

NATURAL FEATURES REPORT

Pine View Estates

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Prepared by:

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EXECUTIVE SUMMARY

Mark Owens, Secretary of the Interior-Qualified Archaeologist and Cultural Resources Specialist prepared this natural features report for Alice Jolene Owens for the proposed Pine View Estates subdivision in northern El Paso County, Colorado. Assessed in this report are potential wetlands and waters of the U.S., natural landscape features, threatened and endangered species, and wildlife.

Human-derived cultural formation processes have left their mark on the land found in the proposed project area. Tree harvesting, farming, and erosion control activities have heavily impacted and disturbed the modern ground surface and the vegetation community is now a mix of natural and introduced species. No wetlands occur in the proposed subdivision area and no species recommended either federally or by the State of Colorado as threatened or endangered are present. The primary future construction consideration is the protection of migratory bird ground nests and habitat between April and August of each year.

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Acronyms and Abbreviations

%	percent
ac	acre
ft	feet
m	meters
mi	mile
PLSS	Public Land Survey System
PVE	Pine View Estates
WGS	World Geodetic System
E	East
N	North
R	Range
S	South
T	Township
W	West

Note: Directional abbreviations are often combined. For example: NE is Northeast.

INTRODUCTION

Mark Owens, Secretary of the Interior-Qualified Archaeologist and Cultural Resources Specialist prepared this report for Alice Jolene Owens for the proposed Pine View Estates (PVE) subdivision in northern El Paso County, Colorado (Figure 1). Throughout August, September, and October of 2019, Mr. Owens visited the project area to assess the quantity and nature of the site's natural resources. During the multiple field visits to the proposed subdivision site, project activities included pedestrian surveys to identify and delineate natural and man-made features, wetlands, potential federally threatened and endangered species habitat, and the identification of other natural resources that might be affected by project activities. This report provides descriptive and evaluative information on the results of the site visits and natural resource assessments.

PVE AREA DESCRIPTION AND FIELD ASSESSMENTS

The proposed PVE subdivision is in Section 13, Township 11 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The Public Land Survey System (PLSS) legal location is the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of the Section (Figure 2). The UTM coordinates of the approximate center of the project area are 542114mE and 4327466mN, Zone 13N, WGS (World Geodetic System) 1984. The latitude/longitude of the project area is 104.304678° and 39.054310°W. The property slopes from SW to NE with an approximate median elevation of 7,310 feet (ft) or 2,228 meters (m). The proposed PVE subdivision is located approximately 1/10-mile (mi) west of Ranch Hand Road and is accessed from the east edge of the parcel at a previously established cul-de-sac at the end of Red Barn Road (Figure 3).

Cultural Environment

The proposed subdivision is slightly less than 40 acres (ac) and has been used for the past 20 years as a horse pasture. Vegetation consists primarily of introduced rangeland grasses. Between approximately 1995 and 2005, various tree-moving companies harvested smaller ponderosa pine (*Pinus ponderosa*) trees for off-site landscaping projects. As the empty holes from the tree removal activities were in-filled by the tree moving companies, non-local plant species such as cedar trees (*Cedrus* sp.) were introduced to the land (Figure 4).

The PVE was part of a larger Owens family ranching and farming operation between the 1960s and 1990s. Though the proposed subdivision area was historically used as rangeland for cattle, the area was also farmed intensively in the 1960s and early 1970s. Crops such as wheat and millet were planted for cattle forage and smooth brome (*Bromus inermis*) was later planted for hay.

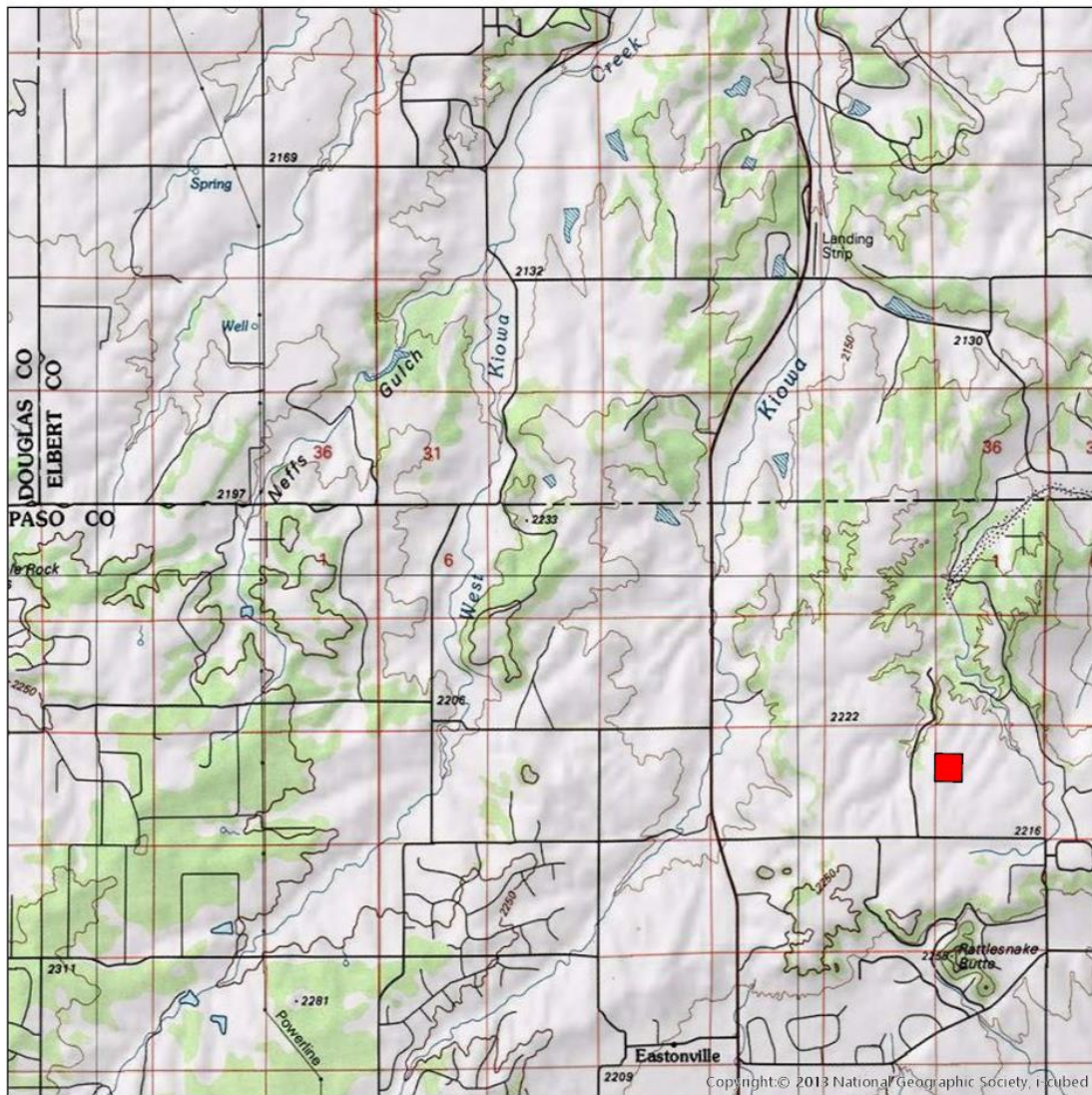
Prior to the Owens' ownership of the land, the Aubuchon family ranched and farmed the area of the proposed subdivision. A series of linear erosion-control structures and a stock pond were established by the Aubuchon family and all remain visible on the land today (Figure 5).

Natural Environment

The land is covered by small pine trees and brome grass (Figure 6). Also present are fringed sage (*Artemisia frigida*), flowering plants of the Asteraceae family (Asteraceae sp.), Chenopods (Amaranthaceae sp.), wheatgrass (*Agropyron cristatum*), mullein (*Verbascum thapsus*), Canadian thistle (*Cirsium arvense*), and blue grama (*Boutelous gracilis*) (Figures 7 and 8). The PVE is situated on top of the Palmer Divide and the ground surface is composed largely of the culturally mixed Brussett, Peyton, and Pring soil associations (University of California-Davis 2019).

Pine View Estates Location Map

1:78,700 Scale



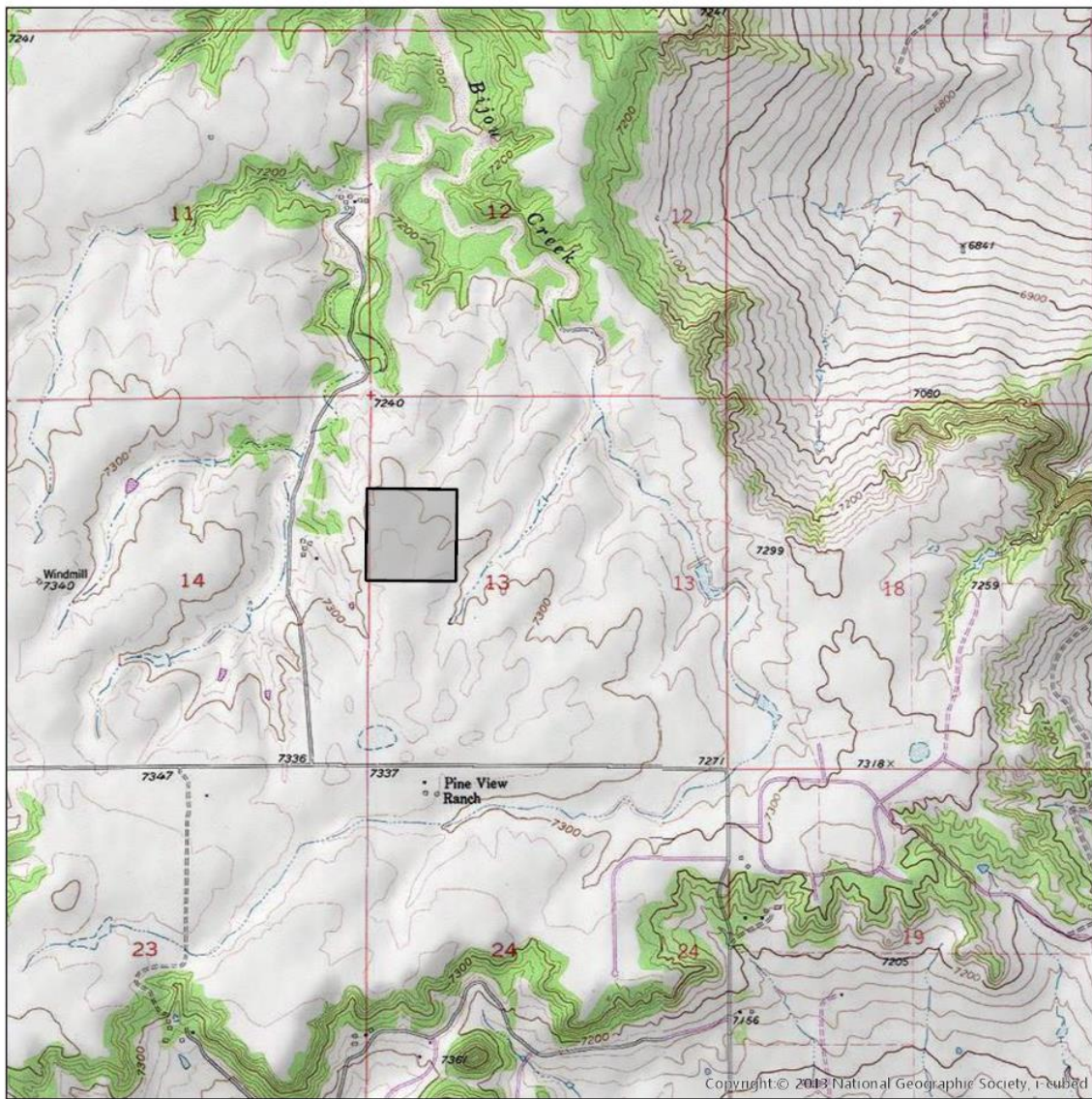
0.6 0.3 0 0.6 1.2 1.8 2.4
Miles

Pine View Estates Site

Figure 1 Map showing the location of the proposed PVE subdivision in El Paso County, Colorado.

Pine View Estates PLSS Location Map

1:24,000 Scale




 Pine View Estates Site

Figure 2 Map showing the PLSS location of the proposed PVE subdivision in USGS topo format.

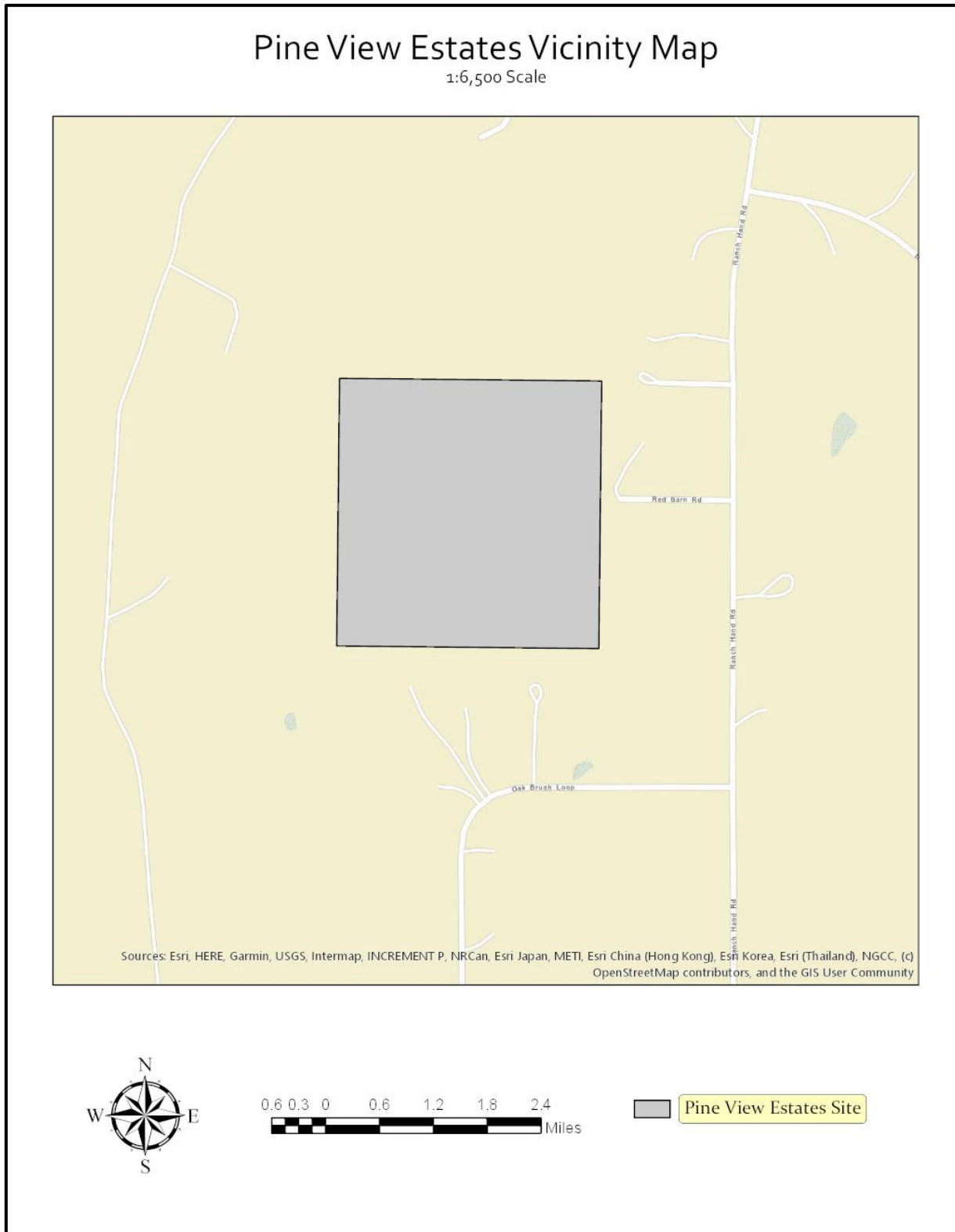


Figure 3. Map showing the location of the proposed PVE subdivision and local roads.



Figure 4 Photograph showing one of the introduced cedar trees on PVE.

Wetlands and Waters of the United States

Wetlands are transitional lands found between terrestrial and aquatic systems where the water table is usually at or near the modern ground surface or the land is covered by shallow water. Wetlands are typically found in and around streams, rivers, springs, ponds, and man-made drainage features. Riparian areas are often a subset of wetlands areas and are associated with ponds and streams that support a variety of vegetation not typically found in dry climates such as Colorado.

Following 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation definition, wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands protected by the Clean Water Act [CWA] must meet three wetland delineation criteria: (1) a prevalence of wetland-associated vegetation, (2) hydric (wetland-type) soils, and (3) wetland hydrology.

All areas of the PVE were assessed for the presence of wetlands. Brussett, Peyton, and Pring soils are aridic or xeric in nature and not wetland-type soils. Pedestrian surveys of the erosion control features and stock pond in fall of 2019 also failed to locate riparian plants (Figures 9 and 10) and there are no springs or streams on the Owens property. During the summer monsoon the erosional features and pond hold water temporarily, but they remain dry for most of the year and wetland plants have never become established. In fact, the plants in the vicinity of the water-control features remain compositionally and proportionally the same as the plants found throughout the property.

Pine View Estates Disturbances Map

1:2,500 Scale




 Pine View Estates Site

Figure 5. Photograph showing erosion control structures



Figure 6. Photographs showing pine trees and brome grasses on PVE land in 2019.



Figure 7. Close up photograph showing fringed sage and grasses.



Figure 8. Close up photograph showing Asteraceae plant.



Figure 9. Photograph showing plants in area of erosion control features.



Figure 10. Photograph showing plants in area of stock pond.

Threatened, Endangered, and Candidate Species

Threatened and endangered species are federally protected plants and animals that are in danger of becoming extinct because of specialized habitat needs or a loss of habitat. The Federal Endangered Species Act (ESA) of 1973 protects such species from actions that would adversely impact them, including “taking,” defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The ESA also prohibits adverse impacts to the habitat of listed species. Though Colorado State Statute 33 has no specific habitat protection clause, it also prohibits the take, possession and sale of a state-listed threatened or endangered species. There are 34 species with the potential to be found in El Paso County, Colorado that are classified as threatened, endangered, or candidate species by the State of Colorado or the federal government (Table 1).

All areas of the PVE were surveyed for the presence of threatened, endangered or candidate species. The PVE area is not suitable habitat for fish or mammal species of concern or those species considered to be threatened or endangered. Ten State of Colorado special species of concern – four birds, two mammals, two plants, and two reptiles – have the potential to occupy the land found within the PVE. However, during the several pedestrian surveys for the proposed subdivision, none of the species of concern were observed. In large part, this is because there is no permanent water in the area of the proposed subdivision. Other factors helping to exclude these species include the thick density and height of the plant cover and the fact that the top of the Palmer Divide is not a true eastern Colorado Prairie environment.

Other Wildlife

At the time of the PVE surveys, observed animal species included mule deer (*Odocoileus hemionus*) and prairie birds such as the Western bluebird (*Sialia mexicana*), vesper sparrow (*Pooecetes gramineus*), and western meadowlark (*Sturnella neglecta*). No bird nests were observed in the pine trees or grasslands. The trees on the proposed PVE subdivision are small enough that seasonal raptor nesting does not occur.

However, the land within the proposed subdivision does have the potential to provide nesting habitat for migratory birds. The PVE is located within the Central Flyway, which extends from Canada to the Gulf of Mexico. The western boundary of the flyway follows closely the eastern base of the Rocky Mountains. Lacking surface water for most of the year, the proposed subdivision components will not impact the migration of waterfowl.

Regarding migratory ground birds, the general migratory bird nesting season extends from April through August near the Palmer Divide (U.S. Fish and Wildlife Service 2011). In consideration of the provisions of the Migratory Bird Treaty Act (MBTA), it is recommended that subdivision construction activities are not undertaken until the nesting and fledging process is complete. If construction activities are slated to occur between April and August, it is recommended that a nest survey be conducted prior to construction so that active nests can be avoided and protected.

Table 1. State of Colorado and Federally Threatened, Endangered, and Candidate Species Potentially found in El Paso County, Colorado.

Species		Status *		Habitat	PVE Habitat
Common Name	Scientific Name	Federal	Colorado		
Fish					
Arkansas darter	<i>Etheostoma cragini</i>	C	T	Spring-fed streams, stream channels, and pools near shorelines	None
Brassy minnow	<i>Hybognathus hankinsoni</i>	-	ST	Cool, clear water with abundant aquatic vegetation	None
Common shiner	<i>Luxilus cornutus</i>	-	ST	Moderate gradient streams	None
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	T	T	Flowing cold water stream systems	None
Iowa Darter	<i>Etheostoma exile</i>	-	SC	Cool, clear water over sand or organic matter	None
Pallid sturgeon	<i>Scaphirhynchus albus</i>	E	-	Large, turbid, free-flowing rivers	None
Plains minnow	<i>Hybognathus placitus</i>	-	SE	Eastern Plains rivers	None
Stonecat	<i>Noturus flavus</i>	-	SC	Fast water riffles and runs of streams	None
Suckermouth minnow	<i>Phenacobius flavus</i>	-	SE	Deeper habitats in rivers and streams	None
Plants					
American currant	<i>Ribes americanum</i>	C	-	Steam banks, moist ravines, wet meadows, floodplains	None
Rocky Mountain blazing star	<i>Liatris ligulistylis</i>	-	SC	Rocky woods, rocky slopes, mesic prairies, moist meadows, gravelly stream banks	None

Slender moonwort	<i>Botrychium lineare</i>	-	SC	Closed forest understories, open grasslands, disturbed roadsides	Potential, not observed during survey
Streaked ragweed	<i>Ambrosia lineris</i>	-	SC	Playa lakes and disturbed roadsides	Potential, not observed during survey
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	-	SC	Moist to wet alluvial meadows or other riparian areas to 6,500 ft in elev.	None
Western prairie fringed orchid	<i>Spiranthes diluvialis</i>	-	SC	Mesic and wet prairies, sedge meadows	None
Birds					
American peregrine falcon	<i>Falco peregrinus anatum</i>	-	SC	Wide open spaces	Potential, not observed during survey
Bald Eagle	<i>Haliaeetus</i>	-	SC	Open water and rivers, large trees for nesting and roosting	None
Burrowing Owl	<i>Athene cunicularia</i>	-	ST	Open prairies and prairie dog colonies	None
Ferruginous hawk	<i>Buteo regalis</i>	-	SC	Open grasslands and shrub/ steppe communities	Potential, not observed during survey
Greater sandhill crane	<i>Grus canadensis tabida</i>	-	SC	Eastern Colorado	Potential, not observed during survey
Least tern (interior population)	<i>Sternula antillarum</i>	E	E	Sandy/Pebble beaches on lakes, reservoirs, and rivers	None
Long billed curlew	<i>Numenius americanus</i>	-	SC	Southeastern Colorado	Potential, not observed during survey
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	T	Closed canopy forests in steep canyons	None
Mountain plover	<i>Charadrius montanus</i>	-	SC	Dry and flat short grass prairie	None

Piping plover	<i>Charadrius melodus</i>	T	T	Sandy lakeshore beaches and river sandbars	None
Western snowy plover	<i>Charadrius alexandrinus</i>	-	SC	Southeastern Colorado	None
Whooping crane	<i>Grus Americana</i>	E	E	Mudflats around reservoirs and in agricultural areas	None
Mammals					
Black-footed ferret	<i>Mustela nigripes</i>	E	E	Prairie habitat, close to prairie dog colonies	None
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	-	SC	Eastern plains and urban areas	Potential, not observed during survey
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T	T	Shrub riparian wet meadows	None
Swift fox	<i>Vulpes velox</i>	-	SC	Eastern Colorado	Potential, not observed during survey
Canada lynx	<i>Lynx canadensis</i>	T	-	Boreal and subalpine forest	None
Amphibians and Reptiles					
Common garter snake	<i>Thamnophis sirtalis</i>	-	SC	Front Range in wetlands and ponds	Potential, not observed during survey
Northern leopard frog	<i>Rana pipiens</i>	-	SC	Eastern Colorado wetlands	Potential, not observed during survey

C – Candidate

E- Endangered

T- Threatened

SC – State of Colorado Concern

ST – Colorado State Threatened

SE – Colorado State

Endangered

CONCLUSIONS

The results of the site inspections during the late summer and fall of 2019 indicate that there are no unique natural features on the land within the proposed PVE site. The cultural formation processes of tree harvesting, farming, grazing, and erosion control feature construction have impacted and disturbed the modern ground surface. The vegetative community manifests as a mix of natural and introduced species with invasives such as brome, thistle, and cedar trees found among the pine trees and grama grasses. Given the generally dry environment and high elevation of the land at the PVE site, there are no wetlands. In addition, there are no federal or State of Colorado threatened or endangered species that make their permanent home at the site

The primary future construction consideration relates to the MBTA. It is the recommendation of this researcher that a nest survey be conducted, and all active nests protected, should construction occur between April and August, the migratory bird ground nesting season.

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