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Environmental Assessment for the
Clovis Wing-Shooting Complex and Archery Range
In Clovis, New Mexico

U.S. Fish and Wildlife Service
Southwest Region
Wildlife Restoration Grant Program
NM W-181-D-1

July 31, 2019

ENVIRONMENTAL ASSESSMENT FOR THE CLOVIS WING-SHOOTING COMPLEX AND ARCHERY RANGE IN CLOVIS, NEW MEXICO

Prepared for

U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, New Mexico 87103-1306
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Prepared by

SWCA Environmental Consultants
130 Rock Point Drive Suite A
Durango, Colorado 81301
(970) 385-8566
www.swca.com

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LIST OF ACRONYMS AND ABBREVIATIONS

BMP	best management practice
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
ESP	Environmental Stewardship Plan
Ldn	Average decibel level for a 24-hour period (day–night)
Leq	The standard quantity used to describe time-varying sounds. An average level for a sound over a period of time
Lpeak	The highest dB value recorded by sound meter while recording measurement, not averaged
Ksat	Ease at which pores in a saturated soil transmit water.
MBTA	Migratory Bird Treaty Act of 1918
NEPA	National Environmental Policy Act of 1969
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NRA	National Rifle Association
NRCS	Natural Resources Conservation Service
OHWM	ordinary high-water mark
OSHA	Occupational Safety and Health Administration
project	Clovis Wing-Shooting Complex and Archery Range
SWCA	SWCA Environmental Consultants
TSZ	Theoretical Shotfall Zone
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 INTRODUCTION

1.1 Background

The New Mexico Department of Game and Fish, in partnership with the City of Clovis, New Mexico, is proposing the construction, operation, and maintenance of an approximately 150-acre multi-use shooting range near the southeast corner of the expansive 3,200 acre Ned Houk Park 7 miles north of Clovis, New Mexico (Figure 1.1 and Figure 1.2). The Clovis Wing-Shooting Complex and Archery Range (shooting range, Proposed Action, or project) would be located in Sections 02 and 03, Township 03 North, Range 36 East (New Mexico Principal Meridian). The City of Clovis owns the parcel of land where the proposed shooting range would be built. The majority of the proposed project area is currently undeveloped. Past uses of the proposed project area include a 20-acre model airplane flying area as well as an 18-acre shooting range, both are no longer in operation. The proposed project area does not contain any developed areas currently used by park visitors, though, adjacent to the proposed project is an active motocross park.

The City of Clovis would partially finance this project from designated non-recurring funding. Financial assistance for this project would be provided by funding through a grant under the United States Fish & Wildlife Service's (USFWS) Wildlife and Sport Fish Restoration (WSFR) Program, that would be administered by NMGF. The WSFR program is authorized by the Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act) of 1937 (USFWS 2019a). The USFWS WSFR Program provides grant funds to the states and insular areas fish and wildlife agencies for projects to restore, conserve, manage, and enhance wild birds and mammals and their habitat. Projects also include providing public use and access to wildlife resources, hunter education and development and management of ranges. Thus, the Proposed Action is subject to the National Environmental Policy Act of 1969 (NEPA) as implemented by the Council on Environmental Quality regulations (40 Code of Federal Regulations 155, et seq.) and U.S. Department of the Interior NEPA procedures. This environmental assessment (EA) also incorporates other federal, state, and local environmental policies and regulations. This EA is prepared in accordance with the USFWS's NEPA Reference Handbook (USFWS 2003).

This EA considers potential effects on physical, biological, and cultural resources and socioeconomic conditions that may result from the implementation of the Proposed Action, as described below. This EA will be used by the USFWS to determine whether the Proposed Action will be undertaken as described or if the Proposed Action constitutes a major federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, where preparation of an Environmental Impact Statement may be required.

1.2 Proposed Action

The Proposed Action is to build a public shooting range complex on an approximately 150-acre parcel in Curry County, New Mexico. This would include the construction of a 7,500-square-foot multipurpose office building and indoor airgun and archery range, an outdoor archery sight-in range, and a multi-use shotgun field with trap and skeet fields and a sporting clays course. Other infrastructure planned for the proposed project area would include the construction of approximately 75 graveled parking stalls and a gated access road from County Road 17 (see Figure 1.2). A management plan has been prepared that details the proposed range components and uses (Appendix E).

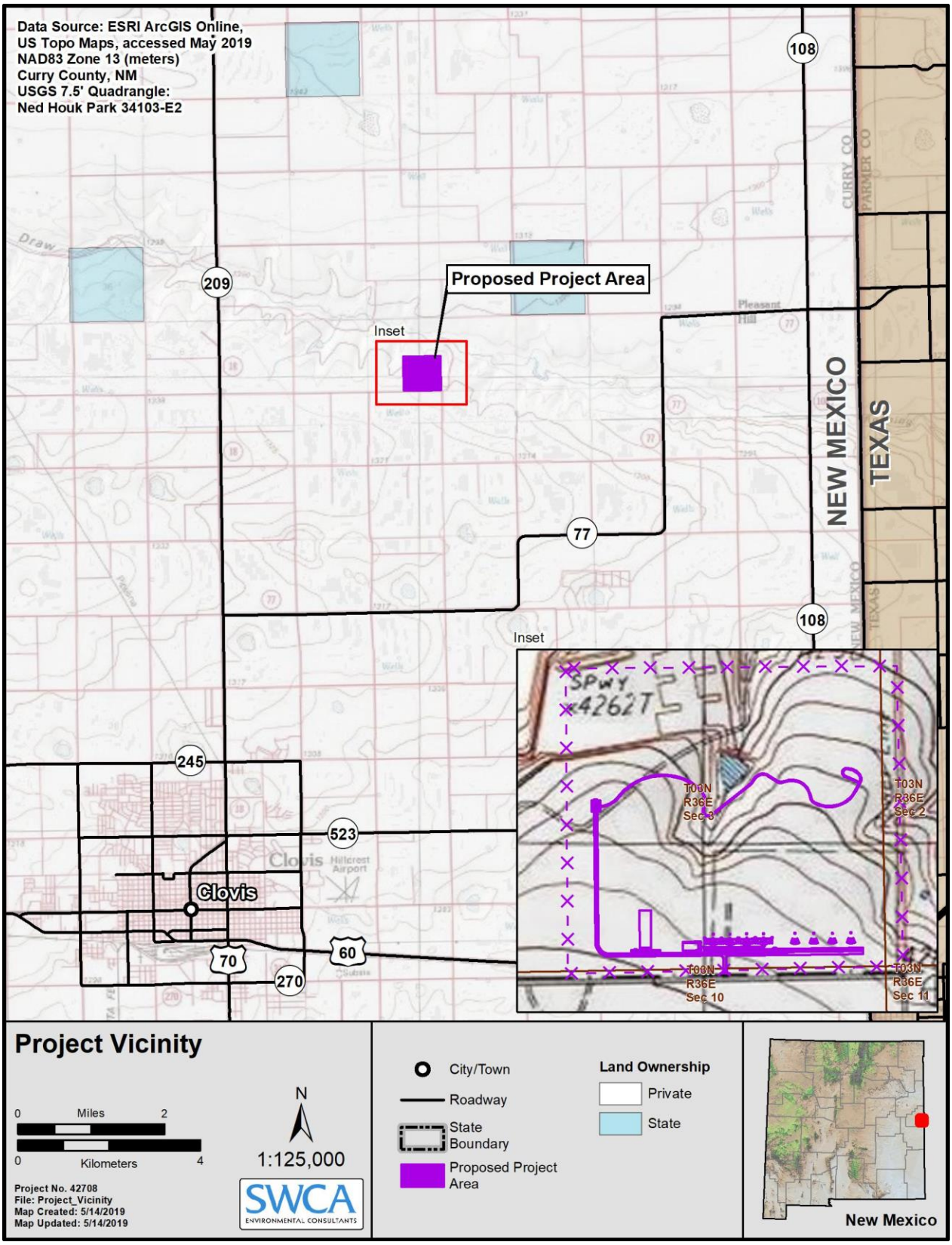

Figure 1.1. Project vicinity location.

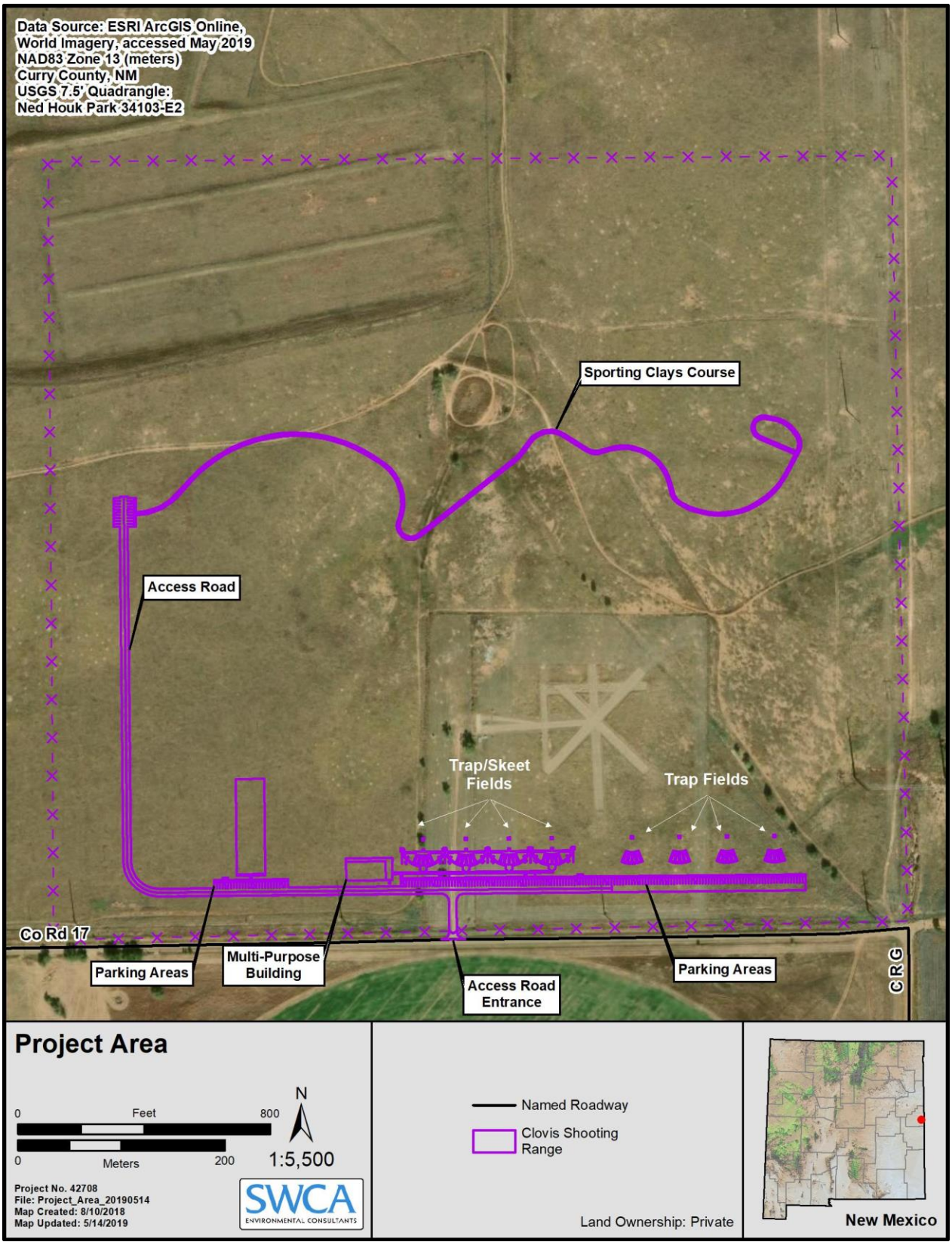

Figure 1.2. Project area.

1.3 Project Purpose and Need

Shooters and hunters in New Mexico, including many youths, have very few opportunities to legally practice shooting skills before they participate in a hunt. There are approximately 44 shooting ranges in New Mexico (New Mexico Department of Game and Fish [NMDGF] 2016), and many are private, members-only facilities. The state has a land mass of 121,697 square miles, which equates to less than one range (public or private) for every 4,680 square miles.

Many shooters are not allowed on private/club firing ranges. Public ranges have diminished in numbers due to urban expansion into the former edges of town, where most ranges were developed in the past. Therefore, many shoot indiscriminately on public or private lands or have ceased pursuing target shooting altogether. The availability of a public, multifaceted shooting range in the Curry County area would provide a safe place to practice shooting.

The 150-acre project area within Ned Houk Memorial Park is the former location of a model airplane area, which was recently moved to a new location within Ned Houk Memorial Park. The northwest corner of the project area contains the vestiges of an abandoned shooting range. The shooting range would be put to beneficial use by the City of Clovis in conjunction with the NMDGF and would service the town of Clovis, New Mexico, and surrounding communities, including portions of the Texas panhandle, by fulfilling a shooting need. Activities would include hunter safety and training programs, trap, skeet, and sporting clay competitions, indoor archery and airgun competitions, Senior Olympics, 4-H events, and hunter preparations. Additionally, the range will be open as set forth in the agreement between the City of Clovis and Eastern New Mexico Range Management for shooting and archery.

The Wildlife Restoration Act allows the use of Wildlife Restoration funds to construct, operate, or maintain firearm and archery ranges for public use. This grant would allow the City of Clovis to plan, design, and determine the feasibility of constructing a shooting range complex at Ned Houk Memorial Park. The proposed shooting range would be put to beneficial use by the residents and visitors of Clovis to fulfill a shooting need in Curry County. The development of this range would provide hunters and shooters with a location to hone their skills to become more proficient.

1.4 Relationship to Statutes, Regulations, or Other Plans and Permits

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
Federal Permit, Approval, or Clearance		
Endangered Species Act (ESA), of 1973, Section 7	USFWS	A biological survey was conducted. Findings are described in Sections 3.3 and 3.5 and Table A.1 in Appendix A. No formal consultation with the USFWS is required.
Clean Water Act (CWA) Section 402 General Construction (Stormwater) Permit	U.S. Environmental Protection Agency and New Mexico Environment Department (NMED)	Section **Error! Reference source not found.** describes impacts to water resources. A field survey was conducted, and no potential jurisdictional water bodies were identified within the project area.

Permit/Notification	Issuing Agency	Status
CWA Section 404 Permitting Discharges of Dredge or Fill Material into Waters of the U.S. (including wetlands) and CWA Section 401 Water Quality Permit	U.S. Army Corps of Engineers and NMED	Section **Error! Reference source not found.** describes impacts to water resources. A field survey was conducted, and no potential jurisdictional water bodies or wetlands were identified within the project area. No Section 404 permit would be required. A Stormwater Pollution Prevention Plan would be prepared.
State Permit, Approval, or Clearance		
National Historic Preservation Act, Section 106	State Historic Preservation Office	A cultural resources survey for the proposed project was conducted in July 2018 and described in the SWCA Cultural Resources Report No.18-561 (NMCRIS Activity No. 141161) (Sisneros 2018), in compliance with Section 106. See Appendix C for the State Historic Preservation Office letter of approval.

1.5 Scoping Summary

Appropriate scoping helps identify issues, resources, and resource uses that could be impacted, reducing the chances of overlooking a potentially significant issue or reasonable alternative. Scoping for the Proposed Action took place in coordination with NMDGF and the City of Clovis to develop issues and resource areas for analysis in this EA. Issues are described in Table 1.2 and Table 1.3 below.

Table 1.2. Resource Issues Identified for Detailed Analysis for the Proposed Action

Resource	Issue
Air Quality	How would the proposed project impact air quality, especially during construction of the proposed project?
Water Resources and Water Quality	How would the Proposed Action, including lead debris associated with operations, affect the surface water resources and groundwater resources?
Soils	How would the surface disturbance and lead debris associated with the Proposed Action affect soils in the long term?
Vegetation and Noxious Weeds	How would vegetation clearing associated with the proposed project contribute to the spread of noxious weeds?
Wildlife and Special Status Species	How would the Proposed Action and associated noise impacts affect habitat for wildlife and migratory birds?
Cultural Resources	How would surface-disturbing activities affect cultural resources?
Recreation	How would the Proposed Action affect activities for the surrounding community?
Noise Levels	How would noise associated with the Proposed Action affect the residents closest to the project area and their quality of life?
Human Health and Safety	How would the Proposed Action affect the health and safety of the surrounding community?
Traffic Volume and Safety	How would the Proposed Action affect traffic volume and safety along State Highway 209 and County Road 17?
Socioeconomics	How would the increase in shooters associated with the Proposed Action affect the local economy?

Resource and resource use issues considered by the USFWS for potential impacts from the Proposed Action but dismissed from further analysis in this EA are listed in Table 1.3, with rationale for the dismissal.

Table 1.3. Resource Issues Dismissed from Detailed Analysis

Resource	Rationale
Wildland Fire Risk/Management	No incendiary ammunition would be permitted on the range. Vegetation would be maintained within and surrounding all firing areas to minimize fire risk.
Visual and Scenic Values	The visible elements would include a 7,500-square-foot building, parking areas, access road, fencing, and vault restrooms. These introductions on the landscape would not be a visual intrusion as these types of elements are common in the rural community and are present in the general vicinity of the project area. This issue is not further analyzed in detail in this EA.

2 ALTERNATIVES, INCLUDING THE NO ACTION ALTERNATIVE

2.1 No Action Alternative

Under this alternative, the proposed construction, operation, and maintenance of the shooting range and associated parking and storage facilities would not be carried out. Current practices of land and resource management and utilization would continue within the proposed project area.

2.2 Proposed Action

The Proposed Action would build a public shooting range complex on an approximately 150-acre parcel in Curry County, New Mexico. Components of the shooting range would include a 7,500-square-foot multipurpose office building and indoor airgun and archery range, an outdoor archery sight-in range, and a multi-use shotgun field with four trap fields, four trap/skeet overlay fields, and a sporting clays course. Other infrastructure planned for the proposed project area would include vault restrooms, approximately 75 graveled parking stalls, and a gated gravel access road from County Road 17. A management plan has been prepared that details the proposed range components and uses (Appendix E).

Table 2.1 and Figure 2.1 presents an overall summary of the Proposed Action for the 150-acre parcel. Approximately 136.7 acres would be disturbed for construction of the range facilities, parking areas, paths, and other project components. This acreage also includes anticipated surface disturbance related to future lead reclamation activities. The remainder of the parcel, approximately 13.3 acres, would be undisturbed, with the exception of mowing and fire mitigation activities.

Table 2.1. Proposed Action Summary

Project Feature	Surface Disturbance, including Shot Fall Zones and Lead Reclamation Areas (acres)
Parking areas and 50-foot-wide access road (approx. 3,432 feet long)	5.6
Sporting clays course	125.0
Trap/skeet fields	41.0
Outdoor archery sight-in range	4.0
Storage areas and vault restrooms	<0.1
Multipurpose 7,500-square-foot office building	0.2
Deduction for overlapping components	***-39.1***
Total	**136.7**

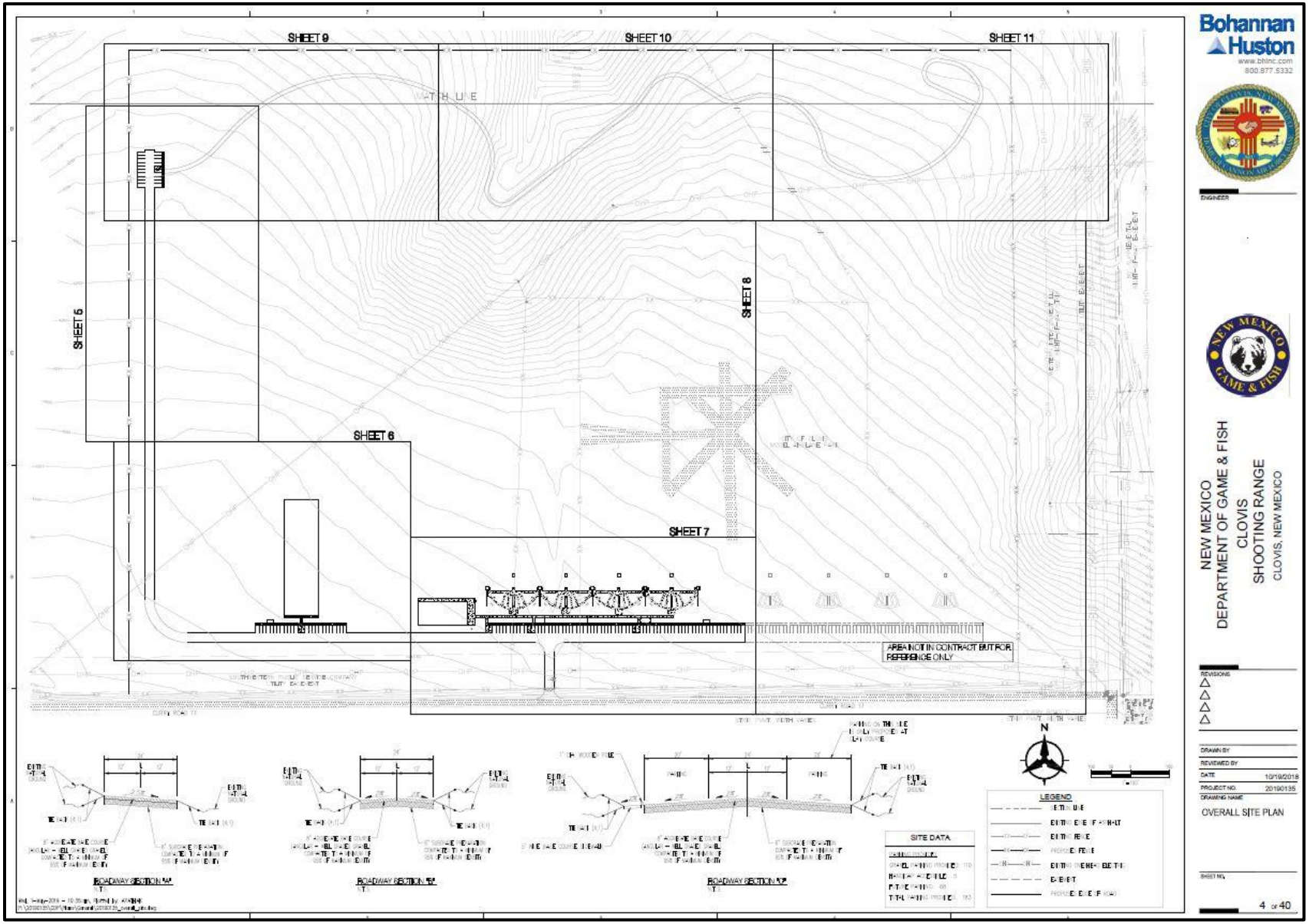

Figure 2.1. Conceptual range site plan.

2.2.1 Shooting Range Facilities

The Proposed Action would include the development of the following elements:

- Storage and container areas
- Multipurpose building with offices and an indoor archery/airgun range
- 125-acre multi-use shotgun field with a sporting clays course, four trap fields, and four trap/skeet field overlays
- 4-acre outdoor archery sight-in range
- Graded and graveled 0.65-mile access road with approximately 75 parking stalls
- Two vault restrooms

Construction would begin in the fall of 2019, provided all necessary permits and authorizations are received. The project is expected to be completed by the end of 2020. The range would be open four days a week, from 1:00 p.m.-dusk, Tuesday and Thursday, 9:00 a.m.-4:00 p.m. Saturday, and 12:00 p.m.-5:00 p.m. Sunday.

2.2.2 Location and Access

The proposed project area is located on County Road 17 off State Highway 209, north of Clovis, in Curry County, New Mexico. All traffic destined for the proposed project would turn onto State Highway 209 from where it intersects State Highway 245. Access to the proposed project would be via one gated access road connected to County Road 17.

2.2.3 Management Plan and Environmental Stewardship Plan

The City of Clovis has commissioned the development of a Management Plan and Environmental Stewardship Plan (ESP) that address operations, maintenance, safety, and emergency procedures for the proposed shooting range (Appendix E). The City of Clovis is aware of the growing concern about lead related to shooting ranges and will take a proactive stance by instituting a lead management program while the range is in operation. The management plan and ESP follow the recommendations from the U.S. Environmental Protection Agency's (EPA's) *Best Management Practices for Lead at Outdoor Shooting Ranges* (EPA 2005), the Occupational Safety and Health Administration's (OSHA's) *Occupational Safety and Health Standards: Toxic and Hazardous Substances* (OSHA 2001), and the National Rifle Association (NRA) Range Source Book (NRA 2012). The ESP details best management practices (BMPs) and other proposed range methods for lead abatement and noise mitigation and contains specific plans for minimization of effects of lead on the environment during operation and subsequent relinquishment or closure. Additionally, both the management plan and ESP are dynamic plans and are intended to be supplemented during construction and operation throughout the life of the range. They may require annual updates as new information and varying range conditions dictate modification to these strategies, as required by annual monitoring. A copy of the plans will be kept on the premises at all times during operation of the range.

2.3 Mitigation Measures

Mitigation measures are prescribed in order to avoid, reduce, or compensate for adverse effects of an action on natural, cultural, and socioeconomic resources. If the Proposed Action is implemented, the City of Clovis and Eastern New Mexico Range Management would also implement the following mitigation measures during construction and would follow the BMPs identified in the City of Clovis' Management Plan and ESP (Appendix E) during operation of the shooting range.

2.3.1 Fugitive Dust Control

Reasonable precautions would be used to prevent fugitive dust from becoming airborne, including 1) using water to control dust where possible, 2) covering open-bodied trucks at all times while transporting materials likely to produce airborne dusts, 3) promptly removing earth or material from paved surfaces, and 4) reestablishing vegetation in temporary work areas as quickly as possible.

Dust suppression techniques may be used in construction zones to mitigate the impacts of fugitive dust emissions.

All vehicles and equipment used on-site would be properly maintained such that the engines would function within manufacturers' standards or parameters.

Vehicle speed would not exceed 15 miles per hour while on shooting range property.

The access road within the proposed project area would be covered in 12 inches of gravel.

2.3.2 Soils, Vegetation, Water Resources, and Water Quality

To minimize sedimentation and erosion during construction of the Proposed Action, BMPs would be implemented, such as 1) installing erosion and sediment control devices, 2) using proper grading techniques, 3) conducting periodic inspections, and 4) stabilizing disturbed areas in a timely manner.

A Stormwater Pollution Prevention Plan would be completed for the construction phase of the Proposed Action to identify BMPs, which would minimize erosion and sediment transport.

The project site would be delineated and clearly marked to prevent accidental disturbance of any unnecessary acreage.

To minimize lead migration, soil in the theoretical shotfall zones (TSZs) would be monitored annually and amended as needed by spreading lime to maintain a pH between 6.5 and 8.5 (USEPA 2005), in accordance with the City of Clovis' ESP (Appendix F).

Logs would be kept on the number of targets thrown. Lead reclamation would be conducted every 1,000,000 targets.

The existing landscape would be maintained where possible. Weeds would be mechanically or chemically treated by the City of Clovis as part of Clovis' code compliance.

2.3.3 Fish, Wildlife, and Special Status Species

Prior to construction, vegetation and abandoned nest removal would occur outside the migratory bird breeding season (March–August) to the extent possible.

Any vegetation removal during the breeding bird season would be preceded by pre-removal nesting surveys up to 2 weeks prior to vegetation removal to identify any occupied nests and establish avoidance buffers until the young have fledged.

2.3.4 Human Health and Safety

Standard safety zones of 300 yards would be implemented for all firing range disciplines (National Skeet Shooters Association 2011).

The maximum range of shot allowed on the range (see range rules in Appendix E) is 668 feet (223 yards) (NRA 2009).

The entire 150-acre parcel would be fenced, and warning signs would be posted as detailed in the management plan (Appendix E).

OSHA's safety guidelines and precautions concerning operations of the range and lead exposure, which are discussed in detail in the management plan (Appendix E), would be followed.

A flag will be flown near the multi-purpose building during hours of operation to signify when the range is in use.

2.3.5 Hazardous Materials

Design features set forth by the American Trap Association would create overlapping and reduced TSZs at the skeet and trap field within the multi-use shotgun field.

OSHA's safety guidelines and precautions concerning operations of the range and lead exposure, which are discussed in detail in the management plan (Appendix E), would be followed.

2.3.6 Noise Levels

All trap and skeet firing areas would be sited to the north, away from nearby sensitive premises. The sporting clays course, which would shoot to the north and south, is located in a depression which would help to contain noise.

2.3.7 Traffic

Traffic would follow existing county roads; therefore, established speed limits and other traffic signs would be followed by all incoming and outgoing visitors to the proposed shooting range.

Installation of additional stop signs and speed limit signs leading to and from the proposed shooting range may be considered.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Air Quality

3.1.1 Existing Conditions

The analysis area for air quality is the 150-acre project area proposed for the shooting range as well as the 2.75-mile-long gravel access road (County Road 206) from State Highway 209 to the entrance of the proposed project area. According to the EPA's Green Book webpage reports that Curry County is in attainment for pollutants, including particulate matter (fugitive dust) and ozone, as defined by the Clean Air Act (EPA 2018b). Existing sources of air pollution include tailpipe emissions and fugitive dust from operations at the adjacent motocross park as well as fugitive dust from traffic traveling to and from the motocross park.

3.1.2 Effects on Air Quality

Proposed Action

Activities that would contribute to air pollution include traffic on the dirt access road, vehicle emissions, and ground-disturbing activities during construction and operation lead reclamation activities of the proposed shooting range. Traffic on the dirt road and vehicle emissions are not anticipated to change from the existing traffic emission levels. Ground-disturbing activities during construction, operations would have direct, site-specific impacts to air quality by increasing levels of particulate matter (fugitive dust) in the short term. Standard mitigation measures for construction activities are discussed in section 2.3 and include such as wetting disturbed soils and covering trucks hauling materials would contribute to these impacts being only minor and short-term.

Lead would be reclaimed from the shotgun fields by a professional reclamation company. Lead reclamation activities can be a large generator of dust at shotgun ranges, especially in drier western locations (EPA 2005). Dust generated from lead reclamation activities often contains lead. Lead reclamation would occur when it is financially feasible or at least once in a five-year period as recommended by the NRA (EPA 2005). The shooting range would be closed during lead reclamation and the reclamation area would be wetted to limit fugitive dust.

The Proposed Action would contribute to air quality cumulative effects since there would be an anticipated increase in the frequency of vehicular use on the existing paved access road (County Road 17), which would increase the likelihood of fugitive dust, as well as increase the emissions from vehicles in the analysis area. However, these changes to the existing air quality conditions of the 150-acre project area would be minor (fugitive dust) and negligible (emissions) and are not anticipated to result in changes to the overall existing air quality within the 150-acre project area proposed for the shooting range.

No Action Alternative

Under the No Action alternative, existing activities would continue to occur at and adjacent to the proposed project. The analysis area is currently in a full attainment area for criteria pollutants and would be expected to maintain this status; therefore, there would be no impacts to air quality under the No Action alternative.

3.2 Water Resources and Water Quality

3.2.1 Existing Conditions

The project area occurs within the Running Water Draw watershed, as defined by the 10-digit Hydrologic Unit Code 1205000501. According to National Wetlands Inventory data (USFWS 2019b), no wetlands are mapped within the project area. According to U.S. Geological Survey's (USGS's) National Hydrography Dataset, there are two previously mapped potentially jurisdictional waters present within the proposed project area (USGS 2016). There are no New Mexico Outstanding Resource Waters within this watershed.

A biological survey of the proposed project area was conducted on July 5, 2018, to determine the presence of potential waters of the U.S., including special aquatic sites. Defining elements of potential waters of the U.S. include ordinary high-water marks (OHWMs), defined bed and banks, or the three mandatory wetland criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. During the biological survey, it was determined that neither of the previously mapped potentially jurisdictional waters had a discernible OHWM (see Photographs 4–6 in Appendix D). No other potential waters of the U.S. were identified during the biological survey.

3.2.2 Effects on Water Resources and Water Quality

Proposed Action

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. Range operations would introduce lead into the environment, presenting concerns if topographical and surrounding area conditions (e.g., proximity to wetlands) and hydrologic setting enable leaching or streaming of lead shot.

There would be three potential movement pathways where lead that may have been deposited on the proposed shooting range may introduce a risk to water resources and water quality:

- as waterborne particles in suspension in stormwater runoff
- in solution in stormwater runoff
- in solution in groundwater

Implementation of effective lead management practices as described in Section 2.4, including the use of sedimentation and erosion control devices, would aid in keeping lead on-site and minimize the potential for it to travel off-site in stormwater. Additionally, soil monitoring and buffering to maintain an optimal soil pH of 6.5–8.5 would minimize the rate at which lead degrades in the soil, limiting its ability to be carried off-site in solution and would further reduce the potential for lead contamination and would satisfy shooting range recommendations and guidance that are encouraged by the National Shooting Sports Foundation, National Association of Shooting Ranges, NRA, and similar organizations.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed; therefore, no impacts to water resources or water quality beyond current conditions would occur.

3.3 Soils

3.3.1 Existing Conditions

The proposed project area has an average elevation of approximately 4,278 feet. Four mapped soil units are found within the proposed project area (Table 3.1). There are three soil characteristics that highly influence the potential for lead migration to occur: the ability for lead to be degraded by the soil (pH), the

ability to transmit surface water to groundwater (Ksat), and the runoff class. As shown in Table 3.1, all soils have at least one factor contributing to an increased potential for lead migration (also see Figure D.2. in Appendix D).

Table 3.1. Representative Soil Descriptions in the Proposed Project Area

Soil Unit Name	Soil Unit Symbol	Ksat	Runoff Class	pH	Acres	Percentage of Project Area
Acuff loam, 0 to 1 percent slopes	AcA	Moderately High	Negligible	7.2	56.8	37.9
Acuff loam, 1 to 3 percent slopes	AcB	Moderately High	Low	7.2	66.7	44.5
Estacado loam, 1 to 3 percent slopes	EsB	Moderately High	Low	8.2	3.7	2.5
Posey fine sandy loam, 3 to 8 percent slopes	PsC	High	Medium	8.0	22.8	15.2
Total					**150**	**100.0**

Source: Natural Resources Conservation Service (NRCS) (2019). None of the soils are classified as hydric soils.

The strongest contributor to lead migration based on the above data is Ksat, which is moderately high to high for all soils (NRCS 2019.

3.3.2 Effects on Soils

Proposed Action

Construction, lead reclamation, and operational activities related to the Proposed Action, including grading, excavating, discharging firearms, and adjusting soil pH, would directly impact approximately 136.7 acres of soil resources (approximately 15 acres of the subject parcel would not be disturbed). Direct impacts to soils include the potential for increased erosion from the removal of the vegetative cover, contamination from accidental spills or leaks, lead contamination from the discharge of firearms, altering of the soils' chemical properties, and compaction of soil from heavy equipment usage. Impacts associated with construction, approximately 10 acres, would be long-term and would be reclaimed once the project's useful life has concluded and reclamation occurs. Impacts associated with lead reclamation and operational activities are primarily long-term impacts that can lead to increased runoff, erosion, and lead content within the soil. The mitigation measures described in Section 2.4, including BMPs outlined in NMDGF's ESP (Appendix F), would minimize impacts to soils by minimizing or preventing the movement of lead within the soils and maximizing the potential for successful reclamation.

Indirect effects on soil resources can include a change to the overall productivity from the mixing of the top two to five inches of soil during lead recovery activities and the addition of soil amendments during interim reclamation activities (EPA 2005). Additionally, the colonization of noxious weeds on disturbed soils can occur anywhere a soil is disturbed. The mitigation measures in Section 2.4 and the BMPs outlined in the Stormwater Pollution Prevention Plan, ESP, and management plan have been developed to minimize impacts to soils and the spread of noxious weeds and maximize the potential for successful reclamation by limiting disturbance to the extent possible and stabilizing and revegetating disturbed areas in a timely manner.

The City of Clovis is aware of concerns about lead shot that might arise during operation and if the area were eventually closed. The ideal soil pH for shooting ranges is between 6.5 and 8.5 (EPA 2005). Soil monitoring and adjusting soil pH may help reduce lead migration in the areas with a higher soil pH. The ESP outlines the measures and includes these mapped soils in the plan's Appendix A.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed; therefore, no impacts to soils would occur beyond current conditions.

3.4 Vegetation and Invasive, Non-native Species

3.4.1 Existing Conditions

The proposed project occurs within the High Plains: Llano Estacado ecoregion (Griffith et al. 2006). During the biological surveys, biologists identified one general vegetative community within the proposed project area: High Plains grasslands with interspersed subshrubs. Vegetative cover within the proposed project area is dominated by grass species including Wooton's threeawn (*Aristida pansa*), hairy grama (*Bouteloua hirsuta)*, needle and thread grass (*Hesperostipa comata*) and Woodhouse's bahia (*Picradeniopsis woodhousei*), a vine species, field bindweed (*Convolvulus arvensis*), and a tree species, Siberian elm (*Ulmus pumila*), with a combined cover of approximately 90%. Prior to and at the time of the biological survey, the vegetation communities within and/or surrounding the proposed project area had been exposed to little disturbance. Historically, the field has been used for grazing and recreational activities.

A list of plant species identified during the field surveys is provided in Table 3.2. No special-status plant species were observed in the project area.

Table 3.2. Plant Species Observed during the Biological Survey of the Proposed Project Area

Common Name	Scientific Name
Cuman ragweed	*Ambrosia psilostachya*
Wooton's threeawn*	*Aristida pansa*
Purple threeawn*	*Aristida purpurea*
Goldeneye	Asteraceae sp.
Thistle	Asteraceae sp.
Cane bluestem	*Bothriochloa barbinodis*
Caucasian bluestem	*Bothriochloa bladhii*
Sideoats grama	*Bouteloua curtipendula*
Hairy grama*	*Bouteloua hirsuta*
Musk thistle	*Carduus nutans*
Feather fingergrass	*Chloris virgata*
Field bindweed	*Convolvulus arvensis*
Missouri gourd	*Cucurbita foetidissima*
Low woollygrass	*Dasyochloa pulchella*
Southwestern mock vervain	*Glandularia gooddingii*
Needle and thread	*Hesperostipa comata*
Little barley	*Hordeum pusillum*
Bitter rubberweed	*Hymenoxys odorata*
Mint sp.	Lamiaceae
Tanseyleaf tansyaster	*Machaeranthera tanacetifolia*
Alfalfa sp.	*Medicago sativa*
Dollarjoint pricklypear	*Opuntia chlorotica*
Mexican panicgrass	*Panicum hirticaule*
Woodhouse's bahia*	*Picradeniopsis woodhousei*
Prairie coneflower sp.	*Ratibida* sp.

Common Name	Scientific Name
Sage sp.	*Salvia* sp.
Burrograss	*Scleropogon brevifolius*
Threadleaf ragwort	*Senecio flaccidus*
Silverleaf nightshade	*Solanum elaeagnifolium*
Scarlet globemallow	*Sphaeralcea coccinea*
Siberian elm	*Ulmus pumila*
Plains yucca	*Yucca campestris*
Rocky Mountain zinnia	*Zinnia grandiflora*

Note: Nomenclature follows the PLANTS Database (NRCS 2019b).

* Refers to dominant species within corresponding vegetative community

Noxious Weeds

Two State of New Mexico–listed noxious weeds species, musk thistle (*Carduus nutans*), a Class B noxious weed, and Siberian elm (*Ulmus pumila*), a Class C noxious weed (New Mexico Department of Agriculture 2017; U.S. Department of Agriculture 2017) were observed during the survey of the proposed project area.

3.4.2 Effects on Vegetation

Proposed Action

Impacts to plant communities from construction and operational activities would result in approximately 136.7 acres of long-term disturbance. Indirect impacts to vegetation would occur as a result of the implementation of lead management BMPs outlined in the ESP including soil compaction and disturbance from lead reclamation. Fugitive dust generated during clearing and grading activities and the use of access roads, as well as from wind erosion of exposed soils, could also impact the vegetation of the proposed project area. These impacts could reduce photosynthesis and productivity, increase water loss (Eveling and Bataille 1984) in plants near the proposed project area, and result in injury to leaves. Plant community composition could subsequently be altered, resulting in habitat degradation. Localized impacts on plant populations and communities could occur if seed production in some plant species is reduced. BMPs to control fugitive dust are incorporated into the mitigation measures found in Section 2.4.

Any surface disturbance can increase the possibility of establishment of new populations of invasive, non-native species. Noxious weed seed could potentially be carried to and from the proposed project area by construction equipment and transport vehicles. BMPs to prevent the spread and new propagation of invasive, non-native species include mechanical removal or chemical treatment and are included in the mitigation measures listed in Section 2.3.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed; therefore, no impacts to vegetation would occur beyond current conditions.

3.5 Wildlife and Special-Status Species

3.5.1 Existing Conditions

The High Plains: Llano Estacado ecoregion (Griffith et al. 2006) provides habitat for a variety of wildlife species. During the 2018 survey of the project area, SWCA Environmental Consultants (SWCA) biologists detected nine bird species, four mammal species, and one reptile species (**Error! Reference source not found.**). In addition, one active raptor nest in good condition, one inactive raptor nest in fair condition, six

inactive passerine nests in poor condition, and four active passerine nests ranging from poor to good condition were identified. The active raptor nest was removed once the nest was empty, after the nesting season.

SWCA biologists conducted a biological survey of the proposed project area on July 5, 2018. No USFWS or State of New Mexico threatened or endangered species were observed during the survey. The proposed project area does contain suitable foraging habitat for bald eagles. Species identified during the 2018 biological survey are listed in Table 3.3 below.

Table 3.3. Wildlife Detected during the Biological Survey of the Proposed Project Area

Common Name	Scientific Name
Birds	
Swainson's hawk*	*Buteo swainsoni*
Northern bobwhite quail	*Colinus virginianus*
American kestrel	*Falco sparverius*
Bullock's oriole*	*Icterus bullockii*
Northern mockingbird*	*Mimus polyglottos*
Cassin's sparrow	*Peucaea cassinii*
Eastern meadowlark	*Sturnella magna*
Western kingbird	*Tyrannus verticalis*
Mourning dove*	*Zenaida macroura*
Mammals	
Prairie dog	*Cynomys* sp.
Pocket gopher	*Geomys* sp.
Black-tailed jackrabbit	*Lepus californicus*
Desert cottontail	*Sylvilagus audubonii*
Reptiles	
Texas horned lizard	*Phrynosoma cornutum*

*Active nest observed

Threatened and Endangered or Special-Status Species

The special-status species evaluated 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 2019); and 3) state-listed endangered and threatened species (Biota Information System of New Mexico 2019; New Mexico Energy, Minerals and Natural Resources Department 2017);

Based on the results of the July 2018 biological survey of the proposed project area, one special-status species, bald eagle (*Haliaeetus leucocephalus*), has the potential to occur in the proposed project area (Table 3.4). All special-status species analyzed for the proposed project area are included in Appendix A.

Migratory Birds

Most bird species are protected by the Migratory Bird Treaty Act of 1918 (MBTA). Under the MBTA, unless permitted by regulations, it is unlawful to 1) pursue, hunt, take, capture, or kill; 2) attempt to take, capture, or kill; and 3) possess, offer to sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not. Service regulations broadly define "take" under the MBTA to mean "pursue, hunt, shoot, wound, kill,

trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." Under the MBTA, take does not include habitat loss or alteration.

Table 3.4. Special-Status Species for Curry County, New Mexico

Common Name (*Scientific Name*)	Status	Range or Habitat Requirements	Potential for Occurrence in Proposed Project Area
Birds			
Bald eagle (*Haliaeetus leucocephalus*)	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.	May occur in the proposed project area due to presence of grasslands with a pocket gopher (*Geomys* sp.) population. Although, there have been no recent sightings of bald eagles in Curry County (BISON 2019b, eBird 2019). No nests or individuals were observed during the 2018 biological survey.

New Mexico State status: NM T = Threatened.

Range or habitat information for wildlife species is taken from the Biota Information System of New Mexico (2019), USFWS Information for Planning and Consultation System (USFWS 2019c), and NatureServe (2019).

3.5.2 Effects on Wildlife

Proposed Action

General Wildlife

Impacts to wildlife would result from actions that alter wildlife habitats, including removal of vegetation and other habitat components and disturbance, as well as the noise from daily operations of the proposed shooting range. Altering wildlife habitat in ways that would be considered adverse may be direct (through habitat loss from surface disturbance and reseeding activities) or indirect (through the reduction in habitat quality caused by increased noise levels and increased human activity).

Implementation of the Proposed Action would result in some removal of vegetation, as well as the introduction of additional noise to the immediate area. Potential long-term impacts include habitat disturbances from daily operations including construction of perimeter barrier, noise, and foot traffic. Noise would impact wildlife by interfering with animals' abilities to detect important sounds or by posing an artificial threat to animals (Clinton and Barber 2013). Firearm discharge is expected to contribute the highest noise levels to the proposed project vicinity. The noise profile of the surrounding area is also influenced by the nearby roads and structures, which would not change as a result of the Proposed Action. These impacts would deter wildlife species; however, the effects of the loss of habitat should be minimal, since large amounts of similar habitat are located in the immediate area with similar disturbance. While operational activities of the shooting range may deter wildlife from the proposed project area, wildlife typically become accustomed to new noise disturbance and would likely continue to forage on open lands near the shooting range.

Migratory Birds

The long-term and short-term impacts of the proposed project would discourage nesting and use by migratory birds. Construction is scheduled to begin following the approval of the Proposed Action. Pre-construction nesting surveys would be conducted for any ground-clearing activity that would occur during the nesting season (March 1 through August 31) to prevent take of any nesting species or their eggs.

Threatened and Endangered or Special-Status Species

The special-status species evaluated for potential to occur in the proposed project area are listed in Appendix A.

Bald Eagle

The bald eagle was federally delisted in 2007 but is still listed as a State of New Mexico threatened species and continues to be protected by the Bald and Golden Eagle Protection Act. Immature bald eagles are predominantly dark brown with variable amounts of light splotching on the body, under-wing coverts, flight feathers, and tail base, and a brownish-yellow bill. Bald eagles attain adult plumage by 5 years of age and have a dark brown body, dark brown wings, a white head, white tail, yellow feet, and a large yellow bill. Females are often noticeably larger than males (USFWS 2007). Bald eagle distribution varies seasonally. Bald eagles that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada. Most eagles that breed at northern latitudes migrate southward during winter, or to coastal areas where waters remain unfrozen. Bald eagles primarily feed on fish; however, waterfowl, seabirds, mammals, and carrion are also documented food sources (USFWS 2007).

Bald eagle nests can be found along coastlines, rivers, lakes, and streams. Bald eagles are known to nest in snags, cliffs, and old-growth trees, as well as on man-made structures (USFWS 2007). Nests can be between 4 and 6 feet in diameter and greater than 3 feet deep. The chronology of typical reproductive activities of bald eagles in the United States lists bald eagle breeding season in southeast United States from September to May (USFWS 2007). Bald eagles have been found to use the same nesting area year after year and typically build multiple nests in close proximity to each other. Bald eagle wintering habitat is characterized by abundant, readily available food sources. Most wintering habitat is associated with open water or waterfowl concentrations. During the winter months, bald eagles will roost communally in large trees in close proximity to open water or in canyons (USFWS 2007).

In Curry County, New Mexico, most bald eagles arrive as wintering birds in the fall, but a small resident population remains year-round and does nest within the state (New Mexico Ornithological Society and Natural Heritage New Mexico 2017). The Proposed Action would disturb approximately 136.7 acres of suitable foraging habitat. Additionally, bald eagles would completely avoid this area during hours of operation due to the noise that would be produced by activities associated with the Proposed Action. During the 2018 biological survey, no eagles or active eagle nests were observed within the proposed project area.

No Action Alternative

The No Action Alternative would not result in impacts to any federally listed or proposed species since the proposed shooting range would not be constructed. The presence of wildlife would be anticipated to continue at existing population levels within the analysis area.

3.6 Cultural Resources

3.6.1 Existing Conditions

The project falls within the Llano Estacado 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), and the Historic Period (ca. A.D. 1700–present). Sites representing any or all of these periods are known to occur within the region. Because no prehistoric sites were identified during the cultural survey for the proposed project, an in-depth discussion of this very large and very complex span of time is not included here. A representative discussion of the periods and site types can be found in *Archaeological and Historical Studies Along U.S. 70 Between Roswell and Portales, New Mexico* (Polk et al. 2004). More in-depth regional overviews can be found in Stuart and Gauthier (1988), Cordell and McBrinn (2012), and Sebastian and Larralde (1989).

A Class I inventory was conducted by SWCA using the online database available at the Archaeological Records Management Section (ARMS) of the New Mexico Historic Preservation Division in order to identify previously recorded archaeological sites within 1,640 feet of the proposed project area, also known as the area of potential effect (APE). Additionally, records searches of data maintained by the CFO and the National Park Service National Register of Historic Places (NRHP) were also conducted.

The results of the search show there have been no previous investigations or previously recorded cultural resources recorded within 3,280 feet of the survey area. The nearest archaeological sites to the survey area are two historic sites approximately 3,280 feet north of the proposed project area near Running Water Draw.

SWCA conducted a Class III archaeological survey of the project area on July 19 and 20, 2018 to assist USFWS in complying with Section 106 of the NHPA. The survey examined 182.36 acres consisting of the entire APE plus a cultural resources buffer of 100 feet.

The Class III investigation documented one newly recorded site, three newly recorded historic properties, and seven isolated occurrences (IOs). The newly recorded site. historic properties, and IOs are from the historic period. A full summary of the archaeological survey is presented in Sisneros and Palmer (2018).

3.6.2 Effects on Cultural Resources

Proposed Action

Direct impacts to a cultural site, if disturbed by construction, would include alterations to the physical integrity of the site. The primary impact indicator for cultural resources is the number of eligible cultural resources sites to be disturbed within the project area.

In total, one site, three historic properties, and seven IOs were documented by SWCA's investigation (Sisneros and Palmer 2018). None of these features were determined eligible for the NRHP under any criteria and no further management is recommended.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed; therefore, no impacts to cultural resources would occur beyond current conditions.

3.7 Recreation

3.7.1 Existing Conditions

The proposed project area is in the southeastern corner of the City of Clovis' Ned Houk Memorial Park. In the past, portions of the project area were used for a model airplane park and a shooting range.

3.7.2 Effects on Recreation

Proposed Action

The introduction of a managed shooting range to the Clovis, New Mexico, area would be beneficial to recreation as it would result in new opportunities for gun use. Portions of the population benefiting from the range would include avid hunters, 4-H members, and shooting enthusiasts. The range would be open four days a week, from 1:00 p.m.-dusk, Tuesday and Thursday, 9:00 a.m.-4:00 p.m. Saturday, and 12:00 p.m.-5:00 p.m. Sunday. The building of a shooting range in the proposed location is not expected to displace any current recreational activities. The proposed project would be on the opposite end of the main park entrance, and the proposed project area does not contain any improvements that are currently in use.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed. The resident gun users and hunters of Curry County, New Mexico, would continue to have limited access to outdoor shooting opportunities in the area.

3.8 Noise Levels

3.8.1 Existing Conditions

In considering potential effects from increased noise levels, sensitive noise receptors—such as homes, buildings, and other structures, natural areas, and parks—were identified in the vicinity of the project area. The proposed project area is located within the city limits of Clovis, New Mexico, but is located in a rural area approximately 5 miles north of the urbanized area of the city. The proposed shooting range firing areas are approximately 0.3 mile from the nearest residence and approximately 1.2 miles from the next nearest resident. There are no residences directly north of the range for approximately 2 miles.

Noise is a phenomenon that can be measured by duration, frequency, and loudness (in decibels [dB]). The perception of noise is both a psychological and physical process. People perceive noise differently depending on factors such as whether they like the cause of the noise (a waterfall may be less objectionable than the same level of noise from traffic), the time of day (noise levels acceptable during the day may be unacceptable at night), and the nature of the noise (sudden sharp sounds may be more objectionable than a steady, even noise at the same level) (National Shooting Sports Foundation 1997).

Congress passed the Noise Control Act in 1972, and the EPA was tasked with publishing descriptive data on the effects of noise that might be expected from various levels and exposure situations and to publish information. New Mexico State Statute Article 8 Section 17-8-4 grants shooting ranges immunity from nuisance actions based on noise and noise pollution if the shooting range is in compliance with noise control statutes, rules, or ordinances that apply to the range and its operation at the time that the initial operation of the range commenced. The City of Clovis' Code of Ordinances 9.40.030 states that "it is unlawful for any person to willfully make or continue, or cause to be made or continued, any noise disturbance in such a manner that the sound is plainly audible twenty-five feet within the real property boundary in a residential area. This section shall not in any way restrict or limit sounds emanating from organized and sponsored outdoor recreational, school, or athletic events that are part of a regularly scheduled program of activity" (Municode Library 2018). However, there are no city residents near the proposed project area. There are no listed noise ordinances in Curry County, New Mexico, and there are no state-governed standards in New Mexico.

The typical ambient noise level in the project vicinity varies from hour to hour, depending on what occurs during that period. Ambient environmental noise of the proposed project area has several contributors, including nearby County Road 17, the adjacent motocross park, and the nearby Canon Air Force Base. No ambient noise surveys for the proposed project have been conducted; however, the typical ambient noise for a rural location similar to the location of the proposed project area has a range of approximately 35–52 A-weighted decibels (dBA), with the lower levels occurring at night (ESS Group, Inc. 2010; Santa Fe County Sherriff's Office 2016)

3.8.2 Effects on Noise Levels

Proposed Action

Although no noise studies were specifically conducted for the proposed project, the results of two applicable noise studies are included below. Table 3.5 includes the results of a noise study that the Santa Fe County Sherriff's Office conducted for a different shooting range project where similar environmental conditions exist (Santa Fe County Sherriff's Office 2016).

Table 3.5. Noise Study for a Proposed Shooting Range in Santa Fe County

Reading Site*	Time	12 Gauge Shotgun Lpeak (dB)
10–15 feet from shooter	2:00 p.m.	110
0.38 mile (2,028 feet) south of shooter	3:00 p.m.	Not registerable over ambient noise

0.45 mile (2,363 feet) northeast of shooter	2:53 p.m.	51
0.95 mile (5,002 feet) northeast of shooter	2:48 p.m.	Not registerable over ambient noise
0.98 mile (5,192 feet) east of shooter	2:34 p.m.	Not registerable over ambient noise

Lpeak- The highest dB value recorded by sound meter while recording measurement, not averaged

* Shooter firing direction was northwest.

The results of the Santa Fe County Sherriff's noise study in Table 3.5 are the product of low frequency and duration. The proposed shooting range in Clovis, New Mexico, would have a higher frequency and duration of noise generation because it is anticipated that more than one shooter could be using the proposed range at a time, and that multiple shots would be fired during a shooter's visit. The Santa Fe noise study shows that the ambient sound, even in a rural area, can make it difficult to hear a lower caliber firearm discharge depending upon the ambient noise present at the receptor, as well as distance from receptor. If the ambient noise at a receptor has an ambient decibel level that is greater than or equal to the decibel level of the source, the sound meter will not register the source sound.

The mitigation measures in Section 2.3 and the BMPs outlined in the ESP for the proposed shooting range include noise mitigating measures that would decrease the level of noise heard at the nearest residences (Appendix F). These measures include siting the firing areas of the trap and skeet field to the north and siting the sporting clays course in a depression which would help to contain noise. Siting the majority of the firing areas to the north directs the majority of sound generated from shooting at the trap and skeet fields away from sensitive noise receptors. A gun typically exhibits its greatest noise level directly ahead of the gun, and noise levels decrease at increasing angles from the direction of fire; noise is at a minimum directly behind the gun (Pater et al. 1994). While noise originating from the shooting range would be audible to nearby residents and livestock, the noise is not anticipated to be harmful or to interrupt daily activities. These measures are expected to reduce the level of annoyance experienced by nearby residents.

The nearest resident is approximately 0.3 mile from the proposed firing positions. Sound usually travels from the source to the receiver in the form of direct path or reflected path. By blocking line of sight, propagation paths, or the direct path from the firearms to the sensitive noise receptor, the major component of sound is minimized (NRA 2012). Based on these factors, Table 3.6 presents the approximate decibel levels expected from the Proposed Action to be audible at the residences identified as sensitive receptors.

Table 3.6. Projected Decibel Levels at Exterior of Nearby Residences during Operation of the Proposed Range

Receptor	Average (Leq dBA) over 90-second period	Peak (Lpeak dB)
Residence 0.3 mile to the south	46–49	51

Leq- The standard quantity used to describe time-varying sounds. An average level for a sound over a period of time

Measurements are for estimated Leq and Lpeak values outside of the dwelling.

The EPA identifies noise levels over an average of 55 decibels in a 24-hour period (day-night levels [Ldn]) as an activity interference and annoyance. These levels of noise are considered those that will permit spoken conversation and other activities such as sleeping, working, and recreation, which are part of the daily human condition (EPA 1974). No set distance eliminates noise complaints entirely. However, studies conducted for the EPA indicate that noise complaints are likely when inhabited dwellings are less than 0.5 mile from the facility (NRA 2012). The NRA Source Guidebook (2012) recommends that noise barriers be installed if a shooting range is within 0.25 mile of sensitive noise receptors, such as occupied dwellings.

The U.S. Army builds and operates many shooting ranges worldwide, and they have developed a standard for evaluating annoyance from firearms noise. Noise criteria are described in Document AR-200

(U.S. Army 1997) and are based on many noise studies on existing firing ranges, and considerable academic research. AR-200 indicates that sound levels up to 87 dB Lpeak (highest dB reading, not averaged over a span of time) are considered "normally acceptable" for noise-sensitive land uses such as residential zones. That threshold is based on fewer than 15% of the population being annoyed by gunshot noise, and 1% being highly annoyed. Higher levels of 88–104 dB Lpeak are considered “normally incompatible” with noise-sensitive land uses, with up to 13% of the population categorized as “highly annoyed”. Levels above 104 dB Lpeak are considered to be incompatible with residential and other noise-sensitive land uses.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed; therefore, there would be no impacts beyond the current existing conditions at the site.

3.9 Human Health and Safety

3.9.1 Existing Conditions

There are no current safety concerns at the proposed location for the shooting range. The nearest resident is located southwest of the proposed project area and 0.30 mile from the nearest firing area. The proposed project area is located within the southeast corner of Ned Houk Memorial Park. an open space park that is devoid of functioning recreational improvements in the area of the proposed shooting range. Approximately 600 feet east of the proposed project area is an active motocross park. Immediately south of the proposed project area is County Road 17.

3.9.2 Effects on Human Health and Safety

Proposed Action

The proposed shooting range would provide a safe location for marksmanship practice for archery, shotguns, and airguns. Additionally, New Mexico Hunter Education students and graduates will be able to reaffirm safety training and develop competency in wing-shooting, archery and rifle fundamentals.

Human health and safety during target shooting at the proposed range would be incumbent upon the shooter’s strict adherence to the range’s rules. Through the production of the Management Plan for the proposed shooting range, the City of Clovis has identified strict range safety rules. These rules would be posted at prominent places throughout the project area to include near the entrance, near firing lines and at the beginning the sporting clays course. (Appendix E). Adherence to these rules is the legal responsibility of shooting range visitors and would be enforced by a range safety officer. Range safety officers would be present during all hours of operation. The mitigation measures in Section 2.4 and the BMPs outlined in the ESP and Management Plan for the proposed shooting range would significantly decrease safety hazards associated with the proposed shooting range by creating an organized and safe environment for public shooting.

Shot containment was a driving force in the design of the proposed range. All trap and skeet field firing areas for the proposed shooting range would be sited to the north. The design of the range also includes a safety zone of 300 yards for all firing areas that would contain all shot fired,. This safety zone exceeds the maximum range (223 yards) of shot allowed to be used on the range (NRA 2009). These mitigation measures and others described in Section 2.4 and the BMPs outlined in the ESP and Management Plan for the proposed shooting range would significantly decrease safety hazards associated with the proposed shooting range (Appendix F).

No Action Alternative

Under the No Action Alternative, there would be no effects to human health and safety beyond current conditions at the proposed shooting range site.

3.10 Traffic Volume and Safety

3.10.1 Existing Conditions

The primary local access to the proposed project is from State Highway 209 and County Road 17 (Figure 3.1. Due to the inherent rural nature of the proposed project area, a traffic study was not prepared to assess baseline traffic data on County Road 17 and State Highway 209 to examine potential impacts from access roadways to the proposed project.

Baseline data were collected from the New Mexico Department of Transportation. Counts were collected on State Highway 209 north of the City of Clovis, New Mexico. The traffic counts were collected at continuous and 1-day traffic recorder stations. The annual average daily traffic for State Highway 209 near the shooting range area is between 60 and 70 standard vehicles (New Mexico Department of Transportation 2016).

There is no data on average speed of vehicles or on accidents for State Highway 209 and County Road 17. The posted speed limit on County Road 17 is 45mph, it is assumed that County Road 17 has a moderately low amount of use and the existing traffic using County Road 17 would be accessing other areas of Ned Houk Memorial Park and a motocross park adjacent to the proposed project.

3.10.2 Effects on Traffic Levels

Proposed Action

The proposed project would contribute to an increase in daily traffic on State Highway 209 and County Road 17. Daily use of the proposed range would vary from 5 to 20 people per day. Assuming each visitor arrives individually, this would increase the traffic during operational hours by 5% to 20%. The daily traffic increase on these roads would only occur within the Clovis Wing-Shooting Complex and Archery Range's hours of operation.

It is not expected that the addition of the traffic associated with the Proposed Action would incur any vehicular crashes, though there is always a risk when vehicles and human error are factors.

No Action Alternative

Under the No Action Alternative, the proposed shooting range would not be constructed. There would not be an increase in traffic or traffic-related hazards on roads that would have been used to access the shooting range site. The current conditions of traffic and traffic-related hazards in the area would persist.

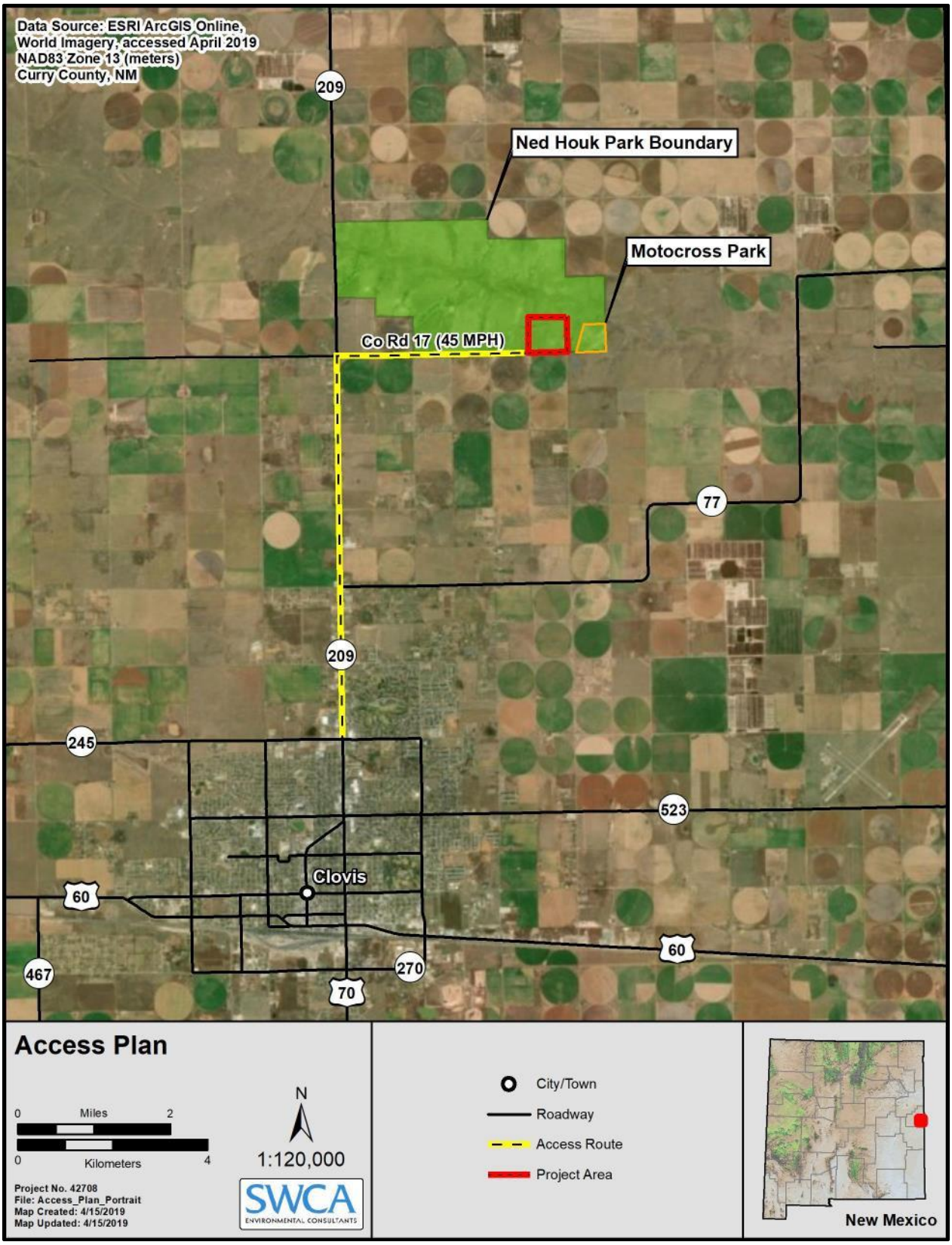

Figure 3.1. Access plan.

3.11 Socioeconomics

3.11.1 Existing Conditions

Agriculture and recreation are the foundation of the economy of Clovis, New Mexico. Due to its size and location, the community serves as a regional center for Curry County. Clovis serves as an entry point for visitors to many of northeast New Mexico's hunting areas. Many activities, such as big-game hunting, are economically important to the city of Clovis. These activities and the subsequent tourism often result in multiday visits, and tourism is often at its busiest during the hunting seasons. One of Clovis' main employment industries centers around tourism services. Businesses located within Clovis include restaurants, motels, service stations, and sporting goods stores especially designed for hunters.

3.11.2 Effects to Socioeconomics

Proposed Action

The City of Clovis would administer design, construction, and operation of the proposed shooting range. Construction spending and employment to construct the range would be generated locally. Local economic activity would increase due to the presence of the shooting range as an additional tourist draw. The changes in local/regional economic activity would have a beneficial impact to the local economies. The shooting range is anticipated to draw tourists and shooters and would generate additional tourism from other states.

No Action Alternative

There would be no increase in local/regional economic activity because no potential tourism revenue or visitors would be generated from shooting range activities.

4 PUBLIC INVOLVEMENT

While the Service did not administer a formal public scoping period, the City of Clovis has notified the public of the project via several methods as listed below.

- April 6, 2017: Clovis City Commission Open Public Study Session, Clovis, New Mexico
- May 18,2017: Clovis City Commission Regular Meeting, Clovis, New Mexico
- March 26, 2018: City of Clovis Parks, Recreation and Beautification Meeting, Clovis, New Mexico
- July 2, 2019: City of Clovis Town Hall Meeting, Clovis New Mexico

The City of Clovis hosted a town hall meeting about the proposed range on July 2, 2019, in Clovis, New Mexico, at the Clovis-Clover Library (see town hall flyer in Appendix B). Approximately 15 people attended the town hall meeting. During the meeting, all attendees were asked their opinion of the range and if they had any concerns. No concerns were brought forward during the town hall meeting.

The Draft EA has been made available for public review and comment. All interested parties will be notified of the availability of the Draft EA for public review via email to addresses of record and posting a press release on NMDGF's website. This Draft EA will be made available for public comment from July 31, 2019 through August 31, 2019.

5 LIST OF PREPARERS

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

- Will Amy, USFWS NEPA Lead
- Andrew Ortiz, USFWS Grant Administrator
- Mark Dayhoff, City of Clovis Parks and Recreation Director
- Evan Crawford, SWCA Environmental Specialist
- Paige Marchus, SWCA NEPA Reviewer

6 LIST OF AGENCIES CONSULTED

- USFWS Wildlife and Sport Fish Restoration, Region 2
- NMDGF
- New Mexico State Historic Preservation Office

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APPENDIX A. SPECIAL-STATUS SPECIES LIST

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Table A.1. Special-Status Species for Curry County, New Mexico

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Potential for Occurrence in Proposed Project Area
Birds			
Arctic peregrine falcon (*Falco peregrinus tundrius*)	NM T	Breeds in North American tundra habitat and overwinters in Central America. 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 large wetlands and cliffs. No nests or individuals were observed during the 2018 biological survey.
Baird's sparrow (*Ammodramus bairdii)*	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 project area due to lack of extensive ungrazed grasslands with few shrubs. No nests or individuals were observed during the 2018 biological survey.
Bald eagle (*Haliaeetus leucocephalus*)	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.	May occur in the proposed project area due to presence of grasslands with a pocket gopher (*Geomys* sp.*)* population. No nests or individuals were observed during the 2018 biological survey.
Least tern (*Sternulla antillarum)*	USFWS E NM E	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. No nests or individuals were observed during the 2018 biological survey.
Peregrine falcon (*Falco peregrinus*)	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 large wetlands and cliffs. No nests or individuals were observed during the 2018 biological survey.

*USFWS Status Definitions

E = Endangered. A species in danger of extinction throughout all or a significant portion of its range. The Endangered Species Act specifically prohibits the take of a species listed as endangered. *Take* is defined by the Endangered Species Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

T = Threatened. A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Except where otherwise noted, range or habitat information for wildlife species is taken from the Biota Information System of New Mexico (2019), USFWS Information for Planning and Consultation System (USFWS 2019c), NatureServe (2019)

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APPENDIX B. COMMUNITY TOWN HALL PRESS FLIER

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City Manager
JUSTIN A. HOWALT, P.E.

Assistant City Manager
CLAIRE H. BURROUGHES

City Attorney
DAVID F. RICHARDS

Post Office Box 760
Clovis, New Mexico 88101-0760
Phone (575) 769-7828

Press Release

City of Clovis, New Mexico
321 N. Connelly Street
(575) 769-7828

For Immediate Release:

June 17, 2019

Town Hall scheduled regarding proposed Clovis Wing-Shooting Complex and Archery Range

CLOVIS – The City of Clovis will be holding a town hall related to the environmental assessment of the proposed Clovis Wing-Shooting Complex and Archery Range. The meeting is scheduled for 6:30 p.m., Tuesday, July 2, 2019 at the North Annex of the Clovis-Carver Library, 701 Main Street.

SWCA Environmental Consultants have been working on the draft Environmental Assessment for the construction of the Clovis Wing-Shooting Complex and Archery Range to be located at Ned Houk Park in Clovis.

The proposed range is located on an approximately 150-acre parcel of land owned by the City of Clovis in Curry County, New Mexico. It does not contain any developed areas currently used by park visitors.

The proposed range would include a multi-use shotgun field with trap and skeet fields and a sporting clays course, and outdoor archery sight-in range. Other infrastructure planned for the proposed project area would include the construction of a 7,500 square foot multipurpose office building and indoor airgun and archery range, approximately 75 graveled parking stalls, and a gated access road from County Road 17.

Should you have any questions regarding the town hall, or if more information is needed, please contact the City Manager's Office at 575-769-7828.

APPENDIX C. STATE HISTORIC PRESERVATION OFFICE LETTER OF CONCURRENCE

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GOVERNOR
Michelle Lujan Grisham

DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

STATE GAME COMMISSION

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507
Post Office Box 25112, Santa Fe, NM 87504
Tel: (505) 476-8000 | Fax: (505) 476-8123
For information call: (888) 248-6866

www.wildlife.state.nm.us

LG# 110041
received letter from
Jack on 4-29-19

April 29, 2019

Historic Preservation Division
Department of Cultural Affairs
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Subject: Archaeological Survey of City of Clovis NED Houk shooting range, Clovis NM.
NMCRIS 141161
Under Permit # NM-18-055-S

Between July 19th and 20th , 2018, the SWCA conducted a 182 acre cultural resources inventory of the City of Clovis Shooting Range. That is being funded by USFWS grants managed by NMDGF. This inventory was performed at the request of the City of Clovis and NMDGF in anticipation of proposed Shooting Range The funds for this project are federal in origin, however the work will be funded through the NMDGF. This undertaking was performed to comply with NHPA, Section 106 (36 CFR Part 800), the New Mexico Cultural Properties Act (18-6-1—18-6-17, NMSA 1978) and the Cultural Properties Protection Act (18-6A-1—18-6A-6, NMSA 1978). All work was conducted under State of New Mexico General Permit NM-18-055-S as SWCA Project No. 18-561.
This survey resulted in the documentation of five new discoveries (HCPI 45212, HCPI 4521 HCPI 45286 and LA 191831.
Due to New Mexico State Tribal Collaboration Act (NMAS 11-18-3) New Mexico Department of Game and Fish engaged in government to government consultation with relevant tribal entities in concern with the proposed treatment and remediation, on the New Mexico Game Commission.
New Mexico Game and Fish has identified five sovereign nations in connection with the area around the Clovis property that might express concerns with the proposed activities and possible impact on traditional cultural properties. In the field SWCA personal did not report any Traditional Cultural properties.
The sovereign nations identified are, the Comanche, Kiowa, Wichita Confederation of Tribes, Jicarilla Apache, and the Mescalero Apache.
The above entities were identified as having previous concerns with sacred landscapes, traditional cultural properties and cultural resource in the area. On March 28, 2019 letters of consultation were sent to the above mentioned tribes, New Mexico Department of Game and Fish received no responses expressing concerns with the proposed treatment.
If human remains are uncovered, work in the area should cease and the Roosevelt County Sheriff's office. Following human remains determination as non-criminal in interest and archaeological in nature the City of Clovis will contact the New Mexico State Historic Preservation Office (NMSHPO) and NMDGF. Please feel free to contact me either by written correspondence, or by phone at 505-476-8141 or by e-mail at jack.young@state.nm.us

No Historic Properties Affected.
4-29-19
for NM State Historic Preservation Officer

APPENDIX D. NATURAL RESOURCES MAPS AND PROJECT PHOTOGRAPHS

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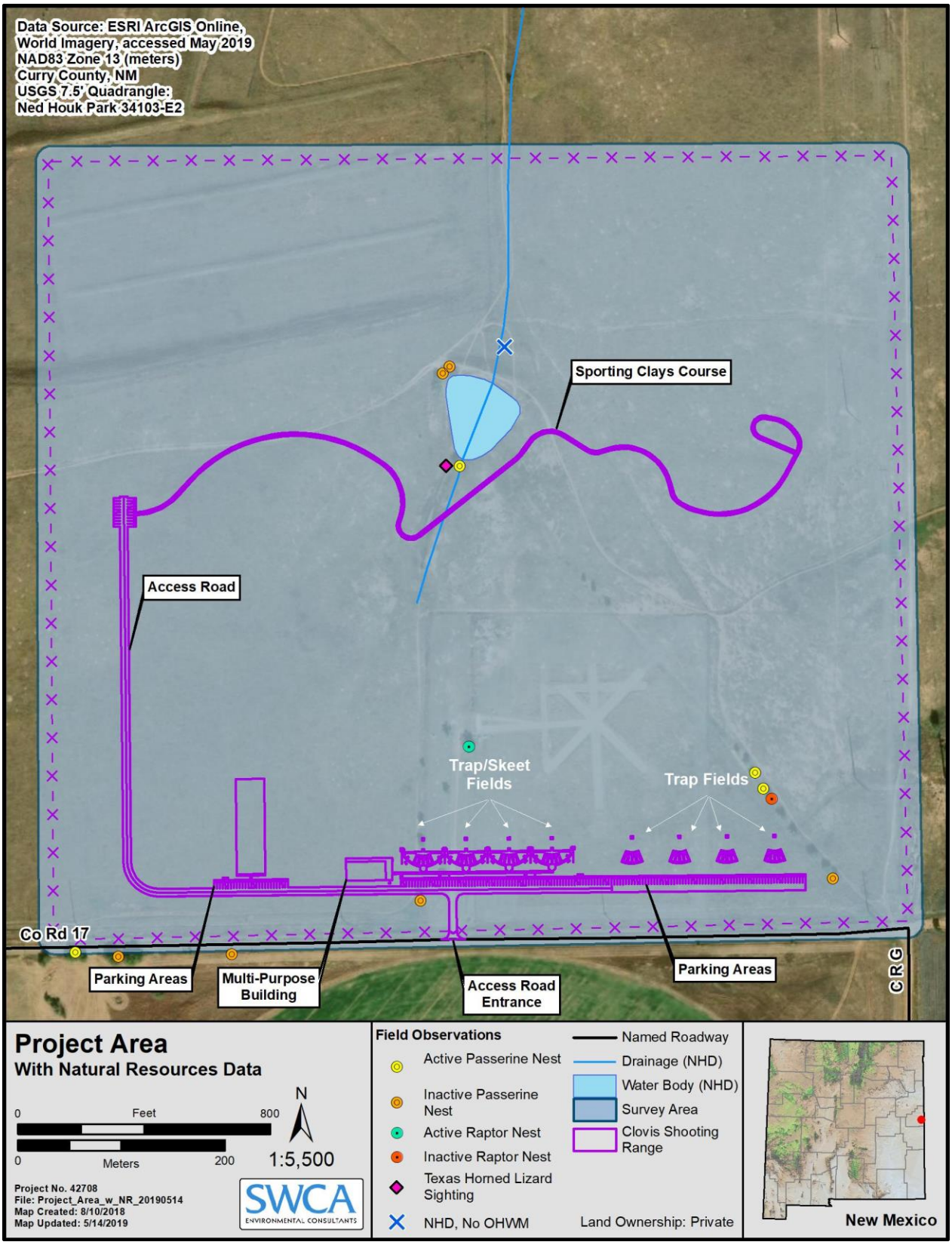

Figure D.1. Project area showing natural resources data.

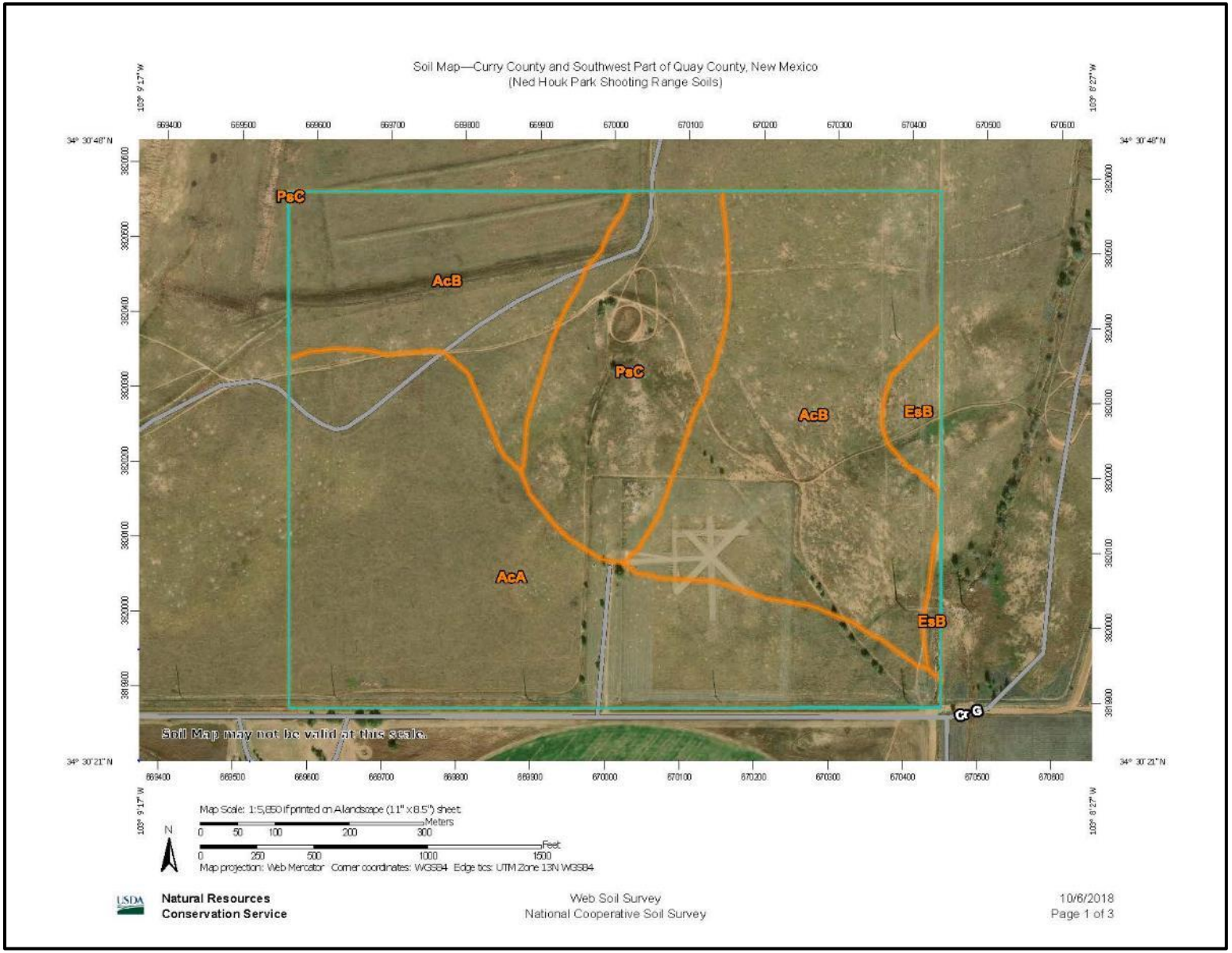

Figure D.2. Project area showing soils data.

Photograph 1. View of representative High Plains grasslands with interspersed subshrubs near the northeast corner of the proposed project area, facing south.

Photograph 2. View of Siberian elm grove near abandoned model airplane park, facing east.

Photograph 3. View of active raptor nest in good condition in Siberian elm tree near abandoned model airplane park.

Photograph 4. View of derelict stock pond near northeast of project area, facing south.

Photograph 5. View of National Hydrography Dataset drainage with no OHWM, facing north.

Photograph 6. View of National Hydrography Dataset drainage with no OHWM, facing south.

Photograph 7. View of two inactive passerine nests in fair condition in Siberian elm tree.

Photograph 8. View of inactive raptor nest in poor condition in Siberian elm tree.

Photograph 9. View of abandoned shooting range at the northeast corner of the project area, facing north.

Photograph 10. View of abandoned model airplane park near center of project area, facing north.

APPENDIX E. MANAGEMENT PLAN

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Management Plan for the Clovis Wing-Shooting Complex and Archery Range in Clovis, New Mexico

Prepared for

City of Clovis, New Mexico

Prepared by

SWCA Environmental Consultants

July 31, 2019

Management Plan for the Clovis Wing-Shooting Complex and Archery Range in Clovis, New Mexico

Prepared for

City of Clovis, New Mexico
321 N Connelly
Clovis, New Mexico 88101

Prepared by

SWCA Environmental Consultants
130 Rock Point Drive, Suite A
Durango, Colorado 81301
(970) 385-8566
www.swca.com

July 31, 2019

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1 INTRODUCTION

The City of Clovis, New Mexico (City of Clovis), has commissioned the preparation of this Management Plan for the proposed construction, operation, and maintenance of an approximately 150-acre multi-use shooting range (project) at Ned Houk Park (NHP) in Clovis, New Mexico (Figure 1.1–Figure 1.3). The proposed range is located in Sections 02 and 03, Township 3 North, Range 36 East, New Mexico Principal Meridian. The subject parcel is owned by the City of Clovis and is within Ned Houk Park. Funding for the project is being obtained through federal grants, as well as City of Clovis designated non-recurring funds.

1.1 Purpose and Need

Shooters in New Mexico, including many youths, have very few opportunities to legally practice shooting skills before they participate in a hunt. There are approximately 44 shooting ranges in New Mexico (New Mexico Department of Game and Fish [NMDGF] 2018), and many are private, members-only facilities. The state has a land mass of 121,697 square miles, which equates to less than one range (public or private) for every 4,680 square miles.

Many shooters are not allowed on private/club firing ranges. Public ranges have diminished in numbers due to urban expansion into the former edges of town, where most ranges were developed in the past. Therefore, many shoot indiscriminately on public or private lands or have ceased pursuing target shooting altogether. The availability of a public, multifaceted shooting range in the Curry County area would provide a safe place to practice shooting.

The 150-acre project area within NHP is the former location of a model airplane area, which was recently moved to a new location within NHP. The northwest corner of the project area contains the vestiges of an abandoned shooting range. The parcel would be put to beneficial use by the City of Clovis in conjunction with the NMDGF and would service the city of Clovis, New Mexico, and surrounding communities, including portions of the Texas panhandle, by fulfilling a shooting need. Activities would include but would not be limited to trap, skeet, and sporting clay competitions, indoor archery and airgun competitions, Senior Olympics, 4-H events, and hunter safety programs. Additionally, the range will be open as set forth in the agreement between the City of Clovis and Eastern New Mexico Range Management (ENMRM) for shooting and archery.

The primary purpose of this Management Plan is to provide the grant managers with necessary information to issue funding for the development of the land by the City of Clovis. This Management Plan will enable the City of Clovis to identify a safety plan, and address and recommend measures pertinent to the construction, operation, and maintenance of the shooting range.

1.2 Government Agencies Involved

The City of Clovis would secure a contractor to construct a shooting range with a 30-year service life on approximately 150 acres of City of Clovis–owned property within NHP near the city of Clovis, New Mexico, in Curry County. The City of Clovis has appointed the ENMRM to operate and maintain the range. Partial funding for this project is through the Wildlife Restoration Program grants administered by the U.S. Fish and Wildlife Service (USFWS), which requires Section 7 consultation and an Environmental Assessment. The federal grant program is a pass-through grant administered by the NMDGF. Additional funding is provided by City of Clovis designated non-recurring funds.

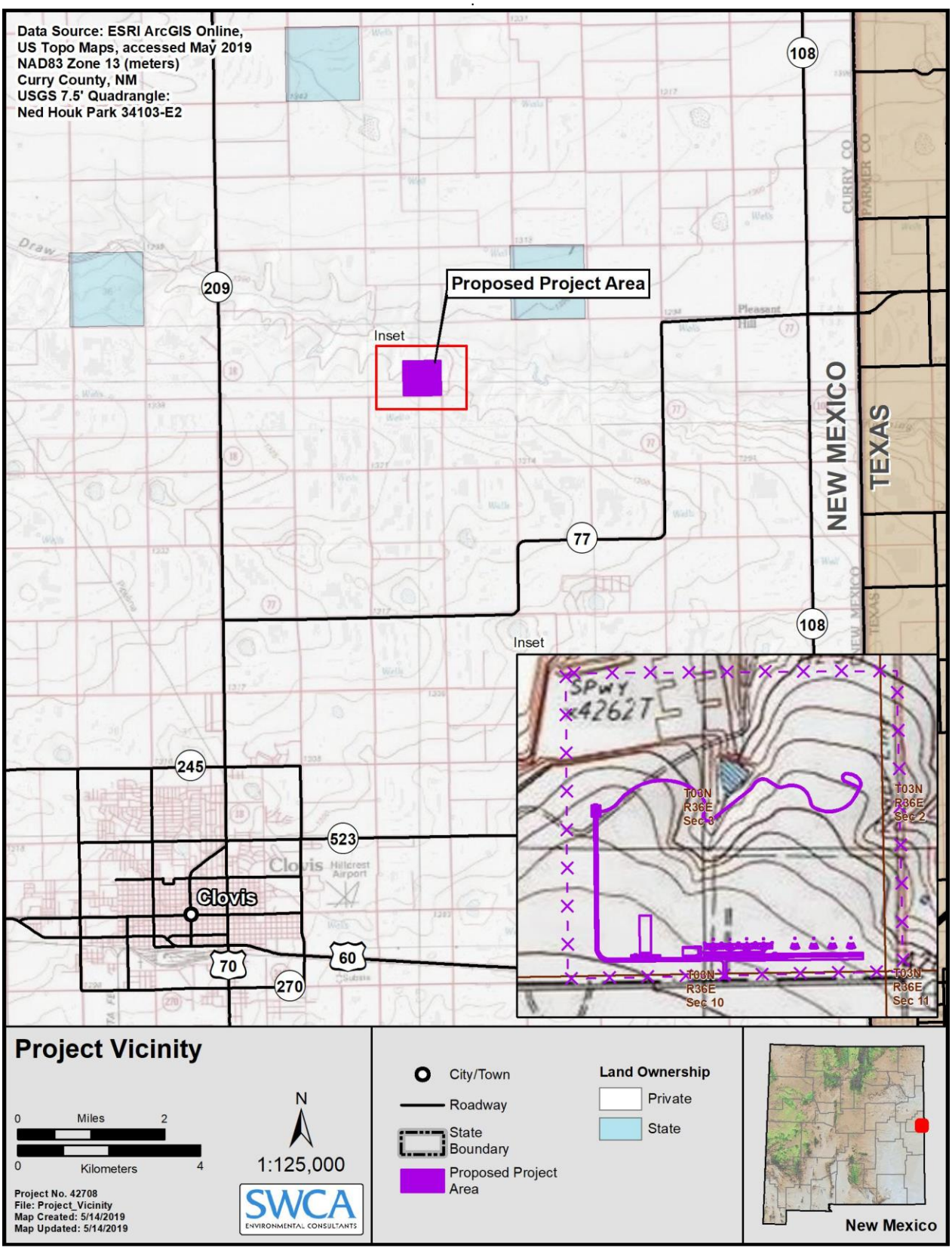

Figure 1.1. Proposed shooting range location.

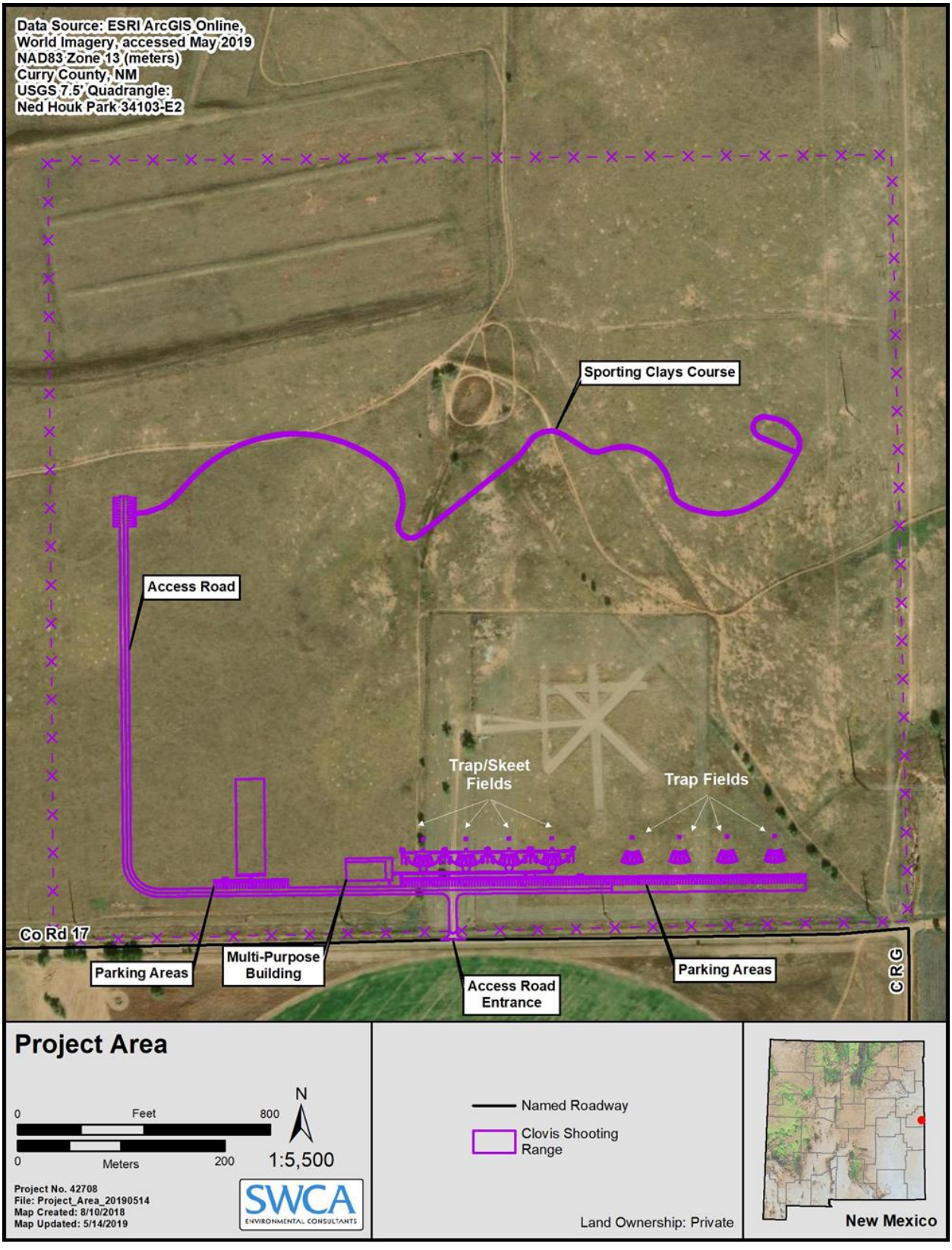

Figure 1.2. Project area.

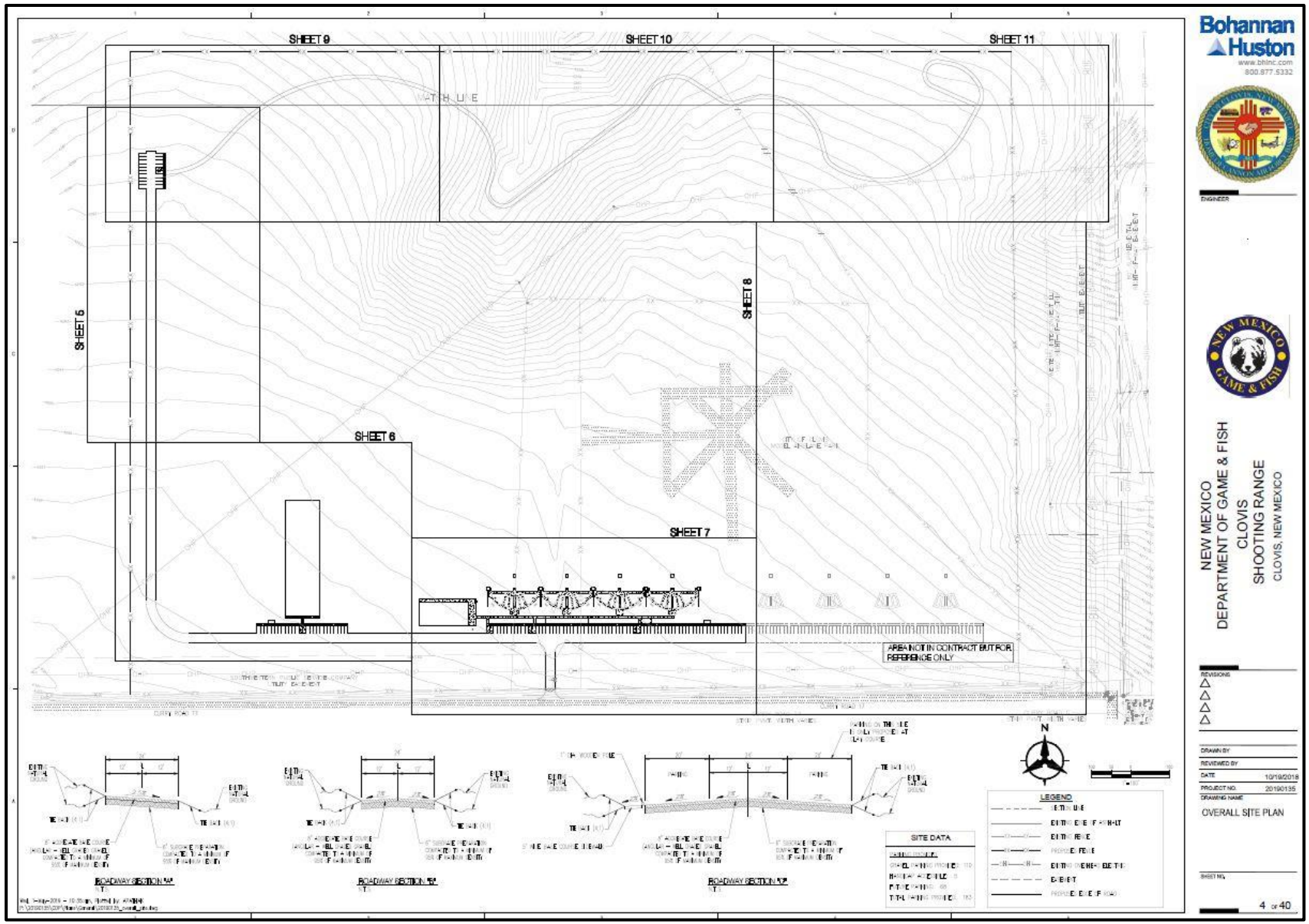

Figure 1.3. Conceptual range site plan.

Once constructed, the proposed project would be a public range owned and operated by the City of Clovis and managed through an agreement between the City of Clovis and the ENMRM. Under the authority specified in New Mexico Statutes Chapter 17, Game and Fish and Outdoor Recreation, Article 8, Sport Shooting Range (Sport Shooting Range Act [New Mexico Statutes Section 17-8-1]), cooperative management with approved licensee members and/or volunteer agreements may be pursued by the City of Clovis.

This Management Plan is a dynamic plan intended to be supplemented during construction and throughout the life of the shooting range, and it will require periodic updates as new information and varying range conditions dictate modification to these strategies, as required by annual monitoring. This Management Plan is not a National Environmental Policy Act document.

This Management Plan follows the recommendations from the U.S. Environmental Protection Agency's (EPA's) Best Management Practices for Lead at Outdoor Shooting Ranges (EPA 2005) and the National Rifle Association (NRA) Range Source Book (NRA 2012). A copy of this Management Plan, which is considered to be the standard operating procedure for the facility, shall be kept on the premises at all times during operation of the shooting range.

2 OPERATION OF THE RANGE

This range would be operated by the ENMRM, and a range safety officer appointed by the ENMRM will be present at all times during operating hours.

2.1 Operating Hours

The range would be open four days a week, from 1:00 p.m.-dusk, Tuesday and Thursday, 9:00 a.m.-4:00 p.m Saturday, and 12:00 p.m.-5:00 p.m. Sunday. The Range safety officer is required to enforce operating hours and the shooting range rules. The Range safety officer or an appointed staff member opens the shooting range complex on designated opening days. No shooting is allowed from sunset to sunrise; other shooting during those times, such as special events, will require written approval by the City of Clovis. The shooting range complex may be available to authorized groups or individuals when properly scheduled and authorized through the ENMRM. The shooting range will be open to the public during stated operating hours, with seasonal variations in opening and closing times consistent with sunrise and sunset (subject to inclement weather).

During non-operational hours, the shooting range complex would be closed to public use, and the access road is gated and locked each evening.

2.2 Range Procedures

Noise Control. Ranges that do not properly mitigate the sound produced from daily operations can quickly generate opposition by disturbing nearby residents, recreationists, and wildlife, generating complaints and lowering the quality of life in the surrounding area. As stated under the authority specified in New Mexico Statutes Section 17-8-1, shooting ranges in New Mexico are immune to civil litigation on the basis of noise or noise pollution if noise from the range is compliant with the laws in place at the time of the range construction. Measures to mitigate noise at the Clovis Wing-Shooting Complex and Archery Range are intended to minimize the impacts on the surrounding population, and to abide by state-mandated regulations. There are several approaches to mitigate noise, and include, but are not limited to, the following:

- Siting of range
    - Direction and angles of shooting are large factors of sound travel, and therefore shooting in the direction of noise-sensitive premises would be avoided wherever possible.
        - The design of the range will orient all trap/skeet field firing areas north, away from sensitive noise receptors.
        - The sporting clays will orient firing direction south and north if distance allows. The course is located in a depression which will alleviate noise.
- Sound barriers and berms
    - Natural barriers, such as stands of trees, cliffs, and natural depressions, could be used wherever possible. Establishing and maintaining ground cover aids in noise attenuation and adds to the aesthetic appeal of a shooting range (Interstate Technology Regulatory Council [ITRC] 2005).
        - The Clovis Wing-Shooting Complex and Archery Range lies on relatively flat ground and cannot take advantage of natural, existing ground cover on the subject parcel.
    - Artificial barriers and berms can be constructed to attenuate the noise from daily operations at the shooting range and should be constructed if there are no natural barriers and there are residences within 0.25 mile (NRA 2012). Vegetating the berms will further attenuate the noise and improve the appearance of the shooting range; however, this is dependent upon the availability of water on-site. Shade structures can also be constructed using sound

abatement material to help direct the output of noises from the source (NRA 2012). Wooden fencing or concrete block can be constructed behind firing areas to eliminate the line of sight from sensitive receptors and the noise source.

- Sound abatement shields such as artificial berms and shade structures are most effective at pistol and rifle ranges. The low level of effectiveness of berms on shotgun fields does not justify their cost and maintenance. The Clovis Wing-Shooting Complex and Archery Range will not have pistol or rifle ranges. Therefore, berms will not be utilized at the shooting range.

Litter Control. Typical litter and trash expected at the range includes discarded drink cups, bottles, and cans; food and candy wrappers; ammunition/equipment wrapping/boxes; plastic baggies; wads; and spent ammunition.

The City of Clovis and the ENMRM will implement three ways to minimize litter: prevention, control, and collection. Measures to prevent and control litter at the Clovis Wing-Shooting Complex and Archery Range are intended to eliminate the potential for litter collecting within the proposed project area, and to eliminate the likelihood of litter spreading to areas outside and surrounding the proposed project. Trash receptacles (e.g., typical 30- to 50-gallon trash cans) will be placed at all high-traffic areas where littering may be likely to occur, including the following:

- Parking lots
- Designated spectator areas
- Office
    - Entrance
    - Inside restrooms
- Each skeet/trap field

Sporting clays course (at intervals) All trash containers will be checked during operating hours, will be wildlife-resistant, and will have lids so they can be covered before periods of rain. As part of each visitor's safety orientation, the shooting range's strict policy of "no littering" will be emphasized. Other litter control measures include measures such as managing the load of each trash receptacle (i.e., emptying all cans before they overflow). Shooters will be encouraged to dispose of their spent shells.

Weekly trash collection will be coordinated by the City of Clovis, the ENMRM, or approved third-party licensee members and/or volunteers, in accordance with local sanitation requirements. An approved dumpster will be maintained at the range. Trash and litter collected from the shooting range will be disposed of in authorized landfills. Burning of trash, solid debris, and/or slash will NOT be allowed at any time at the proposed project.

Perimeter Fence/Signs. The entire 150-acre shooting range area will be fenced using one continuous four-strand barbed wire fence.

Perimeter signs must conform to Occupational Safety and Health Administration (OSHA) specifications (29 Code of Federal Regulations [CFR] 1910.145). The wording, size, color, lettering, and retro-reflectivity will conform to New Mexico State Police requirements.

The wording for the perimeter signs will be placed every 100 feet and specify "CAUTION FIREARMS IN USE KEEP OUT" or "TARGET RANGE DO NOT ENTER." The perimeter signs will be 12 × 18 inches with 2- to 3-inch red letters on a white background in English and Spanish.

The City of Clovis will be responsible for scheduling the evaluation of perimeter fences, gates, and perimeter signs to ensure they are intact and readable. The evaluation shall be accomplished monthly.

Reports indicating the loss or destruction of fence, gates, or signs will be investigated and damage will be corrected within 5 working days.

Ammunition. Shotguns are the only firearm allowed to be used on the outdoor range. Target air rifles and air pistols will only use .177 caliber ammunition.

Firearms Check. Near the access gate of the shooting range, signs shall inform visitors that all firearms must be unloaded prior to entry into the shooting range and, further, that all firearm actions must be open prior to removal from the conveyance in which they were transported. All firearms used during public or training activities shall have the firearm actions open prior to their use at the shooting range. This activity involves the observation of firearms prior to opening the firing line. Cased firearms may remain cased until they are taken to the range firing line.

Those individuals with concealed carry permits are allowed by law to carry their loaded firearm on their person. These firearms must remain holstered while on the shooting range.

2.3 Range Facilities

The multifaceted shooting range includes an outdoor target archery range, a multipurpose office building with an indoor archery and airgun range, four trap/skeet field overlays, and a sporting clay course

(see

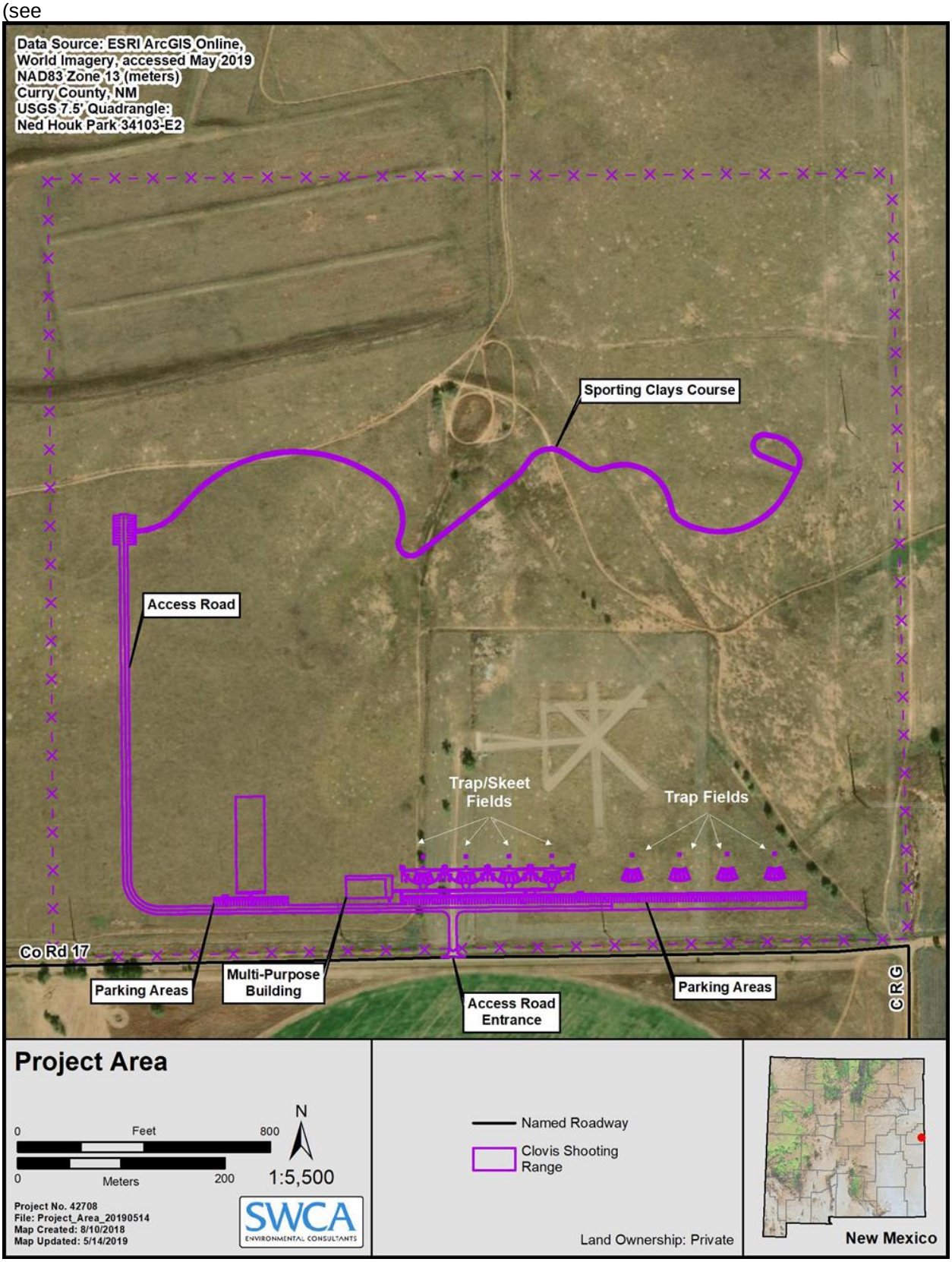

Figure 1.2 and Figure 1.3).

- Trap/Skeet Overlay Fields
    - 41-acre layout, including overlap with Sporting Clays Course
    - Four Amateur Trap Association (ATA)–regulated fields, each with five stations. The trap fields are overlaid by four National Skeet Shooters Association (NSSA)–regulated fields, each with eight stations (ATA 2017; NSSA 2018).
    - Hours of the indoor range will depend on the availability of the Range Safety Officer.
    - Because of overlay of the trap field and skeet field, only one shotgun discipline will be active at a time per field.
    - Siting at firing positions will range from northwest to northeast.
    - All trap and skeet fields' firing areas will have concrete pads and will be accessible to the standards of the American with Disabilities Act (ADA).
    - Range rules will be posted at the firing areas for all four fields.
- Sporting Clays Course
    - 125-acre layout, including overlap with Trap/Skeet fields
    - 12-15 firing stations
    - Siting at the sporting clays course will be multi-directional, as space allows.
    - Sporting clays specific range rules will be posted throughout the course.
- Outdoor Target Archery Range
    - 4-acre layout
    - 80-yard archery range with 5-8 firing positions facing north;
    - Constructed earthen impact berm
    - Archery-specific range rules will be posted at the firing line.
- Office Building
    - Multipurpose 7,500-square-foot building with classrooms, bathrooms, and indoor range.
    - Will house Range Master office, hunter education classrooms, storage areas, and an indoor range.
- Indoor Range
    - 80-foot x 40-foot multipurpose air gun and archery range.
    - Archery and airgun-specific range rules will be posted at the firing line.
- Access Road and Parking Areas
    - Access road is approximately 0.65 miles long and 50-feet wide
    - From the entrance gate to the parking areas behind the trap/skeet fields and the outdoor target archery range.
    - Range rules will be posted at the entrance gate.
    - Graveled, approximately 75 parking spaces along access road.

2.3.1 Range Rules, Firing Procedures, and Range Commands

All visitors of the proposed project are required to review the Range Rules upon entry. Visitors intending to shoot must read and verbally acknowledge the Range Rules and observe the posted signs that identify

the risks. Range Rules will be prominently posted at strategic points around the facility to inform persons entering and leaving the facility that safety is paramount.

If a visitor cannot or refuses to acknowledge their understanding of the Range Rules, he or she will be asked to leave the shooting range. If a visitor refuses to leave the range local law enforcement will be called with the authority to escort the visitor off the premises.

Clovis Wing-Shooting Complex and Archery Range Firing procedures will follow ATA, NSSA, and National Sporting Clay Association (NSCA) rules as set forth by the Range Safety Officer. All archery and indoor airgun shooting will be done from the established firing lines, in accordance with the ENMRM. Range Rules, Firing Procedures, and Range Commands (Appendix A Tables A-1-A-3) will be posted at the office of the shooting range in large, easy-to-read print.

3 SAFETY

The shooting range will be operated by the ENMRM. This section has been established to ensure the health and safety of the ENMRM's employees, those individuals who use or frequent this facility, and the community at large. The safety plan is developed to ensure the continuity of a facility. The primary objective is to maintain a facility to provide citizens with a location in which they can learn and practice the safe and efficient use of firearms and the fundamentals of shooting. All content of the safety plan is subject to review and approval by the City of Clovis and the ENMRM.

3.1 Assumptions

A properly managed range that operates under strict guidelines and strictly enforced safety rules constitutes a safe operation (see Appendix A for Range Rules). The following assumptions are inherent in any safe range operation:

- A safety area of at least 300 yards will be in place at all shotgun firing areas.
- Shooters will always keep their firearms and airguns unloaded and with the action open when arriving or departing the shooting range.
- Shooters will always keep their firearms and airguns unloaded except when in position on the firing line.
- Shooters will always use only those firearms and airguns with which they are familiar and will always use the correct ammunition.

3.2 Required Training

Range safety officers, as approved by the ENMRM, that are certified with proper credentials are required during all range operating hours and scheduled events.

The ENMRM will appoint a range safety officer (trained in accordance with the City of Clovis, the ENMRM, the NRA, the National Shooting Sports Foundation, or other required New Mexico certifications) as the managing authority of range operations for both the public and staff. The Range Master is supported by range safety officers, supervisors, and authorized trainers. The ENMRM will schedule an appropriate number of range safety officers based on the estimated use of the range for that day.

Employee Medical Evaluation. The operator of the proposed project will advise the managing concessionaire of the risks employees and volunteers working at the range may be exposed to, including lead and loud noises. Any ongoing monitoring will be at the discretion of the concessionaire. Posting OSHA-approved and recommended signage advising employees to the possibility of exposure and protocols for protecting against lead and noise exposure will be required.

Employee/Volunteer Information and Training. Range staff and volunteers will receive documented annual training on the information provided in 29 CFR 1910.1025 (OSHA 2001). The City of Clovis or the ENMRM will require the concessionaire to provide and document initial training on lead and hazardous noise within 30 days of initial assignment to the target range. This training shall be repeated and documented annually thereafter.

3.3 Range Maintenance

Range Maintenance and Cleaning. The ENMRM and/or volunteers will maintain all firing ranges as clean as reasonably attainable of elemental lead in accordance with Center for Disease Control (CDC) and OSHA regulations (CDC 2012; OSHA 2018). The following cleaning practices will be followed: All range building carpets will be cleaned with a High-Efficiency Particulate Air (HEPA) vacuum on an as-needed or as-necessary basis.

- Range Masters will encourage all patrons to sweep with a push broom (proper use signage will explain that the broom MUST be pushed and not lifted from the floor) and clean up their own shells.
- Cleaning on the main range will consist of the wiping of all horizontal surfaces as seasonal conditions warrant. All buildings with carpets will be vacuumed as seasonal conditions warrant. All exterior concrete surfaces shall be power-washed as seasonal conditions warrant.

Safety Equipment Checks. AAA FirePro with conduct inspections on the behalf of the City of Clovis of safety equipment to ensure its operability and availability. The items to be checked shall include, but are not limited to, the following:

- Fire extinguishers
- First aid kits

Shot Containment and Lead Abatement. Operation of an outdoor shooting range that is environmentally protective requires the implementation of a lead management program. The City of Clovis, ENMRM, and/or volunteers will follow the four-step approach outlined below from the EPA *Best Management Practices for Lead at Outdoor Shooting Ranges* (EPA 2005) to manage the accrual of lead on the premises.

- Step 1 - Control and contain lead shot.
    - Reduced shot fall zones are achieved by the inherent design of trap and skeet fields. By overlaying the trap and skeet fields potential shot fall zones have been greatly reduced. The shot fall zones of the sporting clay course will be overlap portions of the trap/skeet trap fields further concentrating the shot fall zones
- Step 2 - Prevent migration of lead to the subsurface.
    - Soil will be monitored annually by the City of Clovis to maintain optimal soil pH as recommended by the EPA (2005).
- Step 3 - Remove and recycle accumulated lead on the range.
    - The City of Clovis and ENMRM will keep record of the number of targets thrown. A lead reclamation company will be hired to remove lead from shot fall zones for every 1,000,000 targets thrown.
- Step 4 - Document activities and keep records.
    - Number of targets thrown as well as the date and provider of any lead removal activities and soil monitoring results, and any other BMP practices or construction/installation.
    - Records will be kept for the life of the range and at least 10 years after closing to evaluate the effectiveness of BMPs used

Personal Hygiene and Contamination Avoidance. Target range personnel shall be provided education and training on transference of lead contamination off-site and proper personal decontamination procedures to avoid lead contamination transfer. Range Masters will brief all incoming users on self-service cleaning, the use of hearing protection, and prohibition of food, and open-container drinks, within the active firing line. Target range personnel (full-time, part-time, and volunteers) will also ensure the availability of waste containers for the disposal of cleaning materials.

- Consumption of food, open beverage containers, and uncovered drinks are not allowed while on any active target range. Target range personnel (full-time, part-time, and volunteers) are required to practice good personal hygiene by washing hands frequently with cold water and prior to the consumption of food and drink, to avoid potential ingestion hazards. In addition, signs will be posted informing patrons of the availability of washing facilities and recommending washing hands after shooting.

- No one under the age of 5 will be allowed on the firing line. Children 6–8 years old may have limited access when accompanied by an adult. Children 9 years old and older may have full access to use all target ranges when accompanied by an adult.
- Children must be supervised by an adult at all times and are required to wear hearing protection when in designated hearing protection areas during active firing. Any child unable to properly wear the appropriate level of hearing protection cannot be on the range or in any identified hazardous noise areas during active firing.
- The ENMRM will educate all target range staff, volunteers, and patrons of all target ranges on the effects of lead and noise. Public information signs and pamphlets advising of the health effects associated with hazardous noise and lead exposures will be made readily available. Signs will be posted near all bathrooms and egress points to the active range firing lines.

Personal Protective Equipment. All target range personnel will adhere to the following:

- All personnel (full-time, part-time, and volunteers) working on an active firing range or in designated hearing protection areas shall use hearing protection that is sufficient to provide protection for the work environment in which they are assigned. This may include ear plugs, ear plugs in combination with ear muffs, or Risk Management Industrial Hygienist–approved noise-cancelling ear muffs. Documented annual training on the use and care of hearing protection is required.
- Approved ear and eye protection will be worn at all times during active shooting on all firing lines, except the archery range, and all other times where it is required under the operator's policy and related safety standards.
- Designated eye protection areas will be identified by a sign posted at the entry of those areas.

4 EMERGENCY EVACUATION AND CLOSURE PROCEDURES

This section provides a method of safely and efficiently evacuating and closing the range in the event of an emergency. Emergencies warranting emergency evacuation could include on-site events, such as medical emergencies, or off-site events, such as wildfires in the vicinity. Not all types of emergencies can be anticipated; therefore, deviations from this plan may be necessary. In all cases, human safety is the primary concern, and administering First Aid and/or contacting emergency responders is the highest priority.

The Range Master, appointed range safety officer, or other staff present at the time of an accident or medical emergency shall take charge of the situation. If the medical emergency is a shooting incident, follow these guidelines:

- Call for help; dial 911.
- Secure the area; remove all unnecessary persons.
- Leave the firearm related to the incident where it lies

4.1 Procedures

The following procedure will be followed to safely and efficiently evacuate and close the range in the event of an emergency:

- If the emergency is on-site, administering First Aid and/or contacting emergency responders is the highest priority.
- Anyone can call for a cease fire.
- The Range Safety Officer will notify all persons present that the range is closing and that all persons must secure their firearms and ammunition, and immediately leave in an orderly fashion.
- If more visitors arrive, they will be notified that the range is closing and will be asked to leave.
- All range equipment will be secured as would be done during a normal daily closure.
- If time and circumstances allow it, normal range closure procedures will be followed from this point onward.
- A sign should be placed on the gate stating that the range is closed until further notice.
- An Incident Report shall be completed within 24 hours.

4.2 Emergency Response and Fire Suppression

ALWAYS CALL 911 IN THE EVENT OF AN EMERGENCY

This plan requires commitments to fire prevention, fire protection equipment, safety, and common sense. The objective of this plan is to ensure the adequate and appropriate provision of safety equipment and fire extinguishing equipment, and to facilitate fire suppression and emergency response. This plan does not guarantee that a perfect response to an emergency situation will always be practical or possible. Therefore, this plan should be considered a guide for planning for fire safety at the range. Table 4.1 provides a list of local emergency responders.

Table 4.1 Local Emergency Authorities

Agency	Address	Non-Emergency Phone
City of Clovis Fire Department	320 Mitchel St, Clovis, NM 88101	(575) 769-7814
Plains Regional Medical Center	2100 North Doctor Martin Luther King Boulevard, Clovis, NM 88101	(575) 769-2141
X-Press Care Minor Emergency	2021 W 21st St, Clovis, NM 88101	(575) 937-7777
Clovis Police Department	300 N Connelly St, Clovis, NM 88101	(575) 769-1921
Curry County Sheriff's Office	700 N Main St #4, Clovis, NM 88101	(575) 769-2335

4.2.1 Emergency Response

A major fire emergency may be defined as an incident requiring more than a fire extinguisher or a small amount of water or soil. The range safety officer should call or assign someone to call 911 as soon as possible to summon emergency fire personnel. Visitors to the range should be cleared from the area so that emergency responders can do their job. The Range Master should ensure that entrances to the range are not blocked by vehicles.

4.2.2 Medical Emergency

The range safety officer, or other staff present at the time of an accident or medical emergency shall take charge of the situation. For any medical problem, it is important to follow these guidelines:

- Take charge of the situation; designate helpers if necessary.
- Call for help; dial 911.
- Render First Aid.
- Direct medical help to location.
- Take notes (date, time, incident summary, witnesses' names, etc.).
- Complete an Incident Report.

If the medical emergency is a shooting incident, follow these guidelines:

- Call for help; dial 911.
- Secure the area; remove all unnecessary persons and retain witnesses.
- Leave the firearm related to the incident where it lies.

4.2.3 Tips When Contacting 911

If you are not sure whether the situation is a true emergency, officials recommend calling 911 and letting the dispatcher determine whether you need emergency help. Remember, the dispatcher's questions are important to get the right kind of help to you quickly.

When you call 911, be prepared to answer the dispatcher's questions, which may include:

- The location of the emergency
- The phone number you are calling from
- The nature of the emergency

- Details about the emergency, such as a description of any fire that may be burning, a description of injuries or symptoms being experienced by a person having a medical emergency, or a physical description of a person who may have committed a crime

Be prepared to follow any instructions the dispatcher gives you. Many 911 centers can tell you exactly what to do to help in an emergency until help arrives, such as providing step-by-step instructions to aid someone who is choking or needs First Aid or CPR.

Finally, do not hang up until the dispatcher instructs you to.

4.2.4 Fire Prevention

A small fire is one that can be suppressed with a fire extinguisher or a small amount of water or soil. A major fire emergency is defined as a fire that requires emergency response. **Dial 911 for any fire emergency.**

In all cases, human safety is the primary concern, and administering First Aid and/or contacting emergency responders is the highest priority. Emergencies could include anything from a small trash can fire or heat exhaustion, to a dangerous fire or major injury. In general, the rule is **to administer First Aid if appropriate, attempt to put out the fire, and call 911 as soon as possible**. Not all types of emergencies can be anticipated; therefore, deviations from these plans may be necessary.

The best way to fight a fire is to prevent one from ever starting. To this end, the following best management practices are to be implemented at the range:

- No smoking shall occur outside designated areas, and “No Smoking” signs shall be posted.
- No person shall fire tracer, pyrotechnic, flare, or other incendiary ammunition.
- No person shall use flammable or explosive materials as targets.
- Parking areas and shooting lanes shall be cleared of all extraneous flammable materials.
- Gunpowder, ammunition, gasoline, and other flammable/explosive materials must be securely stored when not in use.
- Exits from the shooting lanes and from the facility shall not be blocked by equipment or other objects that could interfere with access during an emergency.
- The range will be securely locked when not in use to prevent unauthorized entry and arson.

4.2.5 Fire Suppression

Fire extinguishers and fire shovels will be stored in an appropriate area of the range where they are readily accessible to all. Extinguishers must be inspected monthly or as required by the manufacturer and the City of Clovis’ or ENMRM’s policy. Defective units will be taken out of service and replaced immediately. Each extinguisher must reside in its designated place, clearly visible, and not blocked by equipment or other objects that could interfere with access during an emergency.

The use of a fire extinguisher in the hands of a trained adult can be a life- and property-saving tool. However, the majority of adults have not had fire extinguisher training and may not know how and when to use them. Fire extinguisher use requires a sound decision-making process and training on proper use and maintenance.

Portable fire extinguishers are valuable for immediate use on small fires. They contain a limited amount of extinguishing material and need to be properly used so that this material is not wasted. By the time the fire has spread, however, these actions will not be adequate. Only trained firefighters can safely

extinguish such fires. A thorough fire extinguisher training module is available at www.fireextinguishertraining.com.

Use a fire extinguisher only if:

- You have alerted other visitors, and someone has called the fire department
- The fire is small and contained to a single object, such as a wastebasket
- You are safe from the toxic smoke produced by the fire
- You have a means of escape identified, and the fire is not between you and the escape route
- You believe it is safe to use an extinguisher

The following procedure will be followed in the event of a fire:

- **In all cases, administering First Aid and/or contacting emergency responders is the highest priority. Administer First Aid and assign someone to call 911 as soon as possible.**
- The Range Master will call for a cease fire.
- Determine whether the situation requires immediate evacuation from the area (e.g., the fire includes ammunition, explosives, or other dangerous materials).
- If so, immediately evacuate all persons from the area and call 911.
- If it is feasible and can be done safely, the Range Master or other physically able person can attempt to put out the fire using a fire extinguisher, water, and/or shoveled soil.
- If the fire is larger or out of control, call 911 as soon as it is safe to do so.
- The Range Officer will notify all persons present to clear the way for emergency vehicles.
- When the fire is out, inspect it periodically to make sure it stays out.
- Replace or recharge the spent fire extinguisher at the earliest convenience.
- Complete an Incident Report.

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APPENDIX A

Range Rules, Range Commands, and Firing Procedures

RANGE RULES

Table A.1 Clovis Wing-Shooting Complex and Archery Range; Range Rules (subject to change or amendment as necessary and as determined by the City of Clovis).

General City of Clovis Parks and Recreation Rules
Pet owners are responsible for their pets.
Pets must be on a leash or under the control of a person physically able to control it.
Be respectful and clean up after your pet.
Vehicles must stay on designated roads and parking area.
No alcohol or glass containers.
No overnight parking or camping.
No unauthorized motorized vehicles in restricted areas.
Safety Rules – Shotgun Ranges
Age Requirement: Anyone under the age of 18 must be accompanied and monitored by a responsible adult. Youth shooters must be able to handle their own firearm or bow to safely shoot at the range.
Follow the basic gun safety rules: • **Treat every gun as if it were loaded.** • **Always keep the muzzle pointed in a safe direction.** • **Keep your finger off the trigger and out of the trigger guard until you are ready to shoot.** • **Know your target and its surroundings.**
Ear and eye protection is required: Anyone in close proximity to an active trap, skeet or sporting clays field is required to have eye and ear protection.
Do not load your gun until you are at a shooting station: Loaded shall mean any part of any shell (fired or unfired) in any part of the gun (magazine or chamber). A shooter cannot leave a station until his gun's action is open and both the gun's magazine and chamber are cleared of all fired and unfired shells.
Firearms must be open and out. Guns must be carried pointed in a safe direction i.e. up or down, with the action open and both the chamber and magazine empty when a shooter is not on a shooting station.
Never enter trap house. Never enter a trap house unless authorized to do so.
Drugs and alcohol prohibited. Alcohol is prohibited. The use of any drug that impairs a shooter's ability to shoot safely is prohibited.
Poor sportsmanship will not be tolerated and may result in removal from the range.
Shot sizes no larger than #7-1/2 (#7 steel) or smaller than #9.
No food on the firing line. Drinks are permitted only in resealable containers.
Shooting suspended. Shooting will be suspended during unsafe weather conditions per direction of the Range Safety Officer.
When shooting can occur. Shooting can only occur when the range is open for business.
Everyone is responsible. It is everyone's responsibility to follow and enforce these safety rules.
All Decisions. All decisions made by the Range Safety Officer regarding these rules shall be final.
Safety Rules – Air Gun Range
Only .177 caliber air guns (rifle and pistol will be allowed).
Always keep the rifle/pistol cased until approaching the firing line.
Rifle/pistol must have clear bore indicator in place until it is loaded on the firing line.
Keep your finger off the trigger until you are ready to shoot
Eye protection will be required
Hearing protection is recommended but not required.
Rifle/pistol to be fired into provided target stands ONLY.
Only lead pellets allowed.
Drugs and alcohol prohibited on the range when shooting is in progress.
Poor sportsmanship will not be tolerated and may result in removal from the range.

Minors must be accompanied by an adult while in the indoor range.
No food or drinks allowed on the firing line.
Only tables provided by the range can be used.
Paper targets will not be provided.
Always treat your fellow shooters with respect.
Everyone is responsible to follow and enforce these rules.
The range safety officer(s) and/or directors on site will have the authority for enforcing the range rules or any safety issue.
Outdoor Safety Rules – Archery Ranges
Adult supervision required.
Obey and know all range commands.
Keep your arrows in your quiver until you are ready to shoot.
Always keep your arrows pointed down or towards the target.
Always walk at the archery range.
Always be absolutely sure that the path to the target and beyond is clear.
Only release the bow string at full draw when there is an arrow on the string. "Dry firing" may cause damage to the bow and is dangerous.
Secure all loose clothing, remove bracelets, necklaces, etc. and tie hair back.
Always treat your archery equipment with respect.
Always treat your fellow archers with respect.
Please keep talking to a minimum while archers are on the line.
Indoor Safety Rules – Archery Ranges
Adult supervision required.
Keep your arrows in your quiver until you are ready to shoot.
Always keep your arrows pointed down or towards the target.
Always be absolutely sure that the path to the target and beyond is clear.
Only release the bow string at full draw when there is an arrow on the string. "Dry firing" may cause damage to the bow and is dangerous.
Keep arrow level while drawing, do not “high draw.”
Secure all loose clothing, remove bracelets, necklaces, etc. and tie hair back.
Always treat your archery equipment with respect.
Always treat your fellow archers with respect.
Please keep talking to a minimum while archers are on the line.
Pull your arrows out one at a time, put them in your quiver.

APPENDIX F. ENVIRONMENTAL STEWARDSHIP PLAN

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Environmental Stewardship Plan for the Clovis Wing-Shooting Complex and Archery Range in Clovis, New Mexico

JULY 31, 2019

PREPARED FOR

City of Clovis, New Mexico

PREPARED BY

SWCA Environmental Consultants

ENVIRONMENTAL STEWARDSHIP PLAN FOR THE CLOVIS WING-SHOOTING COMPLEX AND ARCHERY RANGE IN CLOVIS, NEW MEXICO

Prepared for

City of Clovis, New Mexico
321 North Connelly Street
Clovis, New Mexico 88101

Prepared by

SWCA Environmental Consultants
130 Rock Point Drive, Suite A
Durango, Colorado 81301
(970) 385-8566
www.swca.com

SWCA Project No. 42708

July 31, 2019

EXECUTIVE SUMMARY

This Environmental Stewardship Plan (ESP) was developed for the City of Clovis, New Mexico, for the Clovis Wing-Shooting Complex and Archery Range in Clovis, New Mexico.

This ESP has been prepared in accordance with the U.S. Environmental Protection Agency's 2005 Best Management Practices for Lead at Outdoor Shooting Ranges handbook. A copy of this ESP shall be kept on the premises at all times during operation of the shooting range. An additional copy of the ESP will be kept on file at the City of Clovis office.

This ESP addresses environmental stewardship in context of design and operational specifications of the range through the identification of construction, operation, and maintenance measures concerning the surrounding local environment.

The ESP consists of the following:

- A baseline site condition assessment describing existing environmental conditions
  - Climate
  - Soils
  - Vegetation
- Range facilities details
  - Facility descriptions
  - Facility design features aimed at minimizing or preventing the release of lead into sensitive areas or off-site
  - Operating procedures to further minimize the release of lead into sensitive areas or off-site
  - Interim lead recovery
  - Schedule of future monitoring and regular reassessment of the ESP
- Final reclamation steps

The ESP is a dynamic plan intended to be supplemented throughout the life of the Clovis Wing-Shooting Complex and Archery Range, as required by annual monitoring.

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INTRODUCTION

The City of Clovis, New Mexico (City of Clovis) is proposing the construction, operation, and maintenance of an approximately 150-acre multi-use shooting range in the city of Clovis, New Mexico. The proposed Clovis Wing-Shooting Complex and Archery Range (herein called the project, or the shooting range) is located in Sections 2 and 3, Township 3 North, Range 36 East, New Mexico Principal Meridian (Figure 1). The subject parcel is owned by the City of Clovis and is within Ned Houk Park. Funding for the project is being obtained through federal grants, as well as City of Clovis–designated non-recurring funds.

This Environmental Stewardship Plan (ESP) was developed as a result of the City of Clovis' and the New Mexico Department of Game and Fish's commitment to environmental resources at the proposed project location. The goals of the ESP, along with the actions necessary to meet the goals, are included in this document.

PURPOSE

The purpose of this ESP is to provide the shooting range managers and operators with procedures to prevent or minimize environmental impacts associated with the operation of an outdoor range. Specifically, this ESP is designed to:

- Review existing conditions and identify areas of potential environmental concern that may exist or develop within the proposed project area;
- Outline design features and best management practices (BMPs) to prevent the off-site migration of lead;
- Develop a schedule for implementation of these actions;
- Identify ways to measure ESP success of any site modifications or changes in site management; and
- Annually evaluate the progress made toward achieving environmental stewardship goals, and identify goals, actions, and any appropriate revisions to the ESP for subsequent years.

This ESP was developed to outline the following environmental goals:

- Control and contain lead projectiles and fragments
- Prevent migration of lead to the subsurface off-site
- Minimize or prevent the degradation of the existing environmental conditions within and around the proposed project area.

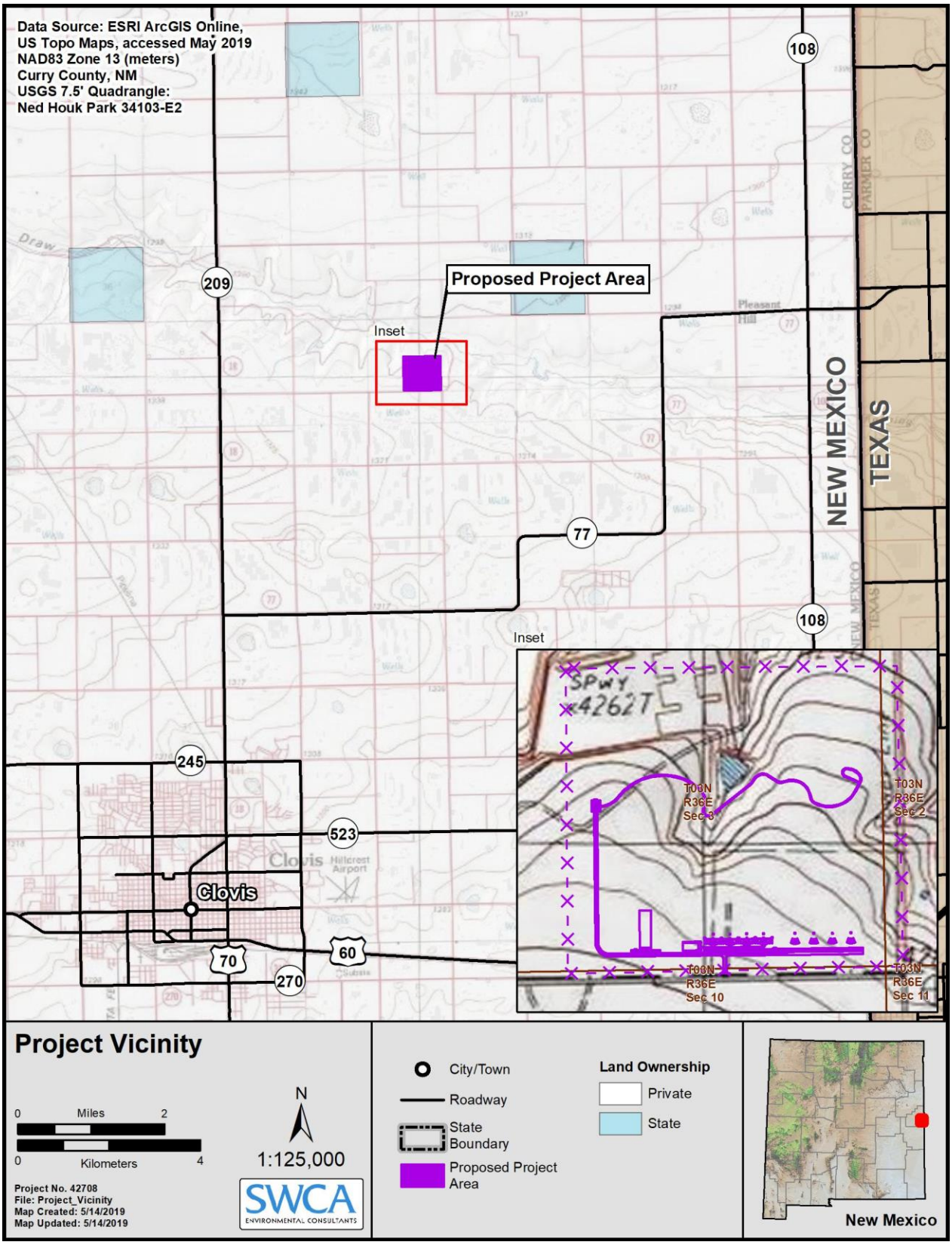

Figure 1. Proposed project vicinity.

EXISTING ENVIRONMENTAL CONDITIONS

The 150-acre parcel where the proposed project would be constructed is largely undeveloped with the exception of an abandoned model airplane area. The parcel is located within Ned Houk Park (NHP), owned by the City of Clovis, and was used for agricultural purposes in the past. The parcel also contains the former location of a model airplane area, which was recently moved to a new location within NHP. The parcel, located along the northern edge of County Road 17, is situated to the northeast of the main residential area of the city of Clovis. The land immediately east of the proposed project houses the High Plains Motor Speedway off-road racetrack. A residence is located on the southern side of County Road 17, approximately 0.2 miles southwest of the proposed project's access road. The remainder of the land surrounding the proposed project area is open farmland.

Climate

The proposed shooting range property area is located within Curry County, New Mexico. The region is primarily semi-arid high plains and experiences wide ranges and extremes in temperatures. Average summertime maximum temperature is 89.4 degrees Fahrenheit (°F). Average winter minimum temperature is 26.2°F. Precipitation is mainly from summer thunderstorms, with an annual precipitation of approximately 19.13 inches. Approximately 2 inches of snow is expected annually (National Oceanic and Atmospheric Administration [NOAA] 2019). Monthly climate data for the city of Clovis, New Mexico, are summarized in Table 3.1.

Table 3.1. Climate Averages for City of Clovis, New Mexico 1981–2010

Climate Condition	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temperature (°F)	38.3	42.0	48.6	56.8	66.2	74.7	77.7	76.3	69.3	58.7	47.4	38.5
Maximum temperature (°F)	51.5	55.9	63.2	71.6	80.6	88.7	90.7	88.9	82.8	72.5	61.0	51.3
Minimum temperature (°F)	25.0	28.0	34.1	41.9	51.8	60.6	64.7	63.6	55.9	44.8	33.7	25.6
Precipitation (inches)	0.56	0.43	0.94	0.92	1.84	2.62	2.63	3.48	2.18	1.98	0.75	0.80

Source: NOAA (2019)

Air Quality

The analysis area for air quality is the 150-acre project area proposed for the shooting range as well as the 2.75-mile-long gravel access road (County Road 206) from State Highway 209 to the entrance of the proposed project area. According to the EPA's Green Book webpage reports that Curry County is in attainment for pollutants, including particulate matter (fugitive dust) and ozone, as defined by the Clean Air Act (EPA 2018b). Existing sources of air pollution include tailpipe emissions and fugitive dust from operations at the adjacent motocross park as well as fugitive dust from traffic traveling to and from the motocross park. The project area is within the Running Water Draw watershed, as defined by the 10-digit Hydrologic Unit Code (HUC-10 ID) 1205000501. According to National Wetlands Inventory data (U.S. Fish and Wildlife Service [USFWS] 2019a), no wetlands are mapped within the project area. According to U.S. Geological Survey's (USGS's) National Hydrography Dataset, there are two previously mapped potentially jurisdictional waters present within the proposed project area (USGS 2016). There are no New Mexico Outstanding Resource Waters within this watershed.

A biological survey of the proposed project area was conducted on July 5, 2018, to determine the presence of potential waters of the U.S., including special aquatic sites. Defining elements of potential

waters of the U.S. include ordinary high-water marks, defined bed and banks, or the three mandatory wetland criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. During the biological survey it was determined that neither of the previously mapped potentially jurisdictional waters had a discernible ordinary high-water mark. No other potential waters of the U.S. were identified during the biological survey.

Water Resources and Water Quality

The project area is within the Running Water Draw watershed, as defined by the 10-digit Hydrologic Unit Code (HUC-10 ID) 1205000501. According to National Wetlands Inventory data (U.S. Fish and Wildlife Service [USFWS] 2019a), no wetlands are mapped within the project area. According to U.S. Geological Survey's (USGS's) National Hydrography Dataset, there are two previously mapped potentially jurisdictional waters present within the proposed project area (USGS 2016). There are no New Mexico Outstanding Resource Waters within this watershed.

A biological survey of the proposed project area was conducted on July 5, 2018, to determine the presence of potential waters of the U.S., including special aquatic sites. Defining elements of potential waters of the U.S. include ordinary high-water marks, defined bed and banks, or the three mandatory wetland criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. During the biological survey it was determined that neither of the previously mapped potentially jurisdictional waters had a discernible ordinary high-water mark. No other potential waters of the U.S. were identified during the biological survey.

Soils

The proposed project area has an average elevation of approximately 4,278 feet. Four mapped soil units are found within the proposed project area (Table 3.2). There are three soil characteristics that highly influence the potential for lead migration to occur: the ability for lead to be degraded by the soil (pH), the ability to transmit surface water to groundwater (Ksat), and the runoff class. As shown in Table 3.2, all soils have at least one factor contributing to an increased potential for lead migration (also see Figure A-1 in Appendix A).

Table 3.2. Representative Soil Descriptions in the Proposed Project Area

Soil Unit Name	Soil Unit Symbol	Ksat	Runoff Class	pH	Acres	Percentage of Project Area
Acuff loam, 0 to 1 percent slopes	AcA	Moderately High	Negligible	7.2	56.8	37.9
Acuff loam, 1 to 3 percent slopes	AcB	Moderately High	Low	7.2	66.7	44.5
Estacado loam, 1 to 3 percent slopes	EsB	Moderately High	Low	8.2	3.7	2.5
Posey fine sandy loam, 3 to 8 percent slopes	PsC	High	Medium	8.0	22.8	15.2
Total					**150**	**100.0**

Source: Natural Resources Conservation Service (2019a). None of the soils are classified as hydric soils.

The strongest contributor to lead migration based on the above data is Ksat, which is moderately high to high for all soils (Natural Resources Conservation Service 2019a).

Vegetation and Invasive, Nonnative Species

The proposed project is within the High Plains: Llano Estacado ecoregion (Griffith et al. 2006). During the biological surveys, biologists identified one general vegetative community within the proposed project area: High Plains grasslands with interspersed subshrubs with a total groundcover of approximately 90%.

A list of plant species identified during the field surveys is provided in Table 3.3. No USFWS or State of New Mexico endangered or threatened plant species were observed in the project area.

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

Common Name	Scientific Name
Cuman ragweed	*Ambrosia psilostachya*
Wooton's threeawn*	*Aristida pansa*
Purple threeawn*	*Aristida purpurea*
Goldeneye sp.	Asteraceae
Thistle sp.	Asteraceae
Cane bluestem	*Bothriochloa barbinodis*
Australian beardgrass	*Bothriochloa bladhii*
Sideoats grama	*Bouteloua curtipendula*
Hairy grama*	*Bouteloua hirsuta*
Musk thistle	*Carduus nutans*
Feather fingergrass	*Chloris virgata*
Field bindweed	*Convolvulus arvensis*
Missouri gourd	*Cucurbita foetidissima*
Low woollygrass	*Dasyochloa pulchella*
Southwestern mock vervain	*Glandularia gooddingii*
Needle and thread grass*	*Hesperostipa comata*
Little barley	*Hordeum pusillum*
Bitter rubberweed	*Hymenoxys odorata*
Mint sp.	Lamiaceae
Sage sp.	*Salvia* sp.
Tanseyleaf tansyaster	*Machaeranthera tanacetifolia*
Alfalfa sp.	*Medicago sativa*
Dollarjoint pricklypear	*Opuntia chlorotica*
Mexican panicgrass	*Panicum hirticaule*
Woodhouse's bahia*	*Picradeniopsis woodhousei*
Prairie coneflower sp.	*Ratibida* sp.
Burrograss	*Scleropogon brevifolius*
Thread leaf ragwort	*Senecio flaccidus*
Silverleaf nightshade	*Solanum elaeagnifolium*
Scarlet globemallow	*Sphaeralcea coccinea*
Siberian elm	*Ulmus pumila*
Plains yucca	*Yucca campestris*
Rocky Mountain zinnia	*Zinnia grandiflora*

Note: Nomenclature follows the PLANTS Database (Natural Resources Conservation Service 2019b).

* Refers to dominant species within corresponding vegetative community

Noxious Weeds

Two State of New Mexico–listed noxious weeds species—musk thistle (Carduus nutans), a Class B noxious weed, and Siberian elm (Ulmus pumila), a Class C noxious weed (New Mexico Department of Agriculture 2016; U.S. Department of Agriculture 2019)—were observed during survey of the proposed project area.

RANGE FACILITIES AND DESIGN BMPS

The Clovis Wing-Shooting Complex and Archery Range design layout and facilities, as shown in Figure 2 and Figure 3, will include:

- Indoor multipurpose air gun and archery range
- Outdoor target archery range
- Trap/skeet overlay fields
- Sporting clays course
- Access road and parking areas
- Multipurpose 7,500-square-foot office building with classrooms, bathrooms, and the indoor range

For further detail on the operations, maintenance, safety, and emergency procedures for these facilities, SWCA has prepared a management plan for the Clovis Wing-Shooting Complex and Archery Range (SWCA 2019).

Indoor Multipurpose Air Gun and Archery Range

The indoor multipurpose air gun and archery range will be located within the office building to be constructed near the entrance to the shooting complex. See the management plan (SWCA 2019) for further details on this range facility.

No firearms would be discharged on the indoor range.

Design BMPs

- **Bullet Containment**: Lead pellets from air guns would be fired into range-provided target stands (targets will not be provided) and captured by a pellet trap and recycled.

Outdoor Target Archery Range

The outdoor archery range will be constructed to the west of the shooting complex entrance. Between five and eight archery positions would face north. See the management plan (SWCA 2019) for further details on this range facility.

Earthen impact berms would be constructed along the northern boundary of the range. The archery range is an area where the discharge of firearms expending lead ammunition will not occur. Because lead expenditure is not a concern in this area, there are no design BMPs associated with lead mitigation.

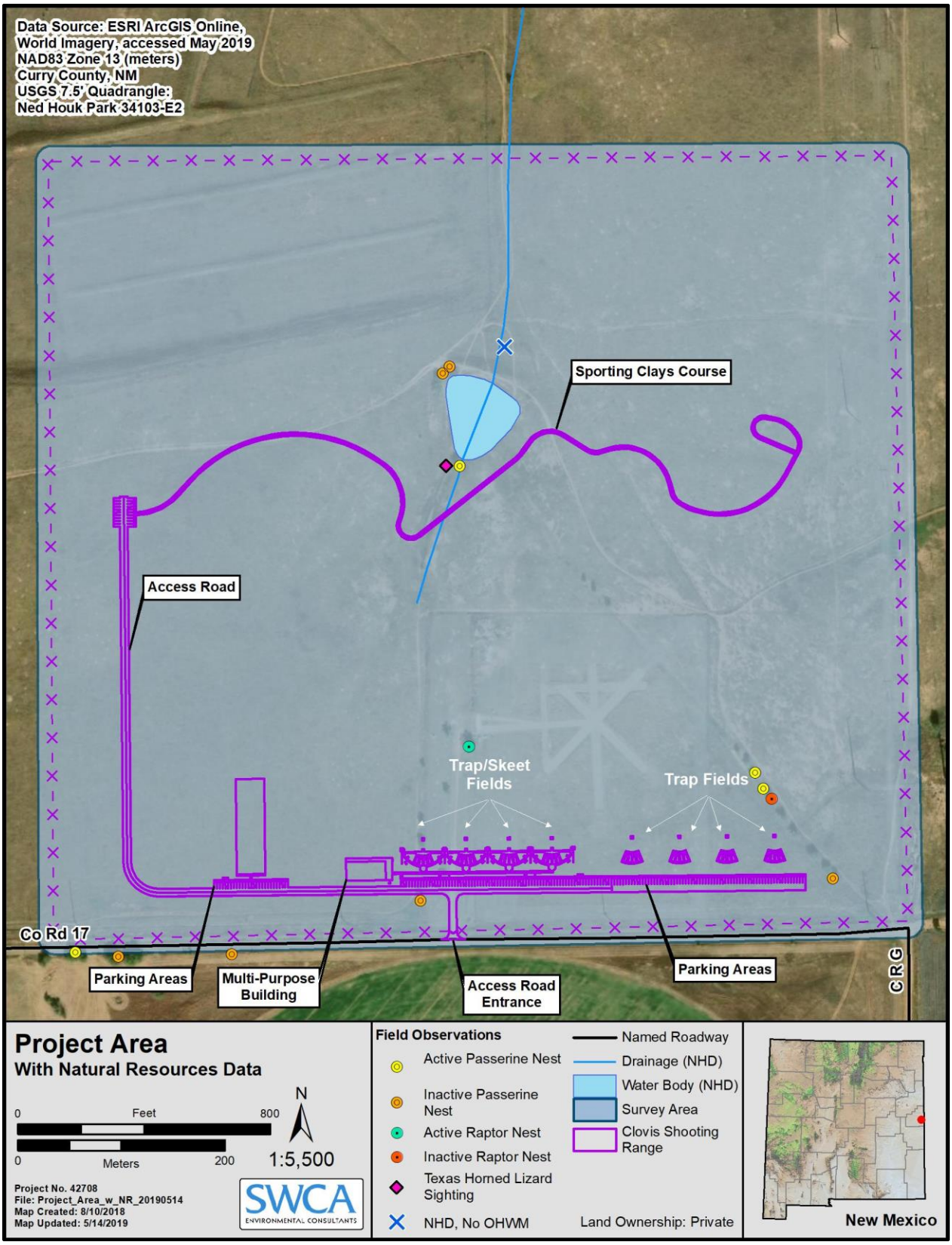

Figure 2. Proposed project with natural resources data.

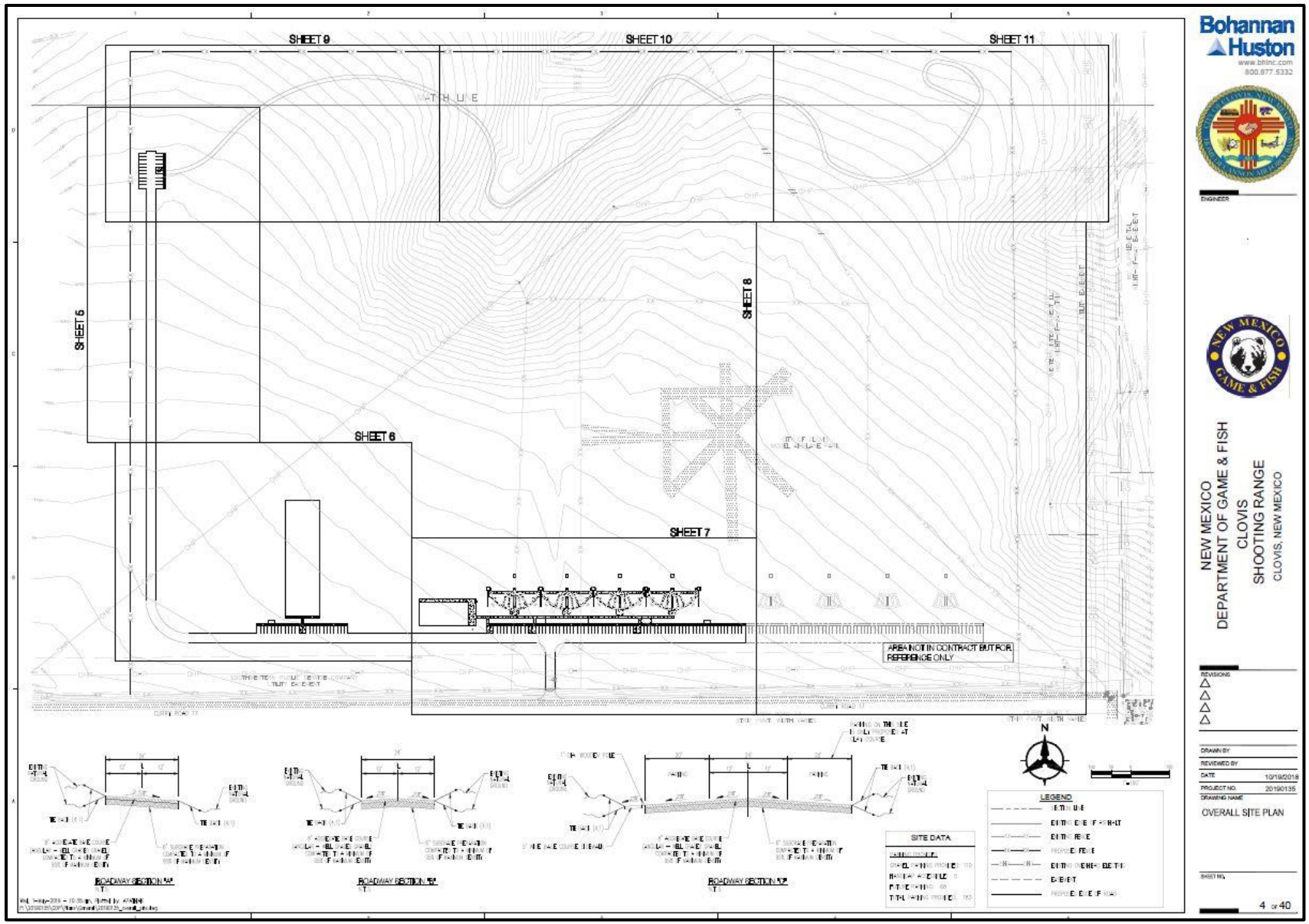

Figure 3. Shooting range conceptual site layout.

Trap/Skeet Overlay Fields

A series of trap/skeet overlay fields will be constructed near the office building. Four Amateur Trapshooting Association–regulated fields, each with five stations, will be overlaid by trap fields adhering to National Skeet Shooters Association regulations, each with eight stations. See the management plan (SWCA 2019) for further details on this range facility.

Design BMPs

- **Shot Containment**: The Theoretical Shotfall Zones (TSZs) associated with trap/skeet fields firing positions are a byproduct of the design and regulations set forth by the American Trap Association. This will result in overlapping heavily concentrated TSZs (Amateur Trapshooting Association 2017). The trap/skeet fields are designed to contain all shot within the boundaries of the shooting range.

- **Runoff Control:** The area currently contains approximately 90% ground cover. The vegetative cover minimizes erosion and the transport of sediment and lead in stormwater runoff. The trap/skeet fields are located in an area devoid of natural drainages on relatively flat ground. It is not anticipated that further stormwater controls will be needed

- **Monitoring and Maintaining Optimal Soil pH:** The pH of TSZ soils will be monitored annually and recorded in a Soil pH Monitoring Log (provided in Appendix B). Lime will be spread in areas where the pH is determined to be below 6.0 to maintain the optimal pH of the soil in order to minimize the degradation and migration of lead.

- **Lead Reclamation/Shot Recovery:** A professional lead reclamation company will be hired to remove lead from the TSZs of the trap/skeet fields. Reclamation will be conducted for every 1,000,000 targets thrown.

- **Record Keeping:** To aid in determining when lead reclamation is needed, records will be kept of the number of targets thrown at the range.

Sporting Clays Course

The 125-acre sporting clays course will be constructed north of the other facilities in the shooting complex. See the management plan (SWCA 2019) for further details on this range facility.

Design BMPs

- **Shot Containment**: The sporting clays course's TSZs will partially overlap with the trap/skeet field creating a large concentration of lead and aiding in reclamation efforts. The sporting clays course is designed to contain all shot within the boundaries of the shooting range.

- **Runoff Control:** The area currently contains approximately 90% ground cover. The vegetative cover minimizes erosion and the transport of sediment and lead in stormwater runoff. The course is located in an area devoid of natural drainages on relatively flat ground. It is not anticipated that further stormwater controls will be needed

- **Monitoring and Maintaining Optimal Soil pH:** The pH of TSZ soils will be monitored annually and recorded in a Soil pH Monitoring Log (provided in Appendix B). Lime will be spread in areas where the pH is determined to be below 6.0 to maintain the optimal pH of the soil in order to minimize the degradation and migration of lead.

- **Lead Reclamation/Shot Recovery:** A professional lead reclamation company will be hired to remove lead from the TSZs of the trap/skeet fields. Reclamation will be conducted for every 1,000,000 targets thrown.

- **Record Keeping:** To aid in determining when lead reclamation is needed, records will be kept of the number of targets thrown at the range.

ADDITIONAL DISCUSSION OF BEST MANAGEMENT PRACTICES

The details of the design BMPs described in the range facilities section are disussed further below. Additional BMPs are also discussed in detail which may be applied in the event that current BMPs no longer fit the need of the range. The following BMPs could be applied to the proposed project's access roads, parking areas, and firing ranges to further minimize the potential for lead migration into sensitive areas or off-site.

Control Runoff and Soil Erosion

BMP: Maintain Ground Cover at All Ranges

To prevent lead from migrating off-site, the velocity of stormwater runoff should be managed. Vegetation and organic ground covers can be used to effectively control runoff during rainfall by absorbing water and slowing the velocity of the flow. In doing so, these ground covers will also minimize soil erosion and the transport of sediment and lead in stormwater runoff.

To establish and maintain vegetative ground cover, a native seed mix that does not attract wildlife could be applied to all TSZs and after surface-disturbing activities occur. A grass seed mix provides the greatest benefit on ranges where sloped impact berms are used. In some areas, a drought-tolerant species may be preferred to reduce the amount of irrigation needed. In most cases, seeds will propagate where adequate growing conditions are present, and a single application of seed is sufficient. Periodic maintenance, such as the mowing of grasses, maintains the vegetative ground covers effectiveness. The TSZs within the shooting range should be inspected in the spring and fall for any bare areas and be reseeded accordingly.

In addition to or in areas where vegetative ground cover is problematic, organic ground covers can be used. Mulches and composts will reduce the amount of water that come in contact with lead fragments. These organic groundcovers also contain hermic acid, which is a natural lead chelating agent. In order to be effective, mulches and compost must be laid at a minimum of 2 inches thick. Organic ground covers should be used with caution on soils that already have a low pH. Spreading lime can be done to mitigate this side effect.

BMP: Engineered Runoff Controls

In areas where stormwater runoff velocity is high or areas directly adjacent to surface water features, engineered or "hard" runoff controls can be useful. There are many types of hard runoff controls. Containment traps or detention ponds and dams and dikes are the most feasible and applicable choices for the environmental setting at the proposed project.

Containment traps or detention ponds can be used in areas where high-velocity drainage paths occur during rainfall events. These depressions will trap any lead fragments moving through. After they have settled they can easily be removed for recycling.

Earthen dams and dikes can be used most effectively at shotgun ranges and are the most important runoff controls in areas where surface water features on-site and off-site are directly downgradient from lead accumulation areas. These earthen dams and dikes are approximately 1-foot-high mounds that traverse the entire length of the range perpendicular to the stormwater runoff direction, slowing the runoff velocity and reducing the amount of lead transported in runoff.

Immobilizing Lead

BMP: Monitor and Adjust pH at all Ranges

Acidic soils degrade lead, allowing it to move into the subsurface and creating the potential for it to be transported off-site with runoff water and sediment. The optimal soil pH for minimizing lead solubility and preventing the migration of lead through the soil column into underlying groundwater is between 6.5 to 8.5 (EPA 2005). The soil pH should be tested on TSZs. Lime should be spread on any areas where the soil pH is determined to be below 6.0. Spreading lime neutralizes acidic soils, raising the pH of the top soil layer to the optimal zone, which minimizes its potential to degrade lead fragments. To maintain optimal soil pH, the EPA recommends annual soil monitoring and amending due to the decreased effectiveness of lime on soil pH over time. Results of the soil monitoring should be recorded on a Soil pH Monitoring Log (provided in Appendix B).

This BMP is low in cost and requires minimal equipment to apply. Lime can be applied using common supplies and equipment available at most home and garden stores. The EPA (2005:III-6) states "spreading bags of 50 pounds (at ranges with sandy soils) or 100 pounds (at ranges with clayey soils) per 1,000 square feet of range will raise the pH approximately one pH unit for a period of between one and four years, respectively."

Interim Lead Reclamation/shot Recovery

BMP: Monitoring Rounds Fired or targets thrown and Lead Removal

All lead recovery activities will be conducted by a qualified contractor only. Lead removal is the most effective method at minimizing lead migration. Lead removal activities may include hand raking and sifting, screening, vacuuming, or soil washing. Frequency of lead removal can be determined by a number of factors, such as the annual precipitation in the region and the type of soils at the range facility. Spent shot may be allowed to accumulate in areas with very little precipitation and alkaline soils, before removal is required. Other factors that determine the frequency of lead removal include the number of rounds fired, soil type, and depth to groundwater.

Logs may be kept at the range to record the quantity and type of rounds fired or number of targets thrown. This information is vital when working with a professional lead reclamation company. These data will be used to monitor the amount of lead that is deposited within each range over time and determine the frequency of lead removal activities.

Most lead reclamation companies suggest going by the number of shots fired (EPA 2005). Shotgun pattern ranges should log the total number of targets thrown and reclaim after 500,000-1,000,000 targets have been thrown (EPA 2005). The National Rifle Association of America (NRA) recommends a frequency of at least every 5 years, even on ranges of minimal use (NRA 1991).

Another method of preventing lead contamination is to use steel, tungsten, or other lead-free ammunition. The 2005 EPA document provides information on lead shot alternatives that may be used.

BEST MANAGEMENT PRACTICE SELECTION AND AMENDMENTS

The additional BMPs not listed as design BMPs are for discussion purposes only. The City of Clovis and ENMRM may select additional BMPs based on the stewardship goals of the ESP, benefits provided, and current availability of funds. The design BMPs selected address the most pressing concerns, and initiate management practices that would create longer-term environmental benefits. If the City of Clovis identifies additional BMPs or intends to modify current BMPs to better address the environmental goals

listed in this ESP, an updated list of BMPs will be provided to the lead agency (the U.S. Fish and Wildlife Service).

FINAL RECLAMATION STEPS

If and when the City of Clovis decides the shooting range's useful life is complete, the subject parcel would be reclaimed. This reclamation consists of the following general steps.

- Closure reclamation of shotgun pattern fields
  - The TSZs would be cleared of all shot debris.
  - Lead will be recovered in areas where concentrations are detected.
  - Any disturbed areas associated with the shooting range will be revegetated using a native seed mix.
- Closure reclamation for the archery ranges
  - Berms would be flattened, and top soils redistributed; any disturbed areas would be revegetated with native seed mix.
- Range infrastructure
  - If other uses are identified for the structures, these would be retained for a future use.
  - If no other uses are identified, the structures would be dismantled and moved to a permitted disposal facility.

CONCLUSIONS

The proposed project was assessed through on-site surveys and operational information provided by SWCA and Bohannan Huston Inc. (BHI). Design BMPs listed in Section 4, Range Facilities and Design BMPs, of this ESP will be implemented to meet the environmental goals outlined in Section 2, Purpose, above. The additional BMPs listed in Section 5 above could be implemented to further meet those environmental goals. The BMPs described in this ESP should ensure successful long-term management of lead at the shooting range.

Long-term success will be monitored through accurate records documenting the use and effectiveness of implemented BMPs. Appropriate records that may help inform BMP success include range inspection logs, soil monitoring logs, lead removal logs, and rounds fired/targets thrown logs. Examples of such logs are given in Appendix B. The City of Clovis and ENMRM implement the design features discussed in Section 4 at the commencement of range construction and operations. Additional BMPs would be utilized if it was that current design features are inadequate. This ESP will be reviewed by range managers and updated as changes in site conditions occur.

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Appendix A

Natural Resources Conservation Service Soils Map

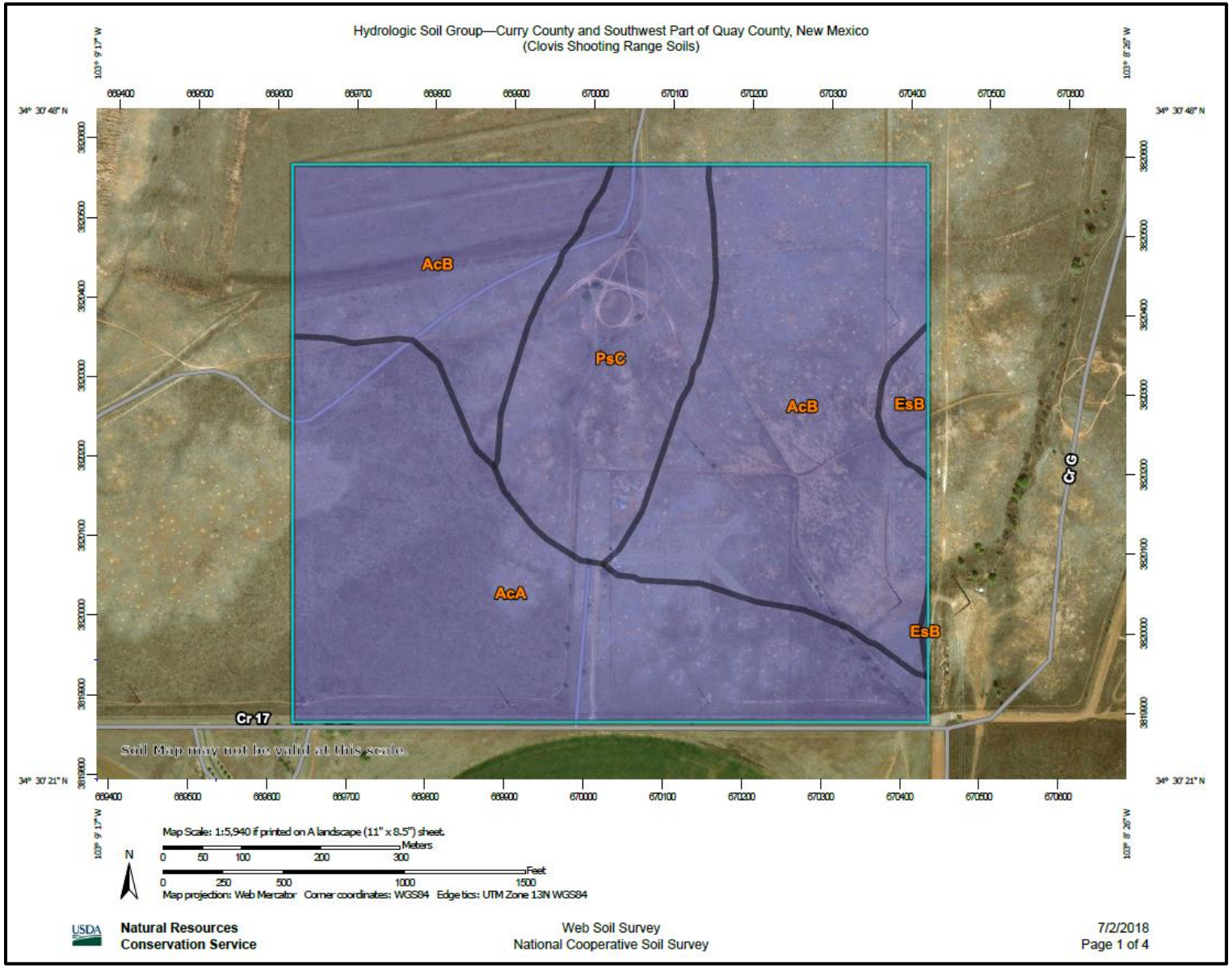

Figure A.1. NRCS soils map of the project area.

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Appendix B

Lead Management Forms

CLOVIS WING-SHOOTING COMPLEX AND ARCHERY RANGE

Soil pH Monitoring Log

Date	Range	Floor pH	Berm pH	Initials

CLOVIS WING-SHOOTING COMPLEX AND ARCHERY RANGE

Lead Removal and Recycling: Bullet Removal Log

Date	Range	Pounds Removed	Recycling Method	Initials