Environmentally Sensitive Areas Report

Forro Development

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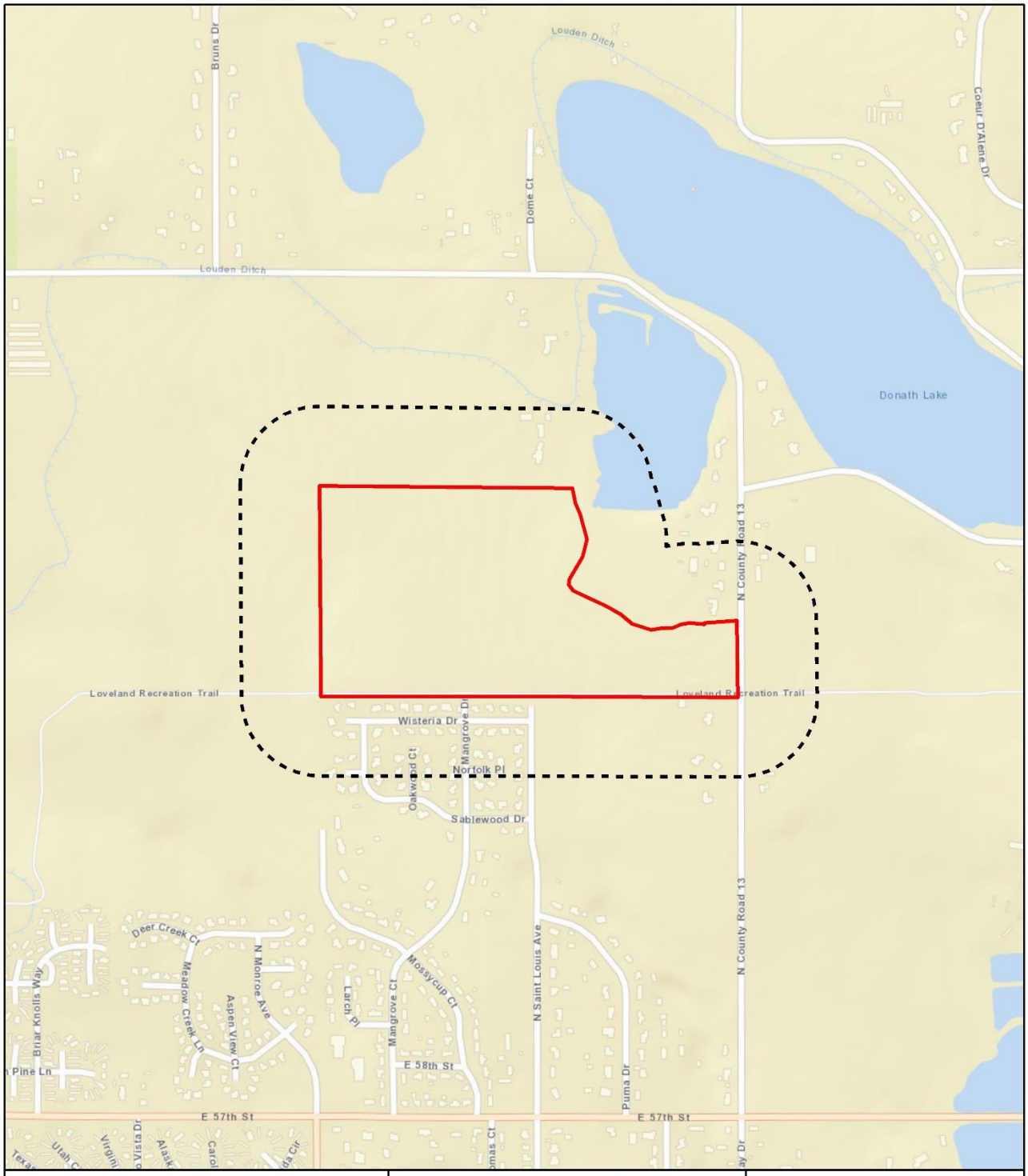
1.0 INTRODUCTION

This Environmental Site Assessment Report (ESAR) documents the evaluation of environmental conditions and natural areas on the proposed Forro development project in accordance with City of Loveland Current Planning Division requirements (January 2019). The project area is contained within parcel 9625005704 which comprises approximately 60.5 acres in Loveland, Colorado south of E County Road 30 and east of U.S. 287 in the West ½ of Section 25 (T. 6 N. R. 69 W.). In accordance with the City of Loveland Current Planning Division ESAR requirements (January 2019), a study area was created to include all land within the project area plus land within 500 feet from the project boundary that are likely to be affected by the proposed development. The Forro development project is currently proposed for residential development. The property location and Study area are displayed on Figure 1.

A data review was conducted to gather information and assist in the evaluation of potential natural biological resources within the property. The data review entailed an evaluation of online resources and publications to determine the presence or potential occurrence of important natural and biological resources. This data review included:

- U.S. Fish and Wildlife Service (USFWS) Federally Listed and Proposed Endangered, Threatened, and Candidate Species and Critical Habitat as identified by the USFWS Information, Planning, and Conservation System (IPaC) Official Species List and Critical Habitat Mapper;
- Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) protected species as identified on the IPAC Trust Resources Report;
- The Colorado Natural Heritage Program's (CNHP) Colorado's Conservation Data Explorer (CODEX);
- Colorado Parks and Wildlife (CPW) Threatened and Endangered Species List and High Priority Habitat database (SB181);
- USFWS National Wetlands Inventory (NWI); and
- US Natural Resources Conservation Service (NRCS) Web Soil Survey.


Louden Ditch
Bruns Dr
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Coeur D'Alene Dr
Louden Ditch
Donath Lake
N County Road 13
Loveland Recreation Trail
Loveland Recreation Trail
Wisteria Dr
Mangrove Dr
Oakwood Ct
Norfolk Pl
Sablewood Dr
N County Road 13
Deer Creek Ct
Briar Knolls Way
Meadow Creek Ln
N Monroe Ave
Aspen View Ct
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Forro Development
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Coordinate System:
State Plane 83 Colorado N
Sources:
Larimer County and Cedar Creek
Figure 1:
Project Location
and Study Area

2.0 DESKTOP ANALYSIS RESULTS

2.1 IPAC Query

As displayed on the table below, the IPAC query returned one mammal, three birds, two fish, one insect and two flowering plants. None of the indicated habitats occur onsite. However, it is likely that milkweed occurs onsite, but it was not observed during the field survey. The IPAC report is attached to this report in Appendix B.

Species	Federal Status[1]	Habitat	Habitat Present?	Determination
Mammals				
Gray Wolf	E	The wide range of habitats includes temperate forests, mountains, tundra, taiga, and grasslands.	No habitat onsite. No known gray wolf on the eastern slope.	No Effect
Birds				
Eastern Black Rail	T	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy "swamps."	This project would not require water depletions and would not impact this species.	No Effect
Piping Plover	T	Sandy beaches, sandflats, dredge islands, and drained river floodplains.	No potential habitat onsite. This project would not require water depletions and would not impact this species.	No Effect
Whooping Crane	E	Wetlands, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields.	A very rare migrant in the region. This project would not require water depletions and would not impact this species.	No Effect
Fish				
Greenback Cutthroat Trout	T	This species inhabits cold water streams and lakes with adequate stream spawning habitat during spring.	No potential habitat present.	No Effect
Pallid Sturgeon	E	Large, free-flowing, warm-water, and turbid rivers with a diverse assemblage of physical habitats.	Project would not require water depletions and would not impact this species.	No Effect
Insect				
Monarch Butterfly	C	No critical habitat has been designated for this species. Known to inhabit open fields and meadows with milkweed in the spring and summer months.	No milkweed found onsite	No Effect
Flowering Plants				
Ute Ladies'-tresses	T	Seasonally moist soils and wet meadows of drainages below 7,000 ft. of elevation.	No potential habitat present.	No Effect
Western Prairie Fringed Orchid	T	Tall grass prairie on unplowed, calcareous soils, and sedge meadows.	No tall grass prairie onsite and there are no known occurences in Colorado	No Effect

[1]E = Endangered, T = Threatened, C = Candidate

2.2 CODEX Reporting

The CODEX reporting indicated that there is a Bald Eagle Nest and Winter Concentration Area within one mile of the project area. There is also a conservation easement immediately north of the project area. The full CODEX report is attached to this report in Appendix C.

2.3 CPW High Priority Habitat Mapping

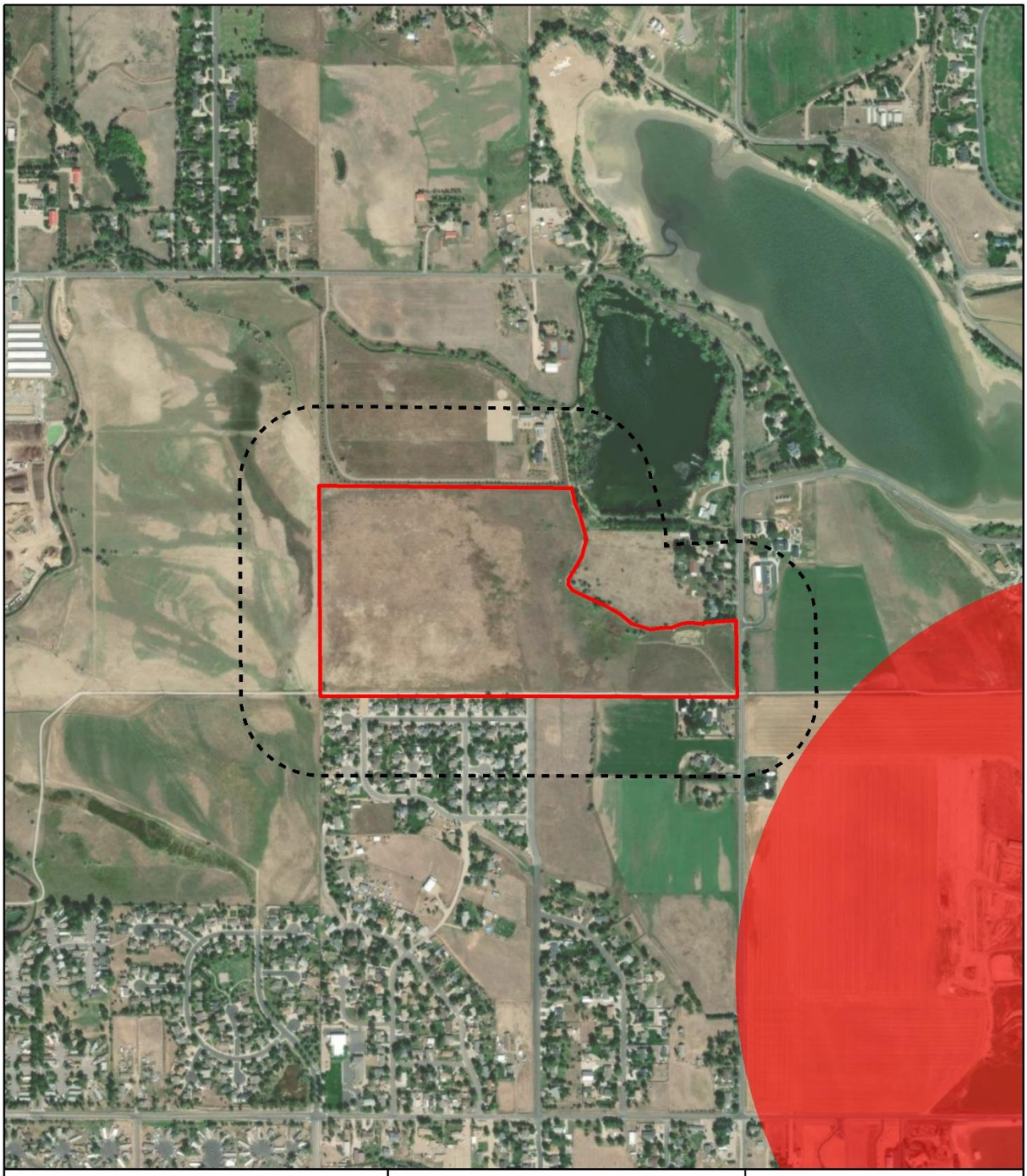
As indicated in the CODEX reporting, there is a known active Bald Eagle Nest to the southeast of the project (around Boyd Lake). The CPW mandated buffer does not intersect the Forro Study Area Boundary (Figure 2). Therefore, it does not affect potential development in the project area.

2.4 National Wetland Inventory Mapping

There are no National Wetland Inventory features which intersect the Project Area. However, an approximately 22 acre lake is adjacent to the Project Area to the northeast (Figure 3).

2.5 Soil Survey

The web soil survey indicates that the Project Area is comprised of Weld Silt Loam (53.8%), Nunn Clay Loam (40.5%), and Wiley Silt Loam (5.8%). None of these soils exhibit hydric conditions.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Bald Eagle Active Nest Site HPHE1
Forro Development
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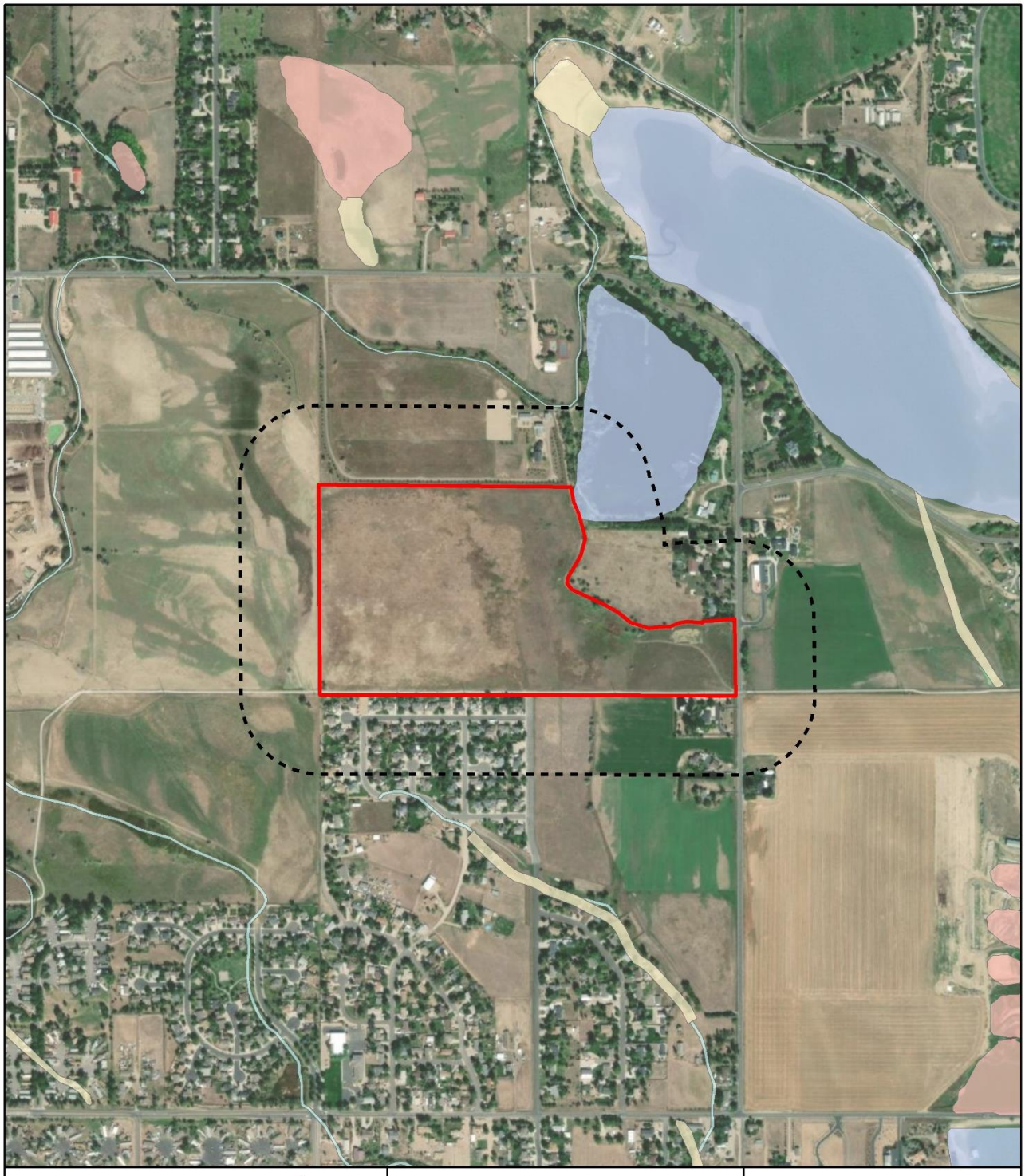
ASSOCIATES, INC.
Coordinate System:
State Plane 83 Colorado N
Sources:
Larimer County and Cedar Creek
Figure 2:
CODEX / High
Priority Habitat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Project Area
Study Area
Wetland Type
Freshwater Emergent Wetland
Freshwater Pond
Lake
Riverine
CEDAR CREEK
ASSOCIATES, INC.
Coordinate System:
State Plane 83 Colorado N
Sources:
Larimer County and Cedar Creek
Forro Development
Figure 3:
National Wetland Inventory

3.0 ENVIRONMENTALLY SENSITIVE AREAS

The following sections address each of the required informational elements put forth by the City of Loveland Current Planning Division. Scientific nomenclature follows USDA, NRCS Plants Database.

3.1 Site Inventory

The entire site is made up of the upland grassland habitat, which is dominated by herbaceous grasses and forbs. These habitats do not support mature stands of woody vegetation. Isolated accounts of mature trees occur along the irrigation ditch, namely Russian olive (*Elaeagnus angustifolia*) and eastern cottonwood (*Populus deltoides*). The upland grassland habitat is dominated by u intermediate wheatgrass (*Thinopyrum intermedium*), smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), thickspike wheatgrass (*Elymus lanceolatus* ssp. *lanceolatus*), and crested wheatgrass (*Agropyron cristatum*). There are significant annual weeds and noxious weeds contained within the upland grassland. The annual weeds include kochia (*Kochia scoparium*), Russian thistle (*Salsola tragus*), and prickly lettuce (*Lactuca serriola*). The noxious weeds encountered include musk thistle (*Carduus nutans* – List B), Canada thistle (*Cirsium arvense* – List B), field bindweed (*Convolvulus arvensis* – List B), and cheatgrass (*Bromus tectorum* – List C). Contained within the upland grassland habitat are a couple of areas of mesic grassland in the northeast portion of the Project Area (near the unnamed irrigation ditch), low lying spots where surface water collects after rain events. These areas are not wetlands but do exhibit more mesic species. In addition, an active prairie dog community was found on the southwest portion of the project area.

The Loveland Recreation Trail bounds the Project Area on the south side. An unnamed lateral to Louden ditch is located on the northeast portion of the project. The unnamed ditch exhibits largely un-vegetated channels with bank vegetation dominated by upland species, predominantly intermediate wheatgrass, smooth brome, and crested wheatgrass.

3.2 City of Loveland Identified Natural Areas

The northeast border of the Forro Project Area is adjacent to Natural Area #85 called; Disturbed Area Near Donath Lake in *City of Loveland Natural Areas Sites* (2008). Natural area #85 is generally connected to #86; Donath Lake and Natural Area #87; Mesic Pasture W. of CR 11C. The *City of Loveland Parks and Recreation Master Plan* (2014) recommends a 50-foot setback from Natural Areas with an overall habitat rating of "5" or less to protect water quality and wildlife habitat. Sites #85, #86, and #87 were given overall habitat ratings of 3, 6, and 3, respectively. None of these natural areas exist within the project area, and none of the Natural Areas are close enough where the buffer would apply.

3.3 Land Within the Ordinary High-Water Mark

The unnamed irrigation ditch are the only features within the study area which exhibit ordinary high-water

mark indicators. This feature is shown in Figure 4.

3.3.1 Soils with a High Water Table or Being Highly Erodible

According to the Natural Resource Conservation Service (NRCS) soils mapping for the property (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx), the soils contained within the project area are: Weld Silt Loam (53.8%), Nunn Clay Loam (40.5%), and Wiley Silt Loam (5.8%). The NRCS indicates these are well-drained soils, for the most part, where runoff is slow to medium, and the erosion hazard is slight to moderate. No problematic erosion sites were observed during the field survey, which supports the NRCS assessment that the potential of erosion is slight to moderate for the study area.

3.4 Jurisdictional or Non-jurisdictional Wetlands

The U.S. Army Corps of Engineers (USACE) requires evidence of three hydric parameters (hydric soils, wetland hydrology, and wetland vegetation) to be characterized as wetland. Evidence of all three wetland parameters were not found within the Project Area.

3.5 Physical Linkages to Other Natural Areas or Open Space

The unnamed ditch and Loveland Recreation Trail likely provide physical linkages to other Natural Areas or open spaces.

3.5.1 Natural Areas and Open Lands

By way of Louden ditch and the Loveland recreational path to the south of the Project Area, connections exist with Loveland Natural Areas #85, #86, and #87. The path provides a corridor with minimal traffic between the Project and undeveloped fields to the east, including Natural Area #87, which is then adjacent to #85 and #86.

3.5.2 Wildlife Habitat Areas and Corridors

The Upland Grassland habitat that dominates the Project Area do not support natural habitat features and have a relatively low habitat value because of the general lack of native vegetation and regular land use disturbance. Urban adapted wildlife likely graze grasslands after spring green-up and resident populations of small mammals such as deer mouse (*Peromyscus maniculatus*) and prairie vole (*Microtus ochrogaster*) are present, but overall habitat value is limited by lack of species diversity and lack of significant cover. Active prairie dog (*Cynomys ludovicianus*) colonies are present throughout the study area. Open prairie dog burrows can be utilized as nest sites by burrowing owls (*Athene cunicularia*), though none were observed during the site inventory survey.

There are two features which provide possible wildlife movement corridors. The Loveland Recreational Trail connecting the project with undeveloped land to the east and Natural Areas #85, #86, and #87. The unnamed irrigation ditch connects the project to Donath Lake and several natural areas

downstream.

There are mature trees and shrubs located sporadically throughout the grassland habitats which could provide habitat for raptors, migratory birds and song birds. Red-tail hawks, northern harriers (*Circus hudsonius*), coopers hawks (*Accipiter cooperii*) and prairie falcons (*Falco* mexicanus) are frequently observed locally, however no raptor nests were located within the study area or in the surrounding neighborhoods. Several songbirds, including red-winged blackbirds (*Agelaius phoeniceus*), were observed around the stormwater drainage, and would be presumed to be nesting nearby. A Wilson's snipe (*Gallinago delicata*) was also present on site.

3.5.1 Sensitive and Specially Valued Species

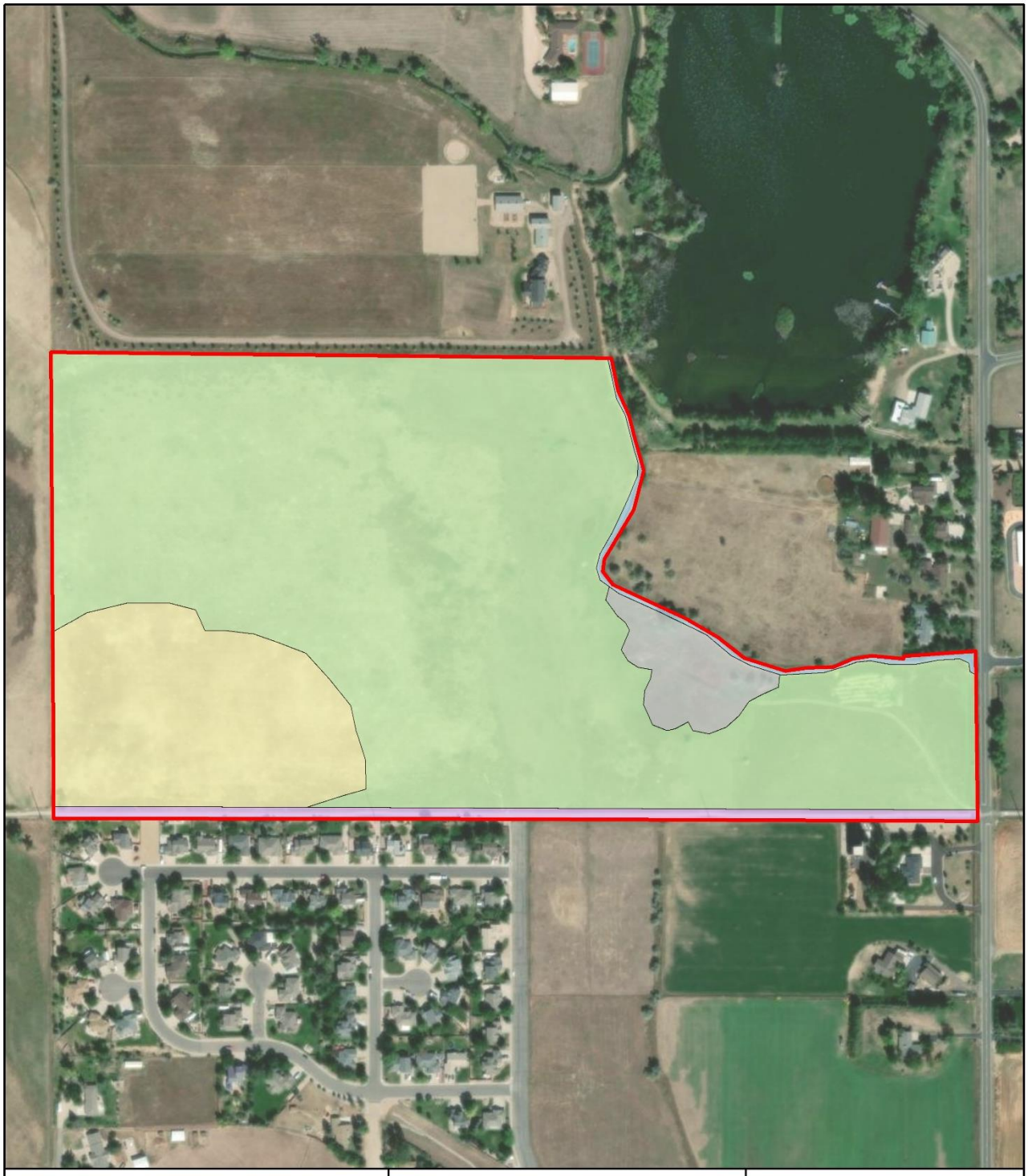
A current list of federally threatened, endangered, proposed, and candidate species, and designated critical habitat that may occur within the boundary of the Site and/or may be affected by the proposed development was obtained from the USFWS IPaC website (2023). The table in Section 2.1 lists the species and their designated and proposed critical habitats. Suitable habitat for CPW, Larimer County, and the Town's species of concern/interest is limited due to the habitat alteration resulting from current land uses, including the Preble's meadow jumping mouse (*Zapus hudsonius preblei*) and the burrowing owl (*Athene cunicularia*).

3.6 Existing Drainage Patterns and Floodway and Flood Fringe Boundaries

Floodway and flood fringe boundaries are addressed in other documents submitted for the Forro development parcel.

3.6.1 Irrigation Canals, Ditches, and Water Courses

The unnamed irrigation ditch flows along the northern border of the Project Area and crosses through the Northeast corner of the project boundary and connects to several bodies of water downstream of the project area, including Donath Lake and Boyd Lake.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Project Area
Site Features
Loveland Recreational Trail
Mesic Grassland
Prairie Dog Area
Unnamed Irrigation Ditch
Upland Herbaceous Grassland
Forro Development
CEDAR CREEK
ASSOCIATES, INC.
Coordinate System:
State Plane 83 Colorado N
Sources:
Larimer County and Cedar Creek
Figure 4:
Site Features

4.0 ASSESSMENT OF POTENTIAL IMPACTS OF PROPOSED DEVELOPMENT

Current development plans of the Forro Project would avoid disturbance to surrounding Natural Areas. Development would primarily occur on upland grassland habitat that have minimal habitat value. With the planned disturbance buffers in place, the most valuable habitats on the Property will be left intact. The required disturbance buffers will surround the Loveland Recreational Trail (15-foot buffer from the centerline) and the unnamed irrigation ditch (50-foot buffer from the centerline), allowing these areas to maintain their current function as wildlife corridors and valuable habitats.

5.0 RECOMMENDED PROTECTION MEASURES, MITIGATION, AND ENHANCEMENT

The current development design measures to maintain the respective buffers along the Louden Ditch, the stormwater drainage and associated wetlands, and the Loveland recreational path is the primary mitigation measures required to protect wildlife movement corridors, wildlife habitats, and water quality within the study area. The 50-foot buffer (from the center line of the ditch) should apply to an unnamed irrigation ditch to provide a corridor for urban wildlife. The 15-foot buffer (from the center line of the trail) should apply to the Loveland recreational path (in its current or relocated position) because the path provides linear linkages for urban wildlife but is not comprised of natural features and is subject to significant anthropogenic use, which limits wildlife value.

With the presence of habitat for burrowing owls, migratory birds, and raptors, its suggested that pre-clearance survey be conducting if ground-disturbing are planned during the nesting and breeding seasons. The breeding and nesting periods for burrowing owls are listed by CPW from March 15th to October 31st. This timeline reasonably covers migratory bird and raptor nesting periods as well. The Migratory Bird Treaty Act protects nesting migratory birds and pre-clearance surveys ahead of planned ground disturbing activities during the nesting season would ensure compliance with the act.

Other recommended mitigation measures to protect or enhance habitats within Project Area are provided below.

- Where approved disturbance occurs within disturbance buffers, ecological restoration should include planting of native species, particularly native woody species such to enhance habitats with the buffers.
- The intensity of night lighting from portions of the proposed development facing the unnamed irrigation ditch should be shielded or directed to minimize the intrusion of artificial nighttime light into these areas.
- Any crossing of the unnamed irrigation ditch should incorporate an appropriately sized and designed culvert to permit small mammal, reptile, and amphibian movement under the crossing.
- Weed control should be implemented throughout the Project Area prior to construction.

Appendix A: Representative Photographs

Photograph 1.
Representative photo of the Upland Grassland Habitat.

Photograph 2.
Abandoned Prairie Dog Community.

Photograph 3.
Representative photo of the Mesic Grassland Area.

Photograph 4.
Unnamed Irrigation Ditch and Scattered Trees.

Photograph 5.
Active Prairie Dogs.

Photograph 6.
Loveland Recreational Trail.

Appendix B: IPAC Query

Appendix C: CODEX Report