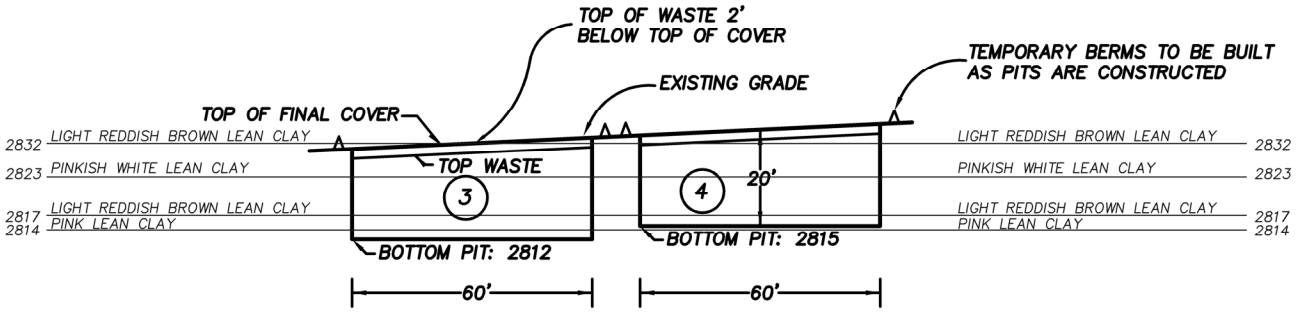


SECTION A–A

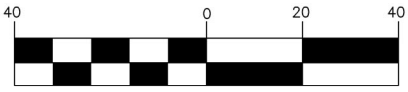
SCALES:
HORIZ – 1" = 40'
VERT – 1" = 40'

NOTE: TEMPORARY BERM CONSTRUCTED DURING FILL OPERATIONS TO PREVENT STORM WATER RUNOFF INTO ACTIVE PIT AREA. BERM IS REMOVED WHEN FINAL COVER IS PLACED.FINAL CONTOUR DRAWING – FIGURE II–19.

(#) PIT NUMBER CORRESPONDING TO NUMBER ON SITE DEVELOPMENT PLAN

Revisions

Date:
4/15/2025



1 inch = 40 ft.

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

10/15/2024

CITY OF BOOKER LANDFILL
CROSS SECTION OF TYPICAL PIT
Figure III-21

October 2024

OJD Engineering, LLC
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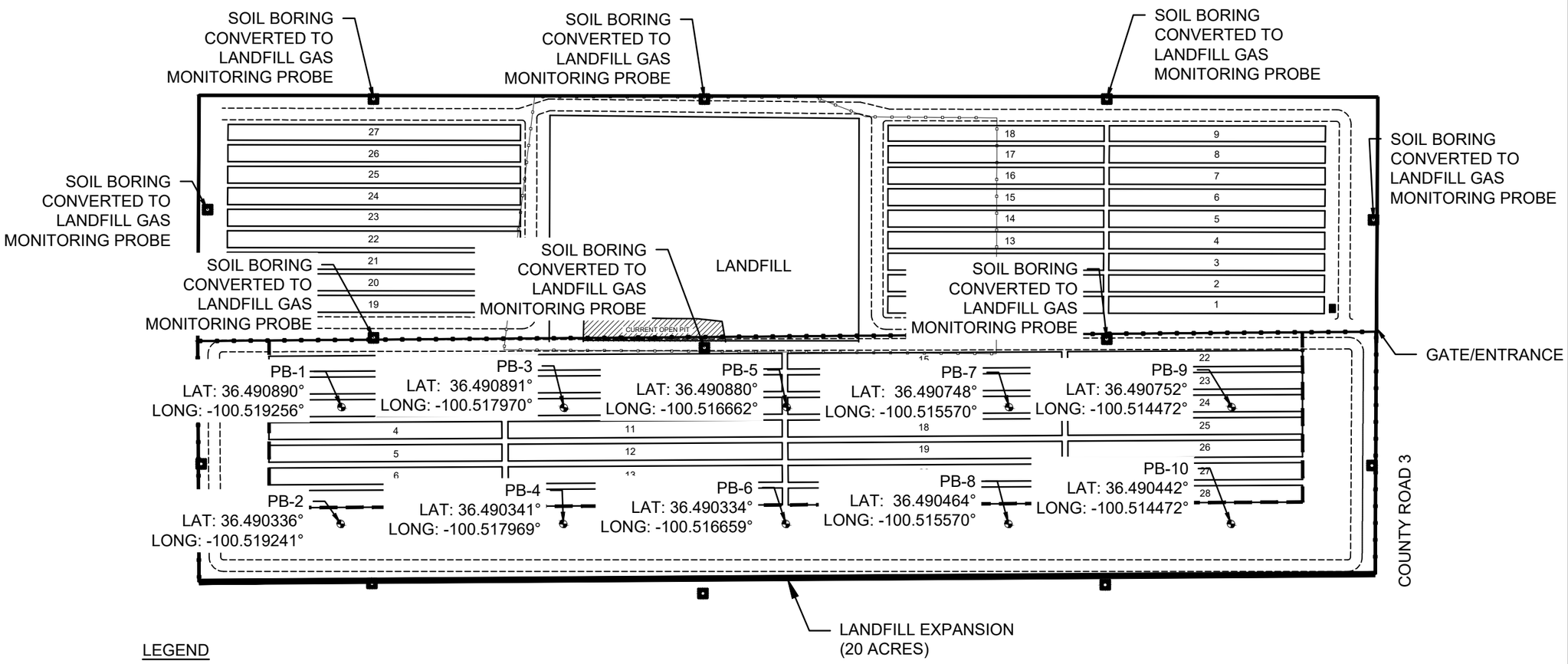
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

WOLFFORTH
328 E. 82, Unit No. 1
Wolfforth, TX 79382
(806) 791-2300

SCALE: 1" = 200'

−200 0 100 200

PROPOSED BORINGS				
Boring #	Surface Elev.	Total Boring Depth	Bottom Elev.	
PB1	2831.85	39.85	2792.00	34.85' - Above & 5' - Below
PB2	2836.96	69.96	2767.00	39.96' - Above & 30' - Below
PB3	2830.44	63.44	2767.00	32.50' - Above & 30' Below
PB4	2830.90	38.90	2792.00	33.90' - Above & 5' - Below
PB5	2827.00	35.00	2792.00	30.00' - Above & 5' - Below
PB6	2827.00	60.00	2767.00	30.00' - Above & 30' - Below
PB7	2822.00	55.00	2767.00	25.00' - Above & 30' - Below
PB8	2821.00	29.00	2792.00	24.00' - Above & 5' - Below
PB9	2817.00	25.00	2792.00	36.17' - Above & 5' - Below
PB10	2817.00	50.00	2767.00	20.00' - Above & 30' - Below



LEGEND

PITS
LANDFILL
BUFFER ZONE
FENCEE
PROPOSED BORE
GAS MONITORING PROBE

Revisions

Date:
4/15/2025

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Amarillo, TX 79109
(806) 352-7117

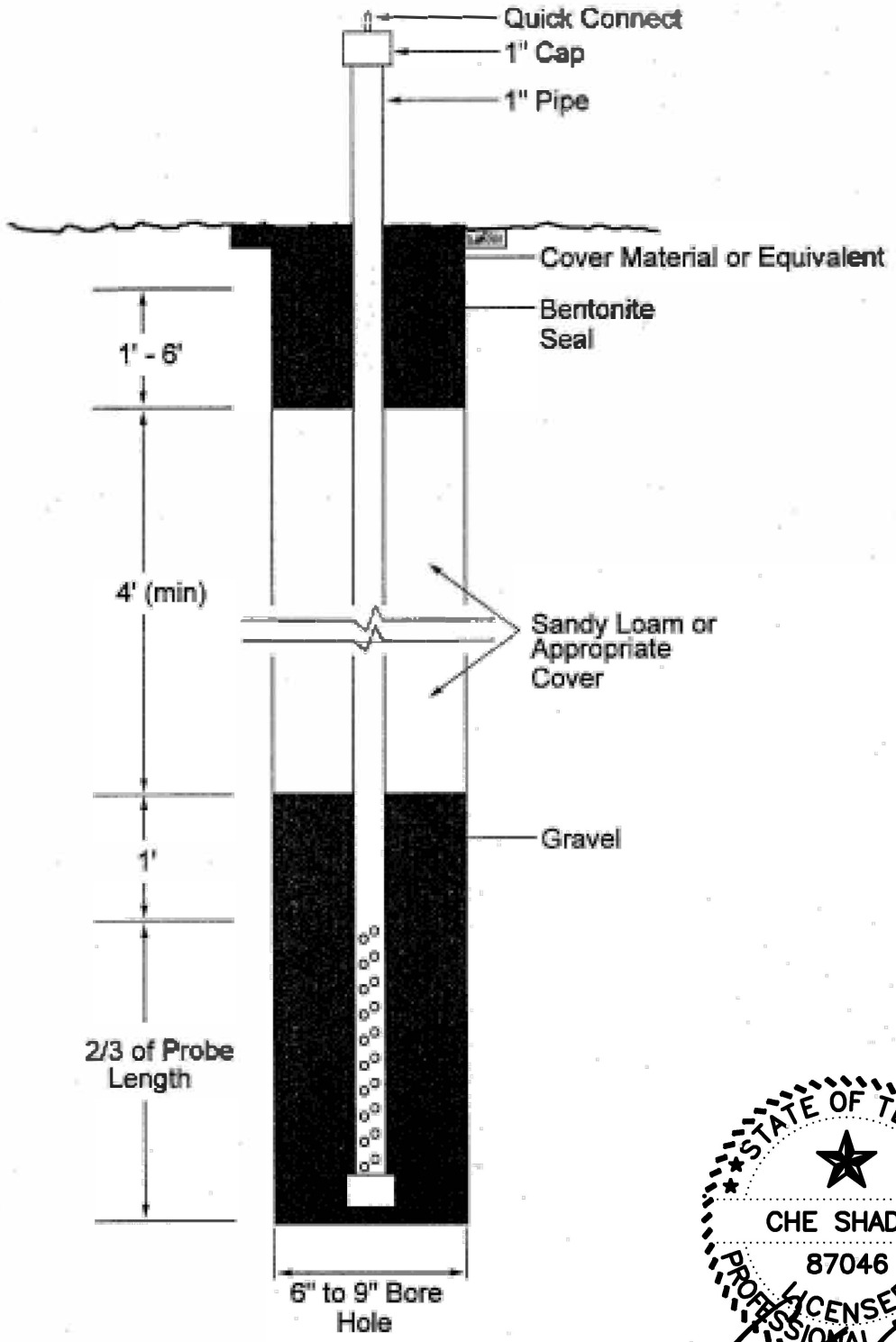
CITY OF BOOKER LANDFILL

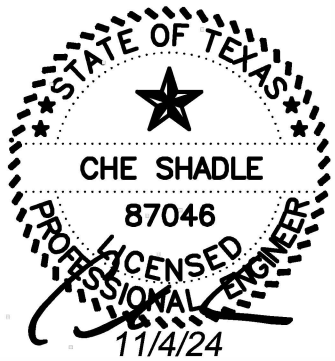
SOIL BORING PLAN

STATE OF TEXAS
CHE SHADLE
87046
LICENSED
PROFESSIONAL ENGINEER
4/15/2025

Drawn By: CCG
Checked By: MCS
Scale: 1" = 200'

Figure
III-22





NOTE:

FOR THE WELL, 4 PROTECTIVE BARRIER PIPES WILL BE REQUIRED. THE PIPES WILL BE PLACED 1' FROM THE 4'X4' PAD ON EACH SIDE. THE PROTECTIVE PIPES SHALL BE 4" IN DIAMETER AND SET 2' INTO CONCRETE.

CITY OF BOOKER
METHANE MONITORING PROBE DETAIL

SCALE: NTS	REVISION DATE:	FIGURE NUMBER:
DATE: August 2024	April 15, 2025	III-23

OJD Engineering, LLC
Consulting Engineers & Surveyors
806-352-7117
2420 Lakeview Drive
Amarillo, TX 79110

WELL DATA REPORT

Site Location

The proposed Booker, Texas Municipal Solid Waste Landfill (MSWLF) will be located 2 ½ miles northeast of the City of Booker on County Road 3. The land surrounding the site is primarily pasture land, except for the east, which is bound by County Road 3.

Wells and Springs in the Site Vicinity

A site visit was made to locate existing wells and springs within a one-mile radius of the proposed site. Two (2) wells were found to exist within this area of the one-mile radius. A map showing the location of each well is attached to this report as Figure 4. The inventoried wells were developed in a major aquifer known as the Ogallala Aquifer. Attached to this report is a map obtained from the Texas Water Development Board labeled Booker MSW Landfill Aquifer. This map is shown as Figure 17. The Ogallala Aquifer consists of sand, gravel, clay, and silt and has a maximum thickness of 800 feet. Freshwater saturated thickness averages 200 feet. There are no known springs to exist in the vicinity of the proposed site.

The wells are numbered 323369 and 556777 on the map. A limited amount of information exists for the wells. Water well logs for each well is attached to this report; however, these wells are not available for testing. Well 323369 is used for irrigation on private land and 556777 is a domestic well on private land. Well Data for the wells is shown in the attached well reports.

Water Gradient

The ground-water gradient, as determined by comparing the static water level elevations, flows from the northeast to the southwest. This is illustrated in the map. Wells 323369 and 556777 are located northwest and southeast of the proposed landfill, therefore neither of the wells will be down gradient of the proposed landfill.

Revisions
Date:
_____
_____

STATE OF TEXAS WELL REPORT for Tracking #57127

Owner:	**Craig Custer Full Circle L-C**	Owner Well #:	**TH 1-05**
Address:	**P.O. Box 259 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**No Data**	Latitude:	**36° 29' 12" N**
		Longitude:	**100° 30' 07" W**
Well County:	**Lipscomb**	Elevation:	**2706 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Test Well**

Drilling Start Date: **4/6/2005** Drilling End Date: **4/6/2005**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.75**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Unknown**

Annular Seal Data: **No Data**

Seal Method: **Not Applicable**

Sealed By: **Unknown**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **2560**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Estimated**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
0 - 10 1 bag cement		
10 - 380 Natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L. T. Drilling Company**

P.O. Box 784
Sunray, TX 79086

Driller Name: **Lester James Taylor**

License Number: **1849**

Apprentice Name: **Diego Solano**

Apprentice Number: **WWDAPP00000621**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	**17**	**Surface top soil brown sandy clay**
17	**40**	**Caliche w/rock strips**
40	**180**	**Sand w/rock strips + clay strips**
180	**200**	**Fine to med fairly loose sand w/clay mix + clay strips**
200	**220**	**Fine fairly loose sand w/clay mix + sandy clay strips**
220	**240**	**Brown sandy clay w/sand strips**
240	**260**	**Brown sandy clay w/fine dirty sand strips**
260	**280**	**Fine fairly loose dirty sand w/clay mix + sandy clay strips**
280	**300**	**Med to coarse fairly loose sand w/gravel**
300	**320**	**Fairly loose coarse sand & gravel to red clay**
320	**340**	**Red clay & shale**
340	**360**	**Red clay & shale w/green shale strips**
360	**380**	**Red clay + shale w/soft clay strip**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #323369

Owner:	**Rex Hoover**	Owner Well #:	**No Data**
Address:	**P.O. Box 289 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**Sec28 Blk10 HTB TX**	Latitude:	**36° 29' 04" N**
		Longitude:	**100° 30' 08" W**
Well County:	**Lipscomb**	Elevation:	**2798 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **6/27/2013** Drilling End Date: **6/27/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**12.25**	**0**	**350**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**20**	**350**	**Gravel**	**#1 fine KS**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**20**	**6, cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **165 ft.** below land surface on **2013-06-27** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **Bailer** **Yield: 200+ GPM with 20 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
185	**Good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **3T Drilling, Inc.**

10870 Cluck Rd
Dumas, TX 79029

Driller Name: **Ray Teeter** License Number: **58514**

Comments: **Irrigation #2**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**100**	**topsoil, sandy clay, hard caliche, clay w/sandy clay & sand strip**
100	**160**	**sandy clay w/sand stips, clay strips**
160	**180**	**med to coarse sand**
180	**200**	**medium to coarse sand, sandy clay w/clay strip**
200	**240**	**sandy clay w/sand strips**
240	**260**	**medium sand w/sandy clay strips**
260	**280**	**sandy clay, clay strips**
280	**300**	**sandy clay, medium sand to small gravel**
300	**320**	**small gravel to 3/4"**
320	**340**	**gravel, white sandy clay, red clay**
340	**350**	**red clay, shale**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6" new steel, +2-3			
6" new PVC, blank, 3-240, 340-350			
6" new PVC, perf, 240-340, 0.050			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351664

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 1-13**

Grid #: **04-36-3**

Latitude: **36° 28' 53" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144670

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/18/2013** Drilling End Date: **12/18/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**460**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-460 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**2**	**surface top soil**
2	**10**	**caliche**
10	**200**	**sandy with brown clay strips**
200	**220**	**fine and med loose sand with clay mix**
220	**240**	**fine and med loose sand with clay mix**
240	**260**	**brown clay with fine tight little sand**
260	**280**	**fine kind of loose sand with brown clay strips**
280	**300**	**fine tight sand with clay mix**
300	**340**	**red and brown clay with tight little sand**
340	**360**	**red and brown clay mix with loose sand and gravel**
360	**380**	**fine loose sand and gravel with clay mix**
380	**400**	**brown clay with fine tight little sand with gravel**
400	**420**	**fine tight little sand with mixed clay**
420	**440**	**fine tight little sand with red clay strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

440	**460**	**red clay**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351669

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 2-13**

Grid #: **04-36-3**

Latitude: **36° 28' 48" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144671

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/18/2013** Drilling End Date: **12/18/2013**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
4.5	**0**	**440**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
5	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-440 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**7**	**surface top soil**
7	**180**	**sandy with brown clay strips**
180	**220**	**fine and med loose sand with clay mix**
220	**240**	**fine and med loose sand with clay mix**
240	**260**	**fine tight little sand with brown clay strips**
260	**280**	**fine tight little sand with brown and red clay strips**
280	**300**	**fine tight little sand with red and gray clay strips**
300	**320**	**fine tight little sand with red and gray clay strips**
320	**340**	**brown clay with fine tight sand and gravel**
340	**360**	**brown clay with fine tight sand and gravel**
360	**380**	**brown clay with fine tight sand and gravel**
380	**400**	**fine tight sand and gravel**
400	**420**	**gravel and tight sand and red clay strips**
420	**440**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #351673

Owner: **Preferred Beef Group**

Address: **PO BOX 290 Booker, TX 79005**

Well Location: **Sec 28, Blk 10, HT&B TX**

Well County: **Lipscomb**

Owner Well #: **Th 4-13**

Grid #: **04-36-3**

Latitude: **36° 28' 44" N**

Longitude: **100° 30' 44" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144673

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/19/2013** Drilling End Date: **12/19/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**6**	**surface top soil**
6	**180**	**sandy with brown and tan and red clay strips**
180	**200**	**brown clay with tight little sand**
200	**220**	**fine and med sand**
220	**240**	**fine and med sand with red clay strips**
240	**260**	**fien loose sand with clay mix**
260	**280**	**fine loose sand with clay mix**
280	**300**	**fine loose sand with clay mix and gravel**
300	**320**	**fine loose sand with clay mix and gravel**
320	**340**	**fine loose sand with clay mix and gravel**
340	**360**	**fine loose sand with clay mix and gravel**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

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STATE OF TEXAS WELL REPORT for Tracking #351694

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 8-13**

Grid #: **04-36-3**

Latitude: **36° 29' 03" N**

Longitude: **100° 30' 43" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144678

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **12/21/2013** Drilling End Date: **12/21/2013**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**340**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-340 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient INc**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**20**	**surface top soil**
20	**40**	**caliche with shale**
40	**200**	**sandy with brown clay strips**
200	**220**	**fine tight sand with clay mix**
220	**240**	**fine loose sand with clay mix**
240	**260**	**fine loose sand with clay mix and gravel**
260	**300**	**brown clay with fine tight little sand**
300	**320**	**fine loose sand and gravel with red clay strips**
320	**340**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #351716

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 9-14**

Grid #: **04-36-3**

Latitude: **36° 29' 00" N**

Longitude: **100° 30' 31" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144679

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/3/2014** Drilling End Date: **1/3/2014**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**3**	**surface top soil**
3	**40**	**caliche**
40	**200**	**sandy with brown clay stirps**
200	**220**	**fine little sand with brown clay strips**
220	**240**	**fine little loose sand with brown clay strips**
240	**260**	**fine little loose sand with brown clay strips**
260	**280**	**fine tight little sand with brown clay strips**
280	**300**	**fine tight little sand with clay mix**
300	**320**	**fine and med fairly loose sand**
320	**340**	**fine and med fairly loose sand and gravel**
340	**360**	**fine tight sand with red clay strips and gravel**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #351717

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 10-14**

Grid #: **04-36-3**

Latitude: **36° 29' 00" N**

Longitude: **100° 30' 20" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144680

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/3/2014** Drilling End Date: **1/3/2014**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-380 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**7**	**surface top soil**
7	**40**	**caliche**
40	**180**	**sandy with brown clay strips**
180	**200**	**fine and med loose sand and shale**
200	**240**	**fine tight little sand with brown clay stirps**
240	**280**	**fine tight little sand with gravel and brown clay strips**
280	**320**	**fine tight little sand with clay mix**
320	**340**	**fine fairly loose sand with gravel and clay mix**
340	**360**	**fine and med tight sand with gravel and red clay strips**
360	**380**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

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STATE OF TEXAS WELL REPORT for Tracking #351720

Owner: **Preferred Beef Group**

Address: **PO BOX 290**
Booker, TX 79005

Well Location: **Sec 28, Blk 10, HT&B**
TX

Well County: **Lipscomb**

Owner Well #: **Th 11-14**

Grid #: **04-36-3**

Latitude: **36° 29' 02" N**

Longitude: **100° 30' 24" W**

Elevation: **No Data**

****Plugged Within 48 Hours****

****This well has been plugged****

Plugging Report Tracking #144682

Type of Work: **New Well**

Proposed Use: **Test Well**

Drilling Start Date: **1/4/2014** Drilling End Date: **1/4/2014**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
4.5	**0**	**400**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
5	**25**	**cement**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **none obsvd**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
000-005 natural fill		
005-025 cement		
025-400 natural fill		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Contient Inc**

PO BOX 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**5**	**surface top soil**
5	**30**	**caliche**
30	**200**	**sand with brown clay strips**
200	**240**	**fine tight sand with brown clay strips**
240	**280**	**fine tight sand with brown clay strips**
280	**340**	**fine tight sand with clay mix**
340	**360**	**fine fairly loose and gravel**
360	**380**	**fine fairly loose sand with red clay strips**
380	**400**	**red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

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STATE OF TEXAS WELL REPORT for Tracking #529683

Owner:	**Rick Rousser**	Owner Well #:	**TH 1-19**
Address:	**PO Box 457 Sunray, TX 79086**	Grid #:	**04-37-1**
Well Location:	**Sec 7, BLK SS Booker, TX**	Latitude:	**36° 29' 38.87" N**
		Longitude:	**100° 29' 57.88" W**
Well County:	**Lipscomb**	Elevation:	**No Data**
			****Plugged Within 48 Hours****

****This well has been plugged**** **Plugging Report Tracking #192632**

Type of Work: **New Well** Proposed Use: **Test Well**

Drilling Start Date: **12/2/2019** Drilling End Date: **12/2/2019**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Plugged**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**20**	**Cement 2 Bags/Sacks**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **No Data**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Continent Inc.**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**20**	**surface top soil brown sandy clay & clay**
20	**43**	**caliche w/rock strips**
43	**180**	**sand w/clay strips**
180	**200**	**brown sandy clay w/fiie sand strips**
200	**220**	**brown sandy clay & clay to fine fairly loose sand w/clay mix**
220	**240**	**fine fairly loose sand w/clay mix & brown clay strips**
240	**260**	**med fine fairly loose sand w/little clay mix**
260	**280**	**fine little tight sand w/little clay mix to brown sandy clay & rock strips**
280	**300**	**brown sandy clay to med to coarse fairly loose sand w/gravel**
300	**320**	**med to coarse fairly loose sand w/gravel & clay strips**
320	**340**	**fine tight sand w/clay mix & gravel strips to red clay**
340	**360**	**red clay w/fine dirty sand strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

360	**380**	**fine fairly loose dirty sand w/gravel strips to red clay**

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STATE OF TEXAS WELL REPORT for Tracking #556777

Owner:	**Miranda Faviols**	Owner Well #:	**No Data**
Address:	**5466 E. Monroe Ave. Las Vegas, NV 89110**	Grid #:	**04-36-3**
Well Location:	**3 mi. North of Booker, Hwy 23 & E0350, 0.40 mi. East on E0350, South 0.10, East 300 ft. Booker, TX 79005**	Latitude:	**36° 29' 55.02" N**
		Longitude:	**100° 31' 16.02" W**
		Elevation:	**2822 ft. above sea level**
Well County:	**Lipscomb**		

Type of Work: **New Well** Proposed Use: **Domestic**

Drilling Start Date: **10/14/2020** Drilling End Date: **10/14/2020**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**9**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**20**	**380**	**Gravel**	**#1 Fine KS**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**20**	**Cement 5 Bags/Sacks**

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used** **Surface Completion by Driller**

Water Level: **216 ft.** below land surface on **2020-10-14** Measurement Method: **Electric Line**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **Bailer** **Yield: 20 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
216 - 380	**Good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **3T Drilling, Inc.**

10870 Cluck Road
Dumas, TX 79029

Driller Name: **Ray Teeter** License Number: **58514**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**40**	**Topsoil**
40	**140**	**Sand & clay**
140	**180**	**Sand & clay**
180	**200**	**White sand**
200	**320**	**Sand & clay mix**
320	**370**	**Sand**
370	**380**	**Red clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
5	**Riser**	**New Steel**	**0.258**	**2**	**3**
5	**Blank**	**New Plastic (PVC)**		**3**	**310**
5	**Perforated or Slotted**	**New Plastic (PVC)**	**0.050**	**310**	**370**
5	**Blank**	**New Plastic (PVC)**		**370**	**380**

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STATE OF TEXAS WELL REPORT for Tracking #626345

Owner:	**Scott Kruse Preferred Beef Group**	Owner Well #:	**TH 2-22**
Address:	**P.O. Box 290 Booker, TX 79005**	Grid #:	**04-36-3**
Well Location:	**SEC 28, BLK 10, HT & B Booker, TX**	Latitude:	**36° 28' 55.7" N**
		Longitude:	**100° 30' 22.64" W**
Well County:	**Lipscomb**	Elevation:	**No Data**
		****Plugged Within 48 Hours****	

****This well has been plugged**** **Plugging Report Tracking #225800**

Type of Work: **New Well** Proposed Use: **Test Well**

Drilling Start Date: **11/30/2022** Drilling End Date: **11/30/2022**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.5**	**0**	**380**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Plugged**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**5**	**20**	**Cement 2**

Seal Method: **Not Applicable**

Sealed By: **Driller**

Distance to Property Line (ft.): **1560' S 1989' W**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **NP groundwater interactive map**

Surface Completion: **No Data**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Hydro Resources Mid Continent Inc.**

PO Box 784
Sunray, TX 79086

Driller Name: **Randy Taylor** License Number: **2366**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**200**	**top soil & brown clay w/caliche strips & sand strips**
200	**220**	**fine to med sand w/clay strips**
220	**240**	**med fine fairly loose sand w/brown clay**
240	**300**	**fine to med fairly loose sand w/clay strips**
300	**320**	**fine to med to coarse fairly loose sand & clay strips**
320	**340**	**med & coarse fairly tight sand w/clay strips & red clay**
340	**360**	**med & coarse fairly tight sand w/clay strips & red clay**
360	**380**	**red clay w/soap stone strips**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

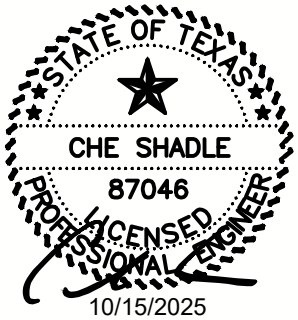
PART III
FINAL CLOSURE PLAN – APPENDIX 14

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

Wolfforth | Amarillo

ph: 806 352.7117 2420 Lakeview Dr. Amarillo, TX. 79109 fax: 806 352.7188
www.OJDEngineering.com
Engineering Firm # 4393 - Surveying Firm # 10090900

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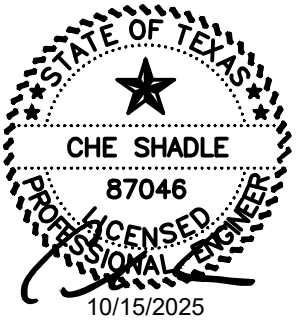


10/15/2025
F-4393

12/31/24
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 - 6/9/25
NOD No. 3 – 10/15/15

FINAL CLOSURE PLAN

1. INTRODUCTION

The final closure plan is provided to specify the requirements for final closure of a MSWLF. Facility closure requirements are located in 30 TAC, Subchapter K relating to Closure and Post-Closure. The Proposed City of Booker Landfill is located on 40 acres of land 2 1/2 miles northeast of the city limits. The facility will be operated using Type IAE pits. The individual pits are approximately 20 feet deep. Once a pit is filled to capacity, the final cover will be put in place and the area will be closed as outlined in this Final Closure Plan.

2. FINAL COVER

2.1 Design

The final cover system shall be composed of two feet of soil. The first 18 inches or more of cover (infiltration layer) shall be of clayey soil, classification SC or CL as defined in the “unified Soils Classification System” developed by the United States Army Corps of Engineers, compacted in layers of no more than six inches to minimize the potential for water infiltration.

The final six inches of cover (erosion layer) shall be suitable topsoil that is capable of sustaining native plant growth and shall be seeded or sodded immediately following the application of the final cover in order to minimize erosion. The top surfaces and embankment slopes, with vegetative cover, have been designed for a peak flow of 1.0 ft/sec to 1.5 ft/sec. The topmost portion of final cover will have a gradient of not less than 2.0 percent and not more than 6.0 percent.

The top surfaces and external embankment slopes of municipal solid waste landfill units must be designed to minimize erosion and soil loss through the use of appropriate side slopes, vegetation, and other structural and nonstructural controls, as necessary. Soil erosion loss (tons/acre) for the top surfaces and external embankment slopes may be calculated using the Soil Conservation Service of the United States Department of Agriculture's Universal Soil Loss Equation, in which case the potential soil loss should not exceed the permissible soil loss for comparable soil-slope lengths and soil-cover conditions.

The coefficient of permeability of the infiltration layer shall in no case exceed $1X10^{-5}$ cm/sec.

2.2 Installation of Final Cover

The final cover will be installed using the existing soil on site. However, in the event that a particular soil does meet the permeability requirements, bentonite will be mixed with the soil. The rate of application of the bentonite is not certain, however; a conservative assumption of 3% will be adequate. The bentonite is included in the final closure cost estimate to ensure that all aspects of closure are represented.

Within 180 days of the last receipt of wastes for the facility, the operator shall complete the installation of the final cover in the following manner:

1. Process material from stockpile. (Add bentonite if required.)

2. Apply the cover material over the compacted waste in three six-inch lifts.

3. Provide proper compaction to ensure that the required permeability is reached.

4. Apply the final six inches of topsoil to provide for vegetative cover.

5. Have liner tested for permeability by a credible Geotechnical Laboratory.

6. Seed cover immediately following a passing permeability test with love grass.

7. Provide post-closure maintenance as needed.

3. LARGEST AREA REQUIRED FOR FINAL COVER AT ANY TIME

The largest volume of cover that would ever be required at any time is 44,074 cubic yards (cy), which includes 1-Type I pit. The largest area that would require cover at any one time is 1.37 acres.

4. SCHEDULE FOR COMPLETING CLOSURE ACTIVITIES

No later than 45 days prior to the initiation of closure activities for the facility, the operator shall provide written notification to the executive director of the intent to close the unit and place this notice of intent in the operating records. A copy of the closure plan will be placed in the operating record.

No later than 90 days prior to the initiation of a final facility closure, the operator shall, through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility, provide public notice for final facility closure. This notice shall provide the name, address, and location of the facility, the permit number, and the last date of intended receipt of waste. The operator shall also make available an

adequate number of copies of the approved final closure plan and post-closure plans for public access and review.

The operator of the facility shall begin final closure activities for each unit or site no later than 30 days after the date on which the facility receives the known final receipt of wastes or, if the facility has remaining capacity and there is a reasonable likelihood that the facility will receive additional wastes, no later than one year after the most recent receipt of wastes.

The operator shall complete final closure activities for the unit or site in accordance with the approved final closure plan within 180 days following the initiation of final closure activities as specified.

Following receipt of the required closure documents, as applicable, and an inspection report from the agency's regional office verifying proper closure of the MSW landfill unit according to the approved closure plan, the executive director may acknowledge the termination of operation and closure of the unit and deem it properly closed.

Upon notification to the executive director, the operator posts a minimum of one sign at the main entrance and all other frequently used points of access for the facility notifying all persons who may utilize the facility or site of the day of closing for the entire facility site and the prohibition against further receipt of waste materials after the stated date. Further, suitable barriers shall be installed at all gates or access points to adequately prevent the unauthorized dumping of solid waste at the closed facility.

Within 10 days after completion of final closure activities of the facility, the operator shall submit to the executive director a certified copy of an "Affidavit to the Public" in accordance with the regulations. In addition, the operator of the closed facility shall record a certified notation on the deed to the facility, or on some other instrument that is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and use of the land is restricted according to the provisions specified in 30 TAC 330.461. The operator shall submit a certified copy of the modified deed to the executive director and place a copy of the modified deed in the operating record within the timeframe specified in this paragraph.

5. QUALITY CONTROL TESTING DOCUMENTATION

The City of Booker shall have the 18-inch compacted clay infiltration layer tested for its coefficient of permeability at a frequency of no less than one test per surface

acre of final cover. Permeability data shall be submitted to the executive director in a format stipulated in technical guidelines furnished by the executive director.

6. FINAL CONTOUR MAP

See Figure IV-19 (Final Contour Map).

7. FINAL CLOSURE COST ESTIMATE

See Appendix 16 (Closure Cost Estimate).

8. ANTICIPATED SOIL LOSS

Soil loss was calculated using the Universal Soil Loss Equation. Tables and calculations used to get the soil loss are attached. The proposed landfill area is 40 acres contoured site with a slope of approximately 2%. The soil is comprised of a Lean Clay (CL) (See Landfill Gas Management Plan, Soils and Geology). The site has a 95% vegetative cover.

The calculations show that the soil loss will be 0.025 tons/acre/year. From this, a soil thickness was calculated for the entire site that will be lost over the 30-year post closure care period. The calculations showed a negligible loss over the site; therefore, the protective cover will require no alterations.

UNIVERSAL SOIL LOSS EQUATION CALCULATIONS

Formula

A = R K LS C P

A = soil loss, tons/acre/year	LS = slope length/gradient factor
R = rainfall factor	C = plant cover or cropping factor
K = soil erodibility factor	P = erosion control practice factor

Reference

SCS National Engineering Handbook, Section 3 Sedimentation, Chap. 3

Calculations

R = 170
K = 0.30
LS = 0.33

C = 0.003
P = 0.50

A = (170)*(0.30)*(0.33)*(0.003)*(0.50)

A = 0.025 tons/acre/year

Soil Loss Tolerance Value = 1.0 tons/acre/year > 0.025 tons/acre/year

Texas Commission on Environmental Quality

Post-Closure Care Plan for Municipal Solid Waste Type I Landfill Units and Facilities

This form is for use by applicants or site operators of Municipal Solid Waste (MSW) Type I landfills to provide landfill unit or final facility post-closure care closure plans to meet the requirements in 30 TAC Chapter 330, §330.63(h) and as set out under 30 TAC Chapter 330 Subchapter K for a MSW Type I facility.

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

I. General Information

Facility Name: City of Booker Landfill

MSW Permit No.: 1943A

Site Operator/Permittee Name: City of Booker/City of Booker Landfill

II. Party Responsible for Overseeing and Conducting Post Closure Care Activities

Name (Person or Office Responsible): Karen Haddon

Position or Title: City Secretary

Mailing Address: P.O. Drawer M

City: Booker

State: Texas

Zip Code: 79005

Telephone Number: 806.658.4579

III. Post-Closure Care Status of Landfill Units at the Facility

Check the applicable box for the post-closure care status of the units at the facility and complete the applicable tables as indicated:

A. ☒ No landfill unit is in post-closure care in this facility at the time this application is submitted (skip Table 1 and complete Table 2 below if you check this item)

B. ☐ This facility includes landfill units currently in post-closure care and landfill units that are not yet in post-closure care (complete Tables 1 and 2 below if you check this item).

C. ☐ This facility contains only landfill units currently in post-closure care (complete Table 1 below if you check this item; do not complete Table 2).

Table 1: Landfill Units Currently in Post-Closure Care

Landfill Unit Name	Drawing Number Showing the Landfill Unit	Date TCEQ Acknowledged Closure of Unit	Date Post-Closure Care Commenced	Projected Date of End of Post-Closure Care
Booker MSW Landfill				

Table 2: Landfill Units Not yet in Post-Closure Care

Category of Landfill Unit (Regarding Status of Waste Receipt)	Landfill Unit Names or Descriptors	Site Development Plan Drawing Titles and Numbers Showing the Units
Stopped Receiving Waste Prior to October 9, 1993		
Received Waste on or after October 9, 1993	**Existing Pits**	**Figure III-6**
Proposed to be Constructed	**Pits 1 - 28**	**Figure III-6**

Category of Landfill Unit (Regarding Status of Waste Receipt)	Landfill Unit Names or Descriptors	Site Development Plan Drawing Titles and Numbers Showing the Units
Other (enter as applicable)		

IV. Post-Closure Care Maintenance Requirements and Activities to be Conducted

A. Categories of Landfill Units and Applicable Post-Closure Care Maintenance Requirements and Activities

Check the appropriate boxes to indicate the categories of landfill units at the facility and complete the applicable section of the post-closure care maintenance requirements and activities below.

This facility includes landfill units that:

☐ Stopped receiving waste prior to October 9, 1993

If you check this item, complete the post-closure care maintenance requirements and activities specified in Subsection IV.B below. Skip Subsection IV.B if this item does not apply to your facility.

☐ Received waste on or after October 9, 1993

If you check this item, complete the post-closure care maintenance requirements and activities specified in Subsection IV.C below. Skip Subsection IV.C if this item does not apply to your facility.

☒ Are proposed to be constructed

If you check this item, complete the post-closure care maintenance requirements and activities specified in Subsection IV.C below. Skip Subsection IV.B, unless your facility also contains units that stopped receiving waste prior to October 9, 1993.

B. Post-Closure Care Maintenance Requirements and Activities for the Landfill Units that Stopped Receiving Waste Prior to October 9, 1993

The site operator will commence and conduct post-closure care maintenance of the units that stopped receiving waste prior to October 9, 1993 for a minimum of the first **five years** following commencement of post-closure care as specified below and in accordance with applicable rules under 30 TAC §330.463(a). Post-closure care maintenance will start on the date the professional engineer's certification of the completion of closure is accepted in writing by the TCEQ executive director and the site operator will carry out the following activities and operations during the period.

1. Maintenance of Right of Entry and Rights of Way

The site operator will retain the right of entry to and maintain all rights-of-way of the closed units in order to conduct periodic inspections of the units throughout the post-closure care period. TCEQ staff will have access to the site to conduct inspection or investigation that may be necessary during the period.

2. Inspection Activities and Correction of Problems

The site operator will conduct inspection of the closed landfill units at the frequencies indicated in Table 3 below, utilizing the inspection protocol maintained in the site operating record, and will correct all identified problems as needed.

Table 3: Inspection Activities Schedule

Post-Closure Care Inspection Item	Frequency of Inspection	Types of Deficiency Conditions to be looked for during Inspection
Final Cover Condition	**Weekly & within 72-hr rainfall > 0.5 inches or more**	**Inspect for proper placement, thickness, Compaction, Slope, Settlement and Erosion.**
Vegetation		
Leachate Management Systems		

Post-Closure Care Inspection Item	Frequency of Inspection	Types of Deficiency Conditions to be looked for during Inspection
Landfill Gas Monitoring and Control Systems	**Monthly**	**Verify is operating and maintained in accordance with all applicable requirements.**
Groundwater Monitoring Systems	**mininimum of first five years/periodic**	**The owner or operator shall correct, as needed, erosion of cover material, and subsidence or ponding of water on the unit.**
Drainage Structures		
Ponding of Water	**Weekley & within 72-hr rainfall >0.5 inches or more**	**Inspect site for unauthorized ponded waster areas.**
Other: **Right of Entry and maintain all rights-of-ways**	**mininimum of first five years/periodic**	**The owner or operator shall correct, as needed, erosion of cover material, lack of vegetative growth, leachate or methane migration, and subsidence or ponding of water on the unit.**

3. Continuation of Monitoring Programs during Post-Closure Care Period

The site operator will continue the monitoring programs listed in Table 4 during the post-closure care period. The monitoring programs will be conducted as specified in the applicable section of the facility's Site Development Plan and applicable rules.

Table 4: Monitoring and Reporting Schedule

Monitoring Program	Frequency of Monitoring	Frequency of Reporting of Results
Groundwater monitoring	minimum of first five years/periodic	The owner or operator shall correct, as needed, erosion of cover material, and subsidence or ponding of water on the unit.

Monitoring Program	Frequency of Monitoring	Frequency of Reporting of Results
Landfill gas monitoring	Monthly	Verify is operating and maintained in accordance with all applicable requirements.
Other: Methane	Within seven days of detection	

4. Detection of a Release, Nature and Extent Investigation, and Corrective Action to Address Release from the MSW Unit

Upon detection of any evidence of a release from the landfill or other associated waste management units at the facility, the site operator will:

- Notify the executive director of the TCEQ of the condition detected;
- Investigate, if so directed by the executive director of the TCEQ, whether a release from the landfill or other associated waste management units at the facility has occurred;
- Investigate the nature and extent of the release, if a release is confirmed;
- Assess measures necessary to correct any impact to groundwater;
- Submit a corrective action plan via a permit modification for TCEQ executive director's review and approval; and
- Conduct corrective action as approved by the TCEQ executive director.

5. Extension of Post-Closure Care Period

If any of the problems listed in Table 3 occurs, or corrective action as indicated in Subsection IV.B.4 above continues, after the end of the five-year post-closure care period or persists for longer than the first five years of post-closure care, the site operator will be responsible for their correction and will continue to conduct post-closure care maintenance until the TCEQ executive director determines that all problems have been adequately resolved.

6. Reduction of Post-Closure Care Period

The site operator may request in writing for the TCEQ executive director to reduce the post-closure care period for the units if all wastes and waste

residues have been removed during closure and any new or on-going corrective action to address confirmed releases from the landfill have been completed as acknowledged in writing by the executive director.

C. Post-Closure Care Requirements and Activities for Municipal Solid Waste Landfill Units that Receive Waste on or after October 9, 1993 and for New Units

The site operator will commence and conduct post-closure care maintenance of the units that receive waste on or after October 9, 1993 and new units constructed under this permit as follows and in accordance with applicable rules under 30 TAC §330.463.

1. Commencement of Post-Closure Care

Post-closure care maintenance will start on the date the professional engineer's certification of the completion of closure is accepted in writing by the TCEQ executive director and the site operator will carry out the following activities and operations during the period.

2. Period of Post-Closure Care

The site operator will conduct post-closure care for the landfill units for a period of **30 years**, unless this time period is increased or reduced by the executive director as discussed in Subsection IV.C.11.

3. Maintenance of Right of Entry and Rights of Way

The site operator will retain the right of entry to the closed units and the facility and will maintain all rights-of-way of the closed units in order to conduct periodic inspection and maintenance of the closed units until the end of the post-closure care period.

4. Inspection Activities

The site operator will conduct periodic inspection of the closed units to identify and document deficiency conditions and conduct maintenance and corrective action to maintain compliance. Sections IV.C. 8.(a)-(c) provide information on the inspection items and deficiency conditions that the site operator will look for during inspection of the major components of the landfill and the site during the post-closure care period. Other inspection and maintenance provisions that apply during the post-closure care period as

specified in the facility's site operating plan, site development plan, or applicable rules will remain in effect.

5. Documentation of Inspection

The site operator will document and maintain records of the post-closure care inspections in the site operating record. The records will include:

- The date of inspection;
- Components and items inspected;
- Problems detected or observed; and
- The name of the personnel who conducted the inspection.

6. Corrective Actions

Based on the results of the inspection activities, the site operator will conduct needed restoration and remediation actions on the closed unit no later than the next scheduled inspection event. Also, the site operator will conduct maintenance action on regular periodic schedule in order to:

- Maintain the integrity and effectiveness of all final cover, facility vegetation, and drainage control systems;
- Correct any effects of settlement, subsidence, ponded water, erosion, or other events or failures detrimental to the integrity of the closed unit; and
- Prevent any surface run-on and run-off from eroding or otherwise damaging the final cover system during the post-closure care period.

7. Documentation of Corrective Actions

The site operator will document and maintain, in the facility's site operating record, records of the restoration, remediation, and maintenance activities performed, including the date of completion of the activities.

8. Inspection Activities Schedules

(a) Final Cover Inspection

Inspection Frequency: Annual/5 yrs

Other Inspection Occasions/Events:

Table 5: Final Cover Inspection Items

Inspection Item	Types of Deficiency Conditions to be looked for during Inspection
Vegetation and other Ground Cover Materials	placement, thickness, compaction
Settlement	compaction, slope, settlement, and erosion
Subsidence	
Ponded Water	unauthorized ponded water areas
Erosion	inspect for runoff, grade change, and slope disturbance
Other (enter other events or failures detrimental to the integrity and effectiveness of the final cover):	
Other (enter other events or failures detrimental to the integrity and effectiveness of the final cover):	

(b) ***Drainage Control System Inspection***

Inspection Frequency:

Other Inspection Occasions/Events:

Table 6: Drainage Control System Inspection Items

Inspection Item	Types of Deficiency Conditions to be looked for during Inspection
Vegetation within Drainage Control Structures	debris build-up
Component Failures	
Wash Outs	debris build-up, damming
Sediment Build Up	debris build-up, damming
Other (enter other events or failures detrimental to the integrity and effectiveness of drainage structures):	

(c) *Access and Rights-of-Way*

Inspection Frequency: Annual/5 years

Other Inspection Occasions/Events:

Table 7: Access and Rights of Way Inspection Items

Inspection Item	Types of Deficiency Conditions to be looked for During Inspection
Gates, Gate Locks and Barriers	Inspect gates for damage. Make repairs if necessary.
Fence and other Access Control Barriers	Inspect perimeter fence and gates for damage. Make repairs if necessary.
Vegetation Control in Areas of the Facility other than the Final Cover	
Other (enter other access control and rights-of-way inspection items):	

9. Continuation of Operation and Maintenance of the Leachate Collection and Removal Systems (LCRS)

The site operator will continue the operation and maintenance of the LCRS and disposal of leachate during the post-closure care period in accordance with the facility's leachate management plan found in Attachment/Appendix/Section (enter location of the leachate management plan) of the Site Development Plan and consistent with applicable provisions under 30 TAC Sections 330.331 and 330.333.

(a) Performance Monitoring and Inspection of the LCRS

During the post-closure care period, the site operator will monitor the performance of the LCRS on a (enter frequency) basis to assure continuous compliance with the design criteria and inspect the LCRS components on a (enter frequency) basis, at a minimum, to determine the need for repair or maintenance. Inspection and monitoring will follow the procedure described in the facility's leachate management plan found in Attachment/Appendix/Section (enter location of the leachate management plan) of the Site Development Plan or in the

written inspection protocol maintained in the facility's site operating record. Results of the monitoring and inspection activities will be documented in the site operating record. The items and components of the leachate collection and removal system to be inspected will include but are not limited to the items in Table 8 below.

Table 8: Leachate Collection and Removal System Inspection

Inspection Item/Component	Types of Deficiency Conditions to be looked for during Inspection

(b) LCR Maintenance and Repairs

During the post-closure care period, the site operator will perform routine and needed maintenance or repairs of the LCRS items and components based on the monitoring and inspection results. Maintenance and repair will be completed prior to the next scheduled monitoring event and documented within the site operating record.

(c) Discontinuation of Leachate Management

The site operator may submit data and information from the closed units to the TCEQ executive director to demonstrate that leachate no longer poses a threat to human health and the environment. Upon the executive director's approval of the demonstration, the site operator will be allowed to stop managing leachate at the closed unit.

10. Continuation of Monitoring Systems Operation and Maintenance:

The site operator will continue to conduct monitoring systems operation and maintenance activities to ensure the integrity of the containment system and

to promptly detect and control releases to the environment during the post-closure care period as follows.

(a) Groundwater Monitoring System

The site operator will continue groundwater monitoring activities (including sampling, analysis, reporting, etc.) in accordance with the approved site-specific Groundwater Sampling and Analysis Plan (GWSAP) found in (enter location of the GWSAP) of the Site Development Plan, the Groundwater Monitoring System Design found in (enter location of the Groundwater Monitoring System Design) of the Site Development Plan and consistent with the provisions under 30 TAC Chapter 330 Subchapter J. Groundwater monitoring will be conducted semiannually or as otherwise approved by the TCEQ executive director during the post-closure care period.

i. Inspection of the Groundwater Monitoring System

During each groundwater monitoring event, the site operator will perform inspection of all the groundwater monitoring wells that are part of the groundwater monitoring system and other items discussed in the GWSAP or the Groundwater Monitoring System Design. The items and components of the groundwater monitoring system to be inspected are included in Table 9:

Table 9: Groundwater Monitoring Systems Inspection

Inspection Item/Component	Types of Deficiency Conditions to be looked for during Inspection

ii. Maintenance and Repair of the Groundwater Monitoring System

The site operator will perform needed maintenance and/or repairs of the groundwater monitoring system items and components based on the inspection results. Maintenance and/or repairs will be performed no later than the next scheduled monitoring event.

iii. Documentation of Inspection, Maintenance, and Repairs

The site operator will document and discuss the results of the groundwater monitoring system inspection, maintenance, and repair activities in the groundwater monitoring report submitted to the TCEQ executive director, and maintain the documents in the site operating record.

(b) Landfill Gas Management System

During the post-closure care, the site operator will continue landfill gas monitoring operations and activities, documentation, and reporting in accordance with the facility's landfill gas management plan and consistent with the requirements under 30 TAC Chapter 330, Subchapter I.

i. LFG Monitoring and Monitoring System Inspection

All structures and perimeter gas monitoring probes will be sampled quarterly or more frequently as approved by the TCEQ executive director. The site operator will conduct routine inspections of the landfill gas management system components as provided in the landfill gas management plan during the post-closure care period. The items and components to be inspected are included in Table 10.

Table 10: Landfill Gas Management System Inspection

Inspection Item/Component	Types of Deficiency Conditions to be looked for during Inspection
Gas Probes	methane gas does not exceed 5% by volume

ii. LFG Management System Maintenance

The site operator will perform routine and needed maintenance of the landfill gas management system including calibration of the monitoring equipment. Needed maintenance and/or repair work will be performed based on the inspection and monitoring results no later than the next scheduled monitoring event.

(c) Continuation of Earth Electrical Resistivity Survey

The site operator will, if applicable, continue earth electrical resistivity surveys as applicable at the frequency stated in the approved site development plan or as otherwise approved by the TCEQ executive director. Surveys will be provided upon request.

11. Detection of a Release, Nature and Extent Investigation, and Corrective Action to Address Release from the MSW Unit

If there is evidence of a release from the landfill or other associated waste management units at the facility, the site operator will:

- Notify the executive director of the TCEQ of the condition detected;
- Investigate, if so directed by the executive director of the TCEQ, whether a release from the landfill or other associated waste management units at the facility has occurred;
- Investigate the nature and extent of the release, if a release is confirmed;
- Assess measures necessary to correct any impact to groundwater;

- Submit a corrective action plan via a permit modification for TCEQ executive director's review and approval; and
- Conduct corrective action as approved by the TCEQ executive director.

12. Revision of the Length of Post-Closure Care Period

(a) The Post-Closure Care Period May Be Decreased

The length of the post-closure care period may be decreased by the TCEQ executive director if the site operator submits a documented certification signed by a licensed professional engineer and including all applicable supporting documentation that demonstrates that the reduced period is sufficient to protect human health and the environment, and the executive director approves the decrease in writing after review.

(b) The Post-Closure Care Period May be Increased

The length of the post-closure care period may be increased by the TCEQ executive director if it is determined that the longer period is necessary to protect human health and the environment.

V. Recordkeeping

The site operator will place a copy of this post-closure plan in the facility's site operating record by the initial receipt of waste at the units proposed at the time of this application. Also, the site operator will document and maintain records of all inspection, monitoring, maintenance, repair, or remediation activities, and detail the results of any inspection and schedules of any other actions to be taken to maintain compliance, in the site operating record. A copy of the Post-Closure Plan will be placed in the operating record by the initial receipt of waste.

VI. Planned Use of the Land during and after the Post-Closure Care Period

Post-closure use of the property will not disturb the final cover, liners, or other containment or monitoring systems unless such disturbance is necessary for the proposed use or to protect human health and the environment and is authorized by the TCEQ executive director consistent with provisions under 30 TAC Chapter 330 Subchapter T.

Description of the Planned Use of the Land during or after the Post-Closure Care Period *(describe the planned use of the land during or after the post-closure care period; if not known at this time, enter "NOT KNOWN")*:

NOT KNOWN

VII. Post-Closure Care and Corrective Action Cost Estimates

A detailed written cost estimate in current dollars for conducting post closure care is provided in *(enter location of the post-closure care cost estimate in the application/permit document)*:

Appendix 16

The cost estimate for corrective action will be provided as needed, via a permit modification, during the life and/or post-closure care period of the unit or facility.

VIII. Certification of Completion of Post-Closure Care

Upon completion of the post-closure care maintenance period for each municipal solid waste landfill unit, the site operator will submit to the TCEQ executive director for review and approval a certification, signed by an independent licensed professional engineer, verifying that post-closure care has been completed in accordance with the approved post-closure plan. The submittal to the executive director shall include all applicable documentation necessary for the certification of completion of post-closure care. These will include information relating to the condition and status of:

- The final cover integrity and stability, including the condition of the soil, vegetation, drainage structures, etc.
- Groundwater quality at the site, as determined from on-going groundwater detection or assessment monitoring or corrective measures data during the period.
- Landfill gas (methane) migration, as determined from on-going landfill gas monitoring and remediation data during the period.
- Leachate generation rate and quantity as determined from on-going leachate management data over the period.
- The surface water management system.
- Access control structures.

The engineer's certification of post-closure will show that, based on a summary of monitoring and inspection results, the final cover system continues to maintain its integrity, stability, and function; groundwater remains uncontaminated and monitoring is no longer required; landfill gas is not migrating beyond the facility boundary or accumulating in structures at action levels and monitoring is no longer required; leachate generation rate and quantity will not result in greater than 12 inches of head above the liner, no breakouts have occurred, and all slopes remain as approved and leachate management is no longer required; the surface water management system continues to function as designed; and the access control structures remain intact.

Documentation supporting the professional engineer's certification will be furnished to the TCEQ executive director upon request and will be maintained in the site operating record until the executive director acknowledges termination of post-closure in writing.

IX. Voluntary Revocation Request

Upon completion of the post-closure care period for the final unit at the facility, the site operator will submit to the executive director a request for voluntary revocation of the facility permit.

X. Attachments

The following figures and documents are attached as part of this post-closure care plan:

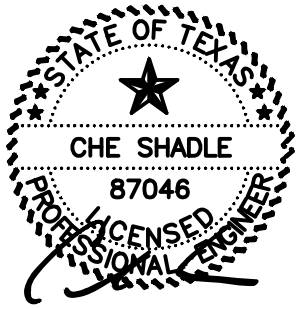
XI. Engineer's Seal and Signature

Name: Che Shadle Title: Professional Engineer

Date: 10/15/2025

Company Name: OJD Engineering, LLC Firm Registration Number: F-4393

Professional Engineer's Seal



Signature

Texas Commission on Environmental Quality

Closure Cost Estimate Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators to provide cost estimates for closure of MSW Type I landfills to meet the requirements in 30 Texas Administrative Code (TAC) Chapter 330, Section 330.63(j) and 30 TAC Chapter 330 Subchapter L. The costs to be provided herein are cost estimates for hiring a third party to close the largest waste fill area that could potentially be open in the year to follow and those areas that have not received final cover. If you need assistance in completing this form, please contact the MSW Permits Section in the Waste Permits Division at (512) 239-2335.

Facility Name: Booker MSW Landfill

MSW Permit No.: 1943A

Site Operator/Permittee Name and Mailing Address: Guillermo Estrada/City of Booker P.O. Drawer M Booker, TX 79005

Total Closure Cost Estimate (2025 Dollar Amount): $373,788

I. Professional Engineer's Statement, Seal, and Signature

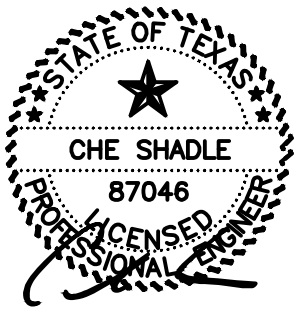
I am a licensed professional engineer in the State of Texas. To the best of my knowledge, this Closure Cost Estimate has been completed in substantial conformance with the facility Closure Plan and, in my professional opinion, is in compliance with Title 30 of the Texas Administrative Code, Chapter 330.

Name: Che Shadle Title: P.E.

Date: 10/15/2025

Company Name: OJD Engineering, LLC Firm Registration Number: F-4393

Professional Engineer's Seal



Professional Engineer's Signature

II. Annual Review of Permit Conditions, Cost Estimates, Inflation Factor, and Financial Assurance

The permittee/site operator acknowledges that he/she will:

(1) Review the facility's permit conditions on an annual basis and verify that the current active and inactive waste fill areas of the landfill match the areas on which closure cost estimates are based.

(2) Request in writing via a permit modification application for an increase in the closure cost estimate and the amount of financial assurance provided if changes to the closure plan or the landfill conditions increase the maximum cost of closure at any time during the remaining active life of the landfill.

(3) Request in writing via a permit modification application for a reduction in the cost estimate and the amount of financial assurance provided if the cost estimate exceeds the maximum cost of closure at any time during the remaining active life of the landfill. The permit modification application will include a description of the situation and a detailed justification for the reduction of the closure cost estimate and the amount of financial assurance.

(4) Establish financial assurance for closure of the unit in an amount no less than the current closure cost estimate in accordance with 30 TAC Chapter 37, Subchapter R.

(5) Adjust the current cost estimate for inflation within 60 days prior to the anniversary date of the first establishment of the financial assurance mechanism.

(6) Provide annual inflation adjustments to the closure costs and financial assurance during the active life of the facility, until the facility is officially placed under the post closure care period and all requirements of the final closure plan have been approved in writing by the TCEQ executive director. The adjustment will be made using an inflation factor derived from the most recent annual Implicit Price Deflator for Gross National Product published by the United States Department of Commerce in its Survey of Current Business, as specified in paragraphs (1) and (2) of 30 TAC §37.131. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(7) Provide continuous financial assurance coverage for closure until the facility is officially placed under the post-closure care period.

III. Description of the Closure Cost Estimates Worksheet

The following descriptions of the items on the closure cost estimates worksheet provide guidance for identifying the minimum work or cost elements and estimating the unit or lump sum cost of each item as applicable. Enter additional detail for each item in the field following the item as necessary and as site-specific condition warrants. The cost items are grouped under closure costs for engineering, construction, and storage and processing units. Include attachments to detail any additional work and associated costs necessary to close the site that is not already included as a line item on the worksheet. Reference the attachments and list the work or cost items in the fields under "Additional Engineering Cost Items Not Listed on the Worksheet," "Additional Construction Cost Items Not Listed on the Worksheet," or "Additional Storage and Processing Units Items Not Listed on the Worksheet" as applicable. Provide the total cost of the additional work or cost items in each cost category on the worksheet line that precedes the cost subtotal for each cost group.

1. Engineering Costs

The engineering tasks have been subdivided into seven items and are described below. Other related costs may be added as site-specific issues warrant.

1.1. Topographic Survey

A topographic survey will be required to verify the existing elevation and slopes of the landfill to ensure conformance with the final cover system, drainage system, and final grading designs.

Enter additional topographic survey work or cost element details as site-specific conditions warrant: $1,500

1.2. Boundary Survey

The metes and bounds description is required for filing of the affidavit of closure and deed recording of any area of the site which has received waste. Other activities to be included here are publication of the public notice of closing activities.

Enter additional boundary survey work or cost element details as site-specific conditions warrant: $1,500

1.3. Site Evaluation

The evaluation includes a site inspection to identify waste disposal areas, analyze drainage and erosion protection needs, and to determine other site operational features that are not in compliance with the permit. The site evaluation also includes verifying the need for new or relocation of existing groundwater monitoring wells and landfill gas monitoring probes, analysis of groundwater samples, and review of site operating record. The third party consultant who performed the site evaluation will prepare and submit an engineering report to the executive director to document the status of the site.

The report will identify all areas of work and the associated implementation costs necessary to safely close the landfill operations with recommendations on how to fulfill these needs.

Enter additional site evaluation work or cost element details as site-specific conditions warrant: $2,000

1.4. Development of Plans

The final closure, plan the final cover system design and specifications, grading and drainage plans, specification for revegetation, design of any other improvements to bring the site into compliance with the permit, the closure schedule, and coordination with the TCEQ and provision of closure notice to the public.

Enter additional development of plans work or cost element details as site-specific conditions warrant: $4,000

1.5. Contract Administration (bidding and award)

The third-party consultant will advertise the project, receive the bids, evaluate the bids, award the closure construction contract and administer the contract during construction.

Enter additional contract administration work or cost element details as site-specific conditions warrant: $5,000

1.6. Closure Inspection and Testing

The professional of record will observe closure construction, perform cover thickness and permeability verification, and prepare an evaluation report upon completion of closure.

Enter additional closure inspection or testing work or cost element details as site-specific conditions warrant: $4,500

1.7. TPDES and other Permits

The third-party consultant will prepare plans, specifications, and other documents necessary for compliance with applicable federal and state laws and requirements, including the Clean Water Act, for the proper closure of the site.

Enter additional TPES or other permits work or cost element details as site-specific conditions warrant:

1.8. Additional Engineering Cost Items Not Listed on the Worksheet

List the Attachment(s) detailing any additional engineering cost items necessary to close the site that is not already included as a line item on the worksheet:

Also, reference these Attachments in the "Units" column on this line of

the worksheet. Provide the total cost of all additional engineering cost items in the "Cost" column.

1.9. Engineering Costs Subtotal

1.9.1. Enter the sum of engineering costs in Items 1.1 through 1.8. $18,500

2. Construction Costs

Closure construction costs include those for construction of the final cover system, site grading, and drainage improvements. Other costs may be added as site-specific issues warrant.

2.1. Mobilization

2.1.1. Mobilization of Personnel and Equipment

The cost of mobilizing personnel and construction heavy equipment must be included as part of the construction costs.

Enter additional work or cost element details for mobilization of personnel and equipment as site-specific conditions warrant: $5,000

2.2. Final Cover System

The owner or operator must install a final cover system that is designed to minimize infiltration and erosion. The final cover system is subdivided into the sideslope cover and cap cover with their associated components to facilitate cost calculations. If an alternative final cover is proposed, the closure cost estimate will still be based on a design that utilizes the conventional composite cover system.

Enter additional final cover system work or cost element details as site-specific conditions warrant: $1,250

2.2.1. Side Slope Cover

Enter information for Items 2.2.1a through 2.2.1h.

2.2.2. Top Slope Cover

Enter information for Items 2.2.2a through 2.2.2h.

2.2.3. Cells for Class 1 Nonhazardous Industrial Waste

2.3. Site Grading

Site grading includes the final grading of the site, including the landfill cap and sideslopes.

Enter additional site grading work or cost element details as site-specific conditions warrant: $750

2.4. Site Fencing and Security

Site fencing and security must be included for the area which has received waste and have no existing approved fencing.

Enter additional site fencing and security work or cost element details as site-specific conditions warrant: $500

2.5. Landfill Gas Monitoring and Control Systems

Enter information for Items 2.5.1 through 2.5.6.

Final installation of the landfill gas monitoring and control systems must include the installation costs of pipes and appurtenances. In the event of a forced closure, the systems may not have been completed, thus, the estimated costs to complete the landfill gas monitoring and control system must be provided.

Enter additional landfill gas monitoring and control systems work or cost element details as site-specific conditions warrant: $1,500

2.6. Groundwater Monitoring System

2.6.1. Monitor Well Installation

Upon closure of the site, it may be necessary to relocate the compliance boundary. This requires the installation of new monitor wells.

Enter additional groundwater monitoring system work or cost element details as site-specific conditions warrant:

2.6.2. Piezometer and Monitor Well Plugging and Abandonment

Piezometer or monitor well abandonment is the cost of abandoning (plugging) piezometers or monitor wells that are no longer needed. Determine the number of piezometers or monitor wells to be abandoned and include the total cost.

Enter additional plugging and abandonment work or cost element details as site-specific conditions warrant:

2.7. Leachate Management

2.7.1. Completion of Existing Leachate Collection System

In the event of a forced closure, there may be circumstances where the leachate collection system has not been completed. In this event, the leachate collection system must be closed with a permanent outfalls and permanent cleanouts installed.

Enter additional leachate management work or cost element details as site-specific conditions warrant:

2.8. Stormwater Management

2.8.1. Stormwater Drainage Management System

To reduce the potential long-term impacts of the landfill on surface water quality, drainage features must be incorporated into the final cover design to direct runoff, minimize erosion, control sediments, and avoid ponding of stormwater. The drainage system construction costs must be included.

Enter additional stormwater drainage management work or cost element details as site-specific conditions warrant:

2.9. Additional Construction Cost Items Not Listed on Worksheet

List the Attachments detailing any additional construction cost items necessary to close the site that is not already included as a line item on the worksheet: Hauling Cover Material Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional construction cost items in the "Cost" column.

2.10. Construction Costs Subtotal

2.10.1. Enter the sum of construction costs in Items 2.1 through 2.9. $9,000

3. Storage and Processing Unit Closure Costs

For landfills that incorporate storage and/or processing operations that are not separately authorized, all waste and processed and unprocessed materials associated with storage and/or processing units must be removed during the closure process.

3.1. Waste Disposal

The cost of disposal of waste at an authorized facility. *Enter additional waste disposal work or cost element information as necessary.*

3.2. Material Removal and Disinfection

The cost of removal, including transportation, of any remaining processed and unprocessed materials to an authorized off-site location. *Enter additional material removal and disinfection work or cost element information as necessary.*

3.3. Demolition and Disposal

The cost of dismantling and/or disinfection of storage and/or processing units and disposal, as applicable. *Enter additional demolition and disposal work or cost element information as necessary.*

3.4. Additional Storage and Processing Unit Closure Cost Items Not Listed in Worksheet

List the Attachments detailing any additional storage and processing unit closure cost items necessary to close the site that is not already included as a line item on the worksheet. Seeding Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional storage and processing unit closure cost items in the "Cost" column.

3.5. Storage and Processing Unit Closure Costs Subtotal

4. Sum of Cost Subtotals

4.1. Enter the sum of engineering, construction, and storage and processing unit closure cost subtotals from lines 1.9.1, 2.10.1, and 3.5.1. $27,500

5. Contingency

5.1. Add an amount equal to at least 10 percent of the sum of cost subtotals to cover unanticipated events during implementation of closure activities. $2,750

6. Contract Performance Bond

6.1. Add an amount equal to at least 2 percent of the sum of cost subtotals for purchase of a surety bond to guarantee satisfactory completion of the closure activities. $550

7. Third Party Administration and Project Management Costs

7.1. Add an amount equal to at least 2.5 percent of the sum of cost subtotals to cover the cost for a third party hired by TCEQ to administer the closure activities. $687.50

8. Total Closure Cost

8.1. Enter the sum of the amounts on lines 4.1, 5.1, 6.1, and 7.1. $31,487.50

IV. Closure Cost Estimates Worksheet

A. Landfill Data

Total Permitted Waste Disposal Area: 1.37 acres

Largest Area Requiring Final Cover in the year to follow: 1.37 acres

Total Filled Area with Constructed Final Cover: Not yet filled acres

Total Area Certified Closed: 0 acres

Number of Monitor Wells to be Installed for Closure: 0

Number of Gas Probes to be Installed for Closure: 5

Total Acreage Needing LFG Collection and Control System: acres

The unit or lump sum cost for each item is based on the work items and cost elements described in Section III of this Closure Cost Estimate document:

Yes ☒ No ☐ Partially ☐

(if "No" or "Partially" is checked, please include attachments describing the additional work items and detailing the unit, quantities, and costs for the additional items)

B. Facility Drawings and Financial Assurance Documentation

- Facility drawings
  - Attach facility drawings showing the closure areas to which the closure cost estimates apply.
- Financial assurance documentation
  - For an existing facility, attach a copy of the documentation required to demonstrate financial assurance as specified in 30 TAC Chapter 37, Subchapter R.
  - For a new facility, a copy of the required documentation shall be submitted 60 days prior to the initial receipt of waste.

C. Attachments

- Additional Engineering, Construction, and Storage and Processing Units Cost Items Details

D. Closure Cost Estimates Worksheet

If any item listed in this worksheet is not applicable to the subject facility, enter "NA" (Not Applicable) in the affected field.

Table 1. Closure Cost Estimates Worksheet.

Item No.	Item Description	Units[1]	Quantity	Unit Cost	Cost	Source of Unit Cost Estimate[2]
1. Engineering Costs						
1.1	Topographic Survey	1	1	$1,500	$1,500	Third Party
1.2	Boundary Survey	1	1	$1,500	$1,500	Third Party
1.3	Site Evaluation	Acres	40	$50	$2,000	Third Party
1.4	Development of Plans	Lump Sum	NA	NA	$4,000	Third Party
1.5	Contract Administration (bidding and award)	Lump Sum	NA	NA	$5,000	Third Party
1.6	Closure Inspection and Testing	specify	1	$4,500	$4,500	Third Party
1.7	TPDES and other Permits	Lump Sum	NA	NA	N/A	N/A
1.8	Additional Engineering Cost Items (describe in attachments)	identify attach-ments	NA	NA	N/A	NA
1.9 Engineering Costs Subtotal						
1.9.1	Engineering Costs Subtotal	NA	NA	NA	$18,500	Third Party
2. Construction Costs						
2.1 Mobilization						
2.1.1	Mobilization of Personnel and Equipment	Lump Sum	NA	NA	$5,000	Third Party
2.2 Final Cover System						
2.2.1 Side Slope Cover						
2.2.1a	Infiltration Layer – Compacted Clay	Cubic Yards				
2.2.1b	Infiltration Layer – Geosynthetic Clay Liner	Square Feet				
2.2.1c	Flexible Membrane Cover – HDPE	Square Feet				
2.2.1d	Flexible Membrane Cover – LLDPE	Square Feet				

Closure Cost Estimate for MSW Type I Landfill

Facility Name: City of Booker Landfill Revision No.: NOD 3

Permit No: 1934A Date: 10/15/25

Item No.	Item Description	Units[1]	Quantity	Unit Cost	Cost	Source of Unit Cost Estimate[2]
2.2.1e	Drainage Layer – Aggregate	Cubic Yards				
2.2.1f	Drainage Layer – Drainage Geocomposite Material	Square Feet				
2.2.1g	Erosion Layer	Cubic Yards				
2.2.1h	Vegetation	Acres				
2.2.2 Top Slope Cover						
2.2.2a	Infiltration Layer – Compacted Clay	Cubic Yards	44,074	$1.50	$66,111	Third Party
2.2.2b	Infiltration Layer – Geosynthetic Clay Liner	Square Feet				
2.2.2c	Flexible Membrane Cover – HDPE	Square Feet				
2.2.2d	Flexible Membrane Cover – LLDPE	Square Feet				
2.2.2e	Drainage Layer – Aggregate	Cubic Yards	4,407	$0.90	$4,010	Third Party
2.2.2f	Drainage Layer – Drainage Geocomposite Material	Square Feet				
2.2.2g	Erosion Layer	Cubic Yards	4,407	$2.75	$12,119	Third Party
2.2.2h	Vegetation	Acres	1.37	$300	$411	Third Party
2.2.3 Cells for Class 1 Nonhazardous Industrial Waste						
2.2.3a	Dike Construction	specify				
2.3 Site Grading						
2.3.1	Site Grading	Acres	0.3	$2,500	$750	Third Party
2.4 Site Fencing and Security						
2.4.1	Site Fencing and Security	20	1	$500	$500	Third Party
2.5 Landfill Gas Monitoring and Control System						
2.5.1	Gas Control Wells	specify				
2.5.2	Gas Header Piping	specify				
2.5.3	Gas Lateral Piping	specify				

Closure Cost Estimate for MSW Type I Landfill

Facility Name: City of Booker Landfill Revision No.: NOD 3

Permit No: 1934A Date: 10/15/25

Item No.	Item Description	Units[1]	Quantity	Unit Cost	Cost	Source of Unit Cost Estimate[2]
2.5.4	Flare Station	Lump Sum				
2.5.5	Condensate Sumps	specify				
2.5.6	Completion of LFG Monitoring System	specify	1	$1,500	$1,500	Third Party
2.6 Groundwater Monitoring System						
2.6.1	Groundwater Monitoring Well Installation	Each				
2.6.2	Piezometer and Monitor Well Plugging and Abandonment	Each				
2.7 Leachate Management						
2.7.1	Completion of Leachate Management System	specify				
2.8 Stormwater Management						
2.8.1	Stormwater Drainage Management System	specify				
2.9 Other Cost Items						
2.9.1	Additional Construction Cost Items (describe in attachments)	identify attach-ments	NA	NA		NA
2.10 Construction Costs Subtotal						
2.10.1	Construction Costs Subtotal	NA	NA	NA	$90,401	Third Party
3. Storage and Processing Unit Closure Costs						
3.1	Waste Disposal	☐ Tons ☒ Cubic Yards	44,074	$1.50	$198,333	Third Party
3.2	Material Removal and Disinfection	Cover Processing	4,407	$2.25	$9,916	Third Party
3.3	Demolition and Disposal Units	Hauling Cover	4,407	$2.00	$8,814	Third Party
3.4	Additional Storage and Processing Unit Closure Cost Items (describe in attachments)	Seeding	13	$38.31	$489	Third Party
3.5 Storage and Processing Unit Closure Costs Subtotal						
3.5.1	Storage and Processing Unit Closure Costs Subtotal	NA	NA	NA	$217,552	NA

Closure Cost Estimate for MSW Type I Landfill

Facility Name: City of Booker Landfill Revision No.: NOD 3

Permit No: 1934A Date: 10/15/25

Item No.	Item Description	Units[1]	Quantity	Unit Cost	Cost	Source of Unit Cost Estimate[2]
4. Sum of Engineering, Construction, and Storage and Processing Unit Closure Costs						
4.1	Sum of Engineering, Construction, and Storage and Processing Unit Closure Cost Subtotals	NA	NA	NA	$326,453	NA
5. Contingency						
5.1	Contingency (10% of Sum of Engineering, Construction, and Storage and Processing Unit Closure Cost Subtotals)	NA	NA	NA	$32,645	NA
6. Contract Performance Bond						
6.1	Contract Performance Bond (2% of Sum of Engineering, Construction, and Storage and Processing Unit Closure Cost Subtotals)	NA	NA	NA	$6,529	NA
7. Third Party Administration and Project Management Costs						
7.1	Third Party Administration and Project Management Costs (2.5% of Sum of Engineering, Construction, and Storage and Processing Unit Closure Cost Subtotals)	NA	NA	NA	$8,161	NA
8. Total Closure Costs						
8.1	Total Closure Costs (sum of amounts in Sections 4, 5, 6, and 7)	NA	NA	NA	$373,788	NA

[1] For items marked "specify," the responsible professional engineer will enter appropriate unit of measurement

[2] Sources of Unit Costs for Cost Estimates table may include:
(1) Published Cost Estimator Manuals (e.g., RS Means);
(2) Third Party Quotes (e.g., Environmental Field Services Contractors);
(3) Verifiable Data based on Actual Operations; or
(4) Other sources of cost acceptable to the executive director of the TCEQ.

CERTIFICATE OF ELIGIBILITY

The State of Texas

County of Lipscomb

Before me, Stephen Skipper, Mayor (insert the name and character of the officer),

The City of Booker small MSW landfill facility meets all requirements contained in §330.5(b) of this title for exemptions from Subchapter H of this chapter (relating to Liner System Design and Operation) and Subchapter J of this chapter (relating to Groundwater Monitoring and Corrective Action); documentation that the City of Booker MSW landfill facility receives for disposal an annual average of less than 20 tons per day of authorized types of waste in a Type I AE landfill unit for a total waste acceptance rate less than 20 tons per day for the facility, based upon the most recent four reporting quarters or a certification that programs have been put in place, or will be implemented, to reduce the annual average to less than 20 tons per day based on an annual average for each landfill unit type within one year; documentation that there are no practicable waste alternatives available. The documents shall demonstrate one of the following: additional costs of available alternatives are estimated to exceed 1.0% of the owner's or operating community's budget for all public services; haul distances to alternative sites are unreasonably long; or all other alternatives are not feasible to implement, given the community location and economic condition; and documentation that the City of Booker small MSW landfill receives less than or equal to 25 inches of average annual precipitation as determined form precipitation data for the nearest official precipitation recording station for the most recent 30-year reporting period.

Given under my hand and seal of office this 11th day of October, 2024.

Stephen Skipper, Mayor

KAREN DIANN HADDON
NOTARY PUBLIC - STATE OF TEXAS
ID# 12678675-3
COMM. EXP. 01-28-2025

(Notary's Signature)

Notary Public, State of Texas

PsStratigraphy, Seismic Characteristics, and Reservoir Properties of the Desmoinesian Granite Wash, Buffalo Wallow Field Area, Anadarko Basin, Texas*

Doga E. Senoglu[1], Matthew J. Pranter[1], and Kurt J. Marfurt[1]

Search and Discovery Article #20380 (2017)**
Posted January 30, 2017

*Adapted from poster presentation given at AAPG Annual Convention & Exhibition, Calgary, Alberta, Canada, June 19-22, 2016
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[1]ConocoPhillips School of Geology and Geophysics, University of Oklahoma, Norman, Oklahoma [redacted]

Abstract

The Desmoinesian Granite Wash is a productive oil and gas play of the southern Anadarko Basin. It includes a series of alluvial fans, fan-deltas, proximal turbidites, and debris flows deposited in association with the Amarillo-Wichita Uplift. The deposits occur as several thousand feet of conglomerates, sandstones, carbonates, and shales that form complex low-permeability and generally low-porosity reservoirs. The stratigraphic and structural framework and reservoir characteristics of the Desmoinesian Granite Wash are established using a 28 mi^2 (72 km^2) 3-D seismic survey, logs from 450 wells, and petrophysical data derived from published cores. The lithologies and well-log signatures of the different reservoirs are highly variable. The dominant lithofacies include cross-bedded sandstone, parallel-stratified sandstone, planar-laminated sandstone, structureless sandstone, bioturbated sandstone, and silt-rich mudstone.

Artificial-neural-network (ANN) techniques are used to estimate lithology logs in non-cored wells by utilizing core and well logs. Key stratigraphic surfaces are commonly related to laterally extensive shales. The Desmoinesian Granite Wash is subdivided into 10 intervals based on net-to-gross ratio, regional trends in well-log signatures, and seismic reflection character. Detailed interpretation of 3-D seismic data also illustrates that the Granite Wash interval exhibits several high-angle reverse faults with significant offset. Results from P-impedance inversion are used with the estimated lithology logs, and the established stratigraphic and structural framework to constrain the spatial distribution of lithology and petrophysical properties in 3-D reservoir models. The models illustrate the stratigraphic architecture, main structural elements, and their relationship to Granite Wash reservoir quality distribution for the study area.

Stratigraphy, Seismic Characteristics, and 3-D Reservoir Modeling of the Granite Wash, Buffalo Wallow Field Area, Anadarko Basin, Texas

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The UNIVERSITY of OKLAHOMA Mewbourne College of Earth and Energy ConocoPhillips School of Geology and Geophysics

RCML Reservoir Characterization and Modeling Laboratory The University of Oklahoma

Abstract

Granite wash is a both oil and gas productive play of Soutern Anadarko Basin, whiell extends over 130 miles across 7 counties. It b Pennsylvanian h ege and mainly formed by alluvial fans, fan-deltas and proximal turbidites and debris flows during AmarlDo-Wichita Up&lt which el;o causod the region to be complex because of deformational fEBUtes like faults and folds, These depo'ils, which are immediately adjacent to the uptlt, occurred as several thousend feet of conglomerate, sandstone, carbonate wash and shale have formed a complex of low-permoability and generally low-porosity reservoirs..

The Oesmoinesian Series of Granite Wash h the Buffalo Willow at 1Nheeler and HamphU counties, Texas. else exhibits a fan-delta system, n is formed by teniginous elastics of the fan delta and turbidite lobes and these are interbedded wth h limesnwes. These resorvoirs ore highly varient h mineralogy, grain size, sorting and Uthofacies. Lithofacies of the Intere3t are8 are defined through a core and calibretlco of that core to the matching wen logs. Furthermore detailed 3-0 Uthological model that are conswa ined to cores. seismic and logs from a 69 wens. and 3-0 ,elsmic data mustral& the reseNOir characterfSitb: and main structural elements like major faults of tho Oesmoinesian Series of Granite Wash, Buffalo Wallow. Also calculated lithology logs and seismic-inversion-de,tved P>-Impedance data ere used as constraints h these 3-0 reservoir model for better illustration of the stratigraphic arctutecture and petrophysical properties.

Research Objectives

Th♦ sudy ddnlsses fre rcUowlrg questions for tro Oesmoinesian Granto Wash:

-WMt 3e tre dominant lithologies and lihodcds$?
-Wh8t an, tre rynges of petrophysleal propeUes assocbled ♦ each lthology?
-What ase tre weGkg signatuto of tre keylthologies♦nd potrophy,lcal ♦ ?
-Wmitb tre stratlgGphic and sln,UCUnlllmmoNOlkc;n dblncstshelss to used b cortebto to establish e Sa,j-Hn&stelSC3Pltc framework es h other erer,; of tre Granite Wash?
-WithIn♦ smUgsphic 8rd 3tUound framework what is tre spatial dBbbuUon of lthol0bly and p e t r o p ♦ properties?
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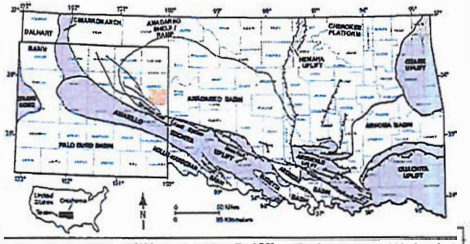
Study Area



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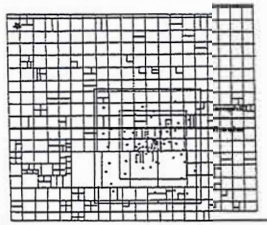

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Geologic Setting

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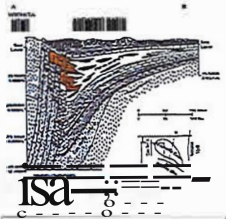

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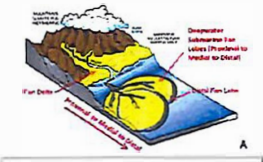

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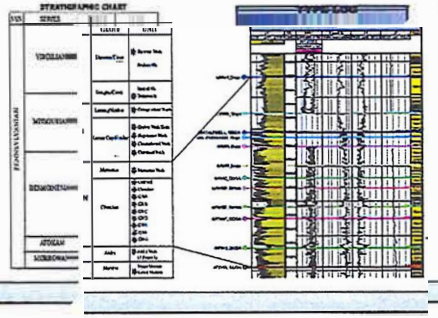
Lithology Descriptions and Petrophysical Properties



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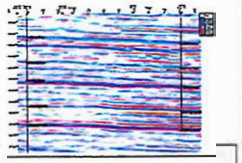

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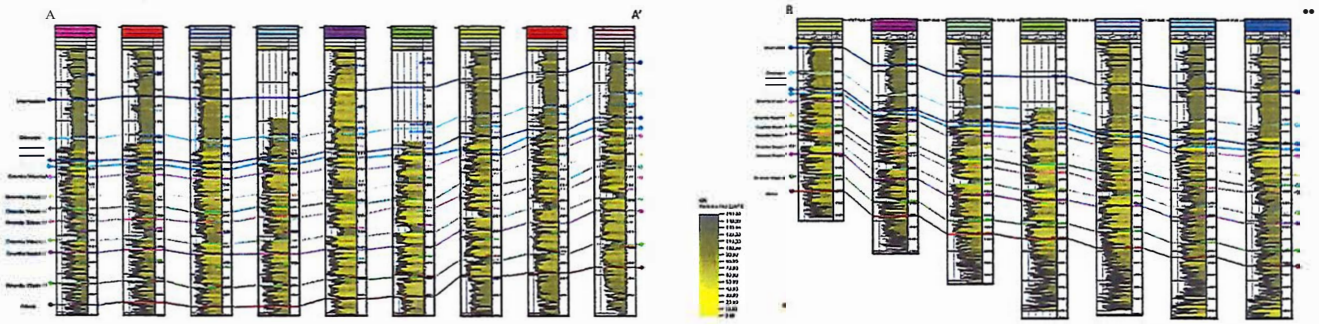
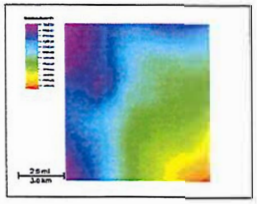
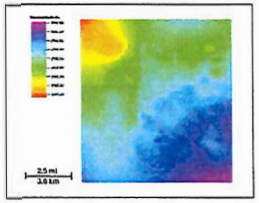
Stratigraphic and Structural Framework



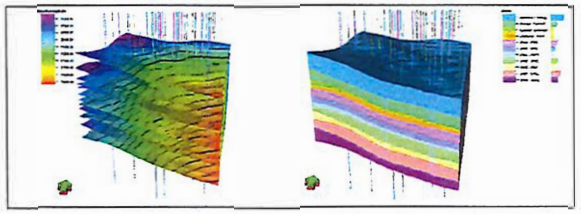
These representative structural cross sections show the ten Desmoinesian-age Granite Wash zone. Continuous shale intervals, that have been used to define the zones in this study, are traceable throughout the cross-sections. There is a trend of increasing net-t"i!ross with depth, and towards south.



Structure map for the top of the Desmoinesian-age Granite Wash shows a trend of increasing structural elevation to the northwest.



The isopach map for the Desmoinesian-age Granite Wash Shows patterns of thick and thin deposits. Thicker sediment accumulations occur towards the southern boundary of the study area.



3-D view of the wells, 11 surfaces of Desmoinesian-age Granfte Wash and the resultant 3-D grid for all 10 zones (15x exaggerated view). Sixty-nine wells and a 28 mi2 (72 km2) seismic data is used as guides for modeling. The 3-0 grid has dimensions of 89 x 98 x 1525 (i x j x k) and 13301050 cells in total, and each cell is 500x500 ft (150m). and layer is 4 ft (1.2 m)thick.

Core Description

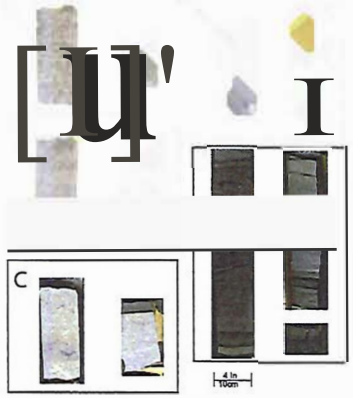
A. Structureless Sandstone
Massive medium- to coarseijrained gray sandstone. well-sorted. No vertical grain size change. Rare occurrences of rip-up dasts, flame structures and soft-sediment deformation.

B. Fining Upward Sandstone
Coarse- to very fineijrained gray sandstone, well sorted. Scoured base, some parallel mud laminations near the top of the interval. DISh structures and several amalgamated surfaces are present together with some bioturbation.

C. Coarsening Upward Sandstone
Fine-to very coarse-grained, fight gray colored. well sorted sandstone. Abrupt transition to mudstone at the top. Bloturbarion observed.

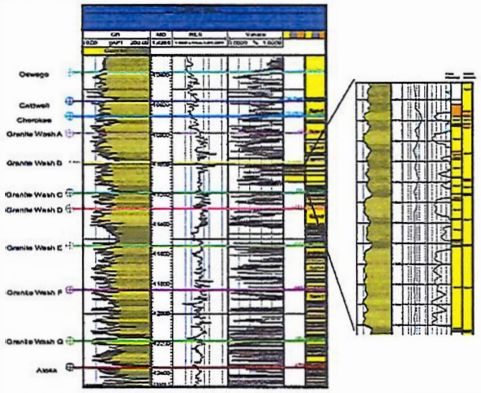
D. Dark Gray Muddy Sandstone
Fine- to coarse-grained, dark gray colored muddy sandstone. Poorly sorted. Chaotic structures are observed like, slumping, convolute bedding, flame structures, and very common soft sediment deformation. Large clasts are also observed.

E. Interbedded Sandstone-Mudstone
Intertledded and laminated mudstone-muddy sandstone-sandstone. Grain size changes from fine sand to mud. Color is varying from *gray* to very dark gray/black. Very poorly sorted. Convolute bedding, flaser bedding and soft -sediment deformation is present



Based on core and well logs, the depositional environment is preliminarily interpreted to be a deep-marine setting which consists of channels (dominated by facies A), amalgamated and layered sheet sandstones (commonly facies B and C) and slump deposits (commonly facies D and E). However additional work is needed to confirm this interpretation.

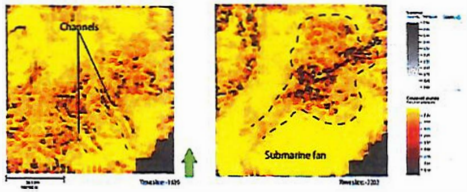
Lithology Estimation



To estimate lithology in non-cored wells, an artificial neural network approach was used with a core and well logs. Part of the core is used to train the well logs, due to the lacking of another core to test In order to train the core, it is best to use litholog-descriptive fogs. In this study, different sets ware tried, but Gamma-ray, Resistivity and Vshale set gave the best results. After training the specific part of the core, the remaining part was tested with the resultant algorfthm. 85% of a match between lithologies is achieved for the core lithology and Neural Network lithology. With this satisfying match, the same algorithm then applied to the all the other non-cored-wells and wells in the study area with Gamma-ray, Resistivity and Vshale logs, and lithology log for those wells also obtained.

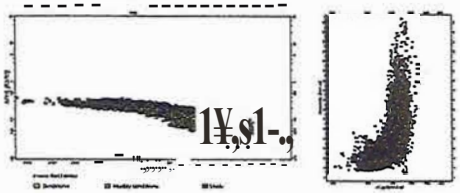
Seismic Characteristics

Surface Attributes

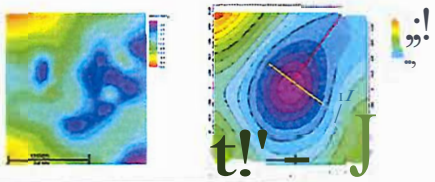


Seismic surface attributes were used in order to highlight the features that may relate to the depositional nvironment For this purpose two different attributes were chosen and co-ren. dered. coherent energy and variance, as they may indicate and outline chaotic structures. The image on the left is from the uppermost zone. Marmaton Wash, and the image on the right is from Granite Wash E as examples. The areas with high variance and high-to- moderate coher. ent energy are Interpreted to be delineations of channels, turbidite fans or slump deposits.

Acoustic Impedance



Crossplots of impedance versus porosity and resistivity (as calculated from the logs) and color coded by lithology showing the relatively high impedance values are associated with sandstone. Depending on that correlation, an acoustic impedance (AI) volume that is previously calculated by Gavidia (2012) is used.As AI is increasing with depth, an average AI surface attribute map is generated for each zone and different cut-off values are determined in order to be used for nrobabilitv maos.



Probability and variogram maps of the Marmaton zone. Probabllity map is generated with the help of average AI map for the seismic area, and for the outer model area without the seismic. sand percentages from the wells are calculated and used to obtain sandstone probability, and then these were merged with the seismic map, to achieve a sandstone probability map for the entire model area. And the horizontal varlogram of those probobifity maps are also generated for each zone. Horizontal variogramsare used to see how the data varies throughoutthemodel area and as a guide for the determination of the dimension and direction of sandstones within the model. Red fin is showing the major direction whereas yellow line repr,senting the minor direction#which IS perpendicular to the major one.

Acknowledgement

I would like to thank Devon Energy for supplying the data and RCML for their support. I also want to acknowledge the help and guidance from John Mitchell, Mark Sitton; Sunamin, and Gabriel Machado.

References

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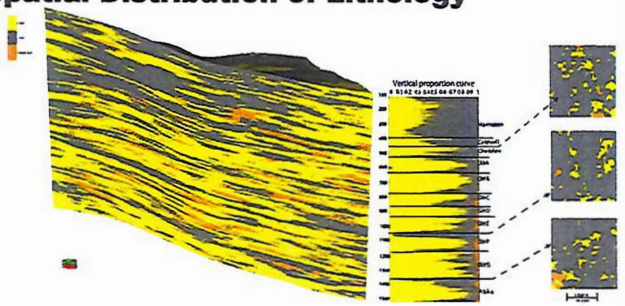
Spatial Distribution of Lithology



The above SIS lithology model was constructed using the following parameters:
1) Upscaled lithology logs obtained from Artificial Neural Network
2) Histogram of nthology percentages
3) Probability maps for sandstone for each zone calculated from AI volume
3) Vertical and horizontal variograms (by zone)
4) Vertical lithology proportion curves for each zone

Lithology distribution throughout the whole model is as follows: 62% sandstone, 36% shale, and 2% muddy sandstone. Shale deposits appear as more laterally continuous deposits throughout the layers, while the sandstone is more either more channelized or in lobes as expected with the associated deep marine sheet sand deposits. Muddy sandstone percentage is fairly low as they are related to the more slopeward deposition, they appear only times of regression, although they increase their abundance throughout the lower zones. also in the vertical proportion above, it can be seen that times of flooding surfaces, which are also used to define the intervals of Granite Wash, are corresponding to levels with higher shale occurrence. Example surfaces from Caldwell, GWE and GWG are shown above that are dominated by shale.

Comparison of spatial distribution between different zones.
On the left a layer from Caldwell zone, showing higher percentage of shale, and very low muddy sandstone which can be also followed from vertical proportion curve. Shale is more continuous while sandstone is more patchy. In GWB, sandstone percentage is 77 which is very high, thus sandstone appear to be highly continuous for this zone. Also the muddy sandstone occurrence is increased. On the right, views from north and south, showing the vertical change. On the both sides, shale is highly continuous. whereas sandstone is observed to be more continuous on the southern side compared to the northern side, with the change from proximal to distal submarine lobes.

Conclusions

The Oesmolneslan Granite Wash is a hydrocarbon-bearing interval Within the Anadarko Basin of Oklahoma and Texas that is composed of elastic and carbonate sediments derived primarily from the Amarillo-Wichita Uplift. Primary lithologies present within the Desmoinesian Granite \o\fash of Hemphill and Wheeler counties, Texas are determined by Artificial Neural Network approach successfully,and are vertically stacked sandstone, muddy sandstone and shale. Those lithologies exhibit a complex stratigraphic architecture, highly variable lithologies, and correspondingly heterogeneous reservoir properties.
In order to construct stratigraphic and structural framework and to understand reservoir characteristics of the Oesmoinesian Group, well-logs, a core, seismic volume and its impedance inversion is used.A 3-D model of spatial distribution of lithology is then made with all of those inputs through Sequential Indicator Simulation technique.
Overal it is found that the structure elevation of the Desmoinesian Group is increasing towards north, without a significant difference in thickness. All investigations are pointing deep marine as depositional environment. There is a satisfying correlation between acoustic Impedance and lithology,so that it is used to constrain the 3-0 model in terms of sandstone probability and major and minor directions of the sandstones for each zone. Lithology distribution throughoutthe whole model is 62% sandstone, 36% shale, and 2% muddy sandstone Shale deposits display a laterally continuous, vertk.allydiscontinuous trend with no dlscemable deposltional azimuth trend, whereas muddy sandstones are relativelyless continuous and less present with an increasing abundance with depth.

Gavidia. G.E. 2012. Atlllbutic s...ported Silsmic Geomorphology and Rcstrvoir Qlliracterizalion of the Gr.w♦ W.sh, Anadarko Basin Teods M5 thesis. CSU
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Texas Commission on Environmental Quality

Post-Closure Care Cost Estimate Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators to provide post-closure care cost estimates for post-closure care of MSW Type I landfills to meet the requirements in 30 Texas Administrative Code (TAC) Chapter 330, Section 330.63(j) and 30 TAC Chapter 330 Subchapter L. The costs to be provided herein are cost estimates for hiring a third party to conduct post-closure care of the largest waste fill area that has been certified closed in writing by the TCEQ executive director.

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

I. General Information

Facility Name: City of Booker Landfill

MSW Permit No.: 1943A

Date: 10/15/2025

Revision Number: NOD No. 3

Site Operator/Permittee Name and Mailing Address: Guillermo Estrada/City of Booker Landfill P.O. Drawer M Booker, TX 79005

Total Post-Closure Care Cost Estimate (2025 Dollar Amount): $182,250

II. Professional Engineer's Statement, Seal, and Signature

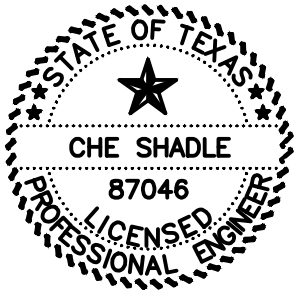
I am a licensed professional engineer in the State of Texas. To the best of my knowledge, this Post- Closure Care Cost Estimate has been completed in substantial conformance with the facility Post-Closure Care Plan and, in my professional opinion, is in compliance with Title 30 of the Texas Administrative Code, Chapter 330.

Name: Che Shadle Title: P.E.

Date: 10/15/2025

Company Name: OJD Engineering, LLC Firm Registration Number: F-4393

Professional Engineer's Seal



Signature

III. Annual Review of Permit Conditions, Cost Estimates, Adjustments for Inflation, and Financial Assurance

The site operator/permittee acknowledges that he/she will:

1. Revise and increase the post-closure care cost estimate and the amount of financial assurance provided whenever changes in the post-closure care plan or the landfill conditions increase the maximum cost of post-closure care at any time during the remaining active life of the landfill and until the facility is officially released from the post-closure care period in writing by the executive director.
2. Request a reduction in the post-closure care cost estimate and the amount of financial assurance as a permit modification whenever the post-closure care cost estimate exceeds the maximum cost of post-closure care remaining over the post-closure period. The permit modification will include a detailed justification for the reduction of the post-closure care cost estimate and the amount of financial assurance.
3. Establish financial assurance for post-closure care of the unit in an amount no less than the current post-closure care cost estimate in accordance with 30 TAC Chapter 37
4. Adjust the current post-closure care cost estimate for inflation within 60 days prior to the anniversary date of the first establishment of the financial assurance mechanism.
5. Provide annual inflation adjustments to the post-closure care costs and financial assurance during the active life of the facility and during the post closure care period. The adjustment will be made using an inflation factor derived from the most recent annual Implicit Price Deflator for Gross National Product published by the United States Department of Commerce in its Survey of Current Business, as specified in 30 TAC Chapter 37. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.
6. Provide continuous financial assurance coverage for post-closure care until the facility is officially released in writing by the executive director from the post-closure care period in accordance with all requirements of the post-closure care plan.

IV. Description of Worksheet Items of the Post-Closure Care Cost Estimates

The following descriptions of the worksheet items provide guidance for identifying the minimum work or cost elements for estimating the unit or lump sum cost of each item as applicable. Enter additional detail for each item in the field following the item as necessary and as site-specific conditions warrant. The cost items are grouped under post-closure care costs for engineering, construction, and leachate management. Include attachments to detail any additional work and associated costs necessary for the post-closure care of the unit or facility that is not already included as a line item on the worksheet. Reference the attachments and list the work or cost items in the fields under "Additional Engineering Cost Items Not Listed on the Worksheet," "Additional Construction Cost Items Not Listed on the Worksheet," or Additional Leachate Management Costs Not Listed on the Worksheet" as applicable. Provide the total cost of additional work or cost items in each cost category on the worksheet line that precedes the cost subtotal for each cost group.

1. Engineering Costs

1.1. Site Inspection and Recordkeeping

Regularly scheduled and event-driven site inspection must be performed to identify areas experiencing settlement, subsidence, erosion, or other drainage related problems, and note the conditions of the environmental control and monitoring systems, including leachate collection, groundwater monitoring, and landfill gas monitoring systems*. Enter additional site inspection and recordkeeping work or cost element detail as site-specific conditions warrant.*

$750

1.2. Correctional Plans and Specifications

The cost for an engineering consultant to prepare corrective measure construction plans and specifications to correct problems identified during site inspections. *Enter additional work or cost element details for correctional plans and specifications as site-specific conditions warrant.*

$1,000

1.3. Site Monitoring

The cost of performing semiannual groundwater (including costs for sampling and analyzing parameters, and assessment and reporting) and quarterly landfill gas monitoring (including costs for sampling and reporting) and the monitoring of other site-specific systems at the landfill during the post-closure period. *Enter additional site monitoring work or cost element details as site-specific conditions warrant.*

$500

1.4. Additional Engineering Cost Items Not Listed on the Worksheet

List the Attachments detailing additional post-closure care engineering cost items not already included as a line item on the worksheet. (Also, reference these Attachments in the "Units" column of this line of the worksheet. Provide the total cost of all additional engineering cost items in the "Cost" column).

2. Construction Costs

2.1. Cap and Sideslopes Repairs and Revegetation

The cost of repair of the cap and cap drainage control structures due to erosion or structural integrity failures and maintaining final cover vegetation to minimize erosion. *Enter additional cap and sideslopes repair and revegetation work or cost element details as site-specific conditions warrant.*

$2,350

2.2. Mowing and Vegetation Control

The cost of controlling vegetation growth on the final cover and other areas of the landfill. *Enter additional mowing and vegetation control work or cost element details as site-specific conditions warrant.*

2.3. Groundwater Monitoring System Maintenance

The cost of repairs/replacement and routine maintenance. *Enter additional groundwater monitoring system maintenance work or cost element details as site-specific conditions warrant.*

2.4. LFG Monitoring Probes Maintenance

The cost of repairs/replacement and routine maintenance. Enter additional LFG monitoring probes maintenance work or cost element details as site-specific conditions warrant.

$300

2.5. LFG Collection System Maintenance

The cost of repairs and routine maintenance. *Enter additional LFG collection system maintenance work or cost element details as site-specific conditions warrant.*

2.6. Perimeter Fence and Gates Maintenance

The cost of maintaining perimeter fence and gates to restrict unauthorized access to the closed landfill. *Enter additional perimeter fence and gates maintenance work or cost element details as site-specific conditions warrant.*

$500

2.7. Access and Rights of Way Maintenance

The cost of maintaining the access roads and other rights of way to the closed landfill to conduct inspections, environmental sampling, routing maintenance and other post-closure activities. *Enter additional access and rights of way maintenance work or cost element details as site-specific conditions warrant.*

2.8. Drainage System Cleanout and Repairs

The cost to include costs for maintaining and repairing ditches, conveyance structures, and ponds/basins. *Enter additional drainage system cleanout and repairs work or cost element details as site-specific conditions warrant.*

2.9. Additional Construction and Maintenance Cost Items Not Listed on the Worksheet

List the Attachments detailing any additional construction and maintenance cost items necessary for post-closure care that are not already covered on the worksheet. (Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional construction and maintenance cost items in the "Cost" column.)

3. Leachate Management Costs

3.1. Leachate Collection and Removal System Operation and Maintenance

The cost of operation, routine maintenance and repairs. *Enter additional work or cost element details for leachate collection and removal system operation and maintenance as site-specific conditions warrant.*

3.2. Leachate Disposal

The cost of leachate disposal off-site. *Enter additional work or cost element details for leachate disposal as site-specific conditions warrant*.

3.3. Additional leachate management cost items not listed on the worksheet.

List the Attachments detailing any additional leachate management cost items necessary for post-closure care that are not already covered on the worksheet. (Also, reference these Attachments in the "Units" column on this

line of the worksheet. Provide the total cost of all additional leachate management cost items in the "Cost" column.)

4. Sum of Cost Subtotals

Enter the sum of engineering, construction, and storage and leachate management post-closure care cost subtotals from lines 1.5.1, 2.10.1, and 3.5.1. **$5,400**

5. Contingency

The cost added to cover unanticipated events during implementation of post-closure activities. (Enter additional work or cost element information as necessary)

$540

6. Third Party Administration and Project Management Costs

The cost for the third party hired by TCEQ to administer the post-closure activities. (Enter additional work or cost element information as necessary)

$135

V. Post-Closure Care Cost Estimates Worksheet

Post-Closure Care Period – 30 years

Total Permitted Acreage: 40.0 acres

Total Permitted Waste Footprint: 8.92 acres

Number of Groundwater Monitoring Wells:

Number of GW Monitoring Events: /year

Number of Gas Probes: 10

Number of LFG Monitoring Events: 4/year

The unit or lump sum cost for each item is based on the work items and cost elements described in Section III of this Post-Closure Cost Estimate document:

Yes ☒ No ☐ Partially ☐

If "No" or "Partially" is checked, please attach a written description of work items and cost elements which form the bases of unit or lump sum cost for the affected items.

(NOTE: If any item listed in this worksheet is not applicable to the subject facility, enter Not Applicable (N/A) in the affected fields)

Attachments

Additional Engineering, Construction, and Leachate Management Cost Items Details.

APPENDIX 19

Table 1: Post-Closure Care Cost Estimates

Item No.	Item Description	Units	Annual Qty.	Unit Cost	Annual Cost	Source of Unit Cost Estimate[i]
1.0 Engineering Costs						
1.1	Site Inspection and Recordkeeping[ii]	LS	1	$750	$750	3rd Party
1.2	Correctional Plans and Specifications	LS	1	$1,000	$1,000	3rd Party
1.3 Site Monitoring						
1.3.1 Groundwater Monitoring System						
1.3.1(a)	Sampling and Analysis of GW Monitoring Wells (Quantity = 2 x Number of wells)	Wells				
1.3.1(b)	Piezometers/Well Abandonment	Each				
1.3.2 LFG Monitoring System						
1.3.2(a)	LFG Quarterly Monitoring (Quarterly)	Each	1	$500	$500	3rd Party
1.3.2(b)	LFG Probe Plugging and Abandonment	Each				
1.4 Additional Engineering Cost Items (Detail in Attachments)						
1.4.1	Additional Engineering Cost Items (describe in attachments)	Identify attachments	NA	NA		NA
1.5 Engineering Costs Subtotal						
1.5.1	Engineering Costs Subtotal	NA	NA	NA	$2,250	3rd Party
2.0 Construction and Maintenance Costs						
2.1	Cap and Sideslopes Repairs and Revegetation	Acres	1.37	$1,715	$2,350	3rd Party

Item No.	Item Description	Units	Annual Qty.	Unit Cost	Annual Cost	Source of Unit Cost Estimate[i]
2.2	Mowing and Vegetation Management	Acres				
2.3	Groundwater Monitoring System Maintenance					
2.4	LFG Monitoring Probes Maintenance	LS	1	$300	$300	3rd Party
2.5	LFG Collection System Maintenance					
2.6	Perimeter Fence and Gates Maintenance	LS	1	$500	$500	3rd Party
2.7	Access Roads Maintenance					
2.8	Drainage System Cleanout/Repairs					
2.9 Additional Construction and Maintenance Cost Items (Details in Attachments)						
2.9.1	Additional Construction and Maintenance Cost Items (details in attachments)	Identify attachments		NA		NA
2.10 Construction and Maintenance Costs Subtotal						
2.10.1	Construction and Maintenance Costs Subtotal	1	LS	$3,150	$3,150	3rd Party
3.0 Leachate Management						
3.1	Leachate Management System Operation and Maintenance	specify				
3.2	Leachate Disposal	Gals				
3.3 Additional Leachate Management Cost Items (Details in Attachments)						

Item No.	Item Description	Units	Annual Qty.	Unit Cost	Annual Cost	Source of Unit Cost Estimate[i]
3.4	Additional Leachate Management Cost Items (details in attachments)	Identify attachments	NA	NA		
3.5 Leachate Management Costs Subtotal						
3.5.1	Leachate Management Costs Subtotal	NA	NA	NA		NA
4.0 Sum of Engineering, Construction, and Leachate Management Costs						
4.1	Sum of Engineering, Construction, and Leachate Management Cost Subtotals	LS	1	$5,400	$5,400	3rd Party
5.0 Contingency						
5.1	Contingency (10% of Sum of Engineering, Construction, and Leachate Management Cost Subtotals)	LS	1	$540	$540	3rd Party
6.0 Third Party Administration and Project Management Costs						
6.1	Third Party Administration and Project Management Costs (2.5% of Sum of Engineering, Construction, and Leachate Management Cost Subtotals)	LS	1	$135	$135	3rd Party
7. Total Post-Closure Cost						
7.1	Total Annual Post-Closure Cost (Sum of amounts in Sections 4, 5, and 6)	LS	1	$6,075	$6,075	3rd Party
7.2	30 Year Post-Closure Costs (Total Annual Post-Closure Cost x 30)	LS	1	$182,250	$182,250	3rd Party

[i] Sources of Unit Cost Estimates may include:
(1) Published Cost Estimator Manuals (e.g., RS Means);
(2) Third Party Quotes (e.g., Environmental Field Services Contractors); or
(3) Verifiable Data based on Actual Operations

[ii] Example Description for Item No. 1.1 – "Includes costs for site inspection performed at least annually for identification of areas experiencing settlement or subsidence, erosion or other drainage-related problems, inspection of the leachate collection system, gas monitoring system and LFG monitoring system."

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

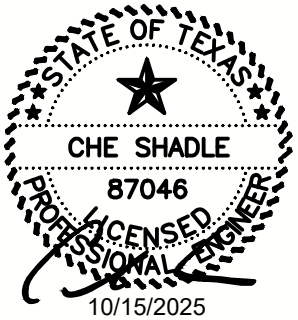
LANDFILL GAS MANAGEMENT PLAN
APPENDIX 20

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

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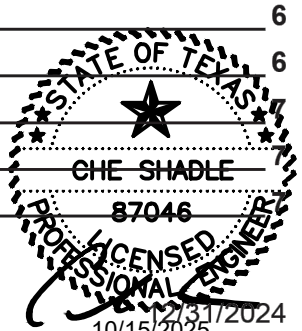


12/31/2024
10/15/2025
P-4393
NOD No. 1 – 2/4/25
NOD – 4/11/25
NOD No. 2 – 6/3/25
NOD No. 3 – 10/15/25

LANDFILL GAS MANAGEMENT PLAN

(a) Owners or operators of all landfill units shall ensure that:

(1) The concentrations of methane gas generated by the facility does not exceed 1.25% by volume in facility structures (excluding gas control or recovery system components)

(2) and the concentration of methane gas does not exceed 5% by volume in monitoring points, probes, subsurface soils, or other matrices at the facility boundary defined by the legal description in the permit or permit by rule.

(b) Routine methane monitoring program

(1) The type and frequency of monitoring shall be determined based on the following factors:

(A) The site and vicinity soils are from the Darrouzett and Estacado-Olton Complex. The Miles series consists of very deep, well drained, moderately permeable soils that formed in loamy alluvial materials. These soils are mild to moderates. Slopes range from 0 to 5 percent. Mean annual precipitation is about 584 mm (23 in), and mean annual air temperature is about 62 degrees C (16.7 degrees F).

The Estacado series consists of very deep, well drained, moderately slowly permeable soils that formed in calcareous, loamy eolian deposits of the Blackwater Draw Formation of Pleistocene age. These soils are on nearly level to gently sloping plains and playa slopes. Slope ranges from 0 to 5 percent. Mean annual precipitation is 483 mm (19 in) and mean annual air temperature is 16 degrees C (61 degrees F). Location for gas probes is based on location and the existing soil will provide adequate conditions for monitoring.

(B) Hydrogeological Conditions See Figure I-14 & II-14 of Parts I & II of the permit application. Location for gas probes is based on location and the hydrogeological conditions will provide adequate location for monitoring.

(C) Hydraulic Conditions See Figure I-14 & II-14 of Parts I & II of the permit application. Location for gas probes is based on location and the hydraulic conditions will provide adequate location for monitoring.

(D) There are no on-site enclosed structures that require monitoring.

(E) There are no known utilities on the site. See Figure 6 for location.

(2) The minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in subsection of this section are detected, the owner or operator shall:

(1) Immediately take all necessary steps to ensure protection of human health and notify the executive director, local and county officials, emergency officials, and public;

(2) within seven days of detection, place in the operating record the concentration of methane gas levels detected and a description of the steps taken to protect human health; and

(3) within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, provide a copy to the executive director, and notify the executive director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy. After review, the executive director may require additional remedial measures.

(d) The executive director may establish alternative schedules for demonstrating compliance with subsections (b) and (c) of this section.

(e)The City of Booker shall continue the gas monitoring and control program for a period of 30 years after certification of final closure of the facility for a Type IAE landfill unit or until the City of Booker receives written authorization to reduce the program. Authorization to reduce gas monitoring and control shall be based on a demonstration by the City of Booker that there is no potential for gas migration beyond the property boundary or into on-site

structures. Demonstration of this proposal shall be supported by data collected and additional studies as required.

(f) Gas monitoring and control systems shall be revised as needed to maintain current and effective gas monitoring and control systems. Post-closure land use at the site shall not interfere with the function of gas monitoring and control systems. Any underground utility trenches that cross the landfill facility boundary shall be vented and monitored regularly.

(g) The City of Booker landfill gas management plan includes the following:

(1) Monitoring is to be done along the perimeter of the permitted facility using 5 proposed bar-hole probe locations, 8 existing bar-hole probe locations, and a methane detector. The proposed bar-hole and permanent probe locations will be installed prior to receiving waste in the expansion area.

(2) The placement of methane monitoring probe is based on the provisions outlined in SUBCHAPTER I: LANDFILL GAS MANAGEMENT §330.371. As shown in Figure 6 (Site Layout Plan) of the Site Development Plan, there are existing methane bar-hole probe locations located on the north side of the facility between the landfill and the residence to the northwest. A detailed drawing of the probe is shown as Figure III-23 of this plan.

(3) Manufacturers data for the equipment similar to the type to be used is included in Appendix 25 (Manufacturer's Data for Gas Monitoring).

The bar-hole probe equipment will be maintained between monitoring periods. Maintenance associated with the bar-hole probe monitoring includes the following:

Maintenance and calibration of the monitoring instrument will be conducted according to the following typical schedule:

Mechanical Zeros (internal) – Will be checked every time the monitor is turned on or a minimum of three times per day during operation.

LEL Zero (internal) – Will be checked every time the monitor is turned on or a minimum of three times per day during operation.

Calibration Check (internal) – This will be done once during the beginning of the monitoring day and once at the end. The calibration will involve exposing a compressed gas-air mixture from the Calibration Test Kit to the sensor. Necessary adjustments will then be made to the instrument according to the manufacturer's recommendations. Records of both calibrations and adjustments, if any, will be kept in a log.

Flow Restrictions – The instrument will be checked thoroughly for any flow restrictions or leaks prior to the monitoring day. Parts of the instrument to be checked include the probe, extension hoses, moisture trap, aspirator bulb, and outlet fitting. Additional checks for leaks or flow restrictions will be conducted continuously throughout the monitoring period.

Batteries – If alkaline-type dry cell batteries are used they will need to be replaced at a minimum of every four hours. Rechargeable nickel-cadmium batteries should be recharged after every four hours of use.

Maintenance of the pressure gauge will consist of a visual inspection of the gauge and inlet lines for damage. The gauge will also be set to zero with the external zero adjustment screw as required. Calibration of the instrument against a second pressure gauge will be conducted as needed or quarterly at a minimum in accordance with the manufacturer's recommendations.

A separate calibration log for each instrument will be kept on-site and will contain the following information:

- Date and time of calibration
- Name and person calibrating
- Serial number and model number of instrument
- Type of calibration

- Results of calibration

(4) In the event that methane gas main system breaks down, becomes ineffective, or exceeds the allowable concentrations, the operator will immediately notify the following:

TCEQ Executive Director

TCEQ Regional Office
City /County/Local officials
Any residents within 1000 feet of the probe with exceedance.

Daily follow-up verification readings will then be made for 1 week. If the follow up readings suggest that there are explosive gas levels exceeding allowable limits, a gas sample will be collected for laboratory analysis and soil gas sampling will be conducted to determine the extent of gas migration beyond the permitted site metes and bounds. The TCEQ Compliance and Enforcement Section will be consulted for specific instructions.

Within seven days from the date of initial reading, the owner will submit to the Executive Director a report that includes the following:

A. Information regarding the initial reading (date, location, measured methane concentration etc.

B. Description of immediate actions taken to protect human health, information regarding the notifications to the Executive Director, Regional Office, City/County/Local officials and any residents within 1000 feet of the reading.

This report will be placed in the site operating record.

Within 60 days, the owner operator will take the following actions:

A. Submit the Executive Director a report that describes the nature and extent of gas migration;

B. Submit and implement a remediation plan;

C. Provide notification to the Executive Director that the remediation plan has been implemented;

All the above records will be placed in the site operating record.

(h) The City of Booker shall install a perimeter monitoring network in accordance with the following provisions:

(1) The placement of methane monitoring probe is based on the provisions outlined in SUBCHAPTER I: LANDFILL GAS MANAGEMENT §330.371. As shown in Attachment 6 (Site Layout Plan) of the Site Development Plan, the probes are to be placed on all sides of the facility between the landfill and the residences to the south and northwest. The residence is closer than 3,000 feet to the proposed site. A monitoring network design will include provisions for monitoring utilities or other areas where potential gas buildup would be of concern. A permanent gas monitoring system will be installed if test results show the presence of methane gas at a concentration above 0.5% by volume. All monitoring probes and on-site structures shall be sampled for methane during the monitoring period. Sampling for specified trace gases may be required by the executive director when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds. Therefore, a permanent probe will be placed in the location shown on the map to assure than methane is not migrating toward the residence. Gas probes shall be installed prior to receiving any waste. A detailed drawing of the probe is shown as Figure III-25 of this plan.

(2) Not applicable

(i) There are no on-site enclosed structures that require monitoring.

(j) Monitoring is to be done along the perimeter of the permitted facility using a bar-hole probe and a methane detector. The permanent monitoring probe shall be sampled during the monitoring period.

(1) As a minimum, quarterly monitoring is required. The executive director may require more frequent monitoring based upon the factors listed in this section. When more frequent monitoring is necessary, the executive director shall notify the City of Booker.

(2) The City of Booker shall monitor more frequently those locations where monitoring results indicate that landfill gas migration is occurring or is accumulating in structures.

(3) The comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) to this subchapter supersede any conflicting provisions contained in any existing permits upon the effective date of

the 2006 Revisions. All the above records will be placed in the site operating record.

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

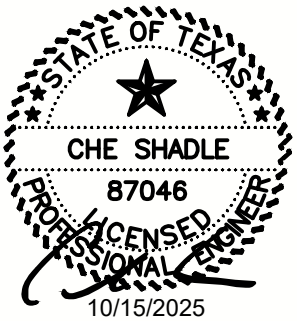
SOIL BORING PLAN
APPENDIX 24

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

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Engineering Firm # 4393 - Surveying Firm # 10090900

SOIL BORING PLAN

Overview

The City of Booker gives the authority to submit the SBP on their behalf to OJD Engineering, LLC. This is provided in the attached signed and dated Notice of Appointment.

Applicant/Owner/Operator: City of Booker
P.O. Drawer M
Booker, TX 79005
806 658 4579
[redacted]

This SBP was prepared, signed, and sealed by Che Shadle, P.E. as defined in 30 Texas Administrative Code (30 TAC) §330.3(120).

Geology Report and Groundwater Monitoring

Applicants for Type I-AE facility are exempt from the Geology Report (330.63(e)) pursuant to Chapter §330.57(a). Applicants for Type I-AE facility are exempt from the Hydrogeology Report pursuant to Chapter §330.401(b).

The Ogallala Aquifer is the largest aquifer in the United States and is a major aquifer of Texas underlying much of the High Plains region. The aquifer consists of sand, gravel, clay, and silt and has a maximum thickness of 800 feet. Freshwater saturated thickness averages 95 feet.

Water to the north of the Canadian River is generally fresh, with total dissolved solids typically less than 400 milligrams per liter; however, water quality diminishes to the south, where large areas contain total dissolved solids in excess of 1,000 milligrams per liter. High levels of naturally occurring arsenic, radionuclides, and fluoride in excess of the primary drinking water standards are also present.

The Ogallala Aquifer provides significantly more water for users than any other aquifer in the state. The availability of this water is critical to the economy of the region, as approximately 95 percent of groundwater pumped is used for irrigated agriculture.

Throughout much of the aquifer, groundwater withdrawals exceed the amount of recharge, and water levels have declined fairly consistently through time. Although water level declines in excess of 300 feet have occurred in several areas over the last 50 to 60 years, the rate of decline has slowed, and water levels have risen in a few areas.

(Reference - http://www.twdb.texas.gov/groundwater/aquifer/majors/ogallala.asp)

Provided in Texas Aquifers Study – Texas Water Development Board – 6.6 Ogallala Aquifer December 2016.

Geology Report - Borings

A sufficient number of soil borings to establish the geotechnical properties of the subsurface and its stratigraphy will be drilled in accordance with 30 TAC 330.63(e)(4)(A).

The borings will be sufficiently deep enough to allow the identification of the uppermost aquifer and underlying hydraulically connected aquifers in accordance with 30 TAC §330.63(e)(4)(B).

A site layout plan has been attached to this report as Figure 6 that shows the existing and proposed facility boundaries, waste disposal areas, and excavation outlines.

The attached map provides the acreage (20 acre – expansion/new area) on the map. The existing site acreage is 20 acres. A new total area of 40 acres.

A boring map has been provided to this report as Figure 22. The boring map assigns each proposed boring with a boring number that corresponds with the attached table that provides data to each specific bore.

The EDE (elevation of deepest excavation), which has been set at 2,797.00' and will be the lowest point in any excavation. All borings will be conducted in accordance with established field exploration methods as required by 30 TAC §330.63(e)(4)(C).

All borings, subsurface investigations, and plugging and abandonment will be conducted in accordance with applicable rules in Title 16 TAC Chapter 76 (Water Well Drillers and Water Well Pump Installers, administered by the Texas Department of Licensing and Regulation), including the preparation and submittal of well installation and plugging reports in accordance with §330.63(e)(4)(D).

If piezometers are proposed for the investigation. Be aware that 30 TAC §330.63(e)(5)(C) requires that the geology report, which would be part of an eventual permit amendment application, include the depth at which groundwater was encountered and records of after-equilibrium measurements in all borings. Therefore, if no piezometers are to be installed, the borings must remain open for a sufficient period to determine equilibrium groundwater levels.

If water used in drilling of boreholes for piezometers that may be converted to monitor wells, a current chemical analysis of the water must be provided with the monitor well installation report as required by 30 TAC §330.421(a)(1)(B).

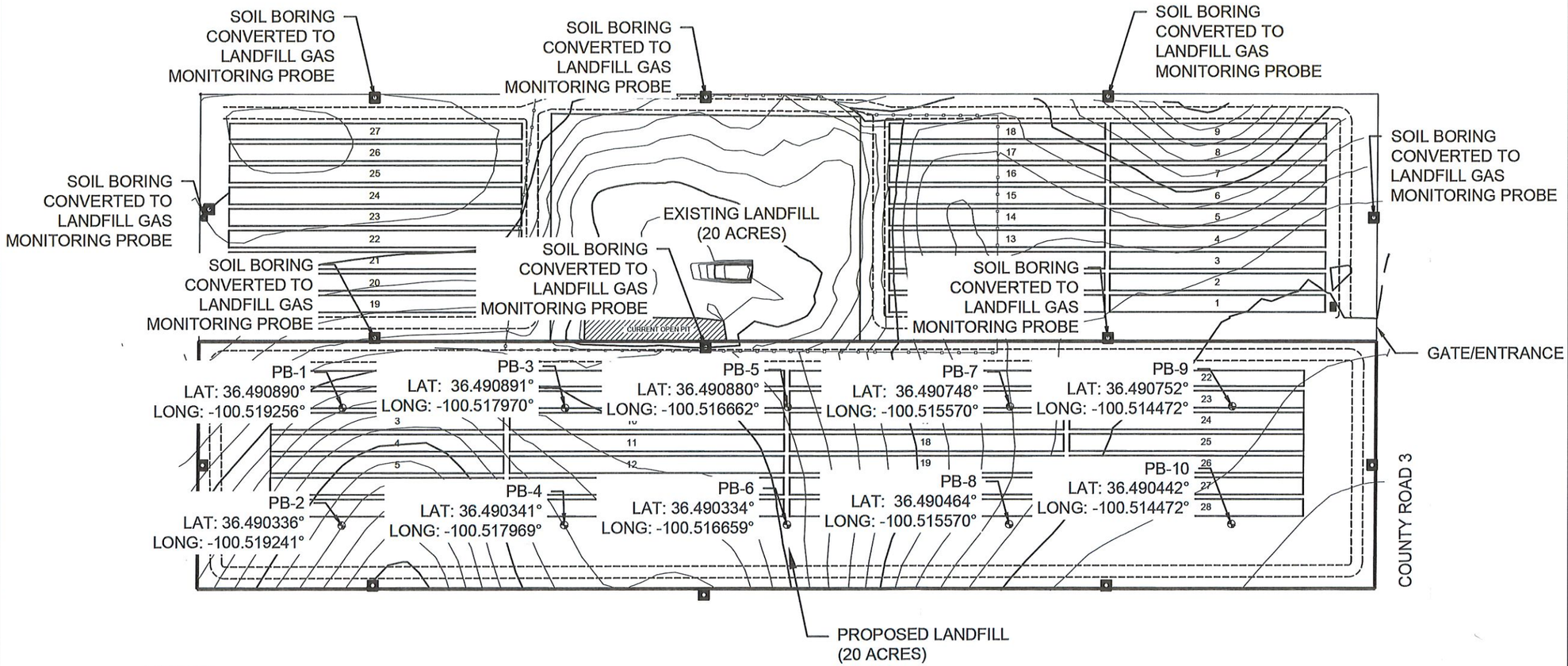
Any changes to the approved soil boring plan will be approved by the TCEQ prior to implementing said changes per 30 TAC §330.63(e)(4).

The TCEQ regional office has been included on all correspondence related to this project.

SCALE: 1" = 200'

-200 0 100 200

PROPOSED BORINGS				
Boring #	Surface Elev.	Total Boring Depth	Bottom Elev.	
PB1	2831.85	39.85	2792.00	34.85' - Above & 5' - Below
PB2	2836.96	69.96	2767.00	39.96' - Above & 30' - Below
PB3	2830.44	63.44	2767.00	32.50' - Above & 30' Below
PB4	2830.90	38.90	2792.00	33.90' - Above & 5' - Below
PB5	2827.00	35.00	2792.00	30.00' - Above & 5' - Below
PB6	2827.00	60.00	2767.00	30.00' - Above & 30' - Below
PB7	2822.00	55.00	2767.00	25.00' - Above & 30' - Below
PB8	2821.00	29.00	2792.00	24.00' - Above & 5' - Below
PB9	2817.00	25.00	2792.00	36.17' - Above & 5' - Below
PB10	2817.00	50.00	2767.00	20.00' - Above & 30' - Below



LEGEND

PITS
LANDFILL
BUFFER ZONE
PROPOSED BORE
GAS MONITORING PROBE

Revisions

Date: 4/08/2024

OJD Engineering, LLC
The Benchmark
Wellington | Amarillo | Wolfforth
www.OJDEngineering.com
F-4393

WELLINGTON
P.O. Box 543
Wellington, TX 79095
(806) 447-2503

WOLFFORTH
502 N. Dowden Road, Ste 102
Wolfforth, TX 79382
(806) 791-2300

AMARILLO
2420 Lakeview Drive
Amarillo, TX 79109
(806) 352-7117

CITY OF BOOKER LANDFILL

SOIL BORING PLAN

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER
4/08/2024

Drawn By: CCG
Checked By: MCS
Scale: 1" = 200'

Figure 22

MEMBER OF:
American Society For Testing Materials
American Concrete Institute
American Welding Society
American Society of Civil Engineers
Texas Council of Engineering Laboratories

DYESS-PETERSON TESTING LABORATORY, INC.
PROFESSIONAL TESTING

■ Amarillo, Texas 79120
P.O. Box 30699
(806) 372-4911 • Fax (806) 372-5552

■ Lubbock, Texas 79424
5853 49th Street
(806) 785-8378 • Fax (806) 785-1959

September 24, 2024

OJD Engineering, LLC
% Clint Green, Engineering Technician/Designer
2420 Lakeview Drive
Amarillo, Texas 79109

Re: City of Booker Landfill – Ochiltree County, Texas

Mr. Green,

As authorized by you sir, our drill crew were on-site at the above-mentioned project location on August 21st & 22nd, 2024 The purpose of this site visit was to perform the drilling and sampling of the in-situ soils. This drilling was performed using a Mobile B-57 hollow stem auger drill rig. After the completion of the drilling & sampling the borings were filled to full depth with hydrated 3/8" bentonite pellets.

The soil borings encountered two different soil types, Lean Clay (CL), Lean Clay with Sand (CL), Sandy Lean Clay (CL) and Clayey Sand (SC). All of the soils would be of the clay type and considered cohesive. The most common soils within these borings were the Lean Clays (CL) as they were the most dominant soil type from the surface to total depth in all of the borings. The soil conditions are summarized in the attached boring logs and boring cross-sections.

If you have any questions or there is anything I can help you with, please do not hesitate to contact me.

Respectfully submitted,

Michael D. Copeland, P.E.

Michael D. Copeland, P.E.
Texas Registered Engineering Firm F-1773

Report No. 6329

BORING: PB-1

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2831.85'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Light Reddish Brown Lean Clay (CL) 5/4 5YR		11.1		35	17	18		86.7
5					13.5		37	16	21		89.7
10			Pinkish White Lean Clay (CL) 8/2 5YR		14.5		37	16	21		91.0
15			Light Reddish Brown Lean Clay (CL) 6/4 5YR		15.8		41	19	22		92.9
			Pink Lean Clay (CL) 7/3 5YR		15.8		45	19	26		95.6
20											
			Light Reddish Brown Lean Clay (CL) 6/4 5YR		18.7		42	19	23		94.1
25											
30					12.6		40	19	21		90.8
			Pink Lean Clay (CL) 7/3 5YR		12.0		39	18	21		88.8
35					12.7		33	14	19		87.6
40			Light Reddish Brown Lean Clay (CL) 6/4 5YR		14.0		37	16	21		91.8
			* Total Depth - 40' *								

BORING: PB-2

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2836.96'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Light Reddish Brown Lean Clay (CL) 5/4 5YR		9.4		33	15	18		88.9
5			Pinkish White Lean Clay (CL) 8/2 5YR		11.9		36	16	20		89.8
10					13.9		35	16	19		86.1
			Light Reddish Brown Lean Clay (CL) 6/4 5YR		13.4		39	18	21		90.1
15			Pink Lean Clay (CL) 7/3 5YR		13.7		42	19	23		93.5
20											
			Light Reddish Brown Lean Clay (CL) 6/4 5YR		14.0		42	18	23		92.5
25											
30					15.4		42	18	24		92.2
35					14.5		38	17	21		91.9
			Pink Lean Clay (CL) 8/3 5YR		15.1		38	18	20		90.7
40											

BORING: PB-2

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2836.96'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
45			Light Reddish Brown Lean Clay (CL) 6/4 5YR		15.2		42	21	21		92.9
					10.9		38	18	20		88.1
50			Pink Lean Clay (CL) 7/4 5YR								
55					15.6		45	21	24		94.2
			Pinkish White Clayey Sand (SC) 8/2 5YR		3.7		25	14	11		37.1
60					6.2		22	12	10		33.1
65					9.4		24	10	14		43.3
70					7.5		32	15	17		47.0
			* Total Depth - 70' *								
75											
80											
85											

BORING: PB-3

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2830.44'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Dark Gray Lean Clay (CL) 4/1 5YR		14.2		41	18	23		91.7
5					14.3		42	19	23		93.1
			Pinkish White Lean Clay (CL) 8/2 5YR		15.1		35	16	19		89.6
10											
15			Pink Lean Clay (CL) 8/3 5YR		14.7		34	16	18		87.2
20					18.5		38	18	20		90.8
25					14.6		36	16	20		92.7
30			Light Reddish Brown Lean Clay (CL) 6/4 5YR		15.1		36	16	20		92.3
35					16.1		40	18	22		89.6
40					13.4		36	16	20		88.4

BORING: PB-3

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2830.44'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
45			Pink Lean Clay (CL) 8/3 5YR		14.4		40	16	24		90.2
50					16.2		40	16	24		91.9
55			Pink Sandy Lean Clay (CL) 7/4 5YR		10.4		32	14	18		67.8
60					7.4		32	15	17		65.4
65					9.1		32	15	17		65.5
			* Total Depth - 65' *								
70											
75											
80											
85											

BORING: PB-4

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2830.90'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Dark Gray Lean Clay (CL) 4/1 5YR		13.7		40	18	22		91.0
5											
			Pinkish White Lean Clay (CL) 8/2 5YR		14.4		39	18	21		91.0
10					14.2		38	17	21		90.7
15					15.0		38	18	20		92.2
			Pink Lean Clay (CL) 8/3 5YR		12.9		34	16	18		86.5
20					12.7		34	16	18		87.6
25			Light Reddish Brown Lean Clay (CL) 6/4 5YR		17.0		41	19	22		92.3
30					12.0		39	18	21		88.5
35					12.2		37	17	20		88.5
40					13.1		30	17	22		91.4
			* Total Depth - 40' *								

BORING: PB-5

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/22/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2827.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Dark Grayish Brown Lean Clay (CL) 4/2 5YR		12.9		36	16	20		86.6
5			Reddish Brown Lean Clay with Sand (CL) 4/4 5YR		15.8		37	17	20		84.1
			Pink Lean Clay (CL) 8/2 5YR		13.2		39	17	22		90.2
10			Reddish Brown Lean Clay (CL) 5/4 5YR		14.0		39	18	21		93.6
15			Pinkish Gray Lean Clay (CL) 7/2 5YR		14.3		36	16	20		90.6
					16.5		35	16	19		88.2
20											
			Light Reddish Brown Lean Clay (CL) 6/4 5YR		14.8		36	16	20		90.5
25											
30					12.7		37	17	20		87.0
35					13.6		36	16	20		89.8
			* Total Depth - 35' *								
40											

BORING: PB-6

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/22/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2827.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Dark Grayish Brown Lean Clay (CL) 4/2 5YR		11.5		35	15	20		88.2
5			Pink Lean Clay (CL) 7/3 5YR		12.3		36	17	19		85.3
			Reddish Brown Lean Clay with Sand (CL) 4/4 5YR		17.7		39	17	22		82.2
10			Pinkish White Lean Clay (CL) 8/2 5YR		17.1		37	16	21		90.0
15			Reddish Brown Lean Clay (CL) 5/4 5YR		17.1		40	18	22		90.4
			Pinkish Gray Lean Clay (CL) 7/2 5YR		15.9		35	16	19		89.0
20			White Lean Clay (CL) 8/1 5YR		14.9		37	17	20		90.3
25			Light Reddish Brown Lean Clay (CL) 6/4 5YR		16.0		36	16	20		86.8
30											
35					12.7		34	14	20		88.4
40					16.0		39	17	22		87.8

BORING: PB-6

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/22/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2827.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
45			Light Reddish Brown Lean Clay (CL) 6/4 5YR		16.3		41	19	22		89.6
50			Pink Lean Clay with Sand (CL) 8/3 5YR		10.9		35	16	19		84.0
			Pinkish White Clayey Sand (SC) 8/2 5YR		8.3		32	16	16		44.8
55					5.5		29	14	15		41.6
60					6.1		29	13	16		46.7
			* Total Depth - 60' *								
65											
70											
75											
80											
85											

BORING: PB-7

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2822.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Gray Lean Clay (CL) 4/1 5YR		14.3		45	21	24		94.2
5			Light Reddish Brown Lean Clay (CL) 6/4 5YR		14.7		42	19	23		91.2
10					15.3		40	18	22		89.2
			Pink Lean Clay (CL) 7/3 5YR		16.1		39	18	21		88.8
15			Light Reddish Brown Lean Clay (CL) 6/4 5YR		16.2		38	16	22		93.3
					15.8		38	17	21		92.8
20					15.7		38	18	20		89.7
25			Pink Lean Clay (CL) 7/4 5YR		14.8		38	19	19		90.6
30					13.4		38	18	20		91.6
35					16.5		44	21	23		91.8
40			Pink Lean Clay with Sand (CL) 8/3 5YR		12.7		36	16	20		81.1

BORING: PB-7

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2822.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
45			Pink Sandy Lean Clay (CL) 8/3 5YR		5.0		28	12	16		60.7
50			Pink Clayey Sand (SC) 8/4 5YR		5.0		28	12	16		41.5
55					5.0		30	16	14		30.1
			* Total Depth - 55' *								
60											
65											
70											
75											
80											
85											

BORING: PB-8

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2821.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Gray Lean Clay (CL) 4/1 5YR		15.9		44	20	24		94.0
5			Light Reddish Brown Lean Clay (CL) 6/4 5YR		15.0		37	17	20		86.6
10					14.1		40	18	22		88.1
15			Pink Lean Clay (CL) 7/4 5YR		15.2		40	18	22		90.6
20					12.3		41	18	23		92.6
25					14.1		39	18	21		90.4
					16.7		39	18	21		89.8
30			* Total Depth - 29' *								
35											
40											

BORING: PB-9

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2817.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Reddish Brown Lean Clay (CL) 4/3 5YR		13.7		44	20	24		93.6
					14.0		21	19	23		93.8
5			Light Reddish Brown Lean Clay (CL) 6/4 5YR								
					16.8		39	17	22		93.5
			Pink Lean Clay (CL) 7/4 5YR								
10											
					18.4		40	17	23		92.7
15											
					13.4		41	18	23		92.6
20											
					14.4		39	17	22		90.8
			Reddish Brown Lean Clay (CL) 6/6 5YR								
25					14.2		40	18	22		91.0
			* Total Depth - 25' *								
30											
35											
40											

BORING: PB-10

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2817.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
0			Reddish Brown Lean Clay (CL) 4/3 5YR		12.4		42	18	24		92.9
			Light Reddish Brown Lean Clay (CL) 6/4 5YR		11.2		40	18	22		91.4
5			Pink Lean Clay (CL) 7/4 5YR		13.5		37	16	21		92.8
10					14.0		39	17	22		90.6
15					15.7		40	18	22		88.9
20					15.9		40	17	22		91.4
			Reddish Yellow Lean Clay (CL) 6/6 5YR		15.7		42	19	23		93.9
25											
30					15.1		40	18	22		92.3
35			Yellowish Red Lean Clay with Sand (CL) 5/6 5YR		13.4		35	15	20		71.4
			Pinkish White Lean Clay with Sand (CL) 8/4 5YR		11.0		33	15	18		78.9
40											
			Pink Sandy Lean Clay (CL) 8/4 5YR		10.1		34	14	20		63.7

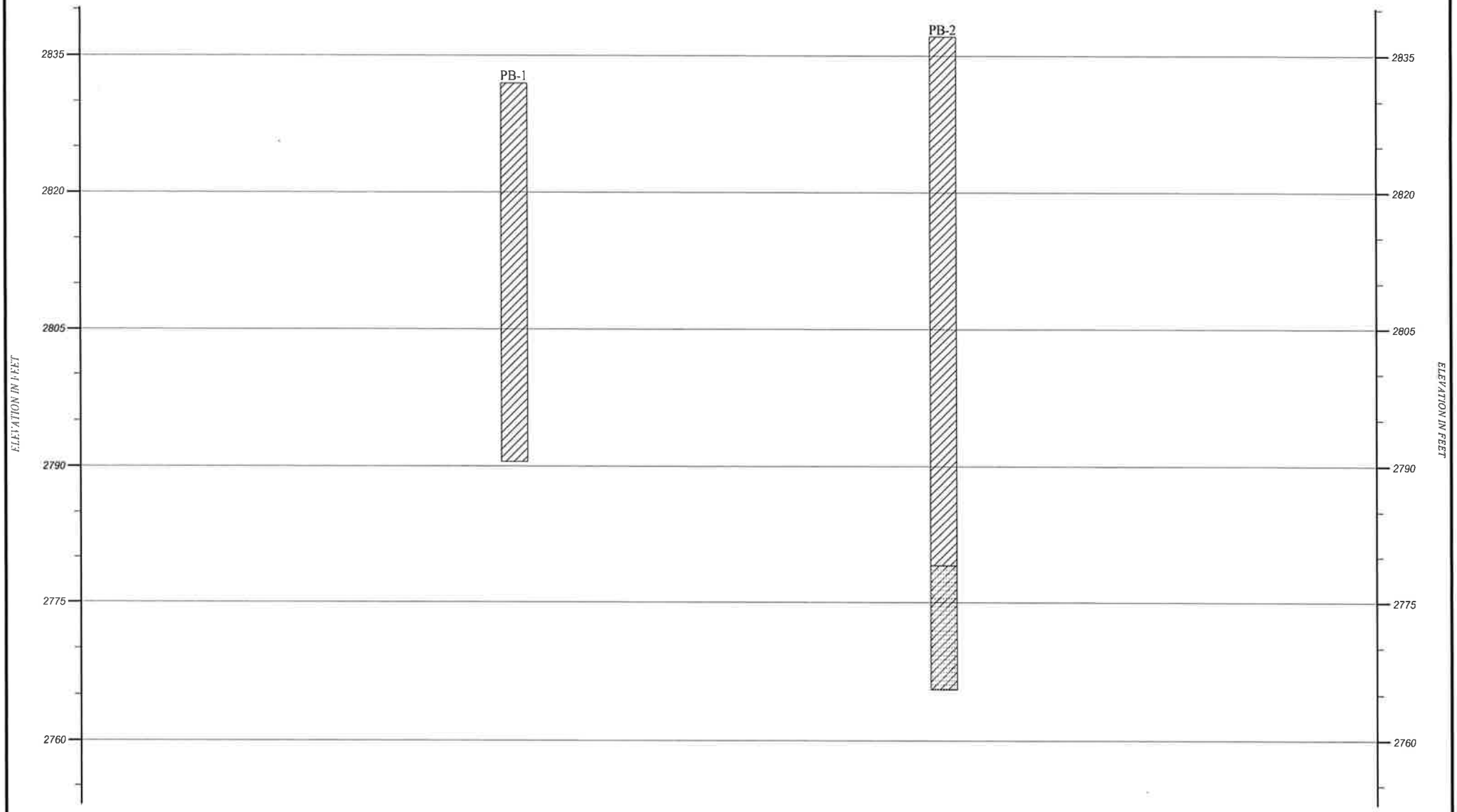
BORING: PB-10

Dyess-Peterson Testing Laboratory, Inc.

PROJECT: City of Booker Landfill
CLIENT: OJD Engineering, LLC % Clint Green, Engineering Techician/Designer
DRILLED DATE: 08/21/2024
DRILLING METHOD: Mobile B-57 Hollow Stem Auger

LOCATION: Ochiltree County, Texas
LOGGED BY: N. Rivers
DRILLED BY: Roy Wedell
ELEVATION: 2817.0'

Depth	Sample	Soil Log	Description	SPT Blows/Ft	Moisture Percent	Dry Density (pcf)	LL	PL	PI	Unconfined Compressive Strength (TSF)	Passing 200 Sieve
45			Pink Sandy Lean Clay (CL) 8/4 5YR		5.8		29	12	17		42.4
			White Clayey Sand (SC) 8/1 5YR								
50					3.2		25	12	13		31.6
			* Total Depth - 50' *								
55											
60											
65											
70											
75											
80											
85											



Strata symbols

- Lean Clay
- Blank
- Clayey Sand

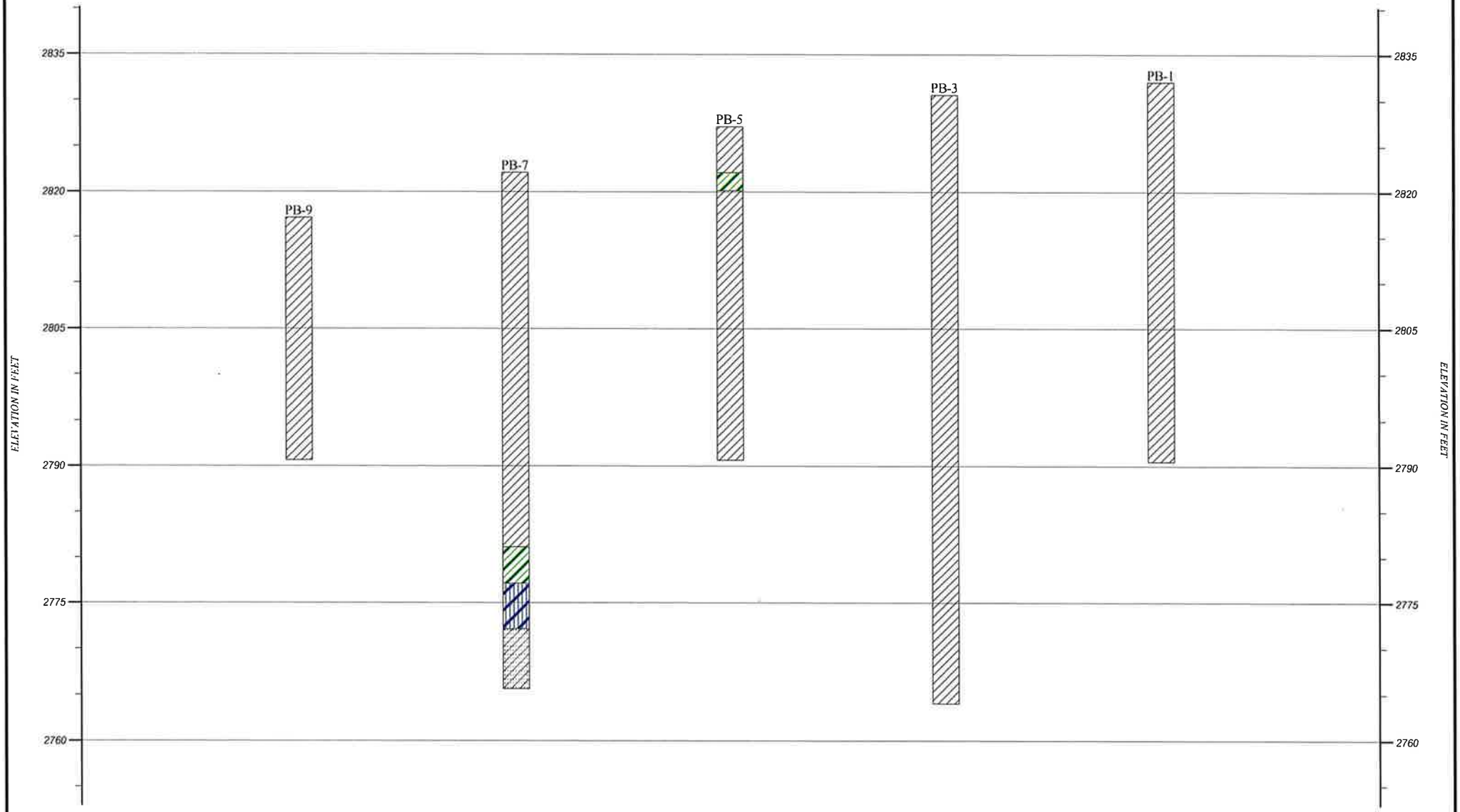
Dyess-Peterson Testing Laboratory, Inc.

GENERALIZED SOIL PROFILE

HORIZONTAL SCALE:	DRAWN BY/APPROVED BY	DATE DRAWN
VERTICAL SCALE: 1"=15'		10/10/2024

City of Booker Landfill

PROJECT NO. 6329	FIGURE NUMBER



Strata symbols

- Lean Clay
- Blank
- Lean Clay with Sand
- Sandy Lean Clay
- Clayey Sand

Dyess-Peterson Testing Laboratory, Inc.

GENERALIZED SOIL PROFILE

HORIZONTAL SCALE: / VERTICAL SCALE: 1"=15'	DRAWN BY/APPROVED BY	DATE DRAWN
		10/10/2024

City of Booker Landfill

PROJECT NO. 6329	FIGURE NUMBER

CITY OF BOOKER LANDFILL

City of Booker, Operator

222 S. Main Street

Booker, Texas 79005

SOIL BORING PLAN

EXISTING LANDFILL

MEMBER OF:
American Society For Testing Materials
American Concrete Institute
American Welding Society
American Society of Civil Engineers
Texas Council of Engineering Laboratories

DYESS-PETERSON TESTING LABORATORY, INC.
PROFESSIONAL TESTING

Amarillo, Texas 7912
P.O. Box 3069
(806) 372-4911 • Fax (806) 372-555

Lubbock, Texas 7942
5853 49th Stree
(806) 785-8378 • Fax (806) 785-195

Date of Report 12-07-00

To : Andersen & Associates Compliance Consultants, Inc.
3416G Olsen Blvd.
Amarillo, Texas 79107

Report of Test On : Material obtained from City of Booker Landfill Project #97105 Labeled LFG - 7 @ 4'

Received From : , Booker, Texas

ATTERBERG LIMITS DETERMINATION
LIQUID LIMIT AND PLASTICITY INDEX AS PER ASTM DESIGNATION: D4318-84

Liquid Limit = 47
Plastic Limit = 24
Plasticity Index = 23

SOIL FINER THAN No. 200 SIEVE
AS PER ASTM DESIGNATION: D 1140-92

Material Passing No. 200 Sieve = 94.9%

DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL
AS PER ASTM DESIGNATION: D 2216-92

Moisture Content = 19.1%

Remarks: Above sample was delivered to Laboratory by Andersen & Associates personnel on 12-1-00.

Copies To: 2 - Above

Project No. 2064 Report No. 7567A

DYESS-PETERSON TESTING LABORATORY, INC.

By Michael D. Copeland P.E.

STATE OF TEXAS
MICHAEL D. COPELAND
72032
REGISTERED
PROFESSIONAL ENGINEER

MEMBER OF:
American Society For Testing Materials
American Concrete Institute
American Welding Society
American Society of Civil Engineers
Texas Council of Engineering Laboratories

DYESS-PETERSON TESTING LABORATORY, INC.
PROFESSIONAL TESTING

Amarillo, Texas 79120
P.O. Box 30699
(806) 372-4911 • Fax (806) 372-5552

Lubbock, Texas 79424
5853 49th Street
(806) 785-8378 • Fax (806) 785-1959

Date of Report 12-07-00

To : Andersen & Associates Compliance Consultants, Inc.
3416G Olsen Blvd.
Amarillo, Texas 79107

Report of Test On : Material obtained from City of Booker Landfill Project #97105 Labeled LFG - 7 @ 8'

Received From : Booker, Texas

ATTERBERG LIMITS DETERMINATION
LIQUID LIMIT AND PLASTICITY INDEX AS PER ASTM DESIGNATION: D4318-84

Liquid Limit = 41
Plastic Limit = 17
Plasticity Index = 24

SOIL FINER THAN No. 200 SIEVE
AS PER ASTM DESIGNATION: D 1140-92

Material Passing No. 200 Sieve = 85.1%

DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL
AS PER ASTM DESIGNATION: D 2216-92

Moisture Content = 18.6%

Remarks: Above sample was delivered to Laboratory by Andersen & Associates personnel on 12-1-00.

Copies To: 2 - Above

Project No. 2064 Report No. 7567B

DYESS-PETERSON TESTING LABORATORY, INC.

By Michael D. Copeland, P.E.

STATE OF TEXAS
MICHAEL D. COPELAND
72032
REGISTERED
PROFESSIONAL ENGINEER

MEMBER OF:
American Society For Testing Materials
American Concrete Institute
American Welding Society
American Society of Civil Engineers
Texas Council of Engineering Laboratories

DYESS-PETERSON TESTING LABORATORY, INC.
PROFESSIONAL TESTING

Amarillo, Texas 79120
P.O. Box 30699
(806) 372-4911 • Fax (806) 372-5552

Lubbock, Texas 79424
5853 49th Street
(806) 785-8378 • Fax (806) 785-1959

Date of Report 12-07-00

To : Andersen & Associates Compliance Consultants, Inc.
3416G Olsen Blvd.
Amarillo, Texas 79107

Report of Test On : Material obtained from City of Booker Landfill Project #97105 Labeled LFG - 7 @ 15'

Received From : Booker, Texas

ATTERBERG LIMITS DETERMINATION
LIQUID LIMIT AND PLASTICITY INDEX AS PER ASTM DESIGNATION: D4318-84

Liquid Limit = 41
Plastic Limit = 16
Plasticity Index = 25

SOIL FINER THAN No. 200 SIEVE
AS PER ASTM DESIGNATION: D 1140-92

Material Passing No. 200 Sieve = 85.5%

DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL
AS PER ASTM DESIGNATION: D 2216-92

Moisture Content = 15.3%

Remarks: Above sample was delivered to Laboratory by Andersen & Associates personnel on 12-1-00

Copies To: 2 - Above

Project No. 2064 Report No. 7567C

DYESS-PETERSON TESTING LABORATORY, INC.

By Michael D. Copeland P.E.

STATE OF TEXAS
MICHAEL D. COPELAND
72032
REGISTERED
PROFESSIONAL ENGINEER

MEMBER OF:
American Society For Testing Materials
American Concrete Institute
American Welding Society
American Society of Civil Engineers
Texas Council of Engineering Laboratories

DYESS-PETERSON TESTING LABORATORY, INC.
PROFESSIONAL TESTING

Amarillo, Texas 79120
P.O. Box 30699
(806) 372-4911 • Fax (806) 372-5552

Lubbock, Texas 79424
5853 49th Street
(806) 785-8378 • Fax (806) 785-1959

Date of Report 12-07-00

To : Andersen & Associates Compliance Consultants, Inc.
3416G Olsen Blvd.
Amarillo, Texas 79107

Report of Test On : Material obtained from City of Booker Landfill Project #97105 Labeled LFG - 7 @ 20'

Received From : Booker, Texas

ATTERBERG LIMITS DETERMINATION
LIQUID LIMIT AND PLASTICITY INDEX AS PER ASTM DESIGNATION: D4318-84

Liquid Limit = 44
Plastic Limit = 20
Plasticity Index = 24

SOIL FINER THAN No. 200 SIEVE
AS PER ASTM DESIGNATION: D 1140-92

Material Passing No. 200 Sieve = 93.7%

DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL
AS PER ASTM DESIGNATION: D 2216-92

Moisture Content = 18.4%

Remarks: Above sample was delivered to Laboratory by Andersen & Associates personnel on 12-1-00

Copies To: 2 - Above

Project No. 2064 Report No. 7567D

STATE OF TEXAS
MICHAEL D. COPELAND
72052
REGISTERED
PROFESSIONAL ENGINEER

DYESS-PETERSON TESTING LABORATORY, INC.

By Michael D. Copeland P.E.

PERMEABILITY TEST REPORT

TEST DATA:

Specimen Height (cm): 13.97
Specimen Diameter (cm): 7.26
Dry Unit Weight (pcf): 100.5
Moisture Before Test (%): 17.9
Moisture After Test (%): 24.7

Run Number:	1 ●	2 ▲
Cell Pressure (psi):	50.0	
Test Pressure(psi):	49.9	
Back Pressure(psi):	45.2	
Diff. Head (psi):	4.7	
Flow Rate (cc/sec):	4.56 x 10^-5	
Perm. (cm/sec):	4.63 x 10^-8	

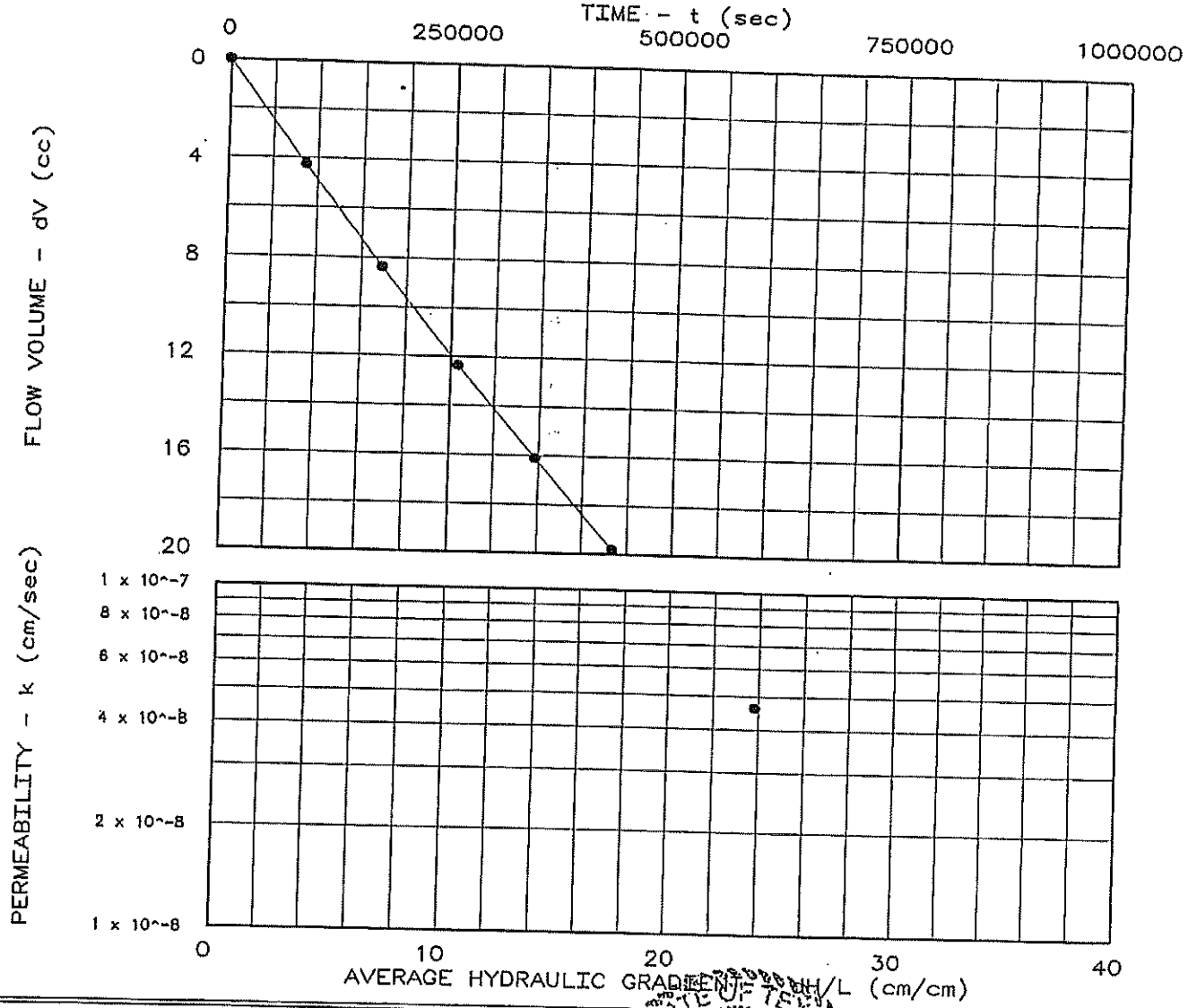
SAMPLE DATA:

Sample Identification: Sample Labeled LFG-
at 14'
Visual Description: Dark Tan Lean Clay (CL

Remarks: Booker, Texas

Maximum Dry Density (pcf):
Optimum Moisture Content (%): 18.0

Percent Compaction:
Permeameter type: Flexible Wall
Sample type: In-Place



Project: Anderson & Associates
Location: City of Booker Landfill Proj#97-05
Date: 12-23-2000

Project No.: DP-2064
File No.: PT-1
Lab No.: DP-8000
Tested By:
Checked by:

PERMEABILITY TEST REPORT

DYESS-PETERSON TESTING LABORATORY, INC.

STATE OF TEXAS
MICHAEL D. COPELAND
72032
REGISTERED
PROFESSIONAL ENGINEER

M.D. Copeland, P.E.
12-28-00

Test - Constant head

CONSTANT HEAD PERMEABILITY TEST RESULTS

PROJECT NAME: Anderson & Associates
PROJECT LOCATION: City of Booker Landfill Proj#97105
SAMPLE IDENTIFICATION: Sample Labeled LFG-3 at 14'
DESCRIPTION: Dark Tan Lean Clay (CL)

FILE NO.: PT-1
PROJECT NO.: DP-2064
LAB NO.: DP-8000
SAMPLE TYPE: In-Place

MAX. DRY DENS.: OPT. WATER CONTENT: 18.0 DATE: 12-23-2000

SPECIMEN DATA

INITIAL PARAMETERS:	FINAL PARAMETERS:
HEIGHT: 13.97 cm	HEIGHT: 14.00 cm
DIAMETER: 7.26 cm	DIAMETER: 7.27 cm
WET WEIGHT: 1098.1 g	WET WEIGHT: 1161.7 g
MOISTURE CONTENT: 17.9 %	MOISTURE CONTENT: 24.7 %
DRY DENSITY: 100.5 pcf	DRY DENSITY: 100.1 pcf
PERCENT COMPACTION:	

TEST PARAMETERS

CELL NO.: 1 PANEL NO.: 4 POSITIONS: 1

	RUN NO. 1	RUN NO. 2
CELL PRESSURE:	50.0 psi	
TEST PRESSURE:	49.9 psi	
BACK PRESSURE: / 0.0 psi	45.2 psi /	
DIFFERENTIAL HEAD:	4.7 psi	

PERMEABILITY DATA

	RUN NO. 1	RUN NO. 2
AVERAGE FLOW RATE:	4.56E-05 cc/sec	
COEFFICIENT OF CORRELATION:	0.99904	
AVERAGE GRADIENT:	23.8	
TEMPERATURE:	20.0 deg C	
PERMEABILITY, K, at 20 deg C:	4.63E-08 cm/sec	

PERMEABILITY TEST DATA

PROJECT DATA

Project Name:	Anderson & Associates
File No.:	PT-1
Project Location:	City of Booker Landfill Proj#97105
Project No.:	DP-2064
Sample Identification:	Sample Labeled LFG-3 at 14'
Lab No.:	DP-8000
Description:	Dark Tan Lean Clay (CL)
Sample Type:	In-Place
Max. Dry Dens.:	
Method (D1557/D698):	
Opt. Water Content:	18.0
Date:	12-23-2000
Remarks:	Booker, Texas
Permeameter Type:	Flexible Wall
Tested by:	
Checked by:	
Test type:	CH - Constant head

PERMEABILITY TEST SPECIMEN DATA

	Before test:			After test:		
Diameter:	1	2		1	2	
Top:	2.866 in	in		2.869 in	in	
Middle:	2.858 in	in		2.862 in	in	
Bottom:	2.856 in	in		2.857 in	in	
Average:	2.86 in	7.26 cm		2.86 in	7.27 cm	
Length:	1	2	3	1	2	3
	5.500 in	in	in	5.510 in	in	in
Average:	5.50 in	13.97 cm		5.51 in	14.00 cm	

Moisture, Density and Sample Parameters:

Specific Gravity:	2.65	
Wet Wt. & Tare:	1229.40	1293.00
Dry Wt. & Tare:	1063.00	1063.00
Tare Wt.:	131.30	131.30
Moisture Content:	17.9 %	24.7 %
Dry Unit Weight:	100.5 pcf	100.1 pcf
Porosity:	0.3926	0.3949
Saturation:	73.2 %	100.2 %

CONSTANT HEAD PERMEABILITY TEST CONDITIONS DATA

Cell No.: 1 Panel No.: 4 Positions: 1

Run Number:	1	2
Cell Pressure:	50.0 psi	0.0 psi
Saturation Pressure:	45.0 psi	0.0 psi
Inflow Corr. Factor:	1.00	1.00
Outflow Corr. Factor:	1.00	1.00
Test Temperature:	20.0 °C	0.0 °C

PERMEABILITY TEST READINGS DATA

CASE D X S R	DATE	TIME (24 hr)	ELAPSED TIME-sec	GAUGE PRESSURE-psi IN	GAUGE PRESSURE-psi OUT	BURET READING-cc IN	BURET READING-cc OUT	OUTFLOW/ INFLOW RATIO
S	12/18/ 0	7:19:00	0	49.9	45.2	0.60	22.90	0.00
	12/19/ 0	7:23:00	86,640	49.9	45.2	4.90	18.70	0.98
	12/20/ 0	7:17:00	172,680	49.9	45.2	9.10	14.70	0.95
	12/21/ 0	7:15:00	258,960	49.9	45.2	13.20	10.80	0.95
	12/22/ 0	7:24:00	345,900	49.9	45.2	17.10	7.20	0.92
	12/23/ 0	7:55:00	434,160	49.9	45.2	21.00	3.70	0.90

Test Pressure = 49.9 psi Differential Head = 4.7 psi, 332.7 cm H2O
Gradient = 2.382E 01 Flow rate = 4.565E-05 cc/sec R squared = 0.99904
Permeability, K20.0° = 4.626E-08 cm/sec, K20° = 4.626E-08 cm/sec

Andersen & Associates Compliance Consultants, Inc.

(806) 353-2298
FAX (806) 353-1576
3416-G Olsen Boulevard
Amarillo, Texas 79109

Chain-Of-Custody Record and Analysis Request

Project Manager: Jerry Andersen
Telephone Number: (806) 353-2298
FAX Number: (806) 353-1576

Company Name: Andersen & Associates Compliance Consultants, Inc.
Address: 3416-G Olsen Blvd.
Amarillo, Texas 79109

Project Number: 97105
Project Name: Booker Landfill

Project Location: Booker Texas
Sampler Signature: Jerry W. Anderson

LAB NUMBER	FIELD CODE	# Containers	Volume/Amount	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: SLUDGE	PRESERVATION METHOD: HCL	PRESERVATION METHOD: HNO_3	PRESERVATION METHOD: ICE	PRESERVATION METHOD: NONE	SAMPLING: DATE	SAMPLING: TIME
	LFG-3 @ 6'	1			X					X			11/29
	LFG-3 @ 14'	1			X					X			11/29
	LFG-7 @ 4	1			X					X			11/29
	LFG-7 @ 8	1			X					X			11/29
	LFG-7 @ 15	1			X					X			11/29
	LFG-7 @ 20	1			X					X			11/29

Analysis Requested

BTEX/MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals AG As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi-Volatiles	RCI	8240/8260	8270	ASTM 5084 PERMEABILITY	ASTM 1140 SIEVE	ASTM 4318	ASTM 2216
									X			
										X	X	X
										X	X	X
										X	X	X
										X	X	X
										X	X	X

Special Handling

FAX Results	Hold	RUSH
	X	
X		
X		
X		
X		
X		
X		

Relinquished by: Jerry W. Anderson Date: 12/1 Time: 3:45
Received by: Date: 12/1/00 Time: 3:45 PM

Relinquished by: Date: 12/1 Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Remarks:

LANDTEC
QED

GEM™5000

PORTABLE GAS ANALYZER INSTRUMENTATION

PATENT #8,021,612

WWW.LANDTECNA.COM

- SIX TIMES MORE ACCURATE
- ANNUAL RECOMMENDED FACTORY SERVICE
- AVAILABLE WITH GPS AND ADDITIONAL GAS DETECTION

THE NEXT GENERATION OF GEM™ INSTRUMENT

The GEM™5000 is designed specifically for use on landfills to monitor Landfill Gas (LFG) Collection & Control Systems. The GEM™5000 samples and analyzes the methane, carbon dioxide and oxygen content of landfill gas with options for additional analysis.

[redacted]

800-LANDTEC
909-783-3636

QED ENVIRONMENTAL
2355 Bishop Circle West
Dexter, MI 48130, USA

LANDTEC
QED

GEM™5000

PORTABLE GAS ANALYZER INSTRUMENTATION

PATENT #8,021,612

FEATURES

- Measures % CH_4, CO_2 and O_2 Volume, static pressure and differential pressure
- Calculates balance gas, flow (SCFM) and calorific value
- CO and H_2S (on Plus models only)
- High Accuracy and Fast Response Time
- Lighter and More Compact
- Certified intrinsically safe for landfill use
- Annual recommended factory service
- Calibrated to ISO/IEC 17025
- 3 year warranty with optional service plan

APPLICATIONS

- Landfill Gas Collection & Control Systems
- Environmental Compliance
- Landfill Gas to Energy
- Subsurface Migration Probes

KEY BENEFITS

- Designed specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems
- No need to take more than one instrument to site
- Can be used for monitoring subsurface migration probes and for measuring gas composition, pressure and flow in gas extraction systems
- The user is able to set up comments and questions to record information at site and at each sample point
- Ensures consistent collection of data for better analysis
- Streamlined user experience reduces operational times

TECHNICAL SPECIFICATION

GAS RANGES

Gases Measured	CH_4	By dual wavelength infrared cell with reference channel		
	CO_2	By dual wavelength infrared cell with reference channel		
	O_2	By internal electrochemical cell		
	CO	By internal electrochemical cell		
	H_2S	By internal electrochemical cell		
Ranges	CH_4	0-100% (vol)		
	CO_2	0-100% (vol)		
	O_2	0-25% (vol)		
	CO	0-2000ppm***		
	H_2S	0-500ppm***		
Gas Accuracy*	CH_4	0-5% ± 0.3% (vol)	0-70% ± 0.5% (vol)	70-100% ± 1.5% FS
	CO_2	0-5% ± 0.3% (vol)	0-60% ± 0.5% (vol)	60-100% ± 1.5% FS
	O_2	0-25% ±1.0% (vol)		
	$CO(H_2)$**	0-2000ppm ± 2.0% FS		
	H_2S	0-500ppm ± 2.0% FS		

* Typical accuracy after calibration as recommended in the operations manual.
**Hydrogen compensated Carbon Monoxide measurement.
***Additional ranges available, contact LANDTEC for more information.

OTHER PARAMETERS

	Unit	Resolution	Comments
Energy	BTU/hr	1000 BTU/hr	Calculated from specific parameters
Static Pressure	in. H_2O	0.01 in. H_2O	Direct Measurement
Differential Pressure	in. H_2O	0.001 in. H_2O	Direct Measurement
Temperature Accuracy	°F	0.1	±1 (Range -58°F to 482°F)

Important Note: The information in this document is correct at the time of generation. We do, however, reserve the right to change the specification without prior notice as a result of continuing development.

PUMP

Flow	Typically 550cc/min
Flow with 80 in. H2O vacuum	Approximately 80cc/min

ENVIRONMENTAL CONDITIONS

Operating Temperature Range	14°F – 122°F (-10°C to +50°C)
Operating Pressure	-100 in. H_2O, +100 in. H_2O (-250mbar, +250mbar)
Relative Humidity	0-95% non condensing
Barometric Pressure	± 14.7 in.Hg (±500mbar) from calibration pressure
Barometric Pressure Accuracy	± 1% typically

POWER SUPPLY

Battery Life	Typical use 8 hours from fully charged
Charge Time	Approximately 4 hours from complete discharge

CERTIFICATION RATING

ATEX	II 2G Ex ib IIA T1 Gb (Ta= -10°C to +50°C)
ISO17025	ISO/IEC17025:2005 Accreditation #66916
CSA	Ex ib IIA T1 (Ta= -10°C to +50°C) (Canada), AEx ib IIA T1 (Ta= -10°C to +50°C) USA

SWANA MEMBER · ISWA International Solid Waste Association · BSI · Ex · CSA C US · IEC · Ex SIR 002

WWW.LANDTECNA.COM

#2387 REV 1 4-17

[redacted]

800-LANDTEC
909-783-3636

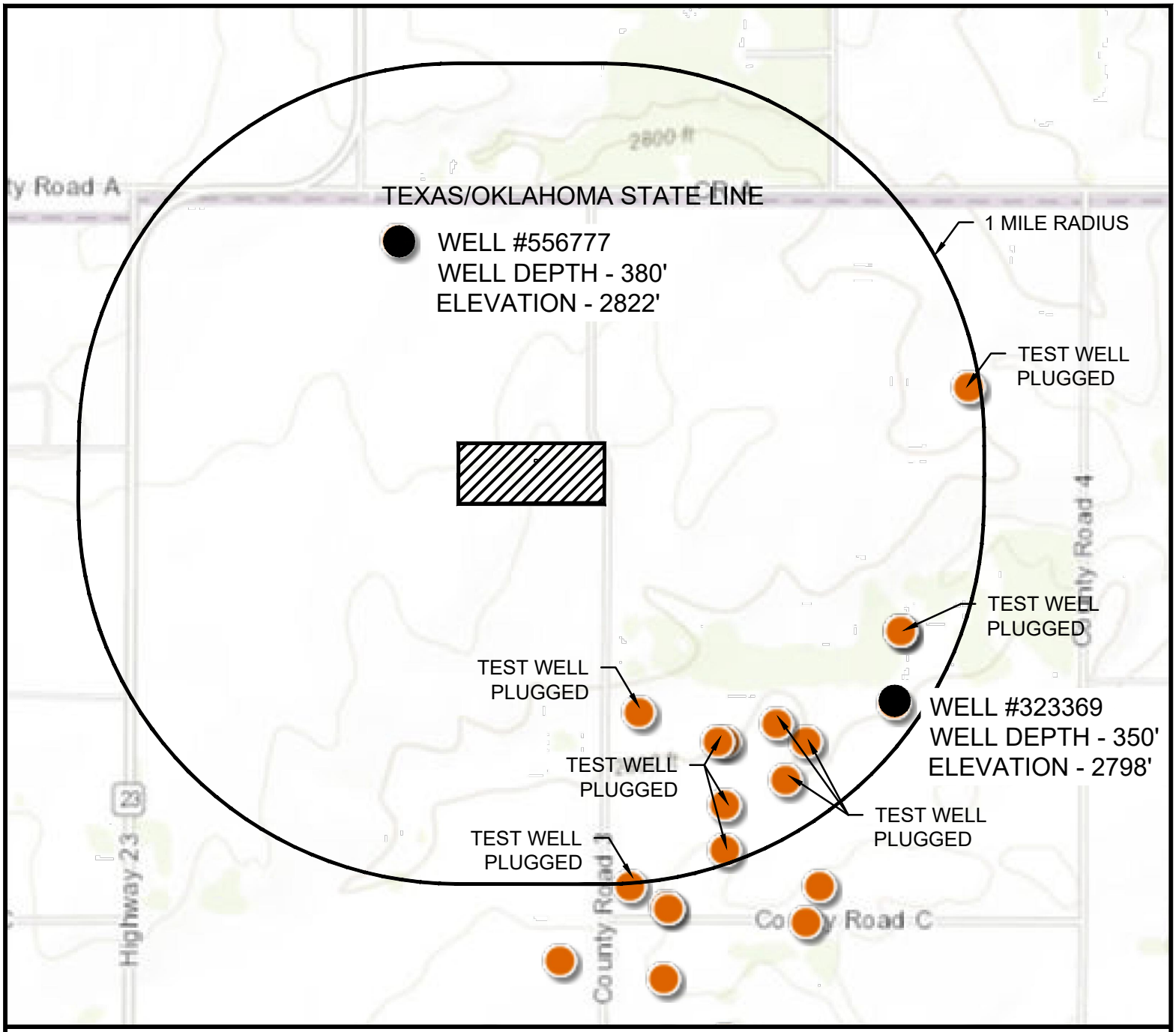
QED ENVIRONMENTAL
2355 Bishop Circle West
Dexter, MI 48130, USA

APPENDIX 25

CITY OF BOOKER LANDFILL

AQUIFER REPORT

The proposed 20-acre expansion to the existing 20-acre landfill for the City of Booker is located 2 1/2 miles northeast of the City of Booker. The Ogallala Aquifer is the source for water in this area. The are no wells that are available for testing near the site. Based on data provided by the Texas Water Development Board, the nearest well to the site is approximately 2,300 north of the landfill, and had a water level of 216 feet below land surface on 10-14-2020. The water level of 216 feet is below the shallowest water level of 150 feet below land surface required in rule 330.63(e)(6)(I). See attached Figure III-24.



WELL MAP
CITY OF BOOKER LANDFILL

Date Submitted:	July 2024
Date Revised:	April 2025
Drawn By:	CCG
Scale:	1" = 2,000'

2,000 0 1,000 2,000

1 inch = 2,000 ft.

Revisions

	Date:
1	4/15/2025
2	9/11/2025

LEGEND

LANDFILL

STATE OF TEXAS
CHE SHADLE
87046
LICENSED PROFESSIONAL ENGINEER

9/11/2025

FIGURE III-24

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

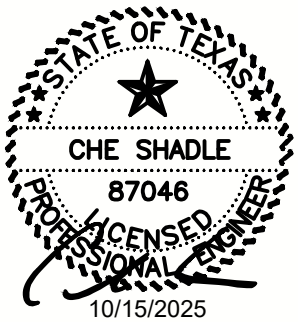
PART IV

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



10/15/2025
F-4393

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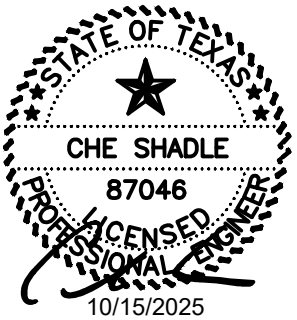
b) PROPERTY RIGHTS ____ 2

c) PUBLIC NOTICE FOR REGISTRATIONS ____ 4

d) DURATION AND LIMITS OF REGISTRATIONS AND PERMITS ____ 6

e) ADDITIONAL STANDARD PERMIT AND REGISTRATION CONDITIONS FOR MUNICIAPAL SOLID WASTE FACILITIES ____ 7

Appendix 23 – Site Operating Plan



10/15/2025
F-4393

PART IV PERMIT APPLICATION

a) SITE OPERATING PLAN

1) The approved site development plan, the site operating plan, the final closure plan, the post-closure maintenance plan, the landfill gas management plan, and all other documents and plans required by this chapter shall become operational requirements and shall be considered a part of the operating record of the facility. The Site Operating Plan is provided as Appendix 23. The facility will have Type I AE and Type IV AE Units. The facility will maintain a minimum separation of 10 feet between trenches.

2) A facility that has an environmental management system that meets both the minimum standards described in §90.32 of this title (relating to Minimum Standards for Environmental Management Systems) and the United States Environmental Protection Agency's National Environmental Performance Track (NEPT) Program standards and is approved to operate under an environmental management system in accordance with §90.36 of this title (relating to Evaluation of an Environmental Management System by the Executive Director), is not subject to site operating plan requirements while the authorization to operate under the environmental management system remains in place. In the event the executive director terminates authorization to operate under an environmental management system, the facility will comply with the site operating plan requirements within 90 days.

3) Methane gas will be monitored in accordance with the proposed Leachate and Gas Condensate Recirculation in accordance with Leachate and Gas Condensate Recirculation. The required reports and other submittals will be included in the operating record of the facility and submitted to the executive director as required.

4) The owner or operator of a grease trap waste, grit trap waste, or septage processing facility shall submit information identifying any permit requirements under the Texas Pollutant Discharge Elimination System and any permit requirements imposed by other agencies (e.g., local government pretreatment discharge authorization requirements).

b) PROPERTY RIGHTS

1) It is the responsibility of the City of Booker to possess or acquire a sufficient interest in or right to the use of the subsurface estate of the property for

which a permit is issued, including the access route. The granting of a permit does neither convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contact rights; nor any infringement of federal, state, or local laws or regulations outside the scope of the authority under which a permit is issued. All information required will be recorded and placed in the operating record within seven working days of completion or receipt of analytical data, as appropriate, record and retain in the operating record:

(1) any and all location-restriction demonstrations;
(2) inspection records, training procedures, and notification procedures relating to excluding the receipt of prohibited waste;
(3) all results from gas monitoring and any remediation plans relating to explosive and other gases;
(4) any and all unit design documentation for the placement of leachate or gas condensate in a municipal solid waste landfill;
(5) any and all demonstration, certification, findings, monitoring, testing, and analytical data relating to groundwater monitoring and corrective action;
(6) closure and post-closure care plans and any monitoring, testing, or analytical data relating to post-closure requirements;
(7) any and all cost estimates and financial assurance documentation relating to financial assurance for closure and post-closure;
(8) any and all information demonstrating compliance with the small community exemption criteria;
(9) copies of all correspondence and responses relating to the operation of the facility, modifications to the permit, approvals, and other matters pertaining to technical assistance;
(10) any and all documents, manifests, shipping documents, trip tickets, etc., involving special waste;
(11) for any spray-applied alternative daily cover (ADC) material, records of the application rate and total amount ADC applied to the working face on those days in which ADC is applied; and
(12) any other document(s) as specified by the approved permit or by the executive director.

2) The owner or operator shall place all information specified in subsection 1) of this section in the operating record. The owner or operator shall place this information in the operating record in accordance with the time period specified in subsection 1) of this section and maintain the operating record in an organized format which allows the information to be easily located and retrieved. All information contained in the operating record must be

furnished upon request to the executive director and must be made available for inspection by the executive director.

3) The City of Booker shall retain the right of entry to the facility until the end of the post-closure care period for inspection and maintenance of the facility.

4) Executive director approval or a permit will be required if any on-site operations subsequent to closure of a landfill facility involve disturbing the cover or liner of the landfill.

5) It is the responsibility of the City of Booker to obtain any permits or approvals that may be required by local agencies such as for building construction, discharge or uncontaminated wasters into ditches under control of a drainage district, discharge of effluent into a local sanitary sewer system, etc. All wastes generated by a facility must be processed or disposed at an authorized solid waste management facility.

c) PUBLIC NOTICE FOR REGISTRATIONS

1) The City of Booker is not a mobile liquid waste processing unit.

2) Opportunity for public meeting and posting notice signs. The City of Booker shall provide notice of the opportunity to request a public meeting and post notice signs for all registration applications not later than 45 days of the executive director's receipt of the application in accordance with the procedures contained in §39.501(c) of this title (relating to Application for Municipal Solid Waste Permit) and by posting signs at the proposed site. The City of Booker and the commission shall hold a public meeting in the local area, prior to facility authorization, if a public meeting is required based on the criteria contained in §55.154(c) of this title (relating to Public Meetings) or by Texas Health and Safety Code, §361.111(c). Notice of a public meeting shall be provided as specified in §39.501(e)(3) and (4) of this title. This section does not require the commission to respond to comments, and it does not create an opportunity for a contested case hearing. Applications for registrations filed before the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) become effective are subject to the former rule requirements to conduct a public meeting. Applications for registrations filed after the 2006 Revisions become effective are subject to the 2006 Revisions requirements to provide notice of the opportunity to request a public meeting. The City of Booker authorized to make decisions and act on behalf of the City of Booker shall attend the public meeting. A public meeting conducted under this section is not a

contested case hearing under the Texas Government Code, Chapter 2001, Administrative Procedure Act. At the City of Booker's expense, a sign or signs must be posted at the site of the proposed facility declaring that the application has been filed and stating the manner in which the commission and City of Booker may be contacted for further information. Such signs must be provided by the City of Booker and must substantially meet the following requirements.

a. Signs must:

   i. consist of dark lettering on a white background and must be no smaller than four feet by four feet with letters at least three inches in height and block printed capital lettering;

   ii. be headed by the words "PROPOSED MUNICIPAL SOLID WASTE FACILITY";

   iii. include the words "REGISTRATION NO.," the number of the registration, and the type of registration;

   iv. include the words "for further information contact";

   v. include the words "Texas Commission on Environmental Quality" and the address and telephone number of the appropriate commission permitting office;

   vi. include the City of Booker and 222 S. Main Street
   Booker, TX 79005

   vii. include the telephone number of the City of Booker

   viii. remain in place and legible until the period for filing a motion to overturn has expired. The City of Booker shall provide a verification to the executive director that the sign posting was conducted according to the requirements for this section; and

   ix. describe how persons affected may request that the executive director and applicant conduct a public meeting.

b. Signs must be located within ten feet of every property line bordering a public highway, street, or road. Signs must be visible from the street and spaced at not more than 1,500-foot intervals. A minimum of one sign, but no more than three signs, shall be required along any property line paralleling a public highway, street, or road. This

paragraph's sign requirements do not apply to properties under the same ownership that are noncontiguous or separated by interviewing public highway, street, or road, unless the property is part of the registered facility.

c. The City of Booker shall also post signs at the facility in alternative language when the alternative language requirements in §39.405(h)(2) of this title (relating to General Notice Provisions) are met.

d. The executive director may approve variances from the requirements of paragraphs (1) and (2) of this subsection if the City of Booker has demonstrated that it is not practical to comply with the specific requirements of those subparagraphs and alternative sign posting plans proposed by the City of Booker are at least as effective in providing notice to the public. Approval from the executive director under this subparagraph must be received before posting alternative signs for purposes of satisfying the requirements of this paragraph.

3) Notice of final determination. The executive director shall, after review of an application for registration, determine if the application will be approved or denied in whole or in part. If the executive director acts on an application, the chief clerk shall mail or otherwise transmit notice of the action and an explanation of the opportunity to file a motion under §50.139 of this title (relating to Motion to Overturn Executive Director's Decision). The chief clerk shall mail this notice to the City of Booker, the public interest counsel, to adjacent landowners as shown on the land ownership map and landowners list, and to other persons who timely filed public comment in response to public notice.

4) Motion to overturn. The City of Booker, or a person affected may file with the chief clerk a motion to overturn the executive director's action on a registration application. The criteria regarding motions to overturn shall be explained in public notices.

d) DURATION AND LIMITS OF REGISTRATIONS AND PERMITS

1) The executive director shall, after review of any application for registration, approve or deny an application in whole or in part. The action shall be based on whether the application meets the requirements of this chapter.

2) Except as provided in subsection (f) of this section for demonstration facilities, a registration or permit is normally issued for the life of the facility but may be revoked, amended, or modified at any time if the operating conditions do not meet the minimum standards set forth in this chapter or for any other good cause.

3) When deemed appropriate a registration or permit may be issued for a specific period of time. When the City of Booker has made timely and sufficient application for the renewal of a registration or permit, the existing registration or permit does not expire until the application has been finally determined by the commission.

4) A registration of permit is issued to a specific person (see definition of person contained in §3.2 of this title (relating to Definitions) and may not be transferred from one person to another without complying with the transfer approval requirements of the commission.

5) Except for transporters and mobile treatment units, a registration or permit is attached to the realty to which it pertains and may not be transferred from one facility to another.

6) The City of Booker is not a mobile liquid waste processing unit.

7) If a registered facility does not commence physical construction within two years of the issuance of a registration or within two years of the conclusion of the appeals process, whichever is longer, the registration shall automatically terminate and will no longer be effective.

8) The City of Booker is not a mobile liquid waste processing unit.

9) A registration shall be considered to be a permit for purposes of revocation and denial under Chapter 305 of this title (relating to Consolidated Permits).

10) The City of Booker may file with the chief clerk a motion to overturn the executive director's denial of a registration under §50.139 of this title (relating to Motion to Overturn Executive Director's Decision).

e) ADDITIONAL STANDARD PERMIT AND REGISTRATION CONDITIONS FOR MUNICIPAL SOLID WASTE FACILITIES

1) If at any time during the life of the facility the City of Booker becomes aware of any condition in the permit or registration that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the facility in compliance, the City of Booker shall submit

to the executive director requested changes to the permit or registration in accordance with §350.62 of this title (relating to Amendment) or §305.70 of this title (relating to Municipal Solid Waste Permit and Registration Modifications) and must be approved to their implementation.

2) All drawings or other sheets prepared for requested revisions must be submitted following the format in §330.57(g) of this title (relating to Permit and Registration Applications for Municipal Solid Waste Facilities). All revised engineering and geoscientific plans, drawings, and reports shall be signed and sealed by a licensed professional engineer or geoscientist to conform with Texas Occupations Code, Texas Engineering Practice Act, Chapter 1002.

3) A preconstruction conference shall be held prior to commencement of physical construction for a municipal solid waste (MSW) landfill facility, a vertical landfill expansion, or a lateral expansion. The preconstruction conference shall not be held more than 90 days prior to the date that construction is scheduled to begin. All aspects of the permit, construction activities, and inspections shall be discussed. Additional preconstruction conferences may be held prior to the opening of a new MSW landfill unit. The executive director and owner's representatives, including the engineer, the geotechnical consultant, the contractor, and facility manager, shall attend the preconstruction conference.

4) The City of Booker shall obtain and submit certification by a Texas-licensed professional engineer that the facility has been constructed as designed in accordance with the issued registration or permit and in general compliance with regulations prior to initial operation. The City of Booker shall maintain that certification on site for inspection.

5) After initial construction activity has been completed and prior to accepting any solid waste, the City of Booker shall contact the executive director and region office in writing and request a pre-opening inspection. A pre-opening inspection shall be conducted by the executive director within 14 days of notification by the City of Booker that all construction activities have been completed, accompanied by representatives of the City of Booker and the engineer.

6) The MSW facility shall not accept solid waste until the executive director has confirmed in writing that all applicable submissions required by the permit or registration and this chapter have been received and found to be acceptable, and that construction is in compliance with the permit or registration and the approved site development plan. If the executive director has not provided a written or verbal response within 14 days of

completion of the pre-opening inspection, the facility shall be considered approved for acceptance of waste.

OJD Engineering
The Benchmark

CITY OF BOOKER LANDFILL

City of Booker, Operator
222 S. Main Street
Booker, Texas 79005

TYPE I & IV AE
SOLID WASTE
MUNICIPAL SOLID WASTE FACILITY
MSW PERMIT NO. 1943A
RN101478121 CN600770069

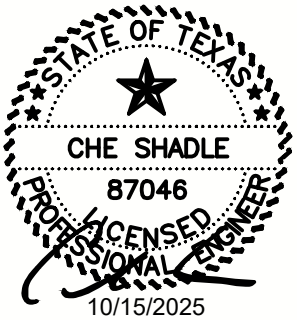
PART IV
SITE OPERATING PLAN – APPENDIX 23

Submitted on:
December 2024
NOD No. 1 – February 2025
NOD – April 2025
NOD No. 2 – June 2025
NOD No. 3 – October 2025

Submitted to:
Municipal Solid Waste Permits Section, MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Submitted for:
City of Booker
Stephen Skipper, Mayor

Submitted by:
Che Shadle, PE
OJD Engineering, LLC



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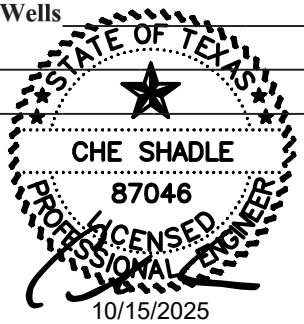

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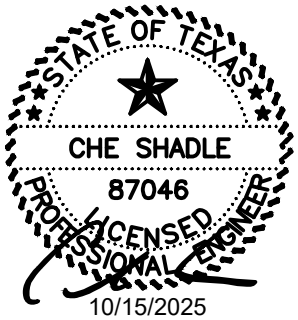

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SITE OPERATING PLAN

1. INTRODUCTION

The Site Operating Plan (SOP) provides general operating procedures for facility management and site operating personnel in sufficient detail to enable them to conduct the day-to-day operations of the facility. The operating record will be maintained for the life and post-closure period of the facility. Once the SOP is approved, it will be retained during the active life of the site and throughout the post-closure maintenance period.

2. RECORDKEEPING REQUIREMENTS

A copy of the permit, the approved Site Development Plan, the Site Operating Plan, the Final Closure Plan, the Post-Closure Maintenance Plan, the Landfill Gas Management Plan, and any other required plan or other related document will be maintained at the Booker City Hall. A working copy will be kept on-site with the operator.

An annual and quarterly report will be submitted that will include volume of waste to be received, percent solids, and the method of determining the percent solids, processed, disposed, and recycled or reused.

The city manager will promptly record and retain in an operating record the following information:

1. any and all location-restriction demonstrations;

2. inspection records, training procedures, and notification procedures relating to excluding the receipt of regulated hazardous waste and PCB waste;

3. all results from gas monitoring and any remediation plans relating to explosive and other gases;

4. any and all unit design documentation for the placement of leachate or gas condensate in a municipal solid waste landfill;

5. any and all demonstration, certification, findings, monitoring, testing, and analytical data relating to ground-water monitoring and corrective action;

6. closure and post-closure care plans and any monitoring, testing, or analytical data relating to post-closure requirements;

7. any and all cost estimates and financial assurance documentation relating to financial assurance for closure and post-closure;

8. any and all information demonstrating compliance with the small community exemption criteria;

9. copies of all correspondence and responses relating to the operation of the facility, modifications to the permit, approvals, and other matters pertaining to technical assistance;

10. any and all documents, manifests, trip tickets, etc., involving special waste;

11. any other document(s) as specified by the approved permit or by the executive director.

3. PERSONNEL

3.1 Functions for Each Category of Personnel

The city will have a full-time employee (lead operator/site supervisor/equipment operator) and part-time employee (gate attendant/litter control) at the facility during operating hours. An attendant will be at the gate to monitor all incoming loads, and an equipment operator will be on-site to maintain the landfill. Each employee will answer directly to the City Manager.

3.2 Operational Requirements

The City Manager will maintain a current set of TCEQ Rules and Regulations, and other documents guidance documents necessary for the operation of the site, and will keep himself informed of their content. Operating personnel will be trained in their duties by the City Manager. Personnel operating licenses issued under 30 TAC Chapter 30, Subchapter F will be maintained in the site operating record. All training records will be maintained for life and post-closure period of the facility. All training records will be maintained in accordance relating to personal training. The operator of the Booker MSW Landfill holds an MSW Operator A (for Type IAE) or B (for Type IVAE) license. All waste generated by a facility must be processed or disposed at an authorized solid waste management facility. The Executive Director may set alternative schedules for recordkeeping and notification requirements contained in Subchapter M of this chapter (relating to Location Restrictions) for

any proposed lateral expansion located within a six-mile radius of any airport runway end used by turbojet or piston-type aircraft or notification relating to landowners whose property overlies any part of the plume of contamination, if contaminants have migrated off site as indicated by groundwater sampling. The owner or operator shall maintain records to document the annual waste acceptance rate for the facility. Documentation must include maintaining the quarterly solid waste summary reports and the annual solid waste summary reports required by the operating record. After an updated site operating plan permit modification under §330.121(b) of this title (relating to General) is approved to comply with the rules that became effective December 2, 2004, if the annual waste acceptance rate exceeds the rate estimated in the landfill permit application and the waste increase is not due to a temporary occurrence, the owner or operator shall file an application to modify the permit application, including the revised estimated waste acceptance rate, in accordance with §305.70(k) of this title (relating to Municipal Solid Waste Permit and Registration Modifications), within 90 days of the exceedance as established by the sum of the previous four quarterly summary reports. The application must propose any needed changes in the site operating plan to manage the increased waste acceptance rate to protect public health and the environment. The increased waste acceptance rate may justify requiring permit conditions that are different from or absent in the existing permit. This subsection is not intended to make an estimated waste acceptance rate a limiting parameter of a landfill permit.

For signatories to reports, the following conditions apply. The owner or operator shall sign all reports and other information requested by the executive director as described in §305.44(a) of this title (relating to Signatories to Applications) or by a duly authorized representative of the owner or operator. A person is a duly authorized representative only if: the authorization is made in writing by the owner or operator as described in §305.44(a) of this title; the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or for environmental matters for the owner or operator, such as the position of plant manager, environmental manager, or a position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and the written authorization is submitted to the executive director.

§330.127(1). Landfill Personnel Table 1 summarizes personnel types and descriptions. Please add/edit any information as appropriate. Attach any separate page(s), including the applicable section heading

3.3 Table 1. Personnel Types and Descriptions

Person	Number	Qualifications	Roles
Lead Operator/Site Supervisor	1	Must hold and maintain Landfill Operator license Class A (for Type IAE) or Class B (for Type IVAE), as required By 30 TAC §30.213.	Responsible for: Managing work face and daily fill and cover placement operations; Landfill equipment maintenance and repair; Personnel safety during waste and cover constructions
Equipment Operator	1 or _____ (If not 1, Indicate the number of equipment operators at the site).	6 months minimum Experience in equipment operation or on job training by landfill manager in SOP requirements for daily cover and unauthorized waste	Grading and excavating, necessary equipment maintenance, waste leveling and compaction, application of daily cover, and general site road maintenance. Operators are also responsible for keeping the working face in the smallest area practical and screening for unauthorized waste.
Gate Attendant	1	Training by landfill manager in the SOP rules, record keeping requirements, and waste screening training course (e.g., I.I.E.D.)	Levies fees on landfill customers, operates the scale, keeps appropriate records, controls site access screens for unauthorized waste, and provides general customer direction information.
Litter Control	1	Internal safety training and personal protective equipment training by landfill manager	Picks up windblown litter as directed.

4. EQUIPMENT

The City of Booker will use a 963 K Caterpillar Track Loader or equal for grading and excavating, waste leveling and compaction, application of daily cover, and road maintenance, and water truck or equal for dust control, for primary operations at the site. Shall a breakdown or maintenance issue occur, the City of Booker will utilize equipment from another city department of equal capabilities or lease equipment until repairs have been made to the broken equipment.

5. OPERATIONAL PROCEDURES

5.1 Detection of Prohibited and Hazardous Waste

The procedures for the detection and prevention of the disposal of regulated hazardous waste as defined in 40 Code of Federal Regulations Part 261 and of polychlorinated biphenyls (PCB) wastes as defined in 40 Code of Federal Regulations Part 761 are as follows:

1. Random screening, which will include inspection, uncovering or searching through of incoming waste loads including compactor vehicles shall be conducted to assure that prohibited, unauthorized hazardous, Class I waste, and PCB wastes shall not be accepted at the facility. Periodically, at a frequency based upon each generator's frequency of use of the site, the attendant responsible for waste load monitoring will thoroughly inspect the waste from a load, uncovering waste that is not visible. Trained staff will observe each load that is disposed of at the landfill. The objective of these inspections will be the detection and identification of prohibited and hazardous waste containers. The following wastes are prohibited: untreated medical waste, used oil and used oil filters, and lead-acid batteries.

2. Acceptable wastes include typical municipal waste such as household and commercial trash and garbage, construction demolition waste, and brush. There are no permitted special wastes that the facility may receive without approval.

3. Operators will be trained to recognize all prohibited wastes waste containers and container markings for wastes classified as hazardous.

4. Site operating records will include documentation of these random hazardous waste inspections. Records will include date and time of the random inspection, name of the waste generator, type of vehicle, and description of contents. Notification will be sent to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, of any incident involving the receipt or disposal of regulated hazardous waste or PCB waste at the landfill.

5. If hazardous waste containers are discovered at the site, the operators will stop receiving wastes, ensure that no signs of immediate danger are present, secure the area and if possible, the hazardous waste container(s), identify the generator and transporter, notify appropriate

supervisory personnel to seek removal of the waste, and record the incident in the site operating records.

6. A written procedure retained on site to ensure that containers with any putrescible wastes are not accepted. This might include or be a combination of a manifest system, surcharges, contractual agreements with transporters, or other acceptable means. This written procedure must be made available for review by the executive director. The procedure must be followed and must be modified as necessary to accomplish its purpose.

§330.127(3). Operational Requirements Table 2 outlines the site inspection and maintenance list of the facility. The Item, Task, Frequency, Inspector and Inspection Documentation are also included. If the facility's operation includes additional items not listed in Table 2, please attach separate page(s) including the applicable section heading. Also, if any of the items do not take place at the facility, please indicate as well.

5.2 Table 2. Site Inspection and Maintenance List – Operational Requirements.

Item	Task	Frequency	Inspector	Inspector Documentation
Fence/ Gates	Inspect perimeter fence and gates for damage. Make Repairs if necessary	Weekly	Landfill Manager or Designee	Document inspection in the Site Operating Record
Windblown Waste	Police working face area, wind fences, access roads, entrance areas, and perimeter fence for loose trash. Clean up as necessary	Daily	Landfill Manager or Designee	Document inspection in the Site Operating Record
Waste Spilled on Route to the Site	Police the entrance areas and all roads at least 2 miles from the site entrances for loose trash. Clean up as necessary.	Daily	Landfill Manager or Designee	Document inspection in the Site Operating Record
Landfill Markers	Inspect all landfill markers For damage, color-coding, and general location. Correct or replace damaged markers within 15 days of discovery.	Monthly	Landfill Manager or Designee	Document inspection in the Site Operating Record

Site Access Road	Inspect site access road for damage from vehicle traffic, erosion, or excessive mud accumulation. Maintain as needed with crushed rock or stone. Grading equipment will be used at least once per week to control or remove mud accumulations on roads as well as minimize depressions, ruts, and potholes.	Daily; more often during wet weather or extended dry weather periods.	Landfill Manager or Designee	Document inspection and repairs in the Site Operating Record
Daily Cover	Inspect for proper Placement, thickness, and Compaction. Correct problems as needed. Verify that vectors are not an issue.	Daily at the active face and at daily cover areas will be inspected.	Landfill Manager or Designee	Document inspection in the Site Operating Record
Inter-mediate Cover	Inspect for proper Placement, thickness, erosion, and compaction And for presence of waste Or other contamination. Correct problems as needed.	Weekly and within 72-hours of a rainfall event of 0.5 inches or more.	Landfill Manager or Designee	Document in the Site Operating Record
Final Cover	Inspect for proper Placement, thickness, Compaction, slope, Settlement and erosion. Maintenance will be ongoing throughout post closure care period. Correct problem as needed.	Weekly and within 72-hours of a rainfall event of 0.5 inches or more.	Landfill Manager or Designee	Document in the Site Operating Record
Site Signs	Inspect all site signs for damage, general location, and accuracy of posted information.	Weekly	Landfill Manager or Designee	Document in the Site Operating Record
Ponded Water	Inspect site for unauthorized ponded water areas as described in Section 5.12 of Site Operating Plan. Correct problems as needed.	Weekly and within 72-hours of a rainfall event of 0.5 inches or more	Landfill Manager or Designee	Document in the Site Operating Record
Odor	Inspect perimeter of the site to access the performance of site	Daily	Landfill Manager or Designee	Document in the Site Operating Record

	operations to control odor.			
Perimeter Channels/ Ponds	Inspect perimeter channels and detention ponds to verify that they are functioning as designed (e.g., excess sediment removed, outlet structures intact, erosion control measures intact).	Weekly and within 72-hours of a rainfall event of 0.5 inches or more	Landfill Manager or Designee	Document in the Site Operating Record
GCCS	If applicable, verify GCCS is operating and maintained in Accordance with all Applicable requirements.	Monthly	Environmental Manager or Designee	Document in the Site Operating Record

5.3 Fire Protection

Firefighting methods for burning solid waste include smothering with soil, separating burning material from other waste, spraying with water if available from an on-site water truck or detention pond. Small fires might be controlled with hand-held extinguishers. If the fire is at an active disposal area, if possible, the burning waste will be isolated or pushed away immediately before the fire can spread, or firebreaks will be cut around the fire before it can spread. If moving the waste is not possible, or if it is unsafe, efforts will be made to cover the working face with earth immediately to smother the fire. The faster that soil can be placed over the fire, the more effective this method will be in controlling and extinguishing the fire. If a fire is in the working face, the burning area will be isolated and pushed away from the working face quickly, or firebreaks will be cut around the fire before it can spread. If this is not possible or this is unsafe, efforts to cover the working face with earth will be initiated immediately to smother the fire. The stockpiled daily earthen cover material may be used for firefighting purposes. Training of on-site personnel in firefighting techniques, fire prevention, response, and fire protection aspects of the SOP will be provided, by established professionals, on an annual basis. Personnel will be familiar with the use and limitations of firefighting equipment available onsite. Records of this training will be included on the Site Operating Record for the facility. If a fire occurs that is not extinguished within ten minutes of detection, the commission’s regional office must be contacted immediately after detection, but no later than four hours by telephone, and in writing within 14 days with a description of the fire and resulting response.

If a fire occurs on a vehicle or piece of equipment, the equipment operator will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle will be parked away from fuel supplies, uncovered solid wastes, and other vehicles.

The engine will be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment.

The operator will maintain a stock pile of earth within 2,500 feet of the working face or active disposal area. The stockpile will be sized to cover the entire working face or active disposal area. The City's equipment is to be kept on site at all times to provide for adequate earth movement capabilities. Proper placement and compaction of earth cover will be used to minimize the risk of accidental fires.

A minimum of 27 cubic yards of soil or enough soil to cover the working face with at least six inches of compacted soil will be stockpiled within 2,500 feet of the working face for this purpose.

For example, 27 cubic yards of soil required for a six-inch cover on a 60 ft x 20 ft working face with a twenty percent contingency included is calculated as follows:

60 ft x 20 ft x 0.5 ft depth = 600 ft^3
600 ft^3 / 27 ft^3/yd^3 = 22.22 yd^3 x 120% contingency = 26.66 yd^3 for stockpile

A monthly log will be maintained documenting the location of the stockpile, the distance of the stockpile from the working face, the volume of the stockpile, the use and replacement of soil for fire control, and demonstration that the amount of stockpiled soil is adequate to cover the largest working face in use on that day. The site supervisor will, at all times, maintain sufficient equipment for moving the soil stockpile and placing a six-inch soil cover over the working face within one hour of detecting a fire at the working face.

Earthen Material Distance from Working Face:

- A stockpile of earthen material adequately sized to cover the working face will be maintained at all times within 2,500 feet (i.e. in order to cover the working face within one hour, as provided in the following demonstration) of the working face or active disposal area. The source will be sized to cover the working face with a six-inch layer of earthen material. The following calculations are presented to demonstrate the adequacy of earthen material stockpile that will be maintained within 2,500 feet of the working face. Firefighting methods for burning solid waste include smothering with soil, separating burning material from other waste, spraying with water if available from an on-site water truck or detention pond. Small fires might be controlled with hand-held extinguishers.

- Demonstration of Stockpile Adequacy: The typical size of the working face will be approximately 1,200 square feet. For covering this size of working face, the required stockpile will be 27 cubic yards (i.e., 1,200 sq. ft x 0.5 ft (cover)= 600 cubic feet or 22 cubic yards with 120% contingency = 27 cubic yards). This earthen volume would be distributed across the working face by one of the earthmovers required on-site (a front-end loader or bulldozer. See the equipment list of this SOP). Additional equipment will be used, if applicable, to smother the fire within one hour of being detected. Firefighting methods for burning solid waste include smothering with soil, separating burning material from other waste, spraying with water if available from an on-site water truck or detention pond. Small fires might be controlled with hand-held extinguishers.

- Example calculations:

Volume of Fire Cover:	27 cy
Average Size of Haul Trucks:	10 cy
Number of Haul Trucks:	1
Number of Loads:	3
Time to Load:	5 min
Average Truck Speed:	12 mph
Average Truck Speed:	1056 fpm (12mph x 5280 ft/mi ÷ 60 min/hr)
Distance from Working Face:	2500 ft
Average Truck Time Round Trip:	2.3 min (2500 ft ÷ 1056ft/min x 1)
Length of Time to Cover Working Face:	22 min ([5 min load +2.3 min travel]) x 3 loads

5.4 Access Control

Public access to the landfill site will be controlled by means of fences and gates. The gates will be kept locked when the landfill is closed. Notification to the commission's regional office of a breach, provisions for temporary and permanent repairs, and notification to the commission's regional office when a permanent access control breach repair is completed. The commission's regional office, and any local pollution agency with jurisdiction that has requested to be notified, must be notified of the breach within 24 hours of detection. The breach must be temporarily repaired within 24 hours of detection and must be permanently repaired by the time specified to the commission's regional office when it was reported in the initial breach report. If a permanent repair can be made within eight hours of detection, no notice to the commission's regional office is required. The

inspection and maintenance schedule for access control features are located in Table 2 on Page 8.

5.5 Unloading of Waste

The unloading of waste will be confined to the disposal pit that is currently open. The maximum size of the unloading area will be 6,000 square feet. A trained staff will be on duty during regular operating hours to monitor and observe each incoming load. Signs will be used to indicate where the public is to unload.

Trained staff shall observe each load that is disposed at the landfill. The staff involved with unloading or inspection of waste shall have the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter, and/or assess appropriate surcharges, and have the unauthorized material removed by on-site personnel or otherwise properly managed by the facility. A record of unauthorized material removal must be maintained in the operating record. Transporter certifications will be retained at the landfill and available for inspection by the executive director.

Prohibited wastes are lead acid storage battery, do-it-yourself use motor oil, used oil filters, whole used or scrap tires, refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbon (CFC), leachate and gas condensate recirculation, regulated hazardous waste, polychlorinated biphenyls (PCB) wastes, and radioactive materials. Bulk or noncontainerized liquid waste shall not be accepted for disposal or disposed of in the landfill unless the waste is household waste other than septic waste. Containers holding liquid waste shall not be accepted for disposal or disposed of in the landfill unless: the container is a small container in size to that normally found in household waste; the container is designated to hold liquids for use other than storage; or the waste is household waste. The permit issued to the municipal solid waste facility may also prohibit other wastes. Necessary steps shall be taken by the owner or operator to ensure compliance with this provision. Any prohibited waste must be returned immediately to the transporter or generator of the waste or otherwise properly managed by the landfill. Putrescible wastes will be removed from Type IVAE cells.

Unloading of hazardous wastes or other prohibited items will not be allowed. Notification to the Executive Director will be provided of any receipt or disposal of hazardous waste.

A procedure whereby the transporter certifications required by §330.7(c) of this title (relating to Permit Required) must be retained at the landfill and be available for inspection by the executive director.

A written procedure retained on site to ensure that containers with any putrescible wastes are not accepted. This might include or be a combination of a manifest system, surcharges, contractual agreements with transporters, or other acceptable means. This written procedure must be made available for review by the executive director. The procedure must be followed and must be modified as necessary to accomplish its purpose.

Any putrescible wastes and other prohibited wastes must be removed from the working face immediately upon discharge and returned to the offending transporter's vehicle or placed in suitable collection bins and must not be allowed to remain on the landfill in the collection bins for more than 24 hours. The landfill will utilize a dresser loader to remove any putrescible wastes and other prohibited wastes, and will be on site and operable during operating hours. This written procedure must be made available for review by the executive director. Hours of Operation

The landfill shall not accept wastes from a completely enclosed container or enclosed vehicle except in accordance with §330.169.

The facility may be operated any time between the hours of 8:00 AM and 5:00 PM, Monday through Saturday. The waste acceptance hours during which the landfill site will be open to the public are from 1:30 PM and 4:30 PM, Monday, Wednesday, Friday; and Saturdays between the hours of 10:00 AM and 2:00 PM. The facility will record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.

The commission's regional offices may allow additional temporary
operating hours to address disaster or other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area.

5.6 Site Sign

The city will post a sign measuring at least four feet by four feet with the letters at least three inches in height that shows the hours and days of operation, and permit number, type of facility and an emergency 24hr. contact number and local fire department number at all entrances. The sign shall identify the following wastes that are not allowed: Class I Industrial Waste, RCAM, and Hazardous Wastes. The sign shall also state the landfill’s requirements for transporters, such as certificates, manifests, and surcharges or other penalties that may be imposed in the event that transporters do not meet the requirements.

5.7 Control of Windblown Waste and Litter

Windblown material and litter will be collected and returned to the active disposal area weekly, or more frequently as necessary to minimize unhealthy, unsafe, or unsightly conditions. Windblown waste and litter at the working face must be controlled by using engineering methods or measures, including portable panels, temporary fencing, and perimeter fencing or comparable engineering controls. Litter scattered throughout the site, along fences and access roads, and at the gate must be picked up once a day on the days the facility is in operation and properly managed.

5.8 Easements and Buffer Zones

Easement protection. No solid waste unloading, storage, disposal, or processing operations within any easement, buffer zone, or right-of-way that crosses the site. No solid waste disposal will occur within 25 feet of the centerline of any utility line or pipeline easement, unless otherwise authorized by the executive director. All pipeline and utility easements must be clearly marked with posts that extend at least six feet above ground level, spaced at intervals no greater than 300 feet.

Buffer zones. See Figure I-6 of the Layout Plan for the location of the buffer zone. A minimum separating distance shall be maintained between solid waste processing and disposal activities within and adjacent to the facility boundary on property owned or controlled by the owner or operator as determined by the requirements of §330.543 of this title (relating to Easements and Buffer Zones). The buffer zone must provide for safe passage for fire-fighting and other emergency vehicles.

5.9 Landfill Markers and Benchmark

Landfill markers will be installed to clearly mark significant features. All markers will be steel, or wooden and will extend at least six feet above ground level. Markers will not be obscured by vegetation. Sufficient intermediate markers will be installed to show the required boundary. Markers shall be installed at:

1. site boundary
2. 125-foot buffer zone
3. landfill grid system

All markers will be color coded as follows:

1. black-boundary markers
2. yellow-buffer zone markers

3. green – easement and rights-of-way markers
4. white – landfill grid markers
5. blue – 100-year flood protection markers

Site boundary markers will be placed at each corner of the site and along each boundary line at intervals no greater than 300 feet. Fencing may be placed within these markers as required.

Markers identifying the 125-foot buffer zone will be placed along each buffer zone boundary at all corners and between corners at intervals of 300 feet.

Easement and right-of-way markers will be placed along the centerline of an easement and along the boundary of a right-of-way at each corner within the site and at the intersection of the site boundary.

The City of Booker must maintain the visibility of all required landfill markers and the benchmark. The City of Booker shall inspect landfill markers on a monthly basis and maintain records of all inspections at the facility. The City of Booker shall replace markers within 15 days of removal, destruction, or a determination that the markers do not meet regulatory requirements.

Landfill markers must be installed to clearly mark significant features. The executive director may modify specific marker requirements to accommodate unique site-specific conditions. The markers must be posts extending 6 feet above ground and not obscured. Where markers cannot be seen, immediate markers must be installed where feasible.

A landfill grid system will be installed at the facility. The grid system will encompass at least the areas expected to be filled within the next three-year period. Grid markers will be maintained throughout the active life of the site. The grid system will consist of lettered markers along two opposite sides, and numbered markers along the other two sides. Markers will be spaced no greater than 100 feet apart.

SLER or FMLER area markers will not be required at this facility.

Flood protection markers will not be required at this facility.

A permanent benchmark has been established at the site in a location shown on the Site Layout Plan (Figure I-6). This benchmark shall be a bronze survey marker set in concrete and will have the benchmark elevation and survey date stamped on it.

5.10 Materials Along the Route to the Site

The City of Booker will take steps to ensure that vehicles hauling waste to the City's site are enclosed, or provided with a tarpaulin, net, or other means to properly secure the load in order to prevent the escape of any part of the load by blowing or spilling. Waste materials that spill or blow out within the right-of-way of public access roads serving the site for a distance of two miles in either direction will be promptly cleaned up. The City of Booker shall take actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges, or similar measures. On days when the facility is in operation, the City of Booker shall be responsible for at least once per day cleanup of waste materials spilled along and within the right-of-way of public access roads serving the facility for a distance of two miles in either direction from any entrances used for the delivery of waste to the facility. The facility operator shall consult with the Texas Department of Transportation, county, and/or local governments with maintenance authority over the roads concerning cleanup of public access roads and rights-of-way. An alternative clean-up frequency and distance may be approved in the site operating plan.

5.11 Disposal of Large Items

Large, heavy, or bulky items which cannot be incorporated in the regular spreading, compaction, and covering operations, will be recycled. A special area will be established to store these items. These items will be removed as the operator sees fit to ensure that the area is not unsightly. Frequency of collection shall not be less than once per year. Items that can be classified as large, heavy, or bulky can include, but are not limited to, white goods (household appliances), air conditioner units, metal tanks, large metal pieces, and automobiles. Refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbon (CFC) must be handled in accordance with 40 Code of Federal Regulations §82.156(f), as amended.

5.12 Odor Management Plan

The City of Booker Landfill will use odor control systems and an odor neutralizing system to minimize potential onsite sources of odors. The odor control and neutralizing systems may be portable or stationary. The odor neutralizing systems will use a series of perforated pipes or nozzles connected to a blower or pump to dispense odor neutralizing agents into the air. These systems will be installed at different locations at the site to reduce the potential for offsite odors coming from the City of Booker Landfill. The portable systems will be moved around the site as needed. Salvage will also be removed often enough to prevent odor and discharge of pollutants. This will be the method utilized to manage items that require special attention such as septage, grease trap waste, dead animals, and leachate.

5.13 Disease Vector Control

The operator will take the appropriate steps to prevent and control on-site populations of disease vectors using proper placement and compaction of daily cover. If necessary, a licensed professional will apply pesticides for control of vectors to ensure that proper chemicals are used and that they are properly applied.

5.14 Site Access Roads

All-weather roads must be provided from the facility to access public roads and within the facility to the unloading area(s) designated for wet-weather operation.

Dust from on-site and other access roadways must not become a nuisance to surrounding areas. A water source and necessary equipment or other means of dust control approved by the executive director must be provided.

All on-site and other access roadways must be maintained in a clean and safe condition. Litter and any other debris must be picked up at least daily and taken to the working face. Access roadways must be regraded to minimize depressions, ruts, and potholes. The roadways will be maintained on a monthly basis or as deemed necessary. Tracked mud will be removed once a day when tracked onto the public roadway. Mud will be swept/broomed from roadway.

The city will maintain all-weather roads within the site for unloading of waste. All affected roadways will be promptly made accessible if conditions warrant such actions.

5.15 Employee Sanitation Facilities

The owner or operator shall provide potable water and sanitary facilities for all employees and visitors.

5.16 Salvaging and Scavenging

Salvaging will not be allowed to interfere with prompt sanitary disposal of solid waste, or to create public health nuisances. Salvageable materials include potential recyclable materials. The operator will remove salvageable items from the site often enough to prevent an excessive accumulation of the material at the site. Pesticide, fungicide, rodenticide, and herbicide containers will not be salvaged. Class 1 industrial and other special wastes received at the disposal facility must not be salvaged. Scavenging is prohibited. The operator will provide oversight to prevent scavenging from occurring during hours of operation.

5.17 Endangered Species Protection

The facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. If during construction, the project area is found to contain rare or protected species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them. The U.S. Fish and Wildlife Service (USFWS) should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species.

5.18 Landfill Gas Control

Methane gas will be monitored in accordance with the proposed Landfill Gas Management Plan. The required reports and other submittals will be included in the operating record of the facility and submitted to the executive director as required.

5.19 Abandoned Oil and Water Wells

There are no known abandoned oil or water wells situated within the site. The facility operator shall provide written notification to the executive director of the location of any and all existing or abandoned water wells situated within the facility upon discovery during the course of facility development. The facility operator shall, within 30 days of such a discovery, provide the executive director with such notification and written certification that such wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the commission or other state agency. Any water well used for supply at the facility may remain in use as long as it is located outside the waste footprint, it is not impacted by landfill operations, it can be demonstrated that well design and installation will prevent any cross-contamination from the waste management unit to the water well production zone and between any water bearing zones, and an approved sampling plan to include frequency and parameters is in place. The executive director shall approve any well used to supply water at the facility that is located within the permit boundary.

The facility operator shall provide written notification to the executive director of the location of any and all existing or abandoned on-site crude oil or natural gas wells, or other wells associated with mineral recovery that are under the jurisdiction of the Railroad Commission of Texas. The facility owner or operator shall provide the executive director with written notification of the location of any such well within 30 days after discovery during the course of facility development. Within 30 days after plugging of any such well, the facility operator shall provide the executive director with written certification that these wells have been properly capped,

plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas. Producing crude oil or natural gas wells that do not affect or hamper landfill operations may be operated within the facility boundary, if identified in the permit for the facility or in a written notification to the executive director.

Any water or other type of wells under the jurisdiction of the commission must be plugged in accordance with all applicable state requirements or additional requirements imposed by the executive director. A copy of the well plugging report required to be submitted to the appropriate state agency must also be submitted to the executive director within 30 days after the well has been plugged. There is an existing windmill on site, that is currently not is use.

The facility operator or owner shall submit for executive director approval a permit modification application identifying any proposed changes to the liner installation plan as a result of any well abandonment.

5.20 Compaction

Solid waste must be spread and compacted by repeated passages of compaction equipment such that each layer of solid waste is thoroughly compacted. The solid waste will be compacted by repeated passages over the waste with the landfill's heavy equipment.

5.21 Landfill Cover

5.21.1 Daily Cover

The operator will cover the working area of the disposal pit at the end of each operating day with six-inches of well compacted earthen material, to control disease vectors, fires, odors, windblown litter or waste and scavenging. Cover material will be clean material not previously mixed with garbage, rubbish, or other solid waste.

5.21.2 Intermediate Cover

Should the landfill become inactive for longer than 180 days, the operator will provide intermediate cover. This intermediate cover will be an additional six-inches of well-compacted earthen material that is capable of sustaining native plant growth and must be seeded or sodded following its application in order to control erosion, for a total of not less than 12 inches of cover. The intermediate cover material will be clean material not previously mixed with garbage, rubbish,

or other solid waste, and will be graded to prevent ponding of water. Plant growth and erosion control features must be maintained and that runoff from areas that have intact intermediate cover is not considered as having come into contact with the working face.

5.21.3 Alternative Material Daily Cover

There will be no alternative material for daily cover.

5.21.4 Final Cover

The final cover for the City of Booker Landfill must be in accordance with the site closure plan and closure requirements for Municipal Solid Waste Landfill Units on or after October 9, 1993.

5.21.5 Erosion of Cover

An inspection shall be performed after any rainfall event to assess the occurrence of erosion. Erosion gullies or washed-out areas deep enough to jeopardize the final or intermediate cover must be repaired within five days of detection by restoring the cover material, grading, compacting, and seeding unless the commission's regional office approves otherwise, based on the extent of the damage requiring more time to repair or the repairs are delayed because of weather conditions. An eroded area is considered to be deep enough to jeopardize the final or intermediate cover if it exceeds four inches in depth as measured from the vertical plane from the erosion feature and the 90-degree intersection of this plane with the horizontal slope face or surface. The date of detection of erosion and date of completion of repairs, including reasons for any delays, must be documented in the cover inspection record required in Section 5.20.6. The site operating plan must establish a frequency, and identify other occasions, for conducting inspections of the final and intermediate covers to detect the need for repairs. The periodic inspections and restorations are required during the entire operational life and for the post-closure maintenance period.

5.21.6 Cover Inspection Record

The landfill must keep a cover application record on site readily available for inspection by commission representatives and authorized agents or employees of local governments having jurisdiction. This record must specify the date cover (no exposed waste) was accomplished, how it was accomplished, and the last area covered. This applies to daily, intermediate, and alternative daily cover. For final cover, this record must specify the area covered, the date cover was applied, and the thickness applied that date. Each entry must be certified by the signature of the on-site supervisor that the work was accomplished as stated in the record. The

cover inspection record must document inspections required under Section 5.20.5, the findings, and corrective action taken when necessary.

5.22 Ponded Water

The operator will work to ensure the ponding of water over waste on a landfill, regardless of its origin, must be prevented. Ponded water that occurs in the active portion of a landfill or on a closed landfill must be eliminated and the area in which the ponding occurred must be filled in and regraded within seven days of the occurrence. A ponding prevention plan will include the landfill operator performing inspection after a rainfall event and filling any area active or closed area of the landfill to prevent the ponding of water over waste. Water that comes in contact with waste will be deemed contaminated and will be removed via pump, then disposed of at an authorized wastewater treatment plant.

5.23 Disposal of Special Wastes

Type IVAE landfills may accept special wastes consistent with the limitations established in §330.5(a)(2) of this title (relating to Classification of Municipal Solid Waste Facilities) and the waste acceptance plan required by §330.61(b) of this title (relating to Contents of Part II of the Application). The acceptance and/or disposal of a special waste as defined in §330.3 of this title (relating to Definitions), that is not specifically identified in subsection (c) or (d) of this section, or in §330.173 of this title (relating to Disposal of Industrial Wastes), requires prior written approval from the executive director. The type of waste to be received at the facility shall be municipal solid waste such as household and commercial trash and garbage, construction demolition waste, brush, grease, oil, sludge, Class II Nonhazardous Industrial Waste, and Special Wastes as outlined in the Site Operating Plan. Type I units will receive putrescible wastes, household wastes, brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste. Type IVAE units will receive brush, construction waste, demolition waste, and rubbish, Class II nonhazardous industrial solid waste, and Class III nonhazardous industrial solid waste.

1. Approvals will be waste-specific and/or site-specific and will be granted only to appropriate facilities operating in compliance with this chapter.

2. Requests for approval to accept special wastes must be submitted by the generator to the executive director or to a facility with an approved plan and must include, but are not limited to, the following:

a. A complete description of the chemical and physical characteristics of each waste, a statement as to whether or not each waste is a Class 1 industrial waste as defined in §330.3 of this title, and the quantity and rate at which each waste is produced and/or the expected frequency of disposal;

b. For Class 1 industrial solid waste, a hazardous waste determination as required by §335.6(c) of this title (relating to Notification Requirements);

c. An operational plan containing the proposed procedures for handling each waste and listing required protective equipment for operating personnel and on-site emergency equipment; and

d. A contingency plan outlining responsibility for containment and cleanup of any accidental spills occurring during the delivery and/or disposal operation.

Soils contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 milligram per kilogram (mg/kg) total petroleum hydrocarbons; or contaminated by constituents of concern that exceed the concentrations listed in Table 1, Constituents of Concern and Their Maximum Leachable Concentrations in §335.521(a)(1) of this title (relating to Appendices) must be disposed in dedicated cells that meet the requirements of §330.331(e) of this title (relating to Design Criteria).

The executive director may authorize the receipt of special waste with a written concurrence from the owner or operator; however, the facility operator is not required to accept the waste.

The executive director may revoke an authorization to accept special waste if the owner or operator does not maintain compliance with these rules or conditions imposed in the authorization to accept special waste.

Receipt of the following special wastes does not specifically require written authorization for acceptance provided the waste is handled in accordance with the noted provisions for each waste:

1. Medical wastes that have not been treated in accordance with the procedures specified in Chapter 326 of this title (relating to Medical Waste Management) must not be accepted at a landfill unless authorized in writing by the executive director. The executive director

may provide this authorization when a situation exists that requires disposal of untreated medical wastes in order to protect the human health and the environment from the effects of a natural or man-made disaster.

2. Dead animals and/or slaughterhouse waste may be accepted at any Type I or Type IAE landfill without further approval from the executive director provided the carcasses and/or slaughterhouse waste are covered by three feet of other solid waste or at least two feet of earthen material immediately upon receipt.

3. Regulated asbestos-containing material (RACM) as defined in 40 Code of Federal Regulations Part 61 may be accepted at a Type I or Type IAE landfill in accordance with subparagraphs (A) - (I) of this paragraph provided the landfill has been authorized to accept RACM. The facility operator proposing to accept RACM shall provide written notification to the executive director of the intent to accept RACM.

   a. To receive authorization to accept RACM, the City of Booker shall dedicate a specific area or areas of the landfill to receive RACM and shall provide written notification to the executive director of the area or areas to be designated for receipt of RACM. After initial authorization to receive RACM is issued, additional areas may be designated by providing written notice to the executive director.

   b. The location of the area designated to receive the RACM must be surveyed and marked by a registered professional land surveyor and identified on a current site diagram that is maintained at the landfill. A copy of the current site diagram identifying the RACM area must be submitted to the executive director immediately upon completion of the diagram. The operator shall maintain a record of each load of RACM accepted as to its location, depth, and volume of material.

   c. Upon closure of the unit that accepted RACM, a specific notation that the facility accepted RACM must be placed in the deed records for the facility with a diagram identifying the RACM disposal areas. Concurrently, a notice of the deed recordation and a copy of the diagram identifying the asbestos disposal areas must be submitted to the executive director.

d. Delivery of the RACM to the landfill unit must be coordinated with the on-site supervisor so the waste will arrive at a time it can be properly handled and covered.

e. RACM must only be accepted at the facility in tightly closed and unruptured containers or bags or must be wrapped with at least six-mil polyethylene.

f. The bags or containers holding the RACM must be placed below natural grade level. Where this is not possible or practical, provisions must be made to ensure that the waste will not be subject to future exposure through erosion or weathering of the intermediate and/or final cover. RACM that is placed above natural grade must be located in the landfill unit such that it is, at closure of the landfill unit, not less than 20 feet from any final side slope of the unit and must be at least ten feet below the final surface of the unit.

g. The bags or containers holding the RACM must be carefully unloaded and placed in the final disposal location. The RACM must be covered immediately with 12 inches of earthen material or three feet of solid waste containing no asbestos. Care must be exercised in the application of the cover so that the bags or containers are not ruptured.

h. A contingency plan in the event of accidental spills (e.g., ruptured bags or containers) shall be prepared by the owner or operator prior to accepting RACM. The plan must specify the responsible person(s) and the procedure for the collection and disposal of the spilled material.

i. RACM that has been designated as a Class 1 industrial waste may be accepted by a Type I landfill authorized to accept RACM provided the RACM waste is handled in accordance with the provisions of this paragraph and the landfill operator complies with the provisions of §330.173(g) - (i) of this title.

4. Nonregulated asbestos-containing materials (non-RACM) may be accepted for disposal at a Type IAE or Type IVAE landfill provided the wastes are placed on the active working face and covered in accordance with this chapter. Under no circumstances may any material containing non-RACM be placed on any surface or roadway that is subject to

vehicular traffic or disposed of by any other means by which the material could be crumbled into a friable state.

5. Empty containers that have been used for pesticides, herbicides, fungicides, or rodenticides must be disposed of in accordance with subparagraphs (A) and (B) of this paragraph.

   a. These containers may be disposed of at any landfill provided that:

      (i) the containers are triple-rinsed prior to receipt at the landfill;
      (ii) the containers are rendered unusable prior to or upon receipt at the landfill; and
      (iii) the containers are covered by the end of the same working day they are received.

   b. Those containers for which triple-rinsing is not feasible or practical (e.g., paper bags, cardboard containers) may be disposed of under the provisions of paragraph (6) of this subsection or in accordance with §330.173 of this title, as applicable.

6. Municipal hazardous waste from a conditionally exempt small quantity generator may be accepted at a Type IAE landfill without further approval from the executive director provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator, and provided the landfill owner or operator authorizes acceptance of the waste.

7. Sludge, grease trap waste, grit trap waste, or liquid wastes from municipal sources can be accepted at a Type IAE landfill for disposal only if the material has been, or is to be, treated or processed and the treated/processed material has been tested, in accordance with Test Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (United States Environmental Protection Agency Publication Number SW-846), as amended, and is certified to contain no free liquids. Prior to treatment or processing of this waste at the landfill, the owner or operator shall submit written notification to the executive director of the liquids processing activity as required in §330.11 (Notification Required) of this title.

Used oil filters from internal combustion engines must not be intentionally and knowingly accepted for disposal at landfills permitted under this chapter except as provided in paragraphs (1) and (2) of this subsection.

1. Used oil filters must not be offered for disposal by a generator and/or be intentionally and knowingly accepted for landfill disposal unless the filter has been:

   a. crushed to less than 20% of its original volume to remove all free-flowing used oil; or

   b. processed by a method other than crushing to remove all free-flowing used oil. A filter is considered to have been processed if:

      (i) the filter has been separated into component parts and the free-flowing used oil has been removed from the filter element by some means of compression in order to remove free-flowing used oil;
      (ii) the used filter element of a filter consisting of a replaceable filtration element in a reusable or permanent housing has been removed from the housing and pressed to remove free-flowing used oil; or
      (iii) the housing is punctured and the filter is drained for at least 24 hours.

   c. Used oil filters (to include filters that have been crushed and/or processed to remove free-flowing used oil) must not be offered for landfill disposal by any non-household generator and must not be intentionally or knowingly accepted by any landfill permitted and regulated under this chapter.

The landfill will accept the following special waste: municipal wastewater treatment plant sludges.

5.24 Disposal of Industrial Wastes

Except as specified in subsection (c) of this section, the facility will not accept Class 1 Industrial Waste.

Wastes that are Class 1 only because of asbestos content may be accepted at any Type IAE landfill that is authorized to accept regulated asbestos-containing material (RACM) as stated in §330.171(c)(3)(I) of this title (relating to Disposal of Special Wastes). Authorization to accept this waste is implied in the authorization

to accept RACM unless the acceptance of industrial wastes is prohibited by the permit. All Class 1 industrial asbestos wastes must be manifested and the owner or operator of the landfill facility shall comply with the requirements of subsections (g) and (h) of this section.

Unless the facility permit authorizes the acceptance of a specified type of Class 1 industrial waste, an authorization to accept specific types of Class 1 wastes will be waste-specific and site-specific and will be granted only to appropriate facilities that are operating in compliance with this chapter. Requests for authorization to accept Class 1 solid wastes must be submitted in writing to the executive director and must include, but are not limited to, the following:

1. a complete description of the chemical and physical characteristics of the waste in accordance with §335.587 of this title (relating to Waste Analysis), a statement as to whether or not the waste is a hazardous waste as defined in §330.3 of this title (relating to Definitions), and the quantity and rate at which the waste is produced and/or the expected frequency of disposal;

2. an operational plan containing the proposed procedures for handling the waste and a listing of required protective equipment for operating personnel and on-site emergency equipment. This plan must become a part of the site

3. a written contingency plan meeting the requirements of §335.589 of this title (relating to Contingency Plan). This plan shall become a part of the site operating plan.

Unless specifically authorized by the facility permit, a Type IAE landfill facility permitted after October 9, 1993, may not accept Class 1 industrial solid wastes in excess of 20% of the total amount of waste (not including Class 1 wastes) accepted during the current or previous year. The amount of waste may be determined by volume or by weight, but the same unit of measure must be used for each year, unless a variance is authorized by the executive director.

Any authorization to accept Class 1 waste is subject to the site operating in compliance with these rules and any specific conditions required under any letter(s) of authorization. Failure to operate the site in compliance with these rules or any special conditions imposed by the executive director may result in revocation of the authorization to accept a Class 1 waste.

All shipments of Class 1 waste must be accompanied by a manifest (waste-shipping control ticket) as required by the commission. The facility operator or a designated representative shall sign the manifest for any authorized shipments of

Class 1 waste. The facility operator shall not accept or sign for shipments of Class 1 waste for which the authorization to accept has not been granted by the executive director or has not been authorized by permit provisions. The facility operator shall retain the disposal facility copy of the manifest for a period of three years. This time period is automatically extended if any enforcement action involving the owner, operator, or landfill facility is initiated or pending by the executive director.

A facility that accepts any Class 1 waste must submit to the executive director a written report of Class 1 waste received. This report must be submitted no later than the 25th day of the month following the month that the waste was received. Reports must be submitted on forms provided by the commission and must include all information required. Monthly reports must be submitted by facilities that have received Class 1 wastes including those months in which no Class 1 waste is received at the facility unless an exception is granted by the executive director. Failure to submit the reports required by this subsection in a timely manner is a violation of these rules.

Class 2 industrial solid waste, which is any individual solid waste tor combination of industrial solid waste that are not described as Hazardous, Class 1, which are described as any industrial solid waste or mixture of industrial solid wastes that because of its concentration, or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, or may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or disposed of or otherwise managed, or Class 3, which are described as inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable. Except special wastes as defined in §330.3 of this title, may be accepted at any Type IAE landfill provided the acceptance of this waste does not interfere with facility operation. Type IVAE landfills may accept Class 2 industrial solid waste consistent with the limitations established in §330.5(a)(2) of this title (relating to Classification of Municipal Solid Waste Facilities) and the waste acceptance plan required by §330.61(b) of this title (relating to Contents of Part II of the Application).

Class 3 industrial solid waste may be disposed of at a Type IAE or Type IVAE landfill provided the acceptance of this waste does not interfere with facility operation.

Visual screening of deposited waste materials at the municipal solid waste facility will be performed on daily basis by the site operator for detection of any unacceptable waste on site.

5.25 Contaminated Water Discharge

The executive director may require the owner or operator to test runoff from areas that have alternative daily cover for compliance with Texas Pollutant Discharge Elimination System storm water discharge limits or manage the runoff as contaminated water.

5.26 Approved Containers

All solid waste containing food wastes shall be stored in covered or closed containers that are leakproof, durable, and designed for safe handling and easy cleaning.

1. Nonreusable containers. Nonreusable containers shall be of suitable strength to minimize animal scavenging or rupturing during collection operations.

2. Reusable containers. Reusable containers must be maintained in a clean condition so that they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors.

    a. All containers to be emptied manually must be capable of being serviced without the collector coming into physical contact with the solid waste.

    b. Containers to be mechanically handled must be designed to prevent spillage or leakage during storage, handling, or transport.

6. SPECIAL FAA PROVISIONS

The FAA has no objection to landfill from the standpoint of a wildlife attractant that could be hazardous to aircraft operations, subject to the following conditions:

1. The site must be properly supervised to assure that bird populations are not increasing and that appropriate control procedures are being followed.

2. Any increases in bird activity that might be hazardous to safe aircraft operations will result in prompt mitigation actions and/or closure of the site

3. The above conditions must be included in the state permit.