



NATURAL FEATURES AND WETLANDS REPORT

for

***Sterling Ranch East Remaining Areas
El Paso County, CO***

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1.0 INTRODUCTION

Classic SRJ, LLC (“Proponent”) has retained Bristlecone Ecology, LLC (“B.E.” or “Agent”) to perform an environmental assessment and routine wetland delineation and prepare a Natural Features and Wetlands Report for the remaining areas of the proposed Sterling Ranch East residential development project (“Project”), located in unincorporated El Paso County (EPC), Colorado. Contact information for both Proponent and Agent is provided below:

Proponent

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1.1. Purpose and Goals

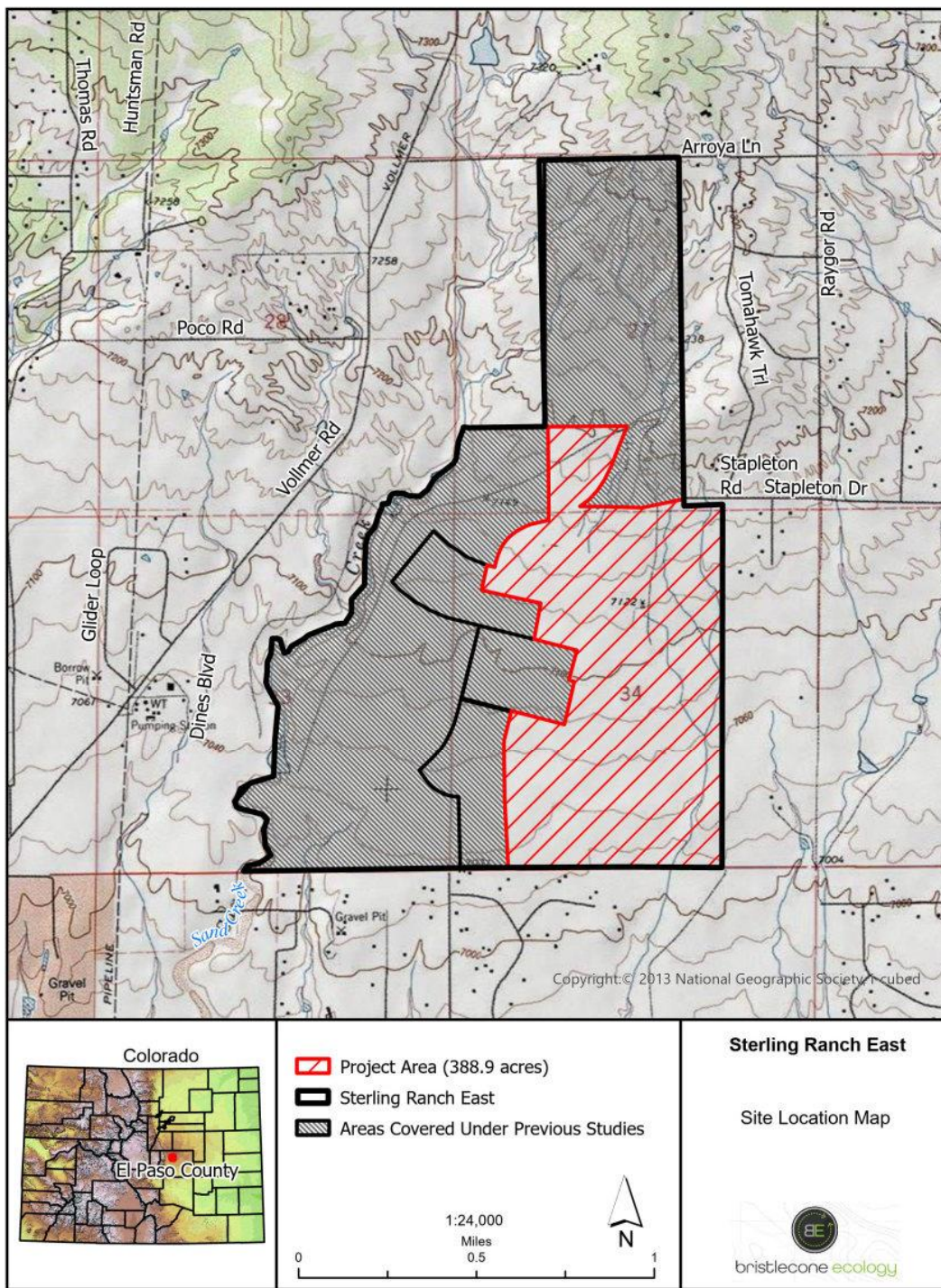
The purpose of this Natural Features and Wetlands Report is to find and document natural resources and existing site conditions in order to identify potential environmental constraints that may affect the development of the Project. In addition, a goal of this report is to provide guidance on regulatory issues that could influence site development in accordance with development planning and application submittals in EPC. Environmental resources and constraints addressed include:

- Vegetation
- Soils
- Aquatic Resources/Wetlands/Waters of the U.S. (WOTUS)
- Wildfire Hazard
- Flood Hazard
- Wildlife Impacts
- Federal and State Listed Threatened and Endangered (T&E) Species

1.2. Project Description and Site Location

The remaining areas of Sterling Ranch East will be located on approximately 388.9 acres and will consist of single family residential lots, open space tracts, stormwater detention facilities, local roads, utilities, and other associated facilities and infrastructure. The Project is located east of Vollmer Road and north of E. Woodmen Road; it will be (mostly) east of future Sterling Ranch Road, will be bisected by future Briargate Parkway, and is bounded on all sides by scattered rural residential development (**Figure 1: Site Location Map**). The site is located on portions of Sections 27 and 34 in Township 12S, Range 65W, and can be found on the U.S. Geological Survey’s (USGS) Falcon NW 7.5-minute quadrangle (USGS 2020). The topography of the Project consists of rolling foothills grasslands about a mile from the pine-oak woodlands of the Black Forest to the northwest. Portions of the site are already being developed to support the construction of other residential neighborhoods within the greater Sterling Ranch site.

Figure 1: Site Location Map



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2.0 METHODOLOGY

B.E. performed a desktop review to gather background information about the environmental setting of the Project area. Publicly available data sources queried via desktop included:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) data
- USFWS Critical Habitat Portal
- Species profiles and spatial data from Colorado Parks and Wildlife (CPW)
- USFWS National Wetland Inventory (NWI) data
- USGS National Hydrography Dataset (NHD)
- USGS aerial imagery
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panels
- Google Earth current and historic aerial imagery
- Colorado State Forest Service (CSFS) Wildfire Hazard Maps
- National Resources Conservation Service (NRCS) county soil survey data
- Colorado Natural Heritage Program (CNHP) Survey of Critical Biological Resources

Following the desktop review of these resources, a site reconnaissance was conducted on April 12th, 2022, to field-verify results of the review and identify potential impacts to these resources and constraints to development. The field reconnaissance focused on identifying and mapping wetland habitat and WOTUS, on classifying vegetation communities on the site, and on identifying suitable wildlife habitat, particularly that which could support T&E and sensitive species.

3.0 ENVIRONMENTAL SETTING

The Project area is located within the Foothill Grasslands ecoregion in Colorado (Chapman et al. 2006). Topography of the Project consists mainly of a mix of flat to rolling grasslands, with the Sand Creek stream corridor to the west; pine woodlands interspersed with a few shrubs are located less than a mile to the north of the site. The Foothills Grasslands Ecoregion is composed of a mixture of tall and mid-grasses and isolated pine woodlands (Chapman et al. 2006). Dominant species include little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), and yellow Indiangrass (*Sorghastrum nutans*) (Chapman et al. 2006).

Elevations of the Project site range between approximately 7,020 and 7,200 feet above mean sea level (AMSL). The Project site contains no Colorado Natural Heritage Conservation Areas or Potential Conservation Areas according to the CNHP (2022), and according to the USFWS' Information for Planning and Conservation (IPaC; 2022), does not contain Wildlife Refuges or Hatcheries. The area has been used historically as rangeland, but residential and commercial development is increasing steadily.

3.1. Vegetation

The entire Project site is within the Foothill Grasslands, with the predominant vegetation corresponding to that ecoregion. Needle-and-thread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), and Junegrass (*Koeleria macrantha*) are the dominant species in uplands throughout the site. Other upland species present include Lambert's locoweed (*Oxytropis lambertii*), smooth brome (*Bromus inermis*), fringed sage (*Artemisia frigida*), soapweed yucca (*Yucca glauca*), white-stem evening primrose (*Oenothera albicaulis*), lambsquarters (*Chenopodium album*), and field sagewort (*Artemisia campestris*), among others. There are no trees or shrubs present on the site. Much of the site has been disturbed by cattle grazing, but vegetative cover is relatively extensive. Diversity is moderate for this ecoregion, and the structure of vegetation in the uplands is somewhat poorly developed.

Several noxious weeds are present at the site, mostly scattered throughout the property in low densities where disturbance is most present. Weed species observed included diffuse knapweed (*Centaurea diffusa*), common mullein (*Verbascum thapsus*), and Scotch thistle (*Onopordum acanthium*). Other invasives such as kochia (*Kochia scoparia*) and smooth brome were also present.

B.E. reviewed CNHP data for the Falcon NW, Colorado 7.5-minute quadrangle, which summarizes sensitive vegetation communities in the state by USGS quadrangle. Data were reviewed to determine the probability of the presence/absence of significant natural communities, rare plant areas, or riparian corridors that may be within the Project area. Based on CNHP's data and the site reconnaissance, the probability of these plant communities being impacted by Project development is described below in **Table 1**.

Table 1. Potentially Impacted Vegetation Communities (CNHP 2022)

Plant Community (Type)	Status ¹	Presence and Location	Probability of Impacts
<i>Andropogon gerardii</i> – <i>Sporobolus heterolepis</i> Western Foothills Grassland (Xeric Tallgrass Prairie)	G2, S1	Mesic habitats of the Rocky Mountain foothills and riverine habitats. This type is a regional endemic found only in eastern Colorado, western Oklahoma, and possibly elsewhere. Reportedly occurs in the nearby Black Forest.	None. Community is not present in the Project area.
<i>Bouteloua gracilis</i> – <i>Bouteloua dactyloides</i> Grassland (Shortgrass Prairie)	G4, S2	Found in flat to rolling uplands throughout much of the central and southern Great Plains. Soil type is often sandy loam. A variety of other short graminoids make up much of the remaining habitat.	Not expected. These species cover portions of the Project area, but true Shortgrass Prairie is not the primary grassland community at the site.
<i>Hesperostipa comata</i> – <i>Bouteloua gracilis</i> – <i>Carex filifolia</i> Grassland (Montane Grasslands)	G5, S2	Occurs in relatively mesic savanna habitats, on gentle to moderate south- and west-facing slopes. Dense habitat occurs in some areas of the Black Forest.	None. Project area lies on the fringe of this community.
<i>Pinus ponderosa</i> – <i>Quercus gambelii</i> Woodland (Foothills Ponderosa Pine Scrub Woodlands)	G5, S5	This is a widely distributed and broadly defined habitat type in the foothills and mountains. Present in the Black Forest in Colorado wherever ponderosa pine overstory coincides with at least 5% cover of Gambel oak	None. Due north and northwest this is the primary wooded community present, but it does not extend to the Project site.

¹G=Global; S=State

1=Critically Imperiled; 2=Imperiled; 3=Rare or Uncommon; 4=Widespread, Abundant, and Apparently Secure; 5=Demonstrably Widespread, Abundant, and Secure.

3.2. Soils

Soil survey data and reports were reviewed to determine the potential for the presence of geologic hazards within the Project (NRCS 2022a). County soil survey data indicate that the site is composed primarily of Columbine gravelly sandy loam (0 to 3 percent slopes; 86.5% of Project area), with Pring coarse sandy loam (3 to 8 percent slopes; 9.6% of Project area) and Blakeland sandy loam (1 to 9 percent slopes; 3.9% of Project area) making up the remainder of the site (NRCS 2022a); see **Figure 2: NRCS SSURGO Soils Map**. These soils are the dominant series occupying the Project area; there are also minor components (called “inclusions”) within the dominant series or consociation that could contribute to the overall soil composition at the site.

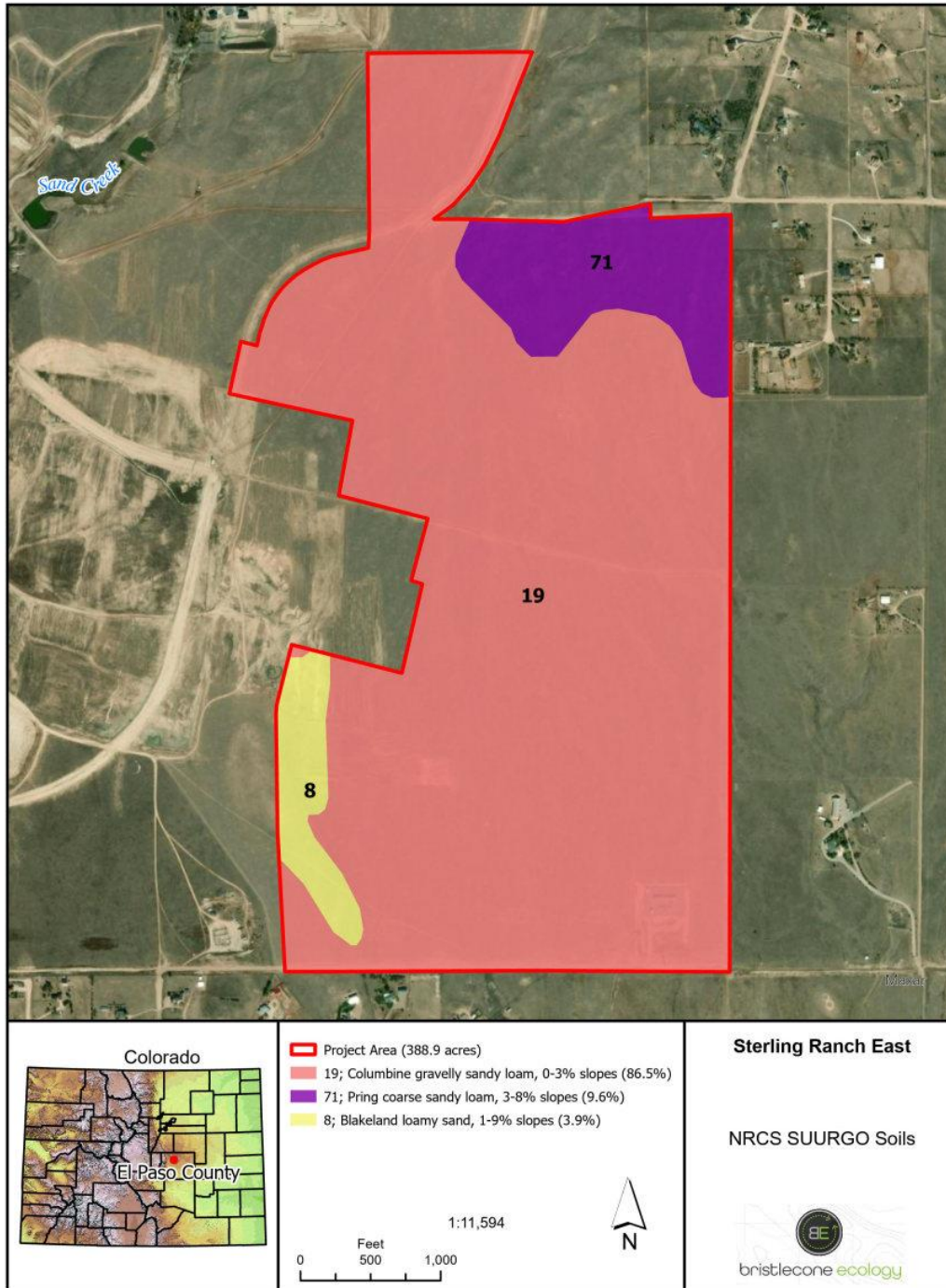
The NRCS provides information on soil properties that would influence the development of building sites for dwellings with and without basements, as well as small commercial buildings, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Qualitative soil ratings are assigned to each major soil group and include ‘Not Limited’, ‘Somewhat Limited’, and ‘Very Limited’. ‘Not Limited’ indicates that the soil

type has properties that are very favorable for the specified type of construction. ‘Somewhat Limited’ indicates that the soil type has properties that are moderately favorable for the specified type of construction. These limitations can generally be overcome through planning and design considerations. ‘Very Limited’ indicates that the soil type has properties that cannot generally be overcome through design and planning considerations (NRCS 2022b). Based on the soils present, the entire site is rated ‘Not Limited’ for dwellings with or without basements (NRCS 2022b). For small commercial buildings, the Blakeland and Pring series are rated ‘Somewhat Limited’ while the Columbine series is rated ‘Not Limited’ (NRCS 2022b). In terms of area, the majority of the site (86.5%) is rated ‘Not Limited’ and the remainder of the site (13.5%) is rated ‘Somewhat Limited’ for small commercial buildings (NRCS 2022b).

B.E. reviewed the hydric soil ratings for all soil components present on the Project site to aid in the identification of wetland habitats during the site reconnaissance. Hydric soils are those that form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions, and their formation is required in order for wetlands to become established. All of the primary soil series occurring on the site (Columbine, Pring, and Blakeland) are described as having a low hydric rating in El Paso County, with Columbine having a rating of 2, Pring a rating of 0, and Blakeland a rating of 1. Hydric ratings are on a scale of 1 to 100, with 100 having greater hydric components and zero having no hydric components (NRCS 2022a). The Pleasant soil series, a minor component of all the primary series on the site, is rated as hydric in El Paso County and is typically found in depressions and drainages where ponding can regularly occur (NRCS 2022c). Pleasant soil is most likely to be found in any depressions and along any streams on the site. Based on these ratings, the overall suitability of the site for the development of hydric soils, and thus the presence of wetlands, is very low throughout the entire Project area.

The Blakeland and Columbine series are grouped into Hydrologic Group A, and the Pring series is in Hydrologic Group B, according to NRCS soils data (NRCS 2022d). The ‘A’ grouping includes soils that have a high infiltration rate, which results in the soil having a corresponding high rate of surface and ground water transmission. The ‘B’ grouping includes soils with a moderate infiltration rate, which results in the soil having a corresponding moderate rate of water transmission. Additional, detailed soil data for the Project will be presented in a soils/geology/geotechnical report that will be submitted separately.

Figure 2: NRCS SSURGO Soils Map



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3.3. Aquatic Resources

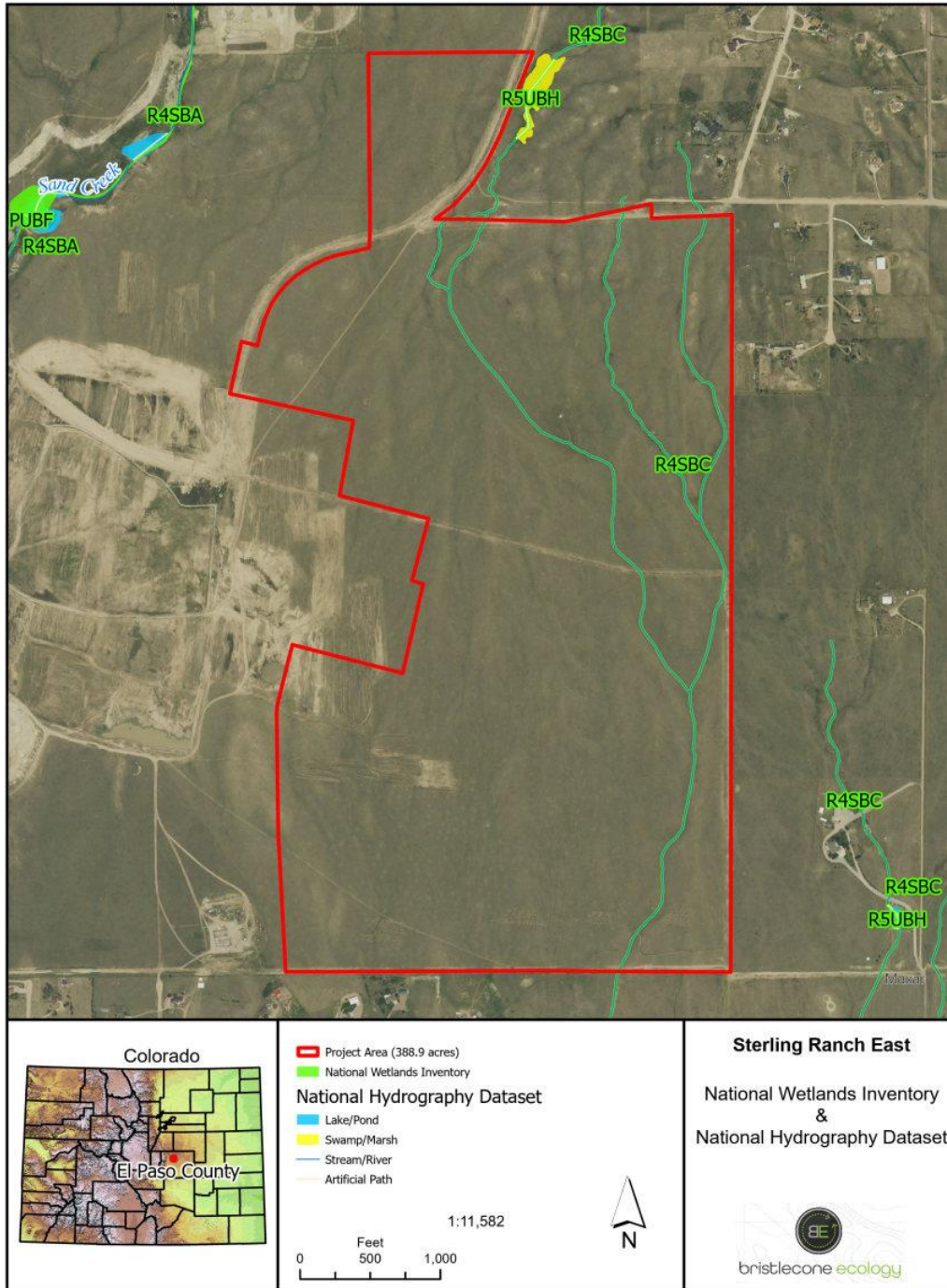
Aquatic resources include jurisdictional wetlands and other regulated WOTUS such as streams/rivers, ponds/lakes, and ditches, as well as non-regulated wetlands, streams/rivers, ponds/lakes, ditches, and other surface water features. The USFWS' NWI and USGS' NHD datasets were reviewed for the possible presence of wetlands and streams, respectively, within the Project area. Aerial imagery (USDA 2019 and Google 2021) was reviewed to locate water features not depicted in the NWI and NHD datasets. NHD and NWI data are notoriously inaccurate, necessitating field inspection to verify the presence or absence of the resources depicted in these datasets. One branched feature was depicted in the data within the Project area, as can be seen in **Figure 3: Aquatic Resources Desktop Review**. Aquatic features seen in the NWI and NDH include:

- One Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) wetland is shown in the NWI as flowing from three different locations along the northern border of the site and then connecting into one R4SBC wetland in the southern third of the site. This feature is identified as an unnamed stream/river within the NHD. This feature is shown in the NHD as a tributary to East Sand Creek as it flows south from the site, and eventually Sand Creek.

Because these desktop data are often inaccurate, the watercourses and other aquatic features, or lack thereof, identified in the preliminary desktop analysis were inspected in the field to assess their jurisdictional potential. During the site visit, none of the features listed in the NWI and NHD were observed. The entire site was composed of upland grasslands.

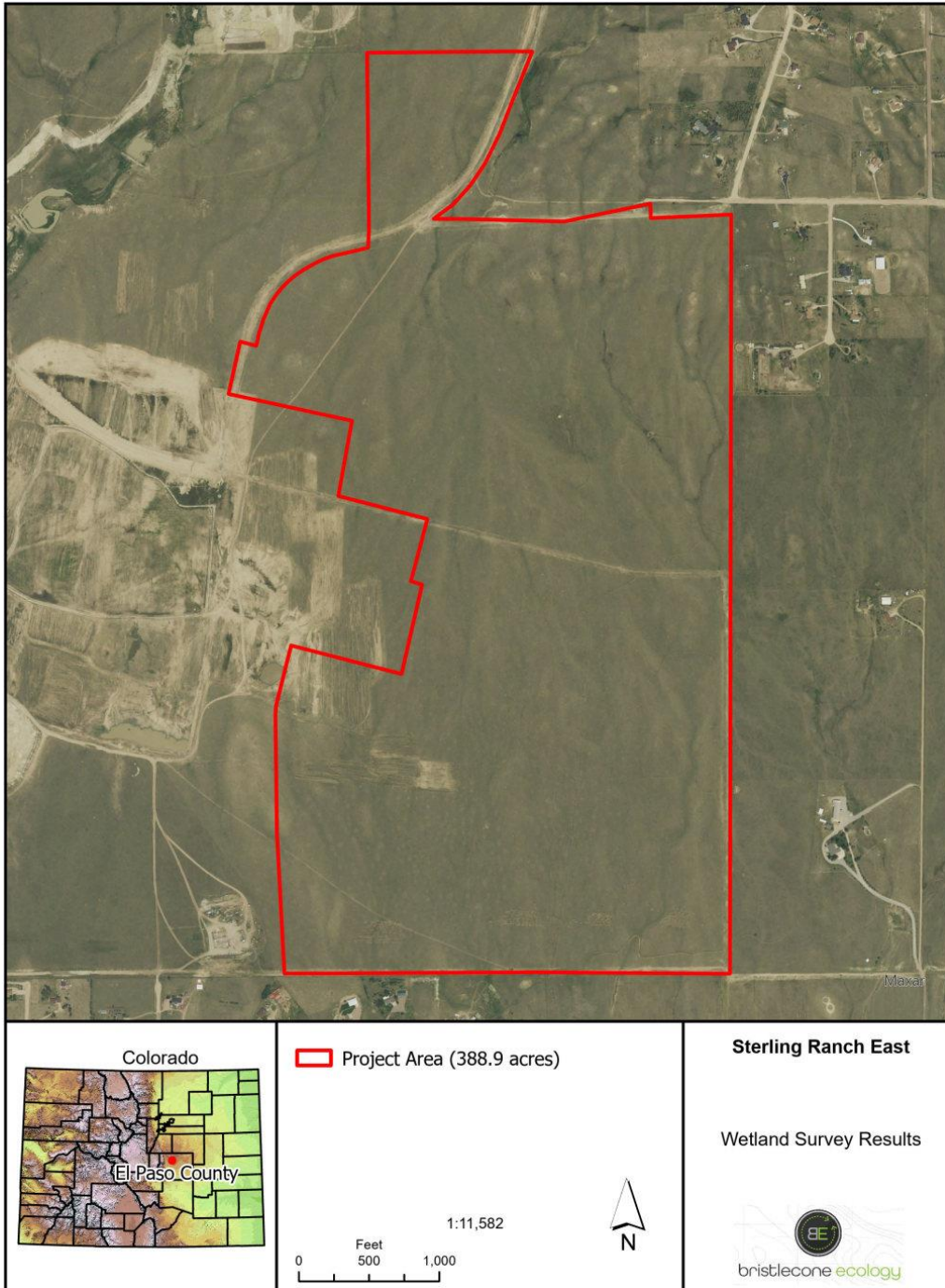
Based on the information obtained from the site reconnaissance, there are no wetlands on the site associated with the current Project. There are extensive wetlands present along and associated with Sand Creek to the west, but these have been delineated separately and are associated with another project and accompanying permit action; they will not be affected by any of the Sterling Ranch East developments.

Figure 3: Aquatic Resources Desktop Review



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Figure 4: Wetland Survey Results



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3.4. Noxious Weeds

B.E. prepared a Noxious Weed Management Plan (“Plan”) as a standalone document based on EPC requirements for noxious weed control. The Plan is a Project-specific document that has been designed to set forth Project-level regulations to prevent and control the spread of noxious weeds within the Project area and vicinity. Noxious weeds are defined as those non-native plants that aggressively invade and are detrimental to native vegetation communities and ecosystems. The *Colorado State Noxious Weed Act* (Colorado Revised Statute 35-5.5-103) developed a list of plants considered noxious in the state of Colorado that should be targeted for control by various methods dependent on list category (A, B, or C). The Plan prepared by B.E. tiers to the requirements set forth by the El Paso County Noxious Weed Management Plan (EPC 2017), and the El Paso County Noxious Weeds and Control Methods report (EPC 2018a), which contain guidelines for the control and treatment of noxious weeds found in the County. EPC requires that residential, commercial or industrial projects that include ground disturbing activities submit a project-specific noxious weed management plan. This Plan provides methods to prevent and control the spread of noxious weeds at construction and post-construction phases of the Project. See **Appendix B: Sterling Ranch East Remaining Areas Noxious Weed Management Plan**.

3.5. Wildfire Hazard

In the 2018 El Paso County Development Standards, the stated purpose and intent for fire protection and wildfire mitigation is to ensure that proposed development is reviewed for wildfire risks and adequate fire protection (EPC 2018b). No permit or approval associated with development, construction, or occupancy shall be approved or issued until the provisions of these standards are satisfied. The Project area is located within the Black Forest Fire Protection District (FPD). There are two staffed fire stations in the district servicing the Project area:

- Station 1, 11445 Teachout Road, Colorado Springs (3.71 miles from the northern site entrance on Arroya Lane)
- Station 2, 16465 Ridge Run Drive, Colorado Springs (9.2 miles from the northern site entrance on Arroya Lane)

The Black Forest FPD has the following operations equipment available:

Station 1:

- 3 fire engines
 - Type 1 Engine, 750 gallons
 - Brush truck (Type 6)
 - Tender (1,800 gallons)
- 1 ambulance
- 1 Wildland truck, Type 3
- 1 reserve Tender
- 1 reserve brush truck
- Command vehicles

Station 2:

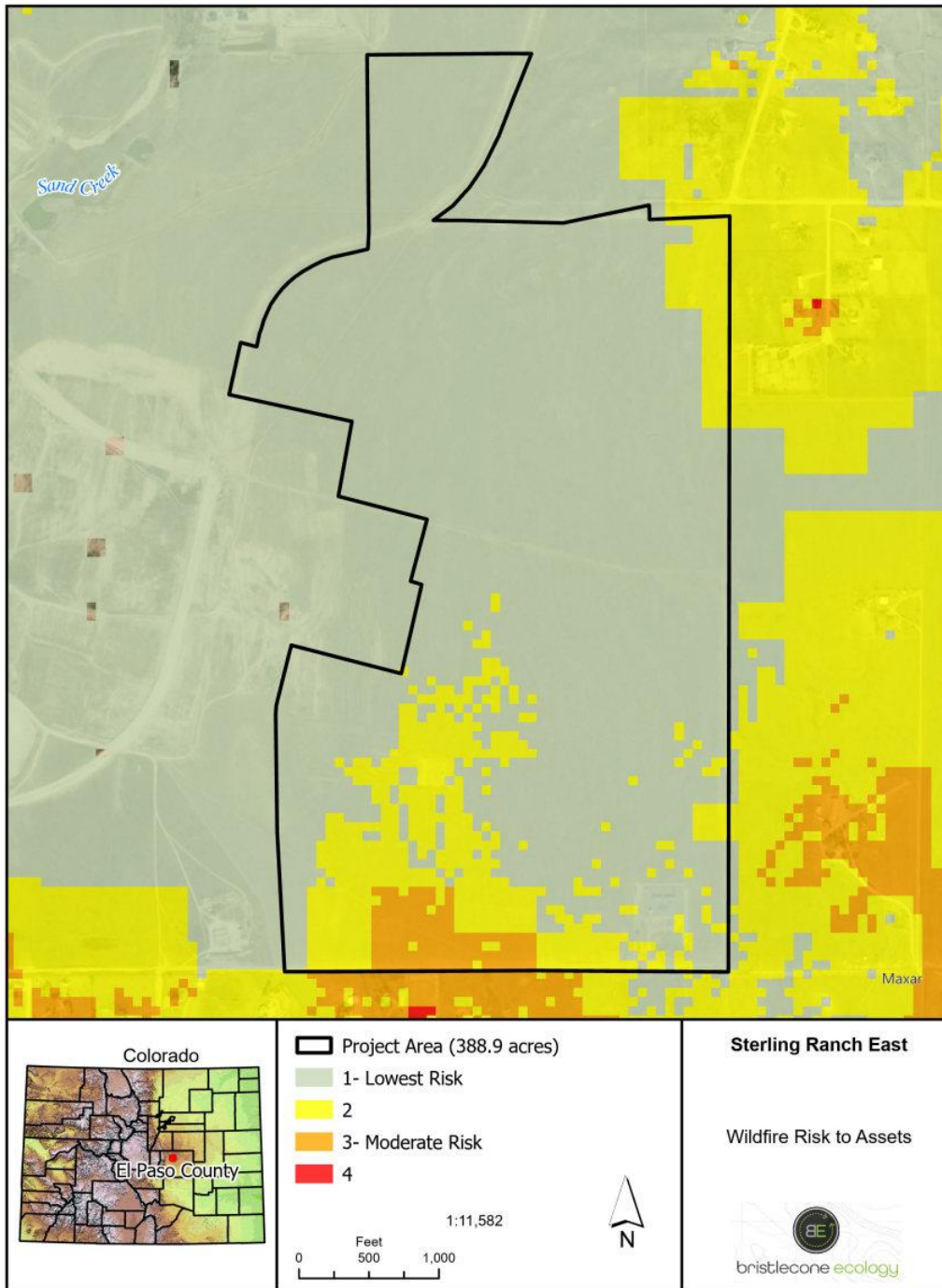
- 1 fire engine (Type 1, 500 gallons)
- 1 brush truck (Type 6)
- 1 reserve ambulance

Wildfire hazard for the Project site was evaluated using the Colorado State Forest Service's (CSFS) online Wildfire Risk Assessment Portal (WRAP; CSFS 2020). WRAP allows professionals, planners, and the public to access the best scientific information regarding wildfire risk and establish prevention and mitigation measures accordingly. According to WRAP, the wildfire risk to assets for the Project site is mostly "Lowest Risk" (approximately 90% of the site) with roughly 10% of the site rated "Low to Moderate Risk" (CSFS 2020; **Figure 4: Wildfire Hazard Map – Wildfire Risk to Assets**). "Wildfire Risk to Assets" is determined by CSFS by combining the burn probability rating of a site with the values-at-risk rating. While the Project site has a Low to Very Low rating of values and assets that would be adversely impacted by wildfire, the burn probability for the entire site is rated Level 7, or "High" (CSFS 2020; **Figure 5: Wildfire Hazard Map – Burn Probability**). In terms of the available fuels, the entire site is composed of grasslands with a few temporary construction roads breaking up connectivity.

3.6. Flood Hazards

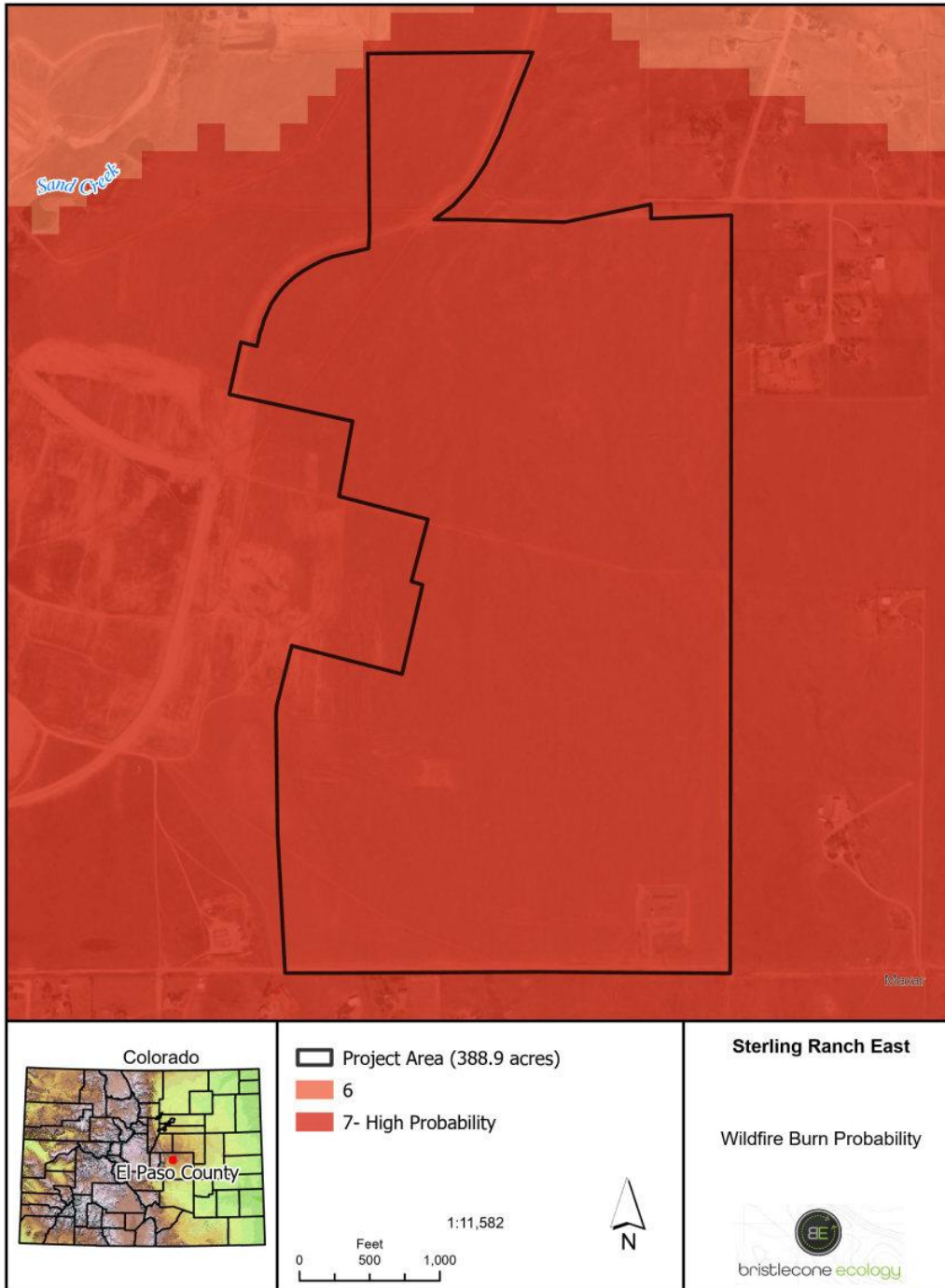
Flood hazard maps from the Federal Emergency Management Agency (FEMA) were reviewed to determine the potential for flood hazard at the site. The entirety of the site where development is planned is not located in a flood hazard zone, indicating that flood risk for the entire site is deemed by FEMA to be 'minimal' (**Figure 6: Flood Hazard Map**).

Figure 5: Wildfire Hazard Map – Wildfire Risk to Assets



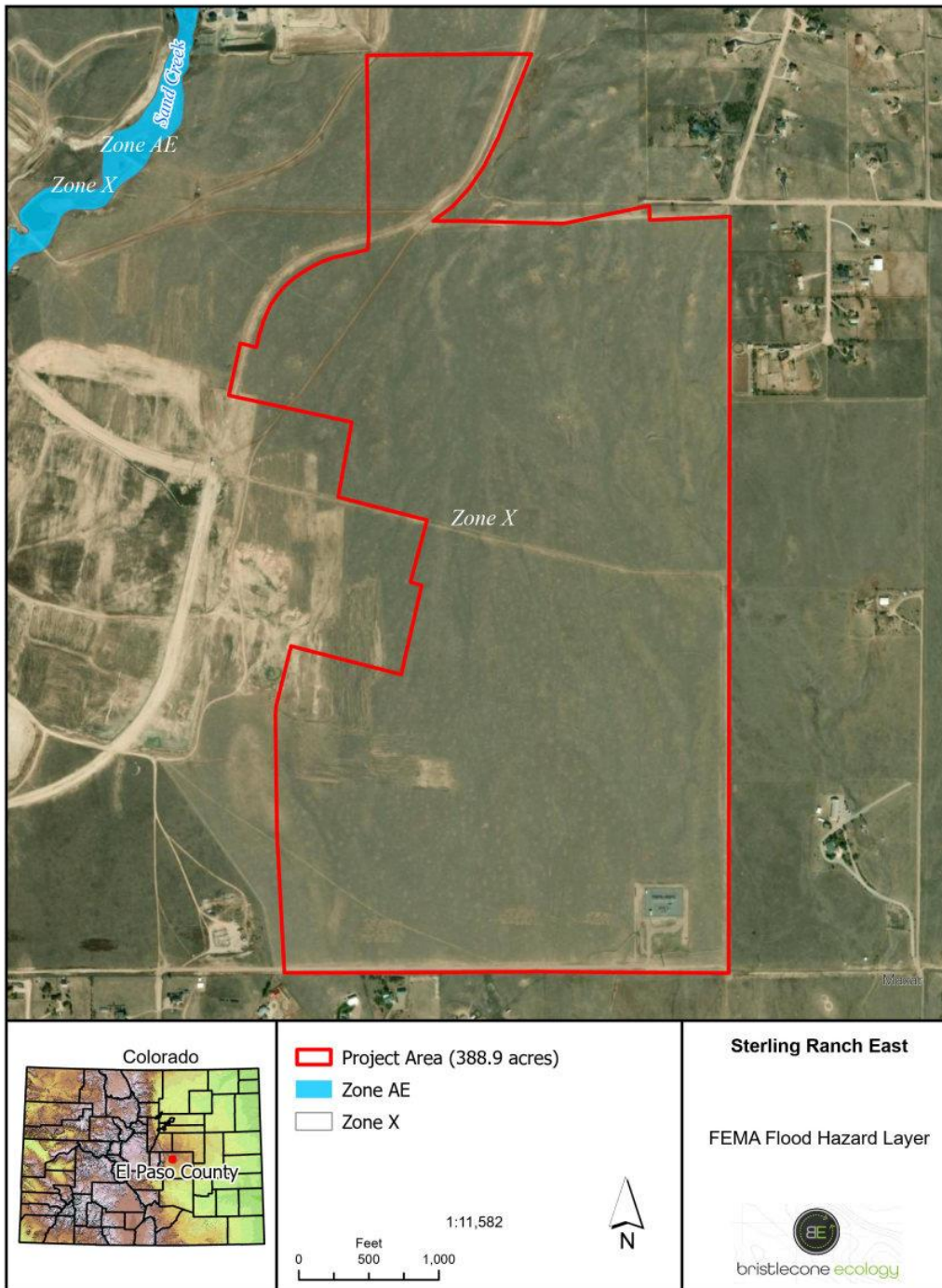
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Figure 6: Wildfire Hazard Map – Burn Probability



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Figure 7: Flood Hazard Map



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3.7. Wildlife Communities

The Project site provides moderate quality habitat for some grassland and woodland wildlife, including birds, mammals, reptiles, and amphibians. Development of the site would inevitably affect some habitat for wildlife, but based on the findings of the site reconnaissance, B.E. classified the expected impacts on grassland species as moderate to low, on woodland species as negligible, and on reptiles and amphibians as low. Wildlife that could be affected were identified first by referencing CPW’s Species Activity Mapping (SAM) spatial data to assess the likelihood of occurrence for state T&E species, state species of concern (SC), and other general wildlife, including big game species. The Colorado Natural Heritage Program (2022) also provides species status data from tracked natural animal and plant communities in the state. The review indicated that there is potential for the occurrence of 16 mammals, 15 birds, and 15 reptiles, including one SC mammal, one state and federally threatened mammal, one state threatened bird, and one federally protected bird (**Table 2: SAM Wildlife Potential for Occurrence**).

Table 2. SAM Wildlife Potential for Occurrence (CPW 2022; CNHP 2022)

Common Name	Scientific Name	Type of Occurrence (CPW 2022)	Status ^{1,2}
Mammals			
Big brown bat	<i>Eptesicus fuscus</i>	Overall range	n/a
Black bear	<i>Ursus americanus</i>	Overall range Human conflict area	n/a
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	Overall range Potential colony occurrence	SC, S3
Dwarf shrew	<i>Sorex nanus</i>	Overall range	G4, S2
Fringed bat	<i>Myotis thysanodes</i>	Overall range	G4, S3
Hoary bat	<i>Lasiurus cinereus</i>	Overall range	n/a
Little brown myotis	<i>Myotis lucifugus</i>	Overall range	n/a
Mountain lion	<i>Puma concolor</i>	Overall range	n/a
Mule deer	<i>Odocoileus hemionus</i>	Overall range Resident population Concentration area	n/a
Olive-backed pocket mouse	<i>Perognathus fasciatus</i>	Overall range	G5, S3
Preble’s meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Overall range	FT, ST, S1
Pronghorn	<i>Antilocapra americana</i>	Overall range Resident population area	n/a
Silver-haired bat	<i>Lasiorycteris noctivagans</i>	Overall range	n/a
Western red bat	<i>Lasiurus blossevillii</i>	Overall range	n/a
White-tailed deer	<i>Odocoileus virginianus</i>	Overall range	n/a
White-tailed jackrabbit	<i>Lepus townsendii</i>	Overall range	n/a

¹FT= Federally Threatened; ST= State Threatened; SC= State Species of Concern; BGEPA= Bald and Golden Eagle Protection Act

²State (S) or Global (G) CNHP Status: 1= Critically Imperiled; 2= Imperiled; 3= Vulnerable; 4= Apparently Secure, but Cause for Long Term Concern; 5= Demonstrably Secure; B= Breeding; N= Non-breeding

Table 2. SAM Wildlife Potential for Occurrence, Continued (CPW 2022; CNHP 2022)

Common Name	Scientific Name	Type of Occurrence (CPW 2022)	Status ^{1,2}
Birds			
Band-tailed pigeon	<i>Patagioenas fasciata</i>	Breeding range	S4B
Brewer's sparrow	<i>Spizella breweri</i>	Breeding range	S4B
Burrowing owl	<i>Athene cunicularia</i>	Breeding range	ST
Cassin's sparrow	<i>Peucaea cassinii</i>	Breeding range	n/a
Golden eagle	<i>Aquila chrysaetos</i>	Breeding range	BGEPA, S3S4B
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Breeding range	S3S4B
Lark bunting	<i>Calamospiza melanocorys</i>	Breeding range	S4
Lazuli bunting	<i>Passerina amoena</i>	Breeding range	S5B
Lesser sandhill crane	<i>Antigone canadensis</i> ssp. <i>canadensis</i>	Overall range	n/a
Lewis' Woodpecker	<i>Melanerpes lewis</i>	Breeding range	G4, S4
Northern harrier	<i>Circus hudsonius</i>	Breeding range	S3B
Prairie falcon	<i>Falco mexicanus</i>	Breeding range	S4B, S4N
Rufous hummingbird	<i>Selasphorus rufus</i>	Migration range	n/a
Swainson's hawk	<i>Buteo swainsoni</i>	Breeding range	S5B
Virginia's warbler	<i>Oreothlypis virginiae</i>	Breeding range	S5
Reptiles and Amphibians			
Bullsnake	<i>Pituophis catenifer sayi</i>	Overall range	n/a
Coachwhip	<i>Masticophis flagellum</i>	Overall range	n/a
Common Lesser Earless Lizard	<i>Holbrookia maculata</i>	Overall range	n/a
Hernandez short-horned lizard	<i>Phrynosoma hernadesi</i>	Overall range	n/a
Milksnake	<i>Lampropeltis elapsoides</i>	Overall range	n/a
Many-lined skink	<i>Plestiodon multivirgatus</i>	Overall range	n/a
Ornate box turtle	<i>Terrapene ornata ornata</i>	Overall range	n/a
Painted turtle	<i>Chrysemys picta</i>	Overall range	n/a
Plains garter snake	<i>Thamnophis radix</i>	Overall range	n/a
Prairie lizard	<i>Sceloporus consobrinus</i>	Overall range	n/a
Plateau fence lizard	<i>Sceloporus tristichus</i>	Overall range	n/a
Prairie rattlesnake	<i>Crotalus viridis</i>	Overall range	n/a
Six-lined Racerunner	<i>Aspidoscelis sexlineata</i>	Overall range	n/a
Smooth greensnake	<i>Opheodrys vernalis</i>	Overall range	n/a
Terrestrial gartersnake	<i>Thamnophis elegance</i>	Overall range	n/a

¹FT=Federally Threatened; ST=State Threatened; SC=State Species of Concern; BGEPA=Bald and Golden Eagle Protection Act

²State (S) or Global (G) CNHP Status: 1=Critically Imperiled; 2=Imperiled; 3=Vulnerable; 4=Apparently Secure, but Cause for Long Term Concern; 5=Demonstrably Secure; B=Breeding; N=Non-breeding

Following the review of the SAM data, site reconnaissance observations were used to field-verify the information provided in the data and perform a general wildlife survey. In general, the site provides moderate to poor quality habitat for wildlife. The site is dominated by one primary vegetation community, represented by typical Foothill Grasslands vegetation such as prairie Junegrass, needle-and-thread grass, and blue grama. Riparian and wetland vegetation is scarce to nonexistent. The majority of the site has been previously disturbed by cattle which are actively being grazed on the entire site. Invasive weeds such as diffuse knapweed and Scotch thistle are spread throughout the site in relatively low numbers, with low concentrations near disturbed areas.

While some of the species listed in the SAM data likely occur on the site, few were observed in the area, and the majority are either not expected to occur, or may occur only rarely based on the limited habitat available. The only species in the SAM data observed were pronghorn (*Antilocapra americana*) and Swainson's hawk (*Buteo swainsoni*), while others such as big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), grasshopper sparrow (*Ammodramus savannarum*), lark bunting (*Calamospiza melanocorys*), common lesser earless lizard (*Holbrookia maculata*), plains garter snake (*Thamnophis radix*), prairie lizard (*Sceloporus consobrinus*), and plateau fence lizard (*Sceloporus tristichus*) are species in the SAM data that are expected to occur on-site in the appropriate seasons and in the appropriate habitats.

State-listed and state sensitive species were not observed. Of note, the site is located within the Colorado Springs Block Clearance Zone for the state-listed Preble's meadow jumping mouse (*Zapus hudsonius preblei*), meaning the presence of this species is precluded (**Appendix C: Preble's Meadow Jumping Mouse Block Clearance Zone Map**). There is grassland habitat available for the state sensitive black-tailed prairie dog (*Cynomys ludovicianus*), but none were observed during the site reconnaissance and no burrows were detected. The site is not suitable for the state-threatened burrowing owl (*Athene cunicularia*), since this species is closely associated with abandoned burrows in prairie dog colonies, which were not observed. Golden eagles (*Aquila chrysaetos*), which nest mostly on cliffs in mountainous areas, and bald eagles (*Haliaeetus leucocephalus*), which are almost always found near large bodies of water or rivers, both receive federal protections under the Bald and Golden Eagle Protection Act (BGEPA). Both eagles are unlikely to occur except accidentally, as the site lacks suitable habitats.

More generally, birds were the most common wildlife observed on the site during the reconnaissance. The most common species included western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), and mourning dove (*Zenaida macroura*). These species are common and tend to prefer open grassland habitats, similar to the predominant habitat present on-site.

The site vicinity provides little potential nesting habitat for raptors as there are no trees, and poor habitat for Northern harrier (*Circus hudsonius*), which nests on the ground in dense, midstory grasslands. The riparian corridor of Sand Creek provides sufficient substrate for tree-nesting raptors such as Swainson's hawk, red-tailed hawk (*Buteo jamaicensis*), and the cavity-nesting

American kestrel (*Falco sparverius*); these species may utilize the site for hunting, but nesting habitat is not present.

The Project area also provides habitat for mammals including rodents, deer, and carnivores. Other than pronghorn, mammals were not observed during the site reconnaissance, but a few other species may be expected to occur, including raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and/or red fox (*Vulpes vulpes*). The area is suitable year-round range for mule deer (*Odocoileus hemionus*) throughout the site, and perhaps white-tailed deer (*Odocoileus virginianus*), though they are more likely to occur along Sand Creek to the west. The site also has potential to provide foraging and breeding habitat for predators such as coyote, red fox, and potentially black bear (*Ursus americanus*); it is also listed as a potential human conflict area for mountain lion (*Puma concolor*), though this species is unlikely to occur.

Reptiles and amphibians were not observed within the Project area, and amphibians in particular are unlikely to occur based on the lack of aquatic habitats.

3.8. Federally Listed T&E Species

The USFWS IPaC database (USFWS 2021) was used to determine the likelihood of occurrence of federally listed T&E species within the Project area. The IPaC query listed seven species, including two birds, one mammal, one insect, two fishes, and one flowering plant with the potential to occur or be affected by activities in the Project area (**Table 3: Federally Listed T&E Species Potentially Impacted by the Project**). B.E. has provided our professional opinion regarding the probability of these species' occurrence at the Project site and their probability of being impacted by development. Preble's meadow jumping mouse was not included in the IPaC species list because the site is within the Preble's Block Clearance Zone for Colorado Springs (**Appendix C**).

Table 3. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2022)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status ¹
Birds			
Piping plover	<i>Charadrius melodus</i>	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. Likelihood of impacts: Likelihood of impacts: None, Project is not within the watersheds listed.	FT
Eastern black rail	<i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i>	Eastern black rail is a subspecies of black rail that occurs east of the Rocky Mountains in North America. Black rails are small, cryptic marsh/wetland specialists, and depend entirely upon these habitats. Requires dense overhead cover (usually cattails [<i>Typha</i> spp.] or bulrushes [<i>Schoenoplectus</i> / <i>Scirpus</i> spp.]) and moist to saturated soils. Eastern black rails have been expanding their range in Colorado. There is negligible suitable habitat on the Project site. Likelihood of impacts: None, suitable habitat is not available on-site.	FT

¹FE= Federally Endangered; FT=Federally Threatened; C=Candidate for Listing

Table 3. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2022)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status ¹
Mammals			
Gray Wolf	<i>Canis lupus</i>	Extirpated from Colorado and not known to occur since 1945 when the last known wolf was killed in Conejos County. Likelihood of impacts: None, extirpated.	FE
Insects			
Monarch butterfly	<i>Danaus plexippus</i>	Monarch butterflies require milkweeds (<i>Asclepias</i> spp.) as a host plant. This species is a candidate for listing under the ESA. The USFWS determined listing the species was warranted but precluded by work on higher priority listing actions. The species will remain a candidate for listing and reviewed yearly. There are no requirements for candidate species, but due diligence is encouraged. Likelihood of impacts: None, suitable habitat is not available on-site.	C
Fishes			
Greenback cutthroat trout	<i>Oncorhynchus clarkii stomias</i>	Cold, clear, gravely headwater streams and mountain lakes. Genetic sampling has confirmed that the only remaining native pure-strain population occurs in a 4-mile stretch outside of its native range in Bear Creek (Metcalf et al. 2012). Reintroduction efforts are ongoing in the South Platte River system. Likelihood of impacts: None, habitat not present.	FT
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. Likelihood of impacts: Likelihood of impacts: None, Project is not within the watersheds listed.	FE
Flowering Plants			
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, gravel pits, borrow pits, and other human-modified wetlands. There are no known populations in El Paso County, and the site is above the elevation (7,000 feet) where surveys are required (USFWS 1992). Likelihood of impacts: None, habitat not present and the site is not in an area that requires surveys.	FT

¹FE= Federally Endangered; FT=Federally Threatened; C=Candidate for Listing

4.0 SUMMARY OF IMPACTS

4.1. Vegetation

Vegetation will be unavoidably disturbed through development of the Project site. The vast majority of the site is classified as Foothill Grasslands, which is the primary ecosystem type that will be impacted. The site is generally of moderate quality and impacts are not expected to imperil or substantially harm this ecosystem, though development of the site will result in the loss of just under 400 acres of previously disturbed grasslands.

No globally sensitive vegetation communities are present, and no state-sensitive vegetation communities are present according to CNHP data for sensitive vegetation communities and the site reconnaissance (CNHP 2022). The Project site is on the fringe of the Ponderosa Pine Woodlands, a globally and state stable vegetation community, but the site contains no pine trees and impacts are not expected. The site may have historically been primarily Shortgrass Prairie, a State Imperiled (S₂) community, but the site is now classified as disturbed grassland, a common community.

Development of the site will likely increase and improve arboreal habitat through the planting of trees in yards and in open spaces. There are riparian and wetland areas along Sand Creek to the west, and these areas are high-quality habitats, but this corridor is not a part of the Project site.

4.2. Aquatic Resources

There were no aquatic resources on the site; the entire site was composed of grasslands. One aquatic feature was shown in the NHD/NWI data; however, this feature was not found to be present during the field survey (**Figure 3** and **Figure 4**). As such, impacts to regulated aquatic resources will not occur and a Section 404 permit from the USACE is not expected to be necessary.

4.3. Noxious Weeds

Noxious weeds were present on the Project site in several areas but in generally limited quantities. There were no large concentrations of noxious weeds, but scattered noxious weeds were found throughout various portions of the site, primarily where disturbance from cattle grazing has occurred. List A Species, which require reporting and eradication by Colorado law (Colorado Department of Agriculture [CDA] 2006), were not detected. List B Species require either eradication, containment, or suppression; List C Species require control through either public education or chemical control. List B Species that were detected during the site reconnaissance included:

List B

- Scotch thistle
- Diffuse knapweed

List C

- Common mullein

It is possible that additional noxious weed populations may be present on the site. A site inventory to identify and map noxious weeds during the growing season would be required to accurately catalogue all populations on the site. A Noxious Weed Management Plan has been prepared for the Project detailing recommendations for identifying and controlling the spread of noxious weeds prior to, during, and/or post-construction.

4.4. Wildfire

Roughly 85% of the Project area is mapped as “Lowest” wildfire risk to assets while the remaining 15% is mapped as “Low to Moderate” risk. The site is rated “Low” in terms of values and assets present that could be lost to wildfire; the entire site is rated “High” in terms of burn probability based on the available fuels at the site, all of which are grasslands. The nearest fire response is Station 1 in the Black Forest FPD, which is located 3.71 miles from the site; the second closest station is Station 2 in the Black Forest FPD, which is 9.2 miles away.

Development of the site would result in a reduction of the available fuels for wildfires, while simultaneously increasing the values and assets present on the site. As such, the overall wildfire risk-to-assets index for the Project is expected to be similar before and after development.

4.5. Wildlife

Similar to the impacts for vegetation, some wildlife will inevitably be affected by development of the Project area. Some species that prefer suburban habitats, including some species of birds, are expected to benefit from an increase in planted trees and bird feeders in yards. Designated open spaces will also conserve some of the open grassland habitats that are currently available, but open, undisturbed grasslands will be reduced on the whole. Implementation of a stormwater management plan will assist in protecting water quality in downstream reaches, which will provide additional benefits to aquatic species including invertebrates. Detention facilities may add seasonal water features that could support additional wildlife such as waterfowl and amphibians. No impacts to forest species are expected as no trees will be cleared for construction. Since grasslands are the most dominant habitat type, grassland species are expected to experience the greatest adverse impacts. Deer, foxes, bears, raccoons, and skunks may experience adverse effects from the increase in urbanization in close proximity to wildland areas, including the nearby Black Forest. No sensitive species were present, and thus are not expected to be affected any more than other species. No state listed species were present.

4.6. Federally Listed T&E Species

Federally listed T&E species are not expected to occur on the Project. All species listed occur in habitats that were not present on the site or would only be affected if development were to involve water depletions that are known to affect downstream populations in different river systems. Preble’s meadow jumping mouse habitat is not present on the site because the entire site is within the Colorado Springs Block Clearance Zone. Based on the absence of listed species or their habitats, no impacts are anticipated.

5.0 RECOMMENDATIONS

Upon completion of a desktop review, site reconnaissance, and routine wetland delineation, B.E. finds that few environmental constraints are present within the Project area. Constraints are summarized below within the regulatory context that they apply, and recommendations are provided.

5.1. Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredge or fill material into WOTUS (including wetlands) without a valid permit. Regulated wetland habitats, as well as jurisdictional WOTUS lacking wetlands, are not present on the site, and thus development is not expected to affect any jurisdictional aquatic resources. Based on the lack of regulated aquatic resources on the site, permitting pursuant to Section 404 of the CWA will not be required. No further action is recommended.

5.2. Endangered Species Act

Section 9(a)(1) of the Endangered Species Act prohibits the take of federally listed species and their habitats, and defines such take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 U.S.C. § 1531). There is no suitable habitat for listed species on the site. The site is within the Colorado Springs Block Clearance Zone for Preble’s meadow jumping mouse, meaning impacts to that species are precluded. Other federally listed species are not present, or they would not be affected because the Project will not involve water depletions from the river basins where these species occur. No impacts to any federally listed species are anticipated from site development and no further due diligence is recommended.

5.3. Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

Migratory birds, and the parts, nests, or eggs of such a bird receive statutory protection under the Migratory Bird Treaty Act, which prohibits the intentional take of migratory birds. Bald eagles and golden eagles receive additional statutory protection from accidental take and disturbance under the BGEPA. Both acts particularly apply to nesting birds, their nests, and their eggs. There were no nests observed on the site, but some nesting substrates for raptors and other migratory birds are available west of the site along Sand Creek in the scattered trees. There are no trees large enough in the area around the Project site to be suitable nesting substrate for bald or golden eagles. Further nesting substrates for other migratory birds are present in the form of open grasslands which are expected to be used by some migratory birds during the nesting season.

It is recommended that vegetation clearing/grubbing of the site occur outside of the nesting season (March 15th to July 31st) to avoid disturbing nesting migratory birds. If such timing restrictions are not possible, B.E. recommends conducting a migratory bird nesting survey during the nesting season to ensure impacts to nesting birds do not occur. In particular, nesting grassland species could occur on the site and development areas should be surveyed prior to construction. Occupied raptor nests may be present along Sand Creek, and B.E. recommends following CPW’s guidance for establishing buffer zones to protect nesting raptors.

5.4. Colorado Noxious Weed Act

In order to ensure Project compliance with the Colorado Noxious Weed Act, and to comply with the requirements of El Paso County's Noxious Weed Management Plan, the Noxious Weed Management Plan referenced in Section 3.4 of this report should be implemented, and further site-specific weed management should be implemented on an ongoing basis. In particular, control of diffuse knapweed and Scotch thistle (and any other List B noxious weeds observed on the site) is required by Colorado law.

5.5. Non-Statutory Considerations

There is potential for general wildlife, including some big game, to occur within the site. However, no big game migratory routes traverse the Project, and only a few pronghorn have been observed. In addition, ranges for several migratory birds, including the state-threatened burrowing owl, overlap the Project area, though habitat for burrowing owls is not present based on the lack of prairie dog presence. B.E. recommends following guidance from CPW to determine the appropriate avoidance measures to take during and after construction regarding general wildlife. Following construction, impacts to wildlife should be reduced as much as practicable through the implementation of typical covenants, such as using bear-resistant trash containers and fencing that allows safe passage for game animals.

Should you have any questions regarding the information or recommendations provided in this report, please feel free to contact Bristlecone Ecology at info@bristleconeecology.com.

Sincerely,

Bristlecone Ecology, LLC



Daniel Maynard
Ecologist

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APPENDIX A

PHOTOGRAPHIC LOG



PHOTO 1 – Overview of typical habitat at the site, taken from the western center of the site, facing south. Where vegetation has not been previously disturbed, the area is dominated by needle-and-thread, Junegrass, blue grama, and other common grassland/prairie species. Overall, the grasslands on the site show moderate diversity and lack structure. A temporary construction road can be seen running along the right side of the photo.



PHOTO 2 – View of the disturbed area of the site near the south-central portion, facing southwest. Flora and fauna are sparse in the areas where construction vehicles and materials are stored, and earth-moving activities are ongoing in other parts of the site. Some noxious weeds are present near this area.



PHOTO 3 – Photo of the northeast portion of the site facing north, showing typical early spring vegetation in the grazed grasslands that predominate the site.



PHOTO 4 – View facing south of noxious weeds found in a disturbed area in the south side of the site. Vegetation is sparser in this area than in the surrounding areas.



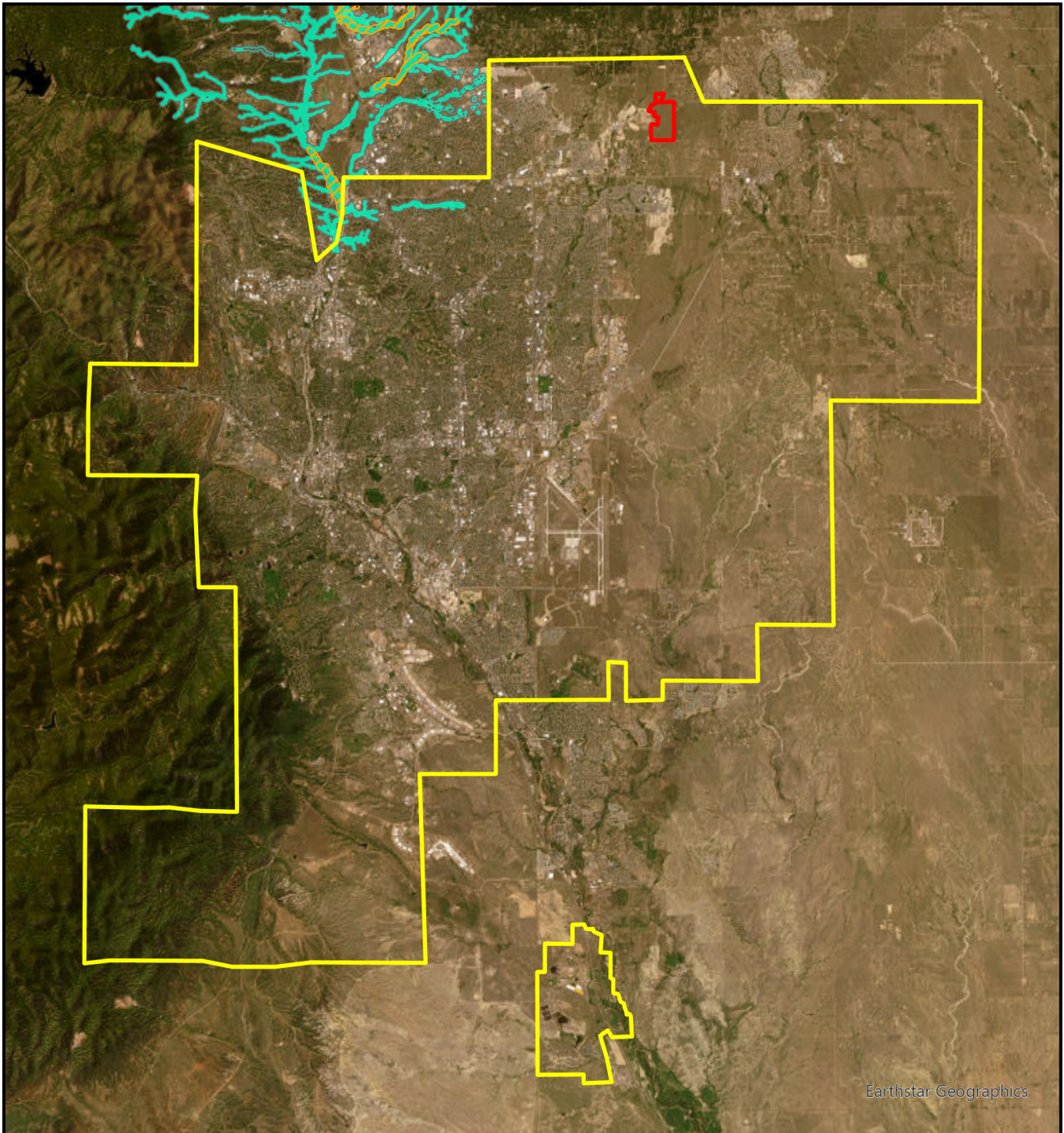
APPENDIX B

STERLING RANCH EAST REMAINING AREAS NOXIOUS WEED MANAGEMENT PLAN

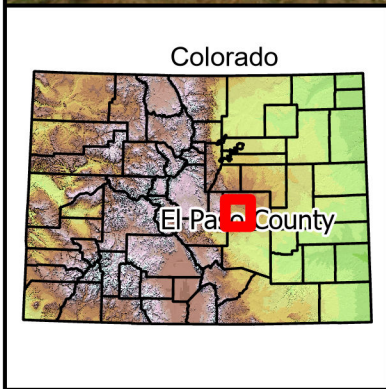


APPENDIX C

PREBLE'S MEADOW JUMPING MOUSE BLOCK CLEARANCE MAP



Earthstar Geographics



Project Area (388.9 acres)
 PMJM Block Clearance Zone
 USFWS Critical Habitat
 CPW Occupied Range

1:256,254

Miles
0 0.5 1

Sterling Ranch East

Preble's Meadow
Jumping Mouse
Block Clearance Zone

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