NM1 - __65___

PART 36 PERMIT APPLICATION

Attachments 1-5

1 of 3

June 28, 2019

envirotech

June 27, 2019

New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mmexico 87505

Telephone: (812) 706-9135

RE: ENVIROTECH LANDFARM #4 C-137 APPLICATION SUBMITTAL

Enclosed please find the *C-137 Application* and supporting documentation for Envirotech proposed Landfarm #4. Envirotech has provided two (2) hard copies and one (1) electronic copy of the Application Packet.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.

Greg Crabtree
Environmental Manager
gcrabtree@envirotech-inc.com

Enclosure: C-137 Application Packet

Landfarm #4
Application Submittal

June 2019

TABLE OF CONTENTS

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For State Use Only

Form C-137
Revised August 1, 2011

Submit 1 Copy to Santa Fe Office

APPLICATION FOR SURFACE WASTE MANAGEMENT FACILITY

A meeting should be scheduled with the Division's Santa Fe office Environmental Bureau prior to pursuing an application for a surface waste management facility in order to determine if the proposed location is capable of satisfying the siting requirements of Subsections A and B of 19.15.36.13 NMAC for consideration of an application submittal.

1 Application: ☒ New ☐ Modification ☐ Renewal

2. Type: ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfill ☒ Landfarm ☐ Other

3. Facility Status: ☒ Commercial ☐ Centralized

4. Operator: Envirotech, Inc.

Address: 5796 US Hwy 64 Farmington, NM 87401

Contact Person: Greg Crabtree Phone: 505-632-0615

5. Location: _____ /4 _____ /4 Section 6,7 and 8 Township 26N Range 10W

6. Is this an existing facility? ☐ Yes ☒ No If yes, provide permit number _____

7. Attach the names and addresses of the applicant and principal officers and owners of 25 percent or more of the applicant. Specify the office held by each officer and identify the individual(s) primary responsible for overseeing management of the facility. **see Attachment 1**

8. Attach a plat and topographic map showing the surface waste management facility's location in relation to governmental surveys (quarter-quarter section, township and range); highways or roads giving access to the surface waste management facility site; watercourses; fresh water sources, including wells and springs; and inhabited buildings within one mile of the site's perimeter. **see Attachment 2**

9. Attach the names and addresses of the surface owners of the real property on which the surface waste management facility is sited and surface owners of the real property within one mile of the site's perimeter. **see Attachment 3**

10. Attach a description of the surface waste management facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the surface waste management facility, buildings and chemical storage areas. **see Attachment 4**

11. Attach engineering designs, certified by a registered professional engineer, including technical data on the design elements of each applicable treatment, remediation and disposal method and detailed designs of surface impoundments. **see Attachment 5**

12. Attach a plan for management of approved oil field wastes that complies with the applicable requirements contained in 19.15.36.13, 19.15.36.14, 19.15.36.15 and 19.15.36.17 NMAC. **see Attachment 6**

13. Attach an inspection and maintenance plan that complies with the requirements contained in Subsection L of 19.15.36.13 NMAC. **see Attachment 7**

14. Attach a hydrogen sulfide prevention and contingency plan that complies with those provisions of 19.15.3.118 NMAC that apply to surface waste management facilities. **see Attachment 8**

15. Attach a closure and post closure plan, including a responsible third party contractor's cost estimate, sufficient to close the surface waste management facility in a manner that will protect fresh water, public health, safety and the environment (the closure and post closure plan shall comply with the requirements contained in Subsection D of 19.15.36.18 NMAC). see Attachment 9

16 Attach a contingency plan that complies with the requirements of Subsection N of 19.15.36.13 NMAC and with NMSA 1978, Sections 12-12-1 through 12-12-30, as amended (the Emergency Management Act). see Attachment 10

17. Attach a plan to control run-on water onto the site and run-off water from the site that complies with the requirements of Subsection M of 19.15.36.13 NMAC. see Attachment 11

18. In the case of an application to permit a new or expanded landfill, attach a leachate management plan that describes the anticipated amount of leachate that will be generated and the leachate's handling, storage, treatment and disposal, including final post closure options. N/A

19. In the case of an application to permit a new or expanded landfill, attach a gas safety management plan that complies with the requirements of Subsection O of 19.15.36.13 NMAC N/A

20. Attach a best management practice plan to ensure protection of fresh water, public health, safety and the environment. see Attachment 12

21. Attach a demonstration of compliance with the siting requirements of Subsections A and B of 19.15.36.13 NMAC. see Attachment 13

22. Attach geological/hydrological data including:

(a) a map showing names and location of streams, springs or other watercourses, and water wells within one mile of the site;

(b) laboratory analyses, performed by an independent commercial laboratory, for major cations and anions; benzene, toluene, ethyl benzene and xylenes (BTEX); RCRA metals; and total dissolved solids (TDS) of ground water samples of the shallowest fresh water aquifer beneath the proposed site;

(c) depth to, formation name, type and thickness of the shallowest fresh water aquifer;

(d) soil types beneath the proposed surface waste management facility, including a lithologic description of soil and rock members from ground surface down to the top of the shallowest fresh water aquifer;

(e) geologic cross-sections;

(f) potentiometric maps for the shallowest fresh water aquifer; and

(g) porosity, permeability, conductivity, compaction ratios and swelling characteristics for the sediments on which the contaminated soils will be placed. see Attachment 14

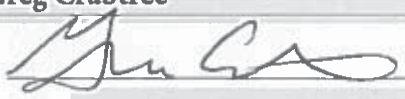
23. In the case of an existing surface waste management facility applying for a minor modification, describe the proposed change and identify information that has changed from the last C-137 filing. N/A

24. The division may require additional information to demonstrate that the surface waste management facility's operation will not adversely impact fresh water, public health, safety or the environment and that the surface waste management facility will comply with division rules and orders

25. CERTIFICATION

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name: Greg Crabtree Title: Environmental Manager

Signature:  Date: 6/27/19

E-mail Address: gcrabtree@envirotech-inc.com

Attachment #1

Names of Owners and Facility Managers

Name and Address of Applicant:	Mr. Morris D. Young Envirotech, Inc. 5796 US Hwy 64 Farmington, NM 87401 (505) 632-0615
Name and Address of Facility Managers:	Mrs. Julie Ortiz Envirotech, Inc. 5796 US Hwy 64 Farmington, NM 87401 (505) 632-0615 ext 301
	Mr. Donald Ortiz Envirotech, Inc. 5796 US Hwy 64 Farmington, NM 87401 (505) 632-0615 ext 315
	Mr. Greg Crabtree Envirotech, Inc. 5796 US Hwy 64 Farmington, NM 87401 (505) 632-0615 ext 327

Attachment #2

- Plat Map(Figure 1)
  - Surveyed Facility Boundary
- San Juan County Assessor Map (Figure 2)
  - Roads and Highways/ Sec. Twp., Rng.)
- New Mexico Office of the State Engineer Map (Figure 3)
  - Water Well Information
- Topographic Map (Figure 4)
- Table 1: NMOSE Water Well Information

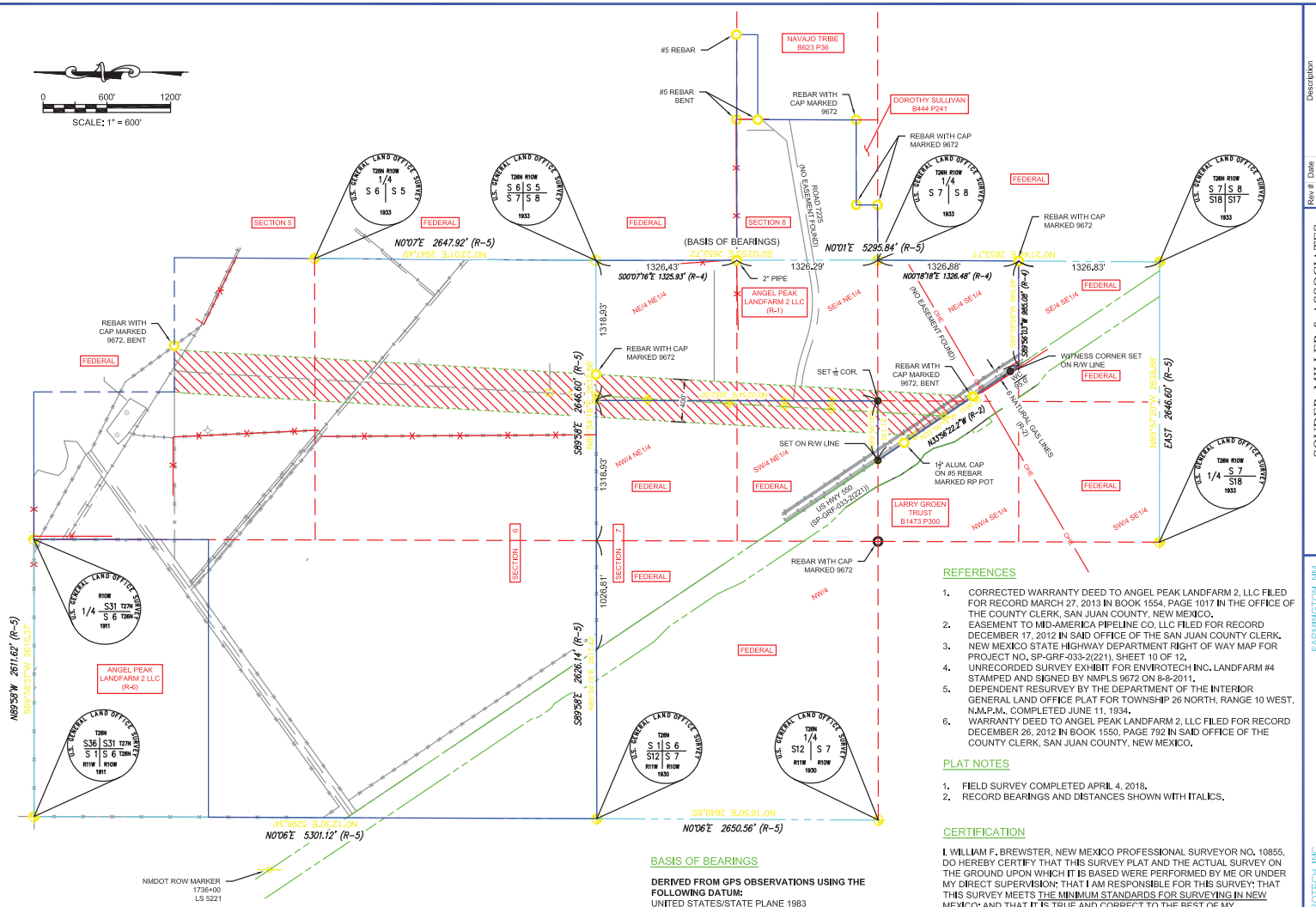
Attachment 2 discussion:

Souder Miller and Associates performed a professional survey of the property boundary of the proposed Landfarm #4 facility. This Map is presented as ***Figure 1*** in this Attachment. The figure shows the proposed Landfarm's spatial reference within the Public Land Survey System (PLSS). In addition to Figure 1, a map from the San Juan County Assessor's office ***(Figure 2)*** illustrates the location of the proposed Landfarm facility in relation to US Hwy 550 and the two County Roads (Road 7175 and 7225).

Figure 3 illustrates the location of water wells that are registered with the State Engineers office. There are 2 wells that were proposed within the one-mile radius of the proposed Landfarm. These wells were one's that Envirotech drilled to a depth of 110 feet and 40 feet respectively and did not encounter water, so they were plugged and abandoned dry holes. There are three additional wells that are located within five (5) miles of the proposed facility. These wells (SJ-01626, SJ-00077, and SJ 01206) are illustrated on Figure 3 and the data available about the wells from the State Engineers Office is presented in Table 1.

Figure 4 is a USGS Topographic Map which gives the topographic features of the area. It also illustrates the water features of the area within one mile of the proposed facility. No notable springs or other freshwater sources are noted on the map within the one-mile radius.

There are no known inhabited buildings within one mile of the proposed facility.



LEGEND

- CENTERLINE OF GREAT NORTH ROAD
- FENCE LINE
- MID-SECTION LINE
- OVERHEAD ELECTRIC LINE
- RIGHT-OF-WAY LINE
- SECTION LINE
- FOUND SECTION CORNER, AS DESCRIBED
- FOUND SURVEY MARKER, AS DESCRIBED
- SET #6 REBAR WITH ¾" ALUMINUM CAP MARKED NMPS 10855
- SET T-POST MARKER
- 400 FT WIDE CULTURAL BUFFER ZONE (200' ON EACH SIDE OF GREAT NORTH ROAD)
- R– REFERENCE NUMBER

BASIS OF BEARINGS

DERIVED FROM GPS OBSERVATIONS USING THE FOLLOWING DATUM:
UNITED STATES/STATE PLANE 1983
NEW MEXICO WEST 3003
DATUM NAD83(2011) (CONUS)
PROJECTION TYPE = TRANSVERSE MERCATOR
ORIGIN LATITUDE = 36°31'09.48230" NORTH
ORIGIN LONGITUDE = 107°56'27.07390" WEST
FALSE NORTHING = 0.000 ft
FALSE EASTING = 0.000 ft
GROUND SCALE FACTOR = 1.0003912600 UNITLESS
UNITS = U.S. SURVEY FEET
GEOID 12B (CONUS) NAVD88

RESULTING IN A BEARING OF S0°03'53"E, 2652.72' BETWEEN FOUND MONUMENTS AT THE EAST QUARTER CORNER AND THE NORTHEAST CORNER OF SECTION 7, T26N, R10W, N.M.P.M.

REFERENCES

1. CORRECTED WARRANTY DEED TO ANGEL PEAK LANDFARM 2, LLC FILED FOR RECORD MARCH 27, 2013 IN BOOK 1554, PAGE 1017 IN THE OFFICE OF THE COUNTY CLERK, SAN JUAN COUNTY, NEW MEXICO.
2. EASEMENT TO MID-AMERICA PIPELINE CO, LLC FILED FOR RECORD DECEMBER 17, 2012 IN SAID OFFICE OF THE SAN JUAN COUNTY CLERK.
3. NEW MEXICO STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP FOR PROJECT NO. SP-GRF-033-2(221), SHEET 10 OF 12.
4. UNRECORDED SURVEY EXHIBIT FOR ENVIROTECH INC. LANDFARM #4 STAMPED AND SIGNED BY NMPLS 9672 ON 8-8-2011.
5. DEPENDENT RESURVEY BY THE DEPARTMENT OF THE INTERIOR GENERAL LAND OFFICE PLAT FOR TOWNSHIP 26 NORTH, RANGE 10 WEST, N.M.P.M., COMPLETED JUNE 11, 1934.
6. WARRANTY DEED TO ANGEL PEAK LANDFARM 2, LLC FILED FOR RECORD DECEMBER 26, 2012 IN BOOK 1550, PAGE 792 IN SAID OFFICE OF THE COUNTY CLERK, SAN JUAN COUNTY, NEW MEXICO.

PLAT NOTES

1. FIELD SURVEY COMPLETED APRIL 4, 2018.
2. RECORD BEARINGS AND DISTANCES SHOWN WITH *ITALICS*.

CERTIFICATION

I, WILLIAM F. BREWSTER, NEW MEXICO PROFESSIONAL SURVEYOR NO. 10855, DO HEREBY CERTIFY THAT THIS 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.

WILLIAM F. BREWSTER, PS #10855 DATE

Rev #	Date	Description

SOUDER, MILLER & ASSOCIATES
Engineering • Environmental • Surveying
Serving the Southwest & Rocky Mountains
401 West Broadway Avenue
Farmington, NM 87401
Phone (505) 325-7535 Toll-Free (800) 519-4098 Fax (505) 326-4045
www.soudermiller.com

ENVIROTECH, INC. FARMINGTON, NM

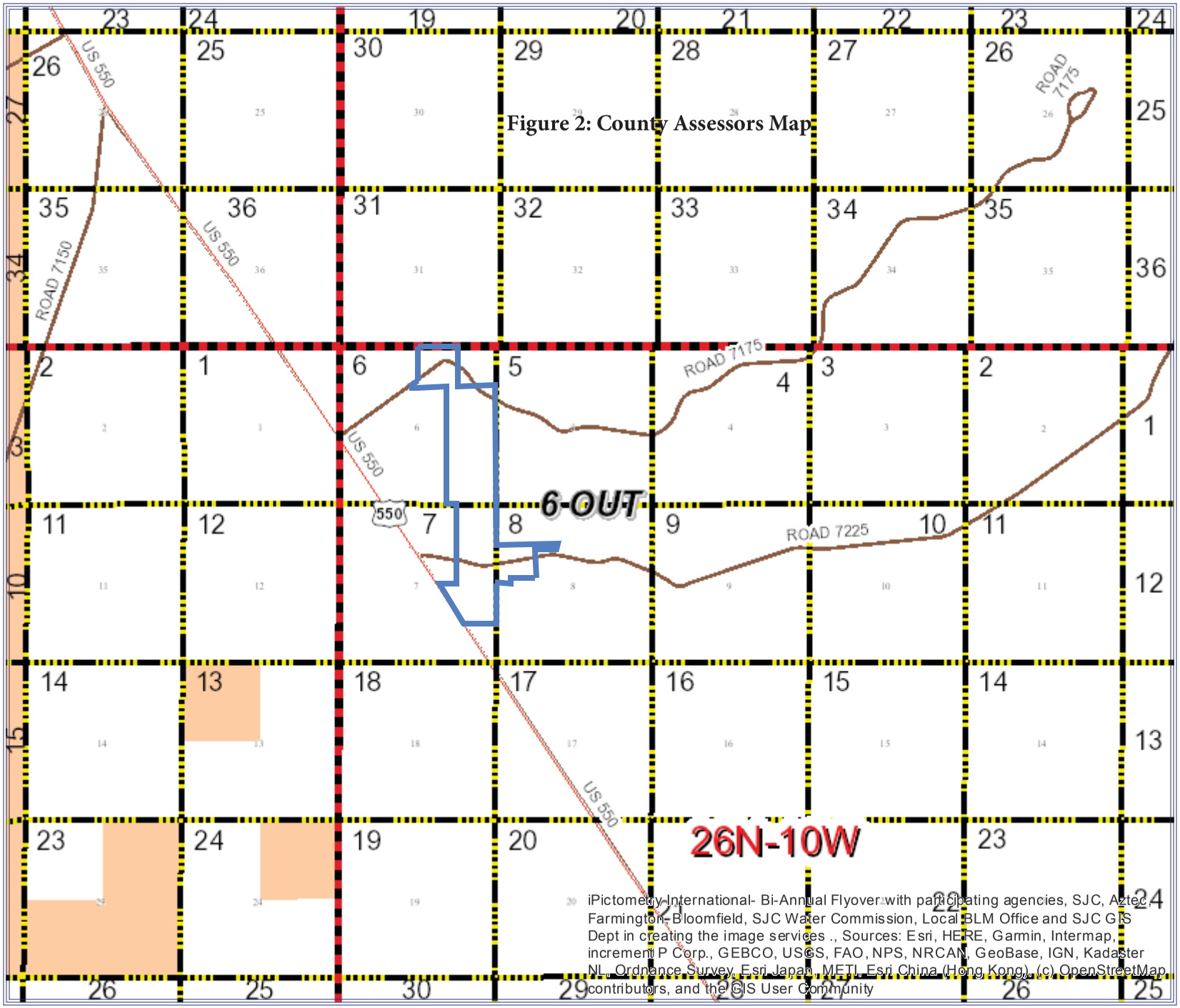
SURVEY EXHIBIT OF A PORTION OF SECTIONS 6, 7 & 8, T. 26 N., R. 10 W., N.M.P.M., SAN JUAN COUNTY, NEW MEXICO

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED.

Designed	Drawn	Checked
–	MW	GR/WB

Date:
Scale: Horiz: 1"=600'
Project No: 2126956
Sheet: 1

O:\Client\LF\Landfarm 4\Landfarm 4 Permit 2019\Attachment 1\ACAD-2126956Survey-savedback2004.dwg, 6/12/2019 1:07:43 PM MEW



Override 1
Township/Range
Sections
RegionalHighways-US
RegionalHighways-State
City Roads
Lakes
Rivers
Aztec City Limits
Bloomfield City Limits
Farmington City Limits
Kirtland_TownLimits
School Districts
San Juan County Bounds
Reservation
San Juan County Bounds
RegionalCounties

RegionalStates

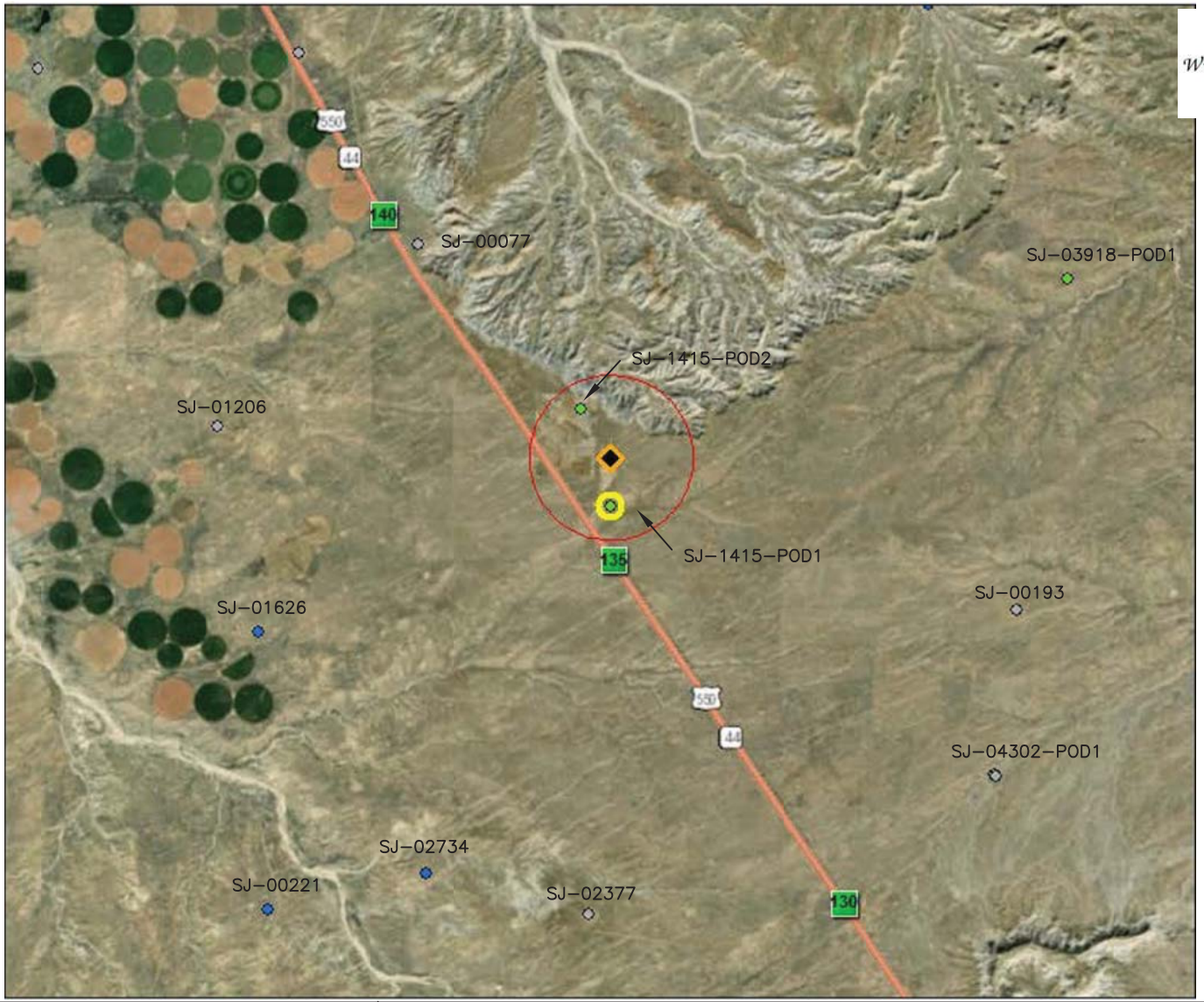
Arizona
Colorado
New Mexico
Utah
Red: Band_1
Green: Band_2
Blue: Band_3
CountyLine

Date: 6/12/2019

4,200 2,100 0 4,200 Feet

N
W E
S

San Juan County Assessor's Office
100 S. Oliver Dr.
Aztec, NM 87410
505-334-6157



LEGEND

- HWY 550 Mile Markers
- 1 Mile Buffer
- Active Water Wells
- Pending Permits
- Other

NM_STATE_ENGINEER_WATER_WELLS
ENVIROTECH
LANDFARM_4
HILLTOP,NM
Facility Number: LF4

FIGURE NUMBER: FIGURE_3
PROJECT NUMBER: LANDAFRM_4
MAP SCALE: 1"= _
WORKPLAN ID: N/A
DELIVERABLE ID: N/A

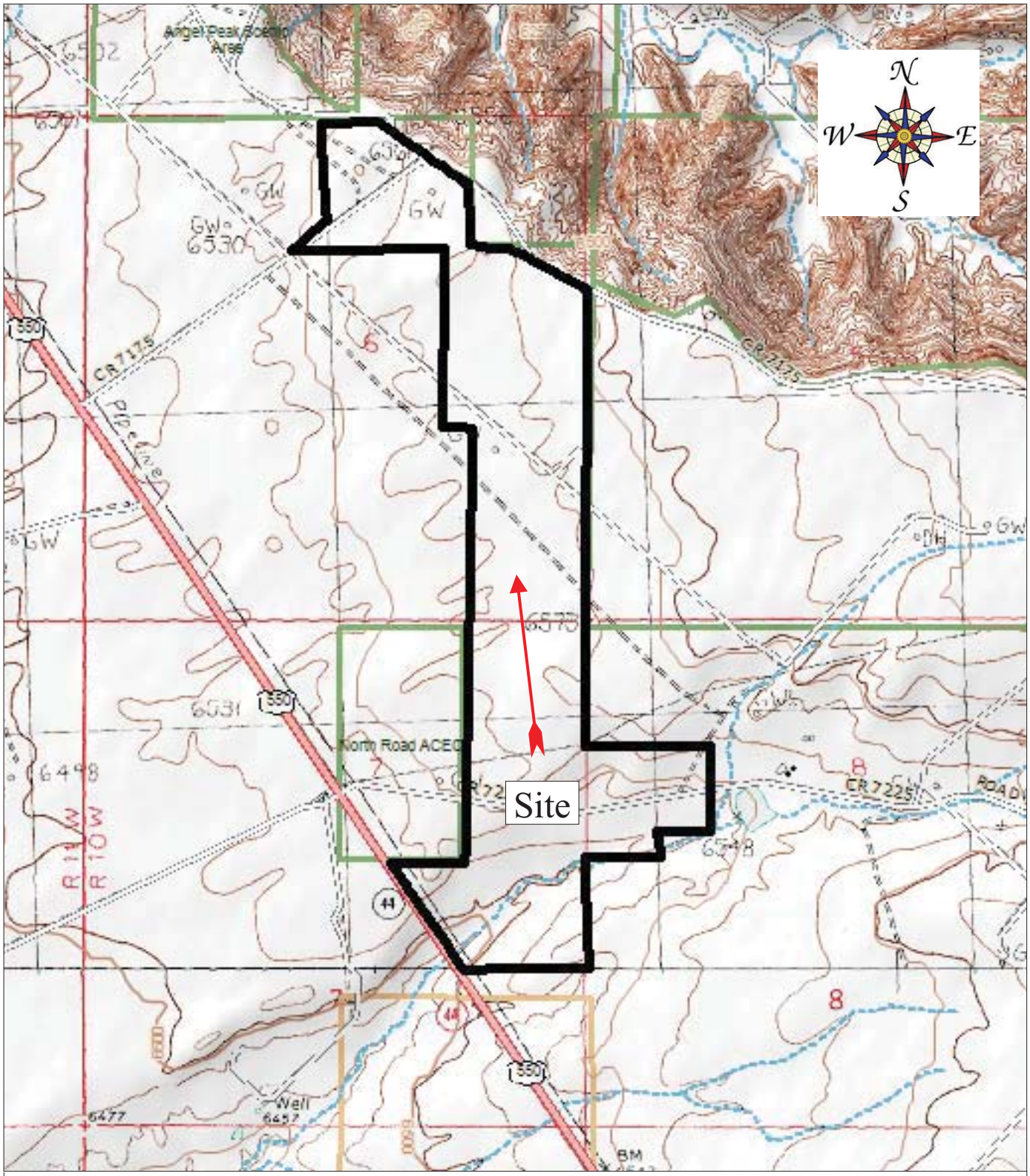
MAP DRAWN: GWC 6/12/19

REVISIONS

NO.	DATE	BY	DESCRIPTION
1			//
2			//
3			//

envirotech
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64
Farmington, New Mexico 87401
505.632.0615

Table 1: Water Well Information within 5 mile radius											
displayName	use	use_of_well	status	pod_status	own_lname	own_fname	depth_well	depth_water	distance_to_center	utm_easting	utm_northing
SJ 01626	DOM	DOM	PMT	ACT	BROWN	CHARLIE Y.	255	200	7207.717	230607	4041673
SJ 00077	IND	INDUSTRIAL & DO	DCL	null	ENTERPRISE FIELD SERVICES LLC	null	1102	550	4875.167	233964	4049155
SJ 01206	DOM	null	PMT	null	MILLER	GARY	null	null	6941.682	229945	4045723
SJ 04115 POD1	MON	null	PMT	PEN	ENVIROTECH INC.	null	null	null	1522.945	237614.8	4043912.2
SJ 04115 POD2	MON	null	PMT	PEN	ENVIROTECH INC.	null	null	null	635.823	237086.3	4045838.4



Source: 7.5 Minute, East Fork Kutz Canyon, New Mexico U.S.G.S. Topographic Quadrangle Map
Scale: 1:24,000 1" = 2000'

Figure 4 Proposed Landfarm #4 San Juan County, New Mexico		envirotech ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 Farmington, New Mexico 87401 505.632.0615	Topo Map and Facility Boundary Figure 4	
Project Number:LF4	Date Drawn: 6/12/19		DRAWN BY: Greg Crabtree	PROJECT MANAGER: Morris Young

Attachment #3

- Names and Addresses of Surrounding Property Owners
- Parcel Map

Surface Owner Information

The surface owner of Landfarm #4 is:

Morris D. Young
Young Environmental Services
5796 U.S. Highway 64
Farmington, New Mexico 87401

Owners of real property located within *one mile* of Landfarm #4's surveyed boundary is:

Morris D. Young
Young Environmental Services
5796 U.S. Highway 64
Farmington, New Mexico 87401

U.S. Bureau of Land Management
6251College Blvd.
Farmington, New Mexico 87401

Larry Groen Trust
Post Office Box 36
Bloomfield, New Mexico 87413

Michael Schwebach
30 Road 2337
Aztec, New Mexico 87410

Wallace C. Sullivan
Post Office Box 316
Keene, Texas 76059

David C. Sullivan Trustees
1003 Road 333
Igancio, CO 81137

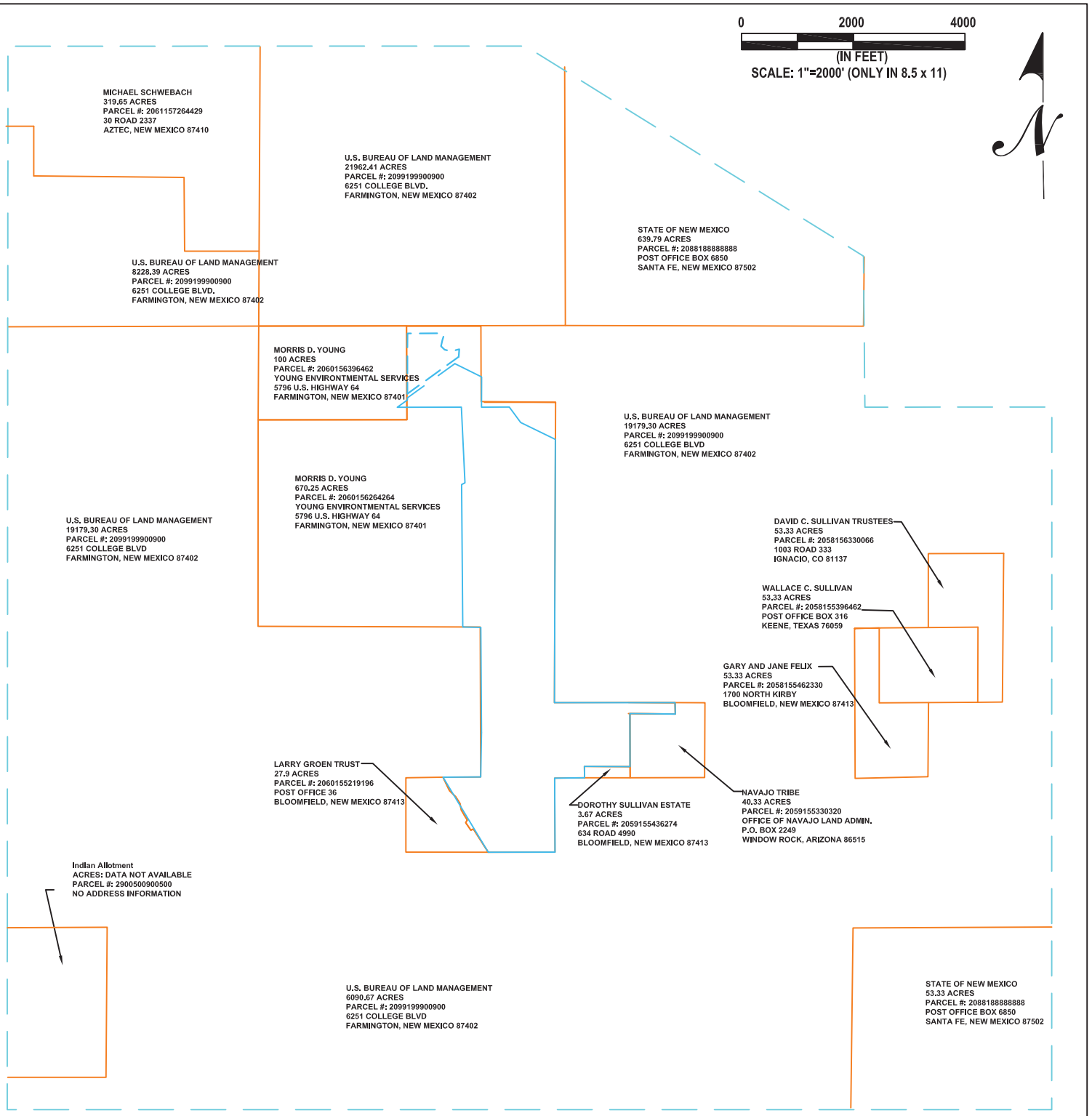
Gary and Jane Felix
1700 North Kirby
Bloomfield, New Mexico 87413

Dorothy Sullivan Estate
634 Road 4990
Bloomfield, New Mexico 87413

Navajo Tribe
Office of Navajo Land Administration
Post Office Box 2249
Window Rock, Arizona 86515

State of New Mexico
Post Office Box 6850
Santa Fe, New Mexico 87502

See Figure 1, Parcel Map for property locations in reference to Landfarm #4.



KEY

- ONE MILE BOUNDARY
- PARCEL LINES
- SURVEYED LANDFARM #4 BOUNDARY

ATTACHMENT 3 FIGURE 1
PARCEL MAP
LANDFARM #4 PERMIT

DRWN BY: GWC	DATE DRWN:6/19	PROJECT NO:----

envirotech
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

Attachment #4

Landfarm #4
Facility Description

June 2019

TABLE OF CONTENTS

Introduction

The Envirotech, Inc.'s (Envirotech) Landfarm #4 is a proposed New Mexico Oil Conservation Division (NMOCD) permitted soil remediation facility. Landfarm #4 is a total of 341 acres with approximately 212.4 acres of farmable area. The farmable area was determined after subtracting the surface area of existing pipeline right of ways (ROW), oil and gas well sites, the required 100-foot facility perimeter buffer, watercourse buffer, and the Great North Road buffer from the total facility acreage; see ***Figure 4A, Farmable Area.***

Landfarm #4 – North Side

The portion of Landfarm #4 located on the north side of Angel Peak Road consists of 13.8 acres, and the facility boundary will be delineated by a four-strand barbed wire fence and an earthen berm, 3-feet in height, within the fenced perimeter. Secured access will be provided via a utility gate on the northside of Angel Peak Road.

A 100-foot perimeter buffer, comprising of a 2-foot high earthen berm, will be constructed on the east, west, and north sides of the facility. The subject portion of the facility is bound to the south by Angel Peak Road; therefore, the south perimeter buffer will include a 2-foot high earthen berm located 20 feet from the edge of Angel Peak Road. Per paragraph (2) of 19.15.36.15.C NMAC, contaminated soil will not be placed within the facility perimeter buffer.

The farmable area, for the placement of contaminated soil within the subject north side of Landfarm #4, was calculated to be approximately 7 acres and is identified as Cell 1. A 2-foot high earthen berm will be constructed 100 feet from the east, west, and north sides of the fenced facility perimeter to provide delineation of the farmable area for Cell 1. The southern extent of the farmable area will be delineated by the 2-foot high berm constructed along Angel Peak Road.

Pipeline ROW

The north side of Landfarm #4 is transected by a Hilcorp Energy Company pipeline ROW. The pipeline ROW will be protected by a 2-foot high earthen berm constructed 20 feet from the centerline, which will provide a total of 40 feet for the ROW.

The attached figures illustrate details of the layout and perimeter delineation: ***Figure 4B, Facility Diagram; Figure 4C, Cell Layout; Figure 4D, Utility Gate Detail***; ***Figure 4E, 4-Strand Barb Wire Fence;*** and ***Figure 4F, Berm Details***.

Landfarm #4 – South Side

The portion of Landfarm #4 located south of Angel Peak Road encompasses a total of 327.2 acres, with 205.4 acres of farmable area. The Landfarm #4 portable office trailer will be located on the north side of the subject portion of Landfarm #4; see ***Figure 4B, Facility Diagram***.

The facility boundary will be delineated by a four-strand barbed wire fence and an earthen berm, 3-feet in height, within the fenced perimeter on the north and west sides of the facility boundary.

In order to control storm water run-on along the east and south sides, a swale (diversion ditch) will be constructed between the fence and the 3-foot high perimeter berm; see ***Figure 4A, Farmable Area*** and ***Figure 4F, Berm Details***.

The farmable area, for the placement of contaminated soil within the subject south side of Landfarm #4, was calculated to be approximately 205.4 acres and is identified as Cell 2 through 23. A 2-foot high earthen berm will be constructed 100 feet from the fenced facility perimeters to provide delineation of the farmable area for Cells 2 through 23, with the exception of the north side which is bound by Angel Peak Road. The north side will be delineated by a 2-foot high earthen berm constructed approximate 20 feet from the edge of Angel Peak Road; see ***Figure 4C, Cell Layout.***

The south side of Landfarm #4 will have a total of six utility access gates, one of which exists. The existing gate is located on the south side of Angel Peak Road and identified as "Main Gate" on the attached facility diagrams. The remaining gates will be constructed to allow access to other areas of the Landfarm once it becomes active. These gates will remain closed and locked unless they need to be opened in an emergency situation**.**

Existing Roads

There is a total of two maintained roads that transects Landfarm #4. Angel Peak Road (County Road 7175) provides the main access to the Landfarm and also divides Cell 1 (north side) from Cells 2 through 23 (south side). County Road 7225 transects the south side of Landfarm #4 and divides Cells 2 through 19 from Cells 20 through 23, see ***Figure 4C, Cell Layout***.

A third road transects the Landfarm from north to south along the west side of the southern portion of the Landfarm. The road is identified as the "Chacoan Great North Road", an archeological feature. A 200-foot long protective zone extending north from County Road 7225 will be constructed. A 3-foot high earthen berm will be constructed on each side of the archeological feature in as an added historical preservation best management practice. South of CR 7225 the protection zone extends to a width of 400 feet based on recommendations provided by Mr. Larry Barker of the San Juan County Museum Association Division of Conservation Archaeology. The detailed recommendations from Mr. Barker are provided in the attached ***Appendix***.

Interior facility roads will be maintained and will parallel the perimeter berm and the most southern perimeter boundary. Additionally, an access road will parallel the protected perimeter of the West Fork Gallegos Canyon, an ephemeral stream that transects the Landfarm south of County Road 7225.

Oil and Gas Well Sites

Two active oil and gas well sites are located on the northeastern portion of the subject area, see ***Figure 4B, Facility Diagram***. The well sites are recorded as being owned by Hilcorp Energy

Company and are identified as Huerfano #10R (API# 30-045-20288) and the Huerfano #528 (API# 30-045-29576). The active well sites are not within a designated farmable area for Landfarm #4.

In addition, there are two plugged and abandoned (P&A) well sites located within the permitted boundary of Landfarm #4. The first well site, located on the north side of the subject portion of the Landfarm, is identified as the Huerfano Unit, owned by El Paso Natural Gas (API 30-045-06055), and plugged in 1967. This P&A site is within the archeological boundary of the Chacoan Great North Road; therefore, is not located within a farmable area. The other well, located towards the middle of the subject area, is identified as the Huerfano #66, owned by Burlington Resources (API 30-045-06028), and plugged in 1998. Envirotech has been unable to locate this well site, but based on estimated location, the well site is near the eastern boundary of the Chacoan Great North Road archeological set back.

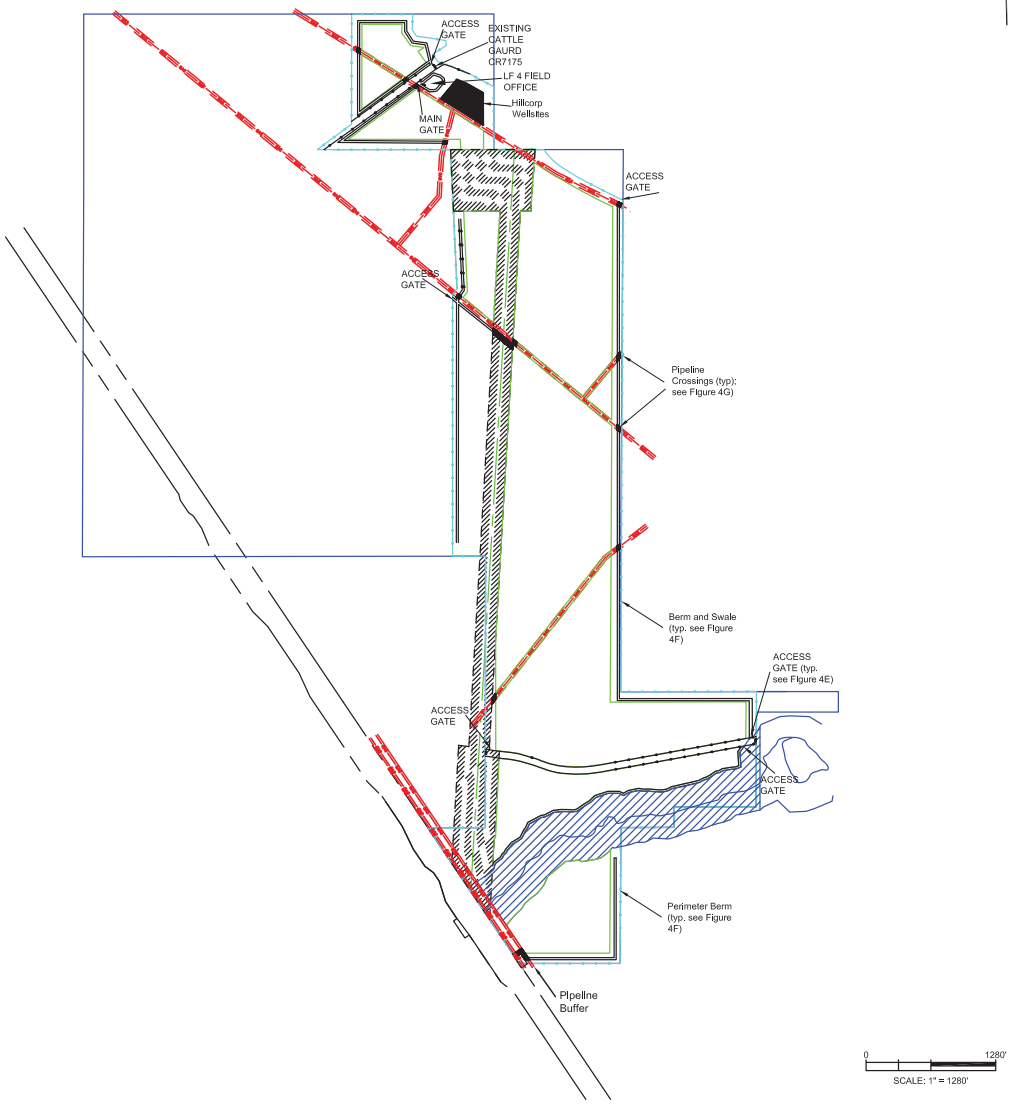
Pipeline ROWs

The southside of Landfarm #4 is transected by five pipelines ROWs. Two of the pipelines are located in the northern portion of the subject area and two pipelines are located near the middle portion. The most southern ROW transection begins near CR 7225 and crosses Landfarm #4 in a northeasterly direction. All pipeline ROWs will be protected by a 2-foot berm which will provide a 40-foot ROW, 20 feet on either side of the pipeline centerline; see ***Figure 4B, Facility Diagram*** and ***Figure 4F, Berm Details***.

Landfarm #4 Traffic

Traffic entering the north or south side of Landfarm #4 will use one of the seven (7) utility gates. Upon inspection and/or testing (paint filter and chloride) the truck will be approved for entry and a disposal cell will be assigned to the truck for the placement of soils or drill cuttings. Trucks and landfarm personnel will use the designated interior facility roads and the area between the facility perimeter berms and 100-foot buffer berm to navigate throughout the landfarm. Armored berm crossings will be installed along pipeline ROWs and the Chacoan Great North Road protection zone to gain access to all landfarm cells; see ***Figure 4B, Facility Diagram*** and ***Figure 4G, Berm Crossing Details.***

Figures



Legend

- Facility Boundary
- Farmable Area
- Watercourse Buffer
- Archeological Buffer
- Surveyed Property Line
- GAS — Gas Line w/ Buffer
- Unfarmable Area
- 100 Ft Facility Buffer

FIGURE 4A
FARMABLE AREA
LANDFARM #4 PERMIT

SCALE: 1" = 1280'					
PROJECT NO. Landfarm 4					
MAP DRWN	GWC		BASE DRWN		

envirotech
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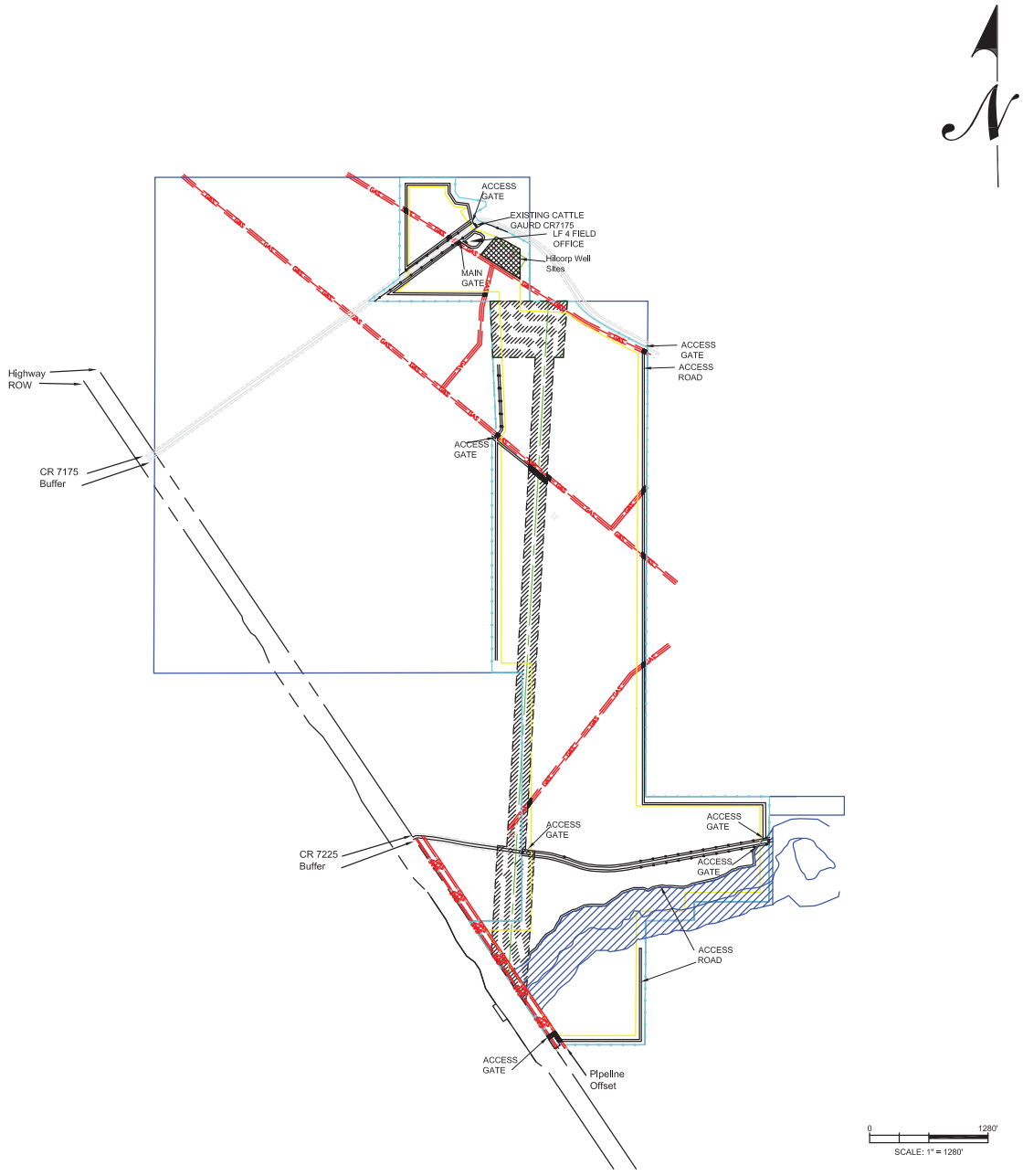

Legend

- Facility Boundary
- Unfarmable Area
- Watercourse Buffer
- 100 Ft Facility Buffer
- Archeological Buffer
- P&A Gas Well
- Surveyed Property Line
- Active Gas Well
- GAS — Gas Line w/ Buffer

FIGURE 4B
FACILITY DIAGRAM
LANDFARM #4 PERMIT

SCALE1" = 1280'					
PROJECT NO.Landfarm 4					
MAP DRWN	GWC		BASE DRWN		

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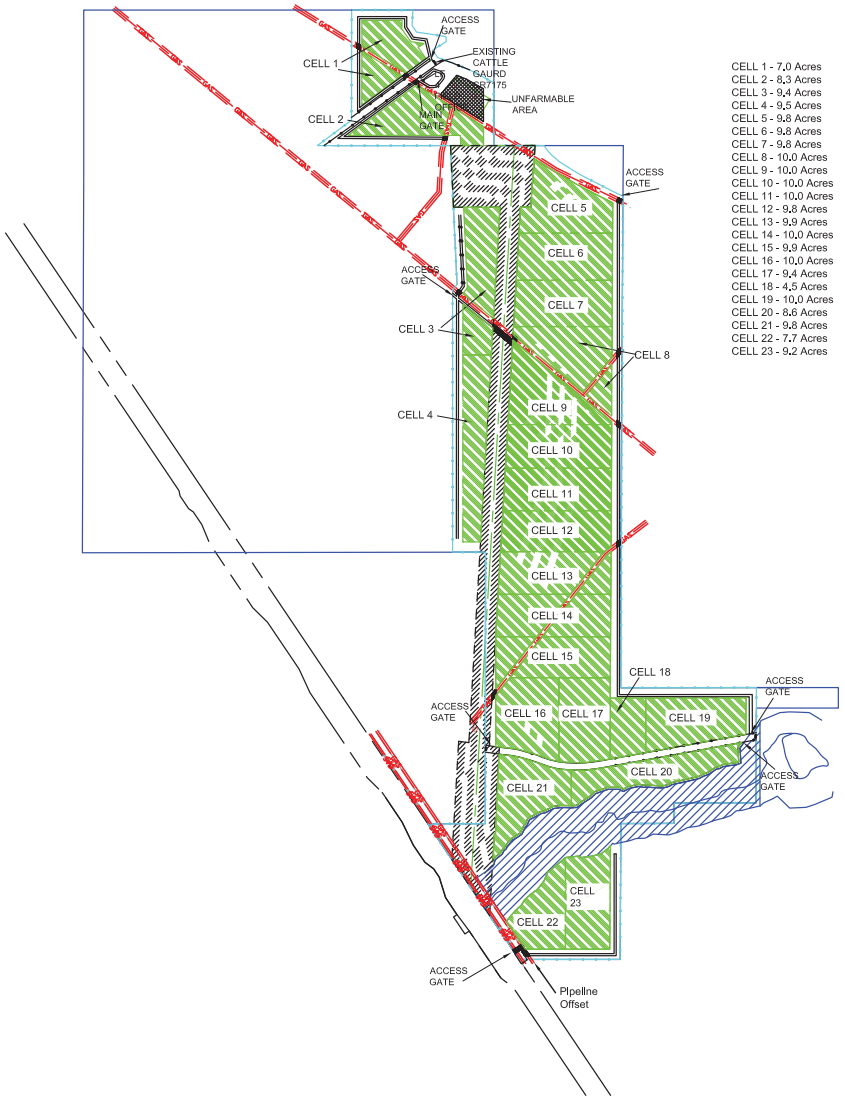

Legend

- Facility Boundary
- Farmable Area
- Watercourse Buffer
- Archeological Buffer
- Surveyed Property Line
- Gas Line w/ Buffer
- Unfarmable Area
- 100 Ft Facility Buffer
- Cell Area

FIGURE 4C
CELL LAYOUT
LANDFARM #4 PERMIT

SCALE: 1" = 1280'					
PROJECT NO. Landfarm 4					
MAP DRWN	GWC		BASE DRWN		

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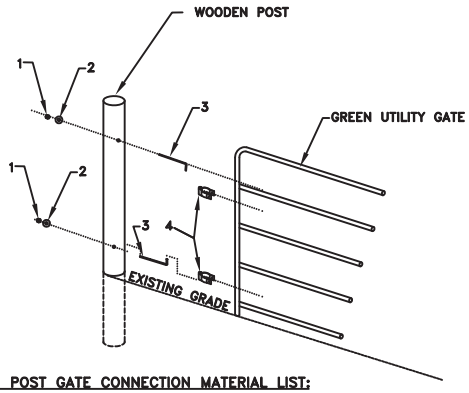
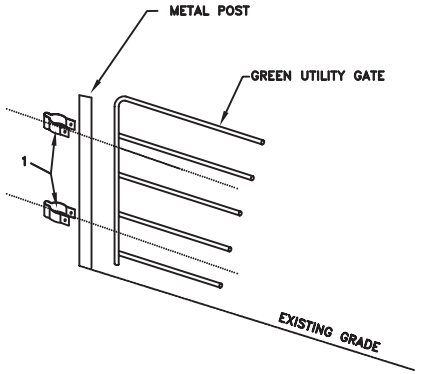


WOODEN POST GATE CONNECTION MATERIAL LIST:

1. NUT, HEX JAM PLATED
2. WASHER, FLAT PLATED
3. BOLT HOOK, PLATED WITH NUT HEX AND WASHER
4. HINGE, PLATED WITH 3/8" CARRIAGE BOLT AND 3/8" NC HEAVY HEX FLANGED ZP

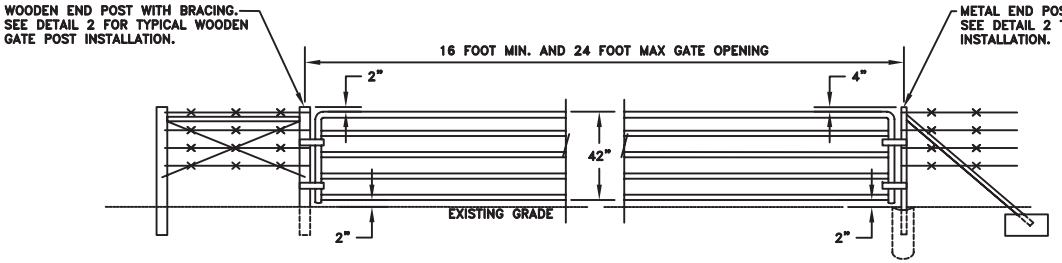
*SEE "INSTALLATION GUIDE" UNDER UTILIT GATE WITH WOODEN POSTS ON THIS PAGE FOR INSTALLATION DETAILS. INSTALLATION WILL VARY PER MANUFACTURER, IT IS RECOMMENDED MANUFACTURER INSTALLATION IS FOLLOWED.



METAL POST GATE CONNECTION MATERIAL LIST:

1. STANDARD HINGE
2. BOLT, PLATED WITH NUT HEX AND WASHER

*SEE "INSTALLATION GUIDE" UNDER UTILIT GATE WITH METAL POSTS ON THIS PAGE FOR INSTALLATION DETAILS. INSTALLATION WILL VARY PER MANUFACTURER, IT IS RECOMMENDED MANUFACTURER INSTALLATION IS FOLLOWED.



UTILITY GATE WITH WOODEN POSTS

Installation Guide:
1. Drill holes in the wooden post all the way through
2. Thread each bolt hook (3) with a nut (1) and washer (2). Place in the hole with the pintle side on the end where the gate is to be hung. To ensure the gate is fastened securely, place on bolt hook down and one up.
3. Thread bolt hooks (3) on end with washer (2) and nut (1).
4. Install hinges (4) on gate. An extra long bolt is provided as a starter bolt to compress the hinge. After the hinge is compressed, place bolt (5) through hole and screw on nut (6). Tighten the bottom hinge and leave top hinge loose in order to slide it.
5. Place gate on bottom bolt hook (3). With gate in position. slide top hinge (4) onto bolt hook (3) and fasten securely in place.

*FOLLOW THE MANUFACTURERS INSTALLATION GUIDE FROM THE COMPANY THE GATE IS PURCHASED.

UTILITY GATE WITH METAL POSTS

Installation Guide:
1. Place standard hinges (1) on metal post where the gate is to be hung. To ensure the gate is fastened securely, verify hinges are securely placed on the metal post.
2. Install hinges (1) on gate. An extra long bolt is provided as a starter bolt to compress the hinge. After the hinge is compressed, place bolt through hole and screw on nut. Tighten the bottom hinge and leave top hinge loose in order to slide it.
3. Fasten each hinge securely in place.

*FOLLOW THE MANUFACTURERS INSTALLATION GUIDE FROM THE COMPANY THE GATE IS PURCHASED.

FIGURE 4D
UTILITY GATE DETAIL
LANDFARM #4 PERMIT

SCALE: N.T.S.		FIGURE NO.				
PROJECT NO.						
MAP DRWN	JKA		BASE DRWN			

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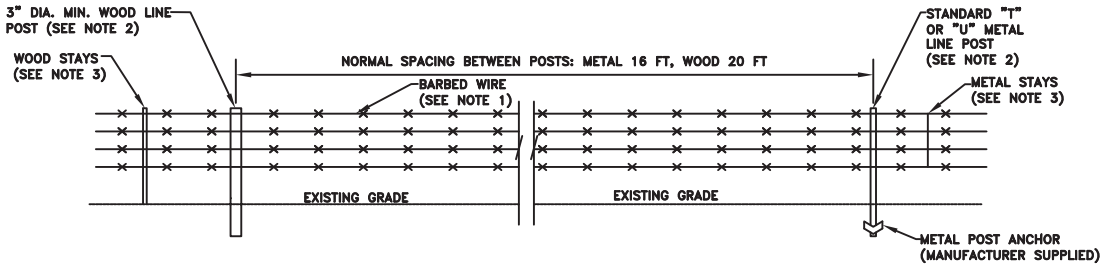
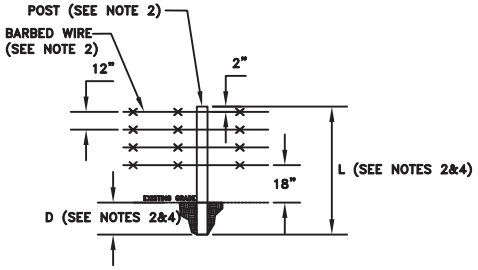
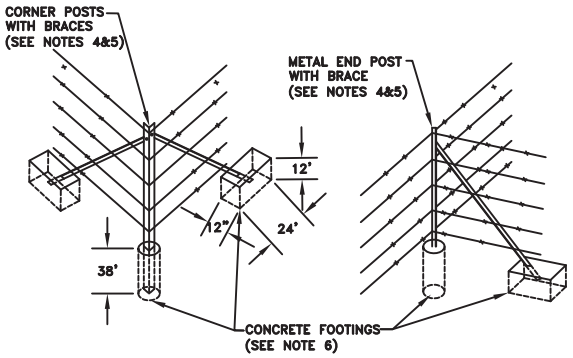


BARBED WIRE FENCE WITH WOODEN POSTS

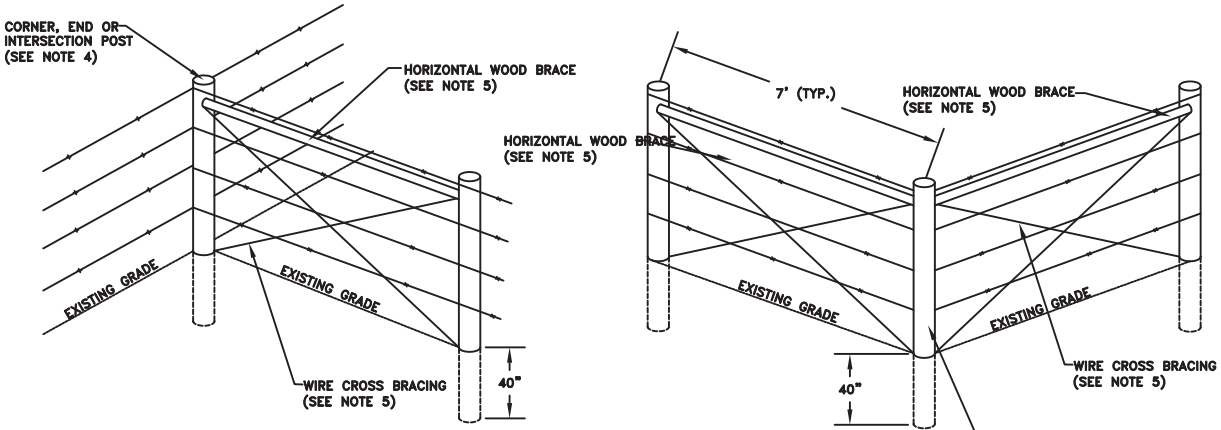
BARBED WIRE FENCE WITH METAL POSTS



TYPICAL POST INSTALLATION



TYPICAL METAL CORNER POST, GATE AND FENCE INTERSECTION INSTALLATION



TYPICAL WOODEN CORNER POST, FENCE INTERSECTION AND GATE INSTALLATION

NOTES:

1. BARBED WIRE:

ZINC-COATED STEEL BARBED WIRE SHALL CONFORM TO AASHTO M 280, (ASTM A 121), 12-1/2 GAUGE WITH CLASS 1 COATING, OR ALUMINUM-COATED STEEL BARBED WIRE CONFORMING TO ASTM A 585 TYPE 1.

2. LINE POSTS:

METAL: L = 6 FT MIN.
D = 28 INCHES
STANDARD STUDDED "T" OR "U" (WITH METAL ANCHOR)
WEIGHT: 1.33 LBS/LINEAR FOOT (WEIGHT WITHOUT ANCHOR)
ANCHOR: SECURELY FASTENED WITH BEARING SURFACE SUFFICIENT TO RESIST MOVEMENT OF POST. ANCHOR WEIGHT: 0.67 LB

WOOD: L = 6 FT MIN.
D = 28 INCHES
DIA. = 4 IN. MIN.

THE BARBED WIRE SHALL BE STAPLED TO WOODEN POSTS OR TIED TO METAL POSTS.

3. STAYS BETWEEN POSTS (IF REQUIRED):

METAL: 9.5 GAUGE, ZINC COATED TWISTED MANUFACTURED FOR USE AS STAY.

WOOD: 2 IN. DIA MIN OF DURABLE WOOD.

RECOMMENDED ONE STAY BETWEEN POSTS AT NORMAL POST SPACING.

4. CORNER, FENCE INTERSECTION OR GATE POSTS:

METAL: L = 7 FT MIN.
D = 3 FT MIN. SET IN CONCRETE
2 1/2 x 2 1/2 x 1/4 INCH STRUCTURAL STEEL ANGLE
WEIGHT: 4.10 LBS/LINEAR FOOT

WOOD: L = 7 FT MIN.
D = 3 1/3 FT MIN.
DIA = 5 INCH MIN.

THE BARBED WIRE SHALL BE STAPLED TO WOODEN POSTS OR TIED TO METAL POSTS.

5. CORNER OR INTERSECTION BRACING:

METAL: L = 7 FT MIN.
D1 = 34 INCHES
D2 = 10 INCHES
2 x 2 x 1/4 INCH STRUCTURAL STEEL ANGLE
WEIGHT: 3.19 LBS/LINEAR FOOT

WOOD: L = 7 FT MIN
D = 40 INCHES
DIA = 3 INCHES
DRILL APPROPRIATE DIAMERTER HOLE APPROXIMATELY 2-3 INCHES INTO VERTICAL WOOD POSTS AND INSERT EACH END OF WOOD BRACE INTO EACH VERTICAL POST HOLE, SO BRACE IS HORIZONTALLY AND IS BRACED BY A VERTICAL POSTS ON EITHER SIDE.

WIRE CROSS BRACING: NO. 12 1/2 GAUGE BRACE WIRE, DOUBLE STRAND.

6. METAL CORNER, INTERSECTION AND GATE FOOTINGS/BASES:

ALL CONCRETE SHALL BE CLASS B CONCRETE WITH LIGHTWEIGHT AGGREGATES CONFORMING TO AASHTO M 195 (ASTM C 330) WILL BE PERMITTED.

FIGURE 4E
4-STRAND BARBED WIRE FENCE
LANDFARM #4 PERMIT

SCALE: N.T.S.		FIGURE NO.				
PROJECT NO.						
MAP DRWN	JKA		BASE DRWN			

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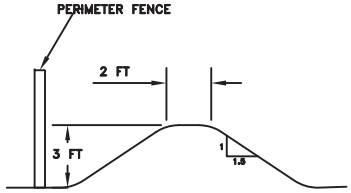
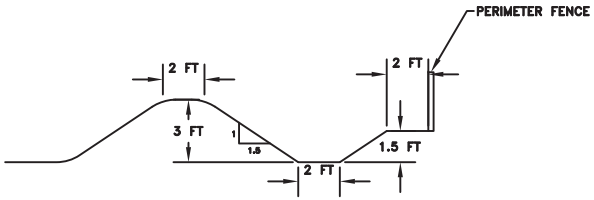
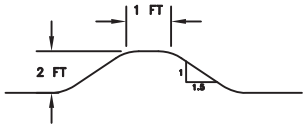


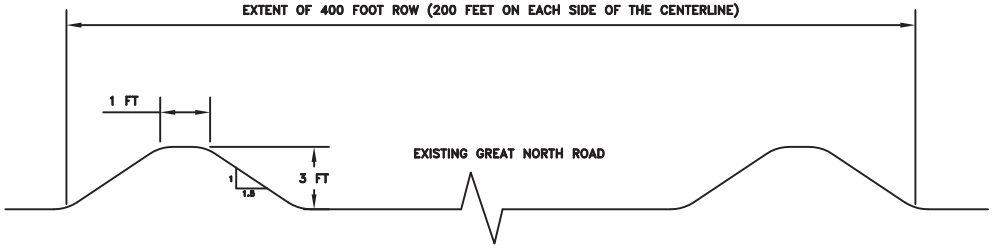
Section A–A: 3 FOOT PERIMETER BERM CONSTRUCTION
To be constructed around Tract 1 of Landfarm #4 and the north, south and west property line of Tract 2 of Lanfarm #4



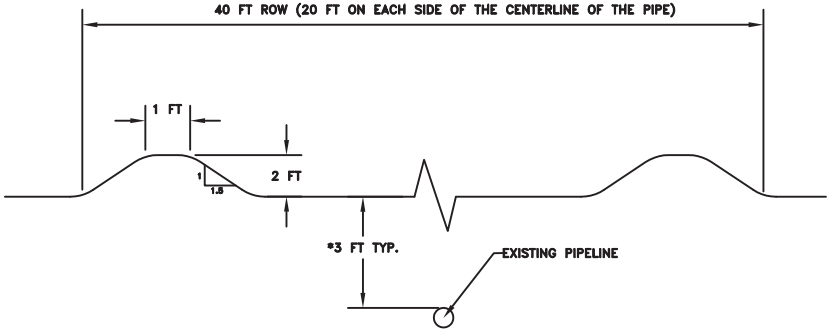
Section B–B: 3 FOOT PERIMETER BERM AND SWALE COMBINATION
To be constructed around east property line of Tract 2 of Landfarm #4



Section C–C: 2 FOOT LANDFARM CELL BERMS
To be constructed around each 10 acre Landfarm Cell in Landfarm #4



Section D–D: 3 FOOT GREAT NORTH ROAD ARCH PROTECTION ZONE BERM



Section E–E: 2 FOOT PIPELINE RIGHT OF WAY BERM
* ACTUAL DEPTH OF EXISTING PIPELINE IS UNKNOWN THEREFORE ONLY FILL OVER PIPELINES, DO NOT DIG.

GENERAL NOTES ON BERM CONSTRUCTION:
TYPE OF SOIL:

USE A WELL SOIL FOR THE MAJORITY OF THE BERM ADD QUALITY TOPSOIL TO THE TOP FOOT OF THE BERM IN ORDER TO ENCOURAGE PLANT GROWTH AND HELP WITH FINAL STABILIZATION OF THE BERM.

PLACE SOILS IN 6 INCH LIFTS AND COMPACT EACH LIFT PRIOR TO ADDING MORE SOIL, UNTIL DESIRED BERM HEIGHT IS REACHED AND TOP LAST FOOT WITH A QUALITY TOPSOIL.

SHAPE OF BERM:

BERMS SHOULD BLEND INTO THE LANDSCAPE IF POSSIBLE, THE TRANSITION BETWEEN THE EXISTING GRADE AND SLOPE OF THE BERM SHOULD BE GRADUAL, AVOID ABRUPT CHANGES IN GRADE TO HELP LIMIT EROSION.

FIGURE 4F
BERM DETAILS
LANDFARM #4 PERMIT

SCALE: N.T.S.	FIGURE NO.				
PROJECT NO.					
MAP DRWN JKA			BASE DRWN		

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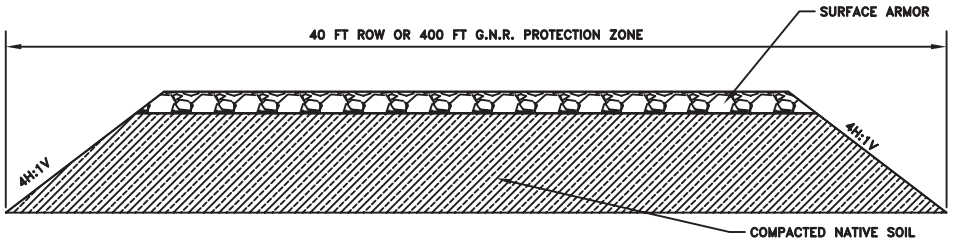


PIPELINE ROW AND GREAT NORTH ROAD PROTECTION ZONE CROSSING DETAIL
CROSS SECTION

BERM CROSSINGS

SOIL TYPE

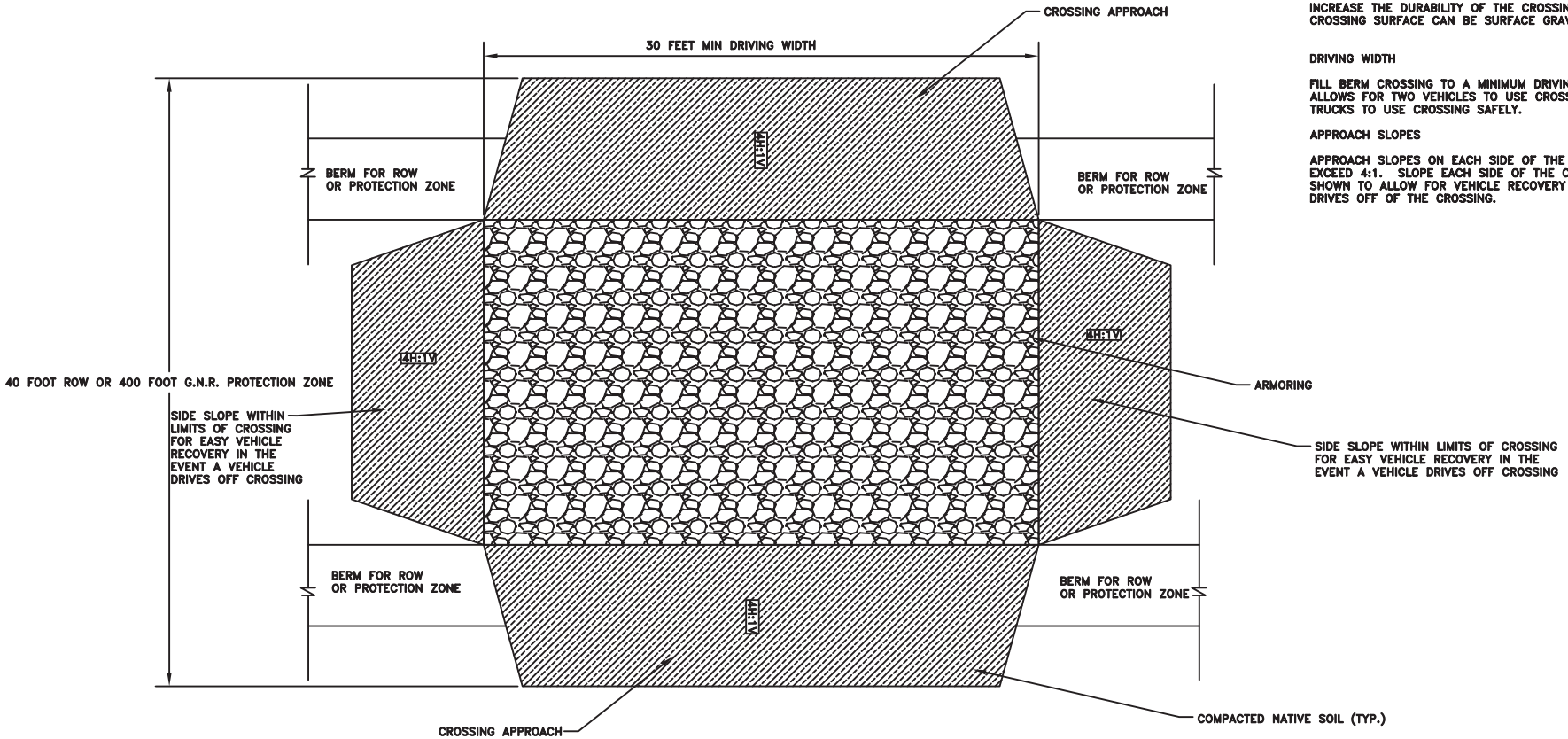
NATIVE SOIL CLEAR OF LARGE ROCKS AND DEBRIS CAN BE USED FOR THE MAJORITY OF THE FILL. PLACE NATIVE SOIL IN 6-8" LIFTS AND COMPACT EACH LIFT PRIOR TO ADDING AN ADDITIONAL LIFT. TO INCREASE THE DURABILITY OF THE CROSSING THE TOP 8" OF THE CROSSING SURFACE CAN BE SURFACE GRAVEL.

DRIVING WIDTH

FILL BERM CROSSING TO A MINIMUM DRIVING WIDTH OF 30 FEET, THIS ALLOWS FOR TWO VEHICLES TO USE CROSSING AT ONCE OR LARGER TRUCKS TO USE CROSSING SAFELY.

APPROACH SLOPES

APPROACH SLOPES ON EACH SIDE OF THE BERM CROSSINGS SHALL NOT EXCEED 4:1. SLOPE EACH SIDE OF THE CROSSING AT A 4:1 TO AS SHOWN TO ALLOW FOR VEHICLE RECOVERY IN THE EVENT A VEHICLE DRIVES OFF OF THE CROSSING.



PIPELINE ROW AND GREAT NORTH ROAD PROTECTION ZONE CROSSING DETAIL
PLAN VIEW

FIGURE 4G
BERM CROSSING DETAILS
LANDFARM #4 PERMIT

SCALE: N.T.S.				FIGURE NO.		
PROJECT NO.						
MAP DRWN	JKA		BASE DRWN			

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Appendix

SAN JUAN COUNTY MUSEUM ASSOCIATION
Salmon Ruins Museum
Research Library
Division of Conservation Archaeology
Heritage Park

October 2, 2018

Mr. Morris Young
Envirotech
5796 US Highway 64
Farmington, NM 87401

Re: Chacoan North Road Transecting Private Property

Dear Mr. Young:

Per your request, archaeological staff from the Division of Conservation Archaeology/Salmon Ruins Museum, once again, surveyed Segment 7 of the Chacoan Great North Road extending through your private property south of Bloomfield, New Mexico (T.26N., R. 10 W., Sections 6 & 7). Our firm's archaeologists confirmed and flagged (pink flagging) the staked, field centerline of the road and used a total of 10 meters (33 ft.) for the road width. From the center of the road, lath flagged with orange and blue was positioned 18 meters (60 ft.) from centerline of the road, east and west respectively, and serves to mark a cultural buffer along the entire length of the road from the Arena Alta Site (LA 34307) to the well pad adjacent County Road No. 7225. The Arena Alta Site was delineated along its southern margin with lath and blue flagging as a visible barrier approximately 75 meters (246 ft.) from the defined site boundary. This includes the possible berms along the road at the southeast margin of the site area. No additional features were observed along the road alignment during our pedestrian survey, however a few isolated artifacts were noted.

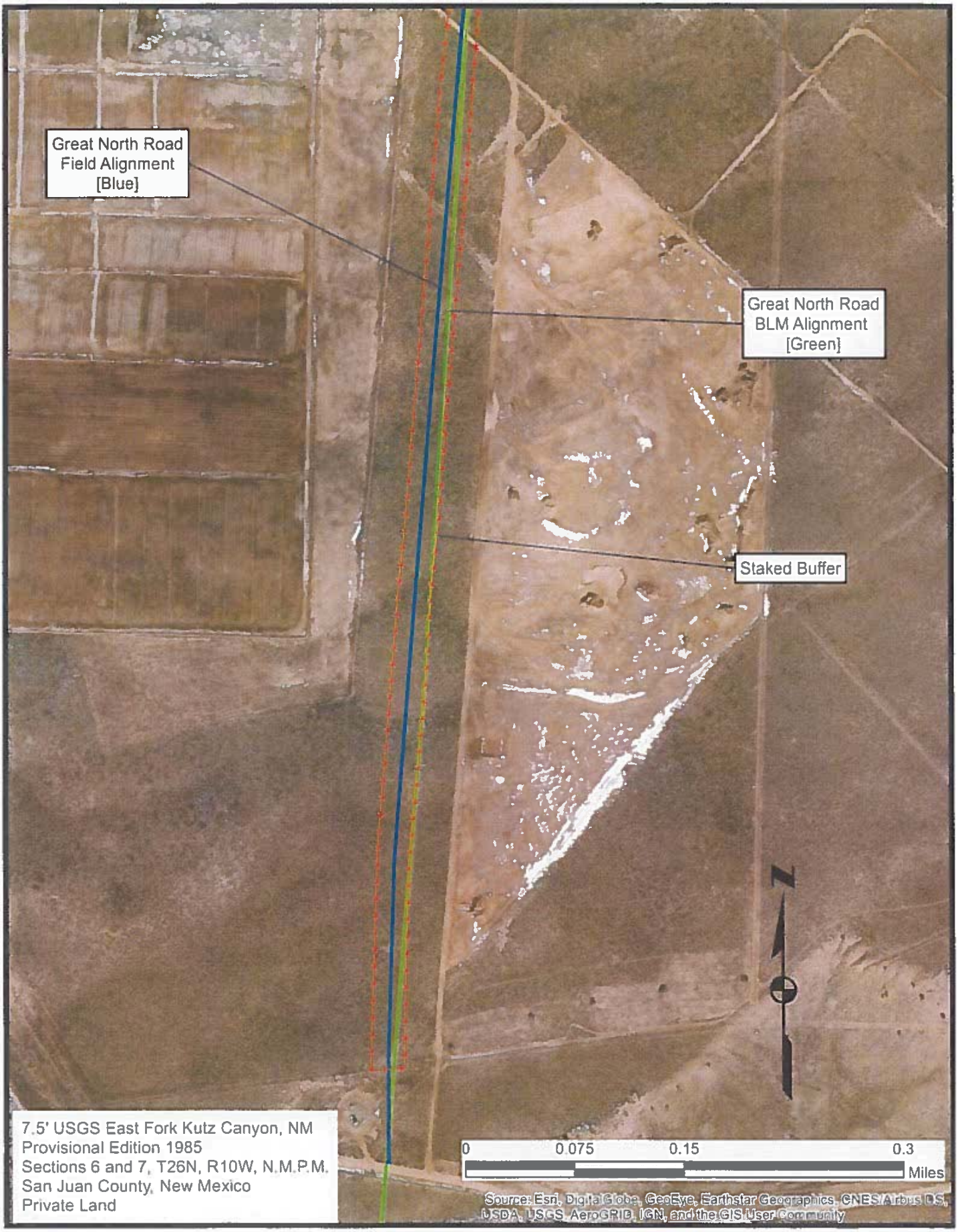
A map delineating the center of the North Road field alignment (shown in blue), the buffer margins, and the flagged area south of Arena Alta are shown. Please note that we have included on this map an alignment from the Bureau of Land Management Great North Road shape file, which positions the North Road alignment (shown in green) on or immediately adjacent the buffer's east side margin along the southern three quarters of its extent. I might suggest that this warrants some additional consideration related to any construction in the southern portion of the east side of the defined buffer.

I appreciate your concern related to the preservation of the Great North Road and Arena Alta on your private fee surface. If you have any additional questions or need further assistance, please feel free to contact me.

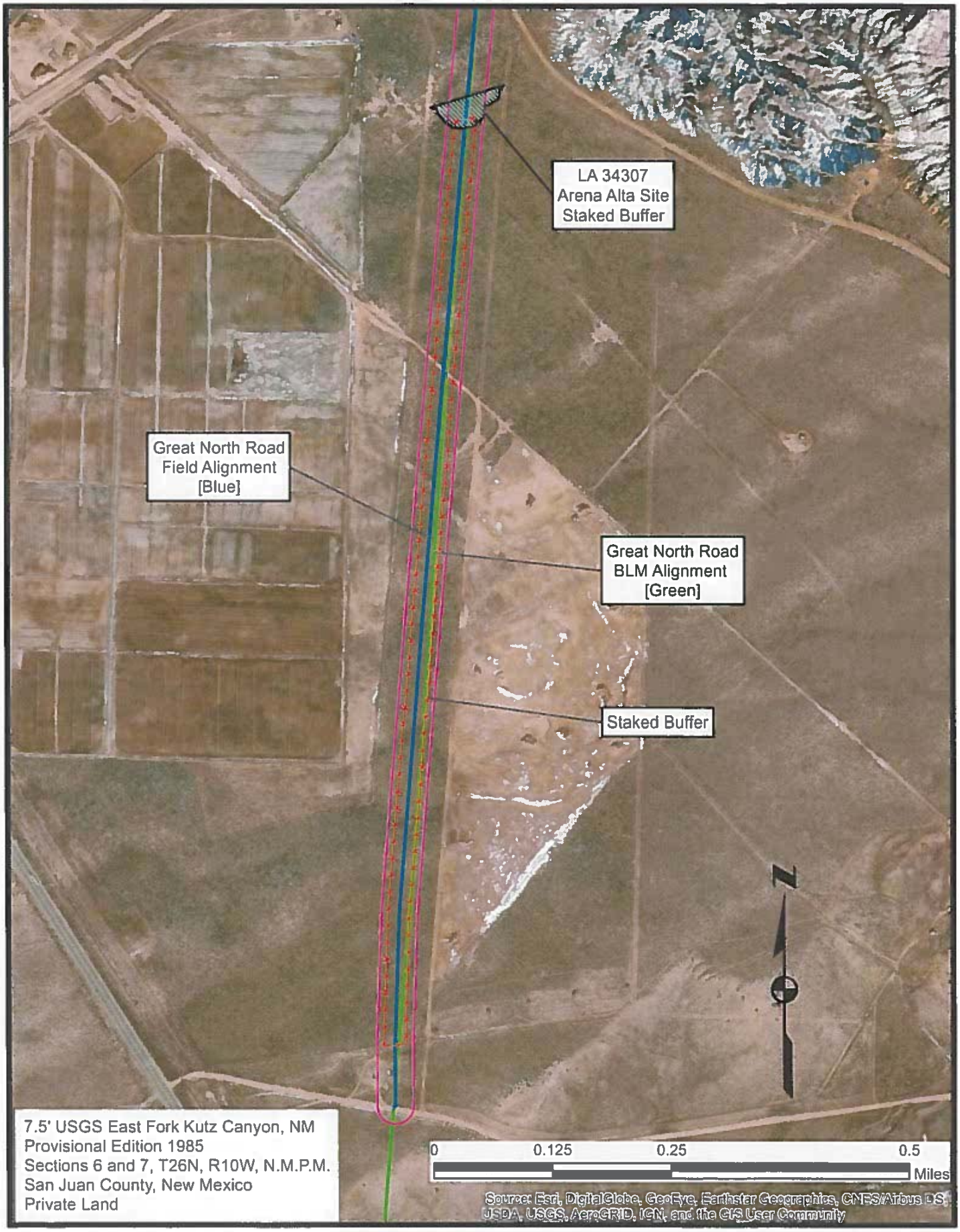
Sincerely,

Larry L. Baker
Executive Director

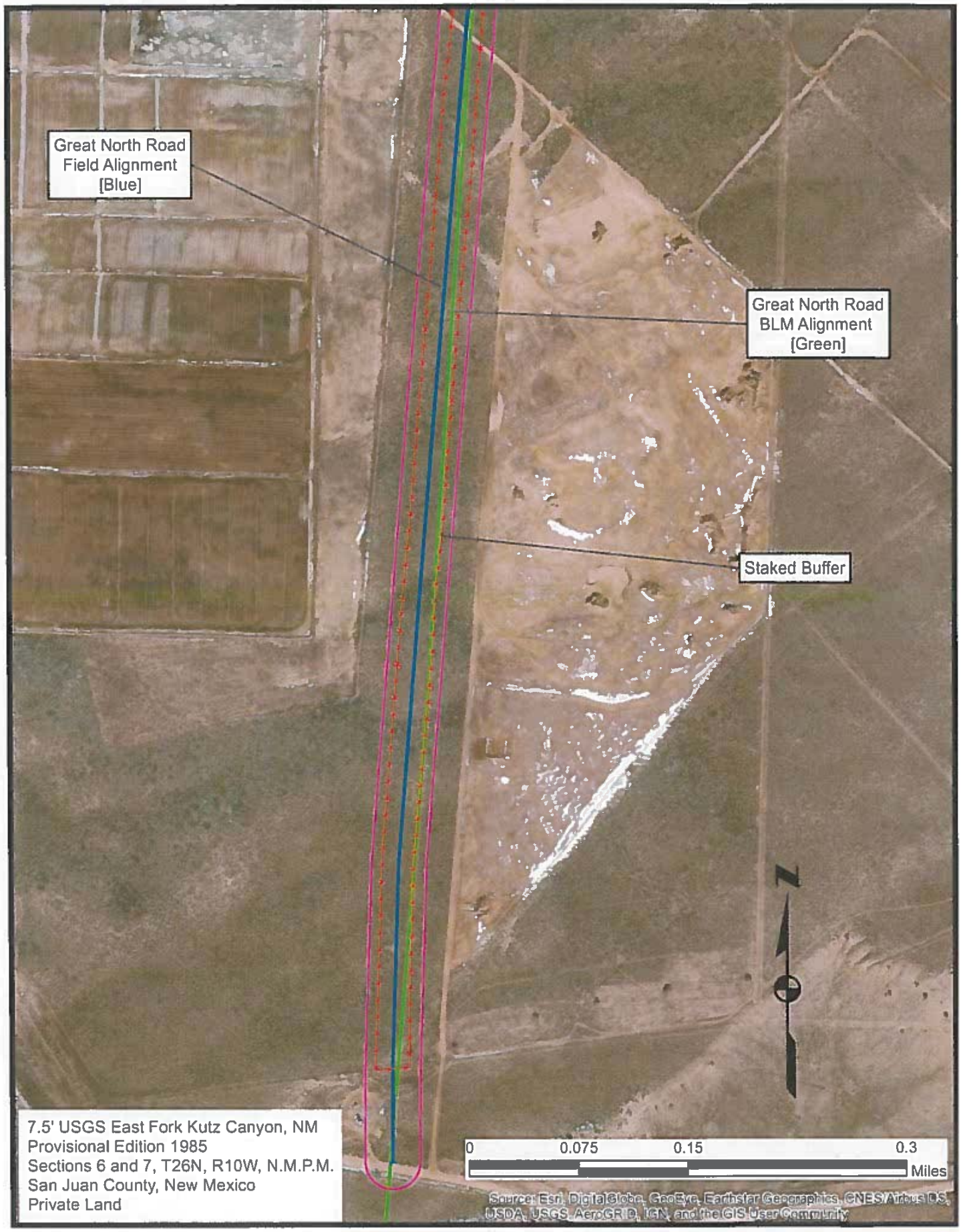
VICNITY MAP


Great North Road
Field Alignment
[Blue]
Great North Road
BLM Alignment
[Green]
Staked Buffer
N
7.5' USGS East Fork Kutz Canyon, NM
Provisional Edition 1985
Sections 6 and 7, T26N, R10W, N.M.P.M.
San Juan County, New Mexico
Private Land
0
0.075
0.15
0.3
Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

VICNITY MAP


LA 34307
Arena Alta Site
Staked Buffer
Great North Road
Field Alignment
[Blue]
Great North Road
BLM Alignment
[Green]
Staked Buffer
N
7.5' USGS East Fork Kutz Canyon, NM
Provisional Edition 1985
Sections 6 and 7, T26N, R10W, N.M.P.M.
San Juan County, New Mexico
Private Land
0
0.125
0.25
0.5
Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

VICINITY MAP



7.5' USGS East Fork Kutz Canyon, NM
Provisional Edition 1985
Sections 6 and 7, T26N, R10W, N.M.P.M.
San Juan County, New Mexico
Private Land

SAN JUAN COUNTY MUSEUM ASSOCIATION
Salmon Ruins Museum
Research Library
Division of Conservation Archaeology
Heritage Park

October 31, 2018

Mr. Morris Young
EnviroTech
5796 US Highway 64
Farmington, NM 87401

Re: Segment of Chacoan North Road Between County Road 7225 Extending South to US Highway 550

Dear Mr. Young:

Per your request, archaeological staff from the Division of Conservation Archaeology/Salmon Ruins Museum surveyed a portion of the Chaco Great North Road, extending from County Road 7225 south to the unnamed drainage (arroyo) at the point it intersects US Highway 550. This distance is approximately 0.3 mile. Based on the Bureau of Land Management's shape file for the prehistoric road alignment, slightly less than one-half of the distance of the road's northern section in the area under consideration is at the western margin of BLM land and the remaining southern section of the road is on private land (see attached map).

Using the shape file as reference in a hand held GPS unit, our archaeologists flagged the BLM projected road centerline with lath and pink flagging and defined the prehistoric road feature as 10 meters (33feet) in width. From the centerline of the road, lath flagged with orange and blue was positioned 18 meters (60 feet) from the centerline of the road, east and west respectively, which serves to mark a buffer along the length of the current survey (see attached map for buffer designation).

Our staff's Archaeological Records Management review and pedestrian survey identified two, previously recorded archaeological sites, LA 172348 and LA 172347, as well as additional isolated artifacts. Site LA 172348 is mostly located on BLM land and LA 172347 is positioned on your private surface, both identified in 2011. Also identified in this area during earlier work is an alternate position of the North Road alignment (Site LA 119584), positioned east of the BLM shape file North Road plat and extending through Site LA 172347. This is located on your private fee surface. Site LA 172347 and the North Road alignment are not chronologically or culturally linked. Although the alternate road alignment and the BLM shape file plat of the

road's position gives some pause for confusion, it should be noted that other parallel road segments have been identified, such as the parallel roads south of this area near the Carson Divide Site. Consequently, parallel road segments in this area of consideration cannot be ruled out.

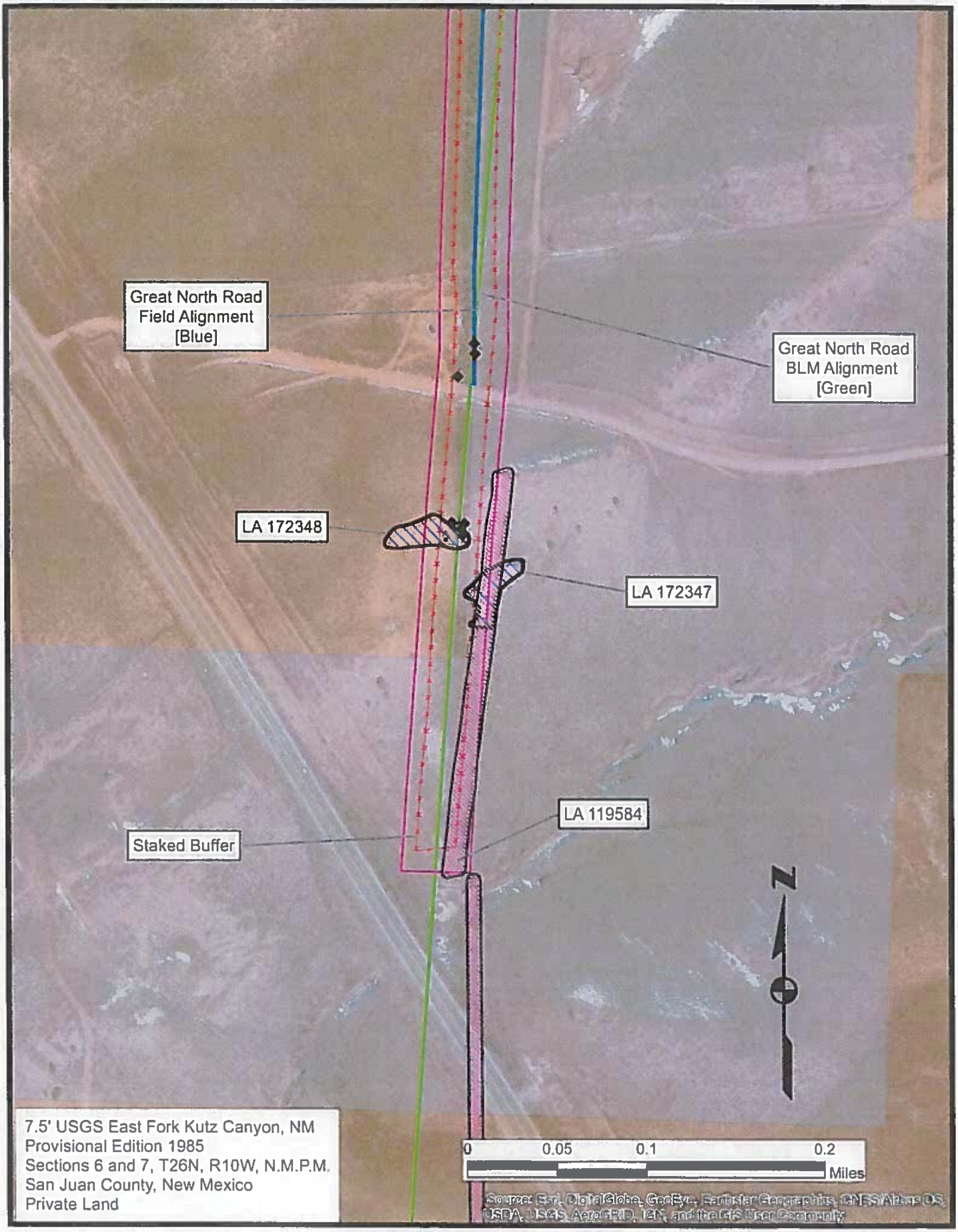
As always, I appreciate your concern related to preservation of the Great North Road on your private surface. I might suggest that some additional width be provided as a buffer in the area of possible parallel road segments during your future construction efforts. If you have any additional questions or further assistance, please feel free to contact me.

Sincerely,

Larry L. Baker
Executive Director

Enclosure (1)

VICINITY MAP



7.5' USGS East Fork Kutz Canyon, NM
Provisional Edition 1985
Sections 6 and 7, T26N, R10W, N.M.P.M.
San Juan County, New Mexico
Private Land

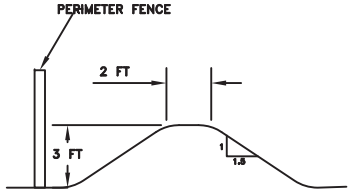
Attachment #5

Landfarming

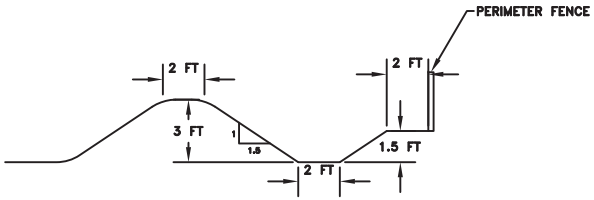
Envirotech will be utilizing a Landfarming technique to treat petroleum contaminated soil that is generated at various oil and gas sites across the Four Corners Region. Landfarming is a bioremediation technique that breaks down the hydrocarbons by microbiological processes and also by oxidation from the sun.

The Landfarm system is laid out in such away that internal berms will control and contain runoff so no water will be able to leave the permitted area. External berms will divert 100% of the run-on from the facility and divert it around the facility boundary into already established natural drainages; ***see Attachment 11: Run-on and Runoff Control***. Any water that accumulated within the Landfarm remediation cell will be removed within 24 hours to prevent infiltration of contaminates into the vadose zone.

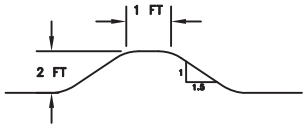
There are three types of berms that will utilized for the proposed facility. The first is a 3' high berm and swale that will carry stormwater run-on around the east and south sides of the facility. The second type of berm is the 3' high perimeter berm that will surround the rest of the facility. The third type of berm is the 2' high internal berms that surround each remediation cell. These berms will contain all runoff and keep it contained within the remediation cell, ***see Figure 4F for Berm details***. Each internal berm will have a specific area which was designed to be driven over to access the remediation cell. Design details of the drive over portion of the berm is detailed in ***Figure 4G.*** This same design will be used for the pipeline crossings that cross the facility.



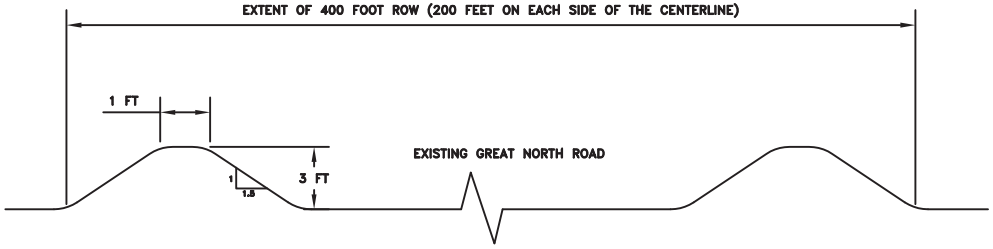
Section A–A: 3 FOOT PERIMETER BERM CONSTRUCTION
To be constructed around Tract 1 of Landfarm #4 and the north, south and west property line of Tract 2 of Lanfarm #4



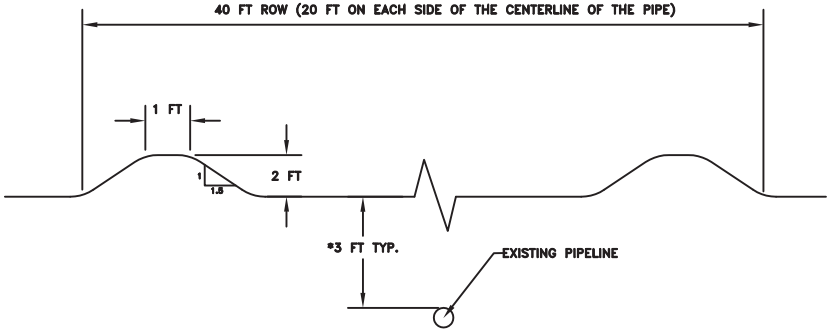
Section B–B: 3 FOOT PERIMETER BERM AND SWALE COMBINATION
To be constructed around east property line of Tract 2 of Landfarm #4



Section C–C: 2 FOOT LANDFARM CELL BERMS
To be constructed around each 10 acre Landfarm Cell in Landfarm #4



Section D–D: 3 FOOT GREAT NORTH ROAD ARCH PROTECTION ZONE BERM



Section E–E: 2 FOOT PIPELINE RIGHT OF WAY BERM
* ACTUAL DEPTH OF EXISTING PIPELINE IS UNKNOWN THEREFORE ONLY FILL OVER PIPELINES, DO NOT DIG.

GENERAL NOTES ON BERM CONSTRUCTION:
TYPE OF SOIL:

USE A WELL SOIL FOR THE MAJORITY OF THE BERM ADD QUALITY TOPSOIL TO THE TOP FOOT OF THE BERM IN ORDER TO ENCOURAGE PLANT GROWTH AND HELP WITH FINAL STABILIZATION OF THE BERM.

PLACE SOILS IN 6 INCH LIFTS AND COMPACT EACH LIFT PRIOR TO ADDING MORE SOIL, UNTIL DESIRED BERM HEIGHT IS REACHED AND TOP LAST FOOT WITH A QUALITY TOPSOIL.

SHAPE OF BERM:

BERMS SHOULD BLEND INTO THE LANDSCAPE IF POSSIBLE, THE TRANSITION BETWEEN THE EXISTING GRADE AND SLOPE OF THE BERM SHOULD BE GRADUAL, AVOID ABRUPT CHANGES IN GRADE TO HELP LIMIT EROSION.

FIGURE 4F
BERM DETAILS
LANDFARM #4 PERMIT

SCALE: N.T.S.	FIGURE NO.				
PROJECT NO.					
MAP DRWN JKA			BASE DRWN		

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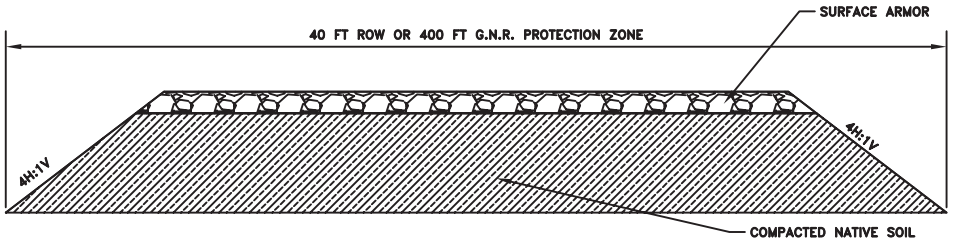


PIPELINE ROW AND GREAT NORTH ROAD PROTECTION ZONE CROSSING DETAIL
CROSS SECTION

BERM CROSSINGS

SOIL TYPE

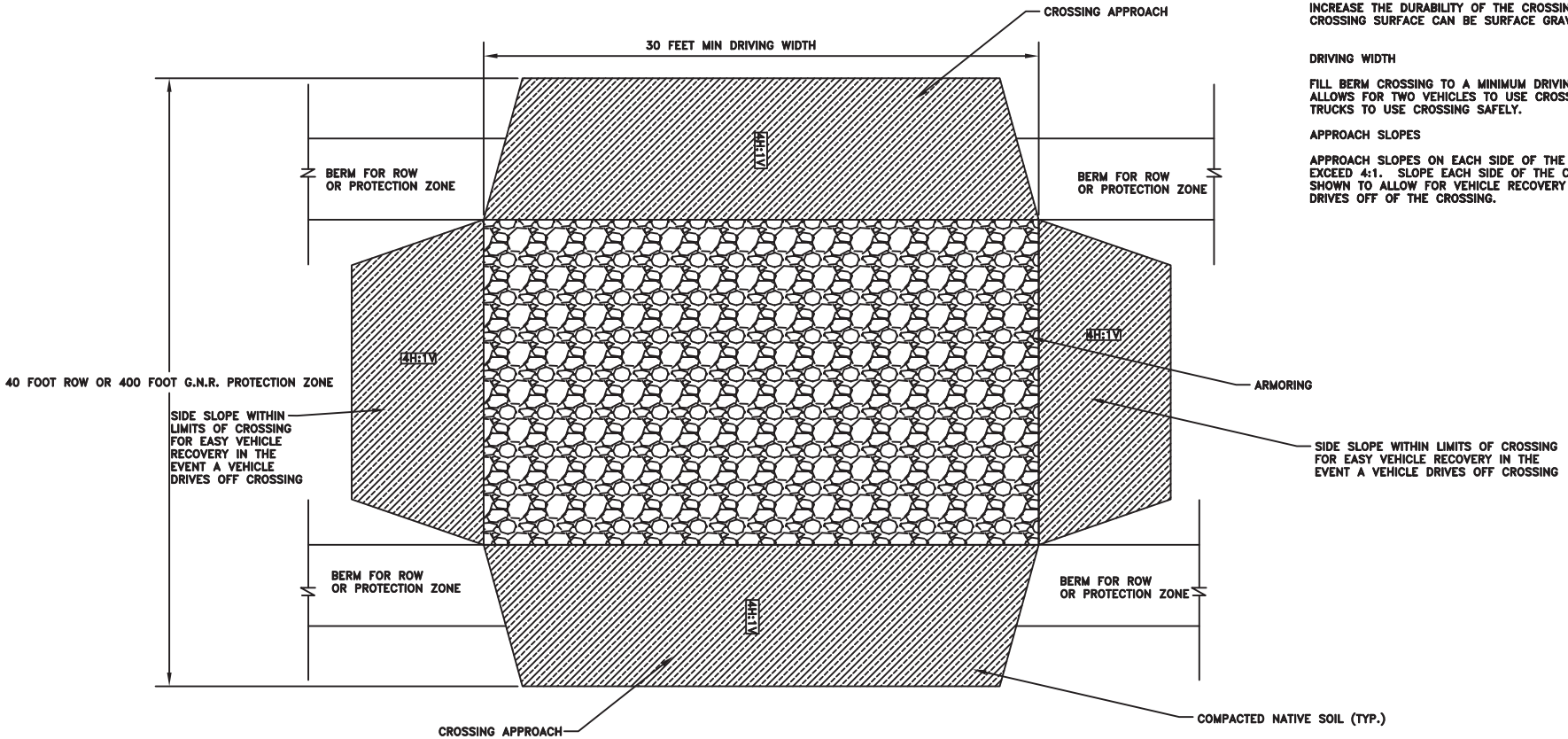
NATIVE SOIL CLEAR OF LARGE ROCKS AND DEBRIS CAN BE USED FOR THE MAJORITY OF THE FILL. PLACE NATIVE SOIL IN 6-8" LIFTS AND COMPACT EACH LIFT PRIOR TO ADDING AN ADDITIONAL LIFT. TO INCREASE THE DURABILITY OF THE CROSSING THE TOP 8" OF THE CROSSING SURFACE CAN BE SURFACE GRAVEL.

DRIVING WIDTH

FILL BERM CROSSING TO A MINIMUM DRIVING WIDTH OF 30 FEET, THIS ALLOWS FOR TWO VEHICLES TO USE CROSSING AT ONCE OR LARGER TRUCKS TO USE CROSSING SAFELY.

APPROACH SLOPES

APPROACH SLOPES ON EACH SIDE OF THE BERM CROSSINGS SHALL NOT EXCEED 4:1. SLOPE EACH SIDE OF THE CROSSING AT A 4:1 TO AS SHOWN TO ALLOW FOR VEHICLE RECOVERY IN THE EVENT A VEHICLE DRIVES OFF OF THE CROSSING.



PIPELINE ROW AND GREAT NORTH ROAD PROTECTION ZONE CROSSING DETAIL
PLAN VIEW

FIGURE 4G
BERM CROSSING DETAILS
LANDFARM #4 PERMIT

SCALE: N.T.S.				FIGURE NO.		
PROJECT NO.						
MAP DRWN	JKA		BASE DRWN			

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