

**United States Department of the Interior  
Bureau of Land Management**

---

**Environmental Assessment DOI-BLM-NM-P020-2018-0571-EA  
IT4RM EA-2018-**

***Hamon South and Fasken Lateral Right-of-Way Project in  
Lea County, New Mexico***

***BLM Serial No. NM-137927***

---

Department of the Interior  
Bureau of Land Management  
Pecos District  
Carlsbad Field Office  
620 E. Greene Street  
Carlsbad, NM 88220  
Phone: (575) 887-6544  
FAX: (575) 885-9264

**May 2018**

**Confidentiality Policy**

Any comments, including names and street addresses of respondents, you submit may be made available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.



**It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.**

## TABLE OF CONTENTS

1	Purpose and Need for Action .....	1
1.1	Background .....	1
1.2	Purpose and Need for Action .....	3
1.3	Decision to be Made .....	3
1.4	Conformance with Applicable Land Use Plan(s) .....	3
1.5	Relationship to Statutes, Regulations, or Other Plans .....	4
1.6	Scoping, Public Involvement, and Issues .....	5
2	Proposed Action And Alternatives .....	7
2.1	Proposed Action .....	7
2.2	No Action .....	9
2.3	Alternatives Considered but Eliminated from Detailed Study .....	9
3	Affected Environment and Environmental Consequences .....	10
3.1	Air Resources .....	10
3.2	Watershed Drainages and Groundwater .....	13
3.3	Soils .....	14
3.4	Vegetation and Noxious Weeds .....	15
3.5	Wildlife and Special-Status Species .....	17
3.6	Cultural and Historical Resources Affected Environment .....	23
3.7	Paleontological Resources .....	24
3.8	Potash Minerals .....	25
3.9	Livestock Grazing .....	26
3.10	Public Health and Safety .....	27
3.11	Cumulative Impacts .....	28
4	Supporting Information .....	31
4.1	List of Preparers .....	31
4.2	References .....	31
<b>Appendix A.</b>	Project Area with Natural Resources DataMap and Project Photographs .....	35
<b>Appendix B.</b>	Special-Status Species List .....	41
<b>Appendix C.</b>	New Mexico Department of Game and Fish Pipeline Trenching Guidelines .....	51

## LIST OF FIGURES

Figure 1.1.	Project vicinity map for the proposed project. ....	2
Figure 2.1.	Project area for the proposed project. ....	8
Figure A.1.	Project area with natural resources. ....	37

## LIST OF TABLES

Table 1.1.	Potential Permits, Approvals, and Clearances Needed for Construction, Operation, and Maintenance of the Proposed Project .....	4
Table 1.2.	Resource Issues Identified for the Proposed Project .....	5
Table 1.3.	Resource Issues Considered but not Analyzed in Detail for the Proposed Project .....	6
Table 2.1.	Proposed Action Disturbance Footprint .....	7
Table 3.1.	Watershed Crossed by the Proposed Project .....	13
Table 3.2.	Soils in the Proposed Project Area .....	14
Table 3.3.	Plant Species Observed during the Biological Survey of the Proposed Project Area .....	16
Table 3.4.	Wildlife Detected during the Biological Survey of the Proposed Project Area .....	18
Table 3.5.	Special-Status Species with the Potential to Occur in the Proposed Project Area .....	19
Table 3.6.	BLM CFO Allotments and Range Improvements in the Proposed Project Area .....	26

## LIST OF ACRONYMS AND ABBREVIATIONS

AES	Applied EnviroSolutions
Air Quality Technical Report	<i>Air Quality Technical Report for BLM Minerals Development in New Mexico Kansas, Oklahoma, and Texas</i>
AMS	Analysis of the Management Situation
amsl	above mean sea level
BLM	Bureau of Land Management
BMP	best management practice
CAA	Clean Air Act
CFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>3</sub>	carbonate
COA	conditions of approval
DSL	dunes sagebrush lizard
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
GHG	greenhouse gas
GIS	geographic information system
HAP	hazardous air pollutant
HEA	Habitat Evaluation Area
HUC	Hydrologic Unit Code
IM	Instruction Memorandum
IPA	Isolated Population Area
LPC	lesser prairie-chicken
MBTA	Migratory Bird Treaty Act
MLA	Mineral Leasing Act of 1920
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act of 1969
NMOSE	New Mexico Office of the State Engineer
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxide(s)
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
O <sub>3</sub>	ozone
OHV	off-highway vehicle
OHWM	ordinary high-water mark
Pb	lead
PBPA	Permian Basin Programmatic Agreement
PFYC	Potential Fossil Yield Classification
PM <sub>10</sub>	particulate matter equal to or less than 10 microns in diameter
PM <sub>2.5</sub>	particulate matter equal to or less than 2.5 microns in diameter
Proposed Action or project	Hamon South and Fasken Lateral Pipeline ROW Project
RMP	Resource Management Plan
RMPA	Approved Resource Management Plan Amendment
ROD	Record of Decision
ROW	right-of-way
SF-299	Standard Form 299
SO <sub>2</sub>	sulfur dioxide
SWCA	SWCA Environmental Consultants

TCP	traditional cultural property
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
Versado	Versado Gas Processors LLC

# 1 PURPOSE AND NEED FOR ACTION

## 1.1 Background

Versado Gas Processors LLC (Versado), a subsidiary of Targa Resources, submitted a Standard Form 299 (SF-299) Application for Transportation and Utility Systems and Facilities on Federal Lands to the Bureau of Land Management (BLM) Carlsbad Field Office (CFO) for the proposed Hamon South and Fasken Lateral Pipeline Project (Proposed Action, or project) in Lea County, New Mexico, for the purpose of constructing and installing a 16-inch-diameter poly natural gas pipeline in order to connect the Hamon South and Fasken Lateral pipeline into an existing gathering system, also operated by Versado). The project area would be a linear ROW approximately 14,637 feet long and 30 feet wide. The applicant also requests a 20-foot parallel temporary workspace corridor for use during construction, for a total disturbance width of 50 feet.

The proposed 2.8-mile-long project is on BLM lands (11,249.0 feet) and private lands (3,388.7 feet). The BLM CFO would serve as the lead federal agency for the undertaking. The CFO has assigned this project the right-of-way (ROW) case file number **NM-137927**.

- **The total permanent ROW acreage on BLM lands is 7.7 acres**

The proposed project would be located in Lea County, New Mexico, approximately 24 miles northwest of the city of Eunice, New Mexico (Figure 1.1). The legal land description (New Mexico Principal Meridian [NMPM]) for the permanent ROW is provided below.

### ***Permanent Pipeline ROW***

#### **BLM Lands**

##### **Township (T.) 20 South (S.), Range (R.) 34 East (E.), NMPM**

Sec. 17: NE $\frac{1}{4}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$   
Sec. 20: NE $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$   
Sec. 21: NW $\frac{1}{4}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$   
Sec. 28: NE $\frac{1}{4}$ SE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$   
Sec. 30: NE $\frac{1}{4}$ NE $\frac{1}{4}$

#### **Private Lands**

##### **T. 20 S., R.34 E., NMPM**

Sec. 28: NE $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$

SWCA Environmental Consultants (SWCA) performed a general biological survey of the proposed surface disturbance area on March 16, 2018 and May 21, 2018, the latter of which covered the final proposed alignment. The purpose of this biological survey was to evaluate the potential for special-status species to occur and to identify habitat communities regulated by the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act of 1973 (ESA) and migratory bird nests protected by the Migratory Bird Treaty Act (MBTA).

The proposed project is not within the Permian Basin Programmatic Agreement (PBPA) area for cultural resources. SWCA conducted a Class I search and Class III cultural resources inventory survey (NMCRIS No. 140106) for the final proposed alignment on March 17, 2018. The survey was designed to meet, but not be limited to, the requirements detailed in *BLM Manual Supplement H-8100-1 New Mexico, Oklahoma and Texas: Procedures for Performing Cultural Resource Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities* (BLM 2002). The authority for these standards comes in part from Section 106 of the National Historic Preservation Act of 1966, the Antiquities Act of 1906, and the Historic Sites Act of 1935, along with all additional federal and state laws for preserving and protecting cultural resources. Results of these surveys are on file with the BLM CFO.

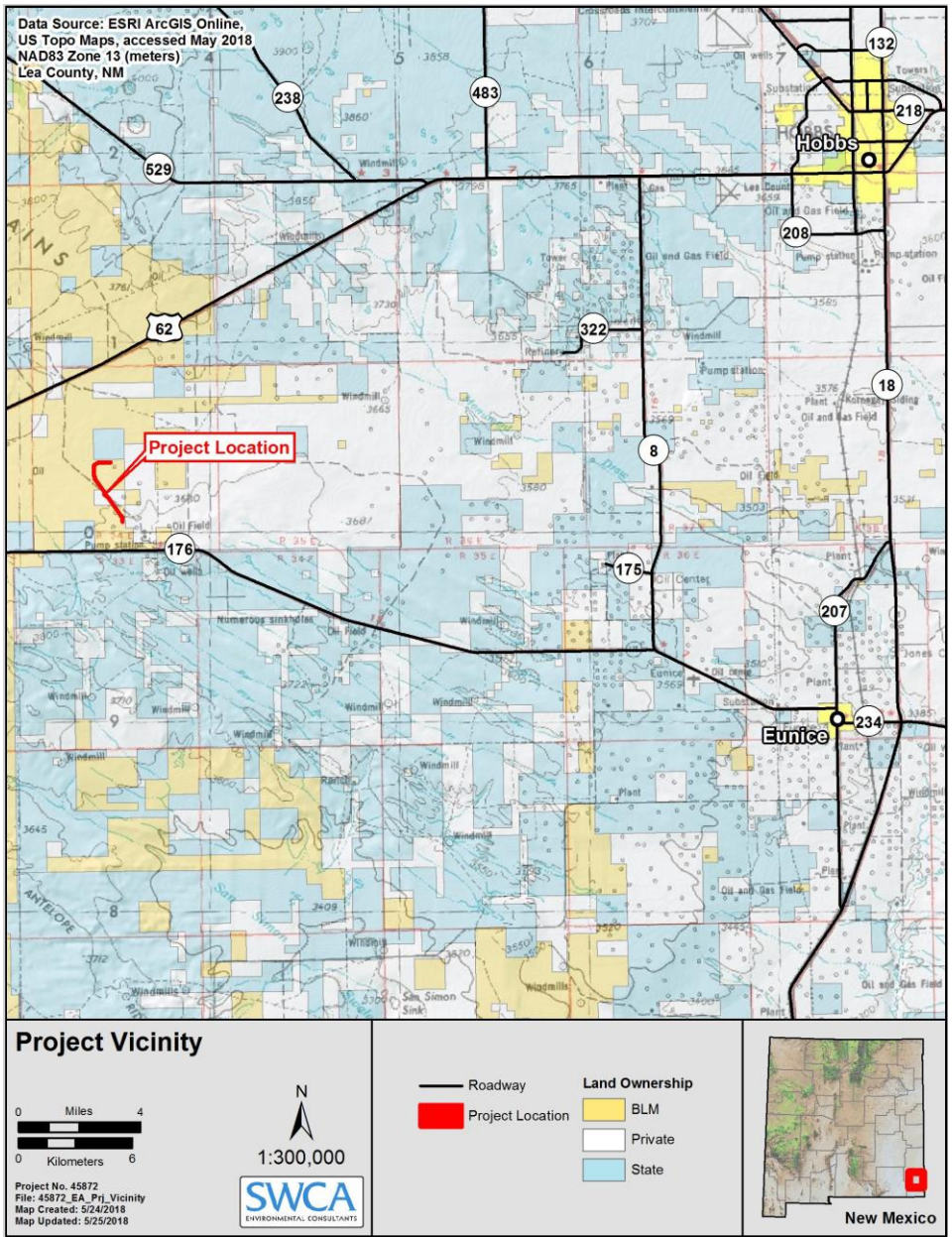


Figure 1.1. Project vicinity map for the proposed project.



This environmental assessment (EA) complies with the requirements of the National Environmental Policy Act of 1969 (NEPA) and federal regulations found in 40 Code of Federal Regulations (CFR) Chapter V. The EA analyzes the site-specific impacts associated with the Proposed Action and the No Action Alternative, identifies mitigation measures to potentially reduce or eliminate those impacts, and provides agency decision makers with detailed information with which to approve or deny the Proposed Action or an alternative. This EA analysis assumes the CFO's standard conditions of approval (COAs) would apply (BLM 1997:Appendix 2).

## 1.2 Purpose and Need for Action

The BLM's purpose is to respond to Versado's request for legal use of, and access across, public lands managed by the BLM by granting a ROW for the gas pipeline needed for connecting the Hamon South and Fasken Lateral into an to an existing gathering system. The BLM's mandate for multiple uses of public lands includes development of energy resources in a manner that conserves the multitude of other resources found on public lands. The need for the Proposed Action is established by the BLM's responsibility under the Mineral Leasing Act of 1920 (MLA), as amended (30 United States Code [USC] 181 et seq.). The MLA (Sec. 28 (e)) further gives federal agencies authority to allow temporary uses of federal lands for construction, operation, and maintenance of pipelines. The BLM implementing regulations for this portion of the MLA are found at 43 CFR 2800/2880 and 36 CFR 251. The MLA authorizes the BLM to lease public lands for the development of mineral deposits (including oil, gas, and other hydrocarbons) and permit the development of those leases.

The applicant's objective is to safely and efficiently transport natural gas to an existing Versado gathering system and eventually to market.

## 1.3 Decision to be Made

The BLM will decide whether to issue the subject ROW grant and, if so, under what terms and conditions.

## 1.4 Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the 1988 BLM Carlsbad Resource Management Plan (RMP) (BLM 1988), as amended by the 1997 Carlsbad Approved Resource Management Plan Amendment (RMPA) (BLM 1997) and the 2008 Special-Status Species Approved RMPA (BLM 2008a). The 1988 RMP, as amended, provides for the integrated multiple use and sustained yield of resources for the planning area. After review, the BLM has determined that the Proposed Action conforms to the land use plan terms and conditions as required by 43 CFR 1610.5.

Name of Plan: 1988 Carlsbad Resource Management Plan

Date Approved: September 1988

Decision: "BLM will encourage and facilitate the development by private industry of public land mineral resources so that national and local needs are met, and environmentally sound exploration, extraction, and reclamation practices are used" (BLM 1988:13).

Name of Plan: 1997 Carlsbad Approved Resource Management Plan Amendment

Date Approved: October 1997

Decision: "Approximately 3,907,700 acres (95 percent of the oil and gas mineral estate) will be open to leasing and development under the BLM's standard terms and conditions, the Surface Use and Occupancy Requirements (Appendix 1), the Roswell District Conditions of Approval (Appendix 2), and the Practices for Oil and Gas Drilling and Operations in Cave and Karst Areas (Appendix 3)" (BLM 1997:4). The proposed pipeline is within the 95% of oil and gas mineral estate open to development and comply with the Surface Use and Occupancy Requirements. Therefore, the Proposed Action is in conformance with the RMP, as amended (BLM 1997:4).

**Name of Plan:** 2008 Special-Status Species Record of Decision and Resource Management Plan Amendment—to address management of the lesser prairie-chicken (*Tympanuchus pallidicinctus*; LPC) and the dunes sagebrush lizard (*Sceloporus arenicolus*; DSL)

**Date Approved:** April 2008

**Decision:** “This ROD [Record of Decision] approves the Special-Status Species Resource Management Plan Amendment (RMPA). The plan amendment provides guidance for managing approximately 850,000 acres of public land and 300,000 acres of federal minerals in portions of Chaves, Eddy, Lea and Roosevelt Counties. The overall Planning Area encompasses 1,853,000 acres. The ROD approves new decisions concerning oil and gas leasing and development, Off-Highway Vehicle (OHV) designations, land ownership adjustments, and wildlife habitat management. These decisions are intended to replace goals, objectives, management actions and conditions of use described in the 1988 Carlsbad RMP, the 1997 Carlsbad RMPA, and the 1997 Roswell RMP in the Planning Area” (BLM 2008a). The proposed ROW is located within the known occupied DSL habitat area identified in the 2008 RMPA. Additionally, the proposed project is located within both the LPC Isolated Population Area (IPA), Habitat Evaluation Area (HEA), and the LPC Timing Restriction Area, as identified in the 2008 RMPA. A ROW would be granted only after site-specific analysis (BLM 2008a:6). Site-specific impacts associated with the proposed ROW are analyzed and disclosed in this EA; specifically, impacts to special-status species are discussed (see Section 3.5.2). The Proposed Action is not located in a ROW avoidance area. Therefore, the Proposed Action is in conformance with the RMP, as amended.

## 1.5 Relationship to Statutes, Regulations, or Other Plans

Various federal and state agencies regulate different aspects of oil and gas infrastructure development. Table 1.1 lists the environmental permits and approvals that could be required for the proposed project.

**Table 1.1. Potential Permits, Approvals, and Clearances Needed for Construction, Operation, and Maintenance of the Proposed Project**

Permit/Notification	Issuing Agency	Status
<b>Federal Permit, Approval, or Clearance</b>		
Application for Transportation and Utility Systems and Facilities on Federal Lands (ROW Grant)	BLM	Subject of this EA.
Clearance under Section 7 of the ESA	USFWS	General biological surveys were conducted on March 16, 2018 and May 21, 2018. Findings are described in Section 3.5 and Appendix A. No further consultation with the USFWS is required.
Clean Water Act Section 402 General Construction (Stormwater) Permit	U.S. Environmental Protection Agency and New Mexico Environment Department	Exempt based on the 1987 Water Quality Act and Section 323 of the Energy Policy Act of 2005.
MBTA of 1918 (16 USC 703–712)	BLM	The BLM has not identified any requirements for MBTA compliance other than the initial biological surveys to document nests and activity. One inactive passerine nest was observed during the 2018 biological surveys.
Clean Water Act Section 404 Permitting Discharges of Dredge or Fill Material into Waters of the U.S. (including wetlands)	U.S. Army Corps of Engineers	Section 3.2.1 describes impacts to water resources. A biological survey was conducted and no potential jurisdictional water bodies were identified. No Section 404 permit is required.

Permit/Notification	Issuing Agency	Status
<b>State Permit, Approval, or Clearance</b>		
Clean Water Act Section 401 Water Quality Permit	New Mexico Environment Department	Section 3.2.1 describes impacts to water resources. Biological surveys were conducted and no potential jurisdictional water bodies were identified. No Section 401 permit is required.
Clean Air Act New Mexico Air Quality Control Act	New Mexico Environment Department	Impacts to air quality are described in Section 3.1.2 No New Mexico Environment Department new source permit is required.
Section 106 of the National Historic Preservation Act	State Historic Preservation Office	A cultural resources survey was conducted in March 2018 for the proposed project and the results are described in Section 3.6. Any consultation with the State Historic Preservation Office would be managed by the BLM.
Tribal communications: consultation to determine if the proposed project would impact receptors of cultural importance	Native American tribes	Any consultation with Native American tribes would be managed by the BLM.

## 1.6 Scoping, Public Involvement, and Issues

Appropriate scoping helps identify issues, resources, and resource uses that could be impacted, and it reduces the chances of overlooking a potentially significant issue or reasonable alternative. Scoping takes place internally within the BLM via meetings with resource specialists. Resource issues identified for the proposed project are listed in Table 1.2. No formal public scoping has occurred for the proposed project.

**Table 1.2. Resource Issues Identified for the Proposed Project**

Resource/Issue	Issue for Detailed Analysis
Air resources	How would the proposed project impact air quality, especially during construction of the proposed project?
Watershed drainages	How would the proposed project affect surface water resources, including drainages and playas?
Soils	How would the surface disturbance associated with the proposed project affect soils?
Vegetation and invasive non-native species	How would the proposed project affect vegetation? How would the proposed project minimize the spread of invasive non-native species?
Wildlife and special-status species	How would the proposed project and associated noise impacts affect habitat for wildlife and migratory birds? How would the proposed project and associated noise impacts affect the LPC, DSL and other special-status species?
Cultural resources and Native American religious concerns	How would surface-disturbing activities affect cultural resources? Are any traditional cultural properties affected by the proposed project?
Paleontological resources	How would the proposed project impact potential fossil materials?
Potash minerals	How would the proposed project affect potash reserves, given that the project is located within the Secretary's Potash Area?

Resource/Issue	Issue for Detailed Analysis
Livestock grazing	How would the proposed project impact livestock grazing in the vicinity of the proposed project?
Public health and safety	How would proposed project construction and ongoing activities impact public health and safety?

Resource issues considered by the BLM for potential impacts from the proposed project and then dismissed from further analysis in this EA are listed in Table 1.3 with rationale for the dismissal.

**Table 1.3. Resource Issues Considered but not Analyzed in Detail for the Proposed Project**

Resource/Issue	Rationale for Dismissal from Detailed Analysis
Karst resources	The proposed project area is within a low karst-potential area as mapped by the CFO, and no surface karst features are known to occur within the proposed project area. The standard COAs regarding any discovery of karst voids during construction would apply (BLM 1997:Appendix 3). No additional detailed analysis is warranted.
Visual resources	The proposed project area is within Visual Resource Management Class IV. All surface disturbance not needed for active support of production and maintenance operations of the proposed pipeline would be revegetated during reclamation, and therefore this issue is not brought forward for detailed analysis in this EA.
Special designations and recreation areas	The proposed project does not affect any special designation areas or areas managed for recreation. The closest special designation, the Laguna Plata Special Management Area, is located approximately 7.9 miles northwest of the proposed project area. Additionally, the proposed Salt Playa proposed Area of Critical Environmental Concern is also located approximately 3.5 miles west of the proposed project.
Socioeconomic conditions	The small number of jobs created and the temporary status of those jobs does not warrant detailed analysis in this EA.
Environmental justice	No environmental justice population, as defined by Executive Order 12898 (U.S. Environmental Protection Agency 2015) would be affected by the proposed project.

## 2 PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

Versado has submitted an application for a ROW grant for permanent use of a 30-foot-wide easement to construct, maintain, and operate a 14,637.7-foot-long (with 11,249.0 feet located on BLM lands and 3,388.7 feet located on private lands, totaling approximately 2.8 miles) gas pipeline (Figure 2.1). An additional 20-foot temporary workspace, 10-feet on each side of the permanent ROW corridor, is also requested in order to allow for the safe operation of equipment while minimizing impact to soil stockpiles and unnecessary congestion. Versado would make every effort to minimize ground disturbance. The 16-inch-diameter poly proposed pipeline would be used to transport produced natural gas from the Hamon South and Fasken Lateral to an existing gathering system, also owned by Versado. The proposed project would be on both BLM lands and private lands (Table 2.1).

As indicated in Table 2.1, the Proposed Action would disturb approximately 16.76 acres. All surface disturbance associated with the proposed project area not needed for active support or production and maintenance operations would be reclaimed following construction. Photographs of the proposed project area are provided in Appendix A.

**Table 2.1. Proposed Action Disturbance Footprint**

Project Element	Land Ownership	Length (feet)	Acreage of Short-term Disturbance (50-foot-wide corridor)
2.8-mile proposed ROW (30-foot permanent easement + 20-foot temporary workspace)	BLM	11,249.0	12.88
	Private	3,388.7	3.88
<b>Total</b>		<b>14,637.7</b>	<b>16.76</b>
<b>Total Acreage of Disturbance</b>			<b>16.76</b>

#### 2.1.1 Construction of Pipeline

Standard pipeline construction techniques would be used along the proposed pipeline route, which typically involve the following: survey and staking, clearing and grading, trenching, pipe stringing, bending and welding, lowering in and backfilling, and cleanup and interim reclamation. To access the pipeline construction corridor, Versado would use existing access roads. All access roads would be clearly identified on the pipeline aerial alignment sheets and would be posted at the access point. Prior to construction, if any loads are oversized or overweight, the appropriate permits would be obtained by the contractor.

#### Project Schedule

Construction of the proposed project is scheduled to begin within 1 month following approval of the ROW grant and would be completed within 1 month after construction begins.

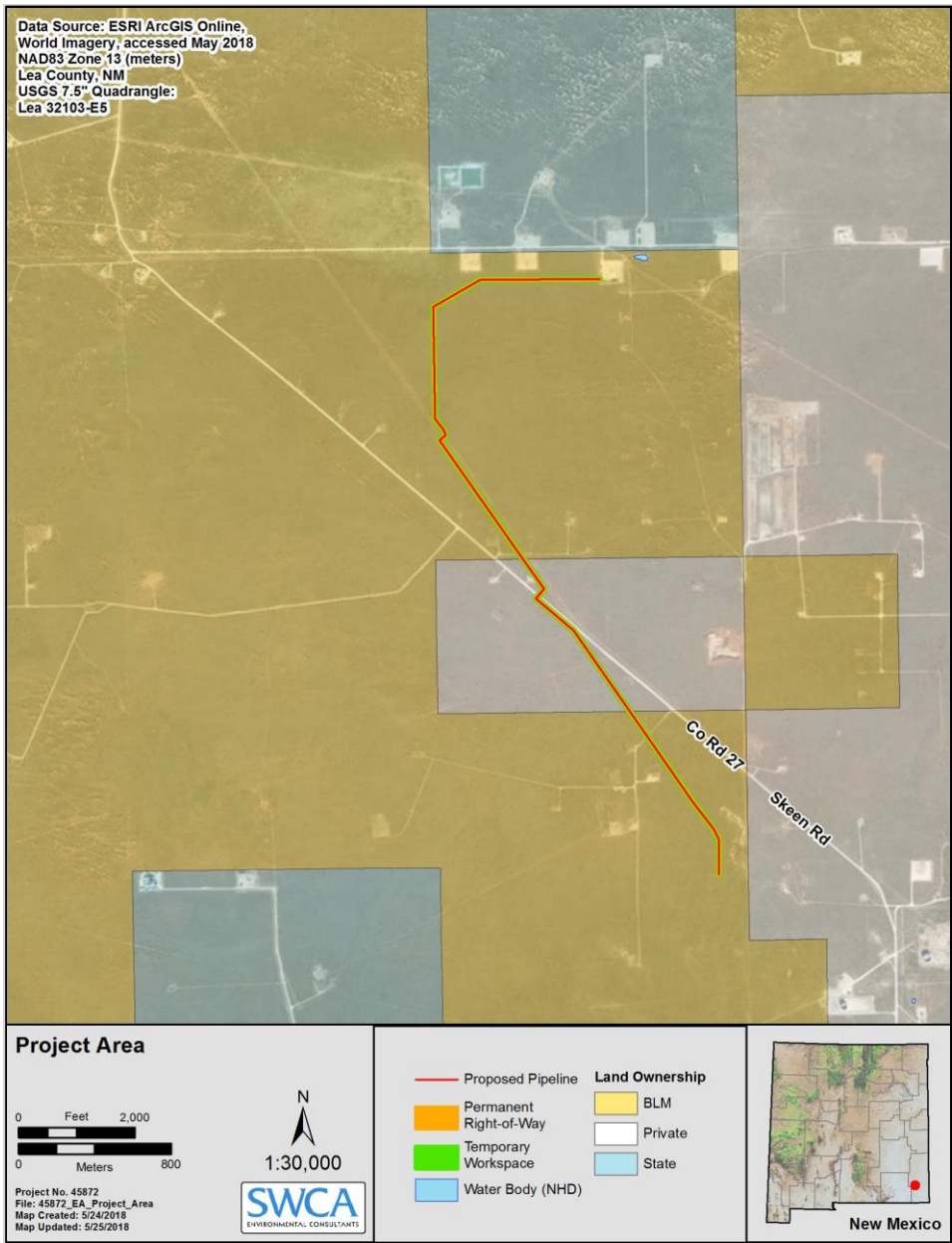


Figure 2.1. Project area for the proposed project.

## **2.2 No Action**

BLM NEPA Handbook H-1790-1 (BLM 2008b) states that for EAs on externally generated applications, the No Action Alternative generally means the request for the proposed activity would be denied (BLM 2008b:52). This option is provided in 43 CFR 3162.3-1(h)(2). Under this alternative, the BLM would not grant the ROW to the applicant, the proposed project would not be built and the associated surface disturbance would not occur. The No Action Alternative is presented for baseline analysis of resource impacts in Section 3, Affected Environment and Environmental Consequences.

## **2.3 Alternatives Considered but Eliminated from Detailed Study**

Alternatives to the Proposed Action are developed to explore different ways to accomplish the purpose and need while minimizing environmental impacts and resource conflicts, and meeting other objectives of the Carlsbad RMP. Consistent with BLM NEPA Handbook H-1790-1 (BLM 2008b), the agency "need only analyze alternatives that would have a lesser effect than the Proposed Action" (BLM 2008b:80). Those alternatives with greater adverse resource impacts, or those that are not feasible because of existing physical constraints or infrastructure, are not brought forward for detailed analysis in this EA.

After the BLM reviewed the originally staked alignment, a reroute was needed to avoid impact on a drill island intersecting the proposed pipeline. Once the route was restaked, biological, cultural, and wetland resource investigations were conducted. No additional resource conflicts were identified that would require additional route adjustments.

The proposed project design would meet the BLM's purpose and need while minimizing environmental impacts to the greatest extent possible. Any other project design would likely result in greater surface and environmental impacts. Internal scoping did not identify an additional unforeseen alternative; therefore, only the No Action and Proposed Action alternatives were brought forward for detailed analysis in this EA.

## 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter is organized by relevant major resources or issues/concerns as presented in Section 1.6. On the basis of Council on Environmental Quality guidance and BLM NEPA Handbook H-1790-1, the following discussion is limited to those resources or resource uses that could be impacted to a degree that warrants detailed analysis (40 CFR 1502.15) (BLM 2008b:96) as determined by the BLM CFO interdisciplinary team. This analysis assumes the standard COAs BLM implements typically for pipelines and facilities would apply (BLM 1997:Appendix 2).

Projects requiring approval from the BLM, such as ROWs, can be denied when the BLM determines that adverse effects to resources (direct or indirect) cannot be mitigated to reach a Finding of No Significant Impact. Under the No Action Alternative, the proposed project would not be constructed, and there would be no new impacts to any elements of the human environment from approval of the proposed project. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of environmental effects of the Proposed Action.

### 3.1 Air Resources

#### 3.1.1 Affected Environment

Air quality and climate are components of air resources that may be affected by the Proposed Action. Therefore, the BLM must consider potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision-making process.

Technical information related to air resources and climate change associated with oil and gas development, and the methodology and assumptions used for analysis, are summarized in the *Air Quality Technical Report for BLM Minerals Development in New Mexico, Kansas, Oklahoma, and Texas* (herein referred to as the Air Quality Technical Report) (BLM 2016). The Air Quality Technical Report lists the National Ambient Air Quality Standards (NAAQS) (BLM 2016:4–5) and describes the types of data used for description of the existing conditions (BLM 2016:6) and how the pollutants are related to the activities involved in oil and gas development (BLM 2016:7–14). A qualitative overview of air quality and climate are discussed in this section.

#### Air Quality

The BLM and BLM-authorized actions are required to comply with the Clean Air Act (CAA) and consider impacts of these actions to air quality on its managed lands.

#### National Ambient Air Quality Standards

##### Criteria Pollutants

Under the CAA, the U.S. Environmental Protection Agency (EPA) has the authority to regulate emissions from both stationary and mobile sources. The CAA requires the EPA to establish NAAQS for pollutants considered harmful to public health and the environment. Per the requirement, the EPA has created national standards for six common air pollutants, also known as criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), lead (Pb), particulate matter equal to or less than 10 microns in diameter (PM<sub>10</sub>), and particulate matter equal to or less than 2.5 microns in diameter (PM<sub>2.5</sub>).

The NAAQS include primary standards that provide for the protection of human health and secondary standards that provide for the protection of public welfare (e.g., visibility, the health of vegetation and animals). The NAAQS are defined in terms of threshold ambient concentrations measured as an average for specified periods of time. Pollutants with acute health effects are assigned short-term standards, and those with chronic health effects are assigned long-term standards. The NAAQS undergo periodic revisions



to ensure that emerging science and technology result in the most up-to-date and protective standards achievable (see EPA [2016] for current standards).

#### Attainment

In accordance with the CAA, the EPA must review air quality conditions reported by states to determine whether states are meeting the national standards for air quality. Areas with ambient concentrations of criteria pollutants within the NAAQS are deemed to be “attainment” areas;<sup>1</sup> conversely, those that do not meet the standards are referred to as “nonattainment” areas.<sup>2</sup> Geographic areas previously designated nonattainment and subsequently redesignated as attainment due to achieving the NAAQS (for a probationary period) are categorized as “maintenance” areas. Areas that cannot be classified on the basis of insufficient data are designated as “unclassifiable.” The designation “attainment/unclassifiable” may be assigned to areas that are lacking sufficient monitoring data but meet the standard or will soon meet the standard.

#### The General Conformity Rule

The General Conformity Rule, established under Section 176(c)(4) of the CAA, ensures that federal actions comply with the NAAQS, achieving attainment of these standards. Conforming activities or actions should not, through additional air pollutant emissions, cause or contribute to new violations, increase the frequency or severity of existing violations, or delay timely attainment or interim emission reductions (BLM 2014a). Essentially, air conformity ensures that air pollution emissions associated with federal actions do not contribute to air quality degradation, thereby preventing the achievement of state and federal air quality goals.

The General Conformity Rule requires federal agencies to identify, analyze, and quantify emission impacts of a federal action where the total direct and indirect emissions for criteria pollutants in a nonattainment or maintenance area exceed the NAAQS. If the location of the action is in an attainment area, the General Conformity Rule does not apply (BLM 2014a).

#### **Hazardous Air Pollutants**

Hazardous air pollutants (HAPs), also known as air toxins, are pollutants that are produced primarily by human-made sources. These pollutants are known or suspected to cause adverse human health effects, including cancer, as well as negative effects to ecosystems. Humans can come into contact with these toxins through several exposure pathways, including inhalation, ingesting of contaminated food, water, and soil, and dermal contact.

The Air Quality Technical Report discusses the relevance of HAPs to oil and gas development and infrastructure, and the particular HAPs that are regulated in relation to these activities (BLM 2016:14–15). The EPA conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP impacts by county in the United States. The purpose of the NATA is to identify areas where HAP emissions result in high health risks and further emissions reduction strategies are necessary. A review of the results of the 2011 NATA shows that cancer, neurological, and respiratory risks in Chaves, Eddy, and Lea Counties are generally lower than statewide and national levels (EPA 2011).

#### **Existing Air Quality**

EPA’s Green Book webpage reports that Eddy, Lea, and Chaves Counties are in attainment for all NAAQS as defined by the CAA (EPA 2016). In 2011, the CFO contracted with Applied EnviroSolutions (AES) to provide an emissions inventory for the CFO planning area, including Chaves, Eddy, and Lea Counties (AES 2011). This information is more up-to-date than that available from the EPA’s most recent emissions inventory and is specific to the CFO planning area. Monitored values for criteria pollutants (except

<sup>1</sup> Note: An area may meet the established NAAQS for a one or more criteria pollutants, but have unacceptable levels for another/others. Therefore, an area could be in attainment for one criteria pollutant and simultaneously in nonattainment for another (BLM 2014b).

<sup>2</sup> The EPA has set time limits for nonattainment areas to conform to the NAAQS and may further designate nonattainment areas as marginal, moderate, serious, severe, or extreme (BLM 2014b).

carbonate [CO<sub>3</sub>]) from the 2011 emissions inventory also show that the CFO planning area is in attainment with the NAAQS.

The Analysis of the Management Situation (AMS) for the CFO (BLM 2014b) discusses the sources of and the human health and safety concerns associated with criteria pollutants. Based on air quality analysis documented in the AMS, the criteria pollutant of most concern in the planning area is O<sub>3</sub>. One county in the planning area, Eddy County, exceeded the 8-hour O<sub>3</sub> standard once in 2002 and once in 2006; however, it did not violate the 3-year rolling average.<sup>3</sup> No other violations of air quality standards have occurred within the planning area. At present, O<sub>3</sub> levels are close to the regulatory limit (BLM 2014b). Other criteria pollutants of concern include nitrogen oxides (NO<sub>x</sub>) (including NO<sub>2</sub>), SO<sub>2</sub>, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). CO and Pb emissions are not considered major criteria pollutants in the CFO planning area (BLM 2014b).

### **3.1.2 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

##### **Air Quality**

In 2014, the BLM released an Instruction Memorandum (IM) providing national guidance for the BLM on quantifying air emissions and on the use of air emissions estimating tools (BLM 2014c). The IM stipulates that this may be a useful step, under some circumstances, to estimate air emissions from resource management activities for analysis. However, the IM does not require air emissions to be quantified when preparing NEPA documents for a project in an attainment area, where the emissions would not be estimated to exceed the NAAQS (BLM 2014c).

Criteria for assessing air quality impacts are based on existing regulatory requirements across all applicable jurisdictions. Eddy, Chaves, and Lea Counties satisfy all NAAQS for monitored pollutants and are classified as attainment areas for those pollutants. These counties are unclassified with regard to those pollutants that are not monitored in those counties (BLM 2014c).<sup>4</sup>

In 2011, the U.S. Department of Agriculture (USDA), the U.S. Department of the Interior, and the EPA signed a Memorandum of Understanding (MOU) regarding air quality analyses and mitigation for federal oil and gas decisions made through the NEPA process (USDA et al. 2011). The MOU focuses on analyzing and addressing air quality impacts (direct, indirect, and cumulative) associated with federal actions related to onshore oil and gas planning, leasing, or field development (including exploration, development, and production). The MOU directs air quality modeling to be conducted if specific criteria are met, such as whether the action would result in a substantial increase in emissions (i.e., emissions resulting from the action may cause or contribute to exceedances of the NAAQS) (see Section V.E.3 of the MOU [USDA et al. 2011]). The Proposed Action is not anticipated to cause a substantial increase in emissions as defined by the MOU. See the cumulative analysis for more information about contribution of emissions (Section 3.11.1).

Generally, potential impacts to air resources as a result of the Proposed Action include construction emissions (those emissions that are expected to be temporary) and operational emissions (those emissions that are expected to occur annually during operation of the Proposed Action). Typical construction-related emissions likely to be produced by the Proposed Action are greenhouse gases (GHGs), PM<sub>10</sub>, NO<sub>x</sub>, and CO. These emissions are anticipated to result from exhaust from construction vehicles, material movement, and equipment; exhaust from construction worker commuting; fugitive dust from general construction activities and earthmoving; and pipeline sandblasting and coating. Construction emissions would be short term, lasting only the duration of construction, and would not result in a substantial increase in emissions.

<sup>3</sup> When assessing annual emissions for criteria pollutants, a 3-year rolling average accounts much of the year-to-year fluctuations in order to assess yearly trends.

<sup>4</sup> Because the Proposed Action is not located in a nonattainment or management area, the General Conformity Rule does not apply and a conformity determination, through the identification, analysis, and quantification of emission impacts of the Proposed Action, is not required.

These temporary impacts would be negligible and would not cause or contribute to exceedances of the NAAQS.

Operational-related emissions likely to be produced as a result of the Proposed Action include GHGs, CO, volatile organic compounds, and NO<sub>x</sub>. These emissions are attributable to aboveground fugitive emissions from operational equipment and emissions from inspection and maintenance of the equipment (including exhaust from inspection vehicles and aerial inspections, and fugitive dust from vehicular use of unpaved roads). Fugitive dust emissions may also result from annual maintenance or repair of access roads. Periodic inspection and maintenance activities would occur during the operation phase of the proposed project. Emissions from operation and maintenance of the Proposed Action would be minimal and would not result in significant impacts to air resources.

### Mitigation Measures

Measures to minimize or eliminate impacts to air quality are described in COAs (BLM 1997:Appendix 2). No further mitigation measures have been recommended.

## 3.2 Watershed Drainages and Groundwater

### 3.2.1 Affected Environment

#### Surface Hydrology

The surface water supplies in Lea County are transitory and limited to quantities of runoff impounded in short drainageways, shallow lakes, and small depressions, including various playas and lagunas (New Mexico Office of the State Engineer [NMOSE] 2016). The proposed project area is contained within one watershed: the Laguna Plata watershed, defined by the 10-digit Hydrologic Unit Code (HUC) (Table 3.1). The watershed is contained within the Lower Pecos Basin, although there are no connecting drainages to the Pecos River in the proposed project area, and the Pecos River is approximately 32 miles to the southwest of the proposed project area (NMOSE 2016). There are no New Mexico Outstanding National Resources Waters within the Laguna Plata watershed.

**Table 3.1. Watershed Crossed by the Proposed Project**

Watershed Name	HUC-10/ID	Portion of the Proposed Project Area within the Watershed (acres)	Total Watershed Size (acres)
Laguna Plata	1306001116	16.76	156,952

A biological survey of the proposed project area was conducted on March 16, 2018, to determine the presence of potential waters of the U.S., including wetlands and special aquatic sites. Potential waters of the U.S. were identified by the presence of an ordinary high-water mark (OHWM), defined bed and bank, or the three mandatory U.S. Army Corps of Engineers (USACE) wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. The presence of playas and vegetated depressions was also investigated according to the BLM CFO's guidance.

Based on a review of the U.S. Geological Survey's National Hydrography Dataset and the USFWS's National Wetlands Inventory, there were no potential jurisdictional surface water features within the proposed project area (U.S. Geological Survey 2013; USFWS 2017a). The absence of jurisdictional water features was confirmed during the 2018 biological survey of the proposed project area.

The presence or absence of wetlands was determined in the field using routine on-site delineation methods according to the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). Determination of wetland habitat type was based on the classification system developed by Cowardin et al. (1979). Other sources used to identify the presence/absence of wetlands include the *Pocket Guide to Hydric*

*Soil Field Indicators, Version 7.0* (Wetland Training Institute, Inc. 2013). The presence or absence of lotic systems (e.g., creeks, rivers, arroyos, human-made ditches; collectively streams) was identified in the field using the methods outlined in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008b). National Wetlands Inventory data (USFWS 2017a) did not identify any potential wetlands in the proposed project area, and the biological survey confirmed the absence of natural wetlands. No other special aquatic sites, streams, ponds, playas, or vegetated depressions were identified within the proposed project area during the 2018 biological survey.

### 3.2.2 Impacts from the Proposed Action

#### Direct and Indirect Impacts

No potential waters of the U.S. were identified during the biological survey of the proposed project area. Therefore, no direct impacts to waters of the U.S. would occur from the proposed project. Furthermore, no playas or vegetated depressions, as defined by the BLM CFO, were identified during the biological survey; therefore, no direct impacts to these features would occur from the proposed project.

The potential to impact water resources primarily lies with the indirect impacts that could occur due to stormwater runoff from pipeline construction activities into downstream playas and aquatic resources. While indirect impacts from stormwater movement of contaminants or sediment due to ground disturbance could be a possibility, the mitigation measures described below would likely limit movement of contaminants or sediment and limit indirect impacts.

Hydrostatic test water would be disposed at a permitted off-site disposal facility after testing of the pipelines occurs. No surface discharge is intended or planned as a result of the proposed project. Therefore, no impacts to water resources would occur from hydrostatic testing.

#### Mitigation Measures

Measures to minimize or eliminate impacts to water resources are described below and in the standard COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. No special mitigation has been identified by the BLM.

- Any water erosion that may occur due to the construction of the pipeline and associated infrastructure would be quickly corrected, and proper measures would be taken to prevent future erosion.
- Stockpiling of topsoil would be required. The topsoil would be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and would not be used for erosion control.

### 3.3 Soils

#### 3.3.1 Affected Environment

According to the Natural Resources Conservation Service (NRCS) (2018a), three soil types are mapped within the 16.76 acre proposed project area (Table 3.2).

Table 3.2. Soils in the Proposed Project Area

Soil Map Unit	Soil Type Symbol	Acres in Proposed Project Footprint	Percentage of Proposed Project Area
Berino-Cacique loamy fine sands association	BE	1.2	7.1
Berino-Cacique fine sandy loams association	BF	1.0	6.0
Pyote and maljamar fine sands	PU	14.6	86.9
<b>Total</b>		<b>16.8</b>	<b>100</b>

Source: NRCS 2018a.

All three soil types are classified as well-drained or excessively drained and none are considered hydric soils (NRCS 2018a).

Biological soil crusts are important components of the loamy and sandy soils of southeastern New Mexico. These crusts bind soil particles, thereby stabilizing surfaces and reducing erosion. Biological soil crusts in sandy soils are most commonly dominated by early succession cyanobacteria, which are adapted to disturbed conditions or very erodible soils. Loamy soils contain cyanobacteria but may also be colonized by algae, fungi, mosses, and squamulose, crustose, and gelatinous lichens. All soil crust organisms enhance soil stability, capture nutrient-rich dust, impact nutrient cycling, contribute organic matter, and influence soil moisture dynamics. In addition, cyanobacteria and cyano-lichens fix atmospheric nitrogen, potentially making this nutrient more available for vascular plants. All of these functions are utilized by and important for sustaining grasses, forbs, and other vascular plants in the project area. These crusts have the potential to exist in most areas where soils are exposed (i.e., not covered by rocks or vegetation).

There were no biological soil crusts observed in the proposed project area during the 2018 biological survey; however, an in-depth soil inventory of the entire proposed project area was not conducted.

---

### **3.3.2 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

As described in Chapter 2 (see Table 2.1), construction activities associated with the proposed project would impact 16.76 acres of soils. During construction, direct impacts to soils would mostly include soil compaction from heavy equipment, increased soil erosion from the removal of vegetative cover, and potential contamination from accidental spills or leaks. These direct impacts could result in the loss of soil structure and porosity. Once the proposed project has been constructed, the disturbed area would be stabilized and reclaimed. Stabilization of soils would be partly dependent upon re-establishing vegetation cover. With sufficient rainfall and proper seeding techniques, vegetation cover by faster-growing plants is expected within 2 years after construction. The growth of mature native plant communities could require decades to become fully re-established (Monsen et al. 2004).

Though no biological soil crusts were observed during the 2018 biological survey, the proposed project could impact subsurface biological soil crusts. No active farmlands would be impacted by the Proposed Action, although most areas in the basin formerly used for agriculture have largely been converted to oil and gas production.

Indirect impacts to soil resources could include a change in soil productivity due to mixing of topsoil with subsoil during trenching and grading. Another indirect impact could be the colonization of noxious weeds on disturbed soils.

#### **Mitigation Measures**

Measures to minimize impacts to soils are described below and in the standard COAs (BLM 1997: Appendix 2) for buried and surface-installed pipelines. No special mitigation has been identified by the BLM.

- Interim reclamation would be conducted on the disturbed area to mitigate impacts to soil resources.
- Topsoil would be stockpiled and used after construction to enhance reclamation of the disturbed pipeline ROW.

---

## **3.4 Vegetation and Noxious Weeds**

### **3.4.1 Affected Environment**

The proposed project area is located within the High Plains: Shinnery Sands as defined by the EPA Level III and Level IV ecoregions in Griffith et al. (2006). During the biological survey, biologists identified one general vegetative community within the proposed project area: desert scrubland with intermixed grasses. Vegetative cover within and surrounding the proposed project area is approximately 40% to 80%, and

characteristic of sandy scrublands intermixed with scattered honey mesquite (*Prosopis glandulosa*) and broom snakeweed (*Gutierrezia sarothrae*).

The overall proposed project area and surrounding landscape have been disturbed by oil and gas development activities (i.e., access roads, pipeline, and well pads), utility line corridors, and livestock grazing (see photographs in Appendix A). Plant species recorded during the biological survey are listed in Table 3.3, none of which are considered a special-status species.

**Table 3.3. Plant Species Observed during the Biological Survey of the Proposed Project Area**

Common Name`	Scientific Name
Sand sagebrush	<i>Artemisia filifolia</i>
Wooton’s threeawn	<i>Aristida pansa</i>
Purple threeawn	<i>Aristida purpurea</i>
Desert holly	<i>Atriplex hymenelytra</i>
Sixweeks grama	<i>Bouteloua barbata</i>
Black grama	<i>Bouteloua eripoda</i>
Blue grama	<i>Bouteloua gracilis</i>
Sandbur	<i>Cenchrus sp.</i>
Windmill grass	<i>Chloris sp.</i>
Hooded windmill grass	<i>Chloris cucullata</i>
Grassland croton	<i>Croton dioicus</i>
Arizona cottontop	<i>Digitaria californica</i>
Lehmann lovegrass	<i>Eragrostis lehmanniana</i>
Annual buckwheat	<i>Eriogonum annuum</i>
Broom snakeweed*	<i>Gutierrezia sarothrae</i>
Camphorweed	<i>Heterotheca subaxillaris</i>
Bush muhly	<i>Muhlenbergia porteri</i>
Primrose sp.	<i>Oenothera sp.</i>
Purple pricklypear	<i>Opuntia macrocentra</i>
Vine mesquite	<i>Panicum obtusum</i>
Tobosagrass	<i>Pleuraphis mutica</i>
Honey mesquite*	<i>Prosopis glandulosa</i>
Shinnery oak	<i>Quercus havardii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Sand dropseed	<i>Sporobolus cryptandrus</i>
Giant dropseed	<i>Sporobolus giganteus</i>
Plains yucca	<i>Yucca campestris</i>

Note: Nomenclature follows the PLANTS Database (Natural Resources Conservation Service 2018b).  
 \* Refers to dominant species within corresponding vegetative community.

## **Invasive, Non-native Species**

The BLM participates in an invasive species monitoring and treatment program in Lea County. Based on review of the BLM CFO's noxious weed treatment geographic information system (GIS) shapefile, there were no previous noxious weed treatments within the proposed project area.

During the biological survey, no State of New Mexico- or USDA-listed noxious weeds (New Mexico Department of Agriculture 2016; USDA 2017), were identified within the proposed project area.

---

### **3.4.2 Impacts from the Proposed Action**

#### **Direct and Indirect Effects**

Impacts to plant communities and habitats from the construction of the proposed project would include 16.76 acres of short-term direct impact from vegetation removal. Short-term impacts would occur during site preparation and would continue until revegetation of the proposed project area is achieved. Faster-growing plants are estimated to establish approximately 2 years after construction, depending on timely rainfall. Short-term surface disturbance from construction of the proposed project would be reclaimed with a BLM-prescribed seed mixture following construction.

Impacts to vegetation are reduced by the following standard practices, which include using existing surface disturbance, minimizing vehicular use, placing parking and staging areas on caliche-surfaced areas, reclaiming the disturbed area immediately after construction is complete, and quickly establishing vegetation on the reclaimed areas.

Any surface disturbance can increase the possibility of establishment of new populations of invasive, non-native species. Noxious weed seed could be carried to and from the proposed project area by construction equipment and transport vehicles. Mitigation measures to control the spread of weeds would be negotiated with the CFO.

#### **Mitigation Measures**

Measures to minimize or eliminate impacts to vegetation and to control the spread of noxious weeds are described below and in the standard COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. No special mitigation has been identified by the BLM.

- Interim reclamation would be conducted on the disturbed area to mitigate impacts and to enhance re-establishment of vegetation.
- Topsoil would be stockpiled to enhance reclamation, and the area would be reseeded using a seed mixture approved by the CFO.
- The operator would be held responsible if noxious weeds become established within the areas of operations. Weed control would be required on the disturbed land where noxious weeds exist and on adjacent land affected by the establishment of weeds due to this action. The operator would consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

---

## **3.5 Wildlife and Special-Status Species**

### **3.5.1 Affected Environment**

The High Plains: Shinnery Sands ecoregion (Griffith et al. 2006) provides habitat for a variety of wildlife species. During the 2018 biological survey of the project area, SWCA biologists detected five bird species and five mammal species (Table 3.4). Additionally, one inactive passerine nest was recorded in the proposed project area during the 2018 biological survey (see Figure A.1 in Appendix A). No mammal burrows were observed during the 2018 biological survey of the proposed project area.

**Table 3.4. Wildlife Detected during the Biological Survey of the Proposed Project Area**

Common Name	Scientific Name
<b>Birds</b>	
Red-tailed hawk	<i>Buteo jamaicensis</i>
Cactus wren	<i>Campylorhynchus brunneicapillus</i>
Chihuahuan raven	<i>Corvus cryptoleucus</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Eastern meadowlark	<i>Sturnella magna</i>
<b>Mammals</b>	
Domestic cattle (scat)	<i>Bos taurus</i>
Coyote (scat)	<i>Canis latrans</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Woodrat (middens)	<i>Neotoma</i> sp.
Desert cottontail	<i>Sylvilagus audubonii</i>

In addition to the species listed in Table 3.4, other game species that have the potential to occur in and around the proposed project area include pronghorn (*Antilocapra americana*) and javelina (*Pecari tajacu*). Furbearer game species likely to occur in the proposed project area include badger (*Taxidea taxus*), long-tailed weasel (*Mustela frenata*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), and bobcat (*Lynx rufus*) (Findley et al. 1975; Frey 2004).

Various reptiles and amphibians have the potential to occur in the proposed project area, including but not limited to western diamondback rattlesnake (*Crotalus atrox*), coachwhip (*Coluber flagellum*), desert kingsnake (*Lampropeltis getula*), bullsnake (*Pituophis catenifer*), Texas horned lizard (*Phrynosoma cornutum*), common side-blotched lizard (*Uta stansburana*), checkered whiptail (*Aspidoscelis tessellata*), collared lizard (*Crotaphytus collaris*), ornate box turtle (*Terrapene ornata*), Great Plains toad (*Anaxyrus cognatus*), Mexican spadefoot (*Spea multiplicata*), Couch's spadefoot (*Scaphiopus couchii*), and eastern tiger salamander (*Ambystoma tigrinum*) (Degenhardt et al. 1996; Stebbins 2003).

Most bird species and their nests are protected by the MBTA, which implements various treaties and conventions between the United States and other countries for the protection of migratory birds. One inactive passerine nest in poor condition was observed during the biological survey (see Appendix A for additional details).

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the MBTA and the Bald and Golden Eagle Protection Act. Bald eagles are unlikely to occur in the proposed project area due to lack of trees and preferred prey. Golden eagles could forage in the proposed project area, especially outside the breeding season when they can perch on utility poles far from cliffs and other rugged terrain.

### Special-Status Species

The special-status species evaluated in this EA consist of 1) all federally protected (i.e., endangered and threatened) species, 2) additional species listed by the USFWS as candidate and proposed and species under review (USFWS 2018b), 3) state-listed endangered and threatened species (Biota Information System of New Mexico 2018; New Mexico Energy, Minerals and Natural Resources Department 2017), and 4) BLM sensitive species, some of which are also listed as candidates or are under the review by the USFWS and/or are state listed. The BLM manages certain sensitive species that are not federally listed as



threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. The authority for this policy and guidance is established by the ESA, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act; and Department of the Interior Manual 235.1.1A.

Based on the results of the 2018 biological survey of the proposed project area, one special-status species is known to occur and three special-status species have the potential to occur within the proposed project area (Table 3.5). All special-status species analyzed for the proposed project area are included in the full special-status species table (Appendix B).

The proposed project area does not occur within any special-status species' critical habitat. Designated critical habitat for the Pecos bluntnose shiner (*Notropis simus pecosensis*) occurs 44.8 miles northwest of the proposed project area.

In addition, the proposed project area is approximately 29.9 mi northeast of the Candidate Conservation Agreement boundary for the Texas hornshell mussel, which is a voluntary agreement administered by Center of Excellence for Hazardous Materials Management (CEHMM) to facilitate cooperation between energy developers, including oil and gas operators, and other stakeholders on federal lands to implement mitigation measures (below) and Conservation Measures (which include revegetation of native riparian species along rivers, land or water acquisition, etc.) to eliminate threats to this species and associated habitat, as well as several other riparian species, known as the "Covered Species" (Rio Grand river cooter [*Pseudemys gorzugi*], gray redbreast [*Moxostoma congestum*], blue sucker [*Cycleptus elongatus*], and the Pecos springsnail [*Pyrgulopsis pecosensis*]) with similar habitat.

**Table 3.5. Special-Status Species with the Potential to Occur in the Proposed Project Area**

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Potential for Occurrence in Proposed Project Area
<b>Birds</b>			
Lesser prairie-chicken ( <i>Tympanuchus pallidicinctus</i> )	BLM Sensitive	This species occurs in southeastern New Mexico, primarily in shinnery oak or sand sagebrush grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem ( <i>Andropogon hallii</i> ), little bluestem ( <i>Schizachyrium scoparium</i> ), sand dropseed ( <i>Sporobolus cryptandrus</i> ), threeawn ( <i>Aristida</i> sp.), and blue grama ( <i>Bouteloua gracilis</i> ).	May occur in the proposed project area due to marginally suitable habitat including shinnery oak and blue grama. The proposed project area is within the LPC Isolated Population Area (IPA) and designated Timing Restriction Area. This species was not observed during the 2018 biological survey of the proposed project area.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	BLM Sensitive	The loggerhead shrike is a year-round resident in New Mexico and is found throughout the state, primarily in open country including grasslands, improved pastures, hayfields, shrub steppe, and desert scrub, as well as piñon-juniper woodland and woodland edges.	Known to occur in the proposed project area. This species was observed during the 2018 biological survey of the proposed project area.

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Potential for Occurrence in Proposed Project Area
<b>Reptiles</b>			
Dunes sagebrush lizard ( <i>Sceloporus arenicolus</i> )	BLM Sensitive NM E	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Chaves County, Roosevelt County, and through eastern Eddy and southern Lea Counties. This species has an extremely strong affinity for bowl-shaped depressions in active dune complexes referred to as sand dune blowouts, with a preference for relatively large blowouts and select microhabitat within a given blowout. Within their geographic range, the presence of this species is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	May occur in the proposed project area since a portion of the project is within the known habitat distribution range for this species (BLM 2008a). This species was not observed during the 2018 biological survey of the proposed project area.
Texas horned lizard ( <i>Phrynosoma cornutum</i> )	BLM Sensitive	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. These areas often consist of grasses interspersed with cacti, yucca ( <i>Yucca</i> sp.), mesquite ( <i>Prosopis</i> sp.), and other assorted woody shrubs and trees. In New Mexico, the species is associated with <i>Yucca-Prosopis-Ephedra</i> and <i>Larrea-Acacia-Fouquieria</i> habitat associations, often in playas or on bajadas and mountain foothills.	May occur in the proposed project area due to presence of suitable habitat including mesquite and other shrubs. This species was not observed during the 2018 biological survey of the proposed project area.

### 3.5.2 Impacts from the Proposed Action

#### Direct and Indirect Impacts

##### General Wildlife

Impacts to wildlife would result from actions that alter wildlife habitats, including changes to habitat and disturbance. Altering wildlife habitat in ways that would be considered adverse may occur directly (through habitat loss from surface disturbance) or indirectly (through the reduction in habitat quality caused by increased noise levels and increased human activity). The proposed project would result in 16.76 acres of new surface disturbance.

Short-term impacts to wildlife and special-status species would include the removal or crushing of existing vegetation, risk of direct mortality of species during construction, loss or degradation of native habitat, and displacement of wildlife species from habitat due to development. Additional potential short-term indirect impacts could include disruption or displacement of species from nesting/birthing and foraging areas, changes in activity patterns due to construction, increased human activity, and noise disturbance. Noise disturbance could impact wildlife by interfering with animals' abilities to detect important sounds or by posing an artificial threat to animals (Clinton and Barber 2013). Construction equipment associated with the proposed project would contribute the highest noise levels. Currently, the noise profile of the surrounding area is influenced by existing oil and gas infrastructure in the immediate vicinity, which would not change as a result of the proposed project.

Long-term, direct impacts to wildlife would result from the proposed project incrementally contributing to overall habitat fragmentation and isolation of connected habitats, including reduced habitat patch size, reduced distance between areas of disturbance, and the potential displacement of wildlife. The proposed project would not contribute to overall habitat fragmentation, as the majority of the proposed project is

located immediately adjacent or within existing oil and gas-related disturbance areas (see photographs in Appendix A).

After construction, all surface disturbance associated with the proposed project area not needed for active support or production and maintenance operations would be reclaimed. Reclamation of disturbed areas is expected to return the affected area to herbaceous production within 2 years after construction, depending on drought conditions. However, the establishment of mature native plant communities may require decades (Monsen et al. 2004). As a result, the change in vegetative species composition could modify cover and foraging opportunities for wildlife; thereby, having a long-term impact on wildlife and special-status species.

### **Special-Status Species**

The special-status species with potential BLM CFO COAs and the potential to occur in the proposed project area were evaluated for possible impacts from the proposed project and are described further below.

#### **Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)**

The LPC is a BLM sensitive species and is protected under the MBTA. LPCs are known to occupy native mixed-grass prairies, shinnery oak, sand bluestem (*Andropogon hallii*), and sand sagebrush–bluestem plant communities of the southern Great Plains. In New Mexico, LPC habitat occurs in sand shinnery communities dominated by shinnery oak and several species of bluestem, grama (*Bouteloua* sp.), and dropseed (*Sporobolus* sp.) grasses. In general, nesting habitat typically consists of low shrub cover and high grass and forb cover, interspersed with patches of short vegetation. Successful nests in nearby Chaves County, New Mexico, were located in patches where vegetation was roughly 65% grasses and 30% shinnery oak (New Mexico Partners in Flight 2017). LPCs avoid nesting in mesquite and shortgrass-dominated areas where sand bluestem is absent (Davis et al. 1979; Davis et al. 2008; Riley et al. 1992). In southern Lea County, LPCs are considered nearly extirpated, and in 2005, a single known lek was reported in this area (New Mexico Partners in Flight 2017).

The Proposed Action area is located within the LPC IPA and the LPC timing restriction zone managed by the BLM CFO (BLM 2008a; Figure A.1). Conservation measures have been developed for activities within 3 miles of the IPA and other RMPA zoning areas, which include following COAs (e.g., stipulations) for construction, revegetation, and operations and maintenance (BLM 2008a). Neither LPCs nor signs of this species (e.g., feathers, scat, tracks) were observed in the proposed project area during the biological survey. There is marginally suitable habitat for this species due to the presence of shinnery oak, sand dropseed, and little bluestem and some sand dunes within the northwestern terminus; however, the proposed project area does not contain the mixed-grass prairie and extensive sand dunes habitat preferred by this species. Additionally, the proposed project area has been highly disturbed from livestock grazing and also parallels oil and gas infrastructure components (i.e., two-tracks and pipelines.). This existing disturbance surrounding the proposed project area has resulted in fragmented habitat for LPCs within the project area. However, per the BLM Guidance Letter (BLM 2017), construction activities for the proposed project would not be allowed from 3:00 a.m. to 9:00 a.m. within the LPC timing restriction area during the period from March 1 through June 15 annually. The CFO has established a noise limit stipulation in the LPC area that limits noise from oil and gas operations to no more than 75 decibels measured at 30 feet from the noise source; therefore any operational noise from the proposed compressor station would comply with this stipulation. Additionally, based on the amount of existing disturbance surrounding the proposed project area, the proposed project is not likely to contribute to a trend toward federal listing or cause a loss of viability for LPCs.

#### **Loggerhead Shrike (*Lanius ludovicianus*)**

The loggerhead shrike is designated as a BLM sensitive species and is also protected under the MBTA. Loggerhead shrikes were observed within the proposed project area during the biological survey. If vegetation removal is scheduled to occur during the migratory bird breeding season (March 1–August 31), a nest survey is recommended to be conducted up to 2 weeks prior to vegetation removal and avoidance buffers around any occupied nests would be established (distances to be specified by the BLM CFO). Adult birds would likely not be directly harmed by the proposed project because of their mobility and ability to

avoid areas of human activity. The proposed project could impact individuals, but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species.

### ***Dunes Sagebrush Lizard (Sceloporus arenicolus)***

The DSL is a New Mexico state endangered species and a BLM sensitive species. The DSL is native to a small area of shinnery oak sand dunes in southeastern New Mexico and adjacent western Texas from approximately 3,400 to 4,600 feet in elevation. The shinnery oak dune habitat extends from the San Juan Mesa in northeastern Chaves and Roosevelt Counties, south through eastern southern Lea County in New Mexico, and the DSL is known from portions of that suitable habitat (Fitzgerald et al. 1997; USFWS 2013). It is considered to be a habitat specialist because it has adapted to thrive only in a narrow range of environmental conditions that exist within shinnery oak dunes. The proposed project area is 0.12 miles from the known DSL distribution area as determined in the RMPA (BLM 2008a) (Figure A.1). During the survey, biologists determined that there was no suitable habitat present for DSL within the project area. No DSLs were observed during the biological survey of the proposed project area. If DSL are present during construction, they could avoid disturbance by moving to adjacent habitat. The New Mexico Department of Game and Fish (NMDGF) pipeline trenching guidelines (NMDGF 2003; Appendix C) and the BLM Open Trench Wildlife Removal Workshop materials (BLM 2013) would be followed to avoid impacts to DSL. In addition, all personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals.

### ***Texas Horned Lizard (Phrynosoma cornutum)***

The Texas horned lizard is a BLM sensitive species. No Texas horned lizards were observed during the biological survey; however, potentially suitable habitat, including the presence of honey mesquite and other assorted woody vegetation is present within the proposed project area. If Texas horned lizards are present during construction, they could avoid disturbance by moving to adjacent habitat. In addition, following NMDGF (2003) trenching guidelines (see Appendix C) would prevent accidental Texas horned lizard mortality resulting from entrapment during construction activities of the buried pipelines. The proposed project could impact individuals but would not likely contribute to a trend toward federal listing or cause a loss of viability to the population or species.

## **Mitigation Measures and Residual Impacts**

Measures to minimize impacts to wildlife are described in the COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. Special mitigation includes the following guidelines.

- Versado would instruct personnel working on the construction of the proposed project to avoid intentionally harassing all animals.
- Vegetation and abandoned passerine nest removal would occur outside the migratory bird breeding season (March–August), to the extent possible.
- For portions of the project being constructed during the nesting season (March 1–August 31), Versado could conduct pre-construction nest surveys up to 2 weeks prior of vegetation removal and avoidance buffers around any occupied nest could be established (distances to be specified by the BLM) to ensure compliance with the MBTA.
- In consideration of conservation measures and other protective criteria outlined in the 2008 RMPA for projects within LPC management areas. Versado has coordinated with the BLM to ensure minimum surface disturbance in LPC habitat by
  1. confining the proposed facilities to existing alignments to the extent feasible;
  2. minimizing width of construction disturbance; and
  3. placing proposed alignment outside ROW avoidance areas and other sensitive areas.
- Additional mitigation measures for activities in LPC management areas outlined in the 2008 RMPA include the following:
  1. Timing and noise restrictions would be applied to prevent disruption of mating and nesting activities. All construction activities would be prohibited from 3:00 a.m. to 9:00 a.m. during March 1 to June 15 in the project area.

2. Exceptions to these timing requirements would be considered in emergency situations such as mechanical failures. Potential drill rig loss, drill rig scheduling, or the potential loss of a lease are not emergency situations. Exceptions would not be granted after March 15 or during the March 1 to June 15 period if the BLM determines, on the basis of biological data or other relevant facts or circumstances, that the granting of an exception would disrupt LPC booming activity during the breeding season. Requests for exceptions on a non-emergency basis may also be considered for the period of March 1 to June 15, but these exceptions would not be granted if the BLM determines that there is LPC habitat, LPC sightings, historical leks, and/or active leks within 1.5 miles of the proposed location or any combination of the above-mentioned criteria.
  3. If new LPC leks are discovered in the future within the LPC management area, a 1.5-mile radius around the lek would be considered occupied habitat and the prescriptions of this alternative would apply to proposed actions in and around that habitat.
- The CFO has established a noise limit stipulation in the LPC area that limits noise from oil and gas operations to no more than 75 decibels measured at 30 feet from the noise source; therefore any operational noise from the proposed compressor station would comply with this stipulation.
  - In consideration of conservation measures and other protective criteria outlined in the 2008 RMPA for projects within DSL distribution areas, Versado has coordinated with the BLM to ensure minimum surface disturbance in DSL habitat by:
    1. Versado would follow BMPs on pipeline burial (NMDGF 2003) in order to prevent accidental DSL and Texas horned lizard mortality caused by entrapment
    2. Versado would follow BLM Open Trench Wildlife Removal Workshop materials (BLM 2013) within the DSL distribution area to avoid mortality caused by entrapment
  - All of the COAs outlined above for DSL would be applied to the Texas horned lizard.

## 3.6 Cultural and Historical Resources Affected Environment

### 3.6.1 Affected Environment

The proposed project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 11,500–7000 B.C.), Archaic (ca. 6000 B.C.–A.D. 500), Ceramic (ca. A.D. 500–1400), Post-Formative Native American (ca. A.D. 1400–present), and Historic Euro-American (ca. A.D. 1865–present). Sites representing any or all of these periods are known to occur within the region. A more complete discussion of the periods and site types is provided in *Permian Basin Research Design 2016-2026 Volume I: Archaeology and Native American Cultural Resource* published in 2016 by SWCA, Albuquerque, New Mexico (Railey 2016).

### Native American Religious Concerns

The BLM conducts Native American consultation regarding traditional cultural properties (TCPs) and sacred sites during land use planning and its associated environmental impact review. In addition, during the oil and gas lease sale process, Native American consultation is conducted to identify TCPs and sacred sites whose management, preservation, or use would be incompatible with oil and gas or other land use authorizations. With regard to TCPs, the BLM has very little knowledge of tribal sacred or traditional use sites, and these sites may not be apparent to archaeologists performing surveys in advance of construction activities.

### 3.6.2 Impacts from the Proposed Action

#### Direct and Indirect Impacts

#### PERMIAN BASIN PA INSERT FOR DIRECT AND INDIRECT IMPACTS:

The project falls within the area covered by the PBPA. The PBPA is an optional method of compliance with Section 106 of the National Historic Preservation Act for energy-related projects in a 28-quadrangle area

Commented [JH1]: BLM to edit

of the CFO planning area. The PBPA is a form of off-site mitigation that allows industry to design projects to avoid known National Register of Historic Places (NRHP) eligible cultural resources and to contribute to a mitigation fund in lieu of paying for additional archaeological inventory in this area that has received adequate previous survey. Funds received from the PBPA will be used to conduct archaeological research and outreach in southeastern New Mexico. Research will include archaeological excavation of significant sites, predictive modeling, and targeted research activities, as well as professional and public presentations on the results of the investigations.

The proponent chose to participate in the PBPA by planning to avoid all known NRHP eligible and potentially eligible cultural resources. The proponent has contributed funds commensurate to the undertaking into an account for off-site mitigation. Participation in the PBPA serves as mitigation for the effects of this project on cultural resources. If any skeletal remains that might be human or funerary objects are discovered by any activities, the project proponent would cease activities in the area of discovery and notify the BLM within 24 hours as required by the PBPA.

#### **NON PERMIAN INSERT FOR DIRECT AND INDIRECT IMPACTS:**

Cultural resources on public lands, including archaeological sites and historic properties, are protected by federal law and regulations (Section 106 of the National Historic Preservation Act and NEPA). Class III cultural surveys will be conducted of the area of effect for realty or oil and gas projects proposed on these lands prior to the approval of any ground-disturbing activities to identify any resources eligible for listing on the NRHP. Cultural resource inventories minimize impacts to cultural sites and artifacts by avoiding these resources prior to construction of the proposed project. If unanticipated or previously unknown cultural resources are discovered at any time during construction, all construction activities would halt and the BLM Authorized Officer would be immediately notified. Work would not resume until a Notice to Proceed is issued by the BLM.

A Class III cultural resource inventory (Report No. 18-176) was conducted, and no historic properties were identified within the area of potential effect (SWCA 2018).

Commented [JH2]: Submitted

#### **Mitigation Measures**

Measures to minimize impacts to cultural resources are described in the standard COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. No further mitigation measures have been recommended.

### **3.7 Paleontological Resources**

#### **3.7.1 Affected Environment**

Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Fossil remains may include bones, teeth, tracks, shells, leaves, imprints, and wood. Paleontological resources include not only the actual fossils but also the geological deposits that contain them and are recognized as non-renewable scientific resources protected by federal statutes and policies.

The primary federal legislation for the protection and conservation of paleontological resources occurring on federally administered lands are the Paleontological Resources Preservation Act of 2009, the Federal Land Policy and Management Act of 1976, and NEPA. The BLM has also developed policy guidelines for addressing potential impacts to paleontological resources (BLM 1998a, 1998b, 2008c). In addition, paleontological resources on state trust lands are protected by state policy from unauthorized appropriation, damage, removal, or use.

The Potential Fossil Yield Classification (PFYC) is a tool that allows the BLM to predict the likelihood of a geologic unit to contain paleontological resources. The PFYC is based on a numeric system of 1 to 5, with PFYC 1 having little likelihood of containing paleontological resources, whereas a PFYC 5 value is a geologic unit that is known to contain abundant scientifically significant paleontological resources. The fossil

resources of concern in this area are the remains of vertebrates, which include species of fish, amphibians, and mammals.

---

### **3.7.2 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

Direct impacts would result in the immediate physical loss of scientifically significant fossils and their contextual data. Impacts indirectly associated with ground disturbance could subject fossils to damage or destruction from erosion, as well as creating improved access to the public and increased visibility, potentially resulting in unauthorized collection or vandalism. However, not all impacts of construction are detrimental to paleontology. Ground disturbance can reveal significant fossils that would otherwise remain buried and unavailable for scientific study. In this manner, ground disturbance can result in beneficial impacts. Such fossils can be collected properly and curated into the museum collection of a qualified repository making them available for scientific study and education.

The location of the proposed project is within one geologic unit: Piedmont alluvial deposits from the upper and middle Quaternary. This geologic unit is within PFYC 2, where management concern is generally low. A pedestrian survey for paleontological resources was not necessary and no impacts to paleontological resources are expected.

#### **Mitigation Measures**

Measures to minimize impacts to paleontological resources are described in the standard COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. No special mitigation or requirements have been identified by the BLM.

---

## **3.8 Potash Minerals**

### **3.8.1 Affected Environment**

Potash resources in southeastern New Mexico are located in an area governed by the rules of the Secretary of the Interior's 2012 Order dated December 4, 2012. This area is commonly called the Secretary's Potash Area. The Secretary's 2012 Order was written to establish rules for concurrent operations in prospecting for and development and production of oil and gas and potash deposits owned by the United States within the designated Secretary's Potash Area. The Secretary's Potash Area completely encompasses the Known Potash Leasing Area, which was established for the administration of potassium leasing.

The Secretary's Potash Area is composed of four classifications respective to the density of core holes or geophysical inference: measured ore (potash enclave), indicated ore, inferred ore, and barren of potash ore.

The proposed project is within measured ore, indicated ore, and barren of potash ore areas. Approximately 13.0 acres (2.1 miles) of the proposed location is located in an area of measured (enclave) ore. Measured ores are potash resources for which tonnage is computed from dimensions revealed in workings and drill holes. The grade is computed from the results of detailed sampling. Measured ore will be delineated by data points no more than 1.5 miles apart if geologic inference shows these projections to be reasonable. Measured ore will not be delineated by fewer than three data points that meet all other distance, thickness, and grade criteria. Measured ore is not projected further than 0.5 mile from a data point that meets thickness and quality standards where no projection or geologic inference data exists.

Approximately 1.6 acres (0.3 miles), is within an area of indicated ore reserves. Indicated Potash Reserves are identified as potash resources that are computed partly from specific measurements, samples, or production data and partly from projection for a reasonable distance on geologic evidence. The sites available for inspection, measurement, and sampling are too widely or otherwise inappropriately spaced to permit the mineral bodies to be outlined completely or the grade established throughout.

The remainder of the proposed project, 2.2 acres (0.3 mile) of the proposed location is located in an area of barren and/or minor potash mineralization. Barren and/or minor potash mineralization areas are composed of subeconomic resources that would require a substantially higher market value or major cost reducing technology for economical production. Subeconomic resources also include other minerals not presently being recovered.

### 3.8.2 Impacts from the Proposed Action

The potential direct impacts of pipeline construction and operation to potash resources could include fractures within the formations that might provide a conduit to mine workings from pipeline constructions and leaks. Any potential impacts created by pipeline construction and operation will be evaluated before future mining operations in this area are approved by the BLM.

Proposed projects can be expected to be relocated to minimize impacts to potash resources while allowing drainage of remote areas within the potash enclave.

Because 13.0 acres of the proposed project is located within measured ore (potash enclave) reserves, the proposed project would affect economical potash resources. Because 1.6 acres of the project is located within indicated potash reserves, it may affect economical potash reserves or resources. The proximity of the proposed project is located approximately 9.2 miles northeast of the active mine workings of the Intrepid East Mine. Because the remainder of the proposed project (2.2 acres) is located in an area that is barren of potash reserves, this portion of the proposed project would not affect economical potash reserves or resources.

#### Mitigation Measures

Measures to minimize or eliminate impacts to potash mineral resources are described in COAs (BLM 1997:Appendix 2). No further mitigation measures have been recommended.

## 3.9 Livestock Grazing

### 3.9.1 Affected Environment

Almost all livestock grazing within the BLM CFO planning area is permitted for year-round use. Permitted livestock numbers for each allotment are set at levels that provide for plant recovery to enhance rangeland health. These levels have been determined by quantitative measurements of forage present. Prolonged drought and rangeland wildfire continue to threaten rangeland health and forage availability within and near the proposed project area.

Livestock grazing is common within the CFO, including grazing of domestic cattle, sheep, goats, and horses. The proposed project area coincides with two BLM allotments, summarized in Table 3.6.

**Table 3.6. BLM CFO Allotments and Range Improvements in the Proposed Project Area**

Allotment Name	Allotment Number	Size of Project Area within Allotment (acres)	Total Size of Allotment (acres)	Range Improvements		
				Fences	Waterlines	Troughs
Lea Townsite	76020	12.9	19,613	0	0	0
<i>Total</i>		<i>12.9</i>	<i>19,613</i>	<i>0</i>	<i>0</i>	<i>0</i>



---

### **3.9.2 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

Impact criteria for assessing livestock grazing impacts are based on applicable laws, statutes, standards, or guidelines. Direct and indirect impacts from the Proposed Action can be assessed by calculating the number of acres and grazing allotments that would incur surface disturbance and the resulting loss of vegetation for forage from the Proposed Action.

Forage removal from the grazing allotments crossed by the proposed project would be the primary impact to grazing resources. Construction of the Proposed Action would remove approximately 12.9 acres of vegetation from the active grazing allotment, which represents less than 0.01% of the total allotment acreage intersected by the Proposed Action. The resulting loss of vegetation would not affect the animal unit months authorized for livestock use in this area.

Range improvements would not be impacted by the proposed project. There are no pasture fences crossed by the proposed project area. There are no waterlines crossed or water troughs located within 200 m of the proposed project area. The proposed project has the potential to temporarily create barriers to livestock movement during construction activities. However, the standard COAs (BLM 1997:Appendix 2) identify measures to prevent these types of impacts to grazing livestock.

Short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Movement of livestock also may be temporarily impeded in areas of active construction. Considering the project area is open range, livestock may be found on roads in the area and vehicle traffic associated with the Proposed Action could pose injury or death due to collisions with vehicles. After construction, livestock should become acclimated to the minimal activity associated with monitoring and maintenance of the proposed pipeline.

#### **Mitigation Measures**

Measures to minimize impacts to livestock grazing are described in the standard COAs (BLM 1997:Appendix 2) for buried and surface-installed pipelines. No special mitigation or requirements have been identified by the BLM.

---

## **3.10 Public Health and Safety**

### **3.10.1 Affected Environment**

The proposed project is located in an area with established oil and gas exploration, development, transportation, and processing operations with the accompanying pipelines, drilling rigs, pumpjacks, traffic, and other related activities. During construction of the proposed pipeline, physical hazards, such as heavy machinery, would be present.

A small number of seasonal recreation users (e.g., hunters and OHV riders) may occasionally be in the vicinity of the proposed project area. However, these users are warned about possible hazardous conditions in the project area through posted signs and would have limited access to the project area during construction.

---

### **3.10.2 Impacts from the Proposed Action**

#### **Direct and Indirect Impacts**

Some potential risk is inherent in any construction project, and this could include the potential risk of contamination to soil through improper disposal of waste, leaks from equipment, or accidental releases. There is also potential for releases of hazardous materials from the proposed pipeline and surface site during operation.

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the Emergency Planning and Community Right-to-Know Act. The notification of hazardous substance releases outside the facility site is required under the Comprehensive Environmental Response, Compensation, and Liability Act and New Mexico Administrative Code 19.15.29. All facilities must have informational signs, as directed under 43 CFR 3160.

The increase in traffic to area roads during construction could pose a hazard to other vehicles and road users. However, area roads are already used by oil and gas traffic and users would be accustomed to the types of vehicles necessary for construction. The increase in vehicles would be spread across the project area and drivers would be warned of possible hazards by appropriate signage and would be expected to follow all rules of the road. This impact to area roads would be short term for construction of the proposed project and would lessen considerably during the operations phase.

### **Mitigation Measures**

Measures to minimize impacts from spills or leaks are described in the standard COAs (BLM 1997:Appendix 2). No special mitigation or requirements have been identified by the BLM.

## **3.11 Cumulative Impacts**

A cumulative impact, as defined in 40 CFR 1508.7, is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of which agency (federal or non-federal) or person undertakes such other action. The time frame for the cumulative impact analysis is 30 years, i.e., the projected life of pipelines and associated booster sites.

### **3.11.1 Cumulative Impact Analysis for Air Resources**

The following analysis of cumulative impacts of the Proposed Action on air resources is limited to the BLM CFO planning area. The Air Quality Technical Report provides a list of major sources<sup>5</sup> for air pollutants in New Mexico, any of which may contribute to cumulative impacts to air quality within the planning area (see BLM 2016:Appendix D). The report also evaluates the cumulative impacts of GHG emissions and their relationship to climate change at national and global levels (BLM 2016:54–60).

Activities that cumulatively contribute to levels of air pollutants and GHG emissions in southeast New Mexico result from a variety of sources, including fossil fuel industries, transportation, industrial construction, mining, and others. For the CFO planning area, activities that have the greatest impact on air resources are fossil fuel production (e.g., oil and gas exploration and production, crude oil refining, and gas processing) and vehicular travel (BLM 2016:46). The Air Quality Technical Report summarizes the past, present, and reasonably foreseeable impacts to air resources resulting from these activities (BLM 2016:38–51).

The CFO manages federal oil and gas exploration and production on its mineral estate in Eddy and Lea Counties and part of Chaves County. These activities result in cumulative impacts to air resources in the CFO planning area through air pollutant and GHG emissions. There are currently 40,924 oil and gas wells within these counties categorized as active, new, or temporarily abandoned, with 18,436 of these located on federal lands (Petroleum Recovery Research Center 2017). Quantifying emissions of an oil and gas well in the CFO planning area is difficult due to various factors (geology, variation in drilling technique and time, uncertainty of production); however, the BLM has determined that well production typically declines over time, depending on well life and the price of oil and gas. Therefore, it is assumed that declining production would also result in reduced emissions over time (BLM 2016:31).

Factors involving vehicular travel, including number and types of vehicles, miles traveled, and road condition, all influence emissions in the CFO planning area. These emissions result from both on-road and

<sup>5</sup> Sources emitting more than 100 tons/year of CO, volatile organic compounds, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, or PM<sub>10</sub> (BLM 2016:38).

off-road vehicular travel. While increased vehicle fuel efficiency is expected to reduce emissions associated with vehicular travel, any reduction in emissions may eventually be offset by an increase in the number of vehicles used due to population growth in the area (BLM 2016:51).

### **Air Quality**

The Proposed Action would result in a very small increase in emissions and would not cause or contribute to an exceedance of the NAAQS for any criteria pollutants in the CFO planning area. Additionally, emissions from the Proposed Action, together with all other emissions, are not expected to impact the 8-hour average O<sub>3</sub> standard. The applicable regulatory thresholds for HAPs associated with the oil and gas industry are established under the National Emissions Standards for Hazardous Air Pollutants, which are currently under review by the EPA.

### **Climate Change**

The Air Quality Technical Report discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting global and regional impacts related to emissions (BLM 2016:51–53). In general, the Proposed Action together with all other current and foreseeable emission-producing actions would not have a measurable impact on climate. While the Proposed Action may contribute to climate change, the specific impacts on global or regional climate are not quantifiable and the Proposed Action's contribution, in a localized area, to impacts on global climate change cannot be determined (BLM 2016:53).

### **3.11.2 Cumulative Impacts for Watershed Drainages, Soils, Vegetation and Invasive Species, Wildlife Including Special-Status Species, and Livestock Grazing**

Impacts to watershed drainages, soils, vegetation and invasive species, wildlife and special-status species, and livestock grazing would depend on the placement and type of surface disturbance, the type of soils and plant species present, and the hydrologic conditions within the individual project sites. Generally, soil erosion and sedimentation of local drainages would be expected to occur, especially when storm events occur during construction of the future actions. Cumulative impacts to groundwater are difficult to estimate because, as with the Proposed Action, impacts to groundwater would occur from accidental spill during construction or operation that would reach the water table.

Generally, native vegetation loss and the spread of noxious weeds would be expected to occur, especially during construction of the future actions. Further development in the area would potentially result in the loss of vegetation and thereby a loss of forage available to livestock within the grazing allotments. The resulting loss of forage could reduce the animal unit months authorized for livestock use in the area. Reclamation of some disturbed areas and use of COA's, such as reseeding construction areas, has reduced impacts to vegetation and livestock grazing conditions. In time, the reclaimed and seeded areas would result in stable plant communities with densities that are similar to the pre-disturbance plant densities. Similarly, impacts to visual resources would depend on the success of revegetation to blend the landscape within the individual project site. In time, the reclaimed and seeded areas would minimize impacts to visual resources.

Surface-disturbing activities affect wildlife, migratory birds, and special-status species through decreasing available forage and habitat and causing habitat alteration and fragmentation. Well pads and road density break the available habitat into smaller and smaller pieces, which can lead to displacement and physiological stress in wildlife species. Fragmentation results in indirect habitat loss and degradation. Wildlife species would have to expend an increased amount of energy to avoid disturbed areas or when experiencing alarm due to human presence, traffic, and associated noise.

Watkins et al. (2007) describe quantitative thresholds of fragmentation impact as moderate, high, and extreme, based on the density of well pads per section and cumulative surface disturbance. Moderate impact is defined as one to four wells and less than 20 acres of disturbance per section. High impact is defined as 5 to 16 wells and 20 to 80 acres of disturbance per section. Extreme impact is defined as more than 16 wells and greater than 80 acres of disturbance per section. Based on the above-described

definitions, the density of current oil and gas development is high within the proposed project area. This indicates impacts to wildlife are increasingly difficult to mitigate and may not be completely offset by management or habitat treatments (Watkins et al. 2007). The Proposed Action, together with past, present and reasonably foreseeable cumulative actions would contribute to the density of development and overall habitat fragmentation of the region.

---

### **3.11.3 Cumulative Impact Analysis for Cultural and Historic Resources and Paleontological Resources**

No cumulative effect to cultural or historic resource sites or paleontological resources would occur because no cultural or historic sites or known paleontological remains would be impacted by the Proposed Action.

---

### **3.11.4 Cumulative Impact Analysis for Potash Minerals**

The time frame for the cumulative impact analysis encompasses the projected life of construction, operation, and the removal or abandonment of the pipelines. Intrepid eventually plans to mine the measured ore reserves in those areas to the southwest. Only the pipelines, permanent easement, and temporary workspaces will be required as part of the proposed project. The area to the northwest is prone to subsidence due in part to ongoing and past mining operations, which could create a hazard to any structures constructed in the area. The area may also be subjected to additional surface-disturbing activity caused by seismic operations in order to delineate any newly discovered oil field(s).

## 4 SUPPORTING INFORMATION

### 4.1 List of Preparers

This EA was prepared by a third-party contractor, SWCA, according to the direction of the BLM CFO. The following BLM staff contributed to or reviewed this EA.

- Tessa Cisneros, Realty Specialist, BLM CFO
- Bruce Boeke, Archaeologist, BLM CFO

### 4.2 References

- Applied EnviroSolutions (AES). 2011. *Southeast New Mexico Inventory of Air Pollutant Emissions and Cumulative Air Impact Analysis 2007*. Carlsbad, New Mexico: U.S. Department of the Interior, Bureau of Land Management Carlsbad Field Office.
- Biota Information System of New Mexico. 2018. BISON-M home page. Available at: <http://www.bison-m.org>. Accessed March 2018.
- Bureau of Land Management (BLM). 1988. *Carlsbad Resource Management Plan*. Roswell, New Mexico: U.S. Department of the Interior, Bureau of Land Management, Roswell District.
- . 1997. *Carlsbad Approved Resource Management Plan Amendment and Record of Decision*. Roswell, New Mexico: U.S. Department of the Interior, Bureau of Land Management, Roswell District.
- . 1998a. BLM Manual Section H-8270-1 – *General Procedural Guidance for Paleontological Resource Management*. July 13.
- . 1998b. BLM Manual 8270 – *Paleontological Resource Management*. July 13.
- . 2008a. *Special-Status Species Record of Decision and Approved Resource Management Plan Amendment*. Roswell, New Mexico: U.S. Department of the Interior, Bureau of Land Management, Pecos District Office.
- . 2008b. *BLM National Environmental Policy Act Handbook H-1790-1*. Office of the Assistant Director. Washington, D.C.: Renewable Resources and Planning (WA-200).
- . 2008c. *Assessment and Mitigation of Potential Impacts to Paleontological Resources*. Instruction Memorandum No. 2009-011. Washington, D.C.: Department of the Interior. October 10.
- . 2013. *Open Trench Wildlife Removal Guidelines*. BLM Monitoring Workshop Materials.
- . 2014a. Instruction Bulletin No. 2014-084: Bureau of Land Management Fact Sheet: Air Quality General Conformity Rule. Available at: [https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/ib\\_attachments/2014.Par.22448.File.dat/IB2014-084\\_att1.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/ib_attachments/2014.Par.22448.File.dat/IB2014-084_att1.pdf). Accessed January 20, 2017.
- . 2014b. *Analysis of the Management Situation for the Bureau of Land Management Carlsbad Field Office*. Available at: [https://www.blm.gov/style/medialib/blm/nm/field\\_offices/carlsbad/rmp/documents.Par.37491.File.dat/AMS\\_Compiled.pdf](https://www.blm.gov/style/medialib/blm/nm/field_offices/carlsbad/rmp/documents.Par.37491.File.dat/AMS_Compiled.pdf). Accessed January 25, 2017.
- . 2014c. Instruction Memorandum No. 2015-020: Guidance—Use of Air Emissions Estimating Tools. Available at: [https://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2015/IM\\_2015-020.print.html](https://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2015/IM_2015-020.print.html). Accessed January 20, 2017.

- . 2016. *Air Resources Technical Report for Oil and Gas Development: New Mexico, Oklahoma, Texas and Kansas*. Santa Fe, New Mexico: New Mexico State Office.
- Cartron, J.-L.E. (ed.). 2010. *Raptors of New Mexico*. Albuquerque: University of New Mexico Press.
- Clinton, D.F., and J.R. Barber. 2013. A framework for understanding noise impacts on wildlife: an urgent conservation priority. *Frontiers in Ecology and the Environment* 11:305–313.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Washington, D.C.: U.S. Fish and Wildlife Service.
- Degenhardt, W.G., C.W. Painter, and A.H. Price. 1996. *The Amphibians and Reptiles of New Mexico*. Albuquerque: University of New Mexico Press.
- Findley, J.S., A.H. Harris, D.E. Wilson, and C. Jones. 1975. *Mammals of New Mexico*. Albuquerque: University of New Mexico Press.
- Fitzgerald, L.A., C.W. Painter, D.A. Sias, and H.L. Snell. 1997. *The Range, Distribution and Habitat of Sceloporus arenicolus in New Mexico*. Final report to New Mexico Department of Game and Fish, Santa Fe.
- Frey, J.K. 2004. Taxonomy and distribution of the mammals of New Mexico: An annotated checklist. *Occasional Papers, Museum of Texas Tech University* 240:1–32.
- Griffith, G.E., J.M. Omernik, M.M. McGraw, G.Z. Jacobi, C.M. Canavan, T.S. Schrader, D. Mercer, R. Hill, and B.C. Moran. 2006. Ecoregions of New Mexico (two-sided color poster with map, descriptive text, summary tables, and photographs). Scale 1:1,400,000. Reston, Virginia: U.S. Geological Survey.
- Monsen, S.B., R. Stevens, and N.L. Shaw [compilers]. 2004. *Restoring Western Ranges and Wildlands*. General Technical Report RMRS-GTR-136, vols. 1, 2. Fort Collins, Colorado: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Natural Resources Conservation Service (NRCS). 2018a. Soil Survey Geographic (SSURGO) Database. Natural Resources Conservation Service soils website. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed March 2018.
- . 2018b. The PLANTS Database. Available at: <http://plants.usda.gov>. Accessed March 2018.
- NatureServe. 2017. NatureServe Explorer. Available at: <http://explorer.natureserve.org/>. Accessed March 2018.
- New Mexico Department of Agriculture. 2016. New Mexico noxious weed list update. New Mexico State University. Available at: <http://www.nmda.nmsu.edu/wp-content/uploads/2016/11/Weed-List-memo-and-weed-list-2016.pdf>. Accessed March 2018.
- New Mexico Department of Game and Fish (NMDGF). 2003. Trenching Guidelines. Available at: <http://www.wildlife.state.nm.us/download/conservation/habitat-handbook/project-guidelines/Trenching-Project-Guidelines.pdf>. Accessed March 2018.
- New Mexico Energy, Minerals and Natural Resources Department. 2017. New Mexico State Endangered Plant Species (19.21.2.8 NMAC). Available at: [http://www.emnrd.state.nm.us/SFD/ForestMgt/documents/NMENDANGEREDPLANTList\\_000.pdf](http://www.emnrd.state.nm.us/SFD/ForestMgt/documents/NMENDANGEREDPLANTList_000.pdf). Accessed March 2018.

- New Mexico Office of the State Engineer (NMOSE). 2016. *Region 10 - Lower Pecos Valley Regional Water Plan*. Available at: [http://www.ose.state.nm.us/Planning/RWP/region\\_10.php](http://www.ose.state.nm.us/Planning/RWP/region_10.php). Accessed March 2018.
- Petroleum Recovery Research Center. 2017. Permian Basin: All wells data Microsoft Access Database. Available at: [http://octane.nmt.edu/gotech/Petroleum\\_Data/allwells.aspx](http://octane.nmt.edu/gotech/Petroleum_Data/allwells.aspx). Accessed April 10, 2017.
- Railey, J.A. 2016. *Permian Basin Research Design 2016-2026 (Volume I: Native American Archaeology and Cultural Resources)*. Prepared for the Bureau of Land Management Carlsbad Field Office. Albuquerque: SWCA Environmental Consultants.
- Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd ed. Peterson Field Guide Series. Boston, Massachusetts: Houghton Mifflin Company.
- SWCA Environmental Consultants (SWCA). 2018. *A Class III Cultural Survey of Hamon South/Fasken Pipeline in Lea County, New Mexico*. SWCA CR Report No. 18-176. Albuquerque, New Mexico.
- U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineers Waterways Experiment Station Environmental Laboratory.
- . 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0*. ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- . 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/EL TR-08-12. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture (USDA). 2017. *Introduced, Invasive, and Noxious Plants: Federal Noxious Weeds*. Available at: <http://plants.usda.gov/java/noxious?rptType=Federal>. Accessed March 2018.
- U.S. Department of Agriculture (USDA), U.S. Department of the Interior, and U.S. Environmental Protection Agency (EPA). 2011. *Memorandum of Understanding among the U.S. Department of Agriculture, U.S. Department of the Interior, and the U.S. Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act*. Available at: <https://www.epa.gov/sites/production/files/2014-08/documents/air-quality-analyses-mou-2011.pdf>. Accessed January 21, 2017.
- U.S. Environmental Protection Agency (EPA). 2011. *2011 National-Scale Air Toxics Assessment. Summary of Results*. Available at: <https://www.epa.gov/national-air-toxics-assessment/2005-national-air-toxics-assessment>. Accessed August 2016.
- . 2015. *Environmental Justice Information and Resources*. Washington, D.C.: EPA Compliance and Enforcement. Available at: <http://www.epa.gov/compliance/environmentaljustice/index.html>. Accessed July 27, 2015.
- . 2016. *The Green Book Non-Attainment Areas for Criteria Pollutants*. Available at: <https://www.epa.gov/green-book>. Accessed March 22, 2017.
- U.S. Fish and Wildlife Service (USFWS). 2018a. *National Wetlands Inventory*. Available at: <http://www.fws.gov/wetlands>. Accessed March 2018.
- . 2018b. *Information for Planning and Consultation System (IPaC)*. Available at: <http://ecos.fws.gov/ipac/>. Accessed March 2018.

U.S. Fish and Wildlife Service (USFWS) and Center of Excellence for Hazardous Material Management (CEHMM). 2017. Candidate Conservation Agreement for the Texas Hornshell (*Popenaias popeii*) and other Covered Species. Available at: [https://www.fws.gov/southwest/es/documents/R2ES/TxHornshell\\_CCA\\_CHEMM\\_v2\\_FR2980.pdf](https://www.fws.gov/southwest/es/documents/R2ES/TxHornshell_CCA_CHEMM_v2_FR2980.pdf). Accessed March 2018.

U.S. Geological Survey. 2013. National Hydrography Dataset. Available at: <http://nhd.usgs.gov/>. Accessed March 2018.

Watkins, B.E., C.J. Bishop, E.J. Bergman, B. Hale, B.F. Wakeling, L.H. Carpenter, and D.W. Lutz. 2007. Habitat Guidelines for Mule Deer: Colorado Plateau Shrubland and Forest Ecoregion. Mule Deer Working Group. Western Association of Fish and Wildlife Agencies.

Wetland Training Institute, Inc. 2013. *Pocket Guide to Hydric Soil Field Indicators*, Version 7.0 with Updates. Robert J. Pierce (ed.). Glenwood, New Mexico: Wetland Training Institute, Inc.



## **APPENDIX A. PROJECT AREA WITH NATURAL RESOURCES DATAMAP AND PROJECT PHOTOGRAPHS**

---

*This page intentionally left blank*

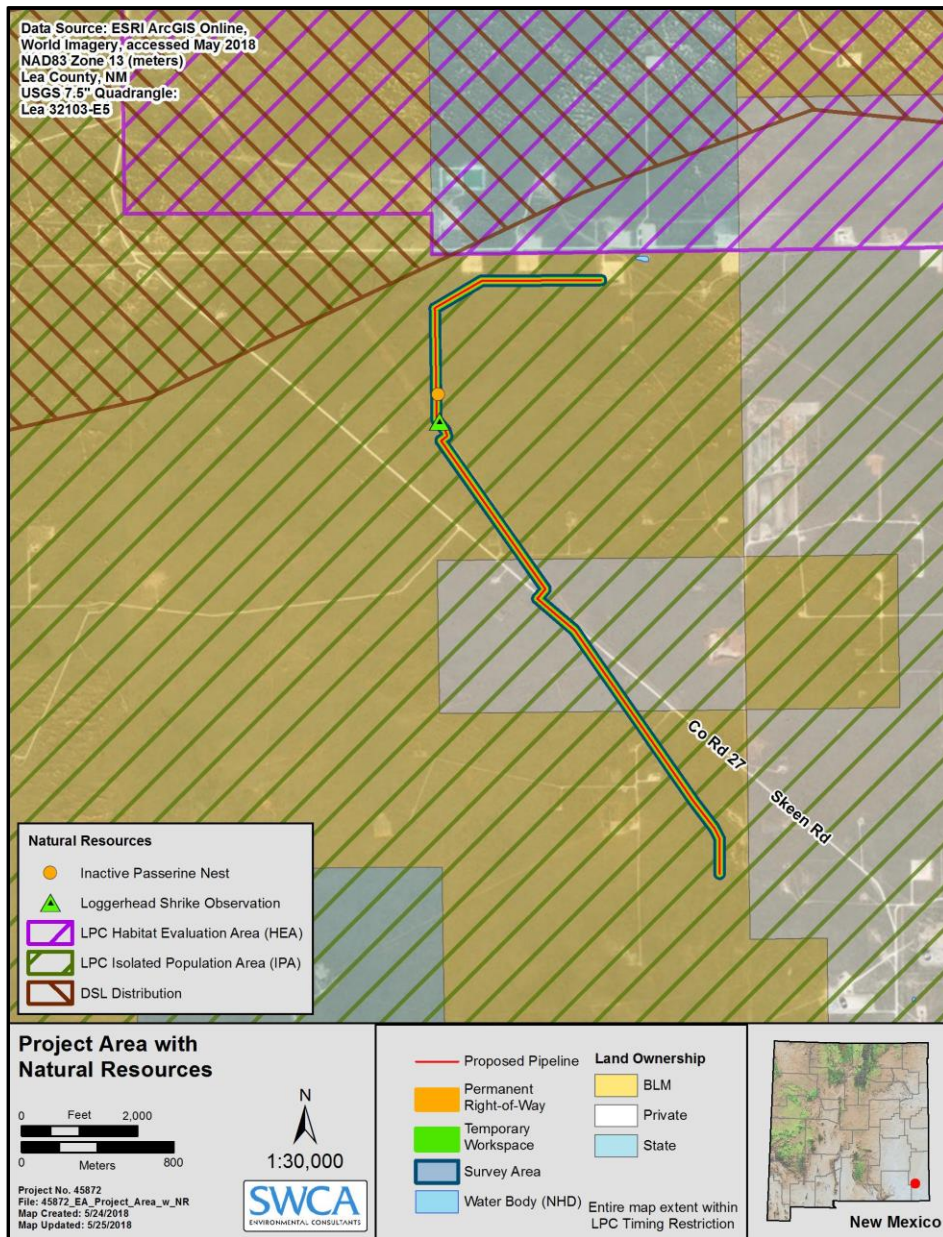


Figure A.1. Project area with natural resources.



**Figure A.2. View of desert scrubland with intermixed grasses vegetative community within the proposed project area, facing north.**



**Figure A.3. View of desert scrubland with intermixed grasses vegetative community within the proposed project area with existing infrastructure, facing west.**



**Figure A.4. View of an inactive cactus wren nest in poor condition within a honey mesquite tree (see Section 3.5).**

*This page intentionally left blank*

## **APPENDIX B. SPECIAL-STATUS SPECIES LIST**

---

*This page intentionally left blank*



**Table B.1. Special-Status Species for Lea County, New Mexico**

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
<b>Plants</b>			
Scheer's pincushion cactus ( <i>Coryphantha robustispina</i> var. <i>scheeri</i> )	BLM Sensitive	Typically associated with gravelly or silty soil in desert grassland and Chihuahuan desert scrub. May also be found on rocky benches or bajadas on limestone or gypsum; the elevation range of this cactus is 3,300–3,600 feet above mean sea level (amsl).	Unlikely to occur in the proposed project area due to lack of suitable desert grassland habitat and limestone or gypsum soils.
Tharp's blue-star ( <i>Amsonia tharpii</i> )	BLM Sensitive	Known from three distinct populations near Artesia and Carlsbad (Red Lake, Cedar Canyon, Ben Slaughter/Yeso Hills). Grows in soils with a limestone or gypsum component in rolling hills of Chihuahuan desert scrub communities; 3,100–3,500 feet amsl.	Unlikely to occur in the proposed project area due to lack of limestone and gypsum components. Additionally, the proposed project area is not in the known distribution area.
<b>Invertebrates</b>			
Pecos springsnail ( <i>Pyrgulopsis pecosensis</i> )	BLM Sensitive NM T <sup>2</sup>	This species is endemic to southeastern New Mexico, known only from Blue and Castle Springs in Eddy County. It occurs on a mud and pebble substrate in its spring habitat, mainly along the edges of the water. Found on pebbles, gypsum silt, and to a lesser extent mud and submerged vegetation in a high volume spring and spring run and associated marsh. The water is gypsum rich.	Unlikely to occur in the proposed project area due to lack of aquatic and spring habitat. Additionally, the proposed project area is not in the known distribution area, including the CCA boundary.
Texas hornshell ( <i>Popenaias popei</i> )	USFWS E NM E	Historically this species occurred in the Pecos-Rio Grande drainage. Currently, this species is found in four distinct locations, including the Black River and Delaware River in New Mexico and the lower Rio Grande River and the Devil's River in Texas. This species is part of the CCA. Associated with larger streams and a variety of substrates. Imbeds itself in softer bottoms, but lodges itself in cracks and crevices, where it is probably immobile.	Unlikely to occur in the proposed project area due to lack of aquatic and spring habitat. Additionally, the proposed project area is not in the known distribution area, including the CCA boundary.
<b>Fish</b>			
Bigscale logperch ( <i>Percina macrolepida</i> )	BLM Sensitive NM T <sup>2</sup>	Native to the Pecos River drainage, occurring mainly in and below Sumner Lake in De Baca County and between Lake McMillan (Eddy County) and the Texas state line. Smaller populations are found also near Santa Rosa, the Black River, and Willow Lake in Eddy County. Also introduced in Ute Lake in Quay County. The species' preferred habitat consists of strong, non-turbulent flows, but the species is also found in impoundments. Preferred substrate varies from silt to rubble on which the species spends much of its time resting.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Blue sucker ( <i>Cypleptus elongatus</i> )	BLM Sensitive NM E <sup>2</sup>	Historically, this species occurred in the Pecos River, which it has likely been extirpated. It is absent in the Rio Grande where it occurred historically. This species extant in the Black River is unknown. Its primary habitat consists of deep river channels with runs and riffles. Also found in pools with moderate currents and in deep lakes. This species is part of the CCA.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
Headwater catfish ( <i>Ictalurus lupus</i> )	BLM Sensitive	Occurs in Texas, New Mexico, and Mexico. It is native to the Pecos drainage downstream of Sumner Reservoir and also occurs in the Middle Rio Grande Basin. Its habitat consists of clear temperate waters generally with a moderate gradient. Despite competition with the channel catfish ( <i>Ictalurus punctatus</i> ), has persisted in headwater streams and in fluctuating tailwaters of dams in the Pecos River.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
Gray redbhorse ( <i>Moxostoma congestum</i> )	BLM Sensitive NM E <sup>2</sup>	Formerly occurred in the Pecos and Rio Grande Rivers but now restricted to the lower Black River from Blue Springs to the Pecos River Confluence. This species has been reintroduced into the Delaware River by NMDGF. This species is part of the CCA. Typical habitat consists of low-gradient streams with warm, usually clear waters. Adults most often occupy medium to large pools with cobble, gravel, silt, or sand bottoms. The young and juveniles tend to seek riffles and gravelly runs and avoid densely vegetated areas.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
Greenthroat darter ( <i>Etheostoma lepidum</i> )	BLM Sensitive NM T <sup>2</sup>	Native to the Pecos River drainage of Chaves and Eddy Counties. Known to occur in particular at Blue Spring and its outflow stream, in the Pecos River between Lake McMillan and Avalon Reservoir, in the Rio Peñasco and Cottonwood Creek, and at Bitter Lake National Wildlife Refuge. Found in swift-flowing streams and springs, especially vegetated riffle areas with gravel and rubble substrates. Also occurs in clear ponded-water habitats including sinkholes and littoral areas of other lentic systems with wave action and aquatic vegetation rooted in a gravel substrate.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
Mexican tetra ( <i>Astyanax mexicanus</i> )	BLM Sensitive NM T <sup>2</sup>	Species' distribution extends from eastern New Mexico and southern Texas southward along the Atlantic slope drainages of Mexico. In New Mexico restricted largely to Blue Spring and the Delaware River in Eddy County. Also found occasionally in the Pecos River below Lake McMillan. Occupies a variety of habitats but tends to school in pools and below swift areas in eddies. Found primarily in habitats with stenothermal flows (i.e., springs). Young-of-year present in shallow water near overhanging bank vegetation.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Pecos pupfish ( <i>Cyprinodon pecosensis</i> )	BLM Sensitive NM T <sup>2</sup>	Occurs in saline springs and gypsum sinkholes at Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park. Elsewhere, it is present irregularly in the Pecos River south from Bitter Lake and Bottomless Lakes south to the Texas state line and formerly in Laguna Grande in Eddy County. Typical habitat consists of saline springs and gypsum sinkholes; only rare in fresher water habitats including the main channel of the Pecos River. Found in backwater areas and side pools that lack sunfish or other predators. At Bitter Lake National Wildlife Refuge, numerous individuals were taken from waters in interstices of gravel from a pond drain with no surface flow.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
Rio Grande shiner ( <i>Notropis jemezanus</i> )	BLM Sensitive	Occurs in the Rio Grande downstream of the confluence of the Rio Conchos but is extirpated from the Rio Grande in New Mexico. In the Pecos River in New Mexico, it currently persists from Old Fort State Park near Fort Sumner downstream to about Brantley Reservoir, including at Bitter Lake National Wildlife Refuge. Within occupied reaches of the Pecos River it is generally uncommon to rare. Rio Grande shiners occupy flowing water environment found large open rivers with laminar flows and a minimum of aquatic vegetation and larger streams with gravel, sand, or rubble bottoms.	Unlikely to occur in the proposed project area due to lack of perennial water bodies.
<b>Birds</b>			
Baird's sparrow ( <i>Ammodramus bairdii</i> )	BLM Sensitive NM T	This species is a winter resident in New Mexico. It has been found on Otero Mesa and in the Animas Valley and may occur in other areas of suitable winter habitat, particularly in the southeast portion of state. Generally prefers dense, extensive grasslands with few shrubs. Avoids heavily grazed areas.	Unlikely to occur in the proposed project area due to lack of dense, extensive grasslands with few shrubs.
Bald eagle ( <i>Haliaeetus leucocephalus alascanus</i> )	BLM Sensitive NM T	Occurs in New Mexico year-round. Breeding is restricted to a few areas mainly in the northern part of the state along or near lakes. In migration and during winter months the species is found chiefly along or near rivers and streams and in grasslands associated with large prairie dog colonies. Typically perches in trees.	Unlikely to occur in the proposed project area due to the lack of water bodies, trees and preferred prey, particularly prairie dog colonies.
Bell's vireo ( <i>Vireo bellii</i> )	BLM Sensitive NM T	In New Mexico, Bell's vireo occurs in the southern third of the state during the breeding season. The <i>medius</i> race is found in the Pecos Valley north to drainages west of Roswell, and in the Black River and Rattlesnake Springs areas south of Carlsbad. In New Mexico this species characteristically occurs in dense shrubland or woodland along lowland stream courses, with willows ( <i>Salix</i> sp.), mesquite, and seepwillows ( <i>Baccharis glutinosa</i> ). Its distribution during breeding is typically limited to riparian habitats.	Unlikely to occur in the proposed project area due to lack of habitat associated with lowland stream courses. Small mesquite clumps occur within the proposed project area but are very scattered.
Black tern ( <i>Chlidonias niger surinamensis</i> )	BLM Sensitive	Found in New Mexico only during migration and in association with wetland areas, lakes, and ponds.	Unlikely to occur in the proposed project area due to lack of suitable aquatic habitat.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Broad-billed hummingbird ( <i>Cynanthus latirostris</i> )	NM T	Occurs in riparian habitat or dense mesquite in canyons in southwestern New Mexico. Found in Guadalupe Canyon in Hidalgo County and rarely found in the Peloncillo Mountains.	Unlikely to occur in the proposed project area due to lack of riparian habitat or dense mesquite associations in canyons.
Burrowing owl ( <i>Athene cucularia hypugaea</i> )	BLM Sensitive	Present mainly during the breeding season in the northern half of the state and present year-round in the southern half. Found in grasslands especially in association with prairie dog colonies, in desert scrub, and in agricultural and semi-urban environments. Depends on prairie dogs, rock squirrels ( <i>Otospermophilus variegatus</i> ), and other fossorial mammals for the availability of nest burrows.	Unlikely to occur in the proposed project area due to lack of suitable nesting burrows.
Common black-hawk ( <i>Buteogallus anthracinus</i> )	NM T <sup>2</sup>	Occurs in New Mexico almost exclusively during the breeding season and in migration. Breeding populations known chiefly from the Gila River valley in the southwestern portion of the state and from along the Mimbres River and the Rio Hondo watershed. Strongly tied to cottonwood ( <i>Populus</i> sp.) gallery forests.	Unlikely to occur in the proposed project areas due to lack of riparian forest.
Common ground-dove ( <i>Columbina passerina pallescens</i> )	NM E <sup>2</sup>	Associated with shrubby riparian habitat or riparian woodland edges. Also occurs in desert scrub dominated by mesquite and pricklypear ( <i>Opuntia</i> sp.). Feeds exclusively on the ground, in sparsely vegetated areas.	Unlikely to occur in the proposed project areas due to lack of riparian habitat and lack of mesquite-pricklypear dominated scrub habitat.
Ferruginous hawk ( <i>Buteo regalis</i> )	BLM Sensitive	Occurs year-round in New Mexico. During the breeding season it is present in grasslands, badlands, and along the ecotone between grasslands and piñon ( <i>Pinus edulis</i> )-juniper ( <i>Juniperus</i> sp.) woodlands, especially in the vicinity of prairie dog towns. During the winter, ferruginous hawks are primarily associated with grasslands but may be found in other habitat types such as ponderosa pine ( <i>Pinus ponderosa</i> ) forest. Prairie dogs are important year-round in the diet of New Mexico's ferruginous hawks.	Unlikely to occur in the proposed project area due to lack of extensive open grasslands, badlands, piñon-juniper woodlands, ponderosa pine forests, or prairie dog colonies.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	BLM Sensitive	Found in grasslands and prairies with open patches of ground. It nests on the ground in a small cup-nest constructed out of grasses. Avoids areas with extensive stands of shrubs.	Unlikely to occur in the proposed project area due to lack of grasslands or prairie vegetation communities.
Gray vireo ( <i>Vireo vicinior</i> )	NM T <sup>2</sup>	Strongly associated with piñon-juniper and scrub oak habitats. Distributed mainly across the western two-thirds of the state. Prefers gently sloped canyons, rock outcrops, ridge tops, and moderate scrub cover.	Unlikely to occur in the proposed project area due to lack of piñon-juniper and scrub oak habitats.
Interior least tern ( <i>Sterna antillarum athalassos</i> )	USFWS E <sup>2</sup>	Migratory species occurring in North America during the breeding season, when it is associated with water (e.g., lakes, reservoirs, rivers). In New Mexico, breeding is restricted to the Pecos River basin. It is known to breed primarily at Bitter Lake National Wildlife Refuge in nearby Chaves County.	Unlikely to occur in the proposed project area due to lack of suitable water bodies.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Lesser prairie-chicken ( <i>Tympanuchus pallidicinctus</i> )	BLM Sensitive	This species occurs in southeastern New Mexico primarily in shinnery oak or sand sagebrush grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem, little bluestem, sand dropseed, threeawn, and blue grama.	May occur in the proposed project area due to marginally suitable habitat including shinnery oak and blue grama. The proposed project area is within the LPC IPA, HEA, and designated Timing Restriction Area. This species was not observed during the 2018 biological survey of the proposed project area.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	BLM Sensitive	The loggerhead shrike is a year-round resident in New Mexico and is found throughout the state primarily in open country including grasslands, improved pastures, hayfields, shrub steppe, and desert scrub, as well as piñon-juniper woodland and woodland edges.	Known to occur in the proposed project area. This species was observed during the 2018 biological survey of the proposed project area.
Northern aplomado falcon ( <i>Falco femoralis septentrionalis</i> )	USFWS ENEP NM E	Associated with semi-desert grasslands with scattered yuccas, mesquite, and cacti. Naturally occurring populations are essentially restricted to the southern tier of New Mexico. Species has also been reintroduced on the Armendaris Ranch in Socorro and Sierra Counties and on lands administered by the BLM, White Sands Missile Range, and the New Mexico State Land Office beginning in 2006.	According to the BLM CFO, the species' range is not known to exist east of the Pecos River; therefore, this species is unlikely to occur in the proposed project area.
Northern goshawk ( <i>Accipiter gentilis atricapillus</i> )	BLM Sensitive	Strongly associated with montane forests during breeding and in winter. Migrating populations typically follow forested ridges.	Unlikely to occur in the proposed project area due to the lack of montane forests.
Painted bunting ( <i>Passerina ciris</i> )	BLM Sensitive	Painted buntings breed in dense brush, often adjacent to thick, grassy areas or woodland edges. During migration and winter they favor dense, weedy habitats, as well as the understory of semi-open forest.	Unlikely to occur in the proposed project area due to the lack of dense brush located adjacent to thick grassland areas or woodland edges.
Peregrine falcon ( <i>Falco peregrinus</i> ; <i>F. p. tundrius</i> )	NM T	Found in New Mexico year-round. All nests in New Mexico are found on cliffs. In migration and during winter months New Mexico's peregrine falcons are typically associated with water and large wetlands.	Unlikely to occur in the proposed project area due to the lack of water, large wetlands, and cliffs.
Sprague's pipit ( <i>Anthus spragueii</i> )	BLM Sensitive	Occurs in New Mexico only as a sporadic winter resident. Its distribution in the state is not well known, but includes the lower Pecos River valley, Otero Mesa, and the Animas Valley. It is associated with southern desert grasslands of the state. Species as a whole prefers dry, open grasslands.	Unlikely to occur in the proposed project area due to lack of extensive grassland vegetation community.
White-faced ibis ( <i>Plegadis chihi</i> )	BLM Sensitive	Uncommon in New Mexico, where it is found statewide during migration and as a (typically non-breeding) summer resident. Breeding recorded only at Tucumcari and at Stinking Lake in Rio Arriba County. Found in association with water. Generally seen in association with shoreline and marsh habitats adjacent to open water. Nesting colonies are located in shrubs and low trees or in dense standing reeds and tules near or in marshes. Forages along the water's edge or in fields.	Unlikely to occur in proposed project area due to lack of perennial water bodies and marshes.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
<b>Reptiles</b>			
Dunes sagebrush lizard ( <i>Sceloporus arenicolus</i> )	BLM Sensitive NM E	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Chaves County, Roosevelt County, and through eastern Eddy and southern Lea Counties. This species has an extremely strong affinity for bowl-shaped depressions in active dune complexes referred to as sand dune blowouts, with a preference for relatively large blowouts and select microhabitat within a given blowout. Within their geographic range, the presence of this species is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	May occur in the proposed project area due to being within since the project is within the known habitat distribution range for this species and 1-mile buffer for the DSL (BLM 2008a). This species was not observed during the 2018 biological survey of the proposed project area.
Texas horned lizard ( <i>Phrynosoma cornutum</i> )	BLM Sensitive	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. These areas often consist of grasses interspersed with cacti, yucca, mesquite, and other assorted woody shrubs and trees. In New Mexico, the species is associated with <i>Yucca-Prosopis-Ephedra</i> and <i>Larrea-Acacia-Fouquieria</i> habitat associations often in playas or on bajadas and mountain foothills.	May occur in the proposed project area due to presence of suitable habitat including mesquite and other shrubs. This species was not observed during the 2018 biological survey of the proposed project area.
Rio Grande river cooter ( <i>Pseudemys gorzugi</i> )	BLM Sensitive NM T <sup>2</sup>	This turtle is confined to the Pecos River drainage, including the Pecos, Black, and Delaware Rivers below Brantley Dam in Eddy County. This species is part of the CCA. All of the rivers listed above constitute key habitat areas for the species. Primarily a stream species occurring from 2,953–3,610 feet, preferring waters with slow to moderate current, firm bottoms, and abundant aquatic vegetation. Also inhabits stock tanks, ponds, large ditches, and even brackish tidal marshes. In New Mexico, most records are from streams with relatively clear water and rocky or sandy bottoms. Nests of this species are located in sandy soil, usually within 100 feet of the water	Unlikely to occur in the proposed project area due to lack of aquatic habitat.
<b>Mammals</b>			
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	BLM Sensitive	This species is usually associated with high cliffs and rugged rock outcroppings, but it also roosts in buildings, under lava caves and sometimes tree holes. It is found in urban areas, agriculture, barren land, desert scrub, scrub-grassland, swamp and riparian scrub, juniper savannah, oak savannah, shortgrass plains, alkali sacaton ( <i>Sporobolus airoides</i> ) grasslands, montane grassland, montane forest, evergreen forest, and marsh habitat.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.
Black-tailed prairie dog ( <i>Cynomys ludovicianus arizonensis</i> )	BLM Sensitive	Native to grasslands including short- and mixed-grass prairie, sagebrush steppe, and desert grasslands. Also known to occur in mesquite-creosotebush, grama-needlegrass ( <i>Hesperostipa comata</i> ), tarbush ( <i>Holocarpha</i> sp.)-creosote bush, and burrowgrass ( <i>Scleropogon</i> sp.)-cholla ( <i>Cylindropuntia</i> sp.) type habitats.	Unlikely to occur the in the proposed project area due to lack of suitable grassland habitat.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Cave myotis bat ( <i>Myotis velifer</i> )	BLM Sensitive	This species is found primarily at lower elevations occurring in shortgrass plains, scrub-grassland, Chihuahuan desert scrub, Sonoran desert scrub, Plains and Great Basin swamp and riparian scrub, pine-oak woodlands, and oak savannah. Inhabits caves in the limestone region of southeastern New Mexico, and it has also roosted in barn swallow ( <i>Hirundo rustica</i> ) nests. It is never more than a few miles from a water source, such as canals, tanks, or creeks.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.
Fringed myotis bat ( <i>Myotis thysanodes thysanodes</i> )	BLM Sensitive	A mid-elevation woodland bat that occurs in montane forest and woodland, mountain meadow, interior chaparral, scrub-grassland, alkali sacaton grassland, Chihuahuan desert scrub, swamp and riparian forests and scrub, Mohave desert scrub, upland Sonoran desert scrub, and occasionally in tundra.	Unlikely to occur in the proposed project area due to lack of water source within proposed project area and lack of typical mid-elevation habitat within the project area.
Gray-footed chipmunk ( <i>Neotamias canipes canipes</i> )	BLM Sensitive	Mostly found in forested habitats such as piñon-juniper woodlands, but may also occur shrublands, and desert communities. It may occur in down and dead trees, dense stands of mixed timber, and on brushy hillsides, particularly in rock crevices.	Unlikely to occur in the proposed project area due to lack of forested/woodland habitat, dead/downed trees, brushy hillsides, and rock crevices.
Guadalupe pocket gopher ( <i>Thomomys bottae guadalupensis</i> )	BLM Sensitive	Found in sycamore ( <i>Platanus</i> sp.), cottonwood ( <i>Populus</i> sp.), and rabbitbrush ( <i>Chrysothamnus</i> sp.) riparian communities in the Guadalupe Mountains of southeastern New Mexico and western Texas.	Unlikely to occur in the proposed project area due to lack of riparian habitat. The proposed project area is outside the known range of the species.
Long-legged myotis bat ( <i>Myotis volans interior</i> )	BLM Sensitive	Primarily a forest species occurring in chaparral, alpine and subalpine grassland, coniferous forest, scrub-grassland, Chihuahuan desert scrub, swamp and riparian forests and scrub, saxicoline brush, oak savannah, and woodland, Mojave desert scrub, and upland Sonoran desert scrub. Also occurs along watercourses and in deserts.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.
Pecos River muskrat ( <i>Ondatra zibethicus ripensia</i> )	BLM Sensitive	This species inhabits waterways that have a constant and fairly stable source of water with dense aquatic and emergent vegetation surrounded by terrestrial herbaceous vegetation. Common muskrats prefer sloughs, marshes, oxbow lakes, streams, levees, dikes, and small lakes and ponds. Common muskrats build lodges in or near water using marsh vegetation.	Unlikely to occur in the proposed project area due to lack of perennial or intermittent drainages or wetlands.
Spotted bat ( <i>Euderma maculatum</i> )	BLM Sensitive NMT <sup>2</sup>	In New Mexico, spotted bats have been taken in areas near cliffs, including piñon-juniper woodlands and from streams or water holes within ponderosa pine or mixed coniferous forest. It has also taken over cattle tanks in a meadow surrounded by mixed coniferous forest and near a ridge with cliffs and limestone outcroppings. The spotted bat is usually captured around a water source including desert pools or cattle tanks. It also may use rivers or desert washes as travel corridors.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.

Common Name (Species Name)	Status <sup>1</sup>	Range or Habitat Requirements	Potential for Occurrence in Project Area
Townsend's pale big-eared bat ( <i>Corynorhinus townsendii pallescens</i> )	BLM Sensitive	Found in a variety of xeric to mesic habitats: scrub-grassland, desert scrub, semidesert shrublands, chaparral, saxicoline brush, tundra, open montane forests, spruce-fir, mixed hardwood-conifer, and oak woodlands and forests. This species is strongly correlated to the availability of caves or cave-like habitat, but it also uses abandoned buildings and rock crevices on cliffs for roosting.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.
Western small-footed myotis bat ( <i>Myotis ciliolabrum melanorhinus</i> )	BLM Sensitive	This species is widely distributed in the western United States, and found in many habitat types. Occurs in riparian wooded areas, bare rock/talus/cliffs, grassland and shrublands, and coniferous or mixed woodland areas. Generally inhabits desert, badland, chaparral, western coniferous forests and semiarid habitats, more mesic habitats in southern part of range. In New Mexico, the distribution of this species seems to be in the ponderosa pine zone, although they occur as low as desert and as high as the lower edges of the spruce-fir zone.	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of coniferous habitat, riparian woodlands, bare rock, and cliff areas within the proposed project area.
Yuma myotis bat ( <i>Myotis yumanensis yumanensis</i> )	BLM Sensitive	Occurs in riparian communities, grasslands, semi-desert shrublands, mountain brush, woodlands, and desert habitats. It also occurs in arid canyon lands and Sonoran desert scrub. The species is associated with riparian areas and watercourses in the western United States. Roosts in caves, mines, cliffs, crevices, buildings, and swallow nests, including cliff swallows ( <i>Petrochelidon pyrrhonota</i> ).	Unlikely to occur in the proposed project area due to lack of water sources within the proposed project area and lack of habitat to support roosting and maternal colonies.

<sup>1</sup>Federal (USFWS) status: E = Endangered, T = Threatened, C = Candidate, ENEP = Experimental Population, Non-Essential.  
New Mexico State status: State E = Endangered, State T = Threatened.

<sup>2</sup> Species is listed as threatened or endangered by the USFWS or NMDGF; however, the species is not listed as occurring within Lea County, New Mexico.

Except where otherwise noted, range or habitat information for wildlife species is taken from Biota Information System of New Mexico (2018), USFWS Information for Planning and Consultation System (USFWS 2018b), NatureServe (2018), Cartron (2010), and USFWS and CEHMM (2017).



## **APPENDIX C. NEW MEXICO DEPARTMENT OF GAME AND FISH PIPELINE TRENCHING GUIDELINES**

---

*This page intentionally left blank*

**TRENCHING GUIDELINES**  
**NEW MEXICO DEPARTMENT OF GAME AND FISH**

September 2003

Open trenches and ditches can trap small mammals, amphibians and reptiles and can cause injury to large mammals. Periods of highest activity for many of these species include nighttime, summer months and wet weather. Implementing the following recommendations can minimize loss of wildlife.

- Keep trenching and back-filling crews close together, to minimize the amount of open trenches at any given time.
- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) that need to be assessed on a site-specific basis.
- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling, especially where endangered species occur.

On a statewide basis there are numerous threatened, endangered or sensitive species potentially at risk by trenching operations. Project initiators should seek county species list to evaluate potential impact of projects. Risk to these species depends upon a wide variety of conditions at the trenching site, such as trench depth, side slope, soil characteristics, season, and precipitation events.

*This page intentionally left blank*