

CTL | THOMPSON

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NATURAL RESOURCES EVALUATION

MARIAH TRAIL FILING 1
MARIAH TRAIL AND THUNDER ROAD WAY
EL PASO COUNTY, COLORADO

Prepared for:

ATWELL, LLC
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Attention: Mr. Richie Lyon

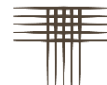
Project No. CS19,687.000-240-R1

May 2, 2023



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TERMS

ACOE – Army Corps of Engineers

BGEPA – Bald and Golden Eagle Protection Act

CHS – Colorado Historical Society

CPW – Colorado Parks and Wildlife

CWA – Clean Water Act

ESA – Endangered Species Act

Federally Endangered/Threatened Species – Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future.

FEMA – Federal Emergency Management Agency

IPaC – Information for Planning and Consultation

Jurisdictional WOTUS– Waters that are "jurisdictional" are subject to the multiple regulatory requirements of the Clean Water Act by the US Army Corps of Engineers. Non-jurisdictional waters are not subject to those requirements.

MBTA – Migratory Bird Treaty Act

NFHL – National Flood Hazard Layer

NHD – National Hydrology Dataset

NHPA – National Historic Preservation Act

PMJM – Preble's meadow jumping mouse

State Endangered/Threatened Species – A species that is considered Endangered or Threatened by State legislature. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range throughout the state. "Threatened" means a species is likely to become endangered within the foreseeable future.

'Take' – According to the Endangered Species Act, 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

WOTUS – Waters of the U.S.



1.0 INTRODUCTION

Atwell, LLC contracted CTL | Thompson, Inc. (CTL) to perform a Biological Assessment and Cultural Records Review for the Property known as Mariah Trail, Filing No. 1 (the Subject Property).

**TABLE I
LOCATION AND LEGAL DESCRIPTION**

Descriptor	Description
<i>Location</i>	Mariah Trail and Thunder Road Way, El Paso County, Colorado 80908
<i>Township and Range</i>	Northwest ¼ of Section 7, Township 11 South, Range 65 West of the 6th Principal Meridian
<i>USGS Quadrangle</i>	Castle Rock
<i>Parcel Number</i>	5100000511
<i>Legal Description (Abbreviated)</i>	A TR OF LAND BEING IN A PORTION OF LOT 1 SEC 7-11-65 DESC AS FOLS: BEG AT THE NW COR OF SD LOT 1, TH N89-57-46E 1488.29 FT, TH S15-11-17W 501.94 FT, TH S40-55-52W 1114.98 FT, TH S89-53-43W 627.21 FT, TH N00-02-20E 1326.99 FT TO POB.
<i>Current Use</i>	Vacant land
<i>Total Land Area</i>	35 acres
<i>Ownership</i>	Thomas D Kirk Jr.

We evaluated the Subject Property for:

- The presence of jurisdictional wetlands;
- The presence of threatened or endangered species;
- The presence of endangered or threatened species critical habitat; and,
- The presence of registered archeological and/or historic sites.

On April 25, 2023, Ms. Christine Whitacre conducted a site visit. Subject Property conditions consisted of temperatures in the low 50s, cloud cover of approximately 30% and winds of approximately one to three (1-3) miles per hour (mph). Photographic documentation is presented in **Appendix A**. During this visit, Ms. Whitacre collected specific information about the Subject Property's physical features, vegetation, hydrology, soil conditions, and



surrounding environmental conditions. This information is required to evaluate aquatic and biological components of the Subject Property. CTL searched publicly available literature on federal, state and local websites, and contacted local historical officials regarding the Subject Property, which are outlined in the **References** section of this letter report.

1.1 Summary of Site Historical Use

Historical research indicates that the Subject Property was primarily vacant land from at least the late 1930s. The Subject Property location and plan are shown on Figure 1.

1.2 Existing Conditions

The Subject Property consists of approximately 35 acres. The EPA's Region 8 Ecoregion Map classifies the Subject Property as southwestern tablelands.

The majority of the Property is vegetated with native and non-native prairie species such as crested wheatgrass (*Agropyron cristatum*), hairy false goldenaster (*Heterotheca villosa*), and miner's candle (*Oreocary virgata*).

A photographic record of our site reconnaissance is presented in **Appendix A**.

2.0 AQUATIC RESOURCE ASSESSMENT

The following subsections discuss our research and onsite assessment of Waters of the U.S., wetlands, and FEMA floodplains on the Subject Property and/or in connection with the Subject Property.

2.1 Waters of the U.S.

The Clean Water Act was passed by the U.S. Congress in 1971 to protect the physical, biological, and chemical quality of "Waters of the U.S." The U.S. Army Corps of Engineers (Corps) Regulatory Program administers and enforces Section 404 of the Clean Water Act.



Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and Waters of the U.S. The Corps defines Waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

The Corps will assert jurisdiction over non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months). The Corps will assert jurisdiction over those adjacent wetlands that have continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The Corps will assert jurisdiction over non-navigable water, defined as not relatively permanent tributaries and their adjacent wetlands, as long as such tributaries and wetlands have a significant nexus to traditional navigable waters. Significant nexus includes consideration of hydraulic factors including the following:

- Volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary;
- Proximity to the traditional navigable water;
- Size of the watershed;
- Average annual rainfall; and,
- Average annual winter snow pack.

Finally, the Corps has indicated the following geographic features generally are not jurisdictional waters:

- Swales or erosion control features (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

During our site visit on April 25, 2023, we did not observe Waters of the U.S. on or adjacent to the Subject Property.



2.2 Wetlands

Wetlands are defined by the Corps as those areas that are inundated or saturated by surface or ground water 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. To meet the classification, a wetland must show evidence of a minimum of one positive wetland indicator from each parameter of hydrology, soil, and vegetation. Each must be found in order to make a positive wetland determination. Delineated wetlands that are determined as jurisdictional by the Corps are regulated and proper care must be taken to protect them during development. If the disturbance and/or development of a jurisdictional wetland cannot be avoided, the Corps may approve mitigation. Mitigation may include the construction of a new wetland to replace the former wetland, either on or off the Site. Guidelines for the mitigation of new wetlands are outlined in the U.S. Army Corps of Engineers Standard Operating Procedures for the Regulatory Program.

During our site visit, we did not observe wetlands on or adjacent to the Subject Property.

The U.S. Fish and Wildlife Service (USFWS) defines wetlands as lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface, or the land is covered by shallow water. For the purpose of this classification, wetlands must have at least one of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of the year.

CTL|T used a USFWS National Wetland Inventory Map as an aid to help determine the location of wetlands that might be present at the Subject Property. The map, included in **Appendix B**, does not indicate the presence of wetlands on or adjacent to the Property.



2.3 FEMA Floodplains

The Federal Emergency Management Agency (FEMA) provides Flood Insurance Risk Maps (FIRMs), which display floodplains (also referred to as flood zones) and define floodplains based on the annual chance of flooding over a designated period of time. Floodplains may provide critical habitat for State and/or Federal protected species. FEMA also provides locations of regulatory floodways, which must be reserved in order to discharge the base flood of an area without cumulatively increasing the water surface elevation more than a designated height. FEMA requires hydrologic and hydraulic analyses that demonstrate that the proposed development of a regulatory floodway would not result in any increase of flood levels.

We researched the FEMA National Flood Hazard Layer (NFHL) map for floodplains on the Property. The FEMA NFHL indicated the Property as an area of minimal flood hazard. Floodplains were not indicated on or adjacent to the Subject Property. The FEMA NFHL is presented in **Appendix C**.

3.0 BIOLOGICAL RESOURCE ASSESSMENT

The following subsections discuss our assessment of critical habitat or potential habitat of State and Federal protected species, as well as other species of concern, on the Subject Property and/or in connection with the Subject Property.

3.1 Federally Threatened, Endangered, and Candidate Species

The Subject Property was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife (USFWS) under Section 7 or 10 of the Endangered Species Act (ESA). The service lists six threatened or endangered species with potential habitat in El Paso County (USFWS 2022). Table II lists common and scientific names and the status of the species.



TABLE II
Federally Threatened, Endangered, and Candidate Species

COMMON NAME	SCIENTIFIC NAME	STATUS	Determination
Black-Footed Ferret	<i>Mustela nigripes</i>	Endangered	No Impact
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Threatened	No Impact
Piping Plover	<i>Charadrius melodus</i>	Threatened	No Impact
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	Threatened	No Impact
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened	No Impact
Whooping Crane	<i>Grus americanus</i>	Endangered	No Impact

The black-footed ferret (*Mustela nigripes*) is usually found on shortgrass and midgrass prairies and in close association with prairie dogs. There are six reintroduction sites in Colorado. Attempts to reintroduce the ferret to Colorado have been difficult, as they do not migrate well to expand their population. Black-footed ferrets rely primarily on prairie dogs for food, and abandoned prairie dog burrows provide their preferred dens to raise their young. The Subject Property is approximately 40 miles north of the nearest black-footed ferret reintroduction site. Additionally, we did not observe prairie dog colonies on or adjacent to the Subject Property, indicating lack of habitat for this species. In our professional opinion, development of the Property will not impact the black footed ferret.

The Mexican spotted owl (*Strix occidentalis lucida*) is a large bird that nests and roosts on cliff ledges or in caves in canyons with dense stands of mature mixed-conifer, pine-oak and riparian forests. An adequate habitat includes large trees, uneven aged tree stands, multi-storied canopy, standing dead trees, and a tree canopy creating shade over 40 percent or more of the ground with some type of water source available. According to USFWS data, the Subject Property does not contain critical habitat for this species. In our professional opinion, development of the Subject Property will not impact the Mexican spotted owl.

The piping plover (*Charadrius melodus*), and the whooping crane (*Grus americanus*) are species that are affected by impacts to waterways and lakes. Piping plover typically reside along open shorelines of creeks, lakes, and rivers. Whooping crane breed and nest in wetland habitat where bulrush, cattail, are the dominant vegetation type. There are no large bodies of water with wetlands or sandy shorelines present on the Subject Property, thus there is no



suitable habitat for these species. We do not believe the development of the Subject Property will adversely impact these bird species.

The Preble's meadow jumping mouse (*Zapus hudsonius preblei*), referred to as PMJM, is a species that is typically located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. The mice prefer well developed riparian habitat with adjacent, relatively undisturbed grassland communities and a nearby water source. Their nests are composed of plant material and are generally located aboveground at the base of shrubs and trees or in open grasslands. The Subject Property was assessed for potential Preble's meadow jumping mouse habitat. We do not believe the Subject Property contains the necessary habitat to support habitat for this species. We do not believe development of the Subject Property will negatively impact this species.

The Ute ladies'-tresses orchid (*Spiranthes diluvialis*) typically occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of Ute ladies'-tresses have been documented in Colorado, Wyoming, Idaho, Nevada, and Utah. The populations in Colorado mostly occur along the Front Range. The Subject Property was assessed for potential Ute ladies'-tresses habitat. According to the FEMA NFHL there are no floodplains of perennial streams located on the Subject Property, indicating a lack of habitat for this species. It is our professional opinion that development of the Subject Property will not adversely affect this species.

3.2 State Threatened, Endangered, and Candidate Species

The project area was assessed for potential habitat for threatened, endangered, and candidate species and critical habitat designated by Colorado Parks and Wildlife (CPW). Colorado's State Wildlife Action Plan (SWAP) articulates a set of conservation priorities that considers an expansive array of wildlife from a statewide perspective. According to the SWAP plan, the Tier 1 list represents the species of highest conservation priority in the State, while Tier 2 species remain important in light of forestalling population trends or habitat conditions that may lead to a threatened or endangered listing status.



TABLE III
State Threatened, Endangered, and Candidate Species

Common Name	Scientific Name	Status	Determination
Black-Tailed Prairie Dog	<i>Cynomys ludovicianus</i>	Tier 2	No Impact
Burrowing Owl	<i>Athene cunicularia</i>	Tier 1	No Impact
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	Tier 1	No Impact
Interior Least Tern	<i>Sterna antillarum athalassos</i>	Tier 2	No Impact
Northern Leopard Frog	<i>Lithobates</i>	Tier 1/Tier 2	No Impact
Olive-Backed Pocket Mouse	<i>Perognathus fasciatus</i>	Tier 1	No Impact
Spotted Bat	<i>Euderma maculatum</i>	Tier 1	No Impact

The black-tailed prairie dog (*Cynomys ludovicianus*) is a burrowing rodent, 15 inches in length with a black-tipped tail. Once occupying seven million acres in Colorado, the black-tailed prairie dog is now present on the eastern third of Colorado below 6,000 feet. Approximately 150 other species rely on the habitat that the black-tailed prairie dog creates. We did not observe prairie dog colonies on or adjacent to the Subject Property. Due to the lack of nearby colonies, it is unlikely that prairie dogs would migrate onto the Subject Property prior to development. Should prairie dogs colonize the Subject Property prior to development, we recommend a supplemental biological study and a burrowing owl survey if development is planned between March 15 and October 31.

The burrowing owl (*Athene cunicularia*) is a small, migratory owl that occupies prairie dog towns in Colorado during the spring and summer breeding season. The owl is active during the day and uses prairie dog burrows for nesting and roosting. Burrowing owls are a threatened species and are protected under federal and state laws, including the Migratory Bird Treaty Act. Per CPW, no human encroachment is allowed within 150 feet of prairie dog burrows that are being used as nests from March 15 through October 31. It is recommended that efforts to eradicate prairie dogs or destroy abandoned towns do not occur between March 15 and October 31, as owls may be present. We did not observe active or inactive prairie dog colonies on or adjacent to the Subject Property, indicating a lack of habitat for this species. In our professional opinion, development will not impact the burrowing owl.

The interior least tern (*Sterna antillarum athalassos*) is affected by impacts to waterways and lakes. The least tern generally prefers sparsely-vegetated sandy shores of



reservoirs and gravel pits where they nest directly on the ground. The diet of least terns consists primarily of small, slender fish and aquatic invertebrates. The least tern nests primarily in southeastern Colorado. There are no large bodies of water with sandy shorelines present on the Subject Property, thus there is no suitable habitat for these species. We did not observe evidence of these birds, nor do we believe the development of the Subject Property will adversely impact these bird species based on the lack of potential habitat.

The northern leopard frog (*Lithobates pipiens*) and the plains leopard frog (*Lithobates blairi*) occupy three categories of habitat: over-wintering habitat with deep water that does not freeze solid, foraging habitat for adults which may consist of uplands, riparian areas, and wet meadows, and breeding habitat suitable for egg development and tadpole survival. In general, northern occupy habitats with semi-permanent ponds and plains leopard frogs occupy habitats with ephemeral ponds. Due to the lack of semi-permanent or ephemeral ponds on or adjacent to the Subject Property, we do not believe that development will impact these leopard frog species.

The olive-backed pocket mouse (*Perognathus fasciatus*) resides in arid and semi-arid upland areas and is often found in thinly covered grasslands and prairies. They prefer forest edges and are associated with blue gramma and wheat grasses. According to CPW data, the Subject Property falls within olive-backed pocket mouse's overall range. However, due to the lack of forest edge habitat, we do not believe the Property contains critical habitat for the olive-backed pocket mouse.

The spotted bat (*Euderma maculatum*) is Colorado's rarest bat species. This species may be found in the major canyons along the western border of the state and southeastern Colorado. They have been found in a variety of habitats including ponderosa pine, pinyon-juniper woodland and shrub desert. This species uses areas tied closely to cliffs and water. Due to lack of preferred habitat on or adjacent to the Subject Property, we do not believe that development of the Property would impact the spotted bat.

Other CPW listed species of concern have been taken into consideration. Based on lack of suitable habitat on Site and information regarding population locations from CPW, we do not believe these species to be a concern for the Subject Property.



3.3 Migratory Bird Treaty Act

Migratory birds, as well as their eggs and nests, are protected under the Migratory Bird Treaty Act (MBTA). The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without bird or eggs), provided that no “take” (of bird or eggs) occurs during the destruction. The regulatory definition of “take” means to pursue, hunt, shoot, kill, trap, capture or collect, or attempt to pursue, hunt, wound, kill, trap, capture, or collect. While destruction of a nest by itself is not prohibited under MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA. One method to avoid a violation of the MBTA is to remove vegetation and nests outside the active breeding season, which typically falls between March and August, depending on species.

The Subject Property was assessed for potential migratory bird nesting habitat. Several migratory birds were observed on the Subject Property including western meadowlarks (*Sturnella neglecta*) and American robin (*Turdus migratorius*). The majority of the Subject Property provides ground-nesting habitat. For a higher level of assurance and to avoid destruction of migratory bird nests, vegetation should be removed outside of the breeding season (March to August). If development is planned during the breeding season, we recommend a migratory bird survey be performed prior to development.

3.4 Colorado Raptors

Colorado raptors such as red-tailed hawks (*Buteo jamasicensis*), Ferruginous hawk (*Buteo regalis*), and American kestrels (*Falco sparverius*) are protected by the MBTA (discussed in the previous section). Additionally, Colorado Parks and Wildlife recommends buffer zones around active raptor nests to avoid and minimize disturbance to nesting raptors in Colorado. For raptors, CPW recommends no human encroachment beyond that which historically occurred, within one-third to one-fourth mile radius of active nests, depending on the species. Raptor species in Colorado have varying breeding seasons dependent upon their food sources and when hatchlings fledge (leave) the nest. The general raptor breeding season in Colorado is from January to August.



There are no large trees on or adjacent to the Subject Property, indicating a lack of nesting habitat for Colorado raptors. We do not believe that development will result in a take of nesting raptors.

3.5 Bald and Golden Eagle Protection Act of 1940

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected by the MBTA (discussed in the previous section) and the Bald and Golden Eagle Protection Act of 1940, as amended November 1978. These species nest in a variety of habitats, including on cliffs and in large trees, and prefer a nearby water source. The Act allows further protection of eagles by prohibiting anyone, without a permit issued by the Secretary of the Interior, from “taking” eagles, including their parts, eggs or nests. Like MBTA, “take” means to pursue, hunt, wound, kill, trap, capture, or collect; however, it also includes “disturb,” which means to agitate or bother a bald or golden eagle to the level that causes or is likely to cause injury, decrease in productivity, or nest abandonment.

CPW data indicates that the closest active bald eagle nest is located approximately 22 miles northwest of the Subject Property. The lack of mature trees on or adjacent to the Subject Property indicates a lack of nesting and roosting habitat for eagles. We do not believe development of the Property would result in a take of bald eagles or golden eagles.

4.0 OPINION AND RECOMMENDATION

The Property is vegetated with native and non-native prairie species such as crested wheatgrass (*Agropyron cristatum*), hairy false goldenaster (*Heterotheca villosa*), and miner’s candle (*Oreocary virgata*). We did not observe common noxious species such as myrtle spurge (*Euphorbia myrsinites*) or Canada thistle (*Cirsium arvense*).

We did not observe wetlands or potential Waters of the US on or adjacent to the Subject Property.

We did not observe the presence of Federal or State listed endangered or threatened species on the Subject Property.



The FEMA NFHL indicated the Property as an area of minimal flood hazard. Floodplains were not indicated on or adjacent to the Subject Property.

For a higher level of assurance and to avoid destruction of ground-nesting migratory bird nests, vegetation should be removed outside of the breeding season (March to August). If construction activities are planned during the breeding season, we recommend a migratory bird survey be conducted prior to development.

We do not believe that development of the Property will result in a take of Colorado raptors or eagle species.

5.0 LIMITATIONS

This assessment only applies to the Subject Property in its current state, in areas that were easily observed. If development of the Subject Property is planned for spring 2024 or later, you should consider a supplementary study be completed, as site conditions and animal behaviors are not static season to season. We believe that CTL|T performed services in a professional manner, consistent with industry standards and practices in the locality of the project at the time the services were performed. No warranty, express or implied, is made.

CTL|THOMPSON, INC.

Christine Whitacre
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Reviewed by:

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Environmental Department Manager

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REFERENCES

CPW State Wildlife Action Plan (SWAP) 2015.

Munsell Soils Color Charts, 1992 Revised Addition.

National Register of Historic Places, National Register Information System website,
www.nr.nps.gov.

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Scats and Tracks of the Rocky Mountains, James C Halfpenny, PH. D., Copyright 2001.

The Guide to Colorado Birds, Mary Taylor, Copyright 1998.

U.S. Fish and Wildlife Service, National Wetlands Inventory,
<http://nmviewogc.cr.usgs.gov/viewer.htm>

U.S. Army Corps of Engineers Wetlands Delineation Manual, Produced by the Corps of Engineers, 1987 Edition.

U.S. Army Corps of Engineers, 33 CFR Part 328 – Definition of “Waters of the United States”, www.usace.army.mil/inet/functions/cw/cecwo/reg/33cfr328.htm.

U.S. Fish and Wildlife Service, Mountain and Prairie Region, Endangered Species Program website, www.mountain-prairie.fws.gov/endspp.

U.S. Fish and Wildlife Service, IPac, The Environment Conservation Online System (ECOS),
<https://ecos.fws.gov/ipac/>





APPENDIX A
SITE PHOTOGRAPHS

Overall Site Photos



Description: Northeast portion of the Property
Direction: Northeast



Description: Southwest portion of the Property
Direction: Southwest



Description: Northwest portion of the Property
Direction: North



Description: West-southwest portion of Property
Direction: West

SITE PHOTOGRAPHS








APPENDIX B
WETLAND INVENTORY MAP






April 27, 2023

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

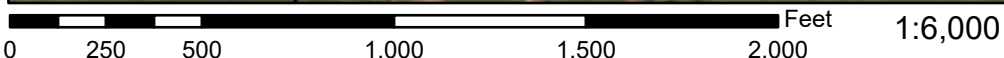
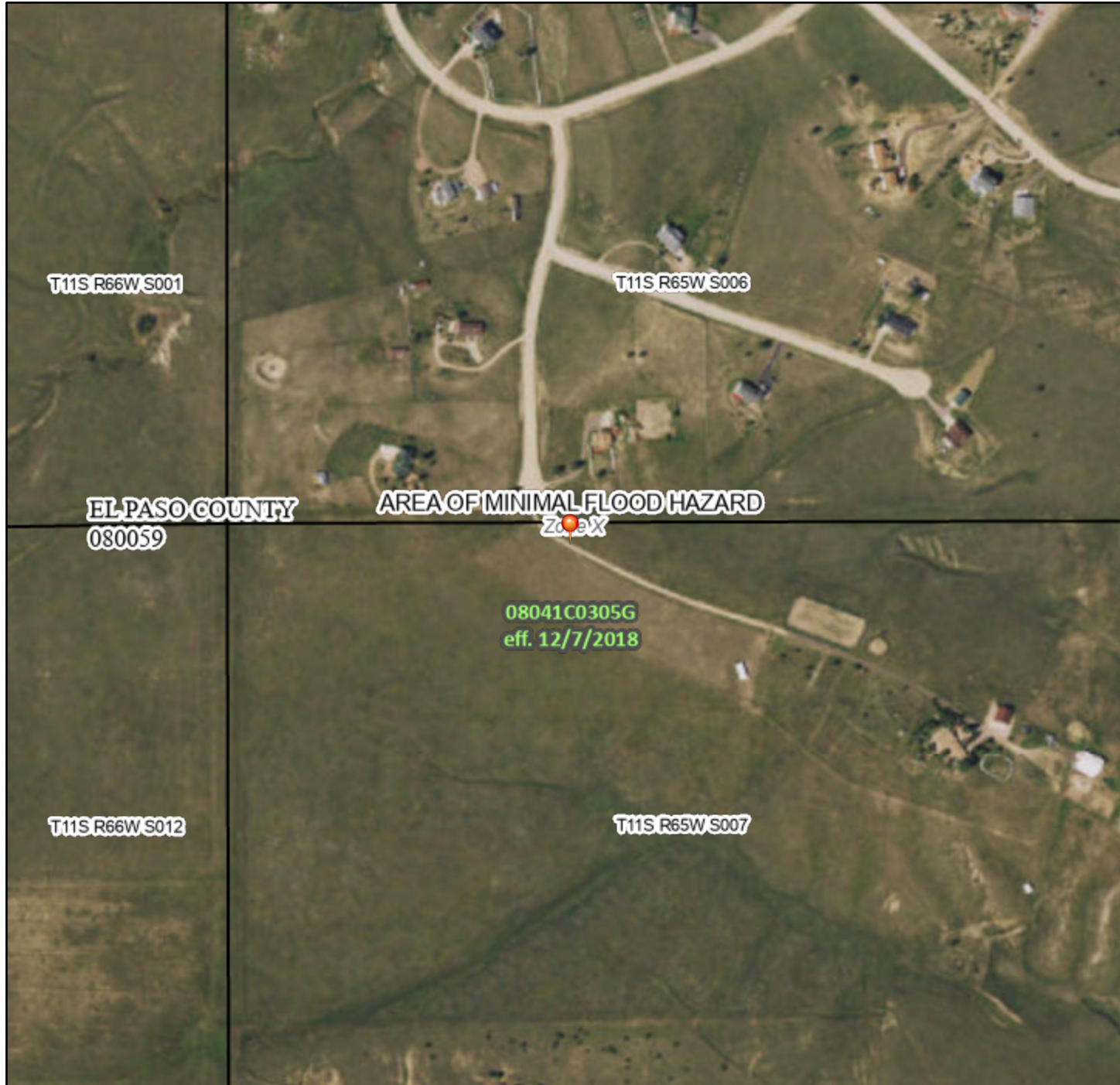


APPENDIX C
FEMA NHFL

National Flood Hazard Layer FIRMette



104°43'18"W 39°7'6"N



104°42'40"W 39°6'38"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/27/2023 at 12:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.