| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Rule 34 Registration

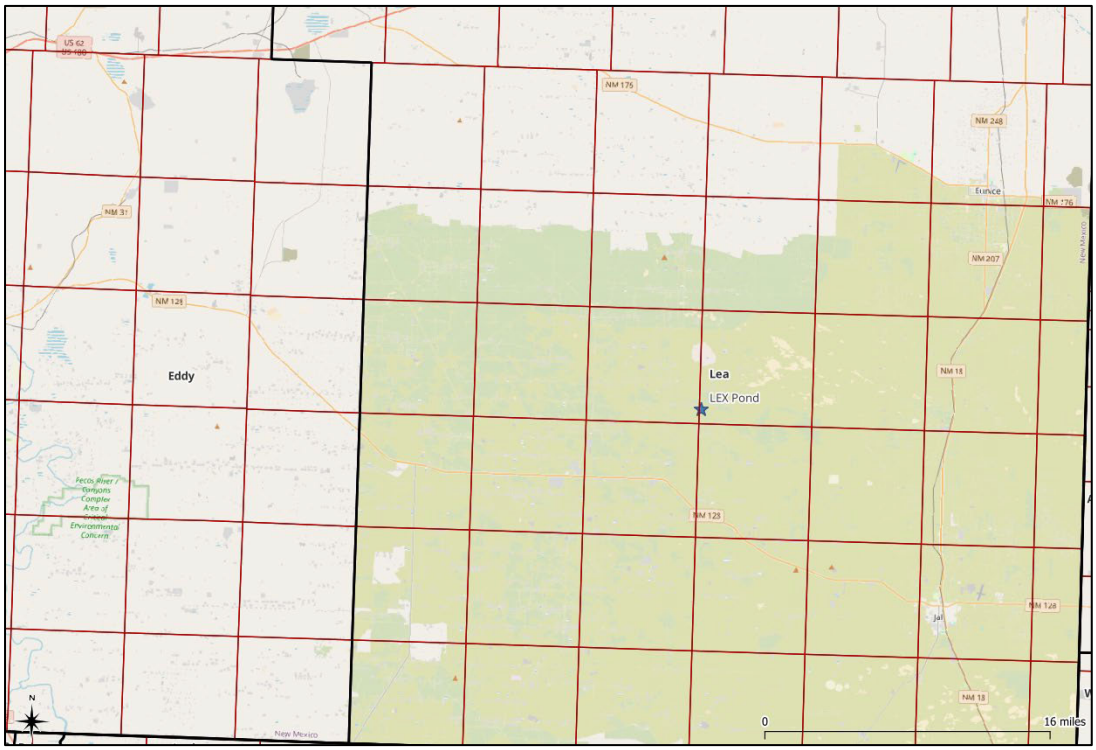
April 2026

LEX Pond

Section 31, Township 23S, Range 35E, Lea County

Volume 1

- Transmittal Letter
- Siting Criteria, Plates, & Appendices



General location map for the LEX Pond. Pond is located in Lea County, about 16 miles NW of Jal, and 16 miles SW of Eunice.

Prepared for:
Hydrosource Logistics Waste Management, LLC
Midland, Texas

Prepared by:
Cascade Services LLC
Midland, Texas

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

April 2026

Ms. Leigh Barr
EMNRD – Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505
Via E-Mail

Mr. Joe Kennedy
EMNRD – Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505
Via E-Mail

RE: Hydrosource Logistics Waste Management, LLC, LEX Pond In-ground Containment Registration

Section 31, Township 23S, Range 35E, Lea County

Dear Ms. Barr and Mr. Kennedy:

We are pleased to submit a C-147 registration for the above-referenced project.

Volume 1 contains:

- Transmittal Letter
- Siting Criteria Demonstration

Volume 2 contains:

- C-147
- Closure Cost
- Stamped Design Drawings
- Avian Deterrent System Demonstration
- Fence Design Demonstration
- Liner Equivalency Demonstration
- Design and Construction Plan
- Operation and Maintenance Plan
- Closure Plan

This submission addresses elements that prior OCD reviewers have, in some cases, treated as variances for in-ground containments. Please see the Demonstration Sections in Volume 2 for additional information.

1. An equivalency demonstration prepared by qualified experts for the proposed 40-mil HDPE secondary liner has been previously approved by the OCD. The applicable Rule language is clear, and a variance is not required for use of the proposed liner.
2. The proposed Avian Protection Plan (Bird-X Mega Blaster Pro) has been approved by the OCD for other containments. The plan satisfies the Rule requirement that

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

facilities be “otherwise protective of wildlife, including migratory birds,” and therefore does not require a variance.

3. Use of the proposed game fencing in lieu of a four-strand barbed wire fence does not constitute a variance. Feral pigs, javelina, and deer are present in the area, necessitating a tall game fence to comply with Section 19.15.34.12(D)(1) of the Rule. The fencing specification in Section 19.15.34.12(D)(2) conflicts with this requirement because pigs can pass beneath the lower strand of a four-foot barbed wire fence and deer can jump over it. As a result, strict compliance with Section (D)(2) would fail to meet the wildlife-exclusion requirement of Section (D)(1). Compliance with Section (D)(1) is therefore the controlling requirement of the Rule. Nevertheless, four strands of barbed wire can be added to the game fence if required by the OCD.

This package will be submitted to the OCD via the Online Portal. In compliance with 19.15-34-10 of the Rule, Hydrosource Logistics Waste Management, LLC has provided a copy of this package to the surface owner’s representative. If you have any questions or need additional information, please feel free to contact me. Thank you for your consideration.

Sincerely,
Cascade Services LLC



George R. Jennings III
Senior Geologist
gjennings@cascadeservicesllc.com
575-618-2103

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Siting Requirements Demonstration

Groundwater

As shown on Plates 1 & 2, and demonstrated in the discussion below, groundwater in the area of interest (AOI) is located **279 feet below the base of the proposed containment**. No groundwater wells are located within 500 feet of the AOI.

Plate 1 shows the location of the AOI relative to the nearest water wells identified from the NMOSE and USGS databases set over the USGS topo map. Text around each well identifies the source, data date, and the depth to groundwater. The red circle around each wellbore indicates a 500-foot buffer. No wells are located within 500 feet of the AOI.

Plate 2 shows the location of the AOI relative to the nearest water wells identified from the NMOSE and USGS databases set over the Geologic Map of the area and the USGS topo map. Text around each well identifies the source, data date, and the elevation of groundwater. The red circle around each wellbore indicates a 500-foot buffer. The AOI is located in modern deposition of piedmont alluvial to eolian piedmont deposits.

As shown in Plates 1 & 2 and detailed in the table below, two ground water wells are present within one mile east of the AOI. The next two closest wells are located ~1.6 miles to the NW. Using each well individually to calculate groundwater elevation, the elevation ranges from 3,122 feet to 3,157 feet. Using an Inverse Distance Weighted Average (IDW) that gives more weight to wells closer to the AOI, an elevation of **3,136 feet** above sea level is calculated for expected ground water. Using the projected sump elevation of **3,415 feet**, a depth of **279 feet** from the bottom of the sump to ground water is calculated. This is much greater than the 50-foot required. This is true regardless of the well or method used.

Well Elevation Details (ft)

Well ID	Source	Distance From AOI to Well (ft)	Surface Elevation	Depth to GW	Calculated GW Elevation	Sump to GW
CP-00614-POD2	NMOSE	5,276.7	3,461.4	320.0	3,141	274
321548103234601	USGS	4,349.5	3,451.0	329.2	3,122	293
321654103261101	USGS	8,536.5	3,389.0	234.9	3,154	261
321652103261101	USGS	8,663.1	3,390.0	233.1	3,157	258
		Inverse Distance Weighted Average (power=2)			**3,136**	**279**

Pond Elevation Details (ft)				
Undisturbed Surface Elevation at Sump	Undisturbed Surface to Top of Berm	Top of Berm to Sump	Undisturbed Surface to Sump	Calculated Sump Elevation
3,421.0	10.0	16.0	6.0	3,415.0

The source data for all four wells are included in the appendix.

Nearby Municipal Water Supplies

The AOI is not located within any incorporated municipal boundaries or within a defined municipal fresh water field.

Plate 3 illustrates all Public Water Systems and Incorporated Places in New Mexico overlying a basemap (Map data © OpenStreetMap contributors). The closest Municipal Water Supplies or Incorporated Places include the municipality of Jal located ~15.4 miles to the southeast and the municipality of Eunice located ~15.7 miles to the northeast.

Nearby Subsurface Mines

The AOI is not overlying any Mines recorded by the EMNRD map. Additionally this location is outside the Potash District and associated mining. No oil and gas surface hole locations are mapped in the AOI.

Plate 4 shows there are no EMNRD mapped mines in the AOI. No mines are noted on the USGS Topo Map, and no Oil and Gas Surface Hole Locations are mapped in the AOI. The closest EMNRD mapped mine is a caliche pit located ~6.5 miles to the northwest.

Nearby Unstable Areas

The AOI is not located with an unstable area.

Plate 5 shows a satellite image with the Bureau of Land Management's Carlsbad Field Office designated Karst Potential Areas. The basemap is a recent satellite image from Google. Plate 4 shows a USGS Topo Map with nothing indicating unstable ground. Plate 2 shows the geologic map of the area, again with nothing indicating the presence of unstable ground.

The AOI is in "Not Karst" area, with the closest "Medium Karst" area located ~14.3 miles to the southwest.

Nearby 100 year Floodplains

The AOI is not located within a FEMA mapped 100-year floodplain.

Plate 6 maps the AOI relative to FEMA mapped 100-year floodplains overlying a basemap (Map data © OpenStreetMap contributors). The closest floodplain is ~16 miles to the southeast near the city of Jal.

Nearby Significant Watercourses

The AOI is not located within 300 feet of any significant watercourse.

Plate 7 demonstrates the AOI's position relative to 3DHP mapped hydro locations (including springs, sinks, and waterbody outlets) as well as 3DHP significant waterbodies. The USGS topo in the background corroborates the 3DHP dataset. Additionally, USFWS Wetland and Riparian designated locations are mapped. All features are surrounded by the appropriate buffer distance defined by the OCD. For significant waterbodies, a 200-foot buffer is drawn in light gray. Additionally, a 300-foot buffer is drawn over that in a light brown. Finally, all USFWS Wetlands and Riparian habitats are encircled with a 500-foot buffer drawn in green.

The AOI borders the 500-foot wetland buffer to the southwest, but maintains the appropriate distance from all significant watercourses, wetlands, and springs.

Nearby Permanent Residences or Structures

There are no permanent residences, schools, hospitals, institutions, or churches within 1000 ft of the AOI.

Plate 8 shows a recent Google Satellite photo of the area as well as a modified OpenStreetMap view of all buildings in the area (© OpenStreetMap contributors). The only structures in the area are related to oil field operations, and are not residences, schools, hospitals, institutions, or churches, and none are within the 1000-foot buffer.

Nearby Springs and Freshwater Wells

The AOI exceeds the 500 ft setback requirement for nearby springs and freshwater wells.

Plate 7 is a USGS topographic map with significant watercourses from the USGS 3DHP map surrounded by the requisite 200 ft and 300 ft buffers, USFWS Wetland and Riparian areas surrounded by the requisite 500 ft buffer, and all sinks, springs, and waterbody outlets mapped in the USGS 3DHP map. No springs are within 500 feet of the proposed pond.

Nearby Wetlands

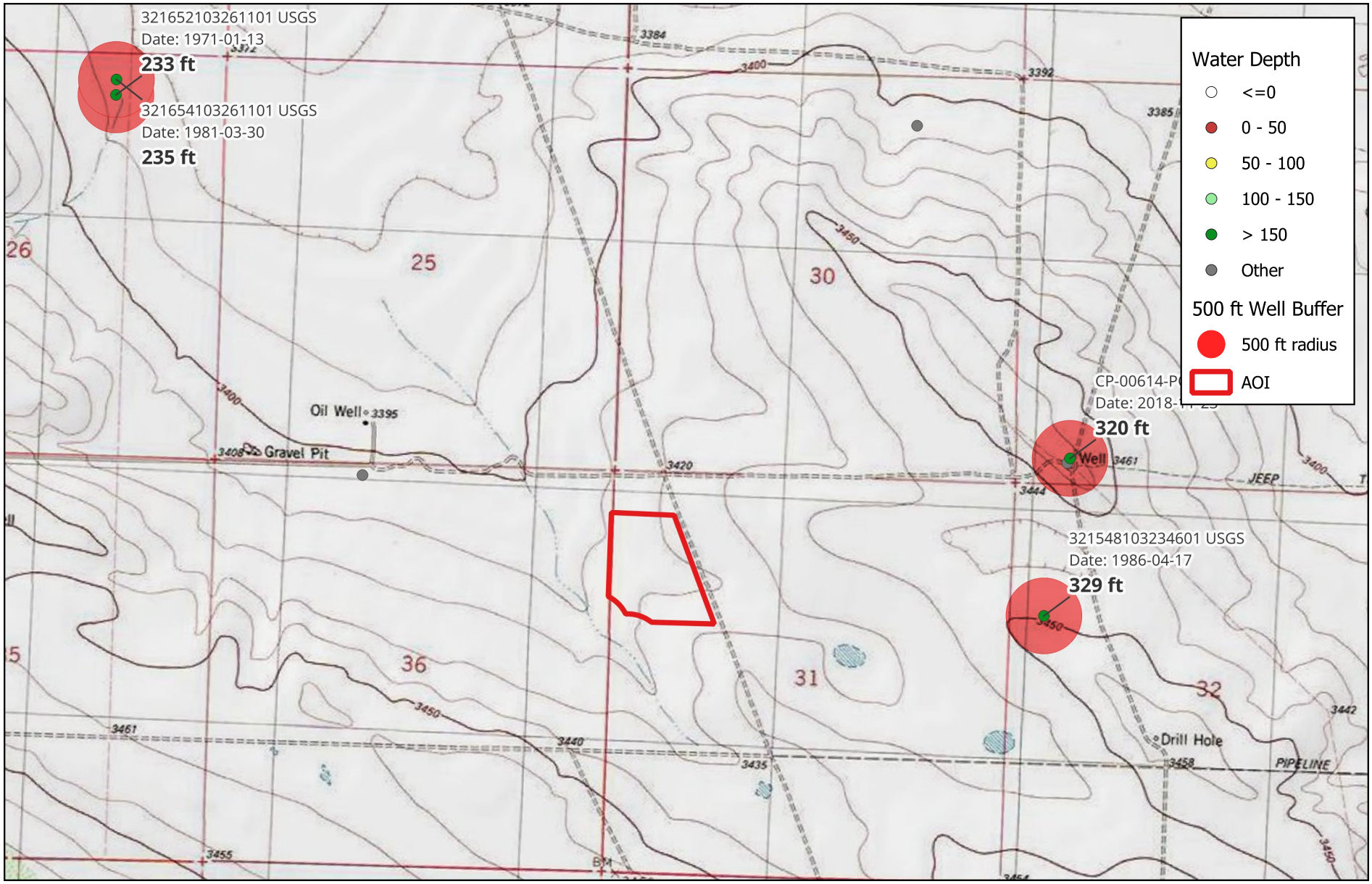
No wetlands are present within 500 feet of the AOI.

Plate 7 displays all USFWS Wetland and Riparian designated locations. A green 500-foot buffer is also mapped.

The AOI borders the green 500-foot wetland buffer to the southwest but maintains the appropriate distance from all USFWS mapped wetlands.

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

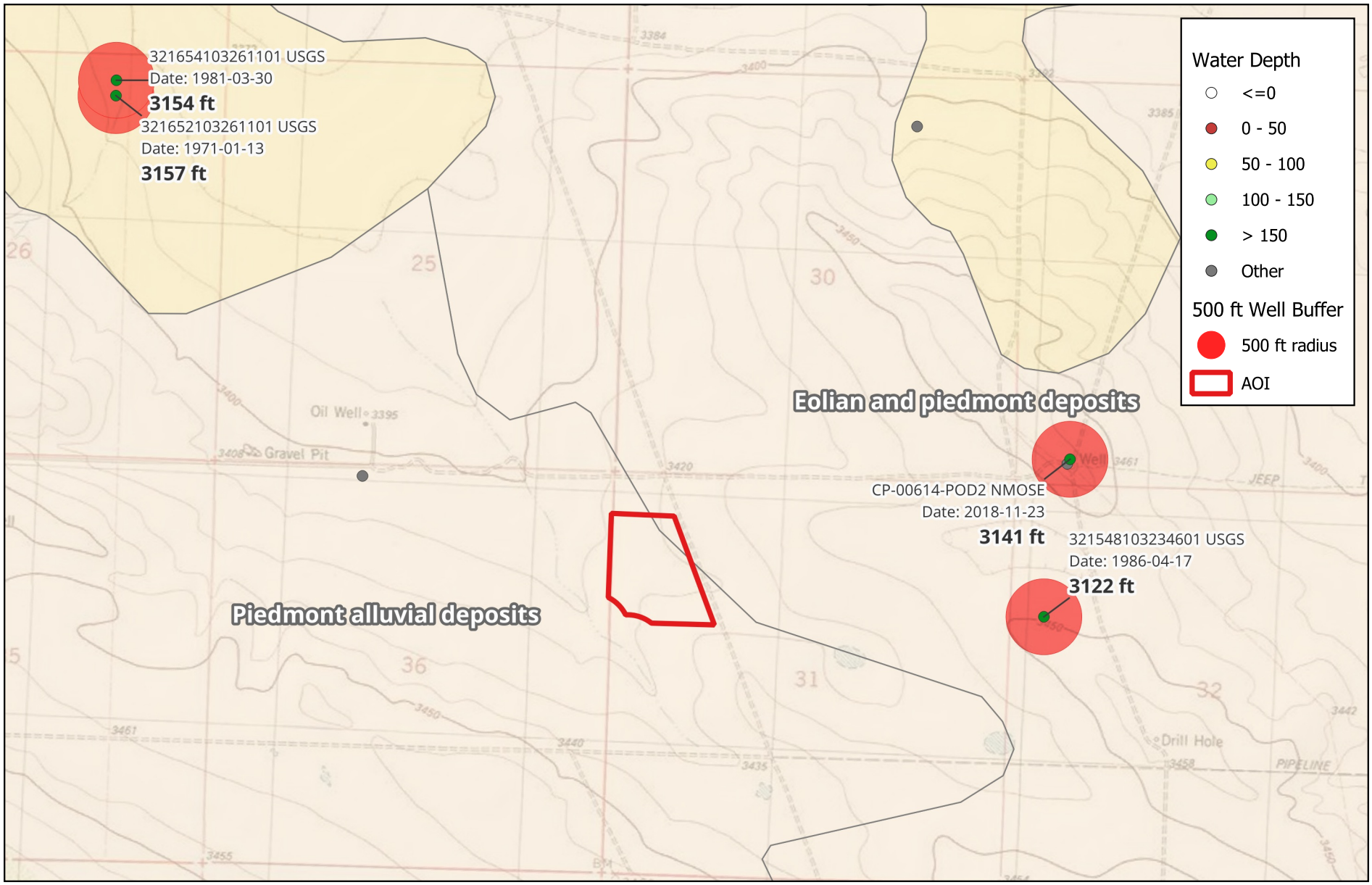
Siting Requirements Demonstration Plates



CASCADE SERVICES

952 Echo Lane, Suite 130
Houston, Texas 77024

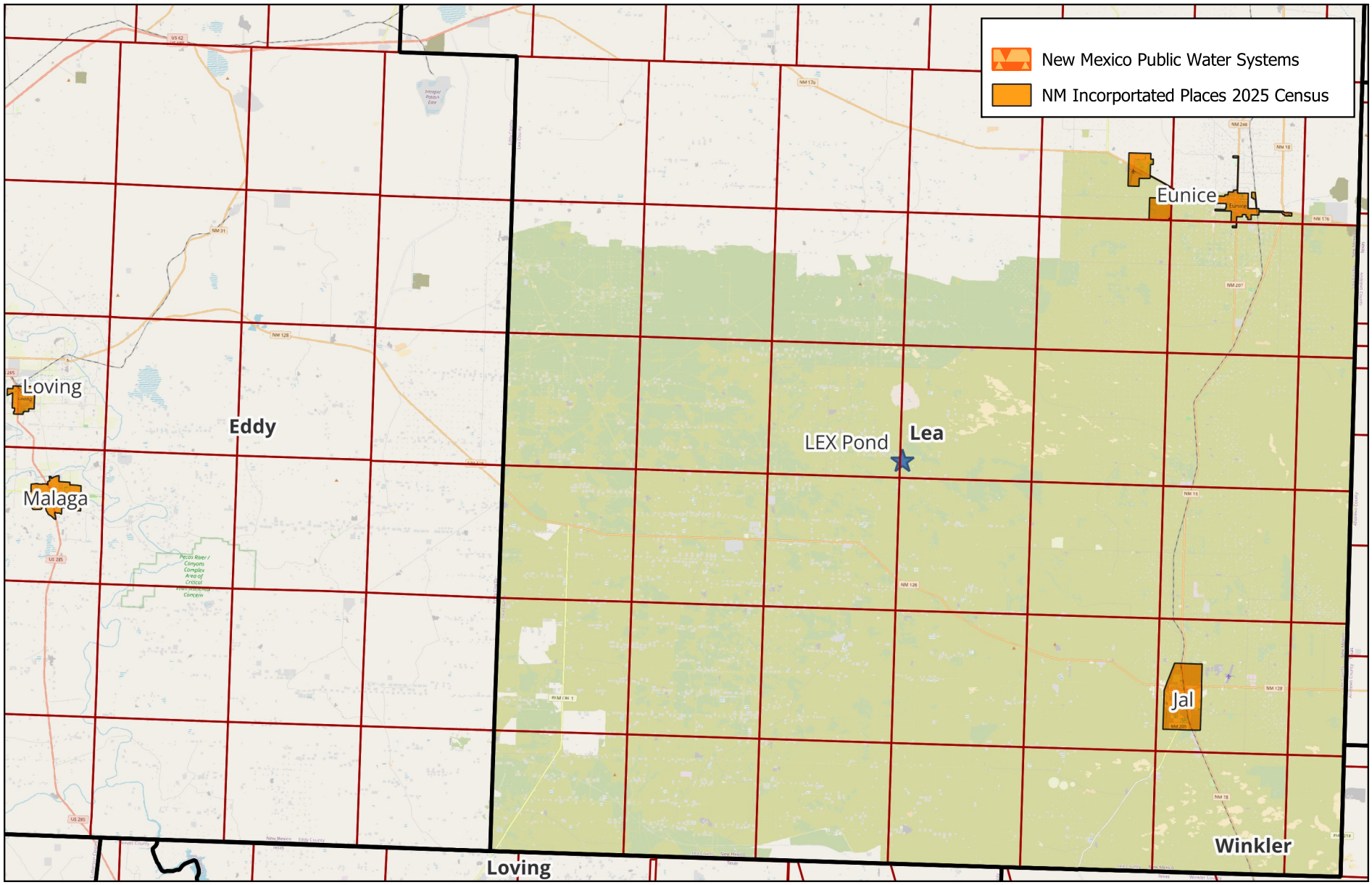
Nearby Wells and Borings with Ground Water Depth	Plate 1
Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



CASCADE SERVICES

952 Echo Lane, Suite 130
Houston, Texas 77024

Nearby Wells and Borings with Ground Water Elevation Relative to Surface Geology	Plate 2
Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



N
W E
S

30,000 60,000 ft

Scale 1:400,000

CASCADE SERVICES

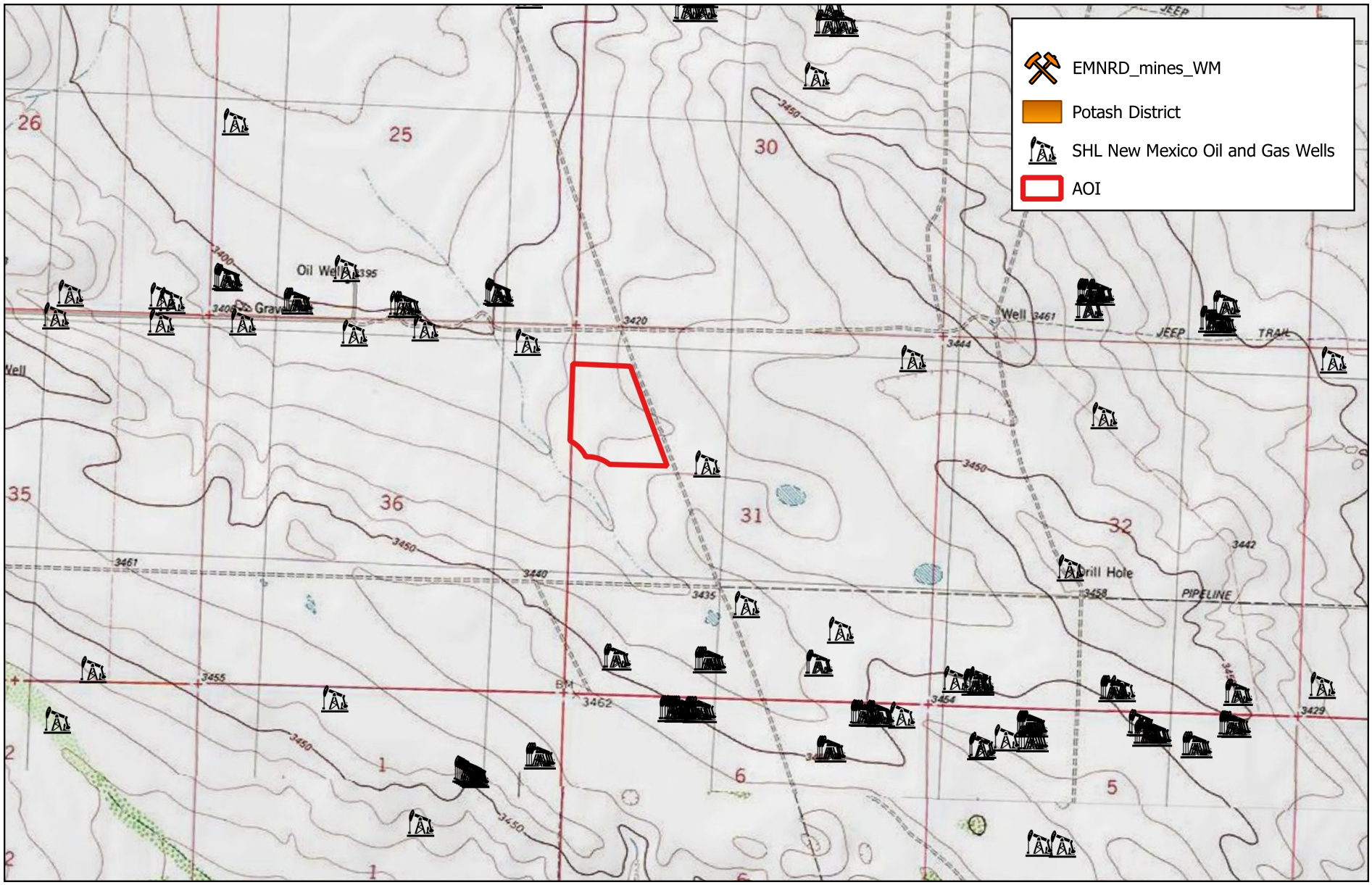
952 Echo Lane, Suite 130
Houston, Texas 77024

Incorporated Places and Municipal Water Supplies. Contains information from © OpenStreetMap contributors.

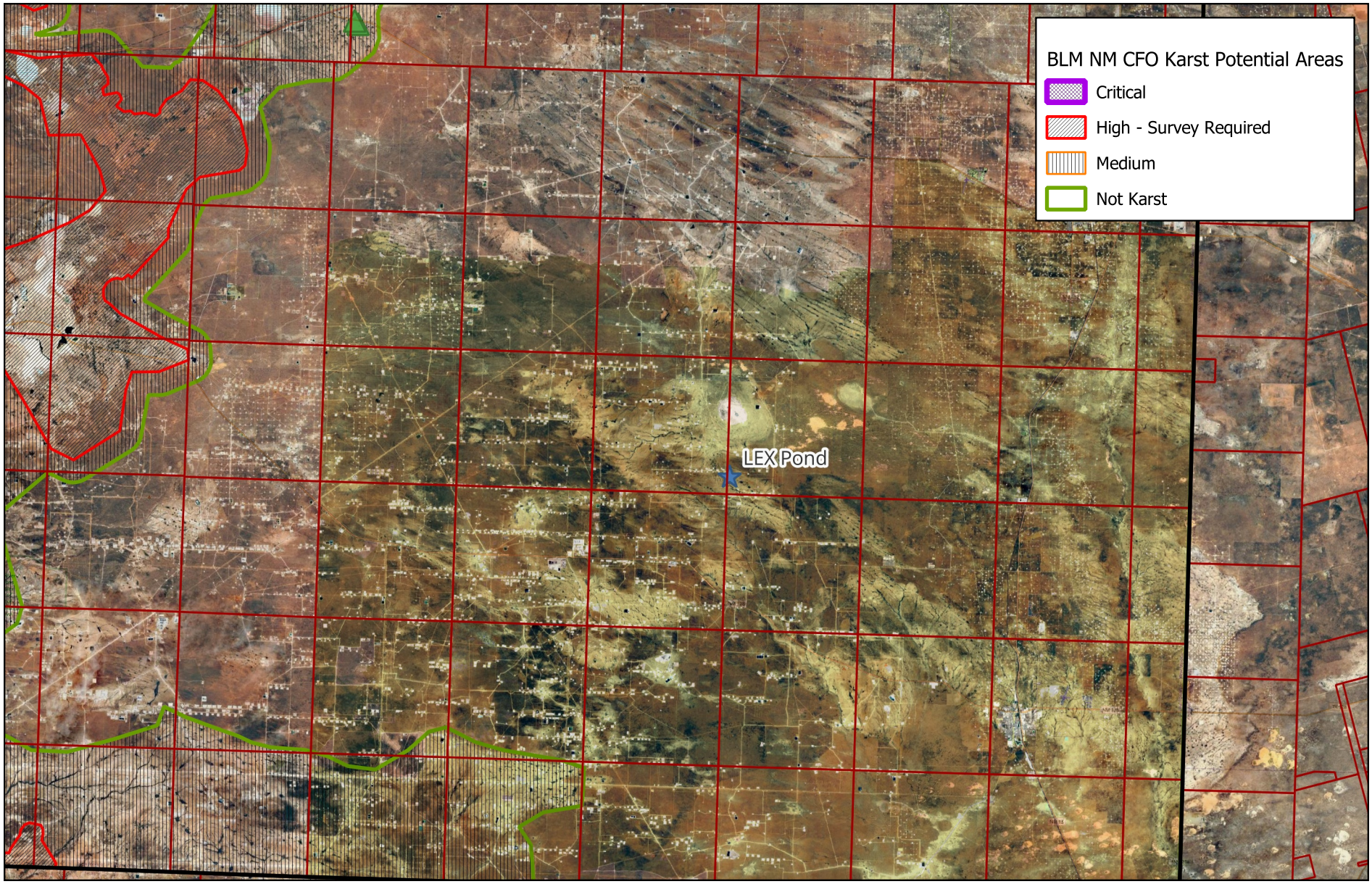
Plate 3

Hydrosource Logistics Waste Management, LLC
LEX Pond

April 2026



CASCADE SERVICES 952 Echo Lane, Suite 130 Houston, Texas 77024	Nearby Mines	Plate 4
	Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



N
W E
S

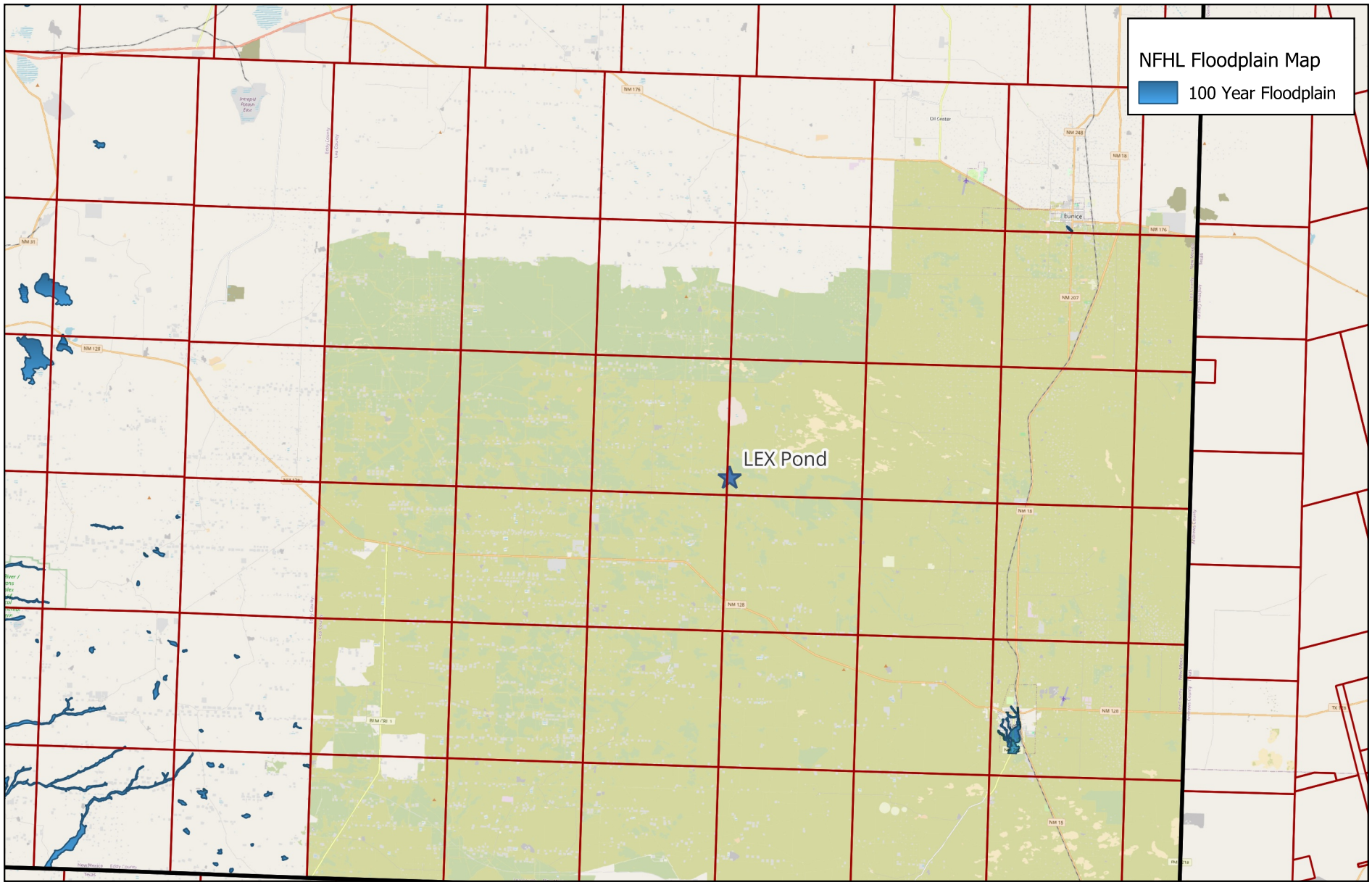
30,000 60,000 ft

Scale 1:390,000

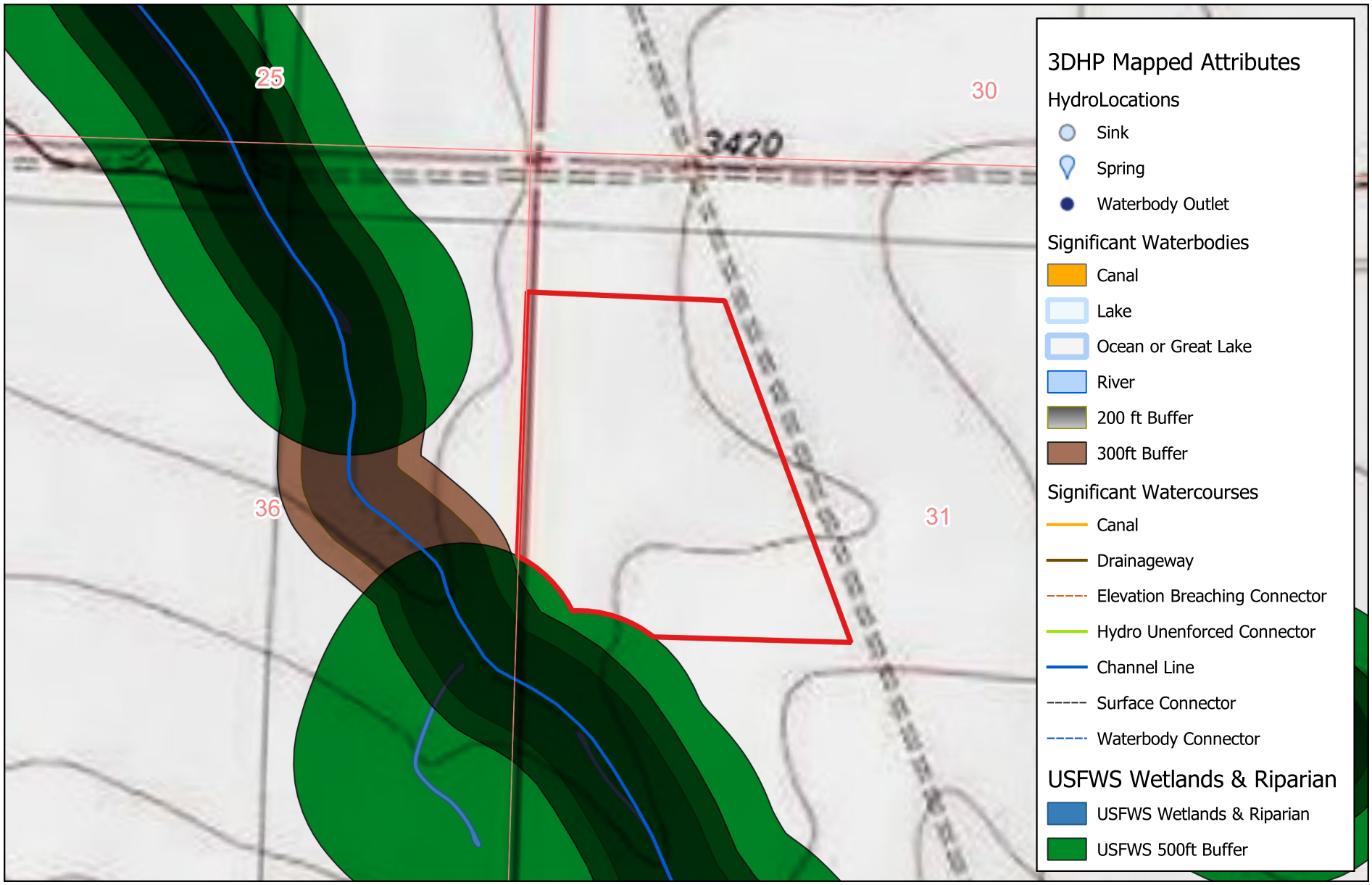
CASCADE SERVICES

952 Echo Lane, Suite 130
Houston, Texas 77024

Karst Potential	Plate 5
Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



CASCADE SERVICES 952 Echo Lane, Suite 130 Houston, Texas 77024	100 Year Floodplain	Plate 6
	Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



N
W E
S

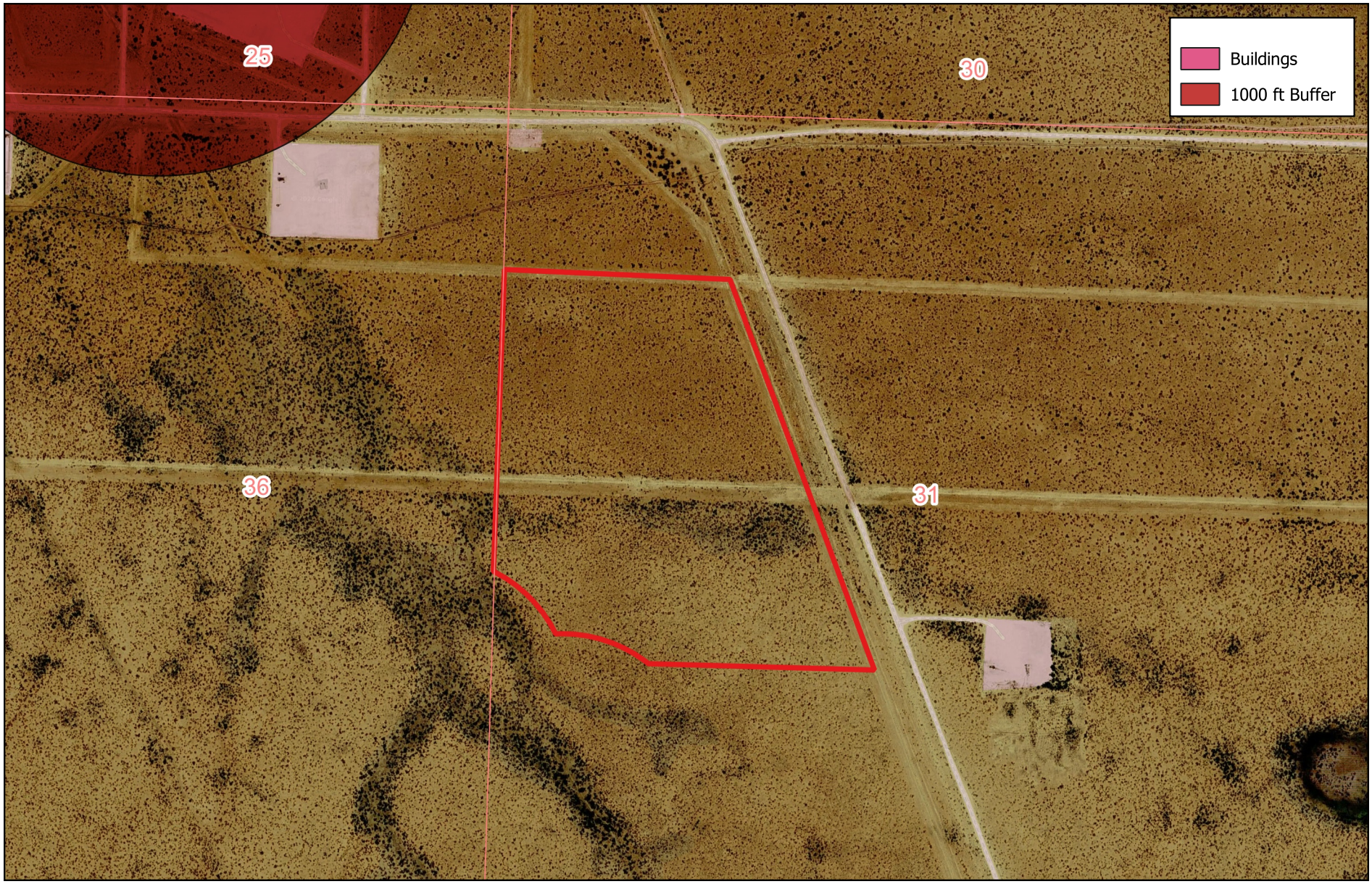
500 1,000 ft

Scale 1:7,000

CASCADE SERVICES

952 Echo Lane, Suite 130
Houston, Texas 77024

Watercourse, Wetland, and Spring Setbacks	Plate 7
Hydrosource Logistics Waste Management, LLC LEX Pond	April 2026



N
W E
S

500 1,000 ft

Scale 1:6,124

CASCADE SERVICES

952 Echo Lane, Suite 130
Houston, Texas 77024

Buildings and 1000' setbacks. Contains information from © OpenStreetMap contributors, which has been modified.

Plate 8

Hydrosource Logistics Waste Management, LLC
LEX Pond

April 2026

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Appendix Well Logs & USGS Data

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-614-POD2		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Limestone Basin Properties Ranch, LLC	210-835-8057

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3300 N. A Street, Bldg 1, Ste 220	Midland	TX	79705

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	16	09.0	N
	LONGITUDE	103	23	44.4	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1706	Bryce Wallace	Elite Drillers Corporation

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/20/18	11/23/18	440	445	320

COMPLETED WELL IS: [✓] ARTESIAN [ ] DRY HOLE [ ] SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 303

DRILLING FLUID: [ ] AIR [✓] MUD ADDITIVES – SPECIFY:

DRILLING METHOD: [✓] ROTARY [ ] HAMMER [ ] CABLE TOOL [ ] OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	20	20	ASTM53 GRADE B		15.5	.25	
+2	300	14.75	ASTM53 GRADE B	Welded	8.125	.25	
300	440	14.75	SDR 17 PVC	Spline	7.6	SDR 17	.031

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	20	Portland I/II Cement	23	Trimmie
0	288	14.75	Portland I/II Cement	245	Trimmie
288	440	14.75	8/16 Silica Sand	120	Pour

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. CP-614	POD NO.	TRN NO. 657220
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	10	10	Caliche	Y ✓ N	
10	80	70	Tan & Brown Sandstone	Y ✓ N	
80	100	20	Tan Clay	Y ✓ N	
100	130	30	Tan Sandstone	Y ✓ N	
130	220	90	Tan & Brown Sandstone	Y ✓ N	
220	230	10	Tan Clay	Y ✓ N	
230	250	20	Red & Tan Sandstone	Y ✓ N	
250	360	110	Tan, Brown & Gray Sandstone	✓ Y N	10.00
360	390	30	Tan & Red Sandstone	✓ Y N	10.00
390	420	30	Tan, Brown & Gray Sandstone	✓ Y N	15.00
420	445	25	Red Clay	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 35.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Bryce Wallace — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

11/27/18 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

CP-614-POD2



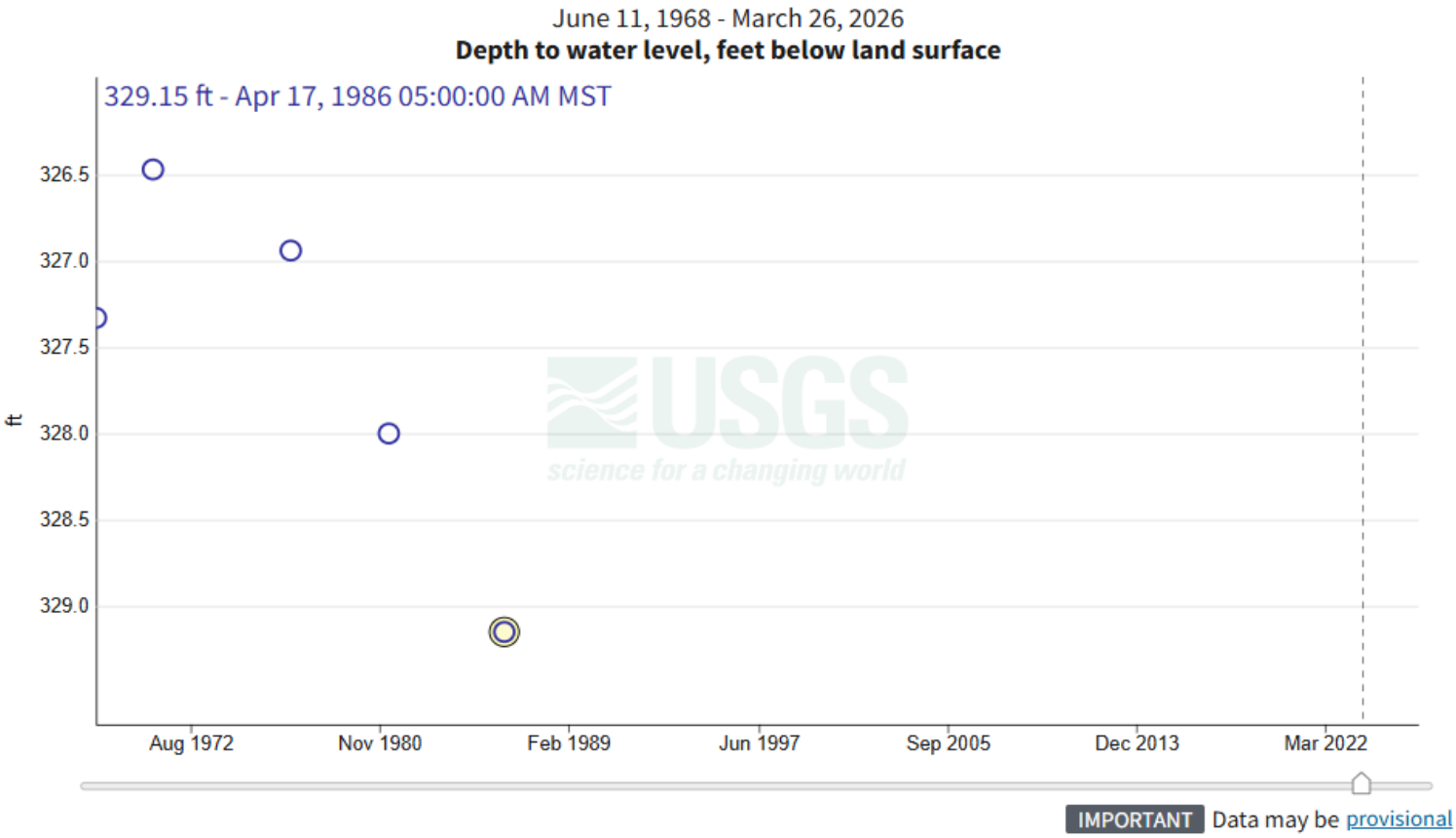
2019 MAR -1 PM 4:22

ID STATE ENGINEER OFFICE ROSWELL, NEW MEXICO



Field measurements

23S.35E.29.33431 - USGS-321548103234601



IMPORTANT Data may be provisional

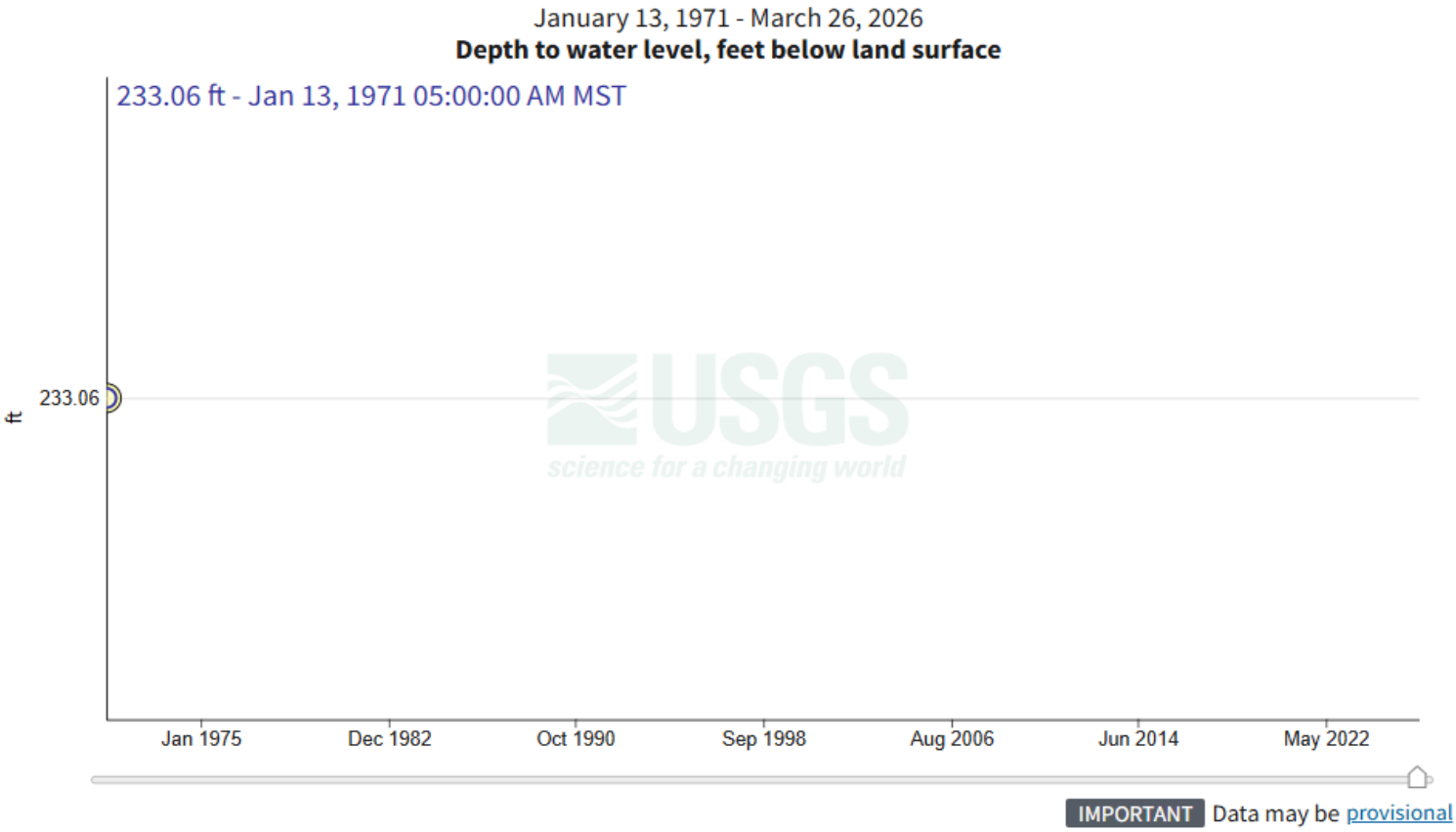
Show legend

Hide graph details

	Value	Status	Time
Selected field measurement	329.15 ft	Approved Static	Apr 17, 1986 05:00:00 AM MST

Field measurements

23S.34E.23.42334 - USGS-321652103261101



IMPORTANT Data may be provisional

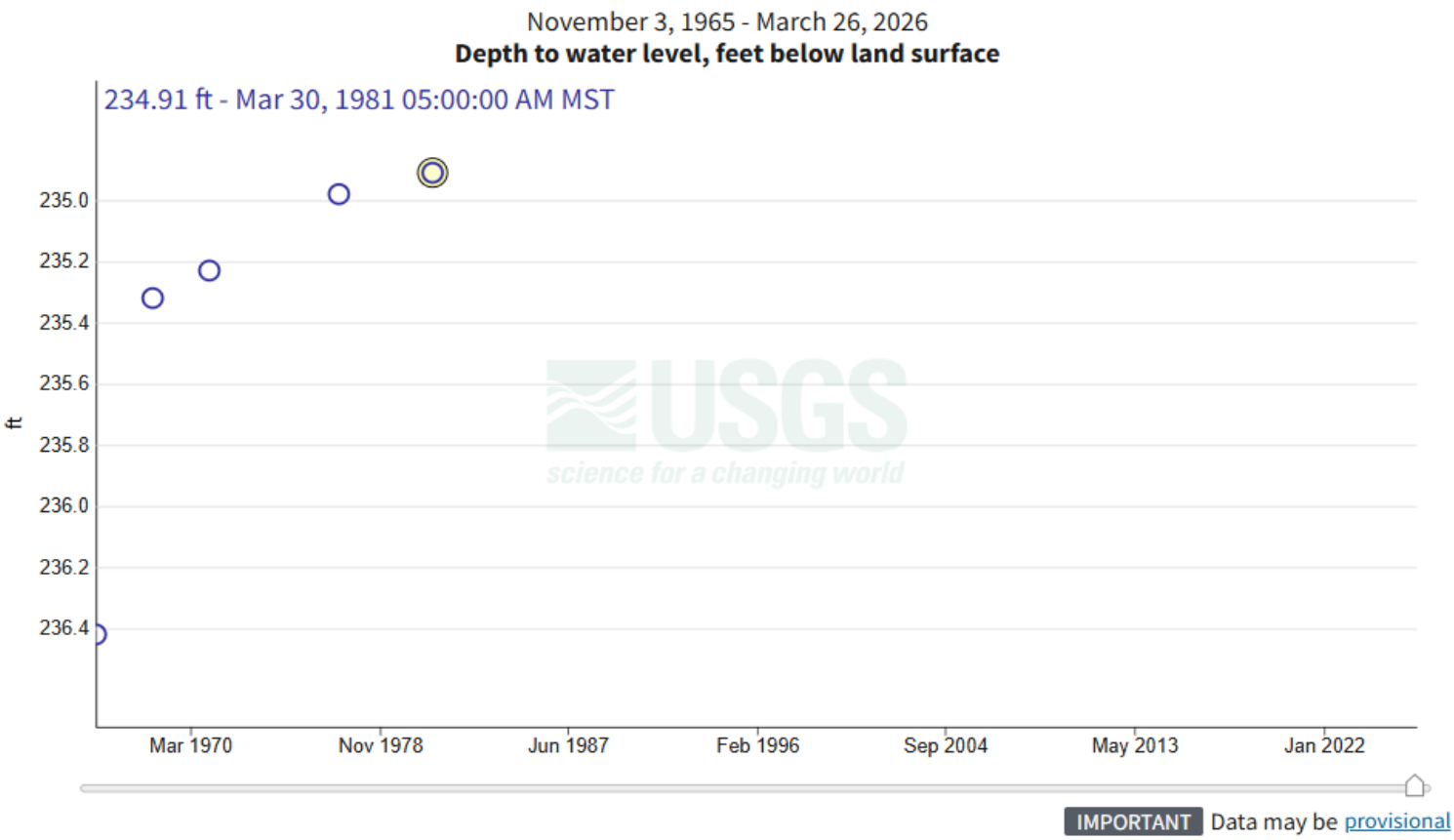
Show legend

Hide graph details

	Value	Status	Time
Selected field measurement	233.06 ft	Approved Static	Jan 13, 1971 05:00:00 AM MST

Field measurements

23S.34E.23.42332 - USGS-321654103261101



IMPORTANT Data may be provisional

Show legend

Hide graph details

	Value	Status	Time
Selected field measurement	234.91 ft	Approved Static	Mar 30, 1981 05:00:00 AM MST

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Rule 34 Registration

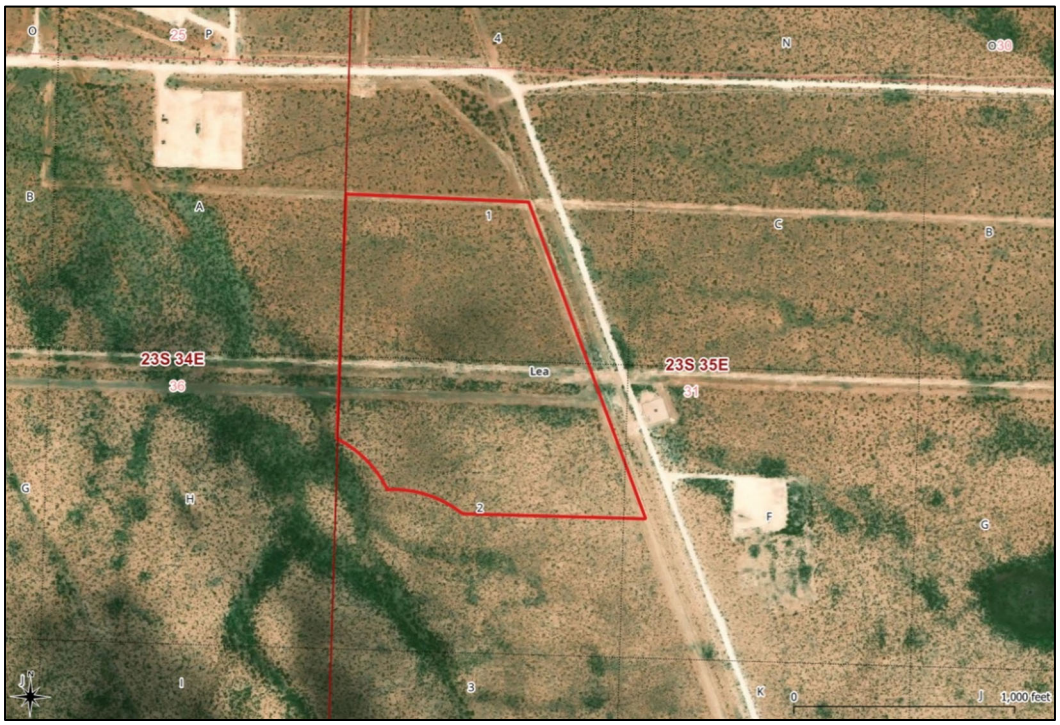
April 2026

LEX Pond

Section 31, Township 23S, Range 35E, Lea County

Volume 2

- C-147
- Closure Cost
- Stamped Design Drawings
- Avian Deterrent System Demonstration
- Fence Design Demonstration
- Liner Equivalency Demonstration
- Design and Construction Plan
- Operation and Maintenance Plan
- Closure Plan



Recent ESRI satellite view of AOI with section 31, township 23S, range 35E, and units labeled. AOI primarily located in Government Lot Numbers 1 & 2, with a small part of the southeast corner located in unit F.

Prepared for:
Hydrosource Logistics Waste Management, LLC
Midland, Texas

Prepared by:
Cascade Services LLC
Midland, Texas

State of New Mexico
Energy Minerals and Natural Resources
Department Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
https://www.emnrd.nm.gov/ocd/ocd-e-permitting/

Form C-147
Revised October 11, 2022

Recycling Facility and/or Recycling Containment

Type of Facility: ☑ Recycling Facility ☑ Recycling Containment*

Type of action: ☐ Permit ☑ Registration ☐ Modification ☐ Extension ☐ Closure ☐ Other (explain) _____

*** At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.**

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: Hydrosource Logistics Waste Management, LLC (For multiple operators attach page with information) OGRID #: 332820

Address: 600 N. Marienfeld, Suite 800, Midland, TX 79701

Facility or well name (include API# if associated with a well): LEX Pond

OCD Permit Number: 1RF-546 (For new facilities the permit number will be assigned by the district office)

U/L or Qtr/Qtr GL# 1&2, U/L F Section 31 Township 23S Range 35E County: Lea

Surface Owner: ☐ Federal ☐ State ☑ Private ☐ Tribal Trust or Indian Allotment

2.

☑ **Recycling Facility:**

Location of recycling facility (if applicable): Latitude 32.26354 Longitude -103.41227 NAD83

Proposed Use: ☑ Drilling* ☑ Completion* ☑ Production* ☑ Plugging *

The re-use of produced water may NOT be used until fresh water zones are cased and cemented

☐ Other, ***requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.***

☑ Fluid Storage

☑ Above ground tanks ☑ Recycling containment ☐ Activity permitted under 19.15.17 NMAC explain type_____

☐ Activity permitted under 19.15.36 NMAC explain type:_____ ☐ Other explain _____

☐ For multiple or additional recycling containments, attach design and location information of each containment

☐ **Closure Report (required within 60 days of closure completion):** ☐ Recycling Facility Closure Completion Date:_____

3.

☑ **Recycling Containment:**

☐ Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)

Center of Recycling Containment (if applicable): Latitude 32.26354 Longitude -103.41227 NAD83

☐ For multiple or additional recycling containments, attach design and location information of each containment

☑ Lined ☑ Liner type: Thickness 60&40 mil ☐ LLDPE ☑ HDPE ☐ PVC ☐ Other _____

☐ String-Reinforced

Liner Seams: ☑ Welded ☐ Factory ☐ Other _____ Volume: 60,869 bbl Dimensions: L 210.11 x W 210.11 x D 20

☐ Recycling Containment Closure Completion Date:_____ See Attached Engineered Drawings

4.

Bonding:

☐ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC **(These containments are limited to only the wells owned or operated by the owners of the containment.)**

☑ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond $ 78,165.00 **(work on these facilities cannot commence until bonding amounts are approved)**

☑ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.

Fencing:

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☑ Alternate. Please specify Game Fence per Design

6.

Signs:

☑ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

7.

Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

If a Variance is requested, it must be approved prior to implementation.

8.

Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting

Ground water is less than 50 feet below the bottom of the Recycling Containment. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☑ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☑ No ☐ NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	☐ Yes ☑ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	☐ Yes ☑ No
Within a 100-year floodplain. FEMA map	☐ Yes ☑ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image	☐ Yes ☑ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	☐ Yes ☑ No

9.
Recycling Facility and/or Containment Checklist:
Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

- ☒ Design Plan - based upon the appropriate requirements.
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements.
- ☒ Closure Plan - based upon the appropriate requirements.
- ☒ Site Specific Groundwater Data -
- ☒ Siting Criteria Compliance Demonstrations –
- ☒ **Certify that notice of the C-147 (only) has been sent to the surface owner(s)**

10.
Operator Application Certification:
I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): Hunter Redman Title: Manager

Signature: Date: 4/1/2026

e-mail address: hunter@hydrosourcelogistics.com Telephone: 432 238 3588

11.
OCD Representative Signature: Joseph Kennedy **Approval Date:** 5/1/2026

Title: Senior Environmental Scientist **OCD Permit Number:** 1RF-546

- ☒ OCD Conditions
- ☒ Additional OCD Conditions on Attachment

Received by OCD: 4/27/2026 2:53:54 PM

Released to Imaging: 5/1/2026 11:40:51 AM

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Closure Cost

Corporate Headquarters | 952 Echo Lane, Ste 130 | Houston, TX 77024
Midland Headquarters | 3403-B E. County Road 44 | Midland, TX 79705

LEX Pond In-Ground Containment Financial Assurance Cost Estimate

Attached is the cost estimate for reclamation of the LEX Pond Recycling In-Ground containment.

LEX Pond In-Ground Containment

The contractor's detailed estimate for closure of the in-ground containment immediately follows this outline of closure costs.

The attached cost sheet shows closure sampling and analysis cost is estimated at $1,725 (sampling) plus $2,700 (laboratory cost) to "test the soils beneath the containment for contamination with a five-point composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I" of Rule 34. Total closure sampling costs including project management and preparation of the Closure Report for the site are estimated at $7,500. The cost estimates are presented below.

All work elements required by Rule 34:	$70,665.00
Preparation of sampling results and closure report:	$7,500.00
Total Closure Cost:	$78,165.00

Cascade Services, LLC
952 Echo Ln Ste 130
Houston, TX 77024-2762
www.cascadeservicesllc.com

Estimate

ADDRESS
Hydrosource Logistics, LLC
600 N. Marienfield St. Ste 800
Midland, TX 79701

SHIP TO
Hydrosource Logistics, LLC
600 N. Marienfield St. Ste 800
Midland, TX 79701

ESTIMATE 2319
DATE 03/27/2026

CUSTOMER PROJECT NAME
Lex Closure

PROJECT LOCATION COORDINATES
32.2637666985, -103.412157243

DESCRIPTION	QTY	UNIT	RATE	AMOUNT
Remove and dispose of all four layers. Textile, 40 mil, net, and 60 mil in	248,000		0.15	37,200.00
Environmental soil sampling This will include digging 6 sample locations for each containment. One composite sample from 0-4 feet below surface and one discrete sample from each location at 4.25 feet Cost include trip, labor, materials, and laboratory testing	1		1,725.00	1,725.00
Environmental Soil testing Before earthwork can begin the soil must be tested for contamination in case of liner leakage. Cost include trip, labor, materials, and laboratory testing of 18 tests.	1		2,700.00	2,700.00
Broadcast seeding of pond area Seed will be a native mix for Lea County NM Includes purchase of seed mix and placement	1		3,000.00	3,000.00
This is pricing a package to reclaim the single 60k bbl pond cell Mobilize equipment to site. Dirt reclaim of pond consist of- Bury all material (Caliche, Gypsum, Sand, ect.) below ground level, backfill pond area with uncontaminated soil from pond walls. Pond area will be reclaimed to natural elevations and water flow patterns. All stockpiled strippings will be put down last to ensure ground has been completely returned to native design.	11,000		2.00	22,000.00

Fence removal and disposal Fence estimated at 1,010 ft This includes removal of all posts, braces, wire, fabric, gates, and hardware.	1,010	4.00	4,040.00

Preferred payment method: ACH/Wire
Email AR@cascadeservicesllc.com for ACH/Wire details.

Remit Checks To:
Cascade Services LLC
PO Box 200954
Dallas, TX 75320-0954
**THIS ESTIMATE IS SUBJECT TO THE TERMS & CONDITIONS ATTACHED.

**If pumping is needed due to weather conditions, a $350 daily fee will be charged on final invoice.

**Materials will be invoiced upon receipt of customer purchase order or job approval.

**This estimate may not include tax and may be added on invoice unless customer provides a valid tax exemption document.

Questions? Email AR@Cascadeservicesllc.com

SUBTOTAL	70,665.00
TAX	0.00
TOTAL	**$70,665.00**

Accepted By

Accepted Date

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Recycling Containment Design Drawings

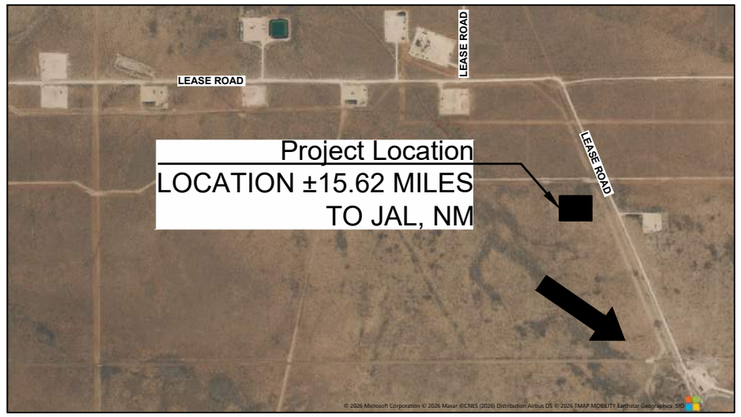
SquareRoot services
Engineering | Surveying
Materials Testing
7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

CIVIL PLANS

CASCADE SERVICES

LEX RECYCLE FACILITY

SECTION 31, TOWNSHIP 23 SOUTH, RANGE 35 EAST
N.M.P.M., LEA COUNTY, NEW MEXICO
N32°15'48.79" W103°24'44.12"



VICINITY MAP
N.T.S.

INDEX OF SHEETS		
SHEET	NAME	DESCRIPTION
1	C-100	COVER SHEET
2	C-101	GENERAL NOTES
3	SU-101	TOPOGRAPHIC SURVEY
4	CS-100	EXISTING SITE FEATURES
5	CS-101	CIVIL SITE PLAN
6	CS-102	MASTER LAYOUT
7	CS-103	FENCE LAYOUT
8	CS-104	CONTAINMENT WEST TO EAST P&P
9	CS-105	CONTAINMENT NORTH TO SOUTH P&P
10	CS-106	VOLUME QUANITITES
11	CS-501	LEAK DETECTION DETAILS
12	CS-502	LINER DETAILS
13	CS-503	FENCE DETAILS

nm811 Know what's below. Call before you dig.

(505)-254-7310

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER
04/07/2026

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 35 of 74

GENERAL NOTES
1. NEW MEXICO ADMINISTRATIVE CODE TITLE 19, CHAPTER 15, PART 34, DESIGN CRITERIA FOR RECYCLING CONTAINMENTS SHALL APPLY TO THIS PROJECT.
2. ALL BOUNDARY, TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ARE BASED ON SURVEY INFORMATION FURNISHED BY TOPOGRAPHIC.
3. THE CONTRACTOR SHALL IDENTIFY AND LOCATE UTILITY LINES, MONITORING WELLS, SURVEY MONUMENTS, AND OTHER NEARBY STRUCTURES PRIOR TO PERFORMING WORK.
4. COORDINATE INFORMATION IS BASED ON STATE PLANE COORDINATES, NEW MEXICO EAST, NAD 83.
5. THE CONTRACTOR SHALL IDENTIFY ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION AND CONTACT THE ENGINEER IN WRITING.
6. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN BEST MANAGEMENT PRACTICES (BMPS) TO MINIMIZE EROSION AND CONTROL SEDIMENT TO PROTECT SURFACE WATER QUALITY DURING STORM EVENTS.

EARTHWORK NOTES
1. THE CONTRACTOR SHALL USE WATER FOR COMPACTION AT ALL TIMES. THE CONTRACTOR SHALL ENSURE THEIR BID INCLUDES CONSTRUCTION WATER. NO EARTHWORK OPERATIONS SHALL TAKE PLACE IF CONSTRUCTION WATER IS NOT AVAILABLE ONSITE.
2. THE CONTRACTOR SHALL BUILD THE LEVEES USING COMPACTED LAYERS. UNCONTROLLED AND INCONSISTENT PUSHING AND PILING OF MATERIAL FOR LEVEE CONSTRUCTION IS NOT ACCEPTABLE. THE CONTRACTOR SHALL DEVELOP A SUCCESSFUL COMPACTION PATTERN EARLY IN THE PROCESS, VERIFIED THROUGH NUCLEAR DENSITY OR SAND CONE TESTING, AND SHALL MAINTAIN CONSISTENCY IN THE COMPACTIVE EFFORT AS LONG AS THE MATERIALS ENCOUNTERED REMAINS CONSISTENT. IF ONSITE SOILS ENCOUNTERED CHANGE, THE CONTRACTOR SHALL DEVELOP A NEW COMPACTION PATTERN.
3. FILL FOR LEVEES SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS WITH MAXIMUM LOOSE LIFT THICKNESS OF 10 INCHES, OR AS DIRECTED BY ENGINEER. CONSTRUCT EACH LAYER CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF THE LEVEE. FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY DETERMINED BY THE ASTM D698 AND AT MOISTURE CONTENT WITHIN +2% TO -2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY A STANDARD PROCTOR SOILS TEST ON SAMPLES FROM THE SOURCE AREA.
4. FILL SHALL NOT BE PLACED AND COMPACTED WHEN THE MATERIALS ARE TOO WET TO PROPERLY COMPACT. MATERIAL WHICH IS TOO WET SHALL BE SPREAD ON THE FILL AREA AND PERMITTED TO DRY, ASSISTED BY HARROWING IF NECESSARY, UNTIL THE MOISTURE CONTENT IS REDUCED TO ALLOWABLE LIMITS. IF THE ENGINEER DETERMINED THAT ADDED MOISTURE IS REQUIRED, WATER SHALL BE APPLIED UNIFORMLY OVER THE AREA TO BE TREATED, AND GIVE COMPLETE AND ACCURATE CONTROL OF THE AMOUNT OF WATER TO BE USED. IF TOO MUCH WATER IS ADDED, THAT AREA SHALL BE PERMITTED TO DRY BEFORE COMPACTION IS CONTINUED.
5. PERFORM ONE NUCLEAR DENSITY GAGE TEST PER 2500 CY MINIMUM OR AS DIRECTED BY THE ENGINEER.
6. EARTHWORK CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF THE FINISHED COMPACTED POND BOTTOM AND SIDE SLOPES BEFORE HDPE LINER INSTALLATION, REMOVING ALL DEBRIS, SHARP OBJECTS AND GRAVEL LARGER THAN 3/4 INCH.
7. EARTHWORK CONTRACTOR SHALL ROLL SURFACE WITH A SMOOTH ROLLER TO ELIMINATE RUTS.

LINER NOTES
1. LINER CONTRACTOR SHALL INSPECT GRADED SURFACE FOR DEBRIS, ROCKS OR OTHER MATERIAL THAT MAY DAMAGE THE LINER AND COORDINATE WITH OWNER IF ADDITIONAL SUBGRADE RESURFACING IS NEEDED PRIOR TO PERFORMING WORK.
2. LINER CONTRACTOR TO PROVIDE SUBMITTAL OF LINER PANEL LAYOUT.
3. LINER CONTRACTOR TO SIGN SUBGRADE ACCEPTANCE FORM (PROVIDED BY OWNER REPRESENTATIVE) DAILY PRIOR TO INSTALLATION.
4. LINER TO BE INSTALLED PER GRI SPECIFICATIONS, GUIDES AND PRACTICES.
5. CONTRACTOR SHALL PLACE SANDBAGS ON LINER DURING INSTALLATION AS REQUIRED TO PREVENT WIND UPLIFT UNTIL POND IS FILLED TO A DEPTH OF 3 FEET.
6. CONTRACTOR SHALL USE BLACK 60 MIL HDPE SMOOTH GEOMEMBRANE AS THE PRIMARY LINER AND BLACK 40 MIL HDPE SMOOTH GEOMEMBRANE AS THE SECONDARY LINER.
7. A 3' DIAMETER MINIMUM PIECE OF 40MIL LINER SHALL BE EXTRUDED WELDED WHERE THE PIE SHAPED CORNER SECTIONS MEET FOR SEAM REINFORCEMENT.
8. INSTALL A FULL DOUBLE WIDTH SECTION OF BLACK OR WHITE 60 MIL TEXTURED HDPE GEOMEMBRANE RUB SHEET. EXTRUDE WELD TO LINER. WELDS SHALL BE 2" LONG AND SPACED EVERY 12" ALONG BOTH SIDES OF THE SHEET. DO NOT WELD END EDGES. SECTION SHALL EXTEND FROM SUMP AND INSTALLED INTO LINER ANCHOR TRENCH AS SHOWN.
9. LINER SHALL BE PROTECTED WITH A 8 OZ. NONWOVEN GEOTEXTILE IF ROCK OR OTHER ANGULAR MATERIALS WITH A DIMENSION GREATER THAN 3/4 INCH ARE PRESENT.
10. SUMPS SHALL BE BACKFILLED WITH NON-ANGULAR MAXIMUM 3/8 INCH SIZED PEA GRAVEL.
11. ALL SEAMS MUST BE WELDED WITH A 6" MINIMUM OVERLAP.
12. CONTRACTOR SHALL NON-DESTRUCTIVELY TEST ALL SEAMS THEIR FULL LENGTH USING AN AIR PRESSURE OR VACUUM TEST, THE PURPOSE OF THIS TEST IS TO CHECK THE CONTINUITY OF THE SEAM.
13. FOR AIR PRESSURE TESTING (ASTM 5820), THE FOLLOWING PROCEDURES ARE APPLICABLE TO THE SEAMS WELD WITH DOUBLE SEAM FUSION WELDER.
    a. THE EQUIPMENT USED SHALL CONSIST OF AN AIR TANK OR PUMP CAPABLE OF PRODUCING A MINIMUM 35 PSI AND A SHARP NEEDLE WITH A PRESSURE GAUGE ATTACHED TO INSERT INTO THE AIR CHAMBER.
    b. SEAL BOTH ENDS OF THE SEAM BY HEATING AND SQUEEZING THEM TOGETHER. INSERT THE NEEDLE WITH THE GAUGE INTO THE AIR CHANNEL. PRESSURIZE THE AIR CHANNEL TO A MINIMUM OF 35 PSI. NOTE TIME STARTS AND WAIT A MINIMUM OF 5 MINUTES TO CHECK. IF PRESSURE AFTER 5 MINUTES HAD DROPPED LESS THAN 2 PSI THE TEST IS SUCCESSFUL (THICKNESS OF MATERIAL MAY CAUSE VARIANCE).
    c. CUT OPPOSITE SEAM END AND LISTEN FOR PRESSURE RELEASE TO VERIFY FULL SEAM HAS BEEN TESTED.
    d. IF THE TEST FAILS, FOLLOW THESE PROCEDURES.
        I. WHILE CHANNEL IS UNDER PRESSURE WALK THE LENGTH OF THE SEAM LISTENING FOR A LEAK.
        II. WHILE CHANNEL IS UNDER PRESSURE APPLY A SOAPY SOLUTION TO THE SEAM EDGE AND LOOK FOR BUBBLES FORMED BY AIR ESCAPING.
        III. RE-TEST THE SEAM IN SMALLER INCREMENTS UNTIL THE LEAK IS FOUND.
    e. ONCE LEAK IS FOUND USING ONE OF THE PROCEDURES ABOVE, CUT OUT THE AREA AND RETEST THE PORTIONS OF THE PORTIONS OF THE SEAMS BETWEEN THE LEAK AREAS PER 6A AND 6B ABOVE. CONTINUE THIS PROCEDURE UNTIL ALL SECTIONS OF THE SEAM PASS THE PRESSURE TEST.
    f. REPAIR THE LEAK WITH A PATCH AND VACUUM TEST.
14. ALL NON-DESTRUCTIVE TESTS WILL BE NOTED IN THE NON-DESTRUCTIVE LOGS.
15. LINER GAS VENTS SHALL BE SPACED ALONG THE INSIDE SLOPE AT APPROXIMATELY 100 FEET ON CENTER OR MINIMUM 2 VENTS PER SIDE.
16. WHEN ANY PIPING EQUIPMENT, INLET, OR OUTLET IS IN DIRECT CONTACT WITH THE LINER, AN APRON CONSISTING OF 60 MIL HDPE MATERIAL SHALL BE INSTALLED BENEATH THE EQUIPMENT OR STRUCTURE TO PROTECT THE PRIMARY LINER.
17. LAY BOTH LINERS IN ANCHOR TRENCH. BACKFILL ANCHOR TRENCH IN 2 LIFTS AND COMPACT.

SUGGESTED CONSTRUCTION SEQUENCE
1. CLEAR EXISTING VEGETATION.

2. STRIP AND STOCKPILE TOPSOIL AT THE LOCATION DESIGNATED ON THESE PLANS.

3. PERFORM EARTHWORK OPERATIONS:
   3.1. CONSTRUCT STORMWATER DIVERSION CHANNEL.
   3.2. PERFORM RIPPING/EXCAVATING OPERATIONS.
   3.3. REPLACE EXCAVATED MATERIAL IN COMPACTED LAYERS ON THE LEVEE/PAD IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS.
   3.4. FINISH SLOPES USING A SMOOTH ROLLER.
   3.5. DIG ANCHOR TRENCH.

4. INSTALL NEW GAME FENCE AND GATES.

5. INSTALL GEOMEMBRANES:
   5.1. INSTALL GEOTEXTILE AS NEEDED, SECONDARY LINER, GEONET, LEAK DETECTION SYSTEM AND PRIMARY LINER.
   5.2. INSTALL RUB SHEETS AND WATER LEVEL GAGE/LADDER.
   5.3. BACKFILL AND COMPACT ANCHOR TRENCH.

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
GENERAL NOTES
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
M. SEALY

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

04/07/2026

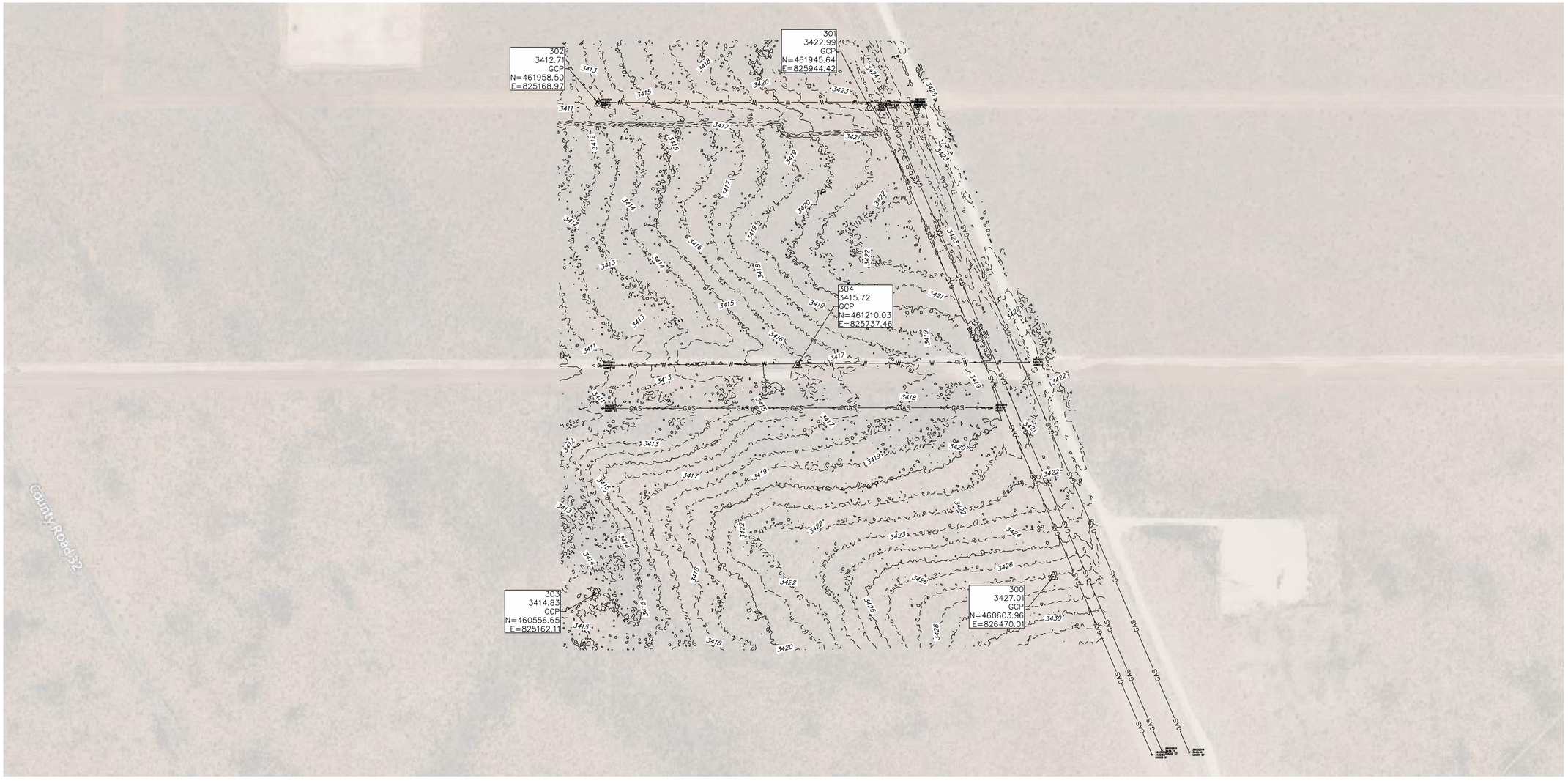
SHEET:
2 of 13
C-101

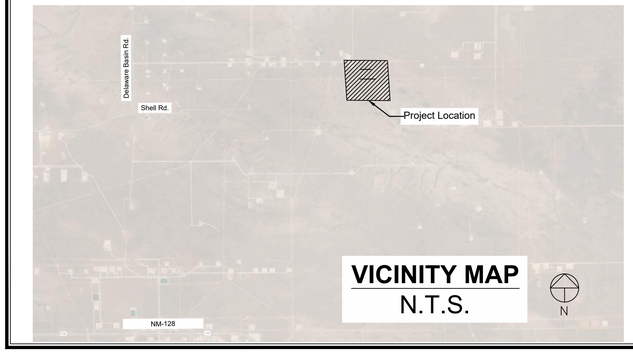
Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 36 of 74

TOPOGRAPHIC SURVEY

of LEX RECYCLE FACILITY





VICINITY MAP

N.T.S.

I, JEREMY BAKER, NEW MEXICO PROFESSIONAL SURVEYOR NO. 25773, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS A TOPOGRAPHIC SURVEY PLAT OF AN EXISTING TRACT OR TRACTS.

Jeremy Baker, N.M. P.S 25773 — 04/07/2026 Date

SURVEYOR NOTE

THIS IS NOT A BOUNDARY SURVEY OR A RIGHT-OF-WAY SURVEY. APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES AS SHOWN ARE DERIVED FROM RECORD SURVEY PLATS, RIGHT-OF-WAY MAPS, OR DEEDS REFERENCED HEREON AND ARE NOT GUARANTEED OR TO BE RELIED ON FOR THE ESTABLISHMENT OF PROPERTY LINES.

UTILITY NOTE

UTILITIES DEPICTED WERE OBTAINED THROUGH EVIDENCE: FROM FIELD OBSERVATIONS, PLANS AND/OR REPORTS PROVIDED BY THE CLIENT, AND MARKINGS COORDINATED BY THE NEW MEXICO 811. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURE CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

TOPOGRAPHIC NOTE

THE TOPOGRAPHY SHOWN HEREIN IS A COMBINATION OF UAV DATA AND CONVENTIONAL/GPS DATA. THE UAV DATA WAS GENERATED USING INDUSTRY STANDARD QUALITY CHECKS AND IS **WITHIN** THE INDUSTRY RECOGNIZED GROUND SAMPLING DISTANCE (GSD) STANDARD OF BELOW 2.5 CM (1 IN / 0.08 FT). THE ABSOLUTE ACCURACY LEVEL IN STANDARD UAV DATA IS EQUAL TO 3 X GSD (3 X 0.08 FT = 0.24 FT). UAV DATA WAS USED FOR MEASUREMENTS ON NATURAL GROUND AND SUPPLEMENTAL FEATURES.

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

TYPE OF SURVEY:
TOPOGRAPHIC SURVEY

PROJECT NAME:
LEX RECYCLE FACILITY

CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT SURVEYOR:
Jeremy Baker, PS

DRAWN BY:
C. Jimenez

GRAPHIC SCALE
0 150' 300'
SCALE: 1" = 150'
(IN FEET)

LEGEND

- 2601215170.00 GCP N=390590.26 E=772336.31 — CONTROL POINT AS NOTED
- GAS — UNDERGROUND GAS
- W — UNDERGROUND WATER LINE
- MINOR CONTOUR (5FT)
- MINOR CONTOUR (5FT)
- EXISTING SECTION
- 3660 — CONTOUR ELEVATION

REVISIONS

No.	DATE	DESCRIPTION

JEREMY E. BAKER NEW MEXICO 25773 PROFESSIONAL SURVEYOR

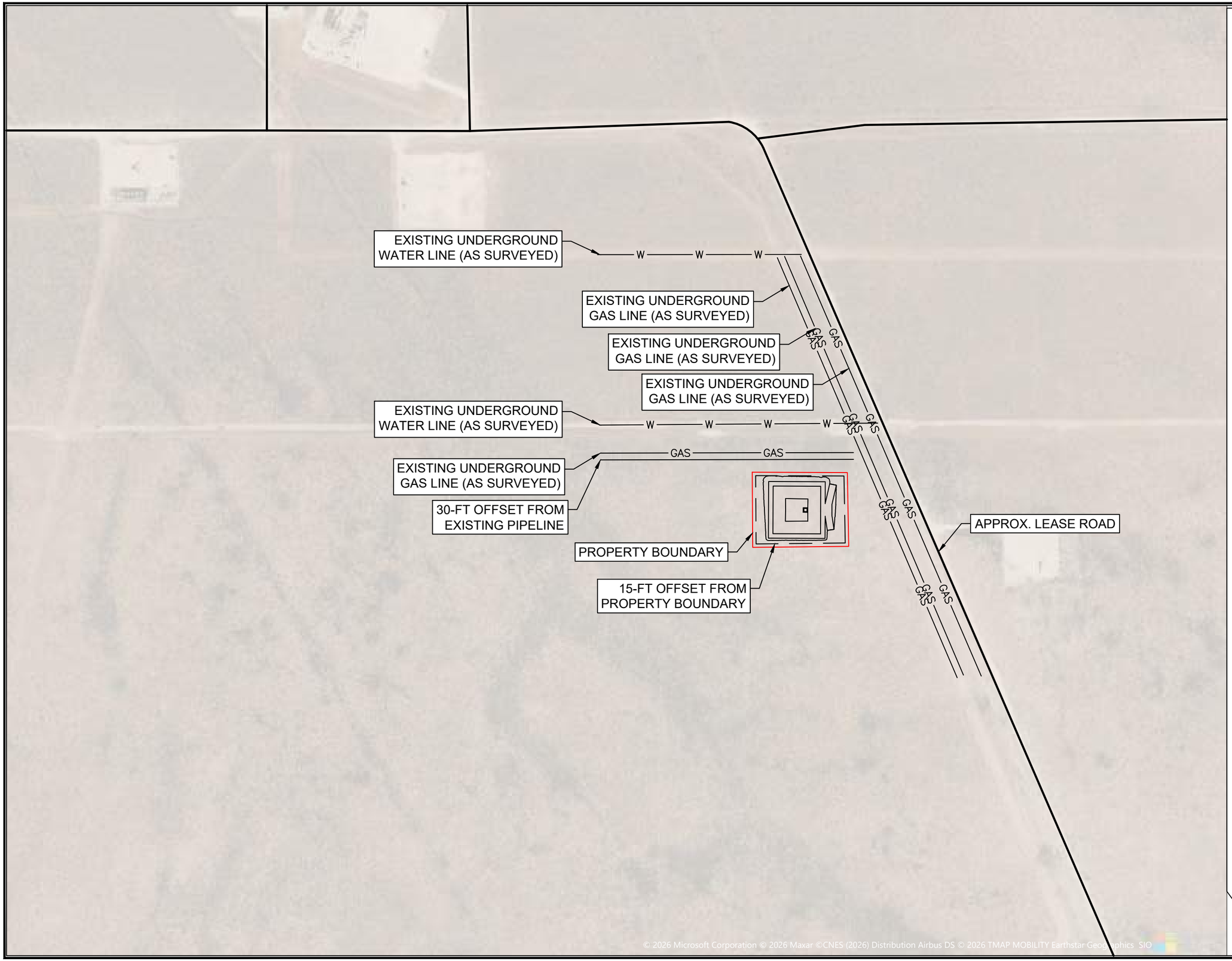
SHEET: 3 of 13

SU - 101

C:\Users\JuanDominguez\OneDrive - squarerootservices.net\SRS Project's files - Projects\26101 Cascades LEX Survey\Survey\DWG\26101 Cascade LEX Survey.dwg 4/7/2026 9:36 AM

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:46:51 AM

Page 37 of 74



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
EXISTING SITE FEATURES
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 200' 400'
SCALE: 1" = 400'
(IN FEET)

N

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

04/07/2026

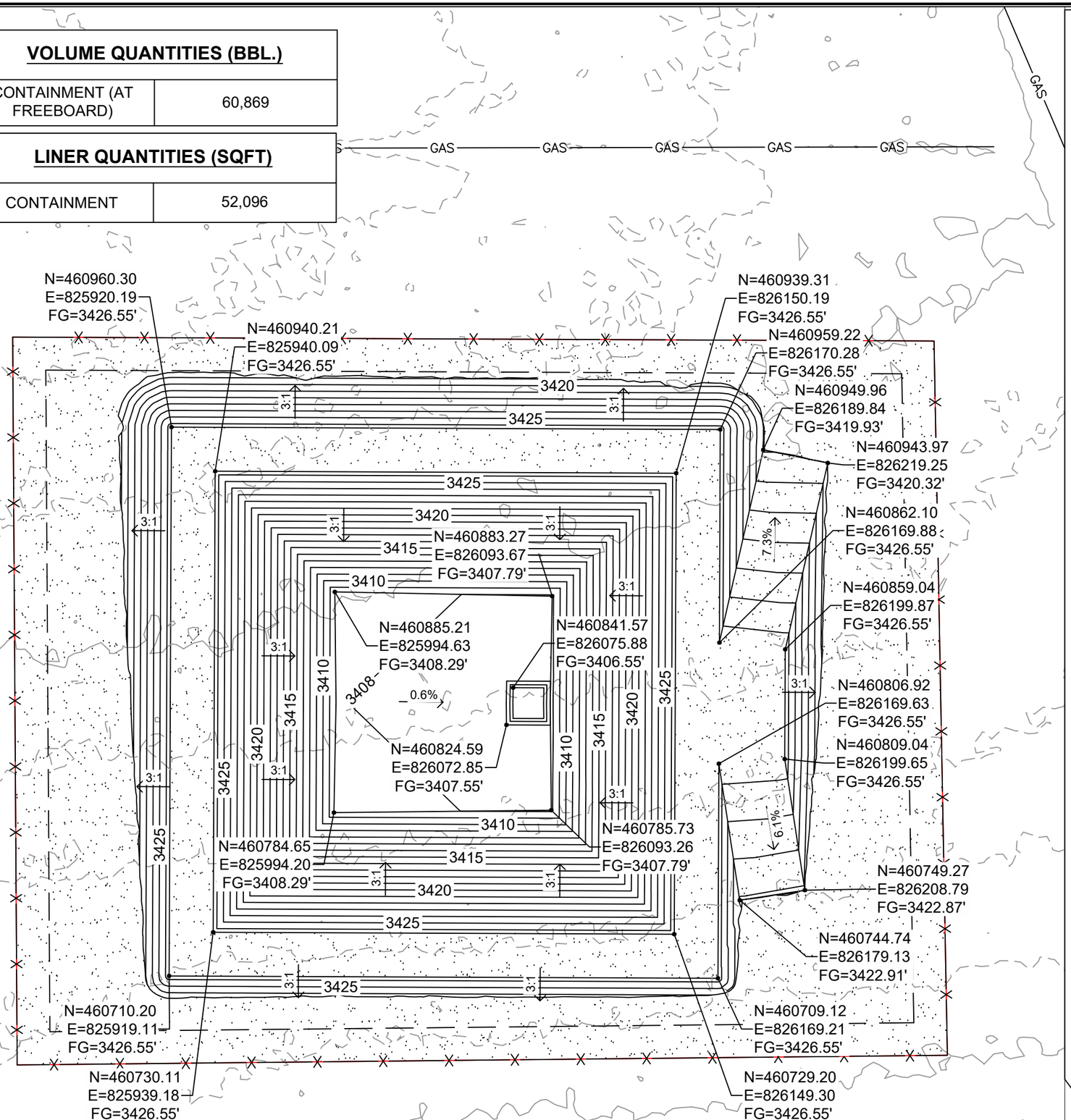
SHEET:
4 of 13
CS-100

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

EARTHWORK (CU.YD.)	
CUT	9,451
*FILL	8,919
NET	502 CUT
*FILL FACTOR USED FOR THIS PROJECT IS 1.15	

VOLUME QUANTITIES (BBL.)	
CONTAINMENT (AT FREEBOARD)	60,869

LINER QUANTITIES (SQFT)	
CONTAINMENT	52,096



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
CIVIL SITE PLAN
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 25' 50'
SCALE: 1" = 50'
(IN FEET)

REVISIONS

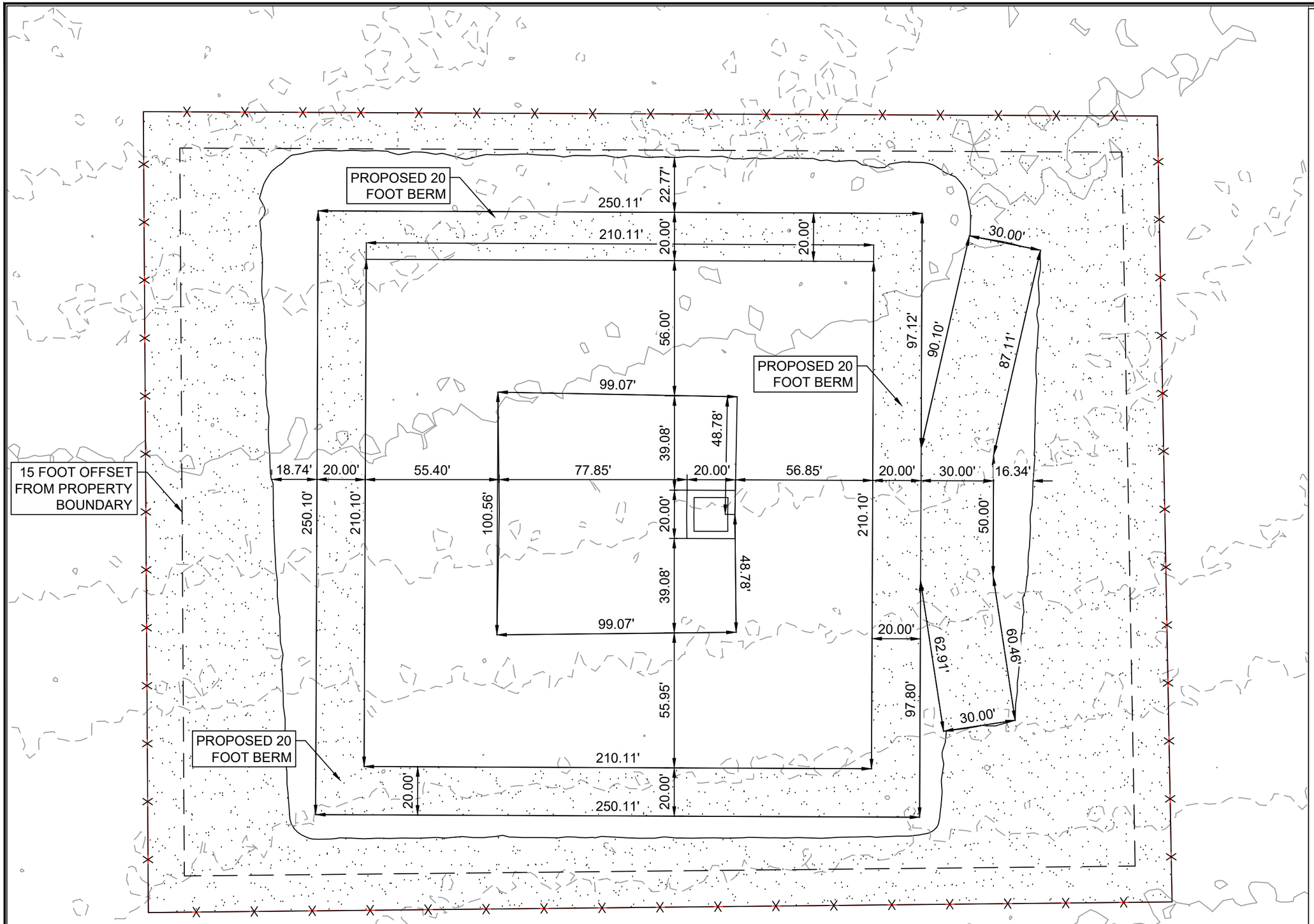
No.	DATE	DESCRIPTION

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

04/07/2026

SHEET:
5 of 13
CS-101

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
MASTER LAYOUT
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 20' 40'
SCALE: 1" = 40'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

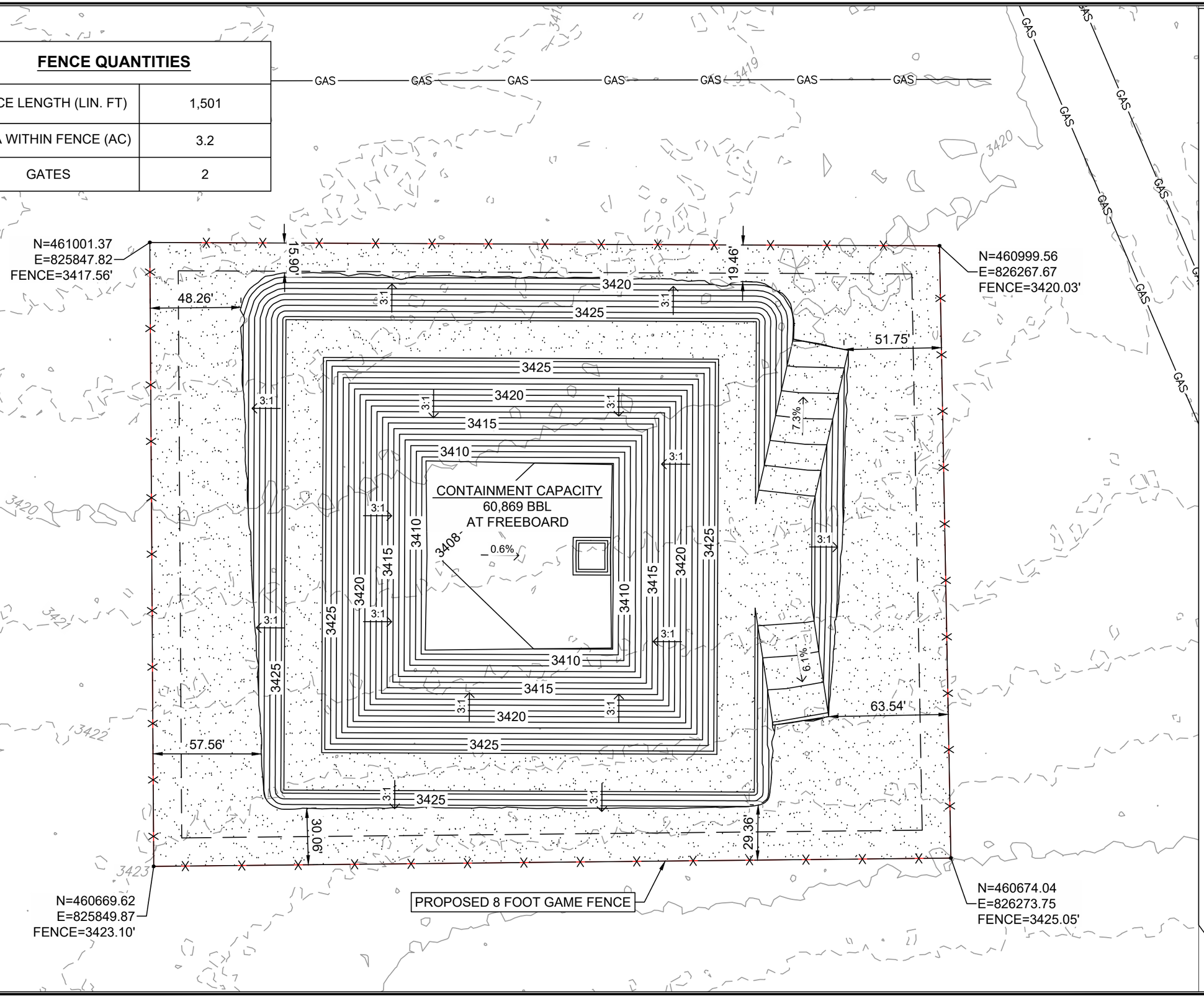
JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

04/07/2026

SHEET:
6 of 13
CS-102

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

FENCE QUANTITIES	
FENCE LENGTH (LIN. FT)	1,501
AREA WITHIN FENCE (AC)	3.2
GATES	2



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
FENCE LAYOUT
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 25' 50'
SCALE: 1" = 50'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

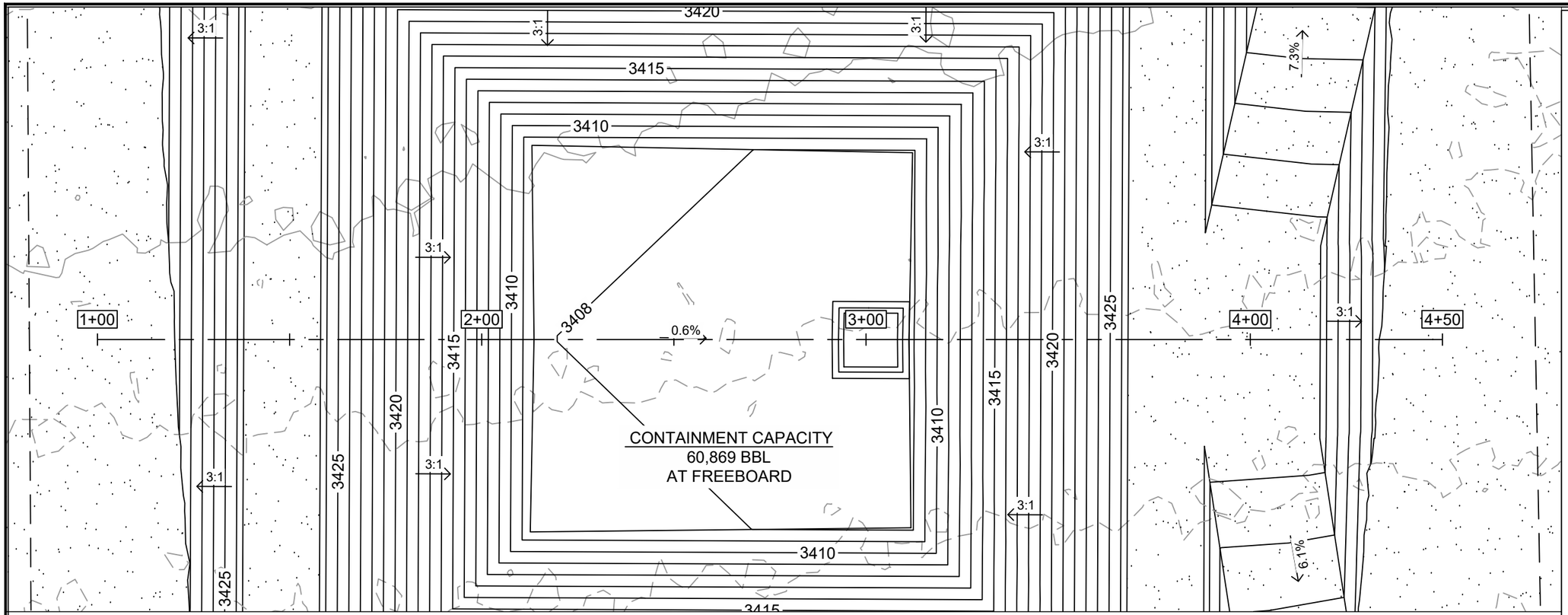
JEREMY BAKER
NEW MEXICO
16207
LICENSED
PROFESSIONAL ENGINEER

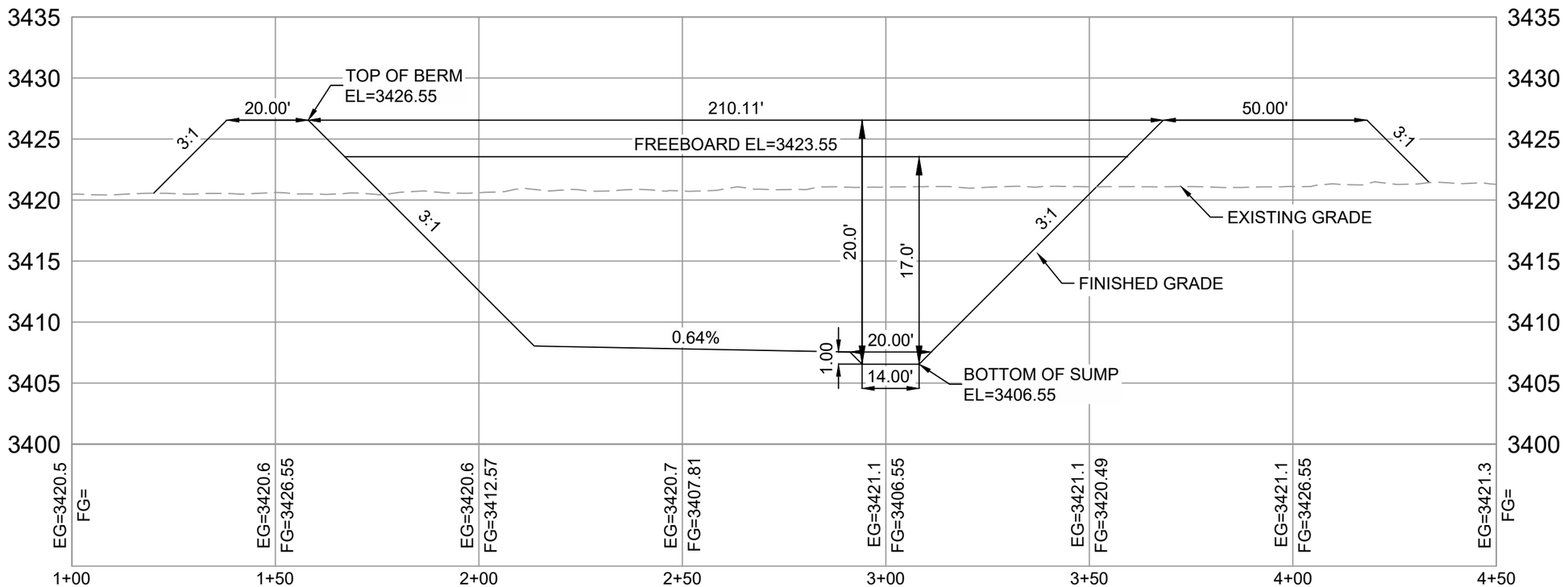
04/07/2026

SHEET:
7 of 13
CS-103

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 41 of 74





SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
CONTAINMENT WEST TO EAST P&P
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 15' 30'
SCALE: 1" = 30'
(IN FEET)
GRAPHIC SCALE
VERTICAL
0 5 10'
SCALE: 1" = 10'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

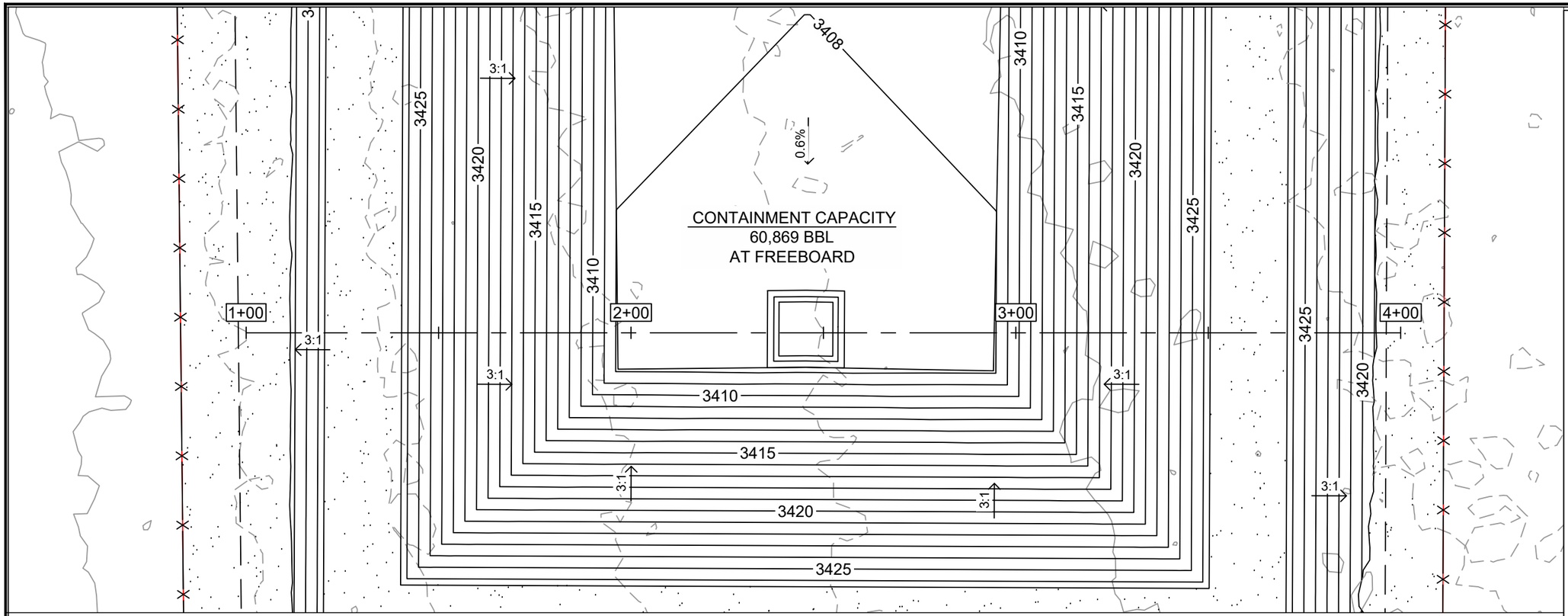
JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

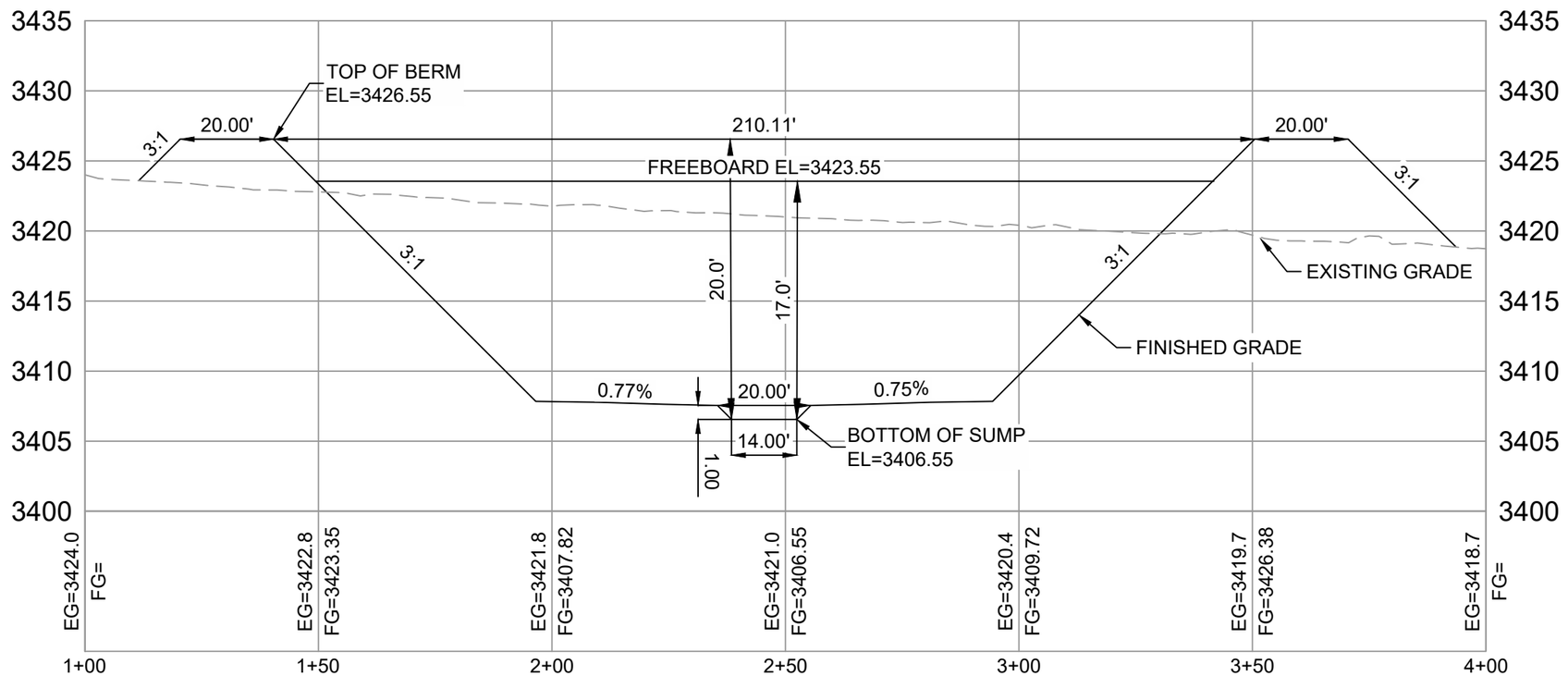
04/07/2026

SHEET:
8 of 13
CS-104

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 42 of 74





SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
CONTAINMENT NORTH TO SOUTH P&P
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

GRAPHIC SCALE
0 15' 30'
SCALE: 1" = 30'
(IN FEET)
GRAPHIC SCALE VERTICAL
0 5' 10'
SCALE: 1" = 10'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

04/07/2026

SHEET:
9 of 13
CS-105

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 43 of 74

CONTAINMENT VOLUME

ELEVATION (FT)	CONTAINMENT DEPTH (FT)	REMAINING STORAGE (FT)	REMAINING STORAGE VOL (FT3)	REMAINING STORAGE VOL (GAL)	REMAINING STORAGE VOL (BBL)	PERCENT OF TOTAL VOL (%)	VOL IN CONTAINMENT (FT3)	VOL IN CONTAINMENT (GAL)	VOL IN CONTAINMENT (BBL)	VOL IN CONTAINMENT (AC-FT)	PERCENT OF TOTAL VOL (%)	
3,426.55	0	20	0	-	-	0%	463,165	3,464,935	82,487	10.63	100%	
3,425.55	1	19	42,895	320,901	7,639	9%	420,269	3,144,035	74,848	9.65	91%	FREEBOARD
3,424.55	2	18	83,342	623,479	14,843	18%	379,823	2,841,456	67,644	8.72	82%	
3,423.55	3	17	121,385	908,083	21,618	26%	341,780	2,556,852	60,869	7.85	74%	MAX VOLUME
3,422.55	4	16	157,174	1,175,821	27,992	34%	305,990	2,289,115	54,495	7.02	66%	
3,421.55	5	15	190,705	1,426,664	33,963	41%	272,460	2,038,271	48,524	6.25	59%	
3,420.55	6	14	222,074	1,661,339	39,550	48%	241,090	1,803,596	42,937	5.53	52%	
3,419.55	7	13	251,355	1,880,386	44,765	54%	211,810	1,584,550	37,722	4.86	46%	
3,418.55	8	12	278,618	2,084,342	49,620	60%	184,547	1,380,593	32,867	4.24	40%	
3,417.55	9	11	303,936	2,273,747	54,129	66%	159,228	1,191,188	28,358	3.66	34%	
3,416.55	10	10	327,381	2,449,141	58,305	71%	135,783	1,015,795	24,182	3.12	29%	
3,415.55	11	9	349,026	2,611,062	62,160	75%	114,139	853,874	20,328	2.62	25%	
3,414.55	12	8	368,941	2,760,047	65,706	80%	94,224	704,888	16,781	2.16	20%	
3,413.55	13	7	387,199	2,896,637	68,958	84%	75,966	568,299	13,529	1.74	16%	
3,412.55	14	6	403,872	3,021,370	71,927	87%	59,292	443,565	10,560	1.36	13%	
3,411.55	15	5	419,033	3,134,786	74,627	90%	44,132	330,150	7,860	1.01	10%	
3,410.55	16	4	432,752	3,237,421	77,071	93%	30,412	227,514	5,416	0.70	7%	FLOOR
3,409.55	17	3	445,103	3,329,816	79,270	96%	18,062	135,119	3,217	0.41	4%	VOLUME
3,408.55	18	2	456,157	3,412,510	81,239	98%	7,008	52,426	1,248	0.16	2%	
3,407.55	19	1	462,873	3,462,752	82,435	100%	292	2,183	52	0.01	0%	
3,406.55	20	0	463,165	3,464,935	82,487	100%	0	0	0	0.00	0%	SUMP VOLUME

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
VOLUME QUANITITES
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

REVISIONS

No.	DATE	DESCRIPTION

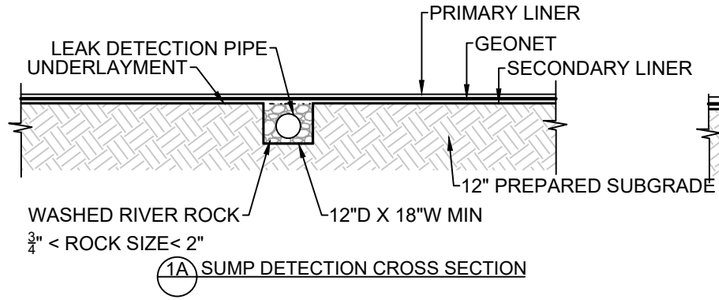
JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

04/07/2026

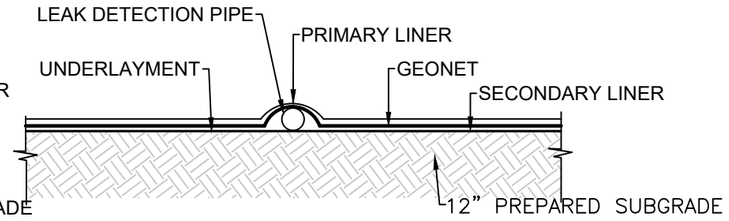
SHEET:
10 of 13
CS-106

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

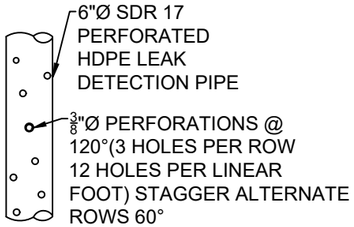
Page 44 of 74



1A SUMP DETECTION CROSS SECTION



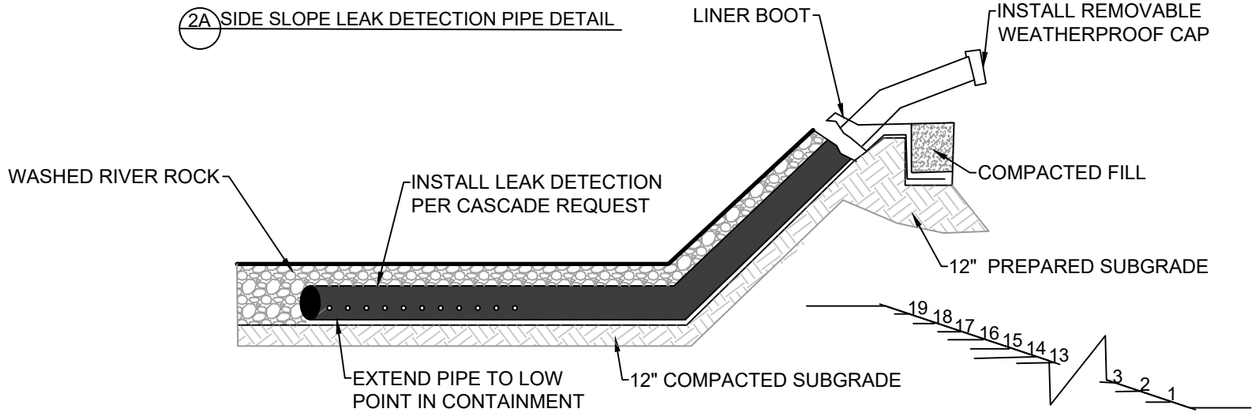
2A SIDE SLOPE LEAK DETECTION PIPE DETAIL



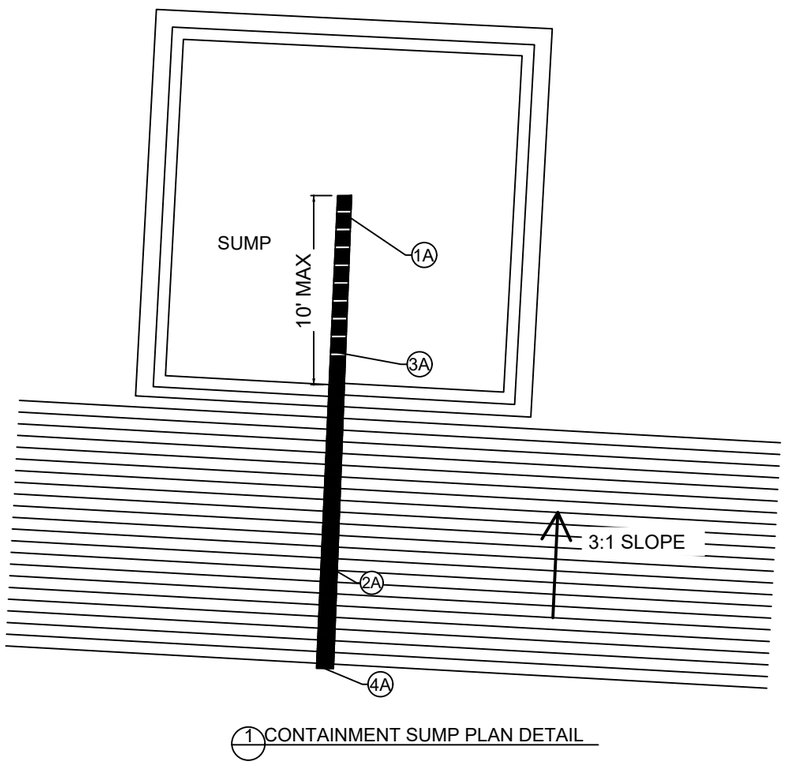
3A PERFORATED PIPE DETAIL

NOTES:

1. LEAK DETECTION SYSTEM TO BE INSTALLED BY OWNER.
2. PERFORATED PIPE TO BE ALONG THE BOTTOM OF THE CONTAINMENT. SOLID PIPE ON THE SIDE SLOPE.
3. CONSTRUCT COMPACTED SUBGRADE TO 95% STANDARD PROCTOR AS PER ASTM D-698
4. EXTEND 60 MIL RUB SHEET 1.0-FT PAST TOP OF SHOULDER OF SUMP.
5. WASHED RIVER ROCK SHALL BE ¾" MIN @ 2" MAX.



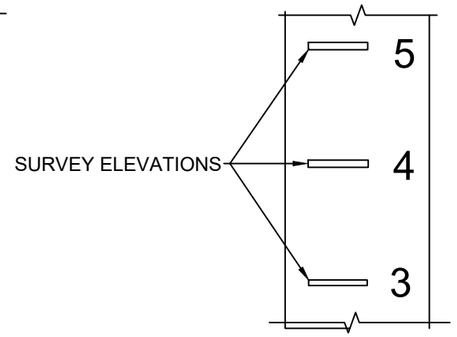
4A LEAK DETECTION/SAMPLING SYSTEM PROFILE



1 CONTAINMENT SUMP PLAN DETAIL

NOTE:

1. LEVEL MARKS TO BE LOCATED BY SURVEYOR
2. MARKS TO BE MADE BY AN EXTRUSION WELDER USING BLACK FILAMENT (OR WHITE FILAMENT ON BLACK LINER)
3. MARKS WILL BE DETERMINE ON THE FIELD BY THE OWNER AND CONTINUE TO THE TOP OF THE BERM.
4. REFERENCE PIT CAPACITY TABLES FOR ACCURATE ELEVATIONS.



2 WATER LEVEL MARKS

PROPOSED PIT REFERENCE TABLE	
DETAIL	DESCRIPTION
PRIMARY LINER	60 MIL HDPE LINER
LEAK DETECTION	200 MIL GEONET
SECONDARY LINER	40 MIL HDPE LINER
UNDERLAYMENT	COMPACTED SUBGRADE/10 OZ GEOTEXTILE
CONTAINMENT	
BOTTOM OF POND	3,406.55'
BERM (ROAD CREST)	3,426.55'
LEAK DETECTION PIPING	6-IN DR11 X PERFORATED HDPE PIPE LEAK DETECTION PIPE

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
LEAK DETECTION DETAILS
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
C. JIMENEZ

REVISIONS

No.	DATE	DESCRIPTION

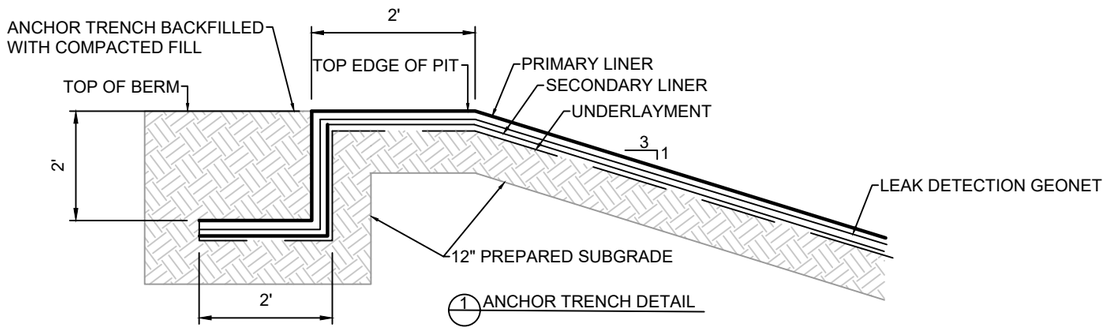
JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

04/07/2026

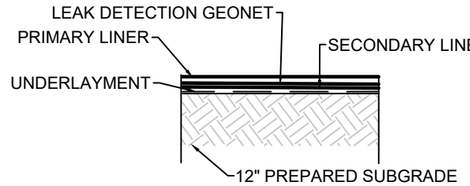
SHEET:
11 of 13
CS-501

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

Page 45 of 74



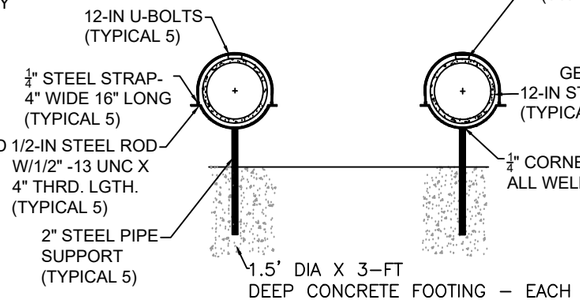
1 ANCHOR TRENCH DETAIL



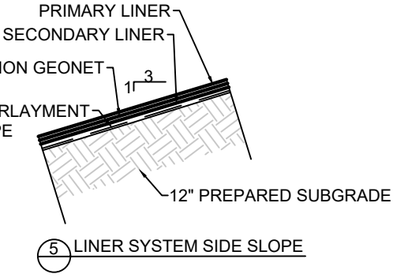
4 LINER SYSTEM FLOOR DETAIL

GENERAL NOTES:

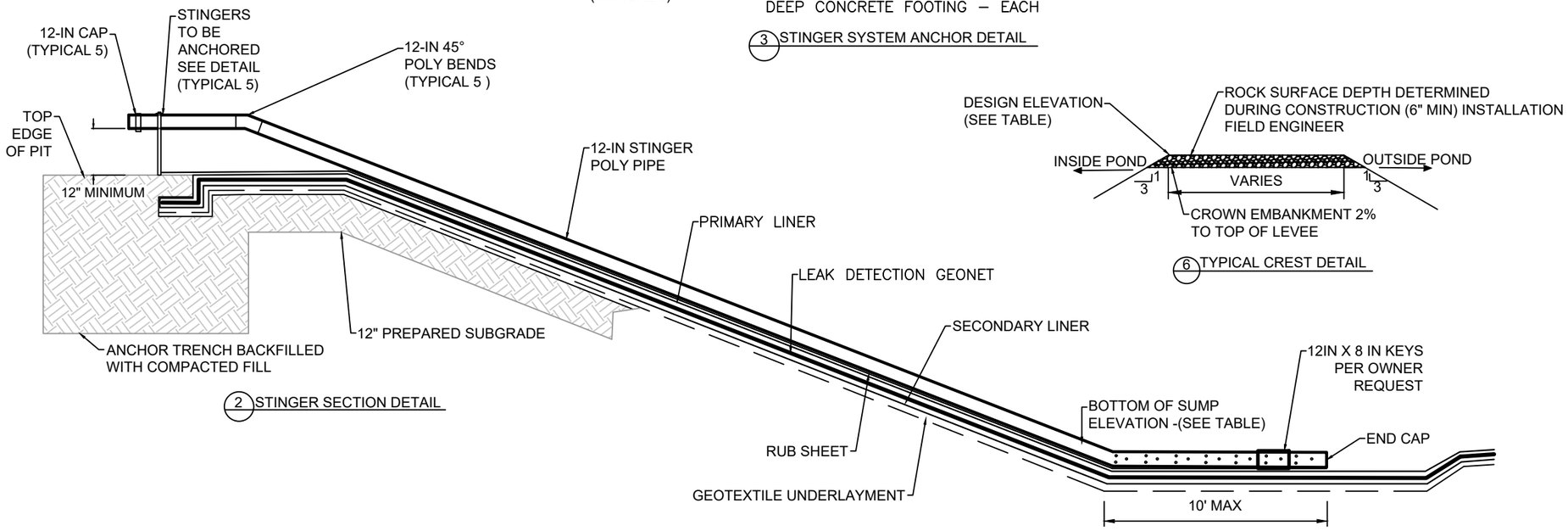
1. PREPARED SUBGRADE MEANS COMPACTED SMOOTH SUBGRADE FREE OF ROCK, ROOTS, WOOD DEBRIS, CONCRETE RUBBLE AND ANY SHARP OBJECTS THAT MAY PUNCTURE THE HDPE LINER, A MINIMUM COMPACTED DEPTH OF 12".
2. ALL INTERIOR SLOPES AND TOP OF BERMS TO BE SMOOTH DRUM ROLLED
3. ALL EMBANKMENT SLOPES SHALL HAVE A SLOPE (H:V RATIO) OF 3:1.
4. AT LEAST 3 FEET OF NATURAL OR PROCESSED CLAY AND OTHER SOILS, PLACED IN SIX-INCH LIFTS AND COMPACTED TO 95% STANDARD PROCTOR; ASTM D-698
5. PERFORM GEOTECHNICAL ANALYSIS ON EXISTING SOIL TO CONFIRM SOIL IS SUITABLE FOR USE IN THE LEVEE.
6. LINER SPECIFICATIONS PROVIDED ON SHEET CS - 501



3 STINGER SYSTEM ANCHOR DETAIL



5 LINER SYSTEM SIDE SLOPE



2 STINGER SECTION DETAIL

6 TYPICAL CREST DETAIL

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
LINER DETAILS
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
M. SEALY

REVISIONS

No.	DATE	DESCRIPTION

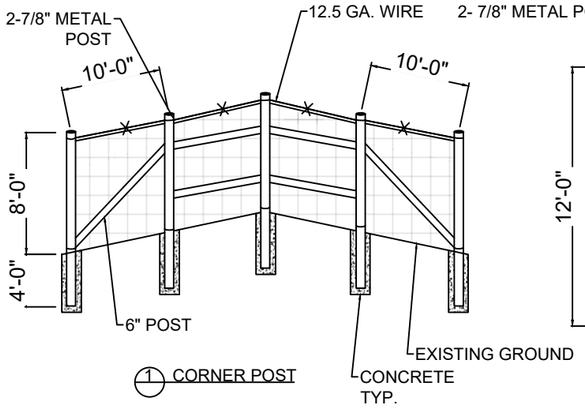
JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

04/07/2026

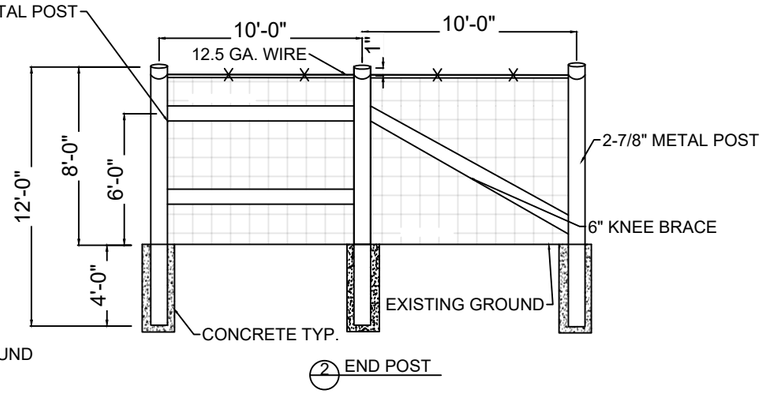
SHEET:
12 of 13
CS-502

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

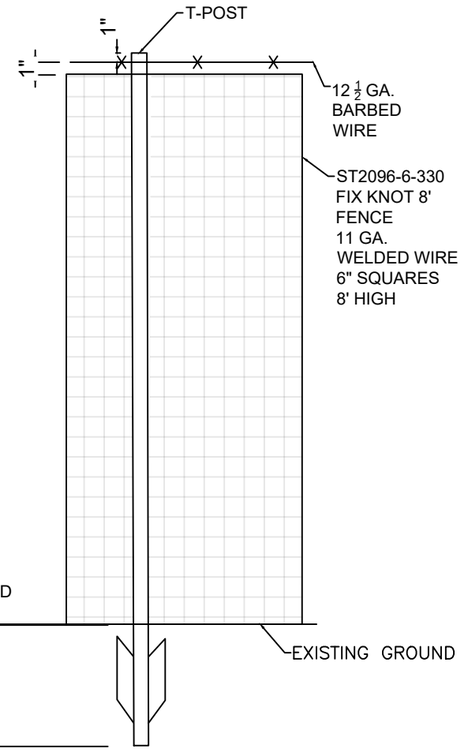
Page 46 of 74



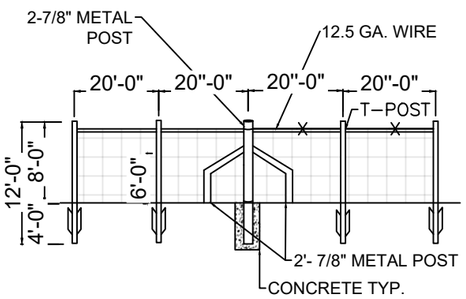
1 CORNER POST



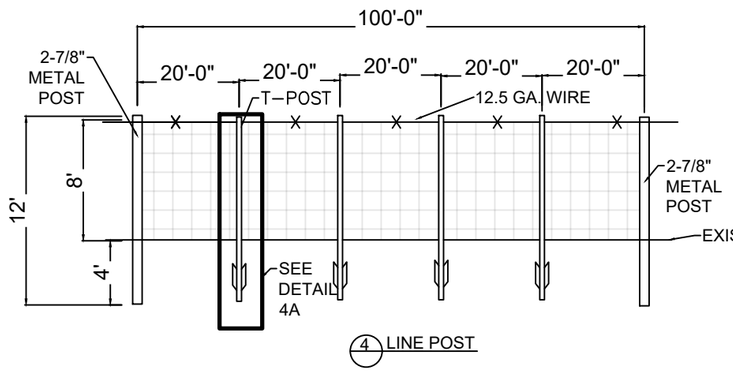
2 END POST



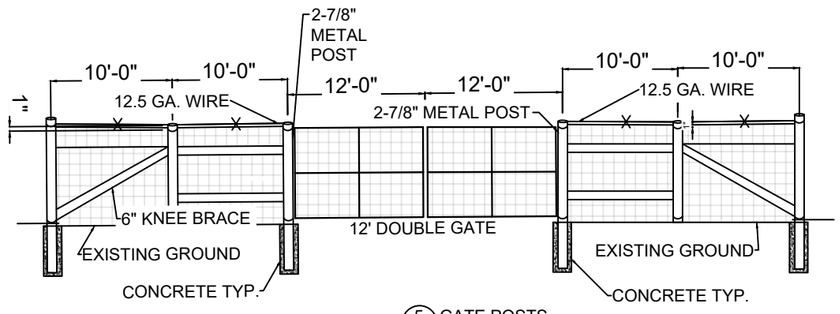
4A METAL POST



3 LINE BRACE POST



4 LINE POST



5 GATE POSTS

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
FENCE DETAILS
OF
PROJECT NAME:
LEX RECYCLE FACILITY
FOR
CLIENT:
CASCADE SERVICES

PROJECT NUMBER:
26101

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
M. SEALY

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

04/07/2026

SHEET:
13 of 13
CS-503

Received by OCD: 4/27/2026 2:53:54 PM
Released to Imaging: 5/1/2026 11:40:51 AM

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Avian Deterrent System Demonstration

Avian Deterrence Equivalency Demonstration

The prescriptive mandates of the Rule that are the subject of this variance request are presented below (emphasis added):

NMAC 19.15.34.12 E.

Netting.

"The operator shall ensure that a recycling containment is screened, netted *or otherwise protective of wildlife*, including migratory birds."

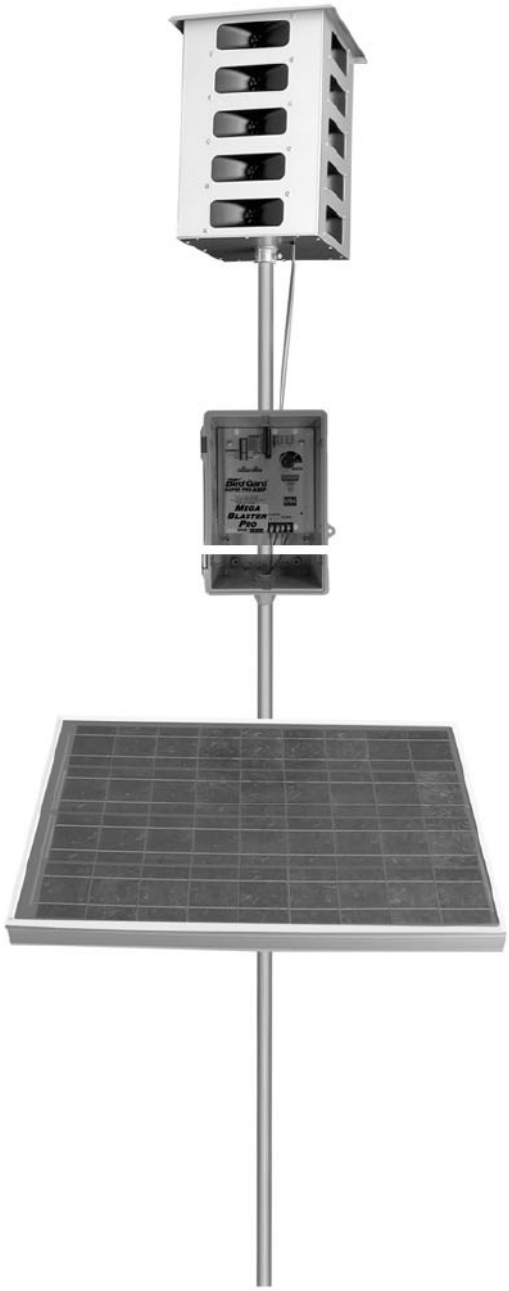
As previously approved by the OCD, use of the proposed Bird-X Mega Blaster Pro in lieu of netting does not constitute a variance. Section 19.15.34.12 E of the Rule specifically allows for other systems to be used in lieu of screens or nets. The Bird-X Mega Blaster Pro configured with sound patterns appropriate to the Permian Basin region in conjunction with the proposed game fence is fully "protective of wildlife, including migratory birds."

As described in the Design and Construction Plan section, personnel may also discharge blank cartridges from a handgun, starter pistol, or shotgun to reinforce deterrence as needed. Raptor decoys may also be placed as needed on fencing or other suitable elevated locations.

MEGA BLASTER PRO

BIRD-X

User's Manual



Overview	2
Bird Control Management Guidelines	3
Materials List	4
Assembly	5
Control Unit	5
Solar Panel	5
Placement	6
Building a Mounting Pole or Mast	7
Installation	8
20-Speaker Tower	8
Solar Panel	8
Control Box	9
Solar Panel Connections	9
Settings	10
Recordings	10
Mode Settings	10
Warranty	12

Overview

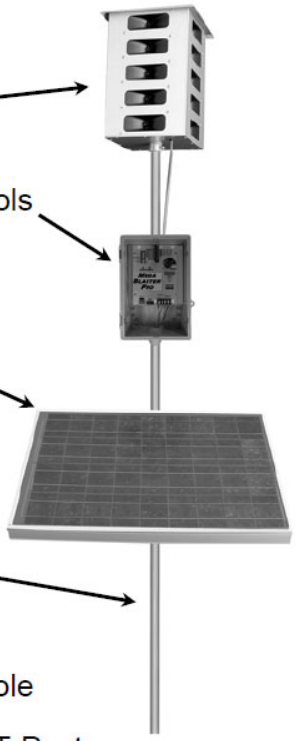
The Bird-X Mega Blaster Pro utilizes the innate power of the natural survival instincts of birds to effectively repel them. Digital recordings of distressed and alarmed birds, along with the sounds made by their natural predators are broadcast through high fidelity weather-resistant speakers over the top of areas. This action triggers a primal fear and flee response. Pest birds soon relocate to where they can feed without feeling threatened.

Your Bird-X Mega Blaster Pro system consists of:

20-Speaker Tower broadcasts the bird sounds

Control Unit produces the bird sounds and contains all operational controls

Solar Panel recharges the 12-volt deep cycle battery



Items needed but not included:

(1) **Mounting Pole** or **Mast** tall enough to raise the 20-Speaker Tower at least 5 feet above the top of the areas, trees or other obstructions

(1) **12-volt Deep Cycle Battery** (RV/Marine) Group 27 or larger wet cell

(1) **T-Post** or similar (Optional) may be needed to support the mounting pole

(1) **Bailing Wire or zip-tie** (Optional) to secure the Mounting Pole to the T-Post

CAUTION: THE MEGA BLASTER PRO IS CAPABLE OF PRODUCING SOUNDS UP TO 125 DECIBELS. PROPER HEARING PROTECTION MUST BE WORN ANYTIME THE UNIT IS TURNED ON.



Bird Control Management Guidelines

An active bird control management program is a key to successfully repelling pest birds. Bird feeding patterns may take several days or weeks to break. Follow all suggestions for maximum effectiveness. Read all instructions prior to installation.

For best results:

- **It is extremely important to fully protect your entire area from birds.** Any areas not fully protected will allow birds to begin feeding at the fringes of the sound coverage. They will soon become bolder and learn the sounds are nothing to fear. This will cause the effectiveness to diminish. Complete Bird-X product coverage forces birds to leave the area entirely.
- Install the Mega Blaster Pro unit at least two weeks before birds are attracted to your area. It is much easier to keep birds away before they have found a food source than it is to repel them once they have developed a feeding pattern.
- Most birds begin feeding from the perimeter of an area. Place Mega Blaster Pro units so the sound protection covers past the edges of the area.
- Birds will often use tall trees for roosting and observation. If birds are in bordering trees it is necessary to position the units so the sound protection covers the trees as well.
- Mount the 20-Speaker Tower at least five feet above trees, areas and structures for maximum coverage. The higher the better. Sound will disperse or reflect off structures or foliage. Mount control unit out of direct sun, if possible.
- When first installed, run Mega Blaster Pro units at FULL volume and on SHORT time off periods. This ensures maximum “bird stress” and creates a hostile environment.
- Watch for changes in bird activity and adjust the location of your Mega Blaster Pro unit if needed.
- **Check the battery and unit settings often to insure continuous bird control. Be certain that the system is not turned down or has a dead battery. Field hands or harvesters may turn down the volume.**
- Changing settings and switches often helps to prevent bird habituation. Periodically change the switch settings of the eight sounds (turning them ON or OFF). NEVER turn OFF the distress calls of the target birds you are trying to repel and always keep at least one predator bird sound turned ON.
- If different bird species enter the protected area and begin causing damage contact us immediately for an updated Sound Recording Card designed to repel the new invading birds.
- Remember that the Mega Blaster Pro system is a management tool, and should be used as part of your overall bird control strategy, sometimes in conjunction with other bird control techniques and devices.

Be aware that under extreme drought or other adverse conditions, birds will disregard all deterrents and risks in order to survive

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Fence Design Demonstration

Fencing

The prescriptive mandates of the Rule that are the subject of this variance request are presented below (emphasis added):

NMAC 19.15.17.13 D.

FENCING

1) The operator shall fence or enclose a recycling containment in a manner that *deters unauthorized wildlife and human access* and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
2) Recycling containments shall be fenced with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level.

As previously approved by the OCD, use of the proposed deer (game) fencing in lieu of a four-strand barbed wire fence does not constitute a variance. Section 19.15.34.12(D)(1) of the Rule requires fencing adequate to prevent entry by wildlife. Feral pigs, javelina, and deer are known to be present in the area; therefore, a tall game fence is necessary to meet this requirement.

The fencing specification in Section 19.15.34.12(D)(2) conflicts with the performance standard in Section (D)(1). Specifically, feral pigs are capable of passing beneath the lower strand of a four-foot-high barbed wire fence, and deer are capable of jumping over such fencing. As a result, strict compliance with Section (D)(2) would fail to achieve the wildlife-exclusion requirement of Section (D)(1).

Accordingly, compliance with Section 19.15.34.12(D)(1) represents the critical requirement of the Rule. Operators implementing fencing consistent with best management practices to effectively exclude wildlife should not be required to seek a variance solely because the prescriptive example in Section (D)(2) is not utilized.

Notwithstanding this position, four strands of barbed wire can be affixed to the game fence if specifically required by the OCD.

See the attached design drawings for game fence details.

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Liner Equivalency Demonstration

Secondary Liner Equivalency Demonstration

The prescriptive mandates of the Rule that are the subject of this variance request are the following subsections (emphasis added):

NMAC 19.15.34.12 A.

DESIGN AND CONSTRUCTION SPECIFICATIONS FOR A RECYCLING CONTAINMENT:

5. All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Secondary liners shall be 30-mil LLDPE string reinforced *or equivalent* with a hydraulic conductivity no greater than 1 x 10-9 cm/sec. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

The following equivalency demonstration for the proposed 40-mil HDPE secondary liner has been previously approved by the OCD and is not the subject of a variance. The language of the rule clearly allows for secondary liners of any type that are “equivalent” to 30-mil LLDPE string reinforced liners. 40-mil HDPE equivalency to 30-mil LLDPE string reinforced liners is demonstrated by qualified experts below.

R.K. FROBEL & ASSOCIATES
Consulting Engineers

Technical Memorandum: 40-mil HDPE as Alternative Secondary Liner System for In Ground Recycling Containment Facilities

NMAC 19.15.34.12 A

I have investigated the suitability of application for 40 mil HDPE geomembrane as an equivalent secondary liner to 30 mil scrim reinforced LLDPE (LLDPEr) in the application for In Ground Recycling Containment facilities. *In summary, it is my professional opinion that the specified 40 mil HDPE geomembrane will provide a secondary liner system that is equal to or better than 30 mil scrim reinforced LLDPEr and will provide the requisite protection of fresh water, public health and the environment for many years when engineering design provides requisite site/soil/slope preparation and when used in concert with requisite primary liners and drainage layers.*

It is understood that the lining system under discussion is composed of a 60 mil HDPE Primary liner, geonet drainage layer and a 40 mil HDPE Secondary liner. *In consideration of the secondary lining system application, size of impoundment and depth, design details as well as the chemical nature of typical processed water, it is my professional opinion that the 40 mil HDPE geomembrane will provide the requisite barrier against processed water loss and will function effectively as a secondary liner.*

The following are discussion points that hopefully will exhibit the equivalency of a 40 mil HDPE secondary liner to that of a 30 mil LLDPEr.

The nature and formulation of the 40 mil HDPE resin is the same as the Primary 60 mil HDPE. The major difference is that the 40 mil HDPE is lower in thickness (more flexible and less puncture resistant). However, in covered conditions, HDPE will resist aging and degradation and remain intact for many decades. In fact, a secondary liner of 40 mil HDPE will outlast an exposed 60 mil HDPE liner. According to the Geosynthetic Research Institute (GRI) study on lifetime prediction (GRI Paper No. 6), the half life of HDPE (GRI GM 13) exposed is > 36 years and the half-life of HDPE covered or buried is greater than 100 years. It is understood that in order to ensure compliance of materials, the primary 60 mil HDPE to be used must meet or exceed GRI GM 13 Standards. Likewise, the secondary liner that is not exposed to the same environmental and chemical conditions must meet or exceed GRI GM 13 for non-reinforced HDPE. Adhering to the minimum requirements of the GRI Specifications, 40 mil HDPE when used as a secondary liner will be equally as protective as the primary 60 mil HDPE liner (reference: www.geosynthetic-institute.org/grispecs) and equally as protective as a 30 mil scrim reinforced LLDPEr liner.

Durability of Geomembranes is directly affected by exposure conditions. Buried or covered geomembranes are not affected by the same degradation mechanisms (UV, Ozone, Chemical, Stress, Temperature, etc) as are fully exposed geomembranes. In this regard, the secondary liner material and thickness can be much less robust than the fully exposed primary liner which in this case is 60 mil HDPE. This is also the case for

32156 Castle Court / Suite 211-240 / Evergreen, CO 80439
Ph 720-289-0300 / geosynthetics@msn.com

landfill lining systems where the secondary geomembrane in a bottom landfill cell may be 40 mil HDPE.

Thermal Fusion Seaming Requirements. Thermal seaming and QC seam test requirements for geomembranes are product specific and usually prescribed by the sheet manufacturer. Dual wedge thermal fusion welding is commonly used on HDPE and QC testing by air channel (ASTM D 5820) is fully acceptable and recognized as an industry standard. In this regard, there should be no exception requirement for seaming and QC testing as both the Primary and Secondary geomembranes are HDPE. This is fully covered in comprehensive specifications for both the Primary and Secondary geomembranes (Reference: www.ASTM.org/Standards).

Potential for Leakage through the Primary and Secondary Liners. Leakage through geomembrane liners is directly a function of the height of liquid head above any hole or imperfection. The geonet drainage media provides immediate drainage to a low point or sump and thus no hydrostatic head or driving gradient is available to push leakage water through a hole in the secondary liner. In this regard, secondary geomembrane materials can be (and usually are) much less in thickness and also polymer type. Hydraulic Conductivity through the 40 mil HDPE liner material is extremely low due to the polymer type, structure and crystallinity and exceeds requirements of EPA SW-846 Method 9090A.

Chemical Attack. Chemical attack to polymeric geomembranes is directly a function of type of chemical, temperature and exposure time. Again, the HDPE Primary provides the chemically resistant liner and is QC tested to reduce potential defects or holes. If there is a small hole, the geonet drain takes any leakage water immediately to the sump for extraction. Thus, exposure time is very limited on a secondary liner in addition to low temperature, little volume and virtually no head pressure. In this regard, a chemically resistant geomembrane material such as 40 mil HDPE can be specified for the secondary and is a fully acceptable alternate to 30 mil scrim reinforced LLDPEr.

Mechanical Properties Characteristics. Geomembranes of different polymer and/or structure (i.e., reinforced vs non-reinforced) cannot be readily compared using such characteristics as tensile stress/strain, tear, puncture and polymer requirements. For a 40 mil HDPE liner material to function as a Secondary liner it should meet or exceed the manufacturers minimum requirements for Density, Tensile Properties, Tear, Puncture as well as other properties such as UV resistance. The sheet material must also meet or exceed GRI GM 13 minimum requirements. *In this regard, a 40 mil HDPE will be equivalent to a 30 mil LLDPEr as a secondary liner for the conditions listed below:*

- *The subgrade or compacted earth foundation will be smooth, free of debris or loose rocks, dry, unyielding and will support the lining system.*
- *The side slopes for the containment shall be equal to or less than 3H:1V.*
- *The physical properties and condition of the subgrade or liner foundation*

(i.e., density, slope, moisture) will be inspected and certified by a Professional Engineer that it meets or exceeds specification requirements.

- *Immediately prior to installation, the installation contractor shall inspect and sign off on the subgrade conditions that they meet or exceed the HDPE manufacturer and installers requirements.*
- *A protective geotextile will be placed on the finished and accepted subgrade between subgrade and the 40 mil HDPE Secondary liner.*
- *A 200 mil geonet will be placed over the 40 mil HDPE Secondary Liner.*
- *A 60 mil HDPE Primary liner will be placed over the 200 mil geonet drainage layer.*

If you have any questions on the above technical memorandum or require further information, give me a call at 720-289-0300 or email geosynthetics@msn.com

Sincerely Yours,

R K Frobel

Ronald K. Frobel, MSCE, PE

COLORADO REGISTERED
RONALD KENNETH FROBEL
15742
PROFESSIONAL ENGINEER

References:

NMAC 19.15.34.12 A DESIGN AND CONSTRUCTION SPECIFICATIONS FOR A RECYCLING CONTAINMENT

Geosynthetic Research Institute (GRI) Published Standards and Papers 2017
www.geosynthetic-institute.org

ASTM Geosynthetics Standards 2017
www.ASTM.org/Standards

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Design and Construction Plan

Design and Construction Plan

This volume provides the stamped engineered drawings, liner equivalency, fencing plans, and avian deterrent plans for the containment that demonstrate the following design/construction specifications:

Earth Work

Purpose: Must confine produced water, prevent releases, avert overtopping from wave action or rainfall, and avoid run-on of surface water.

Foundation & Slopes:

- Containment floor sloped towards the sump in the corner(s).
- Firm, smooth base free of rocks/debris to protect liner.
- Inside levee slope: ≥2H:1V; outside slope: ≥3H:1V.
- Top wide enough for anchor trench and maintenance.
- Geotextile under liner as needed to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity.

Run-on Prevention:

- Surround containment with berm, ditch, or diversion.

Liners & Leak Detection

Liner Requirements:

- Minimum: **Primary (upper) liner, Secondary (lower) liner, and leak detection system**.
- Anchor trench**: ≥18 inches** deep.

Liner Specs:

- Primary: **60-mil HDPE**
- Secondary: **40-mil HDPE** (as previously approved and demonstrated in the Liner Equivalency section)
- Meets or exceeds EPA SW-846 Method 9090A compatibility.

19.15.34.12 A

(1) The operator shall design and construct a recycling containment to ensure the confinement of produced water, to prevent releases and to prevent overtopping due to wave action or rainfall.

(7) [...] The leak detection system shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection.
(2) A recycling containment shall have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity. The operator shall construct the containment in a levee with an inside grade no steeper than two horizontal feet to one vertical foot (2H:1V). The levee shall have an outside grade no steeper than three horizontal feet to one vertical foot (3H:1V). The top of the levee shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.
(8) The operator of a recycling containment shall design the containment to prevent run-on of surface water. The containment shall be surrounded by a berm, ditch or other diversion to prevent run-on of surface water.

(3) Each recycling containment shall incorporate, at a minimum, a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions. The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

(4) All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Secondary liners shall be 30-mil LLDPE string reinforced or equivalent with a hydraulic conductivity no greater than 1 x 10-9 cm/sec. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

Design and Construction Plan

Seams:

- Minimize seams; orient vertically (up/down slope).
- Factory weld preferred; field seams thermally welded.
- Overlap: 4–6 inches; no horizontal seams within 5 ft of slope toe.
- Qualified personnel required for welding/testing.

(5) The operator of a recycling containment shall minimize liner seams and orient them up and down, not across, a slope of the levee. Factory welded seams shall be used where possible. The operator shall ensure field seams in geosynthetic material are thermally seamed. Prior to field seaming, the operator shall overlap liners four to six inches. The operator shall minimize the number of field seams and corners and irregularly shaped areas. There shall be no horizontal seams within five feet of the slope's toe. Qualified personnel shall perform field welding and testing.

Leak Detection System:

- Between liners: **200-mil geonet**
- Include drainage, collection, and removal system sloped for early detection.
- Piping will withstand chemical attack from any seepage, structural loading from stresses and disturbances from overlying water, cover materials, equipment operation or expansion or contraction.

(7) The operator of a recycling containment shall place a leak detection system between the upper and lower geomembrane liners that shall consist of 200-mil geonet or two feet of compacted soil with a saturated hydraulic conductivity of 1 x 10-5 cm/sec or greater to facilitate drainage. The leak detection system shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection.

Discharge/Suction Protection:

All points of discharge into the lined earthen containment are configured to protect the liner from excessive hydrostatic force or mechanical damage during filling. The design ensures that, at any location where fluids are introduced or withdrawn, the liner remains safeguarded against potential impacts or abrasion. External discharge or suction lines do not penetrate the liner.

For hydraulic fracturing operations, fluid withdrawal is typically managed by stimulation contractors. Typically, lines are permanently installed within the containment and equipped with floats to prevent direct contact and abrasion of the liner system. If needed, the containment may include a permanent HDPE stinger, supported by a sacrificial liner or geotextile, to facilitate fluid withdrawal during operations.

- Protect liner from hydrostatic/mechanical damage.
- No external lines penetrating liner.

(6) At a point of discharge into or suction from the recycling containment, the operator shall insure that the liner is protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines shall not penetrate the liner.

Topsoil Stockpiling

- Strip and stockpile topsoil for closure cover.

19.15.34.12 B: Stockpiling of topsoil
Prior to constructing containment, the operator shall strip and stockpile the topsoil for use as the final cover or fill at the time of closure.

Design and Construction Plan

Signage

- Upright sign: **≥12" × 24"**, letters **≥2" high**, posted on fence.
- Must include: **operator name, site location (quarter-quarter or unit letter, section, township, range), and emergency phone numbers.**

19.15.34.12 C: Signs
The operator shall post an upright sign no less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the containment. The operator shall post the sign in a manner and location such that a person can easily read the legend. The sign shall provide the following information: the operator's name, the location of the site by quarter-quarter or unit letter, section, township and range, and emergency telephone numbers.

Fencing

In the spirit and letter of rule 19.15.34.12 D (1), the operator will install and maintain a chain-link / game fence rather than a barbed wire fence. This will more effectively deter unauthorized humans, feral pigs, deer, etc. from accessing the containment than "a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level". If required specifically by the OCD, barbed wire can be attached to the game fence as specified in rule 19.15.34.12 D (2).

- Fence to deter wildlife/human access; maintain in good repair.
- Gates locked when unattended.

19.15.34.12 D: Fencing
(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
(2) Recycling containments shall be fenced with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level.

Wildlife Protection

The chain-link / game fence provides effective protection from stock and most terrestrial wildlife. However, if requested by the surface owner, the fence can include a one-foot-tall fine mesh at the base of the fence to exclude smaller animals (e.g. dune sagebrush lizard).

The Bird-X Mega Blaster Pro, configured with sound patterns appropriate for the Permian Basin environment, is the primary avian deterrent system. Containment areas will be routinely inspected for the presence of birds and personnel may discharge blank cartridges from a handgun, starter pistol, or shotgun to reinforce deterrence. Raptor decoys may also be placed on fencing or other suitable elevated locations.

- Avian deterrence system
- Monthly inspections; report dead wildlife within **30 days** to wildlife agency and division office.

19.15.34.12 E: Netting
The operator shall ensure that a recycling containment is screened, netted or otherwise protective of wildlife, including migratory birds. The operator shall on a **monthly** basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Operation and Maintenance Plan

Operation and Maintenance Plan

Summary:

The operator will use the earthen containment to contain liquids and incidental solids (blow sand and minimal precipitates from the produced water). The operator will maintain the integrity of the liner system to prevent contamination of fresh water and protect public health and the environment.

The purpose of the lined earthen containment is to facilitate recycling, reuse, and reclamation of produced water sourced from oil and gas wells. While water for oil and gas operations is not needed, produced water will be discharged into wastewater injection wells or transferred to other recycling facilities via pipeline. The containment will not be used to dispose of produced water or other oilfield waste.

19.15.34.10 D
Recycling containments may not be used for the disposal of produced water or other oilfield wastes.

Operation Plan

A. Produced water from oil and gas wells will be received in a recycling facility as indicated on the C-147 form.
B. Unless specified otherwise, after treatment in the recycling facility, the water will then be transferred to the recycling containment.
C. Recycled water is then removed from the containment for use in oil and gas operations including drilling below the freshwater zones (beneath surface casing), hydraulic fracturing of the reservoir, and other oil and gas related uses as approved by the OCD.
D. When the maximum capacity of the containment is reached, no additional water will be transferred into the containment until compensatory space is first created via fluid removal, maintaining at least a 3 foot freeboard.

19.15.34.13 B (2)
(See Operational Standards below)

E. Accurate records will be maintained monthly and weekly in accordance with the OCD rules. The sources and disposition of all recycled water as well as weekly leak detection systems shall be made available for review by the division upon request.

19.15-34-12 E
(See Operational Standards below)

F. Reports will be sent monthly to the OCD using the C-148 form to record the total volumes of produced and fresh

19.15.34.12 E
19.15.34.9 E
19.15.34.9 F
(See Monitoring, Inspection and Reporting Plan below)

water (recorded separately) received and the total volume of water leaving the facility.

G. The containment will be considered to have ceased operations if less than 20% of the total fluid capacity is used every six months. The operator will report the cessation of operations to the division, and either request an extension (no longer than six months) or prepare for closure.

19.15.34.13 C
A recycling containment shall be deemed to have ceased operations if less than twenty percent of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator must report cessation of operations to the division. The division may grant an extension to this determination of cessation of operations not to exceed six months.

Operational Standards:

The containment will adhere to the following mandates:

1. **Remove any visible oil layer** from the containment surface.
2. **Maintain minimum three feet of freeboard**.
3. **Use headers/diverters or other hardware** to prevent liner damage during fluid injection or withdrawal.
4. **If the primary liner is damaged above fluid level**, **repair or replace within 48** hours or request an extension.
5. **If damage to the primary liner below fluid level** is confirmed through the leak detection system (see **"**Leak Detection, Fluid Removal, and Leak Reporting Plan" section below): begin and maintain fluid removal from the leak detection / pump-back system, Notify the district office within 48 hours, identify the location of the leak, and repair or if needed, replace the containment liner.
6. **Prevent surface water run-on** into containment.
7. **Keep an oil absorbent boom** or similar device on site for emergency containment.
8. **Report fluid releases** in a manner consistent with NMAC 19.15.29.
9. **Do not discharge or store hazardous waste** (as defined by 40 CFR 261 and NMAC 19.15.2.7.H.3) in the containment.
10. **Ensure all gates are closed and locked** when personnel are not onsite.
11. **Maintain the fences** in good repair.

19.15.34.13 B
(1) The operator shall remove any visible layer of oil from the surface of the recycling containment.
(2) The operator shall maintain at least three feet of freeboard at each containment.
(3) The injection or withdrawal of fluids from the containment shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.
(4) If the containment's primary liner is compromised **above** the fluid's surface, the operator shall repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension of time from the division district office.
(5) If the primary liner is compromised below the fluid's surface, the operator shall remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.
(6) The containment shall be operated to prevent the collection of surface water run-on.
(7) The operator shall install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.

19.15.34.8 A
(6) All releases from the recycling and re-use of produced water within the jurisdiction of the division shall be handled in accordance with 19.15.29 NMAC. If the release is detrimental to ground or surface waters, the responsible party must send a copy of the form C-141 to the New Mexico environment department, as applicable, in accordance with 19.15.29 NMAC.

19.15.34.10 B
[...] may not include any hazardous waste.

19.15.34.12 D
(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

Monitoring, Inspection and Reporting Plan:

Operators must inspect recycling containments and leak detection systems **weekly** while fluids are present and **maintain a log** available for division review.

Weekly inspections include:

- Recording the **fluid height**
- Recording evidence of **visible oil**
- Visually **inspecting** the containment's **exposed liners**
- **Inspecting berms** and other diversion means around the containment **for erosion and collection of surface water run-on**
- **Inspecting the leak detection system** integrity and **monitor for leakage**

Monthly inspections include:

- **Inspect** the containment **for dead migratory birds or other wildlife** and report any findings to the appropriate wildlife agency and to the division district office to facilitate further assessment and implementation of measures to prevent incidents from reoccurring.
- **Record and report** to the division the **total volumes of produced and fresh water (recorded separately) received and the total volume of water leaving the facility** using the C-148 form.
- **Record sources and disposition** of all recycled water.

19.15.34.13 A

The operator shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.

19.15.34.12 E

[...] The operator shall on a **monthly** basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

19.15.34.9 E

The operator of a recycling facility shall keep accurate records and shall report **monthly** to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.

19.15.34.9 F

The operator of a recycling facility shall maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

Leak Detection, Fluid Removal, and Leak Reporting Plan

The leak detection system includes a monitoring riser pipe connected to the collection sump. All leak-detection piping and appurtenances shall be chemically compatible with produced-water constituents and designed to withstand structural loads, equipment operations, and thermal expansion/contraction without loss of integrity. Any fluid released from the primary liner flows to this sump, where fluid levels can be monitored.

Monitoring Water Levels Procedure

- Use a portable electronic water level meter to check for fluid in the monitoring riser pipe.
- If the containment base is sloped, obtaining accurate readings may require additional steps:
  - Push the probe to the bottom of the port using an electrician's wire snake.
  - Attach a small bailer or similar device to confirm water presence.
- The operator may use any effective method to obtain accurate readings.

Actions When Seepage Is Suspected

If seepage from the containment into the leak detection system is suspected by a positive fluid level measurement, the operator will:

1. **Re-measure fluid levels daily for one week** to confirm discovery of seepage.
2. **Simultaneously collect a water sample** from the monitoring riser pipe to verify seepage using electrical conductivity and chloride measurements.
3. **Notify NM OCD** of a confirmed positive detection within 48 hours (initial notification).
4. **Install a pump** in the monitoring riser pipe sump to remove fluids from the leak detection system until the liner is repaired or replaced.

19.15.34.13 A

(5) If the primary liner is compromised below the fluid's surface, the operator shall remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.

5. **Remove all fluid above the damage or leak.**
6. **Dispatch a liner professional** to inspect the suspected leakage area during a “low water” monitoring event.
7. **Provide NM OCD a second report** describing inspection and/or repair within 20 days of the initial notification.

Repair and Inspection

- If the point of release is obvious during inspection, the liner professional will repair the loss of integrity.
- If the point of release cannot be determined, the liner professional will develop a plan to identify the leak location.
- Submit the inspection plan and schedule to NM OCD with the second report.
- Implement the plan upon OCD approval.

| Cascade Services, LLC | 3403-B E. County Road 44, Midland, TX 79705 |

Closure Plan

Closure and Site Reclamation Requirements for Recycling Containments

Overview and Timeline

- After ceasing operations:
  - **Remove all fluids within 60 days**.
  - **Close the containment within 6 months** of ceasing operations.
  - Extensions:
    - Up to **2 months** for fluid removal.
    - Up to **6 months** for closure.
- Any alternative use of the containment must be approved by the division.
- Closure design must conform to site needs; variances require division approval.

Excavation and Removal Closure Plan

1. **Fluid Removal**
   - Remove all fluids from the containment.
   - Dispose of liquids at a division-approved facility or reuse if permitted.
2. **Containment Cleanout**
   - Remove all solids, contents, and synthetic liners.
   - Transfer these materials to a division-approved facility.
3. **Soil Testing**
   - Collect a **minimum five-point composite sample** from soils beneath the containment, including stained or wet areas.
   - Analyze sample for contaminants listed in **Table I of 19.15.34.14**.
4. **Laboratory Results**
   - If **contaminant levels exceed Table I**:
     - Additional delineation may be required.
     - Operator must obtain division approval before proceeding.
   - If **contaminant levels are within limits**:
     - Backfill with clean, uncontaminated earthen material.

19.15.34.14

A. Once the operator has ceased operations, the operator shall remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use. The division district office may grant an extension for the removal of all fluids not to exceed two months. The division district office may grant an extension to close the containment not to exceed six months. If the operator wants to use the containment for a purpose other than recycling then the operator must have that use approved or permitted by the division in accordance with the appropriate rules.

B. The operator shall close a recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.

C. The operator shall test the soils beneath the containment for contamination with a five-point composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I below.
(1) If any contaminant concentration is higher than the parameters listed in Table I, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure.
(2) If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator can proceed to backfill with non-waste containing, uncontaminated, earthen material.

Closure Plan

- OR submit a variance request for an alternative closure process.

Closure Documentation

- Within **60 days of closure completion**, submit **Form C-147** with:
  - Sampling results.
  - Details of backfilling, capping, or covering.
  - Certification that all information is correct and closure complies with division rules.

Reclamation and Re-vegetation

- Restore the site to:
  - A **safe and stable condition** blending with surrounding undisturbed area.
  - Or comply with federal, state trust, or tribal land requirements if they provide equal or better protection.
- Specific actions:
  - Replace topsoil and subsoil to original relative positions.
  - Contour for erosion control, long-term stability, and preservation of surface water flow patterns.
  - Reseed during the first favorable growing season after closure.
- Reclamation is complete when:
  - All ground-disturbing activities are finished.
  - Vegetative cover achieves:
    - **±50% of pre-disturbance life-form ratio**.
    - **≥70% total plant cover**, excluding noxious weeds.

Final Notification

- Notify the division when reclamation and re-vegetation are complete.

D. Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

E. Once the operator has closed the recycling containment, the operator shall reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment. The operator shall substantially restore the impacted surface area to the condition that existed prior to the construction of the recycling containment.

F. Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds.

G. The re-vegetation and reclamation obligations imposed by federal, state trust land or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

H. The operator shall notify the division when reclamation and re-vegetation are complete.

From: Kennedy, Joseph, EMNRD
To: tim.jurco@hydrosourcelogistics.com
Cc: gjennings@CascadeServicesLLC.com
Subject: 1RF-546 – LEX Pond [fJZK2612132952] Registration and approval
Date: Friday, May 1, 2026 11:34:00 AM
Attachments: LEX Pond Volume 1 Final.pdf
LEX Pond Volume 2 Final.pdf

Good afternoon, Mr. Jurco:
NMOCD has reviewed the recycling containment permit application and related documents, submitted by HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] on 04/27/2026, Application ID 579474, for 1RF-546 – LEX Pond [fJZK2612132952] located in in L1&2 -31-23S-35E, Lea County, New Mexico.

- The purpose of this permit is for oil and gas activities regulated under the NMAC 19.15.34.3 STATUTORY AUTHORITY: 19.15.34 NMAC is adopted pursuant to the Oil and Gas Act, Paragraph (15) of Section 70-2- 12(B) NMSA 1978, which authorizes the division to regulate the disposition of water produced or used in connection with the drilling for or producing of oil and gas or both and Paragraph (21) of Section 70-2-12(B) NMSA 1978 which authorizes the regulation of the disposition of nondomestic wastes from the exploration, development, production or storage of crude oil or natural gas.
- 1RF-546 – LEX Pond [fJZK2612132952] is approved for five years of operation from the date of permit application of 04/01/2026. 1RF-546 – LEX Pond [fJZK2612132952] permit expires on 04/01/2031. If HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] wishes to extend operations past five years, an annual extension request must be submitted using Form C-147 through OCD Permitting by 03/01/2031.
- 1RF-546 – LEX Pond [fJZK2612132952] consists of one (1) earthen containment of 60,689 bbls at freeboard.
- HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall construct, operate, maintain, close, and reclaim 1RF-546 – LEX Pond [fJZK2612132952] in compliance with NMAC 19.15.34 NMAC.
- Bonding must be submitted to OCD in accordance with 19.15.34.15(A)(1). Amount of bond $ 78,165.00 (work on these facilities cannot commence until bonding amounts are approved and received by OCD).
- HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall notify NMOCD through OCD Permitting when recycling operations commence and cease at 1RF-546 – LEX Pond [fJZK2612132952].
- A minimum of 3-feet freeboard must be maintained at 1RF-546 – LEX Pond [fJZK2612132952] at all times during operations.
- If less than 20% of the total fluid capacity is utilized every six months, beginning from the first withdrawal, operations of the 1RF-546 – LEX Pond [fJZK2612132952]are considered ceased and a notification of cessation of operations should be sent electronically to OCD Permitting. A request to extend the cessation of operations, not to exceed six months, may

be submitted using a C-147 form through OCD Permitting. If after that 6-month extension period, the 1RF-546 – LEX Pond [fJZK2612132952]is not utilized at a minimum of 20% fluid capacity, no additional extensions would be granted, and the operator would be directed to remove all fluids and proceed with the closure requirements.

- HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall submit monthly reports of recycling and reuse of produced water, drilling fluids, and liquid oil field waste on OCD form C-148 via OCD Permitting even if there is zero activity.
- HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the logs available for review by the division upon request according to 19.15.34.13.A.
- HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field waste at 1RF-546 – LEX Pond [fJZK2612132952].

Please reference number 1RF-546 – LEX Pond [fJZK2612132952]in all future communications.

Please feel free to contact me if you have any questions.

Thank you,

Joe Kennedy • Senior Environmental Scientist
EMNRD - Oil Conservation Division
1220 S. St. Francis Drive | Santa Fe, NM 87505
505.549.5583 | joseph.kennedy@emnrd.nm.gov

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
Hydrosource Logistics Waste Management, LLC 600 N. Marienfeld Midland, TX 79701	332820
	Action Number: 579474
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
joseph.kennedy	HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] shall construct, operate, maintain, close and reclaim the LEX Pond [fJZK2612132952] in compliance with 19.15.34 NMAC. LEX Pond [fJZK2612132952] is approved for five years of operation from the date of permit application of 04/01/2026. LEX Pond [fJZK2612132952] permit expires on 04/14/2031. If HYDROSOURCE LOGISTICS WASTE MANAGEMENT, LLC [332820] wishes to extend operations past five years, an annual extension request must be submitted using Form C-147 through OCD Permitting by 03/01/2031.	5/1/2026