Wetland, Wildlife and Natural Features Report
for
Jane Davis Ranch in El Paso County, Colorado

June 19, 2023
Revised September 28, 2023
Revised December 21, 2023

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Project Number: 2022-22-1

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LIST OF ACROYNMS AND ABBREVIATIONS

AMSL	above mean sea level
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
CWA	Clean Water Act
ECOS	Ecosystem Services, LLC
ESA	Endangered Species Act
Guman	Willian Guman & Associates, Ltd.
JD	jurisdictional under the Clean Water Act
LEDPA	Least Environmentally Damaging and Practicable Alternative
MBTA	Migratory Bird Treaty Act
Non-JD	non- jurisdictional under the Clean Water Act
NRCS	Natural Resource Conservation Service
NTCHS	Technical Committee for Hydric Soils
NWI	National Wetland Inventory
PCA	CNHP Potential Conservation Area
PMJM	Preble's meadow jumping mouse
Project	Jane Davis Ranch project
Report	Wetland, Wildlife and Natural Features Report
Site	Project site
T&E	Threatened and Endangered species
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

Ecosystem Services, LLC (ECOS) was retained by Willian Guman & Associates, Ltd. (Guman) to perform a natural resource assessment for the 394.91-acre Jane Davis Ranch site (Site) and to prepare this Wetland, Wildlife and Natural Features Report (Report).

The contact information for the Guman and ECOS representatives for this Report is provided below:

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1.1 Purpose

The purpose of the assessment is to compare background information with present-day conditions, ascertain the physical/ecological characteristics and conditions of the Site, identify potential environmental opportunities and constraints associated with development improvements, and determine the presence/absence and approximate extent of the following features:

- Vegetation Communities;
- Natural Landforms;
- Wetland habitat and other waters of the U.S. (i.e., lakes, ponds, streams) regulated under the Clean Water Act;
- Drainages and Riparian Areas;
- Wildlife Habitat:
    - Federal listed threatened and endangered species habitat regulated under the Endangered Species Act;
    - Migratory birds and raptors regulated under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BEGPA).

1.2 Site Location

The Site is located approximately 2.74 miles northeast of Falcon and 4.65 miles southwest of Peyton in El Paso County, Colorado. It is situated east/southeast of Highway 24, north of Judge Orr Road, southwest of the Heritage Park subdivision, and the majority of the Site is west of Elbert Road. The Site is specifically located within the east half of the southeast quarter of Section 33 and the majority of Section 34, Township 12 South, Range 64 West in El Paso County, Colorado (El Paso County Parcels 4200000354. 4200000377, 4200000379, 4200000406, and 423000031). The center of the Site is located at approximately Latitude 38.961883˚ north, Longitude -104.543390 ˚ west at an elevation of approximately 6,780 feet above mean sea level. Refer to Figure 1, USGS Site Location Map and Figure 2, Existing Conditions Aerial Photo.

1.3 Project Description

The Applicant has developed a Sketch Plan for a combination of rural residential and commercial service uses (i.e., the Project). Please refer to Figure 3, Sketch Plan provided by the Applicant (dated May 30, 2023) and the development application for specific details and descriptions of the Project.

Figure 1 - USGS Site Location Map

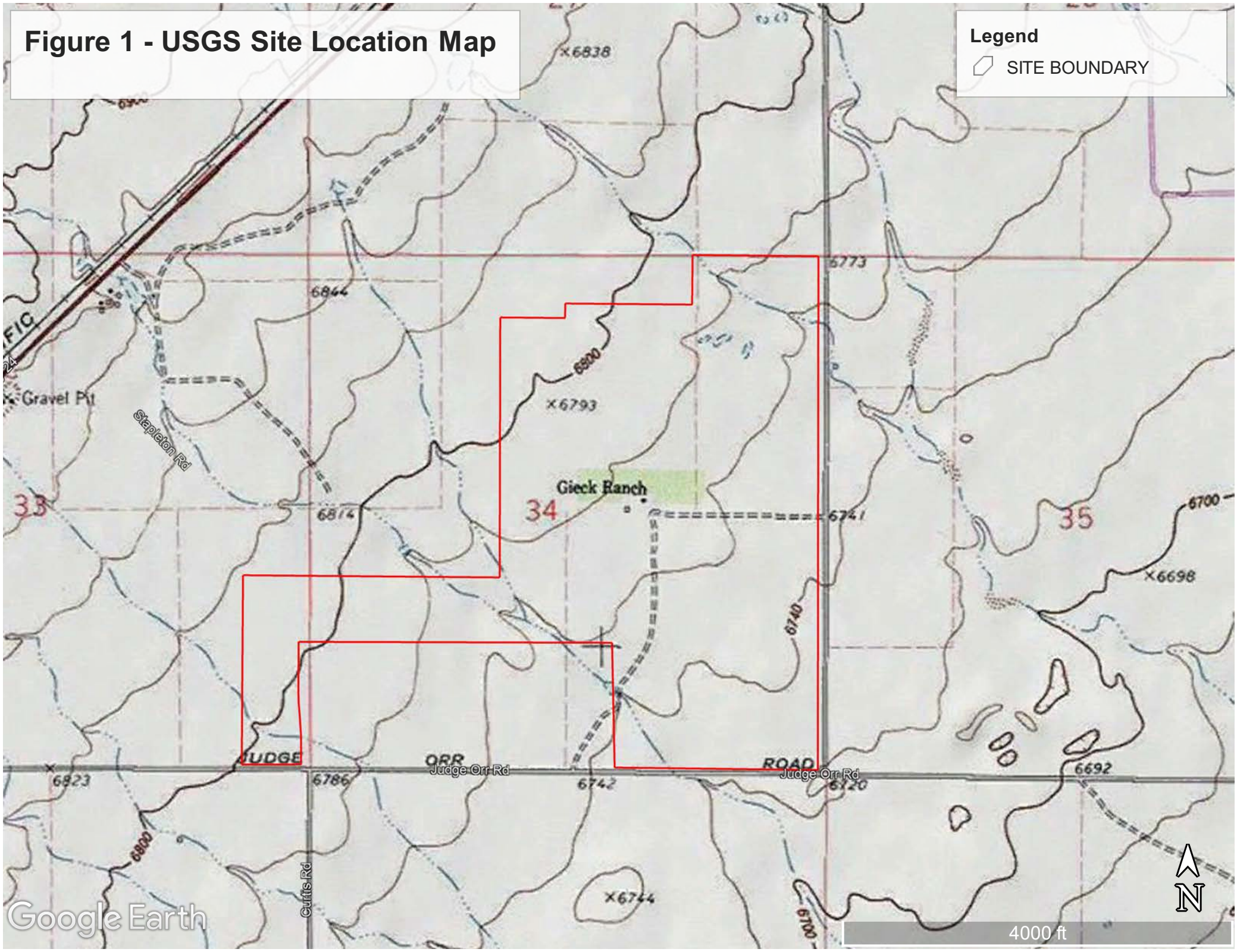


Figure 2 - Existing Conditions Aerial Photo

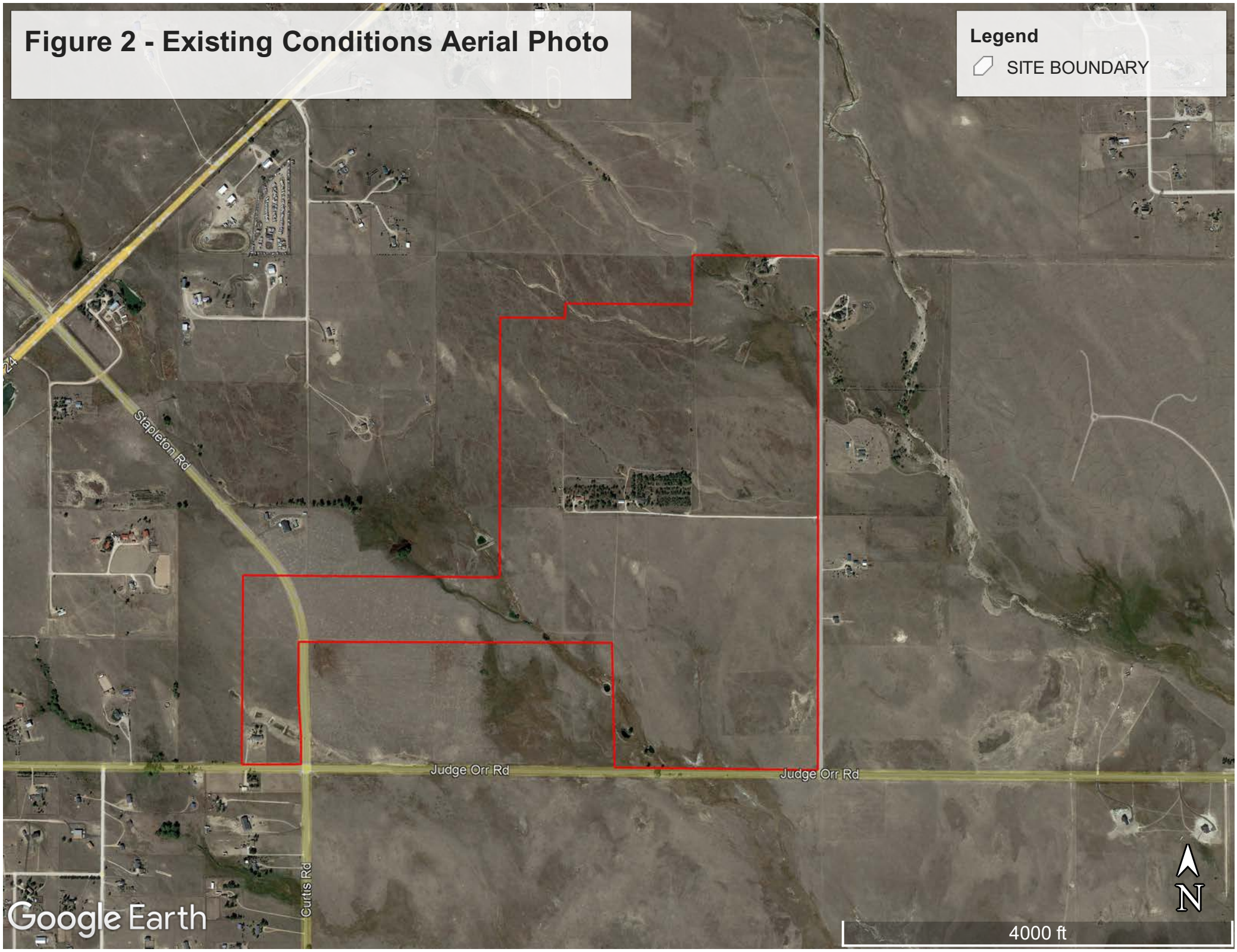
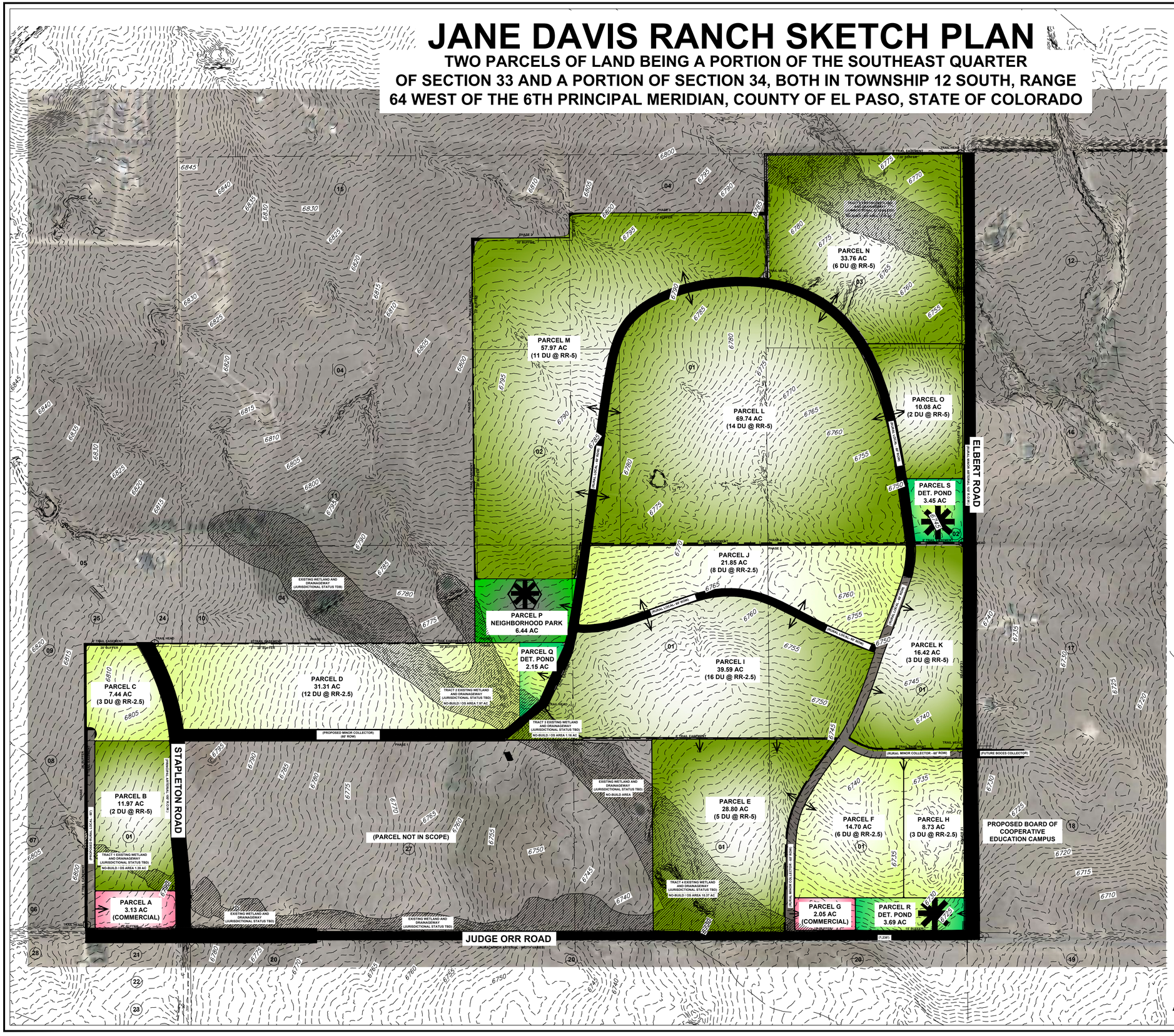


Figure 3
Sketch Plan

JANE DAVIS RANCH SKETCH PLAN

TWO PARCELS OF LAND BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 33 AND A PORTION OF SECTION 34, BOTH IN TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO



LAND USE SUMMARY TABLE:

LAND USE CATEGORY	ACREAGE	% OF SITE	MAXIMUM UNITS
LOW DENSITY RR-2.5 ZONING	123.62 ac	31%	48
LOW DENSITY RR-5 ZONING	228.74 ac	58%	43
COMMERCIAL CS ZONING	5.18 ac	1.3%	n.a.
OPEN SPACE PARK ZONING	6.44 ac	1.7%	n.a.
DETENTION NO-BUILD	9.29 ac	2.4%	n.a.
TRAIL AND TRAIL HEAD	2.69 ac	1.0%	n.a.
15-20' BUFFER	3.08 ac	<1.0%	n.a.
PROPOSED R.O.W.	18.28 ac	4.6%	n.a.
TOTAL:	397.32 ac	100%	91
FLOODPLAIN NO-BUILD / OS	31.89 ac		n.a.

A. "FLOODPLAIN - NO BUILD / OS" ACREAGE IS INCLUDED WITHIN THE PROPOSED PARCEL ACREAGE AS "PRIVATE OPEN SPACE" AND IS DESIGNATED AS SUCH FOR EACH LOT WHICH ENCROACHES INTO THE FLOODPLAIN.

B. "OPEN SPACE" AREAS INCLUDE PUBLIC PARK PARCEL, DETENTION PARCELS, 8' TRAIL EASEMENTS, AND PRIVATE FLOODPLAIN - NO BUILD / OS.

C. "R.O.W." AREAS INCLUDE ALL INTERNAL STREET RIGHTS-OF-WAY, JUDGE ORR ROAD R.O.W., AND STAPLETON ROAD R.O.W.

D. "TRAIL EASEMENT" INCLUDES A PROPOSED 8' WIDE COUNTY TRAIL EASEMENT TO PROVIDE CONNECTIVITY TO PARK AND FLOODPLAIN - NO BUILD / OS AREAS.

PARCEL SUMMARY

PARCEL	ACREAGE	PROPOSED USE/ZONE	MAXIMUM UNITS
A	3.13	COMMERCIAL	n.a.
B	11.97	RR-5.0	2 DU
C	6.84	RR-2.5	3 DU
D	31.31	RR-2.5	12 DU
E	28.80	RR-5.0	5 DU
F	14.70	RR-2.5	6 DU
G	2.05	COMMERCIAL	n.a.
H	8.73	RR-2.5	3 DU
I	39.59	RR-2.5	16 DU
J	21.85	RR-2.5	8 DU
K	16.42	RR-5.0	3 DU
L	69.79	RR-5.0	14 DU
M	57.97	RR-5.0	11 DU
N	33.76	RR-5.0	6 DU
O	12.65	RR-5.0	2 DU
P	6.44	PARK	n.a.
Q	2.14	DETENTION	n.a.
R	3.69	DETENTION	n.a.
S	3.45	DETENTION	n.a.

ADJACENT PROPERTY OWNERS:

KEY	NAME AND ADDRESS
01	Jane Davis Living Trust 9060 Elbert Road Peyton, CO 80831- 8319 TSN 4200000377
02	Junior J. Davis 9050 Elbert Road Peyton, CO 80831- 8319 TSN 4200000218
03	Junior J. Davis 9350 Elbert Road Peyton, CO 80831- 8319 TSN 4200000241
04	Robert D. Gieck Trust 8349 S Allison Street Littleton, CO 80128- 6101 TSN 4200000209
05	Mabel L. Brown 9555 Curtis Road Peyton, CO 80831- 7759 TSN 4200000047
06	Jennings Family Trust 2030 Tabor Court Colorado Springs, CO 80919 - 4843 TSN 4233002007
07	FFR7, LLC 1220 Valley Street Colorado Springs, CO 80915 TSN 4233002006
08	Jennings Family Trust 2030 Tabor Court Colorado Springs, CO 80919 - 4843 TSN 4233002004
09	Albert Omar Lopez 7220 Rim Bluff Lane Colorado Springs, CO 80927 TSN 4233002003
10	Roberto S. Torres 9464 Winged Foot Road Peyton, CO 80831 TSN 4233002002
11	Julia B. Morgan Living Trust 4825 Old Farm Drive #314 Colorado Springs, CO 80917 - 1089 TSN 4220000015
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20	Gorilla Capital Co. 1342 High Street Eugene, OR 97401 TSN 4300000599
21	J.D. Enghaus 14775 Judge Orr Road Peyton, CO 80831 - 8424 TSN 4304003001
22	Rodolfo Escobedo 10075 Burgess Road Colorado Springs, CO 80908 TSN 4304003002
23	Daniel Duane Combss 8410 N. Curtis Road Peyton, CO 80831 - 7927 TSN 4304003003
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25	George Tasoulis 227 W. Sylvestor Place Littleton, CO 80129 - 6202 TSN 4233000034
26	Peter J. Hagen 704 Silver Oak Grove Colorado Springs, CO 80906 TSN 4200000377
27	Pete Lien & Sons, Inc. P.O. Box 440 Rapid City, SD 57709 - 0440 TSN 4200000405
28	William R. Bunn 29531 Saratoga Ave. Big Pine Key, FL 33043 - 3207 TSN 4304005019

Actual North

0' 300' 600' 900'

SCALE: 1" = 300' - 0"

William Guman & Associates, Ltd.
URBAN PLANNING | COMMUNITY DESIGN |
LANDSCAPE ARCHITECTURE
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PLAN NORTH:

PROJECT NAME: JANE DAVIS RANCH
PROJECT ADDRESS: 9350 ELBERT ROAD
PEYTON, CO 80831
PROJECT DESCRIPTION: SKETCH PLAN

DATE: 05/30/2023
DESIGNED: WFG
CHECKED: GEM

WILLIAM FREDERICK GUMAN
LA-167
Original Date of Issuance
STATE OF COLORADO
LICENSED LANDSCAPE ARCHITECT

REVISIONS:

DATE:	BY:	DESCRIPTION:
11/01/23	WFG	Street classifications Parcel amendments

NOTES:

PLAN SCALE: 1" = 3000' (OR AS NOTED ON PLAN)

SHEET TITLE: SKETCH PLAN

SHEET NO. Figure 3 (SKP1.2)

FILE NO. FILE# SKP232

2.0 METHODOLOGY

ECOS performed an office assessment in which available databases, resources, literature, and field guides on local flora and fauna were reviewed to gather background information on the environmental setting of the Site. We consulted several organizations, agencies, and their databases, including:

- Colorado Department of Agriculture (CDA) Noxious Weed List;
- Colorado Natural Heritage Program (CNHP);
- Colorado Oil and Gas Conservation Commission (COGCC) GIS Online;
- Colorado Parks and Wildlife (CPW);
- El Paso County Master Plan;
- El Paso County, Sub-Area Plan (provided by Client as applicable);
- Google Earth current and historic aerial imagery;
- Survey of Critical Biological Resources, El Paso County, Colorado;
- Survey of Critical Wetlands and Riparian Areas in EI Paso and Pueblo Counties, Colorado;
- U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetlands Delineation Manual;
- USACE 2008 Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region;
- U.S. Department of Agriculture (USDA) PLANTS Database;
- U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey;
- U.S. Fish and Wildlife Service (USFWS) Region 6 data;
- USFWS Information, Planning, and Conservation (IPaC) database;
- USFWS National Wetland Inventory (NWI);
- U.S. Geological Survey (USGS); and
- Site-specific background data provided by Guman and their consulting Team, including topographic base mapping, site development plans, and other data pertinent to the assessment.

Following the collection and review of existing data and background information, ECOS conducted a field assessment of the Site on May 22 - 23, 2023. The purpose of the assessment was to compare background information with present-day conditions, ascertain the physical/ecological characteristics and conditions of the Site, identify potential environmental opportunities and constraints associated with development improvements, and determine the presence/absence and approximate extent of the following features:

- Vegetation Communities
- Topography / Natural Landform;
- Wetland habitat and other waters of the U.S. (i.e., lakes, ponds, streams) regulated under the Clean Water Act;
- Drainages and Riparian Areas; and

- Wildlife habitat, including:
  - Federal listed threatened and endangered species habitat regulated under the Endangered Species Act;
  - Migratory birds and raptors regulated under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BEGPA).

During the office and on-site assessment ECOS sketched and/or mapped the above features (as applicable) with a GPS on a topographic base map provided by Guman and/or on a Google Earth aerial image of the Site. ECOS utilized GPS to document the boundaries/locations of significant natural features as deemed necessary. Representative photographs were taken to assist in describing and documenting Site conditions.

3.0 ENVIRONMENTAL SETTING

The Site is located in the Southwestern Tablelands Ecological Region (Chapman et al, 2006), which is primarily comprised of sub-humid grassland and semiarid rangeland. More specifically, the Site is located in the Foothills Grassland sub-region (26j) which contains a mix of grassland types with some small areas of isolated tallgrass prairie species that are more common much farther east. The proximity to runoff and moisture from the Front Range and the more loamy, gravelly, and deeper soils are able to support more tallgrass and midgrass species than neighboring ecoregions. Big and little bluestem and switchgrass occur, along with foothill grassland communities. The annual precipitation of 14 to 20 inches tends to be greater than in regions farther east. Soils are loamy, gravelly, moderately deep, and mesic. Rangeland and pasture are common, with small areas of cropland. Urban and suburban development has increased in recent years, expanding out from Colorado Springs and the greater Denver area.

The Site is located within the CNHP Kelso's Prairie Potential Conservation Area (PCA) according to the CNHP (CNHP, 2022), which is described as comprising B2 (Very High Biodiversity Significance) consisting of low rolling hills of tallgrass, midgrass, and shortgrass prairie with swales containing wet meadows and small ephemeral drainages that form a relatively intact landscape in north-central El Paso County. Located south and west of the Black Forest, the site encompasses the upper watershed of Black Squirrel Creek and its tributaries. Within the Kelso's Prairie site, two grassland communities have been described including one south of Highway 24 and along both sides of Judge Orr Road that includes the Site. This grassland includes a fairly large occurrence of a big bluestem and little bluestem tallgrass prairie (*Andropogon gerardii* - *Schizachyrium scoparium*) which occurs in patches within about a five square mile area. The occurrence appears to be in good condition with relatively few weeds and sustainable grazing practices. Other grasses present include prairie sand reed (*Calamovilfa longifolia*), blue grama (*Bouteloua gracilis*), and scattered Indiangrass (*Sorghastrum nutans*). Perhaps the most striking aspect of the prairie along Judge Orr Road is the abundance of creeks and wetlands. These creeks and wetlands are supported by regional shallow groundwater resulting from groundwater recharge in the Black Forest to the north. The land gently slopes to the southeast forming the headwaters of Black Squirrel Creek. Many small

drainages flow from the area and can form wide wet meadows of up to 40 acres in size. These many drainages and wet meadows support a mosaic of wetland plants and communities including Baltic rush (*Juncus balticus* var. *montanus*), Nebraska sedge (*Carex nebrascensis*), clustered sedge (*C. praegracilis*), woolly sedge (*C. pellita*), Crawe sedge (*C. crawei*), three-square bulrush (*Scirpus pungens*), saltgrass (*Distichlis spicata*) and the European pasture grass redtop (*Agrostis gigantea*). These communities can form monotypic stands or intermingle with adjacent types.

No Critical Habitat, Wildlife Refuges, or Hatcheries are present in the vicinity of the Site according to the USFWS IPaC Trust Resources Report in Appendix B (USFWS, 2023a).

3.1 Topography / Natural Landform

The topography of the Site trends from the northwest to the southeast and is formed by three gentle ridges along the southwest, central and northeast portions of the Site, which form natural drainage depressions in the southwest, south-central and northeast portions of the Site. It ranges from a high elevation of approximately 6,818 feet above mean sea level (AMSL) along the northwest edge of the Site to a low elevation of approximately 6,720 feet AMSL in the southeastern corner of the Site.

3.2 Soils

ECOS utilized the USDA, Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA, NRCS, 2023) to determine the types of soils present and if hydric soils are present within the Site, as this data assist in informing the presence/absence of potential wetland habitat regulated under the Clean Water Act. The soil data were also utilized to supplement the field observations of vegetation, as the USDA provides a correlation of native vegetation species by soil types. Please refer to the Custom Soil Resource Report for the Site in Appendix A.

The Site is comprised of the following soil types:

Map Unit Symbol & Name

- 8 – Blakeland loamy sand, 1 to 9 percent slopes;
- 19 - Columbine gravelly sandy loam, 0 to 3 percent slopes; and
- 29 - Fluvaquentic Haploquolls, nearly level.

Pursuant to the Custom Soil Resource Report:

- The Blakeland loamy sand is not hydric; however, the 1% inclusion of Pleasant soil is hydric;
- The Columbine gravelly sandy loam is not hydric; however, the 1% inclusion of Fluvaquentic Haplaquolls and 1% inclusion of Pleasant soils are both hydric; and
- The Fluvaquentic Haplaquolls is hydric and the 1% inclusion of Haplaquolls soil is hydric as well.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS, 1994) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in *Field Indicators of Hydric Soils in the United States* (USDA, NRCS, 2010).

3.3 Vegetation Communities

3.3.1 Short- and Mixed-grass Prairie

The vegetation within the Site is primarily comprised of herbaceous short-grass prairie species with herbaceous wetland vegetation in the drainages and ephemeral swales flowing through the Site. Given the limited presence of certain mid-grass prairie species mixed throughout the shortgrass prairie, we have referred to the vegetation community as “short and mixed grass prairie”. Refer to Figure 4, Vegetation Community Map. The dominant prairie grass species is blue grama (*Bouteloua gracilis*), with occasional little bluestem (*Schizachyrium scoparium*) and western wheatgrass (*Pascopyrum smithii*). The other most common associative prairie species are prairie aster (*Machaeranthera tenacetifolia*), smooth brome (*Bromus inermis*), fringed sage (*Artemisia frigida*), yucca (*Yucca spp.*) and prickly pear cactus (*Opuntia* sp.). Other species include Wood’s rose (Rosa woodsii), false indigo bush (*Amorpha fruticosa*), sticky geranium (*Geranium viscosissimum*), and yarrow (Achillea millefolium). The Site is moderately grazed and there are scattered weeds, including Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), common mullein (*Verbascum thapsus*), horseweed (*Conyza canadensis*) and field bindweed (*Convolvulus arvensis*).

3.3.2 Wetland

Hydrophytic vegetation (wetland vegetation) is present within the northeastern, south-central, and southwest ephemeral drainages where saturated (hydric) soils are present. Dominant wetland vegetation includes Baltic rush (*Juncus balticus*), Nebraska sedge (*Carex nebrascensis*), clustered field sedged (*C. praegracilis*), saltgrass (*Distichlis spicata*), and spikerush (*Eleocharis palustris*). Dispersed sandbar willow (*Salix exigua*) is present in the northeastern ephemeral drainages. Other hydrophytic species present include water mint (*Mentha aquatica*), narrowleaf cattail (*Typha angustifolia*), and Rocky Mountain iris (*Iris missouriensis*). Refer to Figure 4, Vegetation Community Map and Figure 5, NWI Map.

3.3.2 Riparian

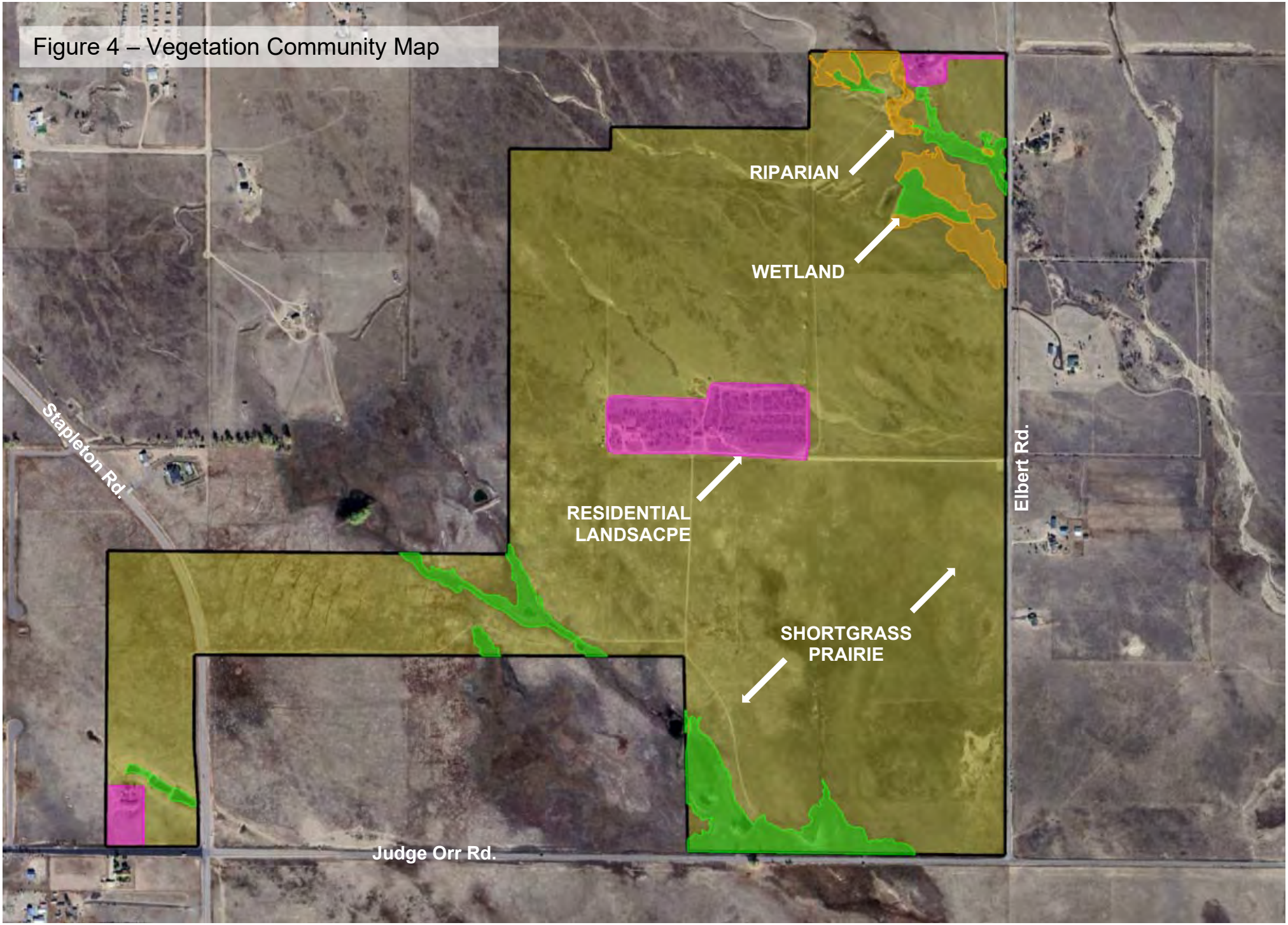
Riparian habitat within the Site is comprised of more robust short-grass prairie where moist, mesic soils are present adjacent to wetlands (described above) and small pockets of open water that were excavated for stock ponds (refer to Figures 4 and 6). Trees and shrubs are primarily absent, with the exception of narrowleaf and Plains cottonwood (*Populus angustifolia and deltoides*) and sandbar willow dispersed throughout the Site but mostly in the northeastern drainages. Refer to Figure 4, Vegetation Community Map and Figure 6. CNHP Riparian Habitat Map.

3.3.2 Residential Landscape

A large grove of Chinese elm (*Ulmus parvifolia*) was planted around the Jane Davis Ranch (referenced as the Gieck Ranch on USGS mapping) in the central portion of Section 34. This stand of elm serves as an excellent wind break, as well as good habitat for wildlife, including numerous bird cavities. Other common “landscape” trees such as pine, oak, and fruit trees are present in the residential areas. Refer to Figure 4, Vegetation Community Map.

Refer to Appendix B – Photo Location Map and Representative Photos of the vegetation communities found on the Site.

Figure 4 – Vegetation Community Map



Source: Google Earth Aerial Image, 10/31/2022 & Ecosystem Services, LLC Site Assessment, 5/23/2023

3.4 Wetland Habitat and Waters of the U.S.

3.4.1 Methodology

ECOS utilized the USGS 7.5-minute topographic mapping, historic and current Google Earth aerial photography, the National Wetland Inventory (NWI) Wetlands Mapper (USFWS 2023). Refer to Figure 5, National Wetland Inventory Map), Colorado Wetland and Information Center – Wetlands Mapper (CNHP, 2023). Refer to Figure 6, CNHP Riparian Habitat Map and detailed Project topographic mapping (if available) to preliminarily identify potential wetland habitat and waters of the U.S. (WOTUS) on the Site. Additionally, ECOS performed a delineation with a GPS survey to identify WOTUS boundaries. Refer to Figure 7, WOTUS Survey Map.

The mapping data above was proofed during the field assessment and a formal delineation was conducted to determine the presence/absence of potential WOTUS.

The USACE wetland delineation methodology was employed to document the three field indicators (parameters) of wetland habitat (i.e., wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation as explained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplemented by the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (USACE, 2008).

3.4.2 Office Assessment Findings

USGS Mapping: As referenced in *Section 3.1 Topography*, the topography of the Site trends from the northwest to the southeast and is formed by three gentle ridges along the southwest, central and northeast portions of the Site, which form three natural drainage depressions in the northeast, south-central, and southwest. USGS illustrates these drainages as follows:

- Northeastern drainage as one intermittent stream;
- South-central drainage as two intermittent branches that join into one intermittent stream; and
- Southwest drainage as one intermittent stream.

Given that the USGS Map indicates the presence of intermittent streams in all three drainages, there is a probability that they may support wetland vegetation if the sustaining hydrology is sufficient. Refer to Figure 1, USGS Site Location Map.

Google Earth aerial imagery review: ECOS reviewed the Site using the time-lapse function in Google Earth (GE) to get a look back in time to 1985. The timeline review reveals two conspicuous drainages (the northeast and south-central) as well as additional dry swales in the “north-central” portion of the Site, further described below:

- Northeast drainage: two branches are visible in the aerial imagery, a north and south branch:

    - North branch: contains a mosaic of herbaceous, shrubby and forested wetlands. Elbert Road bisects this drainage.
    - South branch: primarily a sandy wash in the upstream reach. A large area of potential herbaceous wetland habitat is visible downstream of the sandy wash below 2 stock pond berms.
- North-central swales: two upland swales are visible that have no apparent upstream or downstream connections to drainages and terminate in the vicinity of the two homes and out-buildings labeled on the USGS as the "Gieck Ranch". Neither swale presents a vegetation signature resembling wetland habitat.
- South-central drainage: two northern branches combine into one single drainage are visible on aerial imagery and show signatures of lush herbaceous wetland vegetation, including a vast wetland located offsite to the northwest that contributes flow into this drainage. Six on-line stock ponds are visible along this drainage. A southern branch, consisting of vast wetland complex comingles with the northern branch located mostly off-site to the west, fanning out upstream of Judge Orr Rd. The northern most tip of wetland along the south branch extends into the Site.
- Southwest drainage: Prior to June 2013 this was a sandy wash. Sometime after June 2013 and before November 2015, it appears that three cross-channel riprap/rock drainage "improvement" structures were installed across the drainage (presumably to detain water or stabilize the channel from future erosion). From 1985 to 2015 there was no vegetation signature present that may indicate herbaceous wetland habitat. Sometime after November 2015, a vegetation signature evolved that indicates herbaceous wetland habitat is present downstream of each of these riprap/rock structures. This channel flows under Stapleton Road, follows the north edge of Judge Orr Road, and ultimately drains into the South Central Drainage and associated wetlands.

No other potential wetland habitat or water bodies (natural or manmade) are evident on the aerial imagery. Refer to Figure 2, Jane Davis Ranch Existing Conditions Aerial Photo and Figure 7, Jane Davis Ranch Preliminary Waters and Wetlands Map.

<u>USFWS National Wetland Inventory (NWI) Wetlands Mapper:</u> The NWI Wetlands Mapper indicates the following:

- Northeast drainage:
    - North branch: This branch is identified as a potential Riverine Intermittent Streambed Seasonally Flooded (R4SBC) and Riparian Shrub-Scrub (RP1SS).
    - South branch: The downstream portion of this branch is identified as Riparian Shrub-Scrub (RP1SS). Three ponds are illustrated on this branch, two of which are identified as potential Palustrine Unconsolidated Shore Seasonally Flooded (PUSC). A patch of wetland downstream of the most downstream is identified as a potential Palustrine Emergent Persistent Temporary Flooded

(PEM1A), as it is situated in the large area of potential herbaceous wetland habitat visible in the Google Earth aerial imagery.

- North-central swales: The NWI does not identify these features as potential WOTUS.
- South-central drainage: The NWI identifies both branches as potential Palustrine Emergent Persistent Temporarily Flooded (PEM1A).
- Southwest drainage: The NWI identifies this drainage as a potential Riverine Intermittent Streambed Seasonally Flooded (R4SBC).

Refer to Figure 5, Jane Davis Ranch National Wetland Inventory Map.

All of these drainages, except for the north-central upland swales appear to have a direct or indirect connection to Black Squirrel Creek.

Colorado Wetland and Information Center – Wetlands Mapper: CNHP has incorporated some of the data provided by the NWI for wetland habitat and has produced updated photo-interpretation of wetland mapping in several areas. On this Site, that data concurs with the NWI data. However, the lower reaches of the southwestern and eastern branches of the northeastern drainage are identified as Riparian Temporary Flooded Scrub-Shrub (RP1SS), a riparian habitat type that occurs adjacent to streams and is generally found on the banks of an incised channel. Refer to Figure 5, National Wetland Inventory Map and Figure 6, CNHP Riparian Habitat Map.

USDA NRCS Web Soil Survey: The custom soil report generated for the Site via the NRCS Web Soil Survey (USDA NRCS, 2023) identifies the presence of hydric (wetland) soil (refer to Section 3.2 and Appendix A). The USDA NRCS Soil Survey data indicate that the Fluvaquentic Haplaquolls soil type is a hydric soil and a few minor inclusions of hydric soil (1 – 2 %) are components of the Blakeland and Columbine soil types. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation (i.e., wetland vegetation).

3.4.3 Field Assessment Findings

The data review above and a field assessment revealed the presence of five potentially jurisdictional WOTUS features within the Site. Refer to Figure 7, WOTUS Survey Map. These five areas include:

- Northeast drainage:
  - North branch (Wetland 4)
  - South branch (Wetland 5)
- South-central drainage:
  - Northern branch (Wetlands 8 and 9)
  - Southern branch (Wetland 7)
- Southwest drainage (Wetland 6)

These natural features meet the wetland indicators and criteria that the Corps uses to assert jurisdiction pursuant to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and associated *Interim*

Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region (USACE, 2008). However, the final jurisdictional determination be made by the USACE.

The potentially jurisdictional WOTUS feature data is summarized below, with an explanation of the field indicators (parameters) of wetland habitat that were observed and documented by ECOS.

Northeast drainage:

North branch (Wetland 4) – The data for this branch is summarized on the W4-WET datasheet in Appendix C. The NWI labels this branch as Riverine Intermittent Streambed, Seasonally Flooded (R4SBC), and Riparian Shrub-Scrub (RP1SS); however, it is a broad, wetland swale that comprises primarily Palustrine Emergent Persistent Temporarily Flooded (PEM1A) characteristics with the inclusion of Palustrine Scrub-Shrub Broad-leaved Deciduous Temporary Flooded (PSS1A) characteristics. This feature was dominated by Baltic rush, Nebraska sedge, clustered field sedge, and sandbar willow, with inclusions of water mint, Canada thistle, and narrowleaf cattail. It is underlain by organic matter, sand, and silty clay that exhibit hydric hue and values in their matrices. Surface water was present up to approximately 1-inch depth and the soil was saturated to the surface. This area meets all 3 parameters for jurisdictional wetland habitat.

South branch (Wetland 5) - The data for this branch is summarized on the W5-WET datasheet in Appendix C. The NWI correctly labels this branch as PEM1A. It is a broad, wetland swale that is comprised of Palustrine Emergent vegetation including Baltic rush, Nebraska sedge, and clustered field sedge, with inclusions of Canada thistle and Rocky Mountain iris. It is underlain by silty clay loam and silty clay that exhibit hydric hue and values in their matrices. Surface water was not present and the soil was saturated at a depth of 10 inches below the surface. This area meets all 3 parameters for jurisdictional wetland habitat.

South-central drainage:

North branch (Wetland 8 and 9) – The data for this branch is summarized on the W8-WET and W9-WET datasheets in Appendix C. The NWI correctly identifies both branches as PEM1A. It is a broad, wetland swale.

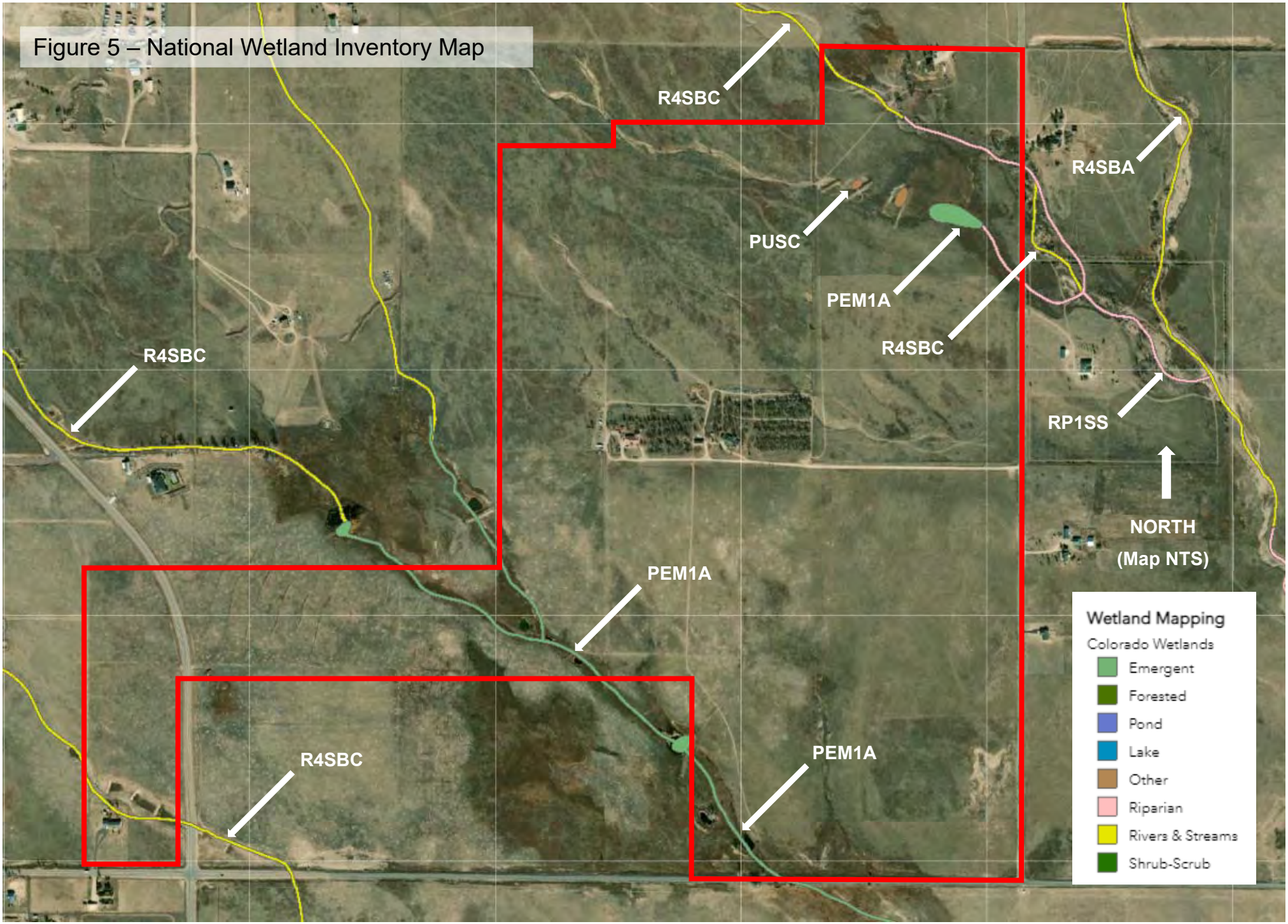
The upstream portion is dominated by Nebraska sedge, and Baltic rush, with inclusions of water mint, narrowleaf cattail, and Canada thistle; and is underlain by organic matter, silty sand, and clay that exhibit hydric hue and values in their matrices. Surface water was present up to approximately 1-inch depth and the soil was saturated to the surface. This area meets all 3 parameters for jurisdictional wetland habitat.

The downstream portion is dominated by Baltic rush and saltgrass with clustered field sedge and is underlain by silty loam that exhibits hydric hue and values in their matrices. Surface water was not present and the soil was

saturated at 12 inches below the surface. This area meets all 3 parameters for jurisdictional wetland habitat.

South branch (Wetland 7) – The data for this branch is summarized on the W7-WET datasheet in Appendix C. The NWI did not identify these branches, but it too is PEM1A. It is a broad, wetland swale dominated by Baltic rush and Nebraska sedge. It is underlain by sandy loam and clay that exhibit hydric hue and values in their matrices. Surface water was present up to approximately 1-inch depth and the soil was saturated at 14 inches below the surface. This area meets all 3 parameters for jurisdictional wetland habitat.

Southwest drainage (Wetland 6): The data for this branch is summarized on the W6-WET datasheet in Appendix C. The NWI correctly identifies the upstream portion of this drainage as R4SBC; however, the downstream reach should be classified as PEM1A. It is a broad, wetland swale that is comprised of Baltic rush, common spikerush, and clustered field sedge, with inclusions of narrowleaf cattail. It is underlain by clayey sand that exhibits hydric hue and values in its matrices. Surface water was present up to approximately 1-inch depth and the soil was saturated to the surface. This area meets all 3 parameters for jurisdictional wetland habitat.



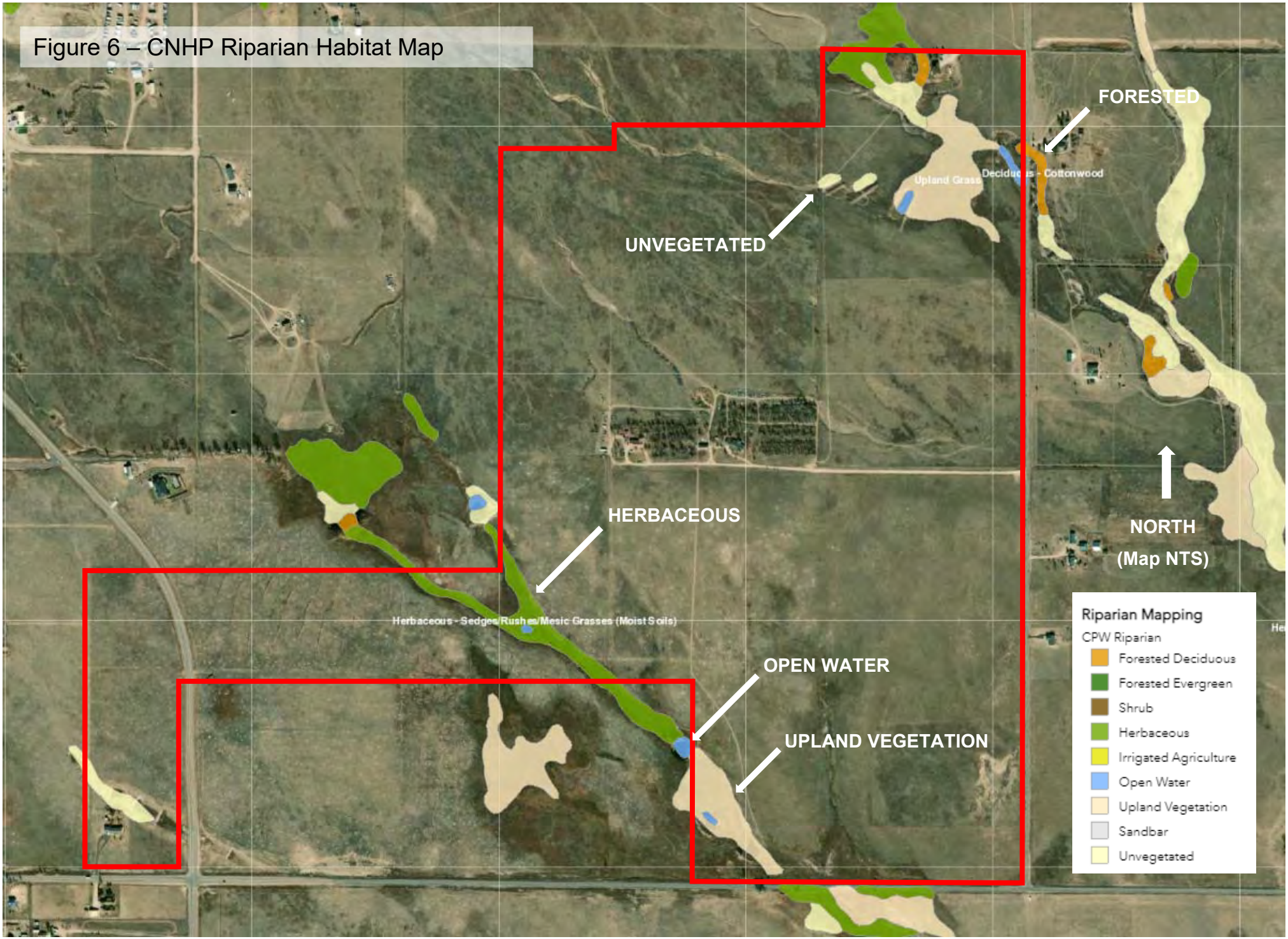
Source: Colorado Natural Heritage Program (CNHP) Wetland Mapper / U.S fish and Wildlife Service National Wetland Inventory (NWI)

3.6 Riparian Habitat

The Colorado Wetland Information Center – Wetlands Mapper (CNHP, 2023) includes the option for illustrating potential riparian habitat based on mapping produced by Colorado Parks and Wildlife (CPW). Refer to Figure 6, CNHP Riparian Habitat Map. The CPW Riparian Habitat mapping indicates the following:

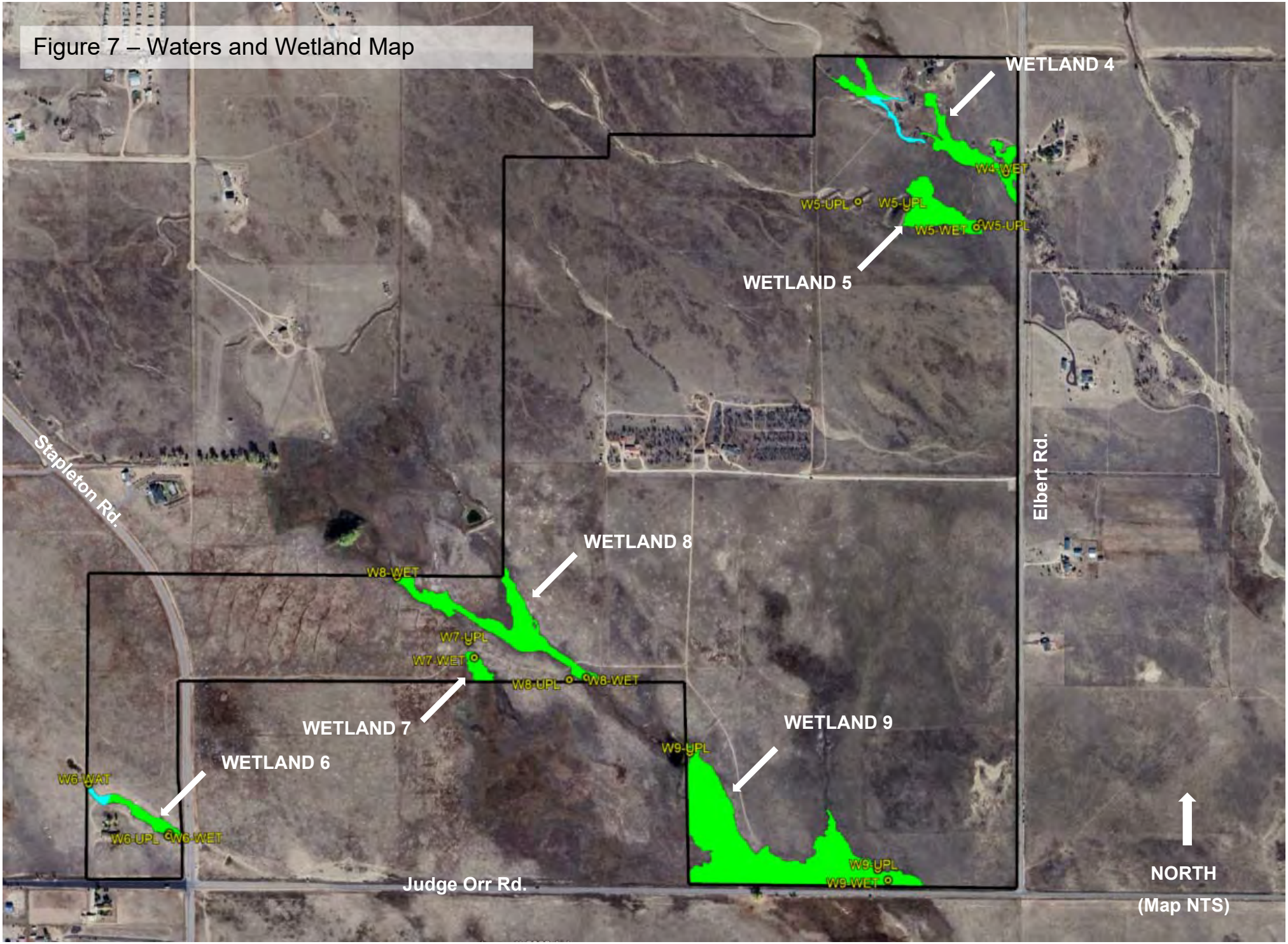
- Northeast drainage (north and south):
    - The two, small, upstream ponds are identified as Unvegetated.
    - The lower reaches of the north and south branches of the northeastern drainage are identified as Open Water. The large area of potential herbaceous wetland habitat visible on Google Earth aerial imagery and identified on the NWI as emergent wetland (PEM1A) is identified as Upland Grass.
    - The trees visible in the northern branch are identified as Deciduous Cottonwood.
    - The sandy wash areas in the north and south branches are identified as Unvegetated.
- North-central swales: The CPW data does not identify these features as riparian.
- South-central drainage: The CPW identifies the upstream portion of the north branch as Herbaceous – Sedges/Rushes/Mesic Grasses (Moist Soils) Open Water. The downstream portion of the north branch is identified as Upland Vegetation which is contrary to NWI and field assessment where a vast expanse of Herbaceous – Sedges/Rushes/Mesic Grasses were found.
- Southwest drainage: The CPW data identifies this drainage as Unvegetated.

Figure 6 – CNHP Riparian Habitat Map



Source: Colorado Natural Heritage Program (CNHP) Wetland Mapper

Figure 7 – Waters and Wetland Map



Source: Google Earth Aerial Image, 10/31/2023 & Ecosystem Services, LLC Wetland Delineation, 5/23/2023

3.7 Wildlife

The stated purpose and intent of the “El Paso County Development Standards” wildlife section is to ensure that proposed development is reviewed with consideration of the impacts to wildlife and wildlife habitat, and to implement the provisions of the Master Plan (El Paso County, 2021). The two primary vegetation types within the Site are herbaceous prairie and wetlands. ECOS has determined that the wildlife impact potential for development of this singular Site is expected to be moderate to low, as the Site currently provides poor to moderate habitat for wildlife. Taken in a regional watershed or larger landscape context, as more prairie is developed over time impacts to wildlife are expected to be moderate to high as wildlife run out of space and habitat.

The Site provides habitat for prairie species such as pronghorn (*Antilocapra americana*), black-tailed prairie dog (*Cynomys ludovicianus*), thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*), voles (*Microtus spp.*) and jackrabbit (*Lepus townsendii*). The Site also provides foraging and breeding habitat for predators such as coyote (*Canis latrans*), fox (*Vulpes vulpes*), badger (*Meles meles*), and occasional bobcat (*Lynx rufus*). The Site also provides good habitat for reptiles and moderate habitat for amphibians such as Woodhouse toad (*Anaxyrus woodhousii*), leopard frog (*Lithobates pipiens*), and garter snake (*Thamnophis spp.).*

The USFWS IPaC Trust Resources Report (USFWS, 2023a) (Appendix C) reports that bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk (*Buteo regalis*) may utilize the area. The Site provides limited tree nesting habitat for raptors; however, ferruginous hawks may also use ground nests.

The Site contains no Critical Habitat, Wildlife Refuges, or Hatcheries according to the USFWS IPaC Trust Resources Report (USFWS, 2023a) (Appendix C).

The Project proposes to develop most of the prairie, however, the drainages and grassland immediately adjacent to them within the floodplain would be preserved as Open Space. A noxious weed management plan will be implemented per State and County requirements to improve wildlife habitat, and a native plant re-vegetation plan for the Open Space is recommended to provide additional benefit to wildlife habitat.

4.0 FEDERAL LISTED SPECIES

A number of species that occur in El Paso County are listed as threatened and endangered (T&E) by the USFWS under the Endangered Species Act (ESA) (USFWS 2023). ECOS compiled the data regarding T&E species for the Site in Table 3 based on the Site-specific, USFWS IPaC Trust Resources Report we ran for the Project (Appendix C) and our onsite assessment. ECOS has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any of the species listed below is insignificant to none. Most are not expected to occur in the Project area and no downstream impacts are expected. The USFWS also states that there is no Critical Habitat for T&E species in the Site locations.

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT

Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
FISH			
Greenback cutthroat trout (*Oncorhynchus clarki stomias*)	Threatened	Cold, clear, gravely headwater streams and mountain lakes that provide an abundant food supply of insects.	None. Suitable habitat does not exist on the Site.
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed Project will not affect any of the listed river basins.
BIRDS			
Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*)	Threatened	Habitat includes tidally or non-tidally influenced marshes which range in salinity from salt to brackish to fresh. It requires dense overhead perennial herbaceous cover with underlying soils that are moist to saturated (occasionally dry) interspersed with or adjacent to very shallow water (typically ≤ 3 cm). Eastern black rails depend on this dense cover throughout their life cycle and it is their primary strategy to avoid predation.	Insignificant. Suitable, dense, overhead, perennial, herbaceous cover and shallow water are minimal and dispersed in the discontinuous wetland habitat on the Site.

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Piping plover (*Charadrius melodus*)	Threatened	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed Project will not affect any of the listed river basins.
MAMMALS			
Gray Wolf (*Canus lupis*)	Endangered	Inhabits a wide range of habitats including temperate forests, mountains, tundra, taiga, and grasslands. Lone, dispersing gray wolves may be present throughout the state of Colorado.	None. This species only needs to be considered if the Project activity includes a predator management program, which it does not.

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)	Threatened		Very low. This species is unlikely to occur on the Site due to very limited and discontinuous riparian habitat with only a seasonal water source. No USFWS Critical Habitat is present on the Site (closest = 11.54 miles W) and no CPW Potentially Occupied Habitat is present on the Site (closest = 3.75 miles NE & 10.91 miles SW). Adjacent trapping data surrounding the Site vicinity indicates “Trapped, Not Found”; and there are no viable travel corridors from regional PMJM habitat to the Site.

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
INSECTS			
Monarch butterfly (*Danaus plexippus*)	Candidate	Multigenerational migrant that breeds throughout North America and overwinters in dense congregations in Mexican montane fir forests. The larval hostplant is milkweed (*Asclepias* spp.). Habitat includes areas with nectar for feeding and/or milkweed for laying eggs, especially grasslands and wetlands. Breeding habitat threats are widespread native grassland loss and herbicide use. In Colorado, they are present in low numbers from May to September.	Insignificant. Milkweed is not present. Project impacts are undetectable relative to threats across this species' huge range. Potential impacts could be mitigated by limiting herbicide use and planting native flowering species, especially milkweed.
PLANTS			

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Ute ladies'-tresses orchid (*Spiranthes diluvialis*)	Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands.	None. Wetland areas on Site are poor quality habitat for this species and will not be impacted. The Site elevation ranges from 6,720 to 6,810 feet AMSL, which is higher than the 6,500-foot upper elevation limit documented for the species and recommended for conducting surveys by the USFWS.

5.0 RAPTORS AND MIGRATORY BIRDS

Raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act. Additionally, eagles are protected by the Bald and Golden Eagle Protection Act (BGEPA).

5.1 COGCC Database

ECOS utilized the Colorado Oil and Gas Conservation Commissions (COGCC) GIS Online data (https://cogccmap.state.co.us/cogcc_gis_online/) (COGCC, 2023) to screen the Site for potential raptor nests. No raptor nests have been mapped within one mile of the Site (COGCC, 202). The closest raptor nests to the Site are Golden Eagle and Ferruginous hawk active nests located 3.22 miles east of the eastern edge of the Site and a Golden Eagle active nest located 7.02 miles southwest of the southwest corner of the Site.

5.2 USFWS IPaC Data

The USFWS IPaC data for the Site indicates the probability of the presence of five bird species (refer to Appendix C) in the vicinity of the Site. The birds listed by IPaC are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in the Project location. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. "Birds of Conservation Concern 2021 (BCC 2021)" is the most recent effort to carry out this mandate. The birds listed by IPaC include:

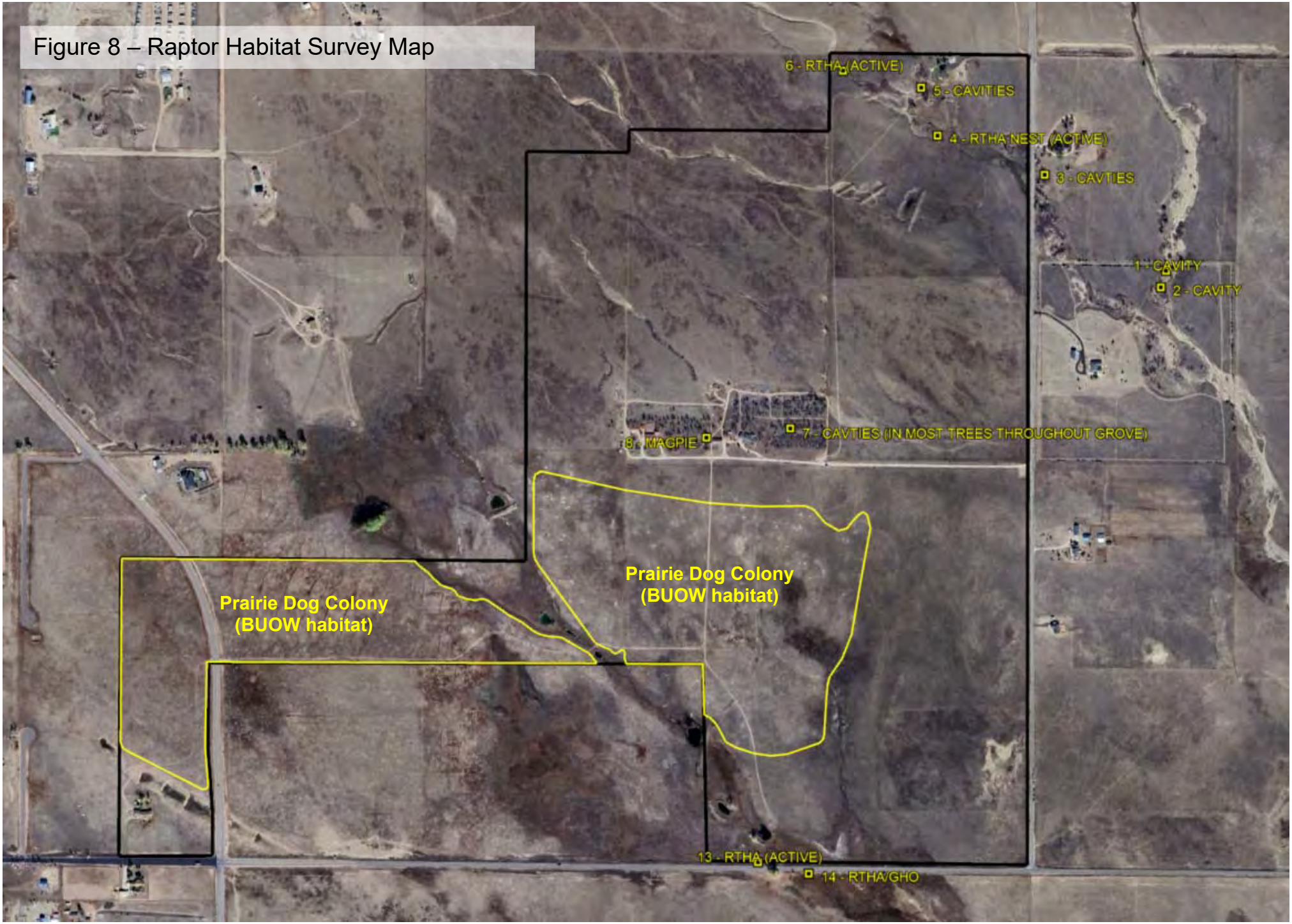
- Bald Eagle (*Haliaeetus leucocephalus*) - This is not a BCC in this area but warrants attention because of the BGEPA.
- Ferruginous Hawk (*Buteo regalis*) - This is a BCC only in particular Bird Conservation Regions (BCRs) including Colorado. Per the USFWS Environmental Conservation Online System data (USFWS 2023b) (https://ecos.fws.gov/ecp/species/6038), ideal habitat for Ferruginous Hawks is grassland and shrub-steppe habitat including pastures, hayland, and cropland. Their nests can be found in trees and large shrubs and on roofs, utility structures, and artificial platforms, or near the ground on river cutbanks, or less frequently other ground locations such as rockpiles and riverbed mounds. ECOS has observed their nests open prairie habitat in this vicinity.
- Golden Eagle (Aquila chrysaetos) - This is not a BCC but warrants attention because of the BGEPA
- Lesser Yellowlegs (*Tringa flavipes*) - This is a BCC throughout its range in the continental USA and Alaska. Per the USFWS Per the USFWS Environmental Conservation Online System data (USFWS 2023b) (https://ecos.fws.gov/ecp/species/9679) the Site does not comprise suitable habitat for this species. However, they may pass through the Project vicinity in the 2nd, 3rd, and 4th week of April.

- Pinyon Jay (*Gymnorhinus cyanocephalus*) - This is a BCC throughout its range in the continental USA and Alaska. Per the USFWS Environmental Conservation Online System data (USFWS 2023b) (https://ecos.fws.gov/ecp/species/9420) the Site does not comprise suitable habitat for this species. As their name implies, they can be found in pinyon-juniper woodland, sagebrush, scrub oak, and chaparral communities, and sometimes in pine forests. Given that Colorado is within its large Western U.S. range, this broad-brush range includes the Project vicinity, but the probability of its presence in said vicinity is limited to the 1st week in October.

5.3 Field Assessment

Two occupied Redtail hawk nests were identified in the northeastern corner of the Site. One occupied magpie nest was identified in the central portion of the Site. Two large prairie dog colonies that provide potential habitat for Burrowing owl (Athene cunicularia) are present in the south-central and southwestern portions of the Site. Numerous tree cavities were identified in live and dead trees throughout the Site, especially in the adjacent forested area. One nest was being used by a redtail hawk and one unoccupied raptor nest (likely Redtail hawk or Great Horned owl) was identified immediately south of the south Site boundary near Judge Orr Road. Numerous songbirds were detected using the Cornell Lab Merlin bird identification application, including yellow oriole (*Icterus nigrogularis*), red-wing blackbird (*Agelaius phoeniceus*), grackle (*Quiscalus spp.*), flicker (*Colaptes spp.*), meadowlark (*Sturnella neglecta*), Say's phoebe (*Sayornis saya*), western kingbird (*Tyrannus verticalis*), eastern kingbird (*Tyrannus tyrannus*), northern mocking bird (*Mimus polyglottos*), western wood-pewee (*Contopus sordidulus*), house wren (*Troglodytes aedon*) and house sparrow (*Passer domesticus*). The prairie, riparian corridors, and wetland habitat may also provide nesting and foraging habitat for many other migratory birds. Please refer to Figure 8, Raptor Habitat Survey Map.

Figure 8 – Raptor Habitat Survey Map



Source: Google Earth Aerial Image, 10/31/2023 & Ecosystem Services, LLC MBTA Survey, 5/23/2023

6.0 SUMMARY OF IMPACTS & RECOMMENDATIONS

6.1 Vegetation

The vegetation within the Site is primarily comprised of herbaceous shortgrass prairie species. Given the presence of certain midgrass and tallgrass prairie and non-native species mixed throughout the shortgrass prairie, we have referred to the vegetation community as “short and mixed grass prairie”. Wetland vegetation is comprised primarily of emergent, herbaceous, hydrophytic species in the ephemeral drainages and swales. Riparian habitat within the Site is comprised of upland grassland, herbaceous wetland, and small pockets of shallow open water (refer to Figure 6). Trees and shrubs are primarily absent, with the exception of dispersed individual narrowleaf and Plains cottonwood (*Populus angustifolia and deltoides*) and small patches of sandbar willow (*Salix exigua*) in the northeastern drainages. Refer to Figure 4, Vegetation Map.

The short and mixed grass prairie will be the primary vegetation/habitat type impacted by the proposed development. The proposed residential parcels are all planned to be low-density so that could provide ample opportunity to preserve high quality, native habitat within private lots if building envelopes/disturbance footprints are limited. Small neighborhood parks developed for tot-lots, field sports, etc. are not valuable open space for wildlife. If, however they are designed to preserve some native habitat they can provide limited natural open space functions for smaller wildlife and birds. The two Commercial parcels and the internal road system are anticipated to have maximum impact on short and mixed grass prairie (e.g., 100% of the area beneath their footprint). The three Detention Ponds will result in the loss/impact primarily of short and mixed grass prairie, with minor impacts to wetland habitat resulting from stormwater outfalls into the creek systems. These impacts could be temporary and mitigated if prairie, riparian, and wetland habitat are restored after construction.

In addition to preserving the highest value existing native vegetation on public and private open space, in order to reduce overall direct impacts from the development, proposed landscaping (private and public) should consist of native prairie species from the same ecosystem that provide food and cover for wildlife. High, solid fences if proposed are a major impediment and impact wildlife movement through the landscape. Short, permeable and barbless wildlife-friendly fences that allow large and small species to move freely are recommended wherever fences are desired which will allow future residents to enjoy wildlife experiences in their everyday lives.

Over 80 percent of all wildlife species use riparian areas during some part of their life cycle. As such, floodplains, riparian areas including wetlands that together form linear natural corridors (i.e., greenways) should not be impacted by development and left intact. If necessary, road, trail, and utility corridors (i.e., crossings) that must cut through riparian areas should be avoided or minimized to only a few locations where the riparian corridors (and wetlands) are the narrowest or absent. Any proposed crossings should be designed perpendicular

to greenways. Greenways are ideal locations for trails that run parallel with the floodplain/riparian corridor to provide future neighborhood residents with positive natural outdoor and wildlife experiences such as bird watching (i.e., ecological benefits). The layout of the development at a sketch plan level is nebulous regarding the avoidance and minimization of impacts to greenways. During more detailed preliminary and final design, all man-made structures, including detention ponds should avoid impacting riparian areas and wetlands. Detention/water quality ponds, where required should be located adjacent to riparian areas and vegetated to the maximum extent possible utilizing native riparian and wetland vegetation in the pond bottoms; upland grasses, shrubs, and trees along side-slopes, spillways, and run-downs to expand riparian habitat for wildlife. Outfall structures from detention ponds with scour aprons are typically designed to extend into and impact wetlands and stream beds. These impacts can be mitigated by locating the outfall outside of riparian and/or wetland habitat and then creating a riparian/wetland swale that extends to the receiving stream.

Ground disturbance/removal of vegetation and exposure of soil instigates the invasion and colonization of common and noxious weeds, one of the most detrimental processes to the quality of any kind of habitat if left unchecked. As such, minimization of ground-disturbing activities that compact or remove native vegetation during construction is recommended. Thereafter, control of common, noxious weeds and non-native species in all areas (existing or landscaped) should be a priority during and after construction and as part of the long-term private residence and HOA maintenance of the Site. If native vegetation is preserved and weeds are managed, the loss of the existing habitat is minimized.

Overall impacts to vegetation communities that provide habitat for wildlife can be offset/mitigated by the thoughtful design; restrictions that minimize impacts to prairie through the employment of building envelopes; implementation of native planting and seeding requirements on private and public land; ongoing weed management; and long-term preservation of large, contiguous open space and greenways that limit crossings and fragmentation.

6.3 Wetland Habitat and Waters of the U.S.

There are five WOTUS features on the Site including the Northeast drainage (North and South branches); South-central drainage (North and South branches) and the Southwest drainage. The downstream end of the South-Central drainage collects water from the Southwest drainage and combines to form a very significant expanse of wetland along the entire north edge of Judge Orr Road. ECOS delineated the boundaries of these WOTUS features pursuant to the current USACE methodology to assist the planning and design Team in Site planning. The Sketch Plan does not reflect the locations of these delineated WOTUS features as it was prepared prior to the delineation. Therefore, during the final Site Plan design, the Project Team will incorporate avoidance and minimization of WOTUS impacts to the extent possible to meet the Least Environmentally Damaging and Practicable Alternative (LEDPA) requirements of Section 404(b)(1) of the Clean Water Act (CWA).

Based on the current Sketch Plan, Residential Parcels B, D, E, F, I, and N have WOTUS within them. WOTUS cover large portions of Parcels E and N. Commercial Parcels A and G overlap WOTUS to a lesser degree. The three Detention Pond Parcels Q, R, and S overlap WOTUS. If these ponds are designed and constructed within WOTUS, including outfall structures and scour aprons, and not held back from WOTUS boundaries, this will result in significant temporary and permanent impacts. Parcel S overlaps Wetlands 4 and 5 at the downstream ends of the north and south branches of the Northeast drainage. Parcels Q and R overlap Wetlands 8 and 10 at the upstream and downstream ends of the north branch of the South-Central drainage. The internal Residential Collector road system as currently laid out will have a “crossing” impact on Wetlands 7 and 8 along the north and south branch of the South-Central drainage unless Wetland 8 is free-spanned by a bridge and this road rerouted around Wetland 7. It is highly likely that “drainage improvements” like drop or grade control structures will be required by the County to decrease velocity and shear stress in all the major drainages on the Site which will result in additional impacts to WOTUS. Refer to Figure 3, Sketch Plan and Figure 7, WOTUS Survey Map.

If the impacts remain as proposed in the current Sketch Plan, the Project will require a CWA Section 404 permit. The specific type of permit cannot be identified until the final Site Plan is complete and final impacts are assessed. ECOS will work with the planning and design Team to assist in incorporating avoidance and minimization of WOTUS impacts during subsequent planning and design phases of the Project.

6.4 Wildlife

The impact to wildlife would be similar to that for vegetation. Elimination of grassland areas (native or non-native alike) and reduction of open space would have an overall negative and landscape-scale impact on wildlife species as is the case with all development spreading out over plains. The highest quality habitats (i.e., floodplains, riparian areas, and wetlands within each of the drainage systems) on the Site should be preserved as contiguous open space to help meet the life requisites of wildlife. Native grassland on private lots will be the most impacted by development and therefore efforts should be made to limit development to specific building envelopes. Weedy grassland should be managed to restore their health to improve their functional capacity to provide food, cover, and breeding habitat for all obligate prairie species that typically utilize grasslands to meet their life needs. Native landscaping around all residential and commercial structures can benefit wildlife, especially small wildlife including insects, rodents, and birds. Upland, riparian, and wetland habitat may be enhanced or created within and adjacent to a proposed detention/stormwater quality detention basins to expand upon existing riparian greenways. Management priorities should include weed control and enhancement of existing native vegetation throughout the entire development, including preserved floodplains. Altogether, a low-impact development approach that preserves grassland on private and public land combined with vigilant management actions

to maintain it will help mitigate the negative impacts to wildlife communities at a landscape scale.

6.5 Federal Listed Species

The Site is not located within any officially designated occupied or critical habitat for federally designated T&E species. Therefore, there will be no impacts to federally designated T&E species and no need to initiate consultation with the USFWS under the ESA.

6.6 Raptors and Migratory Birds

The Project is expected to have a slightly negative impact on raptors and migratory birds since open space, grassland, and hunting grounds will be lost to development. Potential habitat for burrowing owls (i.e., prairie dog colonies) and many other species that rely upon prairie dogs as a keystone species for food and their burrows for shelter will diminish their viability as species over time as more of the prairie is developed. Preservation of high-value wetlands and riparian areas and upland areas within the floodplain along drainages and integration of native prairie and native plantings within the fabric of the development would partially mitigate the loss of prairie, but not for burrowing owl.

7.0 REGULATIONS AND RECOMMENDATIONS

7.1 Clean Water Act

Section 404 of the CWA prohibits the discharge of dredged or fill material into WOTUS (including wetland habitat) without a valid 404 permit. ECOS identified potentially jurisdictional WOTUS (drainages with a defined bed and bank and/or persistent, abutting, connected, and continuous wetlands) that will likely require a 404 permit for any proposed impacts. However, given the current, actively changing regulatory environment at the Federal level (i.e., revision of the definition of WOTUS via the Sackett vs. USEPA Supreme Court decision) it is not feasible to determine with certainty which drainages will be deemed jurisdictional by the USACE without going through a formal jurisdictional determination process. In addition, the state of Colorado is developing a regulatory framework to protect and regulate waters and wetland of the State as a means to accommodate the WOTUS features that may be excluded from federal jurisdiction.

Floodplains, riparian areas, wetlands, and streams provide numerous cultural, ecological, and economic functions and values for society, including food and habitat for fish and wildlife, water quality improvement; flood storage; erosion control; economically beneficial natural products for human use; open space for recreation and education; and views and aesthetic qualities that improve real estate sales and values. Regardless of jurisdictional status, the waterways and wetlands present on site should be preserved to achieve these functions and values.

7.2 Endangered Species Act

The Site is not located within any officially designated occupied or critical habitat for federally designated threatened or endangered species, including the Preble's meadow jumping mouse. Therefore, there will be no impacts to federally designated threatened or endangered species and no need to initiate consultation with the USFWS under the ESA.

Please note the following standard response from the USFWS in regard to ESA concurrence or clearance: “If you (the project proponent) have determined that your project will have no effect to listed species or their habitat, or if suitable habitat for a listed species does not occur within your project area, you may not receive any further response or notification from us, as neither section 7 of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C 1531 *et seq*.), nor implementing regulations under section 7 of the ESA, require us to review or concur with projects where “no effect” determinations have been made”. This means that the USFWS may or may not comment or provide effects determinations as documentation of ESA compliance regardless of the Project being constructed, funded or permitted by a federal agency or if requested by the County or FEMA.

7.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

No raptor nests have been mapped within one mile outside of the Site (COGCC 2023. However, migratory bird and raptor nests, and expansive prairie dog colonies that are potential habitat for burrowing owls were observed within the Site (refer to Section 5.3). Given the seasonal and transitory nature of migratory birds and raptors, including burrowing owls, ECOS recommends a nesting bird survey immediately prior to any construction activity to identify any new or active nests or burrows within the Site or within the CPW recommended buffers of the Site. Construction activities should be restricted during the breeding season near any identified active migratory bird nest or burrow.

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Appendix A

USDA Soil Data

United States Department of Agriculture

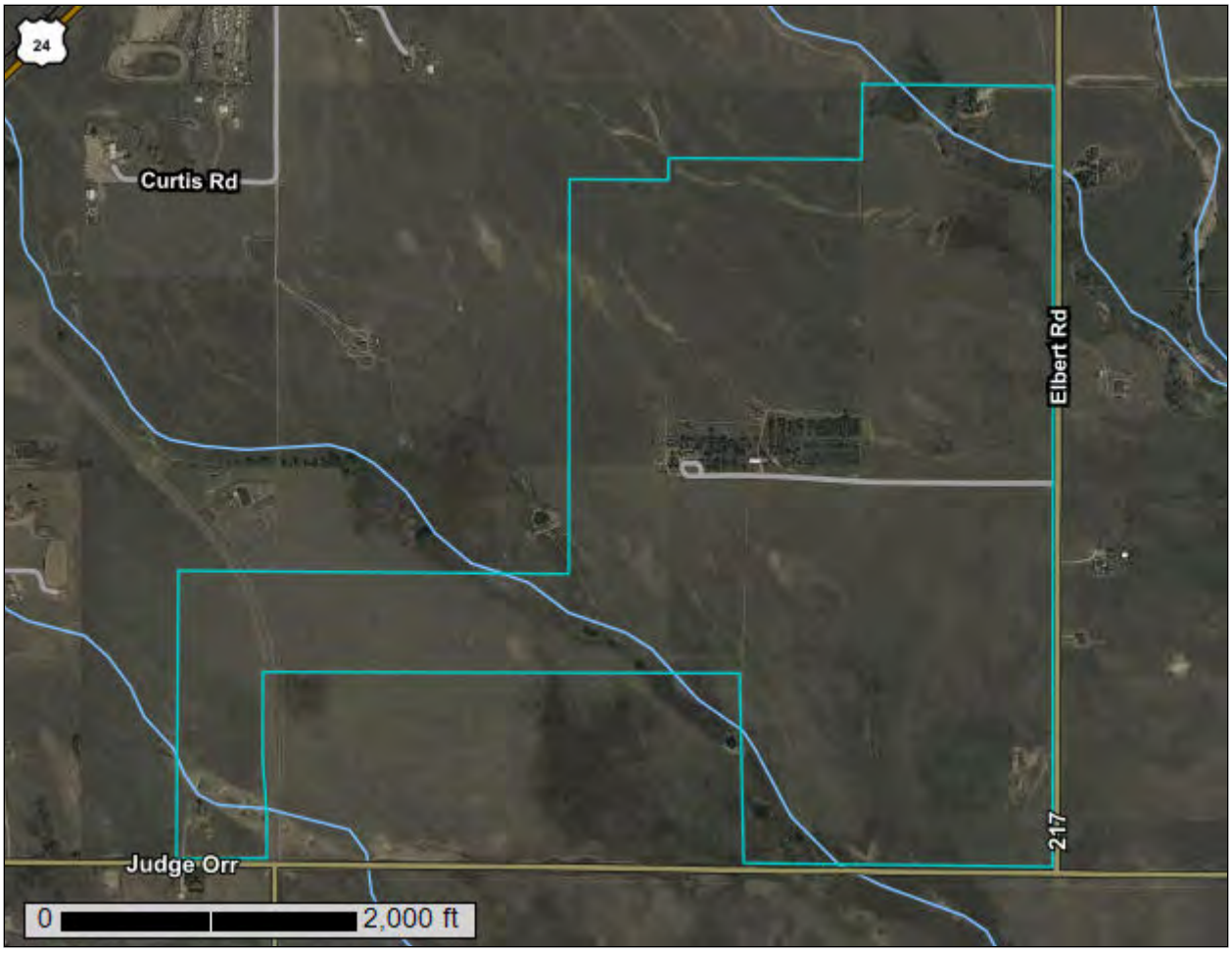
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Paso County Area, Colorado

Jane Davis Ranch Site



June 5, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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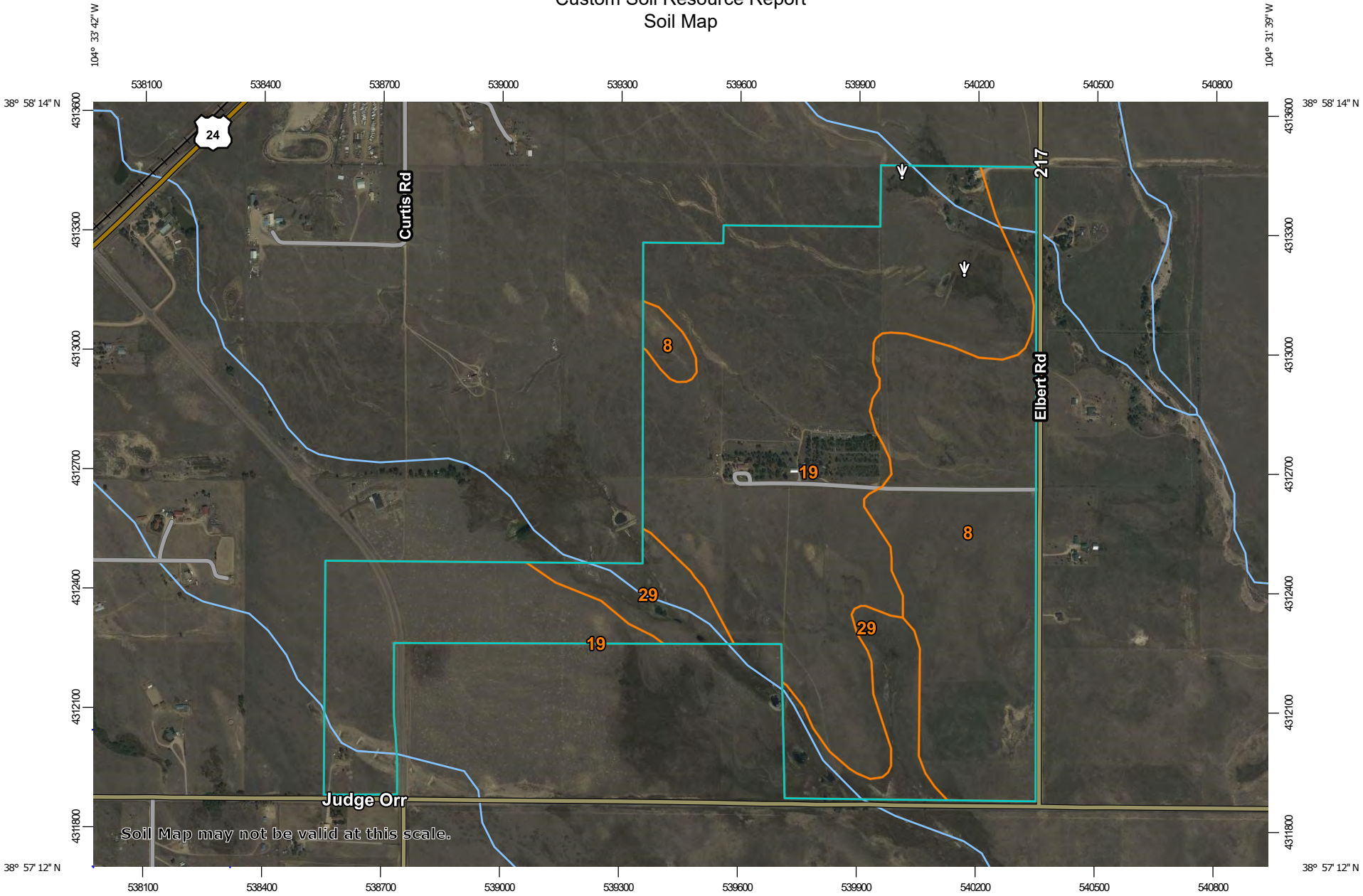
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:13,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 20, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	109.7	28.1%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	243.5	62.3%
29	Fluvaquentic Haplaquolls, nearly level	37.4	9.6%
Totals for Area of Interest		**390.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369v
Elevation: 4,600 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Blakeland and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blakeland

Setting

Landform: Flats, hills
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 11 inches: loamy sand
AC - 11 to 27 inches: loamy sand
C - 27 to 60 inches: sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 1 percent

Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Columbine

Setting

Landform: Fans, fan terraces, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam
C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XY214CO - Gravelly Foothill

Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls
Percent of map unit: 1 percent
Landform: Swales
Hydric soil rating: Yes

Other soils
Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

29—Fluvaquentic Haplaquolls, nearly level

Map Unit Setting
National map unit symbol: 3681
Elevation: 5,000 to 7,800 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 110 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition
Fluvaquentic haplaquolls and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquentic Haplaquolls

Setting
Landform: Marshes, flood plains, swales
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile
A - 0 to 12 inches: variable
C - 12 to 60 inches: stratified very gravelly sand to loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)

Depth to water table: About 0 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: R067BY029CO - Sandy Meadow
Hydric soil rating: Yes

Minor Components

Haplaquolls

Percent of map unit: 1 percent
Landform: Domes
Hydric soil rating: Yes

Other soils

Percent of map unit: 1 percent
Hydric soil rating: No

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Appendix B

Photo Location Map and Representative Photos

PHOTO LOCATION MAP
(Representative photos taken on 5/23/2023)

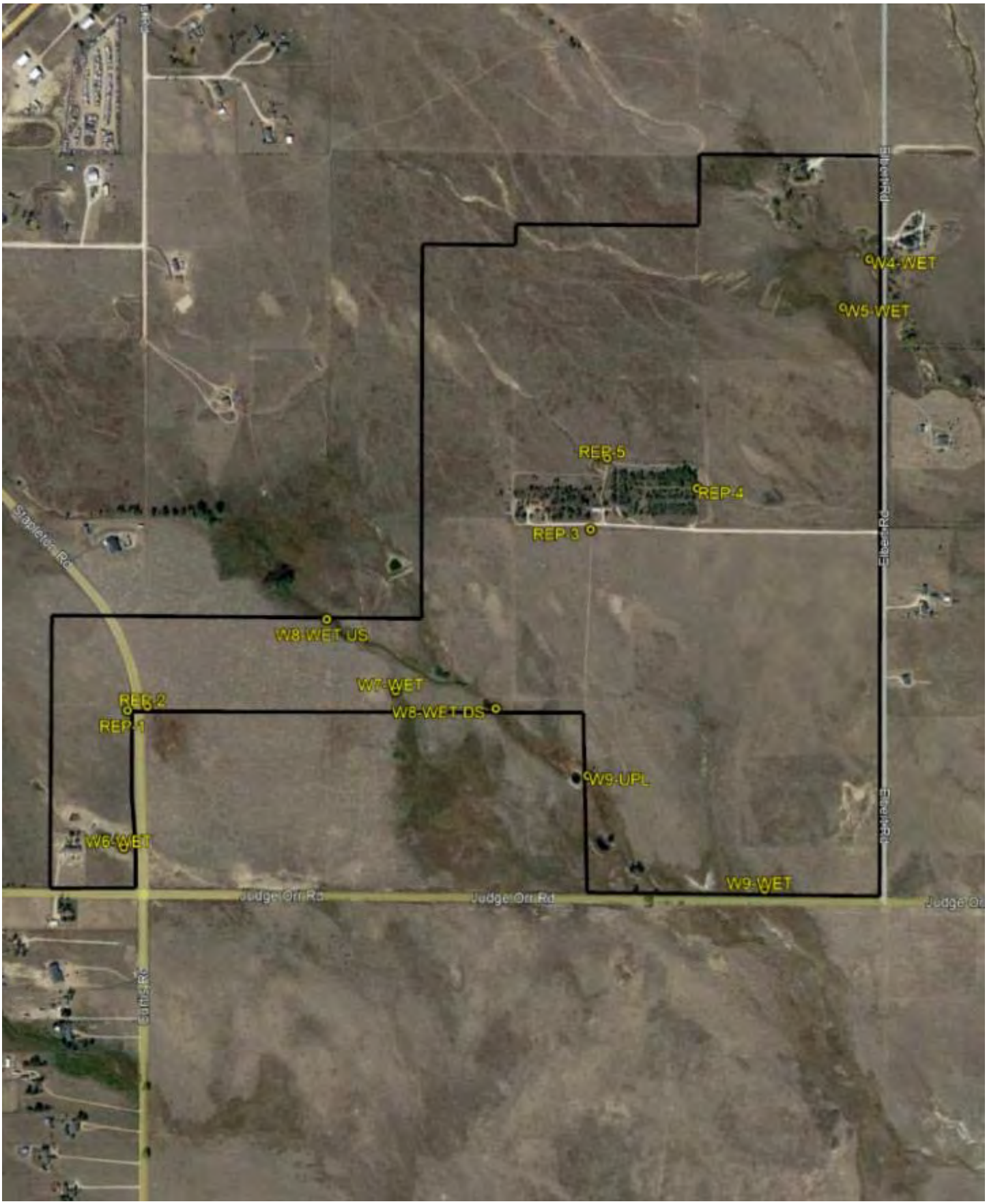

Photo Point REP 1 – Photo looking south of Short- and Mixed-grass Prairie and prairie dog colony on the parcel immediately west of Stapleton Road.

Photo Point REP 2 – Photo looking north of Short- and Mixed-grass Prairie and prairie dog colony on the portion of the site immediately east of Stapleton Road.

Photo Point REP 2 – Photo looking east of Short- and Mixed-grass Prairie and prairie dog colony on the portion of the site immediately east of Stapleton Road.

Photo Point REP 3 – Photo looking southeast of Short- and Mixed-grass Prairie immediately south of the Jane Davis Ranch.

Photo Point REP 3 – Photo looking south of Short- and Mixed-grass Prairie immediately south of the Jane Davis Ranch.

Photo Point REP 3 – Photo looking southwest of Short- and Mixed-grass Prairie immediately south of the Jane Davis Ranch.

Photo Point REP 3 – Photo looking northwest of Residential Landscape surrounding the Jane Davis Ranch.

Photo Point REP 3 – Photo looking north of Residential Landscape surrounding the Jane Davis Ranch.

Photo Point REP 3 – Photo looking north of Residential Landscape surrounding the Jane Davis Ranch.

Photo Point REP 4 – Photo looking west of Residential Landscape (Chinese elm) grove surrounding the Jane Davis Ranch.

Photo Point REP 5 – Photo looking northwest of Short- and Mixed-grass Prairie immediately north of the Jne Davis Ranch.

Photo Point REP 5 – Photo looking north of Short- and Mixed-grass Prairie immediately north of the Jane Davis Ranch.

Photo Point REP 5 – Photo looking northeast of Short- and Mixed-grass Prairie immediately north of the Jane Davis Ranch.

Photo Point REP 5 – Photo looking east of Short- and Mixed-grass Prairie, junkyard and Chinese elm grove immediately north of the Jane Davis Ranch.

Photo Point W4 WET – Photo looking northwest of riparian and wetland habitat in the north branch of the Northeast drainage (Wetland 4).

Photo Point W4 WET – Photo looking southeast of riparian and wetland habitat in the north branch of the Northeast drainage (Wetland 4) near Elbert Road.

Photo Point W5 WET – Photo looking northwest of riparian and wetland habitat in the south branch of the Northeast drainage (Wetland 5).

Photo Point W5 WET – Photo looking southeast of riparian and wetland habitat in the south branch of the Northeast drainage (Wetland 5) near Elbert Road.

Photo Point W6 WET – Photo looking southeast of wetland habitat between drop structures in Southwest drainage (Wetland 6).

Photo Point W7 WET – Photo looking north of upper end of groundwater fed wetland (Wetland 7) within the south branch of the South-central drainage.

Photo Point W7 WET – Photo looking south of ground water fed wetland complex (Wetland 7) within the south branch of the South-central drainage.

Photo Point W8 WET US – Photo looking northwest (upstream/off-site) of wetland habitat in the north branch of the South-central drainage (Wetland 8).

Photo Point W8 WET DS – Photo looking southeast (downstream/on-site) of wetland habitat in the north branch of the South-central drainage (Wetland 8).

Photo Point W8 WET DS – Photo looking northwest (downstream/on-site) of riparian and wetland habitat in the north branch of the South-central drainage (Wetland 8).

Photo Point W8 WET DS – Photo looking southeast (downstream/off-site) of and wetland habitat in the north branch of the South-central drainage (Wetland 8) flowing toward Wetland 9.

Photo Point WP 9 UPL – Photo looking northwest (upstream/off-site) from stock pond berm of riparian and wetland habitat in the north branch of the South-central drainage (Wetland 9). Wetland 9 is connected to Wetland 8.

Photo Point WP 9 UPL – Photo looking southeast (downstream/on-site) from stock pond berm of riparian and wetland habitat in the north branch of the South-central drainage (Wetland 9) near Judge Orr Road.

Photo Point WP 9 WET – Photo looking west of wetland habitat where the north and south branches of the South-central drainage combine (Wetlands 8 and 9) adjacent to Judge Orr Road.

Photo Point WP 9 WET – Photo looking east of wetland habitat where the north and south branches of the South-central drainage combine (Wetlands 8 and 9) adjacent to Judge Orr Road.

Appendix C

USFWS IPaC Trust Resource Report

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

El Paso County, Colorado

Local office

Colorado Ecological Services Field Office

(303) 236-4773
(303) 236-4005

MAILING ADDRESS
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486

PHYSICAL ADDRESS
134 Union Boulevard, Suite 670
Lakewood, CO 80228-1807

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* This species only needs to be considered if the following condition applies: • Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review. There is **final** critical habitat for this species. https://ecos.fws.gov/ecp/species/4488	Endangered
Preble's Meadow Jumping Mouse *Zapus hudsonius preblei* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4090	Threatened

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened

Fishes

NAME	STATUS
Greenback Cutthroat Trout *Oncorhynchus clarkii stomias* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2775	Threatened

NAME	STATUS
Pallid Sturgeon Scaphirhynchus albus Wherever found	Endangered

This species only needs to be considered if the following condition applies:

- Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7162

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found	Candidate

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses Spiranthes diluvialis Wherever found	Threatened

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2159

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Jul 31
Ferruginous Hawk Buteo regalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6038	Breeds Mar 15 to Aug 15

Golden Eagle Aquila chrysaetos — Breeds Dec 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Pinyon Jay Gymnorhinus cyanocephalus — Breeds Feb 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9420

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

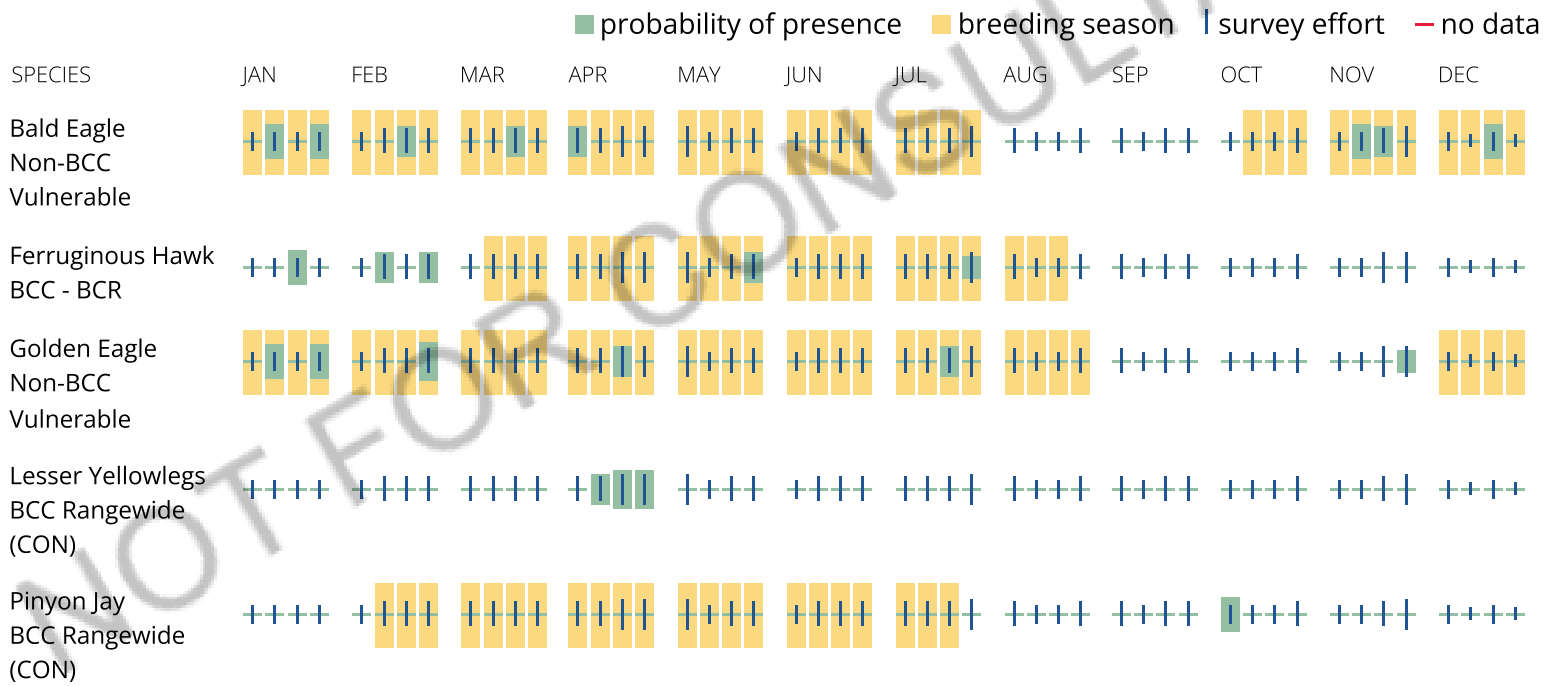
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix D

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/22/23

Applicant/Owner: Davis State: CO Sampling Point: W4-WET

Investigator(s): Jon Davzvardis + Grant Gumee Section, Township, Range: S33 T12S, R64W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 1-9%

Subregion (LRR): G1 Lat: 38.961083°N Long: -104.543390°W Datum: WGS84

Soil Map Unit Name: 8-Blakeland Loamy Sand, 1-9% slopes 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 _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	20	Y	OBL
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	25	Y	OBL
2. Carex nebrascensis	25	Y	OBL
3. Carex praegracilis	15	Y	FACW
4. Mentha aquatica	10	Y	OBL
5. Cirsium arvense	10	Y	FACU
6. Typha angustifolia	5		
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

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: W4-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N/A						OM	Organic Matter
2-10	10YR 2.5/N	100					Sand	
10-18	10YR 5/1	75	10YR 5/8	25	C	M	Silty Clay	

[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: _____

Depth (inches): _____

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): 0-1 inch

Water Table Present? Yes ✓ No ___ Depth (inches): 0 (surface)

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Broad swath of floodplain

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/22/23

Applicant/Owner: Davis State: CO Sampling Point: W4-UPL

Investigator(s): Jon Douzvardis + Grant Gumee Section, Township, Range: S33+34, T12S, R64W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-3

Subregion (LRR): G1 Lat: 38.961083°N Long: -104.543390°W Datum: WGS84

Soil Map Unit Name: 19- Columbine gravelly sandy loam, 0-3% slopes NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bouteloua gracilis	90	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

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: W4-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/1	100					Clay Loam	Dry
16-18	10YR3/2	100					Sandy Cl Lm	

[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: _____

Depth (inches): _____

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) (**LRF 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/22/23

Applicant/Owner: Davis State: CO Sampling Point: WS-WET

Investigator(s): Jon Dauzvardis + Grant Gumee Section, Township, Range: S33+34, T12S, R64W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.961083°N Long: -104.543390°W Datum: WGS84

Soil Map Unit Name: 19-Columbine gravelly sandy loam, 0-3% slopes NWI classification: PEM1A

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ 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: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Juncus balticus	40	Y	OBL
2. Carex nebrascensis	25	Y	OBL
3. Iris missouriensis	P	N	OBL
4. Cirsium arvense	10	Y	FACU
5. Carex praegracilis	25	Y	OBL
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

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: W5-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					Silty Clay Loam	
8-12	10YR 2/1	100					Silty Clay	

[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: _____

Depth (inches): _____

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): 10 inches

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 10 inches

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Saturated soil downstream of lowest stock pond

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/22/23

Applicant/Owner: Davis State: CO Sampling Point: WS-UPL

Investigator(s): Jon Davzvardis + Grant Gumée Section, Township, Range: S33+34, T12S, R64W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.961983°N Long: -104.543390°W Datum: WGS84

Soil Map Unit Name: 19- Columbine gravelly sandloam, 0-3% slopes NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus inermis	100	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

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: W5-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/1	100					Clay Loam	Dry
16-18	10YR3/2	100					Sandy Cl Loam	

[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: _____

Depth (inches): _____

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W6-WET

Investigator(s): Jon Dauzvardis & Grant Gurnée Section, Township, Range: S33/34, T12S, R64W

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.961893° N Long: -104.543390° W Datum: WGS 84

Soil Map Unit Name: 19-Columbine gravelly sandy loam, 0-3% slopes 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 _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	P	N	OBL
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	60	Y	OBL
2. Eleocharis palustris	20	Y	OBL
3. Carex praegracilis	10	Y	FACW
4. Typha angustifolia	5	Y	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

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: WG-WET

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 5/1	100					Clayey Sand	Saturated

[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: _____

Depth (inches): _____

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): 0-+1

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W6-UPL

Investigator(s): Jan Davevardis + Grant Gurnée Section, Township, Range: S33/34, T12S, R64W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-3%

Subregion (LRR): G Lat: 38.961833°N Long: -104.543390°W Datum: WGS 84

Soil Map Unit Name: 19-Columbine gravelly sandy loam, 0-3% slopes NWI classification: N/A

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ 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: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Bromus inermis	10	Y	UPL
2. Pascopyrum smithii	70	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

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: W 6-UPL

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 %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/2	100					Sandy Loam	Dry

[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: _____

Depth (inches): _____

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W7-WET

Investigator(s): Jon Dauzvardis & Grant Gurney Section, Township, Range: 1, T12S, R64W

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.961883° N Long: -104.543390° W Datum: WGS 84

Soil Map Unit Name: 19-Columbine gravelly sandy loam, 0-3% slopes NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	60	Y	OBL
2. Carex nebrascensis	40	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

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: W7 WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR3/1	100					Sandy Loam	
9-14	10YR3/1+3/2	100					Sandy Loam	Saturated @ 14"
14-18	10YR2/1	100					Clay	

[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: _____

Depth (inches): _____

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): 14"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 14"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W7-UPL

Investigator(s): Jan Dauzvardis + Grant Gurnée Section, Township, Range: S33&34, T12S, R64W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.961883 °N Long: -104.543390 °W Datum: WGS 84

Soil Map Unit Name: 19- Columbine gravelly sandy loam, 0-3% slopes NWI classification: N/A

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ 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: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Cirsium arvense	40	Y	FACU
2. Machaeranthera tanacetifolia	5	Y	UPL
3. Amorpha fruticosa	5	Y	OBL
4. Geranium viscosissimum	5	Y	NI
5. Verbascum thapsus	5	Y	UPL
6.			
7.			
8.			
9.			
10.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 5	x 1 = 5	
FACW species ____	x 2 = ____	
FAC species ____	x 3 = ____	
FACU species 40	x 4 = 160	
UPL species 10	x 5 = 50	
Column Totals: 55	(A) 220	(B)

Prevalence Index = B/A = 4.0

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: W-7-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/2						Sandy Clay Loam	
6-12	10YR3/2						Loamy Clay	
12-18	10YR3/2						Clay	

[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: _____

Depth (inches): _____

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: WB-WET

Investigator(s): Jon Dauzvardis & Grant Gurnée Section, Township, Range: S33-34, T12S, R64W

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): G Lat: 38.961803° N Long: -104.543390° W Datum: WGS 84

Soil Map Unit Name: 29-Fluvaquentic Haplaquolls, nearly level NWI classification: PEM1A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Carex nebrascensis	50	Y	OBL
2. Juncus balticus	25	Y	OBL
3. Typha angustifolia	10	Y	OBL
4. Cirsium arvense	5	Y	FACV
5. Mentha aquatica	10	Y	OBL
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

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: W8-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	OM						Organic Matter	
2-12	10YR 2/1	100					Silty Sand	
12-18	10YR 2/1 + 4/1	100					Clay	

[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: _____

Depth (inches): _____

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): 0-1

Water Table Present? Yes ✓ No ___ Depth (inches): 0 (surface)

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0 (surface)

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: WB-UPL

Investigator(s): Jan Dauzvardis + Grant Gurnée Section, Township, Range: S33/34, T12S, R64W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2%

Subregion (LRR): G Lat: 38.945566°N Long: -104.529015°W Datum: WGS 84

Soil Map Unit Name: 29- Fluvaquentic Haploquolls, nearly level NWI classification: N/A

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ 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: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Bouteloua gracilis	10		UPL
2. Machaeranthera tanacetifolia	20		UPL
3. Artemisia frigida	10		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

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: WB-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2	100					Sandy Loam	
10-16	10YR3/2	100					Sandy Gravelly Loam	

[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: _____

Depth (inches): _____

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W9-WET

Investigator(s): Jon Dauzvardis & Grant Gurney Section, Township, Range: S33-34, T12S, R64W

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): G Lat: 38.961883° N Long: -104.543390° W Datum: WGS 84

Soil Map Unit Name: 29- Fluvaquentic Haplaquolls, nearly level NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	70	Y	OBL
2. Carex praegracilis	5	Y	FACW
3. Distichlis spicata	25	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

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: NW9-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR3/1						Silty clay	Saturated @ 12"

[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: _____

Depth (inches): _____

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): 12+

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 12+

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Davis City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Davis State: CO Sampling Point: W9-UPL

Investigator(s): Jon Dauzvardis + Grant Gurnée Section, Township, Range: S33:34, T12S, R64W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1-9%

Subregion (LRR): G Lat: 38.961883°N Long: -104.543390°W Datum: WGS 84

Soil Map Unit Name: 8- Blakeland loamy sand 1-9% slopes NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bouteloua gracilis	70	Y	UPL
2. Juncus balticus	15	Y	OBL
3. Machaeranthera tanacetifolia	5	Y	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

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: W9-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/2						Loam	Dry

[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: _____

Depth (inches): _____

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: