NATURAL FEATURES AND WETLANDS REPORT

for

Sterling Ranch East Residential Development
El Paso County, CO

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1.0 INTRODUCTION

Classic SRJ, LLC ("Applicant") 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 proposed Sterling Ranch East residential development project ("Project"), located in unincorporated El Paso County (EPC), Colorado. Contact information for both Applicant and Agent is provided below:

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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:

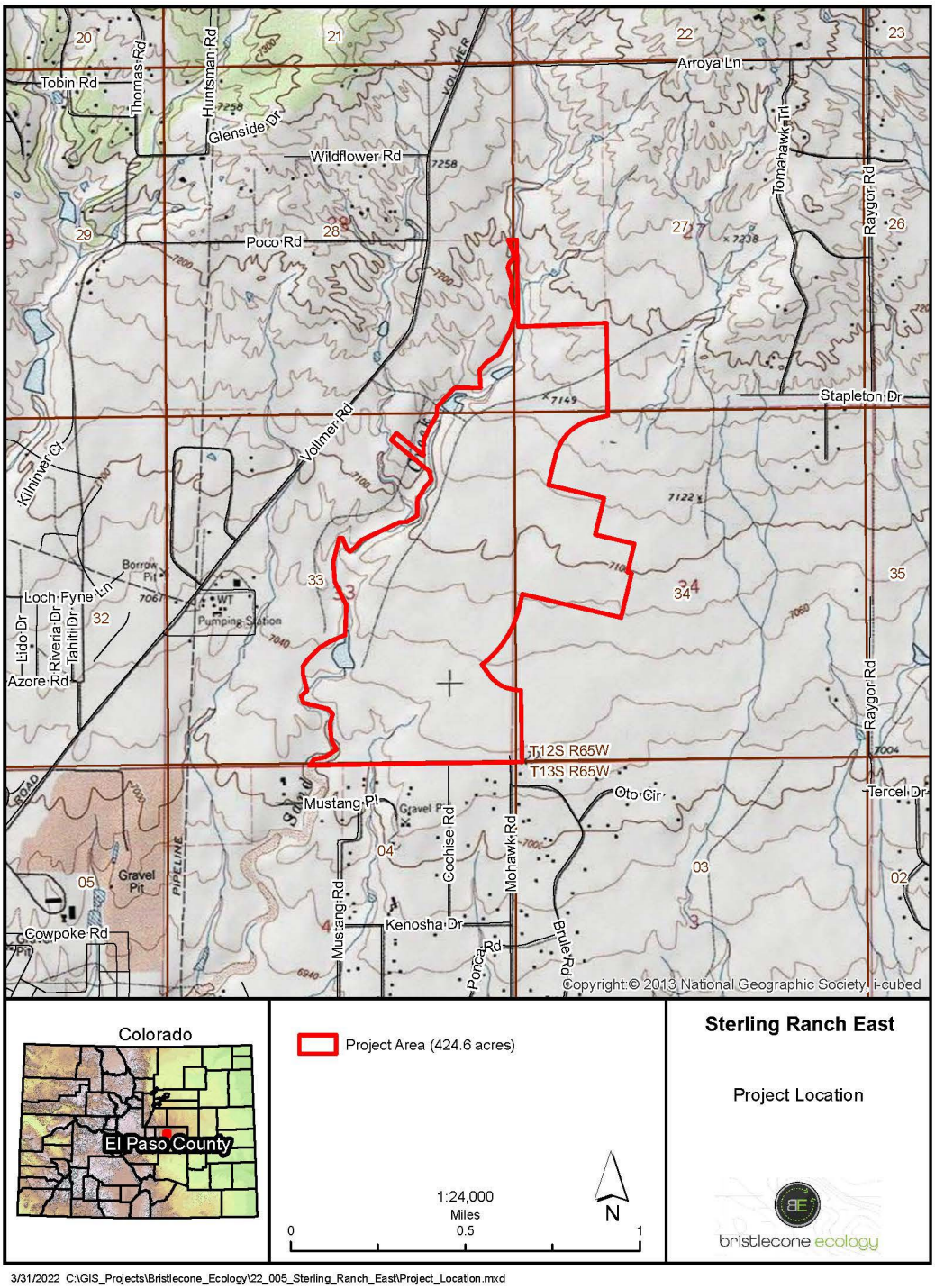
- Vegetation
- Soils
- Aquatic Resources/Wetlands/Waters of the U.S. (WOTUS)
- Wildfire Hazard
- Flood Hazard
- Wildlife Impacts
- Federal and State Listed Threatened and Endangered (T&E) Species

1.2. Project Description and Site Location

The Project will involve three separate preliminary plans covering adjacent portions of the Sterling Ranch development east of Sand Creek. Preliminary Plan 1 will be located on approximately 331 acres and will consist of approximately 761 residential lots, elementary and middle schools, open space tracts, stormwater detention facilities, arterial and local roads, utilities, and other associated facilities and infrastructure. Preliminary Plan 2 will be located on approximately 37 acres and will consist of approximately 158 residential lots, a stormwater detention facility, local roads, utilities, and other facilities and infrastructure. Preliminary Plan 3 will be located on approximately 39 acres and will consist of approximately 246 residential lots, local roads, utilities, and other facilities and infrastructure. In total, these three development areas encompass approximately 1,165 total lots on approximately 407 total acres and are collectively referred to hereinafter as "Sterling Ranch East" or the "Project". The Project is located east of Vollmer Road and north of E Woodmen Road; it will straddle both future Sterling

Ranch Road and future Briargate Parkway, and it is bounded on all sides by scattered rural residential development (**Figure I**: *Project Location Map)*. The site is located on portions of Sections 27, 28, 33, 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). 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: Project Location Map



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 March 30th and 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 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, bordered on the east side by the Sand Creek stream corridor; 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 7,320 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. Blue grama (*Bouteloua gracilis*), needle-and-thread (*Hesperostipa comata*), and Junegrass (*Koeleria macrantha*) are the dominant species in uplands throughout the site. Other upland species present include threadleaf sedge (*Carex filifolia*), thickspike wheatgrass (*Elymus lanceolatus*), fringed sage (*Artemisia frigida*), soapweed yucca (*Yucca glauca*), Woods' rose (*Rosa woodsii*), yarrow (*Achillea millefolium*), and hairy false goldenaster (*Heterotheca villosa*), among others. Ponderosa pines (*Pinus ponderosa*) are scattered along the banks of Sand Creek in the northern half of the site. Within wetter areas including wetlands, all of which were associated with Sand Creek, artic rush (*Juncus arcticus*) and Nebraska sedge (*Carex nebrascensis*) are the dominant species, with Drummond's rush (*Juncus drummondii*) and beaked sedge (*Carex utriculata*) also commonly occurring. The wettest areas support panicled bulrush (*Scirpus microcarpus*) and narrowleaf cattail (*Typha latifolia*). A few patches of relatively stunted Western snowberry (*Symphoricarpos occidentalis*) represent the only shrubs present on the site. Sand Creek's perennial hydrology supports an overstory of narrowleaf cottonwoods (*Populus angustifolia*) and a few peachleaf willows (*Salix amygdaloides*). Sandbar willows (*Salix exigua*) are dominant along large portions of Sand Creek and form a thick midstory. 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. Riparian and wetland habitats, where not excessively affected by cattle, are well established and healthy, but do not provide sufficient stabilization to prevent persistent and problematic erosion of the Sand Creek streambanks.

Several noxious weeds are present at the site, mostly scattered throughout the property in low densities. Weed species observed included diffuse knapweed (*Centaurea diffusa*), wavy-leaf thistle (*Cirsium undulatum*), Scotch thistle (*Onopordum acanthium*), common mullein

(*Verbascum thapsus*), and kochia (*Kochia scoparia*). Smooth brome (*Bromus inermis*), a non-native grass, is present in more mesic areas along Sand Creek.

B.E. reviewed CNHP data for the Falcon NW, Colorado 7.5-minute quadrangle, which summarizes 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
Andropogon gerardii - Sporobolus heterolepis 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.
Bouteloua gracilis - Bouteloua dactyloides 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.	Expected. This community covers portions of the Project area, but it is not the primary grassland community at the site.
Hesperostipa comata – Bouteloua gracilis – Carex filifolia 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.
Pinus ponderosa - Quercus gambelii 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.

[1]G=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; 59.3% of Project area) and Pring coarse sandy loam (3 to 8 percent slopes; 26.8% of Project area) (NRCS 2022a). Blakeland loamy sand (1 to 9 percent slopes) is the only other major soil series found on the site,

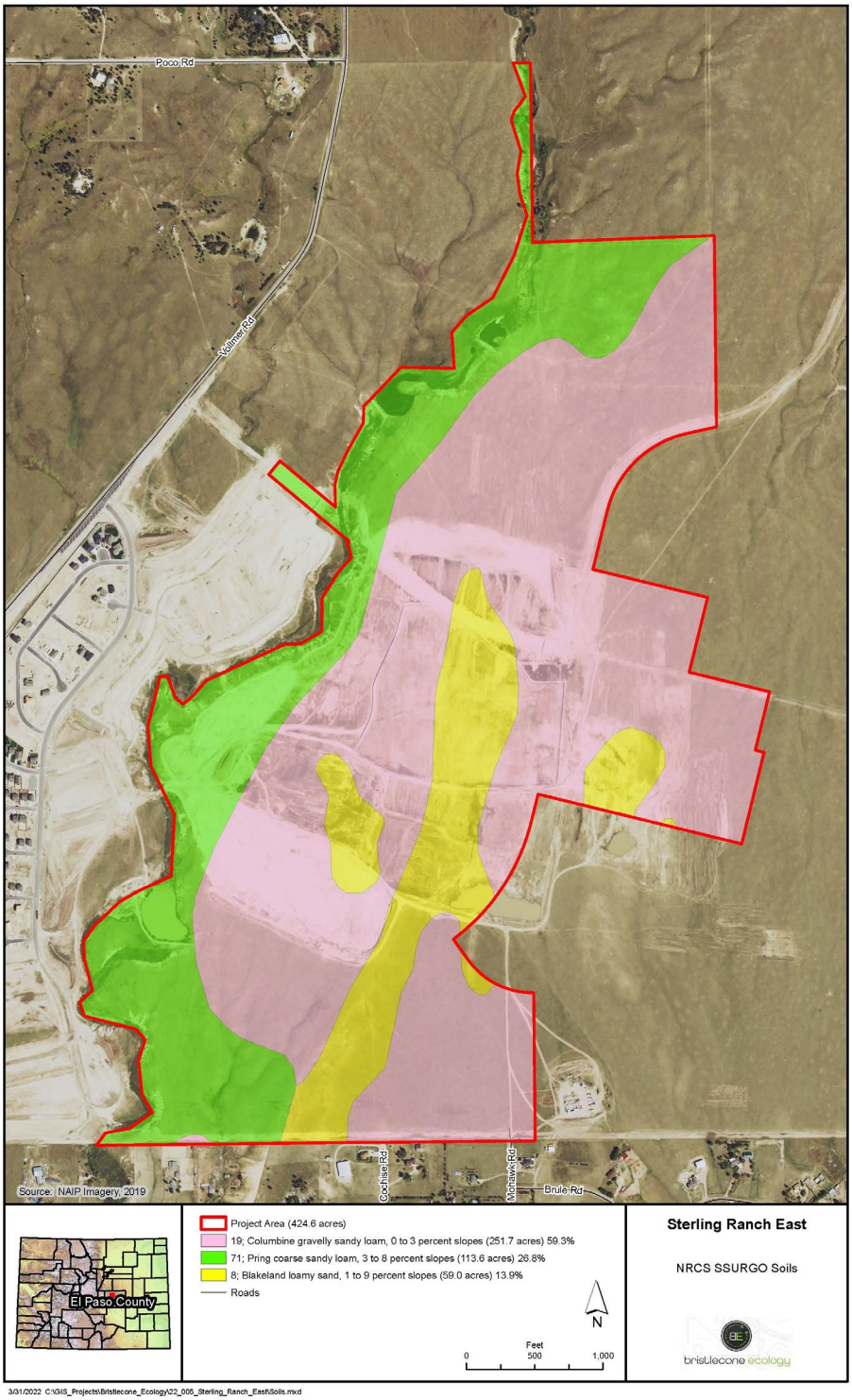
comprising 13.9% of the Project area (NRCS 2022a). While these soils are the dominant series occupying the Project area, there are minor components (called "inclusions") within each series or consociation that could contribute to the overall soil composition at the site.

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 Pring and Blakeland series are rated 'Somewhat Limited' while the Columbine series is rated 'Not Limited' (NRCS 2022b). In terms of area, approximately 40% of the site is rated 'Not Limited' and approximately 60% of the site is rated 'Somewhat Limited' for 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 the primary soil series occurring on the site (Pring, Peyton, Elbeth, etc.) are described as having a low hydric rating El Paso County, with Columbine having a rating of 2, Blakeland a rating of 1, and Pring a rating of zero. 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). 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.

Two of the soil series present on the site (Blakeland and Columbine) are grouped into Hydrologic Group A, while the Pring series is grouped into 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 has a moderate infiltration rate, which results in the soils having a 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



3.3. Aquatic Resources

Aquatic resources include jurisdictional wetlands and other regulated Waters of the U.S. (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. Aquatic features that were depicted in the data can be seen in **Figure 3**: *Aquatic Resources Desktop Review*, and include:

- The channel of Sand Creek is mapped in the NHD data as an intermittent stream running north to south along the entire western boundary of the Project area. The NWI data show several palustrine and riverine wetlands associated with the Sand Creek corridor. This area was delineated in 2015 for the original Sterling Ranch development plan, which includes the areas under construction at the time of this writing on the west side of Sand Creek.
- A tributary to Sand Creek is mapped in the NHD data at the southern extent of the site in a portion of the planning area for Preliminary Plan 1. The NWI data shows a seasonally flooded riverine wetland occupying the tributary in the same area.
- Aerial photos show an open water pond partially on the site where earth-moving activities are being performed. This feature is not depicted in either the NHD or NWI data.

Because these desktop data are often inaccurate, the watercourses and other aquatic features identified in the preliminary desktop analysis were inspected in the field to assess their jurisdictional potential. A site reconnaissance and routine wetland assessment were conducted on April 12th, 2022. The wetland assessment revealed that the features identified in the NHD and NWI data along Sand Creek were generally present in locations matching the desktop review data. The wetlands associated with Sand Creek were delineated previously by others and are assumed to be jurisdictional. A Section 404 permit for impacts to the wetlands associated with Sand Creek is pending; this work will be completed by others as a part of a separate project. Thus, the only wetland depicted in the NHD/NWI data site that could be affected by construction of the Project is the R4SBC wetland near the southern boundary. During the site reconnaissance, this feature was inspected and classified as an upland swale. No other aquatic features were present on the site except for construction areas that may seasonally hold water (see **Figure 4**: *Wetland Location Map,* and **Appendix A:** *Photographic Log*):

- The main channel of Sand Creek on the site is generally present as mapped in the NWI and NHD data, forming the western Project area boundary as it runs from north to south. The NHD/NWI classification of 'intermittent' is likely accurate, though the stream may be perennial, as flowing water has been present during various site visits in the past during all seasons. Either way, Sand Creek, along with its associated wetlands, is the primary aquatic feature on the site, and the only jurisdictional one. As mentioned above, this resource is a part of the original Sterling Ranch permitting and is not a part of any of

the three preliminary plans that constitute Sterling Ranch East. Since a delineation and Section 404 permit already exist for Sand Creek, these resources were not inspected further.

- The tributary to Sand Creek depicted on the southern boundary of the Project area in the NHD and NWI data was inspected and was confirmed to be an upland swale with no discernible streambed or banks and no wetlands present (see **Appendix A** and **Appendix B:** *Wetland Determination Data Forms*).
- There is a manmade depression on the site near the current ground disturbances that may collect/hold water during the wetter seasons. This features can be seen in **Figure 3** and **Figure 4** split by the eastern site boundary. There was no water in this feature at the time of the site visit and the sparse vegetation was characteristic of the other uplands on the site, including prairie grasses, cacti, yuccas, and other forbs. Moreover, in accordance with 33 CFR 328, the following types of aquatic features are non-jurisdictional by statute (the so-called "preamble wetlands":

  "Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel" (33 CFR 328).

Based on the information obtained from the site reconnaissance, there are no wetlands on the site associated with the current Project. The riverine wetland depicted in the NWI data is an upland swale that does not support wetlands and does not maintain hydrologic connection to downstream tributaries or wetlands. 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. While only the U.S. Army Corps of Engineers (USACE) may determine the regulatory status of aquatic features under the Clean Water Act, it is B.E.'s professional opinion that there are no wetlands or other aquatic resources on the site.

Figure 3: Aquatic Resources Desktop Review

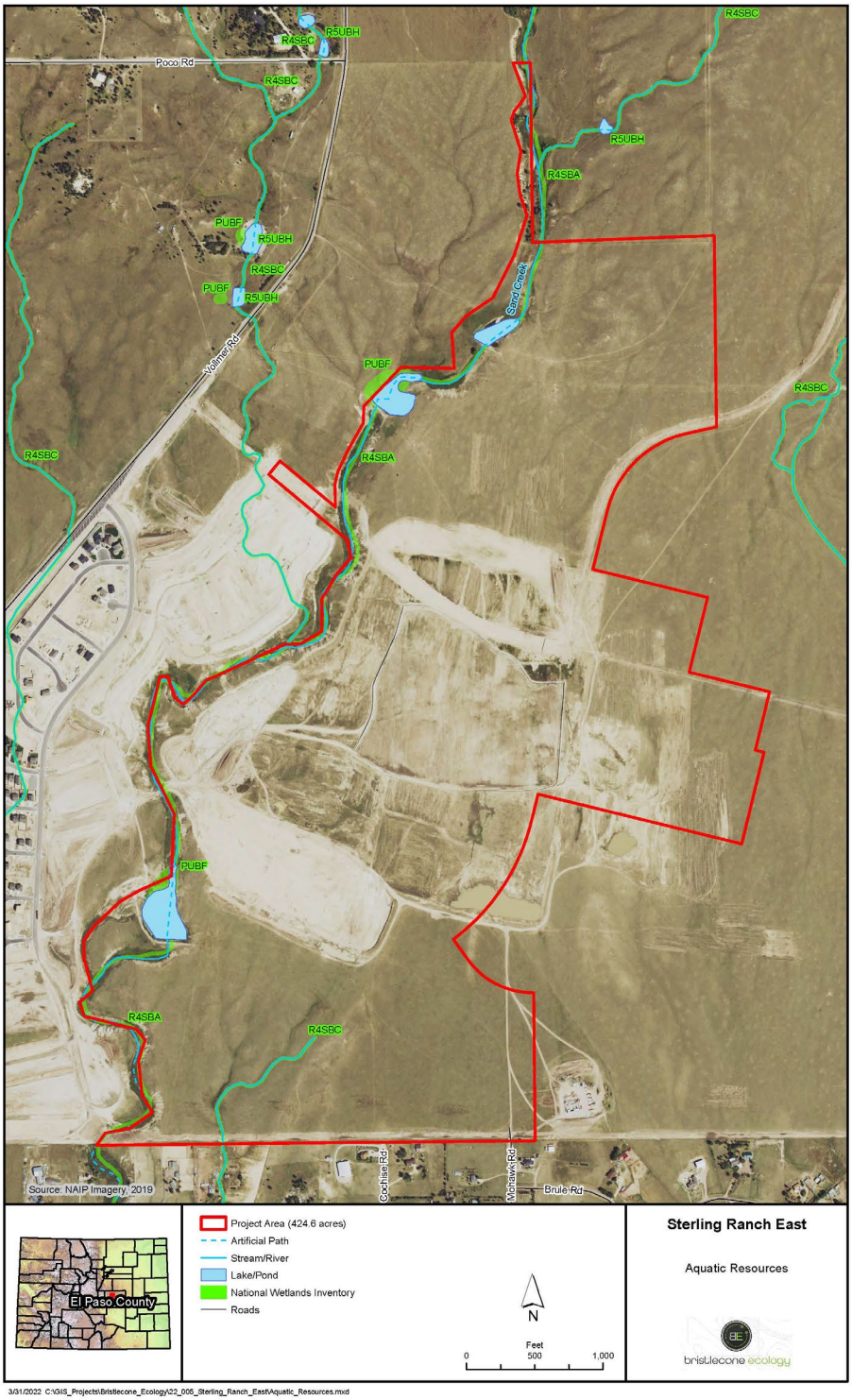
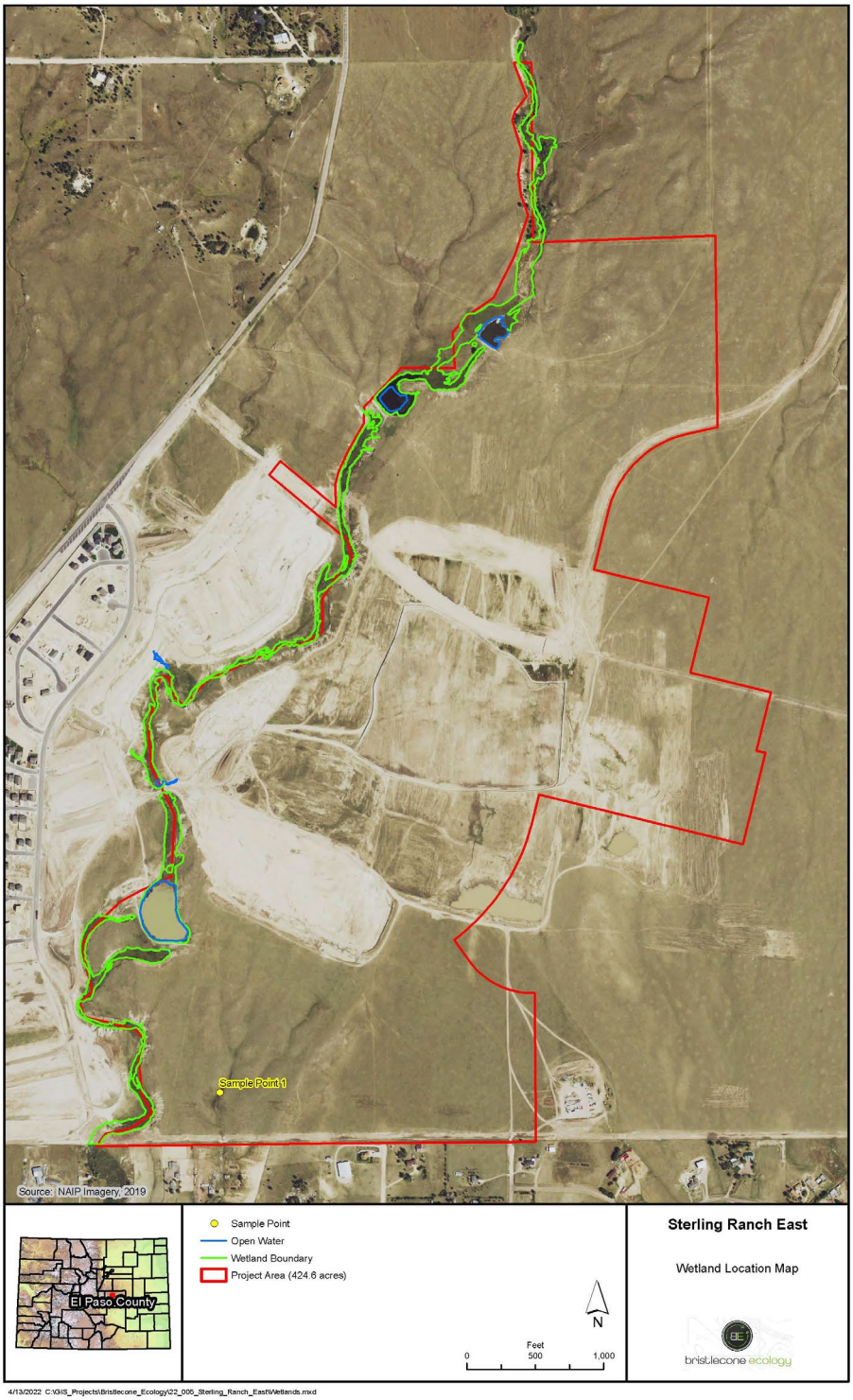


Figure 4: Wetland Location Map



3.4. Noxious Weeds

B.E. prepared a Noxious Week 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 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 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**: *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 (3.94 miles from the western site entrance on future Briargate Parkway)
- Station 2, 16465 Ridge Run Drive, Colorado Springs (8.91 miles from the future Briargate Parkway entrance)

The Black Forest FPD has the following operations equipment available:

Station 1:

- 3 fire engines
    - Engine 711 (Type 1, 750 gallons)
    - Brush 741 (Type 6)
    - Tender 761 (1,800 gallons)
- 1 ambulance
- 1 Wildland Type 3
- 1 reserve Tender
- 1 reserve Brush
- 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 for the Project site is approximately 90% "Moderate Risk" and approximately 10% "High Risk", (CSFS 2020; **Figure 5**: *Wildfire Hazard Map – Wildfire Risk*). "Wildfire Risk" 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 about 70% "Moderate-High" and about 30% "High" (CSFS 2020; **Figure 6**: *Wildfire Hazard Map – Burn Probability*). The areas rated for higher burn probability and higher risk are along the east side of the property. Based on field observations, these areas had less disturbance than the other areas of the site; overall vegetative cover was not noticeably different between these areas, except where active earth-moving operations were occurring.

3.6. Flood Hazard

Flood hazard maps and flood insurance rate maps (FIRM) from the Federal Emergency Management Agency (FEMA) were reviewed to determine the potential for flood hazard at the site. Areas along Sand Creek on the western boundary of the site are located in a Zone A flood hazard zone, indicating an approximate one percent (1%) annual risk of flooding. The remainder of the site where development planned is not located in a flood hazard zone, indicating that flood risk for the majority of the site is deemed by FEMA to be 'minimal' (**Figure 7:** *Flood Hazard Map*).

Figure 5: Wildfire Hazard Map – Wildfire Risk

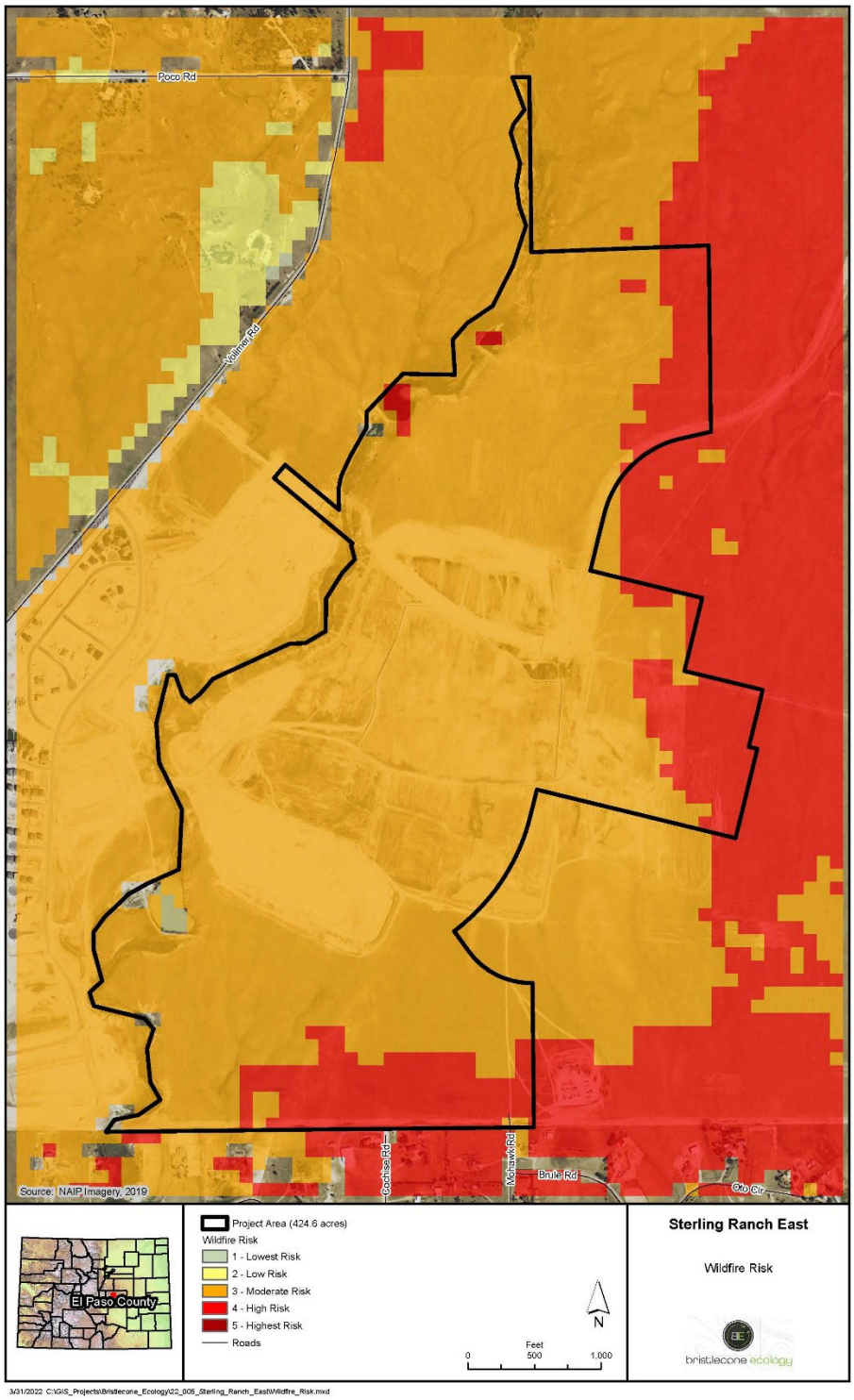


Figure 6: Wildfire Hazard Map – Burn Probability

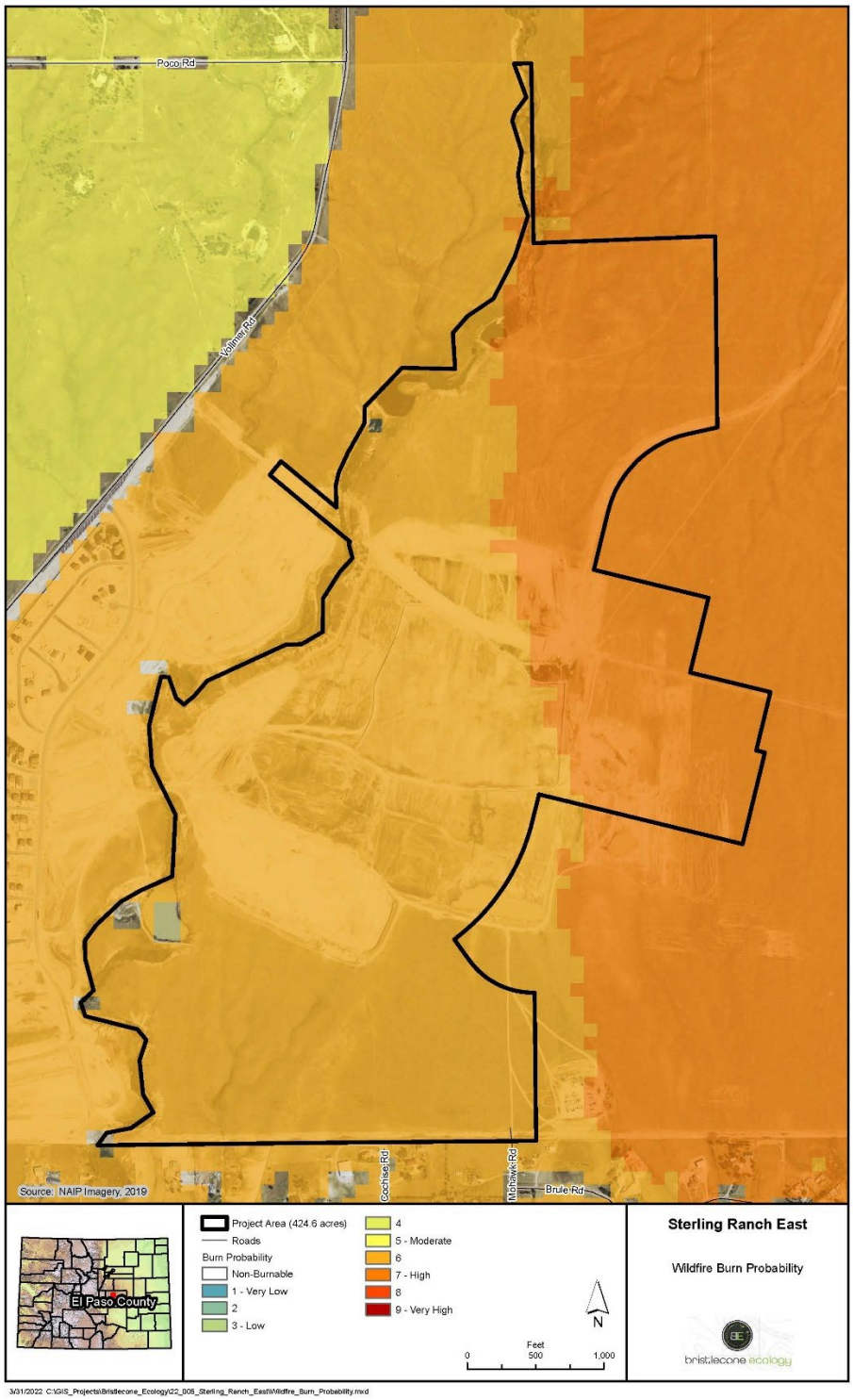
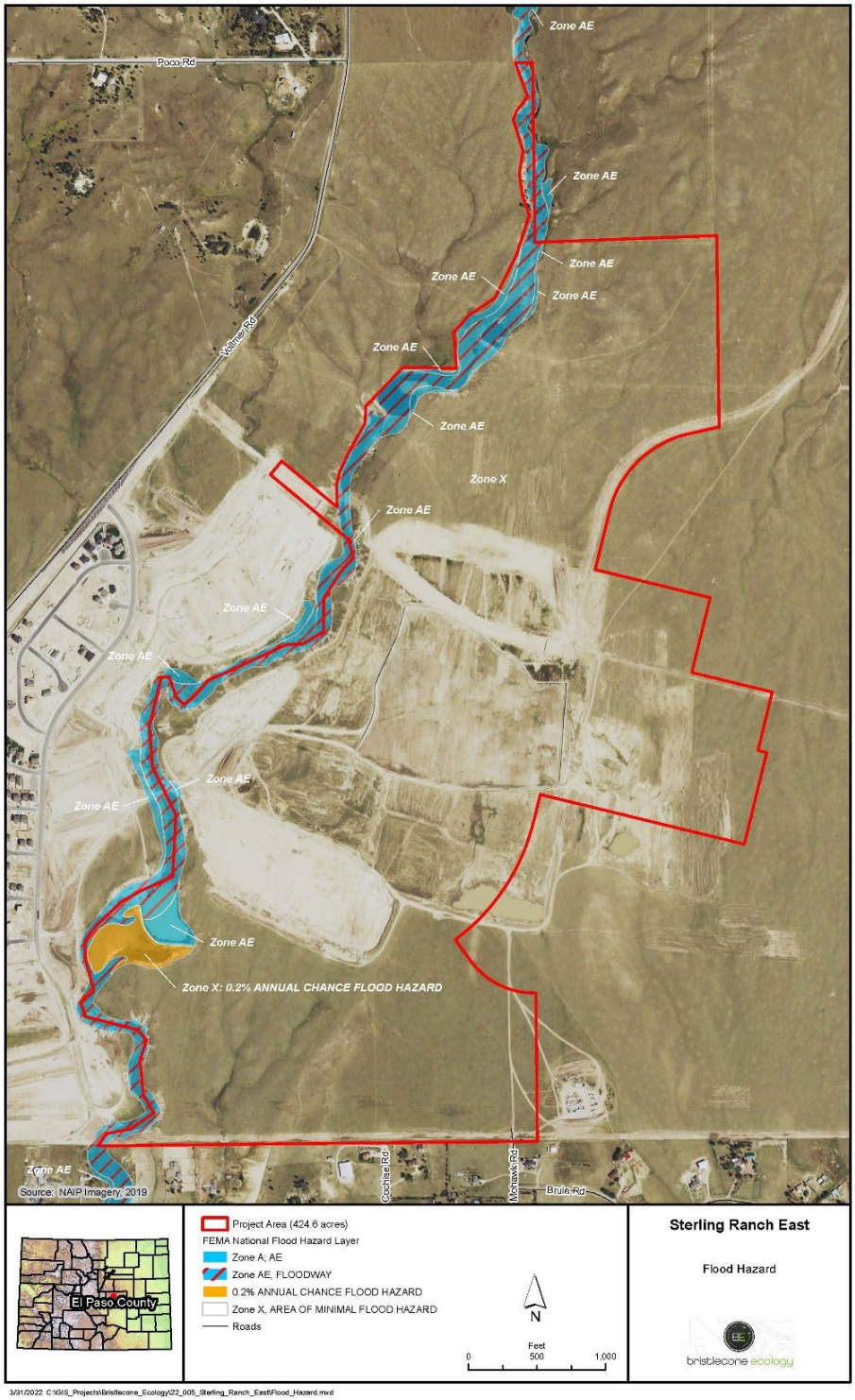


Figure 7: Flood Hazard Map



3.7. Wildlife Communities

The Project site provides moderate quality habitat for some grassland and woodland wildlife, including birds, mammals, reptiles, and possibly 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 to grassland species as relatively low, and to woodland species as moderate to 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 14 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	*Eptesicus fuscus*	Overall range	n/a
Black bear	*Ursus americanus*	Overall range Human conflict area	n/a
Black-tailed prairie dog	*Cynomys ludovicianus*	Overall range Potential colony occurrence	SC, S3
Dwarf shrew	*Sorex nanus*	Overall range	G4, S2
Fringed bat	*Myotis thysanodes*	Overall range	G4, S3
Hoary bat	*Lasiurus cinereus*	Overall range	n/a
Little brown myotis	*Myotis lucifugus*	Overall range	n/a
Mountain lion	*Puma concolor*	Overall range Human Conflict Area	n/a
Mule deer	*Odocoileus hemionus*	Overall range	n/a
Olive-backed pocket mouse	*Perognathus fasciatus*	Overall range	G5, S3
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	Overall range	FT, ST, S1
Pronghorn	*Antilocapra americana*	Overall range	n/a
Silver-haired bat	*Lasionycteris noctivagans*	Overall range	n/a
Western red bat	*Lasiurus blossevillii*	Overall range	n/a
White-tailed deer	*Odocoileus virginianus*	Overall range Concentration Area	n/a
White-tailed jackrabbit	*Lepus townsendii*	Overall range	n/a

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

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

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

[2]State (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, a site reconnaissance was performed 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 blue gramma, prairie Junegrass, and Western wheatgrass. Riparian and wetland vegetation is scarce to nonexistent except along Sand Creek to the west where it is well established. The site has been previously disturbed, and cattle are actively being grazed. Invasive weeds such as diffuse knapweed and Scotch thistle are spread throughout the site in relatively low numbers, with no noticeable concentration areas.

While some of the species listed in the SAM data likely occur on the site, few were observed, 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*), mule deer (*Odocoileus hemionus*), white-tailed jackrabbit (*Lepus townsendii*), northern harrier (*Circus hudsonius*), 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. 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 suitable for the state-threatened burrowing owl (*Athene cunicularia*), though this species is closely associated with abandoned burrows in prairie dog colonies, which were not observed. Golden Eagle (*Aquila chrysaetos*), which receives federal protections under the Bald and Golden Eagle Protection Act (BGEPA) and nests mostly on cliffs, is unlikely to occur except accidentally.

More generally, birds were the most common wildlife observed on the site during the reconnaissance. Species included American goldfinch (*Spinus tristis*), black-billed magpie (*Pica hudsonia*), Canada goose (*Branta canadensis*), common raven (*Corvus corax*), great blue heron (*Ardea herodias*), horned lark (*Eremophila alpestris*), house finch (*Haemorphous mexicanus*), northern flicker (*Colaptes auratus*), red-tailed hawk (*Buteo jamaicensis*), red-winged blackbird (*Agelaius phoeniceus*), western meadowlark (*Sturnella neglecta*). These species tend to prefer open grassland habitats, ponds/marshes, or riparian corridors similar to the predominant habitats present on-site.

The site provides some potential nesting habitat for raptors, and fair habitat for northern harrier, which nests on the ground in grasslands (this species was observed during the site reconnaissance). The riparian corridor of Sand Creek provides sufficient substrate for tree-

nesting raptors such as Swainson's hawk, red-tailed hawk, and the cavity-nesting American kestrel (*Falco sparverius*). No signs of nests were found in any of the trees along the creek.

The Project area also provides habitat for mammals including rodents, deer, and carnivores. Other than approximately 50 pronghorn and four mule deer, mammals were not observed during the site reconnaissance, but a few other species may be expected to occur, including coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and/or red fox (*Vulpes vulpes*). Evidence of fossorial mammals was minimal, but a few eskers (mounds) were observed, presumably of pocket gophers (family *Geomidae*). The area is suitable year-round range for mule deer throughout the site, and perhaps white-tailed deer (*Odocoileus virginianus*), particularly along Sand Creek and uplands swales with thicker vegetation. 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.

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, two fishes, one insect, and two flowering plants with the potential to occur within 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 occurrence at the Project site and their probability of being impacted by Project development. Preble's meadow jumping mouse was not included in the IPaC species list and is excluded because the site is within the Preble's Block Clearance Zone for Colorado Springs (**Appendix C:** *Preble's Meadow Jumping Mouse Block Clearance Map*).

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	*Charadrius melodus*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. Specifically, water depletions have been shown to effect habitat for this species downstream in the watersheds listed. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FT
Eastern black rail	*Laterallus jamaicensis* ssp. *jamaicensis*	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 to support their resource needs. Requires dense overhead cover (usually cattails [*Typha* spp.] or bulrushes [*Schoenoplectus / Scirpus* 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

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

Table 3, Cont. 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]
Insects			
Monarch butterfly	*Danaus plexippus*	Monarch butterfly is a candidate species 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	*Oncorhynchus clarkii stomias*	Cold, clear, gravely headwater streams and mountain lakes. Genetic sampling has confirmed that the only remaining native pure-strain population occurs in a four mile stretch of creek 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	*Scaphirhynchus albus*	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	*Spiranthes diluvialis*	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
Western prairie fringed orchid	*Platanthera praeclara*	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. 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

[1]FE= 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 either this ecosystems, though development of the site will result in the loss of a few hundred acres of grasslands. No globally-sensitive vegetation communities are present, and one state-sensitive vegetation community is present (Shortgrass Prairie), according to CNHP data for sensitive vegetation communities and 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 only a few pine trees and impacts are not expected. 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 are few aquatic resources on the site, and all wetlands observed were isolated, with the exception of the wetlands associated with Sand Creek to the west of the site. Wetlands mapped in NHD/NWI data were confirmed to be isolated during the site reconnaissance, or it was revealed that many of the aquatic resources depicted in the NWI/NHD data are not present on the site at all (see **Appendix A**). With the exception of the jurisdictional wetlands along Sand Creek where a Section 404 permit is already in process, all field-delineated wetlands shown in **Figure 4** are expected to be considered isolated by the USACE. As such, a Section 404 permit from the USACE is not expected to be necessary.

4.3. Noxious Weeds

Noxious weeds are 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. 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 and List C 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 90% of the Project area is mapped as "Moderate" wildfire risk while the remaining 10% is mapped as "High" risk. The moderate risk areas of the site include the areas along Sand Creek and the previously disturbed portions of the property, while the high risk areas are the undisturbed grasslands furthest to the east. The site is rated low in terms of values and assets present that could be lost to wildfire; it is rated moderate to high in terms of burn probability based on the available fuels at the site, nearly all of which are grasslands. The nearest fire response is Station 1 in the Black Forest FPD, which is located 3.91 miles from the site; the second closest station is Station 2 in the Black Forest FPD, which is 8.94 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 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 increased bird feeders and trees 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. Negligible impacts to forest species are expected as few 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, such as the Black Forest. Few sensitive species were present and only in small numbers, 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, consultation with the USFWS is not warranted.

5.0 RECOMMENDATIONS

Upon completion of a desktop review, site reconnaissance, and routine wetland delineation, B.E. finds that some 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. Wetland habitat, 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. A Section 404 permit is in process for work within the Sand Creek channel to the west, which is a separate undertaking from this Project. Based the preliminary site layout and lack of 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. 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 recommendations are provided.

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 (*Haliaeetus leucocephalus*) and golden eagles receive additional statutory protection from accidental take and disturbance under the BGEPA. Both acts particularly apply to nesting birds and their nests. 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 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, as well as isolated ponderosa pines and cottonwoods along Sand Creek, all of 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,

occupied raptor nests are present along Sand Creek, B.E. recommends following CPW's guidance for establishing buffer zones to protect nesting raptors from disturbance.

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 Act, 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 both knapweeds 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 other wildlife, including some big game, to occur within the site. However, no big game migratory routes traverse the Project. 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 coordination with CPW to determine the appropriate avoidance measures to take during and after construction regarding general wildlife. Impacts to wildlife should be reduced as much as practical 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 dmaynard@bristleconeecology.com.

Sincerely,

Bristlecone Ecology, LLC

Daniel Maynard
Ecologist

6.0 REFERENCES

Chapman, S.S., G.E. Griffith, J.M. Omernik, A.B. Price, J. Freeouf, and D.L. Schrupp. 2006. Ecoregions of Colorado (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,200,000).

CNHP (Colorado Natural Heritage Program). 2022. Colorado's Conservation Data Explorer (CODEX). Colorado Natural Heritage Program, Colorado State University, Fort Collins. https://codex.cnhp.colostate.edu/

CDA (Colorado Department of Agriculture). 2006. 8 CCR 1206-2 – Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act.

Colorado Weed Management Association. (CWMA). 2015. Colorado State Noxious Weed List

CPW. 2022. CPW Species Activity Mapping Data. Updated March 2022. https://www.arcgis.com/home/item.html?id=190573c5aba643a0bc058e6f7f0510b7

CSFS (Colorado State Forest Service). 2020. Wildfire Risk Assessment Portal (WRAP). https://co-pub.coloradoforestatlas.org/#/. Accessed January 2022.

EPC (El Paso County). 2018a. El Paso County Noxious Weeds and Control Methods. https://assets-communityservices.elpasoco.com/wp-content/uploads/Environmental-Division-Picture/Noxious-Weeds/Noxious-Weed-Control-Book.pdf

EPC. 2018b. El Paso County Land Development Code. https://planningdevelopment.elpasoco.com/land-development-code/

EPC. 2017. El Paso County Noxious Weed Management Plan. https://assets-communityservices.elpasoco.com/wp-content/uploads/Environmental-Division-Picture/Noxious-Weeds/Weed-Management-Plan-December-2017.pdf

Katzner, T. E., M. N. Kochert, K. Steenhof, C. L. McIntyre, E. H. Craig, and T. A. Miller (2020). Golden Eagle (*Aquila chrysaetos*), version 2.0. In Birds of the World (P. G. Rodewald and B. K. Keeney, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.goleag.02

Metcalf, J. L., S. Love Stowell, C. M. Kennedy, K. B. Rogers, D. McDonald, J. Epp, K. Keepers, A. Cooper, J. J. Austin, and A. P. Martin. 2012. Historical Stocking Data and 19th Century DNA Reveal Human-Induced Changes to Native Diversity and Distribution of Cutthroat Trout." Molecular Ecology 21, no. 21 (November 1, 2012): 5194–5207. doi:10.1111/mec.12028.

NRCS (Natural Resources Conservation Service). 2022a. Web Soil Survey. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed February 18, 2022.

NRCS. 2022b. Building Site Development: Dwellings and Small Commercial Buildings Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

NRCS. 2022c. Building Site Development: Hydrologic Soil Group Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

NRCS. 2022d. Building Site Development: Hydric Soil Rating Report. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

State of Colorado. 2003. Colorado Revised Statutes, Title 35 Agriculture, Article 5.5 Colorado Noxious Weed Act.

USDA (U.S. Department of Agriculture). 2020. National Agriculture Imagery Program.

USFWS (United States Fish and Wildlife Service). 2022. Information for Planning and Conservation Online System. https://ecos.fws.gov/ipac/.

USFWS. 2017. Critical Habitat Portal. http://ecos.fws.gov/tess_public/profile/speciesProfile?spcode=E00F. Accessed January 13, 2022.

USFWS. 1992. Interim Survey Requirements for Ute Ladies-tresses' Orchid (*Spiranthes diluvialis*). https://www.fws.gov/utahfieldoffice/Documents/Plants/SPDI_interimSurveyRequirements_1992.pdf

APPENDIX A

PHOTOGRAPHIC LOG

PHOTO 1 – Overview of typical habitat at the site, taken from the northern portion of the site, facing north. Where vegetation has not been previously disturbed the area is dominated by blue gramma, Junegrass, and other common shortgrass prairie species. Overall, the prairies on the site show poor to moderate diversity and lack structure. Species diversity is low for both flora and fauna.

PHOTO 2 – View of the disturbed areas of the site near the south-central portion, facing southwest. Flora and fauna are nonexistent in these areas, and earth-moving activities are ongoing.

PHOTO 3 – Photo taken from a temporary dirt access road near the intermittently ponded area that can be seen in aerial photos along the eastern site boundary. The berm creating this depression and potential for ponding can be seen starting on the right side of the photo and running across the middle. No water was present at the time of the site visit in April.

PHOTO 4 – Near the southern boundary of the site showing the R4SBC wetland identified in the NHD/NWI data. While there are some Baltic rushes (J. balticus) present at this location – evident as darker vegetation in the photo – sampling at this location revealed mostly upland species, and the area did not pass hydrologic or hydric soil indicators, and thus is classified as an upland swale.

PHOTO 5 – Another photo of the area identified as an R4SBC wetland in the NHD/NWI data, looking north up the swale from the area of the densest vegetation. This area was determined not to be a wetland based on field indicators during the wetland assessment.

APPENDIX B

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sterling Ranch East City/County: El Paso County Sampling Date: 4/12/2022

Applicant/Owner: Classic SRJ, LLC State: CO Sampling Point: Point 1

Investigator(s): Daniel Maynard Section, Township, Range: Sec. 33, T12S, R65W

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRR G Lat: 38.955981 Long: -104.671496 Datum: WGS84

Soil Map Unit Name: Pring (Aridic Haplustolls) NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' x 15')			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5' x 5')			
1. Juncus balticus	50	✓	FACW
2. Bouteloua gracilis	23	✓	UPL
3. Andropogon gerardii	5		UPL
4. Koeleria macrantha	8		UPL
5. Verbascum thapsus	1		UPL
6. Achillea millefolium	2		FACU
7. Artemisia frigida	3		UPL
8. Centaurea sp.	5		UPL
9.			
10.			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30' x 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 3.00

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC–): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	45	x 5 =	225
Column Totals:	97 (A)		333 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

- - 1 - Rapid Test for Hydrophytic Vegetation
- - 2 - Dominance Test is >50%
- - 3 - Prevalence Index is ≤3.0[1]
- - 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- - Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [ ] No [✓]

Remarks:

SOIL

Sampling Point: Point 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8"	10YR 2/2	100	-	-	-	-	SL	Coarse
8"+	10YR 3/3	100	-	-	-	-	SL	Coarse

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- + Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

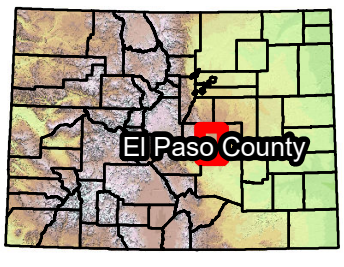
APPENDIX C

NOXIOUS WEED MANAGEMENT PLAN

APPENDIX D

PREBLE'S MEADOW JUMPING MOUSE BLOCK CLEARANCE MAP

Source: NAIP Imagery, 2019



Project Area (424.6 acres)
Block Clearance Zone
USFWS Critical Habitat
CPW Preble's Meadow Jumping Mouse Occupied Range

N

Miles
0 2 4

Sterling Ranch East

Preble's Meadow Jumping Mouse Habitat Map

bristlecone ecology

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