GENERAL ECOLOGICAL RESOURCES SURVEY

Peak Innovation Park
Lot 2, Colorado Springs Airport Filing No. 1
Colorado Springs, Colorado 80916

Prepared for:

UFCS Airport, LLC
c/o Bill Branyan
Urban Frontier, LLC
1529 Market Street, Suite 200
Denver, Colorado 80202

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Project Number: **492-008-01**

October 2nd, 2018

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1.0 INTRODUCTION

Western Environment and Ecology, Inc. (Western Environment) was retained by Mr. Bill Branyan of Urban Frontier LLC, to conduct a general survey of ecological resources, including threatened and endangered species, wetlands, and other significant habitats, on approximately 570 acres within Section 6, Township 15 South, Range 65 West, Colorado Springs, Colorado (Figure 1). Mr. Branyan indicated that this study was in response to the potential development of the site.

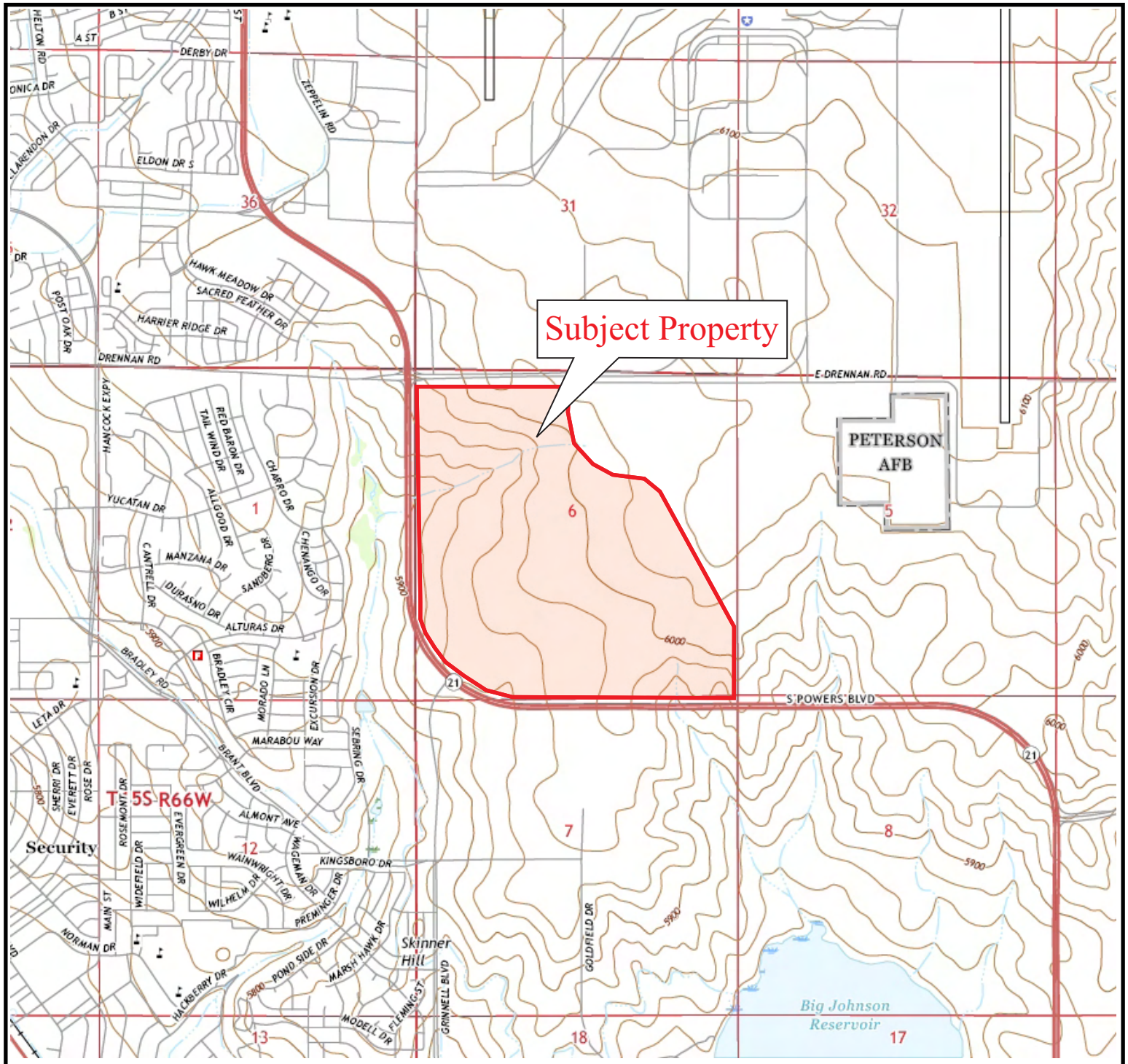
The objectives of this study were to (1) establish presence/absence and potential habitat of any federal or state threatened and endangered species on the property, (2) identify any wetlands or other ecologically sensitive areas on or adjacent to the property, and (3) make practical recommendations based on the results of the study if required.

View of the center of the site from the southwest

2.0 STUDY AREA

The subject property consists of approximately 570 acres within a larger parcel located southeast of the intersection of Milton E. Proby Parkway and South Powers Boulevard (Figure 2). The site, currently vacant, is bordered to the southeast by other undeveloped parcels, however the surrounding properties to the west and south are occupied by single family residential developments. The Colorado Springs Airport, Peterson Air Force Base, and several industrial and commercial properties are located to the north and east. The subject properties is surrounded by South Powers Boulevard to the west and south, Milton E. Proby Parkway to the north, and Cresterra Parkway to the east. The Eastern Branch of Windmill Gulch occurs through the northern portion of the site and connects with Windmill Gulch approximately 650 feet to the west across South Powers Boulevard.

The approximate elevation range of the site is 5,915 to 6,045 feet above sea level (USGS Elsmere 7.5 Minute Quadrangle, 2016). The property's topography is shallow drainages and rolling hills with 1 to 9 percent slopes to the northwest and southeast. Site soils are predominately Blakeland, Bresser and Truckton sandy loams (NRCS) overlying Eolian Deposits and alluviums (Tweto, 1979). Fountain Creek is located 2.25 miles to the south. Review of the Flood Insurance Maps from the Federal Emergency Management Agency (FEMA) indicated that the site is not located within the 100-year flood plain. Several groundwater monitoring wells were constructed west of the site along Windmill Gulch. Lithologic logs from the installation of these wells (attached) indicated sand and clay were found from the surface to approximately 42 feet below the surface where bedrock was encountered. A static groundwater level was indicated at approximately 18 feet below ground surface.



USGS Elsmere Quadrangle, 7.5 Minute Series, 2016

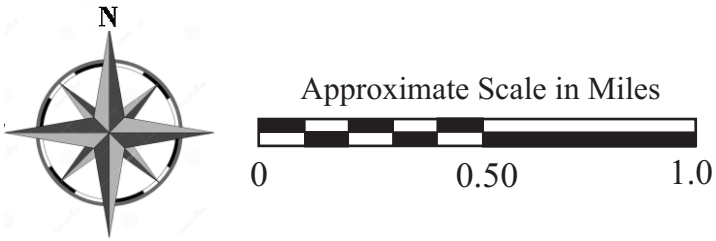


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Figure 1 - Property Location Map
Peak Innovation Park
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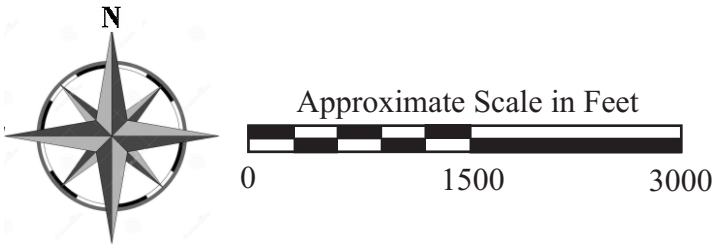

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Figure 2 - Site Location Map
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3.0 METHODS

Species that are federally or state listed as threatened or endangered, including federally proposed and candidate species, occurring or having historically occurred in the Colorado Front Range Piedmont, were considered for this study (Table 1). The El Paso County classification was determined by following the Colorado Field Office of the U.S. Fish and Wildlife Service's county checklist (USFWS, 2011). The list was narrowed based on habitat requirements of the species relative to existing habitats on the project.

The property was surveyed on September 10th, 2018. Information was collected on topography, ecosystems, and species of flora and fauna found on and adjacent to the property. Photographs were taken, and emphasis was placed on potential habitat of threatened and endangered species or species of special concern, and the presence of wetlands. During the inspection the majority of the site consisted of areas of managed and unmanaged uplands grasses and weeds, including smooth brome (*Bromus inermis*), blue grama (*Bouteloua gracilis*), cheatgrass (*Bromus tectorum*), tumble mustard (*Sisymbrium altissimum*), and Russian thistle *(Salsola tragus).* Also, sunflower (*helianthus annuus*) and prickly pear cactus (*Opuntia sp.*) were present on the site. The East Branch of the Windmill Gulch occurs through the northern portion of the property. At the time of the inspection, the drainage contained woody vegetation including cottonwood trees and saplings (*Populous sp.).* Additionally, other vegetation including mullein (*Verbascum thapsus*), milkweed (*Asclepias sp.*), and cattails (*Typha angustifolia*) were observed within the drainage.

During the site visit active black-tailed prairie dogs *(Cynomys ludovicianus*) burrows were observed at the center and southern portions of the subject property (Figure 2). The area surrounding the prairie dog burrows were heavily grazed and contained bare ground.

Table 1. Common name, scientific name, and status of federal and state threatened and endangered species that could occur or historically occurred in the Colorado Piedmont (CPW, 2010; USFWS, 2011).

Common Name	Scientific Name	Status[1]
Birds		
Bald eagle	*Haliaeetus leucocephalus*	SC
Whooping crane	*Grus americana tabida*	FE, SE
Least Tern	*Sterna antillarum*	FE, SE
Mountain plover	*Charadrius montanus*	SC
Mexican spotted owl	*Strix occidentalis lucida*	FT, ST
Piping plover	*Charadrius melodus*	FT, ST
Plains Sharp-Tailed Grouse	*Tympanuchus phasianellus jamesii*	SE
Western burrowing owl	*Athene cunicularia*	ST
Lesser Prairie Chicken	*Tympanuchus pallidicinctus*	ST
Ferruginous Hawk	*Buteo regalis*	SC
Mammals		
Black-footed ferret	*Mustela nigripes*	FE, SE
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	FT, ST
Canada Lynx	*Lynx canadensis*	FT, SE
Black-tailed prairie dog	*Cynomys ludovicianus*	SC
Amphibians		
Boreal Toad	*Bufo boreas boreas*	SE
Plants		
Ute ladies'-tresses	*Spiranthes diluvialis*	FT
Colorado butterfly plant	*Gaura neomexicana coloradensis*	FT
Western prairie fringed orchid	*Platanthera praeclara*	FT

[1]**Status Codes:** FE = Federally Endangered, FT = Federally Threatened, FPT = Federally Proposed as Threatened, FC = Federal Candidate, SE = State Endangered, ST = State Threatened, SC = State Concerned

4.0 RESULTS AND DISCUSSION

4.1 Wetlands

The Eastern Branch of the Windmill Gulch occurs through the northern portion of the subject property. This drainage connects to the Windmill Gulch approximately 650 feet to the west across South Powers Boulevard. The Eastern Branch of the Windmill Gulch likely collects stormwater drainage from adjacent properties to the north and east. During the inspection, a stormwater detention pond was present at the northeastern end of the drainage. Review of historic aerial photography indicated that this detention pond was constructed in 2011 during the construction of Cresterra Parkway.

The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill materials into Waters of the U.S. under the authority of Section 404 of the Clean Water Act. Waters of the U.S. include ephemeral, intermittent and perennial streams, their surface connected wetlands and adjacent wetlands, certain lakes, ponds, drainage ditches and irrigation ditches that have a nexus to interstate commerce.

Western Environment evaluated the project site for the three components of a jurisdictional wetlands as defined in the US Army Corps of Engineers, (USACE) Wetland Delineation Manual (1987). These components are: 1) Vegetation, 2) Soil and 3) Hydrology. The USACE Manual defines *Nonwetlands* as "including upland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. They are seldom or never are inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season, and, if vegetated, they normally support a prevalence of vegetation typically adapted for life only in aerobic soil conditions."

At the time of the inspection, the Eastern Branch of the Windmill Gulch contained only isolated areas with wetland vegetation. Additionally, Western Environment acquired soil cores and excavated soil pits within the drainage to identify hydric soils associated with wetlands. Hydric soil indicators were limited to Sandy Redox. During the site visit, the drainage was dry and did not contain continuous features of flow, such as bed, bank or OHWM.

It is the opinion of Western Environment, that while the Eastern Branch of the Windmill Gulch may have previously contained wetlands, it is no longer an aquatic resource. Although there is connection with Windmill Gulch, the drainage is likely not a Waters of the U.S. subject to regulation under Section 404 of the Clean Water Act.

Western Environment recommends conducting a wetland delineation and requesting jurisdictional status confirmation from the Corps.

4.2 Wildlife Species Eliminated from Consideration as Occurring on the Project

The following threatened and endangered species that have historically been thought to occur in the Colorado Pediment were immediately ruled out of serious consideration for this project based on available habitat: Mexican spotted owl, whooping crane, least tern, Canada lynx, black-footed ferret, boreal toad, Colorado butterfly plant and western prairie fringed orchid.

The Mexican spotted owl was eliminated because it requires forests that are not present on the project. The whooping crane was also eliminated due to rarity in Colorado, and no known nesting or feeding habitat exists on or adjacent to the property. Less than 20 sightings of whooping cranes along the eastern plains and mountainous regions of Colorado have been recorded since 1931 (Andrews and Righter, 1992). The least tern inhabits sandy shorelines of reservoirs, lakes, and rivers with bare sandy shorelines. This shore bird is a casual to very rare spring and fall migrant on the northeastern plains of Colorado, and is unlikely to occur on the subject project.

The Canada lynx is a rare forest-dwelling species of northern latitudes that feeds primarily on snowshoe hares. No lynx habitat exist on the subject site. The kit fox is only known to occur on Colorado's desert slopes ranging from Montrose to Grand Junction. The black-footed ferret was eradicated from the Colorado Piedmont, however, in 2013 Colorado Parks and Wildlife has reintroduced populations in Larimer, Adams, Pueblo, Baca, and Powers Counties in Colorado.

Colorado's only alpine species of toad, the boreal toad, has been found in spruce-fir forests and alpine meadows at elevations between 7,000 and 12,000 feet. The toad also requires lakes, marshes, ponds, or bogs with shallow water for breeding. These habitats do not exist on the property.

The Colorado butterfly plant has been found in northern Larimer County in recent years and is generally associated with streams that do not exist onsite (Colorado Native Plant Society 1997). The western prairie fringed orchid is restricted to west of the Mississippi River, however only currently occurs in Iowa, Kansas, Minnesota, Nebraska, North Dakota and in Manitoba, Canada (USFWS, 2001).

4.3 Species Included in Survey

Western Burrowing Owl (*Athene cunicularia*)

State Threatened

Western Burrowing Owl.
Photo acquired from wildearthguardians.org

The burrowing owl is found primarily in eastern Colorado as a summer resident. Two aspects of the biology of the western burrowing owl appear to influence both its regional and local abundance: 1) it prefers areas of short vegetation, and 2) it rarely, if ever, digs its own burrows. Historically, burrowing owls were common wherever there were prairie dog colonies in northeastern Colorado. During the inspection several active prairie dog colonies were observed at the center and southern portions of the subject property (Figure 2). **The Colorado Division Parks and Wildlife (CPW) recommends that a burrowing owl survey be performed if construction is planned on abandoned or active prairie dog colonies during the owl's nesting season (March 1st to November 1st)**.

Bald Eagle (*Haliaeetus leucocephalus*)

State Threatened

The Bald Eagle was removed from the Endangered and Threatened Species List on July 9th, 2007. In winter bald eagles are transient and use areas that provide feeding and roosting opportunities. There are permanent water and large trees adjacent to the property, however, Western Environment reviewed National Diversity Information Source (NDIS) data maintained by the CPW (2017), which indicated that an active bald eagle nest is located approximately 1.25 miles to the south, near Fountain Valley School. **Since the subject property is located outside of the CPW recommended seasonal restriction buffer (½ mile), it is the opinion of Western Environment that the development of the site will not adversely impact the active bald eagle nest. At the time of the inspection, no eagles were observed on or adjacent to the property. Additionally, no nest, forage, or roost sites were identified on the property.**

Mountain Plover (*Charadrius montanus*)

State Concerned Species

Typical habitat characteristics of the mountain plover are a mixture of short vegetation, bare ground, and a flat topography at both breeding and wintering locations. This small shorebird breeds in Colorado, and in parts of its breeding range the species commonly shows a preference for prairie dog towns and sites that are heavily grazed by domestic livestock. Prairie dog grazing promotes the short grasses that the plover prefers, and their digging creates areas of bare soil important for plover nesting. Mountain plovers were proposed for federal listing as threatened on February 16, 1999 (USFWS, 1999b), however the U.S. Fish and Wildlife Service withdrew the proposal on September 8th, 2003. The Mountain plover is a migratory bird and protected under the Migratory Bird Treaty Act. Harassment or destruction of the species or its nest is a federal offense. **Therefore, to ensure avoidance of the species, development within grazed sites or prairie dog colonies should not begin without a pre-construction inspection during plover breeding and fledging months from April 1st to August 1st.**

Piping Plover *(Charadrius melodus)*

Federally Threatened, State Threatened

This small shorebird can be found on very sparsely vegetated beaches, mudflats and sandy areas near water on shores and islands. Piping Plovers usually arrive in Colorado in late April or early May, and leave when the nesting cycle is completed, or by late August. Nesting populations have been documented in eastern Colorado along the South Platte and Arkansas River drainages. Food sources for Piping Plovers include insects, crustaceans and other small aquatic animals. Plovers feed along beaches, especially in areas where waves have washed up debris (CPW, 1994). **Due to the lack of sandbars or mud-flats in the vicinity of the project, Piping Plovers are unlikely to occur.**

Plains Sharp-Tailed Grouse *(Tympanuchus phasianellus jamesii*)

State Endangered

The Plains Sharp-Tailed Grouse historically occurred on Colorado's eastern grasslands. Grouse habitat is characterized by rolling hills with Gambles oak, sage brush, service berries and grassy glades. This grouse is a resident from Alaska east to the Hudson Bay, and south to northern New Mexico. Currently, Colorado populations occur in Douglas County, northern and eastern Weld County, and Logan County east of Sterling. **No known populations of the Plains Sharp-Tailed Grouse are known to occur in proximity to the subject project (CPW, 2017).**

Lesser Prairie Chicken (*Tympanuchus pallidicinctus*)

State Threatened

Historically, this bird occupied the grasslands of Texas, Oklahoma, New Mexico, Kansas and southeastern Colorado. It prefers sandy grassland areas abundant in midgrasses, sandsage and yucca. The majority of Colorado breeding pairs occur in the southeastern portion of the state in Baca, Prowers, Kiowa and Cheyenne Counties, and for the most part, on the Comanche National Grasslands near Campo. **No known populations of the Lesser Prairie Chicken are known to occur in proximity to the subject project (CPW, 2017).**

Ferruginous Hawk (*Buteo regalis*)

State Concerned

This hawk is known to occur throughout eastern Colorado and in northwestern Colorado. In Colorado, the species is a common winter resident, but is considered an uncommon summer resident on the eastern plains (Andrews and Righter, 1992). Areas that could be potential nesting sites include large trees, rock outcrops, manmade structures such as windmills and power poles, or the ground. These birds often can be seen associated with prairie dog colonies, which they utilize for foraging. The Ferruginous Hawk, as are all birds of prey, is federally protected under the Migratory Bird Species Act. **At the time of this survey, no ferruginous hawks were observed.**

Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)

Federally Threatened, State Threatened

Preble's meadow jumping mouse
Photo acquired from usafa.isportsman.net

Typical Preble's habitat has been described as "well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity," and "dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs" (Armstrong et al., 1997). Although any vegetation could offer cover and hibernacula for Preble's, the species is mostly known from habitat containing shrub cover, such as willow or narrow-leaf cottonwood. Preble's are known to regularly range outward into adjacent uplands to feed and hibernate. For this reason, the U.S. Fish and Wildlife Service generally requires a 300 foot development buffer from the edge of the 100 year flood plain. Riparian habitat suitable to Preble's was observed along the Eastern Branch of the Windmill Gulch on the project. However, the site is located within the FWS Block Clearance Zone for Colorado Springs (attached). **It is the opinion of Western Environment that development of the site will not impact Preble's critical habitat and therefore will not require consultation with FWS.**

Black-tailed Prairie Dog (*Cynomys ludovicianus*)

Former Candidate for Federal Listing, *State Concerned*

The U.S. Fish and Wildlife Service was petitioned to list the black-tailed prairie dog as a threatened species in July of 1998. The agency determined on February 3rd, 2000, that listing the species was warranted, but it is precluded by other species in greater need of protection (USFWS, 2000). The black-tailed prairie dog was added to the candidate list, and the species' status was reviewed annually. On August 12th, 2004 the USFWS determined that the black-tailed prairie dog no longer meets the Endangered Species Act definition as threatened, and was removed as a candidate for federal listing**. During the inspection, several active colonies of prairie dogs were observed at the center and southern portions of the site. The CPW recommends that prairie dogs be "humanely removed" prior to development. This may include relocation, donation, or euthanasia by licenced pest control firms.**

Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*)

Federally Threatened

Ute Ladies'-Tresses Orchid

This orchid usually occurs in "...old stream channels, alluvial terraces, wet meadows, and other sites where the soil is saturated to within 18" of the surface at least temporarily during the growing seasons" (USFWS, 1992). The eastern Colorado populations of species are located in mesic riparian meadows in relict tall grass prairie areas near Boulder Creek, South Boulder Creek, and Saint Vrain Creek in Boulder County, Colorado, and in mesic meadows in the riparian woodland under story along Clear Creek in Jefferson County, Colorado (USFWS 50 CFR Part 17). One population was historically identified in Weld County east of Greeley near Crow Creek in 1856, but is now considered extirpated. Soil conditions and vegetation composition of known *Spiranthes* sites suggest that wetlands regulated by the Corps under the Clean Water Act qualify as potential *Spiranthes* habitat. **The property is not within *Spiranthes* designated Critical Habitat. It is the opinion of Western Environment that *Spiranthes* does not inhabit the project.**

Other Wildlife

During the survey, a herd of pronghorn (*Antilocapra americana*) was observed on the site. No other wildlife were observed during the site visit.

5.0 CONCLUSIONS AND RECOMMENDATIONS

At the time of the survey, no threatened or endangered species or their obvious habitat were seen on the subject site.

- The presence of **prairie dogs** *(Cynomys ludovicanus)* throughout the subject property requires that a **burrowing owl** (*Athene cunicularia*) survey be performed prior to construction if work is to begin between March 1st and November 1st, and a **mountain plover** (*Charadrius montanus*) survey if construction is to begin between April 1st and November 1st.

- The CPW recommends that prairie dogs be "humanely removed" prior to development. This may include relocation, donation, or euthanasia by licenced pest control firms. (Note: Western Burrowing Owl and Mountain Plover surveys must be performed prior to any activities)

- The Eastern Branch of the Windmill Gulch, located within the northern portion of the site, has only limited characteristics of a wetland and therefore is not an aquatic resource. Although the drainage has connection with the Windmill Gulch, it is not likely a Waters of the US. Western Environment recommends conducting a wetland delineation and requesting a jurisdictional status confirmation from the Corps prior to development. Additionally, consultation with local stormwater agencies will also be required prior to development.

No other Ecological Issues were found.

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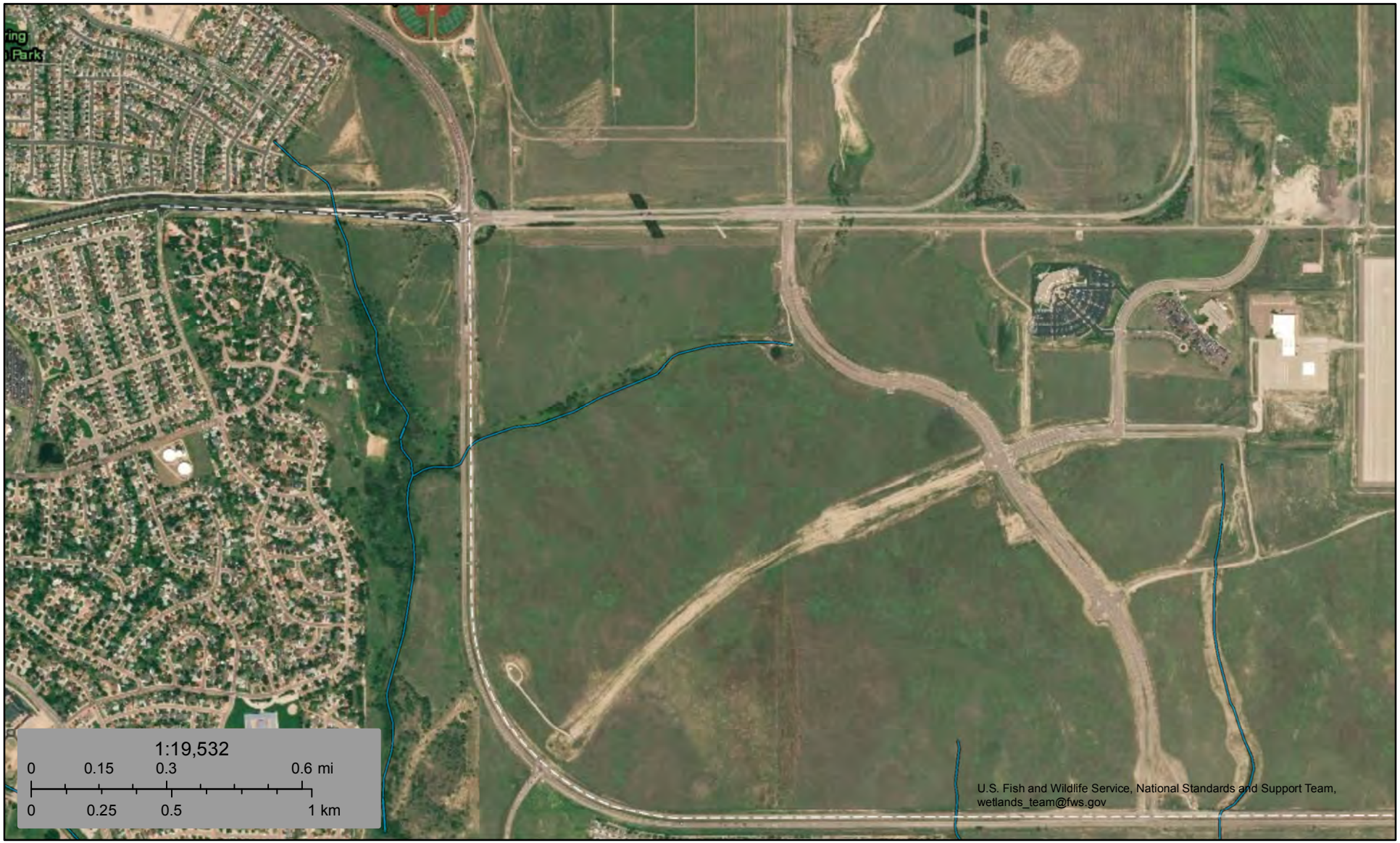
APPENDICES

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands



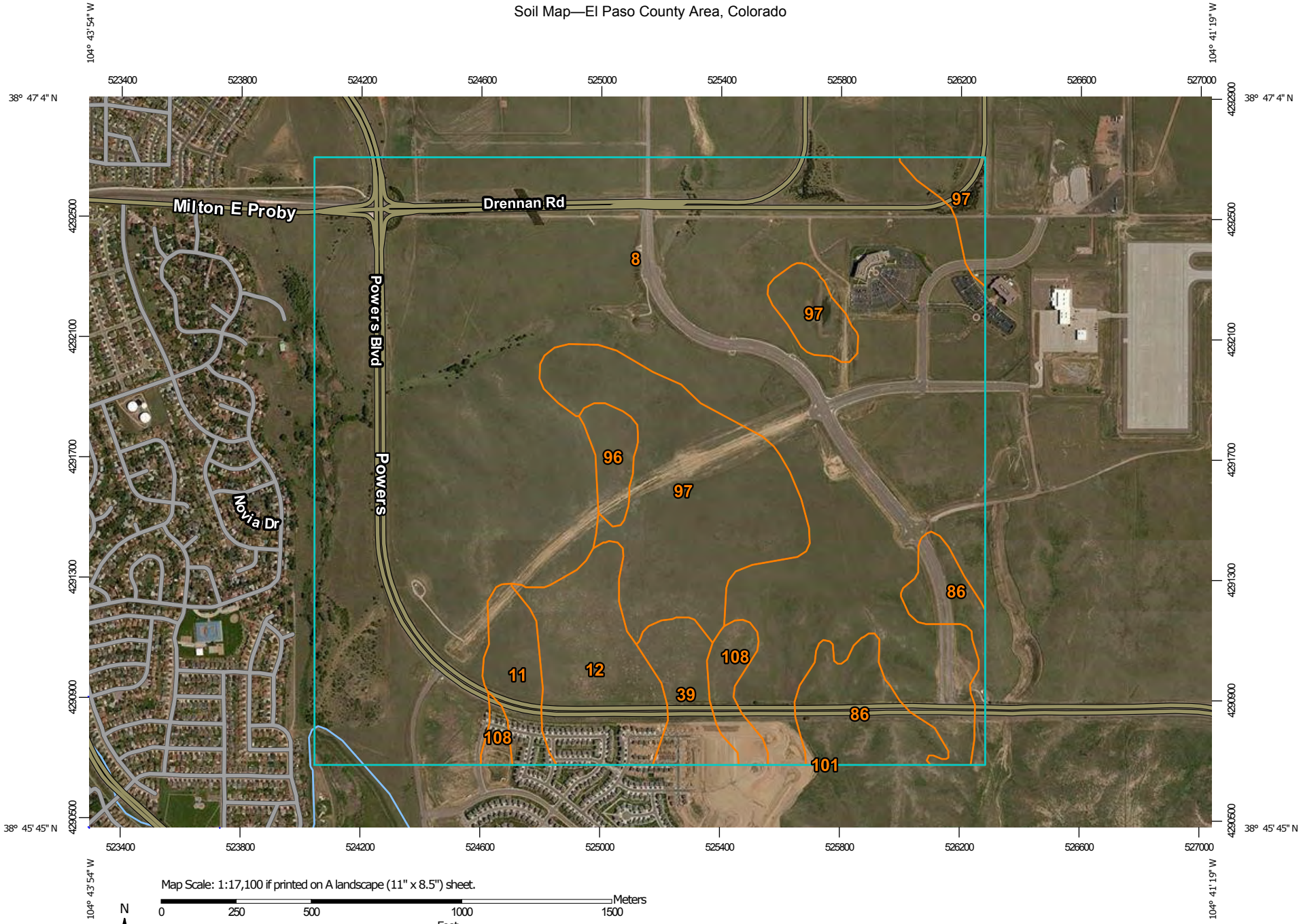
September 5, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper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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.

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 15, Oct 10, 2017

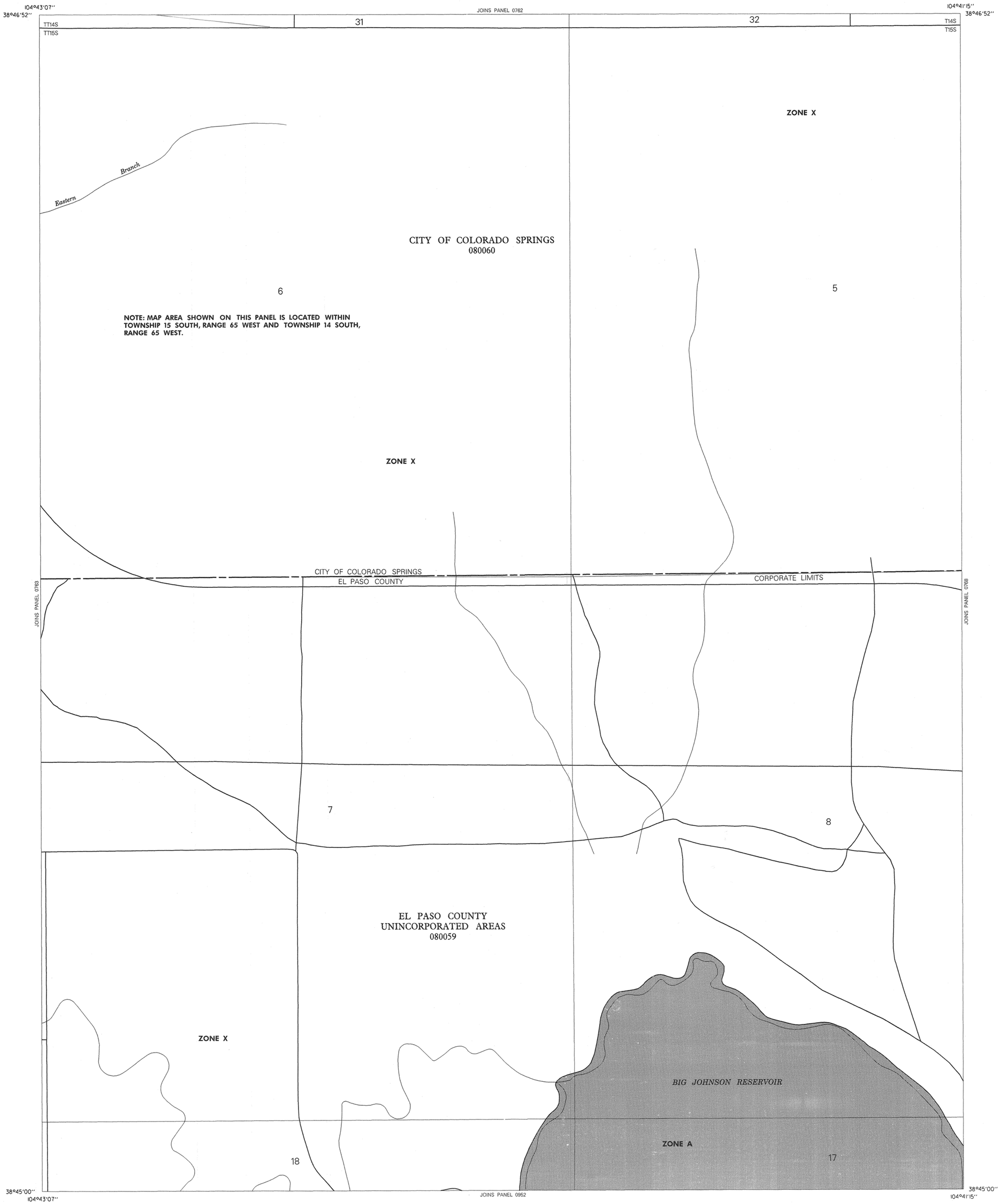
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 3, 2014—Jun 17, 2014

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	801.8	71.4%
11	Bresser sandy loam, cool, 0 to 3 percent slopes	21.8	1.9%
12	Bresser sandy loam, cool, 3 to 5 percent slopes	58.3	5.2%
39	Keith silt loam, 0 to 3 percent slopes	23.4	2.1%
86	Stoneham sandy loam, 3 to 8 percent slopes	52.4	4.7%
96	Truckton sandy loam, 0 to 3 percent slopes	12.5	1.1%
97	Truckton sandy loam, 3 to 9 percent slopes	134.6	12.0%
101	Ustic Torrifluvents, loamy	0.0	0.0%
108	Wiley silt loam, 3 to 9 percent slopes	17.4	1.6%
Totals for Area of Interest		**1,122.1**	**100.0%**



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified 1983 — Identified 1990 — Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.

RM7 — Elevation Reference Mark

M2 — River Mile

97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and /or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
COUNTYWIDE FLOOD INSURANCE RATE MAP:

MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 764 OF 1300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0764	F
EL PASO COUNTY, UNINCORPORATED AREAS	080059	0764	F

MAP NUMBER 08041C0764 F

EFFECTIVE DATE: MARCH 17, 1997

Federal Emergency Management Agency

LEGEND

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MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP:
MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

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APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 763 OF 1300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

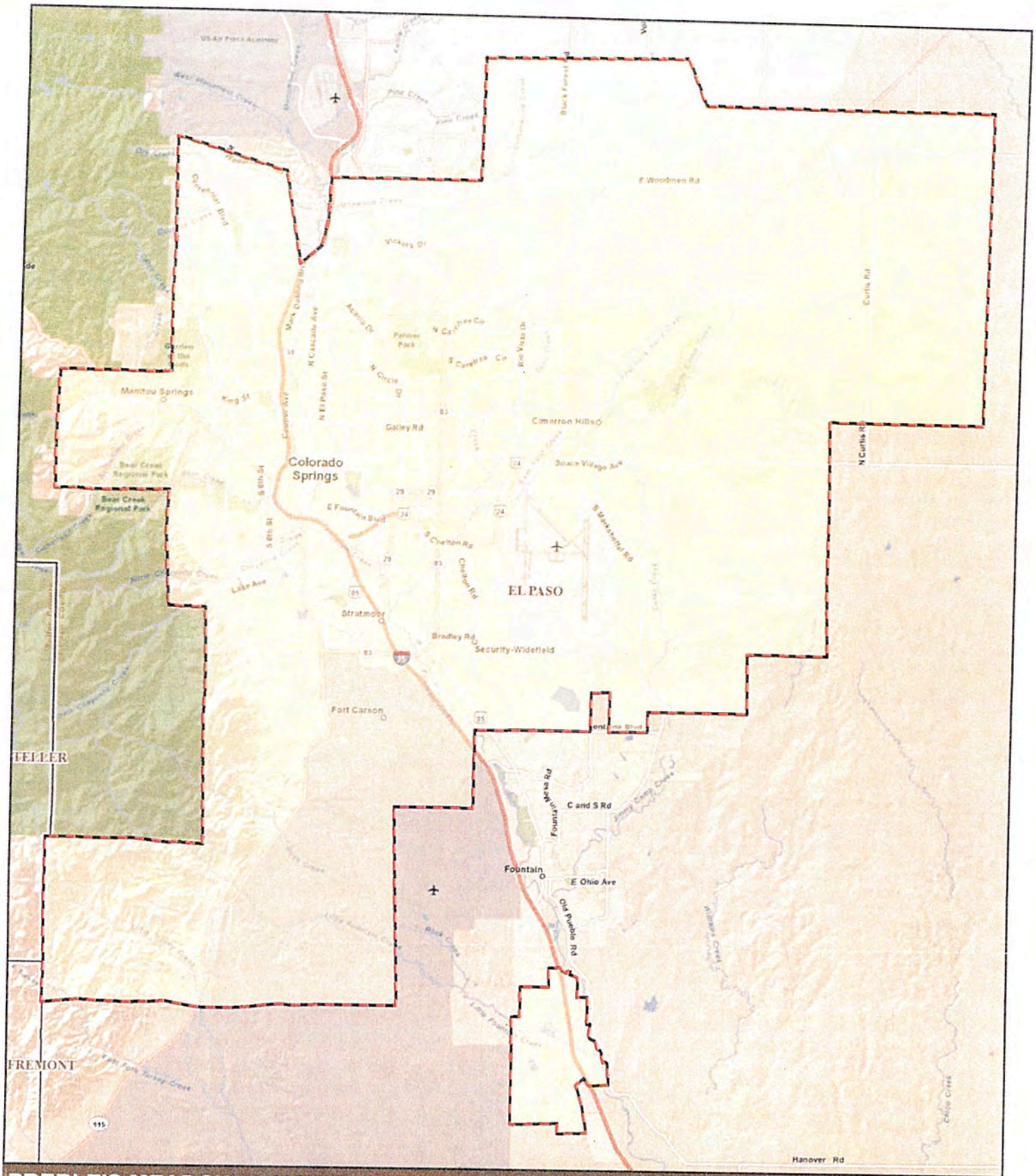
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080060	0763	F
EL PASO COUNTY, UNINCORPORATED AREAS	080059	0763	F
FOUNTAIN, CITY OF	080061	0763	F

MAP NUMBER 08041C0763 F

EFFECTIVE DATE: MARCH 17, 1997

Federal Emergency Management Agency



PREBLE'S MEADOW JUMPING MOUSE BLOCK CLEARANCE MAP: COLORADO SPRINGS

Please contact the U.S. Fish & Wildlife Service, Colorado Field Office, at (303) 236-4773 for assistance using this map. Visit http://1.usa.gov/n5r48y for more information on Preble's and the Block Clearance.

Block Clearance Area

County Boundaries

N

1:200,348

Miles

0 1.25 2.5 5

23 FEB 2012 | NAD83 UTM Z13N

Basemap: World Street Map, ESRI Services

FORM NO. GWS-31 11/90

WELL CONSTRUCTION AND TEST REPORT
STATE OF COLORADO, OFFICE OF THE STATE ENGINEER

For Office Use only

RECEIVED
DEC 23 '91
WATER RESOURCES
STATE ENGINEER
COLO.

1. WELL PERMIT NUMBER FILE NO. MH-16762

2. OWNER NAME(S) SCHLAGE LOCK COMPANY
Mailing Address 3899 HANCOCK EXPRESSWAY
City, St. Zip SECURITY, COLORADO 80911
Phone (719) 390-5071

3. WELL LOCATION AS DRILLED: SW 1/4 NE 1/4, Sec. 2 Twp. 15 S., Range 66 W.
DISTANCES FROM SEC. LINES:
2500 ft. from NORTH (north or south) Sec. line. and 1600 ft. from EAST (east or west) Sec. line. OR
SUBDIVISION: LOT BLOCK FILING(UNIT)
STREET ADDRESS AT WELL LOCATION:

4. GROUND SURFACE ELEVATION 5837 ft. DRILLING METHOD HOLLOW STEM AUGER
DATE COMPLETED Nov. 8, 1990 TOTAL DEPTH 48 ft. DEPTH COMPLETED 48 ft.

5. GEOLOGIC LOG:

Depth	Description of Material (Type, Size, Color, Water Location)
	SEE ATTACHED LOG (PAGE 2)

REMARKS: OWNER'S DESIGNATION: SW-19

6. HOLE DIAM. (in.)

	From (ft)	To (ft)
6	0	48

7. PLAIN CASING

OD (in)	Kind	Wall Size	From(ft)	To(ft)
2	STEEL	SCH. 40	+3	38

PERF. CASING: Screen Slot Size: 0.010 INCH

2	ST. STEEL		38	48

8. FILTER PACK:
Material SAND (CSSI)
Size 16-30
Interval 36 TO 48

9. PACKER PLACEMENT:
Type NA
Depth

10. GROUTING RECORD:

Material	Amount	Density	Interval	Placement
PORTLAND			0 TO 34	TREMIE
BENTONITE			34 TO 36	TREMIE

11. DISINFECTION: Type NA Amt. Used

12. WELL TEST DATA: ☐ Check box if Test Data is submitted on Supplemental Form.
TESTING METHOD NA
Static Level 8 ft. Date/Time measured , Production Rate gpm.
Pumping level ft. Date/Time measured , Test length (hrs.)
Remarks

13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge. [Pursuant to Section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.]

CONTRACTOR LAYNE ENVIRONMENTAL SERVICES Phone (303) 755-1281 Lic. No. 1200
Mailing Address 8301 EAST ILIFF, DENVER, COLORADO 80231

Name/Title (Please type or print)	Signature	Date
DAVID A. TORMOEHLEN BRANCH MANAGER	David A. [illegible]	Nov. 27, 1991

FmL

FORM NO. GWS-31 11/90

WELL CONSTRUCTION AND TEST REPORT
STATE OF COLORADO, OFFICE OF THE STATE ENGINEER

For Office Use only

RECEIVED DEC 23 '91 WATER RESOURCES STATE ENGINEER COLO.

40462M

1. WELL PERMIT NUMBER FILE NO. MH-16762

2. OWNER NAME(S) SCHLAGE LOCK COMPANY
Mailing Address 3899 HANCOCK EXPRESSWAY
City, St. Zip SECURITY, COLORADO 80911
Phone (719) 390-5071

3. WELL LOCATION AS DRILLED: NE 1/4 SE 1/4, Sec. 2 Twp. 15 S., Range 66 W.
DISTANCES FROM SEC. LINES:
2600 ft. from SOUTH (north or south) Sec. line. and 650 ft. from EAST (east or west) Sec. line. OR
SUBDIVISION: _____ LOT ____ BLOCK ____ FILING(UNIT) ____
STREET ADDRESS AT WELL LOCATION:

4. GROUND SURFACE ELEVATION 5868 ft. DRILLING METHOD HOLLOW STEM AUGER
DATE COMPLETED Nov. 9, 1990. TOTAL DEPTH 42 ft. DEPTH COMPLETED 42 ft.

5. GEOLOGIC LOG:

Depth	Description of Material (Type, Size, Color, Water Location)
	SEE ATTACHED LOG (PAGE 2)

REMARKS: OWNER'S DESIGNATION: SW-18

6. HOLE DIAM. (in.)

From (ft)	To (ft)
0	42

7. PLAIN CASING

OD (in)	Kind	Wall Size	From(ft)	To(ft)
2	STEEL	SCH. 40	+3	32

PERF. CASING: Screen Slot Size: 0.010 INCH

2	ST. STEEL		32	42

8. FILTER PACK:
Material SAND (CSSI)
Size 16-30
Interval 30 TO 42

9. PACKER PLACEMENT:
Type NA
Depth

10. GROUTING RECORD:

Material	Amount	Density	Interval	Placement
PORTLAND			0 TO 28	TREMIE
BENTONITE			28 TO 30	TREMIE

11. DISINFECTION: Type NA Amt. Used

12. WELL TEST DATA: ☐ Check box if Test Data is submitted on Supplemental Form.
TESTING METHOD NA
Static Level 18 ft. Date/Time measured _____, Production Rate _____ gpm.
Pumping level _____ ft. Date/Time measured _____, Test length (hrs.) _____
Remarks

13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge. [Pursuant to Section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.]

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Mailing Address 8301 EAST ILIFF, DENVER, COLORADO 80231

Name/Title (Please type or print)	Signature	Date
DAVID A. TORNOEHLEN BRANCH MANAGER	David A. [illegible]	NOV. 27, 1991

RECEIVED
DEC 23 '91
WATER RESOURCES
STATE ENGINEER
COLO.

Schlage Lock Company
Well Number SW-18
November 9, 1990
Surface Elevation 5868.6
SE ¼ Sec 2, T15S, R66W
Colorado #MH- 16762

Depth (feet)	Description of Lithology
0 - 38	Sand
38 - 42	Clay
42	Shale

Schlage Lock Company
Well Number SW-19
November 8, 1990
Surface Elevation 5837.0
NE ¼ Sec 2, T15S, R66W
Colorado #MH-16762

Depth (feet)	Penetration Rate*	Description of Lithology
10 - 11.5	0/18 inches	Brown sand with fines
40 - 40.5	15/42 inches	Coarser sand with some clay
48 - 48.1	30/1 inches	Gray/Blue shale

* Number of blows/depth travelled