RAPID RESOURCE ASSESSMENT AND MANAGEMENT PLAN HUNTER/KOLB OPEN SPACE BOULDER COUNTY, COLORADO

Prepared for—

City of Boulder
Open Space and Mountain Parks
66 S. Cherryvale Road
Boulder, Colorado 80303

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188

ERO Project #4123

August 11, 2008

CONTENTS

TABLE

FIGURES

APPENDICES

SUMMARY

HUNTER/KOLB PROPERTY		
APPROXIMATE SIZE	**ACQUISITION DATE**	**CURRENT ZONING**
78 acres	August 15, 2002; April 22, 2008	Rural Residential
MANAGEMENT DESIGNATION		**PUBLIC ACCESS**
Agricultural Area		Closed

GENERAL DESCRIPTION OF SITE RESOURCES

The property consists of gently sloping cropland extending to the Dry Creek riparian corridor along the eastern edge. A farmstead complex lies along the southern edge of the property. Most of the property has been recently cultivated for alfalfa hay, while the northeast corner was planted with corn. Most of the non-cultivated areas, including the fence lines and ditches, are dominated by non-native grasses, while the area around the farmhouse is dominated by mature ornamental trees. The Dry Creek riparian corridor consists mainly of crack willow, non-native Russian olive trees, and eastern cottonwood.

OPEN SPACE VALUES BASED ON RESOURCE ASSESSMENT

The property is important for open space because it maintains—

- Productivity of significant agricultural land.
- Riparian habitat along the Dry Creek corridor
- Undeveloped agricultural land as a visual resource

MANAGEMENT ISSUES BASED ON RESOURCE ASSESSMENT

Some management issues that could adversely affect the open space values on the property include—

- Non-native Russian olive along the Dry Creek riparian corridor
- Patches of noxious weeds adjacent to the Dry Creek corridor
- Ongoing encroachment of noxious weeds and other undesirable species from adjacent road corridors

INTRODUCTION

PURPOSE

The City of Boulder Open Space and Mountain Parks Department (OSMP) retained ERO Resources Corporation (ERO) to conduct a rapid resource assessment and develop a property management plan for the 40-acre Hunter/Kolb Property ("property") near the city of Boulder in Boulder County, Colorado (Figure 1). The conditions on the property have generally been documented through photo points (Appendix A). The purpose of this rapid resource assessment and management plan for the property is to—

- Summarize the physical/ecological characteristics and conditions
- Document and record existing conditions and open space values
- Identify and prioritize management needs and opportunities
- Prescribe management actions
- Classify the property into a management area

The OSMP Visitor Master Plan directs that plans be completed for properties before they are opened and that visitor access be considered. Specific guidance for new properties is as follows:

> ***New Property Planning and Facilities.*** Complete planning and infrastructure improvements in a timely manner, prior to opening newly acquired properties to public access. However, as appropriate, preserve existing public access during the planning and improvement process. Open Space and Mountain Parks will complete a site management plan recommending appropriate locations, types of uses and visitor infrastructure, and how to provide adequate visitor infrastructure and services.

Property plans direct immediate planning and improvement needs, while Trails Study Areas (TSA) planning will be used to periodically update visitor access needs based on conditions at the time.

METHODS

OSMP supplied records, documents, and GIS data applicable to the property. On February 19 and March 19, 2008, a natural resource planner and ecologist from ERO walked the extent of the property documenting ecological and physical characteristics and identifying management needs and opportunities.

ERO consulted several organizations, agencies, and databases including the Colorado Natural Heritage Program (CNHP), Colorado Office of Archeology and Historic Preservation (OAHP), the Colorado Natural Diversity Information Source (NDIS), and Boulder County pertaining to resources on the property. Published information, such as U.S. Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) maps, also was used to prepare the inventory.

REPORT ORGANIZATION

This report presents a summary of the information gathered for the rapid resource assessment and describes the results of ERO's evaluation of the resources and open space values on the property. The report is organized into five narrative sections and three appendices. Following the *Summary* and *Introduction*, the *General Description* section provides information on the setting. The *Site Resources* section summarizes the ecological and cultural resources; existing trails and access; land use and management; and improvements and legal considerations on the property. The *Property Management Plan* describes short- and long-term management needs, management actions, and Management Area designation.

Appendix A contains photographs of the property with narrative descriptions and a corresponding photo point map. Appendix B presents plant and animal species identified during the site visit, and Appendix C includes report references.

GENERAL DESCRIPTION

The property is located near the western edge of the Great Plains physiographic province. The property encompasses about 78 acres dominated by cultivated agricultural fields and the Dry Creek riparian corridor.

LOCATION AND ACCESS

The property is located in eastern Boulder County about 5 miles east of downtown Boulder (Figure 1). Specifically, the property is located in Section 25 in Township 1 North, Range 70 West of the 6th P.M. (Figure 2).

Primary access is from Arapahoe Road in the southeast corner of the property. From downtown Boulder, travel east on Arapahoe Road to 75th Street. About ¼ mile past the 75th Street intersection, turn left (north) onto the property. This is the primary access for the property.

Two secondary, gated access points are found on the west edge of the property, along 75th Street. These access points appear to be used primarily for farm equipment and irrigation management access. Emergency access is available from any of these access points.

ACQUISITION

On August 15, 2002, the City acquired a 38.1-acre parcel encompassing the northern and eastern edges of the property (including the Dry Creek corridor), along with an agreement over the remaining 40 acres of agricultural land that restricted the improvements to a 7 acre building envelope. The purchase price for the original 38 acres was $930,000.

The City of Boulder acquired the Hunter/Kolb Property on April 22, 2008. The total price for 40 acres was $897,500.

LAND USE

Most of the property has been historically used for irrigated agriculture. This active use will continue under a lease agreement with OSMP. A farmstead complex is located along the southern boundary.

LANDSCAPE CONTEXT

The property is located in a rural, exurban setting in the corridor between the City of Boulder to the west and the Cities of Lafayette and Louisville to the east and southeast. The Dry Creek riparian corridor is located on the east side of the property.

NEIGHBORING PROPERTIES

NEIGHBORING AGRICULTURAL AND RESIDENTIAL PROPERTIES

Agricultural or residential properties and basic land uses identified near the property during the site visit and with a property record search available through the Boulder County Assessor's Office (Boulder County 2008a) are summarized below.

OWNER	LOCATION AND LAND USE
Wyatt, Nancy A. 7926 Brook Hollow Ct. Boulder, CO 80301-5002 Parcel No. 146530004001	East of property (north half) Residential
Cordisco, Kirsten E. 1970 75th St. Boulder, CO 80301 Parcel No. 146325000025	North of property (western edge) Residential
Patrick, Alan W. and Vera Anne 2148 75th St Boulder, CO 80301 Parcel No. 146325000028	North of property (center) Agriculture
Ward, Thomas W. and Jana S. 2300 75th St. Boulder, CO 80301 Parcel No. 146325000043 *County Regulatory Conservation Easement*	North of property (east) Agriculture – cultivated field and residence

NEIGHBORING GOVERNMENT PROPERTIES

Government-owned properties and basic land uses identified near the property during the site visit and with a property record search available through the Boulder County Assessor's Office (Boulder County 2008a) are summarized below.

OWNER	LOCATION AND LAND USE
City of Boulder Open Space and Mountain Parks/ County Conservation Easement *Woodley Property* Parcel No. 146530000015	East of property (south half) Open Space land
Colorado Department of Transportation/Boulder County Road Rights-of-Way *Parcel information not available.*	West and south of property Right-of-way for 75th Street and Arapahoe Road.

SITE RESOURCES

This section documents in more detail the basic physical and ecological characteristics and conditions that directly support the open space values of the property. Key features are shown on Figure 3.

TOPOGRAPHY

Elevations on the property range from about 5,180 feet in the northeast corner along Dry Creek to about 5,250 feet along the western boundary. The USGS Topographical map of the property is shown in Figure 2.

GEOLOGY

The property occurs along the western margin of the Denver Basin of northeastern Colorado, which contains unconsolidated surficial deposits and rocks of Quarternary age. Generally the area is dominated by gravels and alluviums, including Slocum and Louviers Alluviums, while the Dry Creek corridor contains Eolian sand and silt deposits along with Fox Hills Sandstone deposits (Tweto 1979, Trimble 1975).

SOILS

The Natural Resources Conservation Service (NRCS) has mapped three soil types on the property. Each mapping unit is described below and Figure 4 shows the NRCS soil mapping. All soil information was gathered from the NRCS soil survey (NRCS 1975).

Mapping Unit AcB. Ascalon sandy loam (1 to 3 percent slopes). This soil generally has a depth to water table of between four and five feet, and is commonly used for irrigated crops. Runoff is slow to medium and the erosion hazard is slight to moderate. Native vegetation is chiefly short grasses, predominantly blue grama.

Mapping Unit AoE. Ascalon-Otero complex (5 to 9 percent slopes). This soil includes Ascalon sandy loam and Otero sandy loam, as well as small areas of Kim soils. This soil type is commonly used for irrigated and dryland crops and pasture. Runoff is rapid and the erosion hazard is high. Native vegetation is chiefly short grasses, predominantly blue grama.

Mapping Unit AoD. Ascalon-Otero complex (9 to 20 percent slopes). This soil includes Ascalon sandy loam and Otero sandy loam, as well as small areas of Kim soils. This soil type is commonly used for irrigated and dryland crops and pasture. Runoff is rapid and the erosion hazard is high. Native vegetation is chiefly short grasses, predominantly blue grama.

HYDROLOGY

SURFACE HYDROLOGY

Dry Creek crosses the eastern edge of the property, flowing from south to north. The property is not included within any designated floodplain area.

According to topographic information from the USGS 7.5 minute quadrangle map, surface water on the property flows toward Dry Creek (USGS 1967, photorevised 1979).

SUBSURFACE HYDROLOGY

Based on a review of the USGS Niwot quadrangle, shallow ground water on most of the property would flow in an easterly direction towards Dry Creek (USGS 1967; photorevised 1979). There are two water wells on the property (CDWR 2008), which are described below under *Water Rights*. One potential seep, possibly associated with subsurface irrigation infrastructure, is located in the wet meadow area to the east of the farm house.

WETLANDS

Several areas within the property are low-lying depressional, abut a stream, or have soil that is saturated by surface or ground water for long enough periods to sustain wetland vegetation. Vegetation communities containing common obligate wetland species such as broadleaf and narrowleaf cattail (*Typha latifolia* and *T. angustifolia)*, clustered field sedge (*Carex praegracilis)*, common threesquare (*Schoenoplectus pungens)* or faculatitive wetland species such as reed canarygrass (*Phalaroides arundinacea)* are present within the property. Wetlands are present along Dry Creek, in the southeastern property corner, near the northeastern property corner, central, and south central areas.

VEGETATION

GENERAL VEGETATION DESCRIPTION

Vegetation community, mapping was determined by OSMP associations. Most of the property consists of cultivated agricultural land that has most recently been used for alfalfa hay and corn. The area surrounding the farm house is dominated by non-native, ornamental trees such as Northern catalpa (*Catalpa speciosa)* and honeylocust (*Gleditsia triacanthos)*. The eastern quarter of the property is intersected by Dry Creek and associated riparian areas. Vegetation communities are described below and shown in Figure 5. A list of plant species identified during the field visit appears in Appendix B.

AMERICAN PLUM SHRUBLAND ALLIANCE (APS)

American plum (*Prunus Americana)* is the dominant species along the northern fence line and in patches along Dry Creek within the property. American plum is the dominant shrubby species but black chokecherry (*Padus virginiana* ssp. *melanocarpa)*, snowberry (*Symphoricarpos* sp.) and Wood's rose (*Rosa woodsii)* are also present. Other understory species include smooth brome (*Bromopsis inermis)* and western wheatgrass (*Pascopyrum smithii)*.

CLUSTERED FIELD SEDGE SEASONALLY FLOODED HERBACEOUS ALLIANCE (CFSH)

Clustered field sedge is the dominant species in wetlands in the southeast, central, and in areas with saturated soil along Dry Creek. The CFSH community commonly surrounds cattail communities and includes species such as common threesquare, tall fescue (*Festuca arundinacea)*, Baltic rush (*Juncus arcticus* ssp. *ater)*, and common spikerush.

CATTAIL HERBACEOUS SEMIPERMANENTLY FLOODED ALLIANCE (CHSH)

Broadleaf and narrowleaf cattail species are dominant in wetlands in the southeast, northeast, and in areas along Dry Creek with approximately 2-4 feet of standing water. Other species present include species such as American speedwell (*Veronica Americana)* and hairy evening-primrose (*Oenothera villosa)*.

CRESTED WHEATGRASS SEMI-NATURAL HERBACEOUS ALLIANCE (CWH)

Crested wheatgrass (*Agropyron desertorum)* is the dominant grass species in the northwestern corner of the property. Introduced forb species such as yellow salsify (*Tragopogon dubius* ssp. *major)*, prickly lettuce (*Lactuca serriola)*, and herb Sophia (*Descurainia Sophia)* are also common within this community.

CRACK WILLOW TEMPORARY FLOODED WOODLAND ALLIANCE (CWW)

Crack willow (*Salix fragilis)* is the most dominant tree along Dry Creek in the southeastern and eastern portion of the property. Crack willow trees range from large mature with diameter at breast height (dbh) over 24 inches to small immature trees. The dominant understory species in this area include species such as reed canarygrass, tall fescue, smooth brome, and snowberry.

DEVELOPED (D)

This includes most of the farmstead area, where vegetation is sparse and the ground is dominated by bare ground, structures, and equipment.

EASTERN COTTONWOOD TEMPORARY FLOODED WOODLAND ALLIANCE (ECTW)

Eastern cottonwood (*Populus deltoides* ssp. *monilifera)* is a dominant overstory species in the northeastern areas around Dry Creek. Large mature eastern cottonwood species along with small saplings are present. Common understory species include broadleaf cattail, reed canary grass, orchard grass (*Dactylis glomerata)*, snowberry, and Wood's rose.

IRRIGATED CROPLAND (IC)

Most of the property consists of irrigated, cultivated cropland. The majority of this area is used for alfalfa hay (*Medicago sativa)*, while a small area in the northeast corner has most recently been used for corn (*Zea mays)*.

KENTUCKY BLUEGRASS SEMI-NATURAL HERBACEOUS ALLIANCE (KBH)

Kentucky bluegrass (*Poa pratensis)* is the dominant species in the southeastern corner along the eastern property boundary. Cheatgrass (*Anisantha tectorum)*, common mullein (*Verbascum thapsus)*, and Japanese brome (*Bromus japonicus)* are also common within this community.

ORNAMENTAL TREES (OT)

The tree canopy surrounding the farm house is dominated by introduced and native ornamental trees such as Northern catalpa, honeylocust, Douglas fir (*Pseudotsuga menziesii)*, narrow-leaf cottonwood (*Populus angustifolia)*, and box elder (*Negundo aceroides)*. This area includes little vegetated understory. The area on the west side of the property is dominated almost exclusively by Ohio buckeye (*Aesculus glabra)*.

RUSSIAN OLIVE SEMI NATURAL WOODLAND ALLIANCE (ROW)

Russian olive (*Elaeagnus angustifolia)* is a dominant tree growing along Dry Creek in the southeastern and eastern portion of the property. Patches of Russian olive also occur within the upland areas along the fence line in the south east portion of the property. Species such as broadleaf cattail, reed canarygrass, and smooth brome are common understory species.

SMOOTH BROME SEMI-NATURAL HERBACEOUS ALLIANCE (SBH)

Smooth brome is the dominant grass species comprising grasslands on the property. Within the smooth brome community, some native perennial forb plant species are present such as Kansas gayfeather (*Liatris punctata)*, white prairie aster (*Virgulus ericoides* (group)), and hairy false goldenaster (*Heterotheca villosa)*. Other introduced perennial grasses are found scattered throughout this community such as intermediate wheatgrass (*Thinopyrum inermedium)*, orchard grass, and Kentucky bluegrass. In some small patches, soapweed yucca (*Yucca glauca)*, fringed sage (*Arteemisia frigida)*, and common mullein are more dominant than smooth brome. Noxious weeds such as Canada thistle (*Breea arvensis)*, houndstounge (*Cynoglossum officinale)*, and musk thistle (*Carduus nutans* ssp. *macrolepis)* are found scattered or in small monocultures in this community.

RARE PLANTS AND PLANT COMMUNITIES

No rare plants or plant communities have been identified by CNHP on the property (CNHP 2006) and none were observed during the site visits.

NOXIOUS WEEDS

Based on the site visits, noxious weed species were found from the State List B noxious weed list, Boulder County weed list, and the OSMP IPM Priority Matrix. Identified weeds include:

- Bouncing bet (*Saponaria officinalis)* is found in low densities around the farm house and within the disturbed areas.
- Canada thistle is scattered in the southeastern corner of the property and along portions of the lateral ditches.
- Cheatgrass is found in low to medium densities within the KBH and SBH communities. Common mullein is scattered throughout the SBH and KBH communities.
- Field bindweed (*Convolvulus arvensis)* is found along the north/south lateral ditch and along the northern fence line.
- Houndstongue is found in thick monocultures in the south central SBH community and scattered throughout in low densities in the riparian communities.
- Japanese knotweed (*Reynoutria japonica)* is found along the fence line in the south central portion of the property and within the Ornamental Trees surrounding the farm house.
- Lesser burdock (*Arctium minus)* is found in monocultures in the south central SBH community and scattered throughout in low to medium densities within the riparian communities.
- Musk thistle occurs primarily in the southeastern corner of the property.
- Poison hemlock (*Conium maculatum)* is found in wet areas near Dry Creek in scattered throughout the riparian corridor.
- Russian olive is found in low to medium densities scattered throughout the riparian corridor and in patches along the southern fence line and in the southeast property corner.
- Smooth brome is a dominant grass species found in the project area.

Table 1. Noxious weeds present on the property.

Common Name	Scientific Name	OSMP Priority*	Boulder County Weed List	State of Colorado Noxious Weed List
bouncing bet	Saponaria officinalis	Low	Not listed	B
Canada thistle	*Breea arvensis*	Moderate	x	B
cheat grass	Anisantha tectorum	Moderate	Not listed	C
common mullein	*Verbascum thapsus*	Low	Not listed	C
field bindweed	Convolvulus arvensis	Low	Not listed	C
houndstongue	Cynoglossum officinale	Low	x	B
Japanese knotweed	*Polygonum cuspidatum*	Moderate	Not listed	Not listed
lesser burdock	Arctium minus	Low	Not listed	C
musk thistle	*Carduus nutans*	Low	x	B
poison hemlock	Conium maculatum	Low	Not listed	C
Russian olive	*Elaeagnus angustifolia*	High	Not listed	B
smooth brome	Bromopsis inermis	Moderate	Not listed	Not listed

The Colorado Noxious Weed Act §§ 35-5.5-101 through 119, C.R.S. (2003) states that List B noxious weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, develops and implements state noxious weed management plans designed to stop the continued spread of these species. List C species are species for which the Commissioner will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands and to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species. At this time, there is no state noxious weed management plan for Canada thistle, musk thistle, or common mullein. Until a plan for a particular species is developed and implemented by rule, all persons are recommended to manage that species.

WILDLIFE

GENERAL DESCRIPTION

The property provides good habitat for a variety of species. During field visits two red-tailed hawks were seen circling the property and used a large cottonwood in the northeastern property corner as a roost. One coyote was seen running through the agricultural area. Magpie nests are common within the transmission lines in the north boundary of the property and in the riparian areas. Other birds such as flickers, magpies, and doves were seen in the riparian areas. The Dry Creek corridor is known to support deer and elk, and it also provides habitat for fish, amphibians, and small mammals, including potential habitat for Preble's meadow jumping mouse (see below). In addition, the lateral ditches, wet meadow area, and farmstead complex likely support a variety of small to medium-sized mammals including mice, voles, rabbit, red fox, and raccoon.

THREATENED, ENDANGERED, OR CANDIDATE WILDLIFE SPECIES

According to the Colorado Division of Wildlife Natural Diversity Information Source (NDIS) and CNHP databases for the area, there are no threatened or endangered species on the property (NDIS 2008). The Dry Creek corridor on the property has the potential to support habitat for the Preble's meadow jumping mouse, a federally threatened species. No trapping surveys or habitat evaluations have been documented along Dry Creek in the vicinity of the property (USFWS 2007).

COLORADO DIVISION OF WILDLIFE DESIGNATIONS

According to the NDIS database, the property does not contain habitat for significant wildlife species.

BOULDER COUNTY COMPREHENSIVE PLAN DESIGNATIONS

The property does not contain any county-designated Critical Wildlife Habitats or other designations related to wildlife.

CULTURAL RESOURCES

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION FILE SEARCH

The Colorado Historical Society Office of Archaeology and Historic Preservation conducted a search of the Colorado Inventory of Cultural Resources database for the property (OAHP 2008). This database contains information on documented federal or state studies or findings regarding any cultural resources. According to the search, three surveys have been conducted on the property, all in the vicinity of the farmhouse (OAHP 2008). Other potential unidentified cultural resources may exist within the property boundaries.

OTHER RESOURCES AND DESIGNATIONS

Some of the structures in the farmstead area could have additional historical significance as an indicator of former agricultural practices and facilities in Boulder County.

The property is not located within any areas designated for cultural resources in the Boulder County Comprehensive Plan (Boulder County 2008b).

AGRICULTURE

AGRICULTURAL USE

The property consists mainly of irrigated cropland. Most of the property is used for alfalfa hay, while the northeast corner of the property is used for corn.

INFRASTRUCTURE

The property is bounded on the west and south sides by barbed-wire fences. These fences are in good condition. The east property side is partially fenced with barbed-wire but most areas along the east the fence is falling or absent. The northern fence line is in poor condition along the northeastern edge. The remaining northern fence line is in good condition.

A large headgate off the Cottonwood #2 Ditch (a.k.a. Original Cottonwood Ditch) in the northwest corner provides irrigation water to the property. The main lateral ditch along the west

property boundary is lined with concrete. Three smaller lateral ditches extending to the east are not lined.

The diversion for the Andrews and Farwell Ditch is located in Dry Creek near the northeast corner of the property.

BOULDER COUNTY COMPREHENSIVE PLAN DESIGNATIONS

The Boulder County Comprehensive Plan has identified the property to be Significant Agricultural Land – Lands of National Importance (Boulder County 2008c).

RECREATION

Public access is not permitted on the property. Prior to public ownership, the property was privately owned and was not open to public access. There is no evidence of public access or recreational use of the property.

PROPERTY INFRASTRUCTURE

STRUCTURES

Structures on the property include a brick farmhouse, a grain elevator, and seven small wooden sheds in the farmstead area. The condition and character of these various structures varies between good and poor condition.

INFRASTRUCTURE AND UTILITIES

Infrastructure on the property includes the Cottonwood #2 Ditch, lateral ditches, and associated headgates, siphons, and other irrigation infrastructure. The farmstead area includes electric, well water, and related utilities. A gaging station is present on the northeastern lateral ditch, an offshoot of Dry Creek (this gage does not appear in Colorado Division of Water Resources map records).

Signs on the property boundary indicate the presence of underground utilities on or adjacent to the property, including natural gas and telephone. A power transmission line follows the northern property boundary, while a smaller electrical line follows the east boundary. Other buried utilities may occur on the property.

ROADWAYS AND TRAILS

A two-track access road/driveway enters the property from the south (along Arapahoe Road) and extends north into the farmstead area. A faint two-track road extends north from the farmstead area alongside a lateral ditch.

LEGAL CONSIDERATIONS

WATER RIGHTS

Purchase of the original 38 acres (2002) included 1¼ shares of the Original Cottonwood Ditch, and ¼ share of the Enterprise Irrigating Ditch.

Purchase of the 40 acre portion of the property (2008) included 1¼ shares of the Original Cottonwood Ditch.

According to the Colorado Division of Water Resources (CDWR 2008), there are two permitted water wells on the property:

- Kolb Well 5, groundwater well, ID 5517
- Permitted domestic/stock well, permit #257233

MINERAL RIGHTS

Purchase of the original 38 acres (2002) included all mineral rights including sand, gravel, coal, and oil and gas owned by seller.

EASEMENTS AND RIGHTS-OF-WAY INFORMATION

Prescriptive easements for the Cottonwood #2 and Andrews and Farwell ditches cross the property. See OSMP property file.

LOCAL PLANNING DESIGNATIONS

The entire property is currently zoned Rural Residential (Boulder County 2008d).

Boulder County Comprehensive Plan designations on the property include—

- Significant Agricultural Land – Lands of National Importance

The property is also considered to have moderate geologic constraints due to expansive soils or the potential for landslides, mudslides, mudfalls, or debris fans, as well as flooding along Dry Creek.

PROPERTY MANAGEMENT PLAN

MANAGEMENT AREA DESIGNATION

Recommended management area designation: Agricultural Area.

The location and features of the property are consistent with the characteristics, goals, and strategies outlined for Agricultural Areas in the OSMP Visitor Master Plan (OSMP 2005). This management area designation is consistent with the historic and current uses of the property and its primary open space values.

PUBLIC ACCESS

Recommended status: Closed

Most of the property consists of productive agricultural land that continues to be leased for agricultural use. The remaining portion of the property consists of riparian habitat along the Dry Creek corridor.

The property will remain closed because it is isolated and not connected to a larger open space area, there is no visitor infrastructure, and property infrastructure is not complete. Visitor use is not compatible with agricultural operations. Public access and facilities on this property will be evaluated further in a future Trail Study Area or other planning processes.

MANAGEMENT ISSUES

The following management issue was identified on the property based on observations during the site visit, existing documentation, and input from OSMP staff.

Weed Management. Several noxious weed patches occur throughout the property, including several clusters of Russian olive along the Dry Creek riparian corridor. (The closing memo for the original 2002 acquisition notes that $15,000 was set aside for Russian olive removal along Dry Creek). The property is bounded to the west and south by highly-disturbed road corridors (75th Street and Arapahoe Road) that can become sources for noxious weeds and other undesirable species.

Raptor Habitat Conservation. Several red-tailed hawks were observed along the Dry Creek riparian corridor during the site visit. This area provides suitable nesting and roosting habitat for hawks or other raptor species. Ongoing management of this property should take potential raptor nesting and other habitat needs into consideration.

MANAGEMENT STRATEGIES

Management objectives and recommended management actions for various resources on the property are outlined below. In general, management objectives are a concise statement of what OSMP wants to achieve in protecting open space values, addressing management issues related to

a particular resource type. Management actions are the specific tasks or tools that can be used to fulfill the objective and address the issue.

VEGETATION MANAGEMENT

Objective 1: Prevent the encroachment of noxious weeds and other undesirable plant species onto the property.

Action: Remove Russian olive trees and control scattered weed populations within the riparian corridor.

Action: Continue control efforts for noxious weed species along ditches and in the wet meadow area.

Action: Monitor property boundaries, ditches, and uncultivated areas for noxious weeds.

FENCING AND SIGNING

Objective 1: Identify property as OSMP land through clear and defined fencing and signing of the property boundary.

Action: Install OSMP signs along property boundary.

Action: Evaluate boundary fence to ensure that it meets OSMP standards for resource management and wildlife passage.

WILDLIFE MANAGEMENT

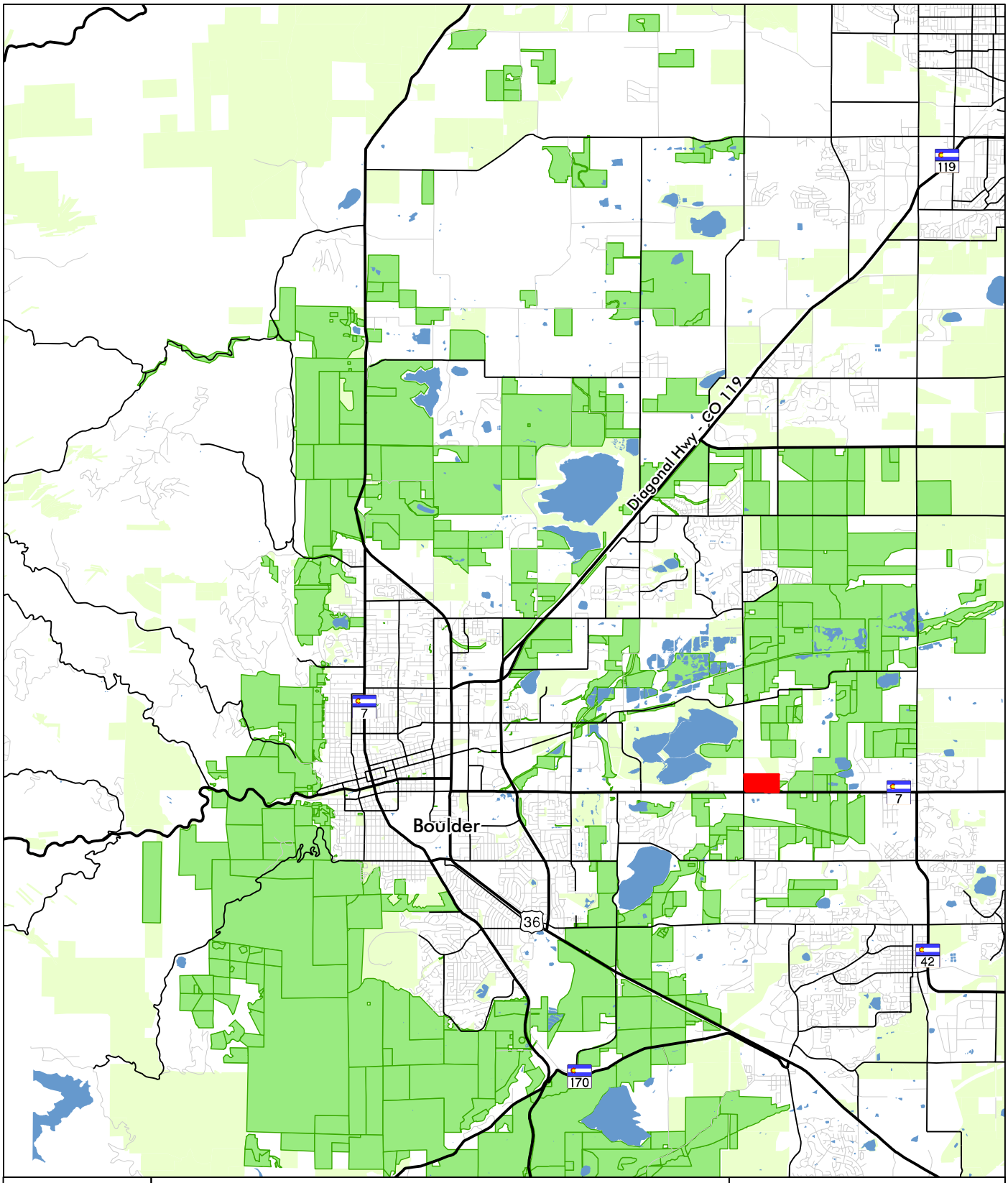
Objective 1: Manage and protect riparian habitat along the Dry Creek corridor.

Action: Monitor the Dry Creek riparian corridor for nesting raptors.

Action: If found, take appropriate measures to minimize disturbance to nesting raptors, including habitat disturbance restrictions during the nesting season (generally March through August, depending on the species).

Action: Maintain and enhance shrub thickets for wildlife habitat.

FIGURES



ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

Hunter/Kolb Property RRA and Management Plan

Hunter/Kolb Property

City of Boulder Open Space

Other Open Space

Miles

0 2 4

1 inch = 2 miles

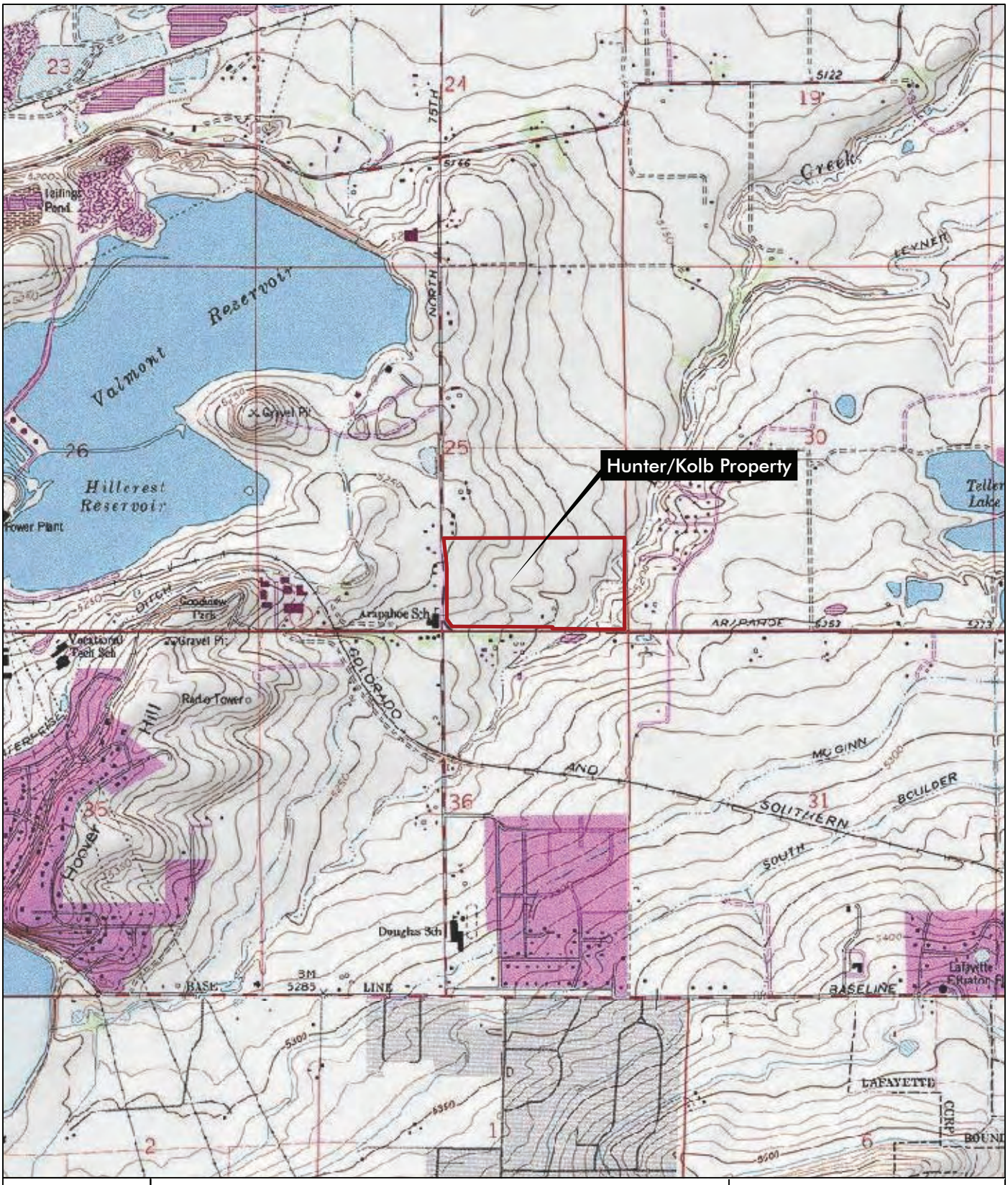
N

Figure 1
Vicinity Map

Prepared for: City of Boulder Open Space and Mountain Parks

File: 4089 Figure1.mxd

March 2008



ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

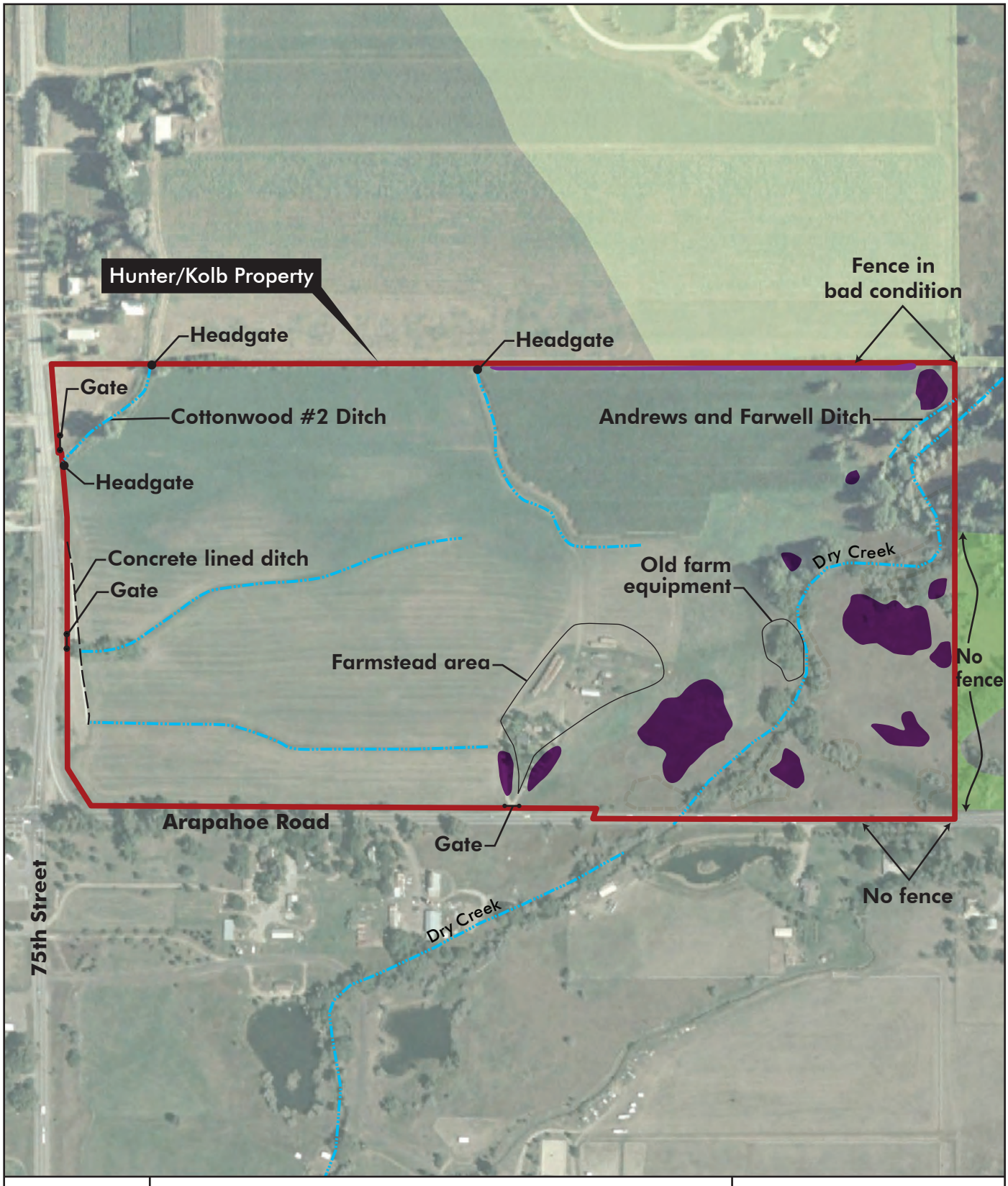
Hunter/Kolb Property RRA and Management Plan
Section 25, T1N, R70W
UTM NAD83 Coordinate Zone 13N; 3091486mE, 1249024mN
USGS Niwot CO, Quadrangle
Boulder County, Colorado

Feet
0 2,000 4,000
1 inch = 2,000 feet

N

Figure 2
Location

Prepared for: City of Boulder Open Space and Mountain Parks
File: 4089 Figure 2.mxd
February 2008



ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

Hunter/Kolb Property RRA and Management Plan

- City of Boulder Open Space
- Other Open Space
- Weed patch
- Inactive prairie dog colony

0 400 800 feet

1 Inch = 400 Feet

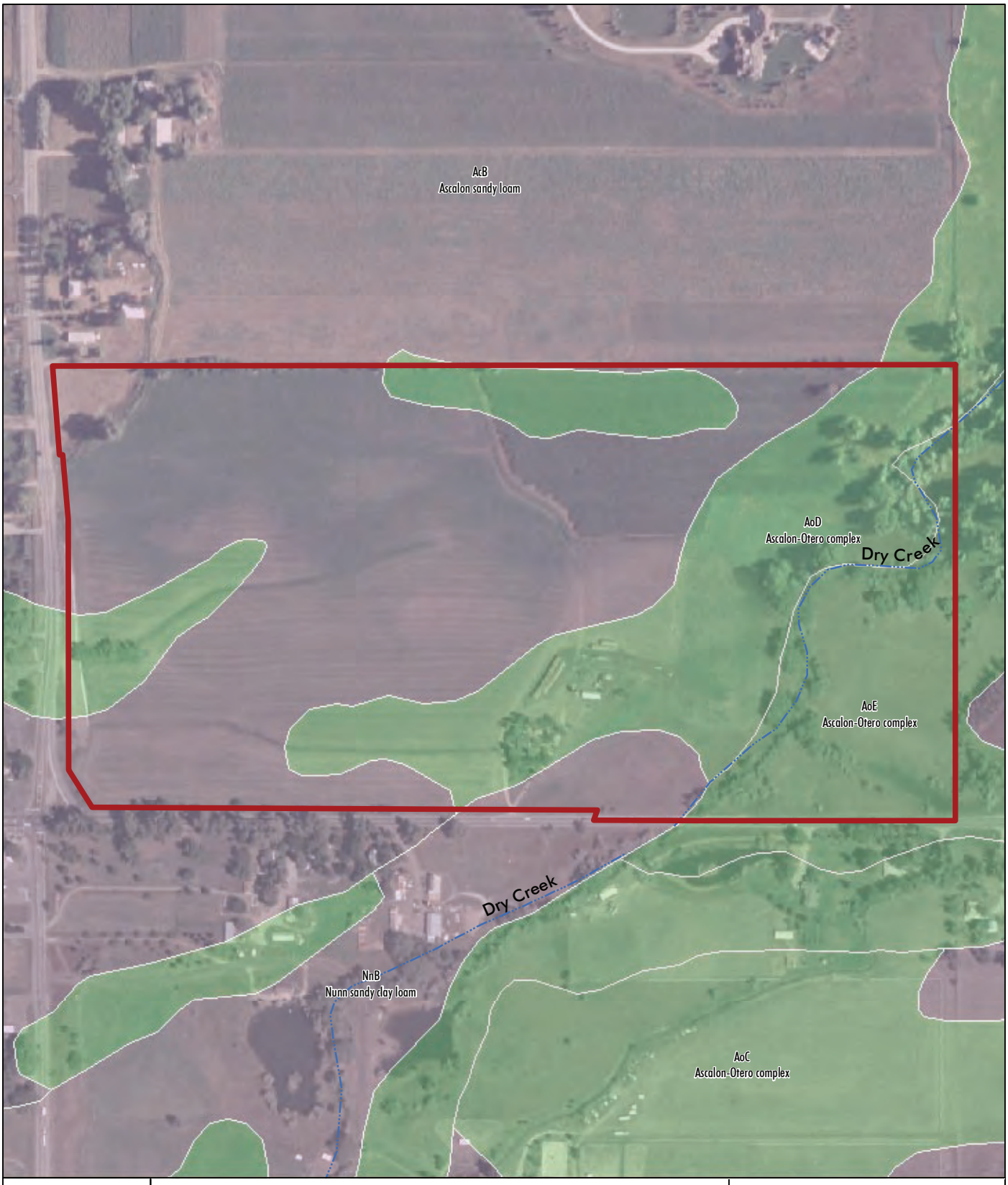
N

Figure 3
Property Features

Prepared for: City of Boulder Open Space and Mountain Parks

File: 4089 figure 3 Kolb.pdf

August 2008



ERO
ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

Hunter/Kolb Property RRA and Management Plan

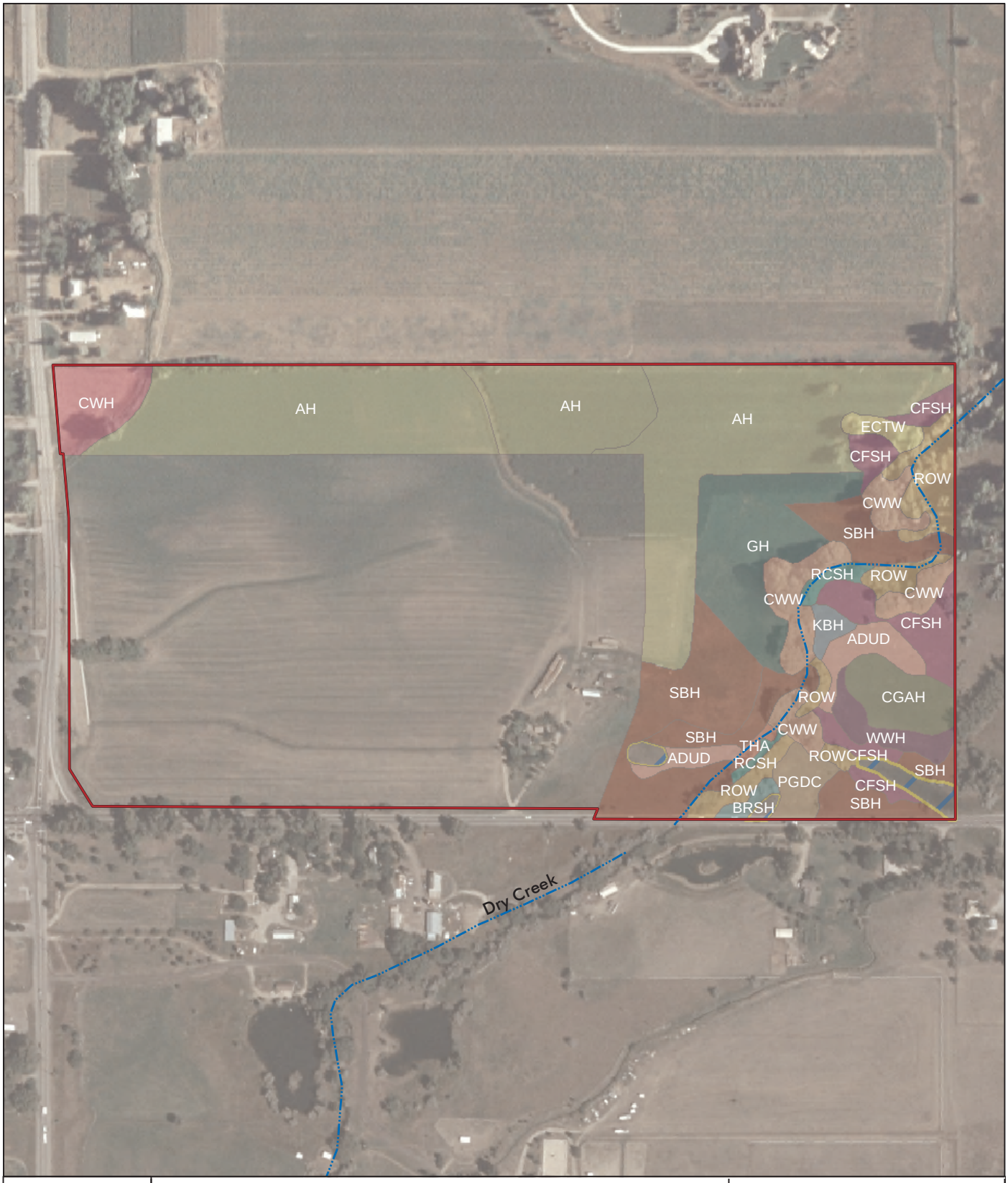
0 400 800 Feet

1 inch = 400 Feet

N

Figure 4
Soils

Prepared for: City of Boulder Open Space and Mountain Parks
File: 4089 Figure 4.mxd
February 2008



ERO
ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

Hunter/Kolb Property RRA and Management Plan

(See following page for for vegetation community names)

0 400 800 Feet

1 inch = 400 Feet

N

Figure 5
Vegetation Communities

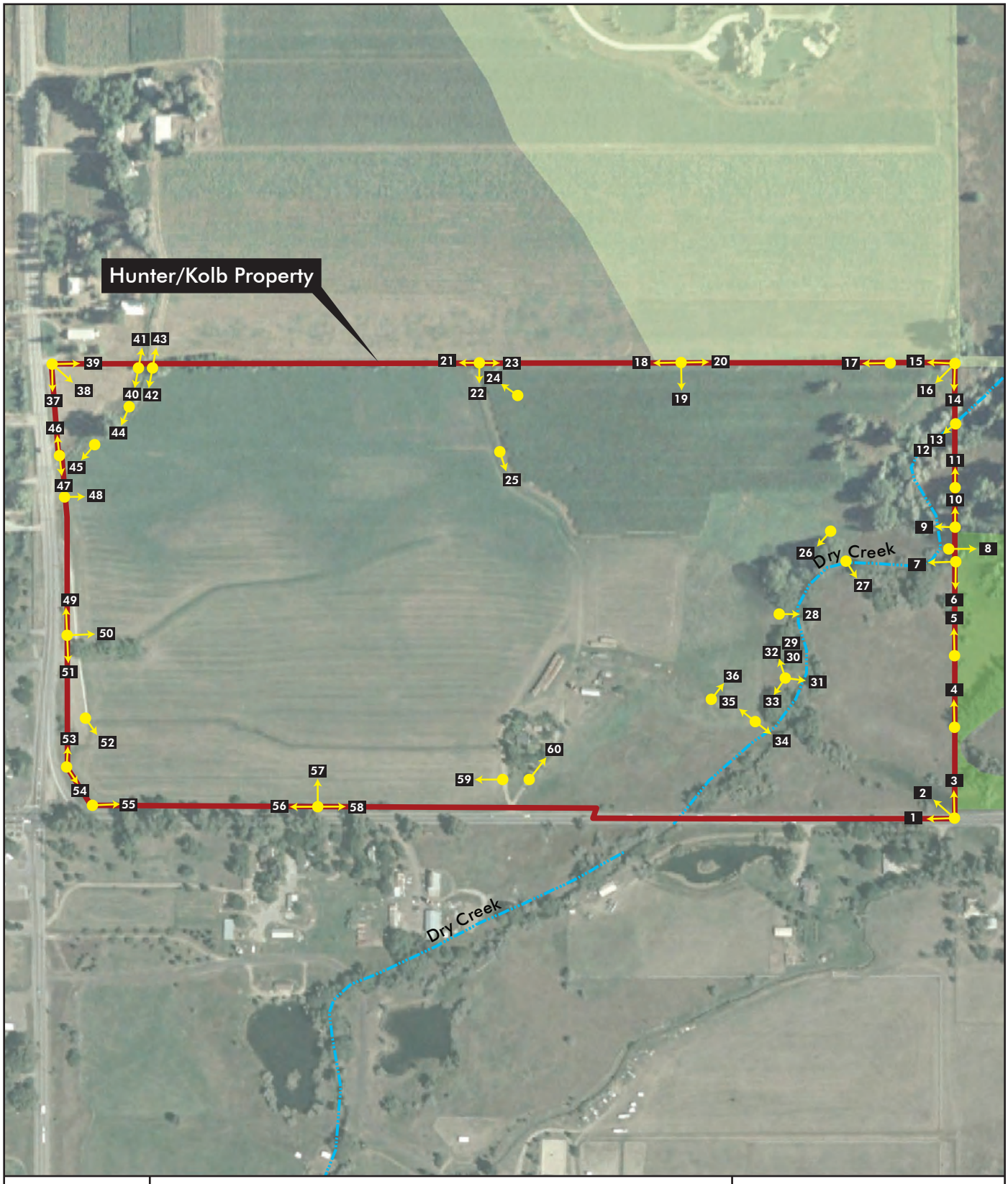
Prepared for: City of Boulder Open Space and Mountain Parks
File: 4089 Figure 5.mxd
June 2008

Vegetation Communities

Acronym, CmnName

- ADUD, Annual-domintated Upland Disturbance
- APS, American Plum Shrubland Alliance
- BBYH, Big Bluestem - (Yellow Indiangrass) Herbaceous Alliance
- BRSH, Baltic Rush Seasonally Flooded Herbaceous Alliance
- CFSH, Clustered Field Sedge Seasonally Flooded Herbaceous Alliance
- CHSH, Cattail Herbaceous Semipermanently Flooded Alliance
- CTH, Canada Thistle Weedy Forb Great Plains Herbaceous Vegetation [Provisional]
- CWH, Crested Wheatgrass Semi-Natural Herbaceous Alliance
- CWTS, (Coyote Willow, Sandbar Willow) Temporarily Flooded Shrubland Alliance
- CWW, Crack Willow (introduced) Temporarily Flooded Woodland Alliance
- DCAP, Disturbed Cultivated Agricultural Pasture
- DEV, Developed
- DFF, Douglas Fir Forest Alliance
- DFW, Douglas-fir Woodland Alliance
- ECTW, Eastern Cottonwood Temporarily Flooded Woodland Alliance
- ESSH, Emory Sedge Seasonally Flooded Herbaceous Alliance
- ETCW, Eastern Cottonwood Temporarily Flooded Woodland Alliance
- FBH, Foxtail Barley Temporarily Flooded Herbaceous Alliance
- FH, (Tall Fescue, Meadow Fescue) Herbaceous Alliance
- FSBH, Fourwing Saltbush Herbaceous Alliance
- GAH, Cultivated Alfalfa / Smoothe Brome Hay
- GH, Cultivated Grass Hay
- IC, Irrigated Cropland
- ISAP, Introduced Species Agricultural Pasture
- KBH, Kentucky Bluegrass Semi-Natural Herbaceous Alliance
- NNH, New Mexico Needlegrass Herbaceous Alliance
- NSH, Nebraska Sedge Seasonally Flooded Herbaceous Alliance
- NTH, Needle-and-Thread - Blue Grama Herbaceous Alliance
- OT, Ornamental Trees
- PDFF, Ponderosa Pine - Douglas-fir Forest Alliance
- PDFW, Ponderosa Pine - Douglas-fir Woodland Alliance
- PFDC, Perennial Forb Disturbance Community
- PMTH, Ponderosa Pine Wooded Mixed Herbaceous Alliance (Savannah)
- PPF, Ponderosa Pine Forest Alliance
- PPW, Ponderosa Pine Woodland Alliance
- PTSH, Ponderosa Pine Tallgrass Savannah Herbaceous Alliance
- PTW, Ponderosa Pine Temporarily Flooded Woodland Alliance
- QADF, Quaking Aspen - Douglas-fir Forest Alliance
- ROW, Russian Olive Semi-Natural Woodland Alliance
- SBH, Smooth Brome Semi-Natural Herbaceous Alliance
- SDS, Snakeweed Dwarf-shrubland Alliance
- SKBH, Sun Sedge-Agassiz Kentucky Bluegrass Herbaceous
- SYS, Soapweed Yucca Evergreen Shrubland
- SYSH, Soapweed Yucca Shrub Savannah Herbaceous Alliance
- THA, Threesquare Herbaceous Alliance
- TSIS, Ill-scented Sumac Intermittently Flooded Shrubland Alliance
- TSSH, Three-leaved Sumac Shrub Savannah Herbaceous Alliance
- TSUS, Three-leaved Sumac Upland Shrubland Alliance
- WATER, Water
- WBSS, Water Birch Seasonally Flooded Shrubland Alliance
- WTFH, Western Wheatgrass Temporarily Flooded Herbaceous Alliance
- WWH, Western Wheatgrass Herbaceous Alliance

APPENDIX A
PHOTO POINT MAP AND DOCUMENTATION



ERO

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199

Hunter/Kolb Property RRA and Management Plan

1 Photo Point

0 400 800 feet

1 Inch = 400 Feet

N

Appendix A
Property Features

Prepared for: City of Boulder Open Space and Mountain Parks

File: 4089 Kolb photo points.pdf

March 2008

APPENDIX B
PLANT SPECIES

Plant Species Observed during the February 19, and March 19, 2008 Site Visits

Common Name	Species Name	Synonym	Vegetation Community Type											
			APS	CFSH	CHSH	CWH	CWW	D	ECTW	IC	KBH	OT	ROW	SBH
Native Forbs														
American licorice	Glycyrrhiza lepidota			■			■		■				■	
American speedwell	Veronica americana													
Cuman ragweed	Ambrosia psilostachya var. coronopifolia													
goldenrod	Solidago spp.		■	■										
hairy evening-primrose	Oenothera villosa	Oenothera strigosa		■	■		■							■
hairy false goldenaster	Heterotheca villosa										■			
Kansas gayfeather	Liatris punctata													
Pennsylvania smartweed	Persicaria pensylvanica	Polygonum pensylvanicum		■										■
prairie flax	Adenolinum lewisii	Linum lewisii	■								■			■
showy goldeneye	Heliomeris multiflora	Gymnolomia multiflora									■			
showy milkweed	Asclepias speciosa		■	■	■									
western yarrow	Achillea lanulosa	Achillea millefolium	■			■					■			■
white prairie aster	Virgulus ericoides (group)	Aster ericoides (group)												■
Introduced Forbs														
alfalfa	Medicago sativa							■		■				
bouncingbet	Saponaria officinalis							■						
Canada thistle	Breea arvensis	Cirsium arvense		■	■		■	■			■		■	
Canadian horseweed	Conyza canadensis		■				■	■					■	
common mullein	Verbascum thapsus						■	■			■			
common sunflower	Helianthus annuus						■	■			■			
curly dock	Rumex crispus			■	■		■							■
desert madwort	Alyssum desertorum					■		■			■			■
field bindweed	Convolvulus arvensis					■	■	■						■
garden asparagus	Asparagus officinalis		■	■			■						■	
gypsyflower	Cynoglossum officinale					■	■						■	■
herb sophia	Descurainia sophia					■	■							■
horehound	Marrubium vulgare		■				■							
Japanese knotweed	Reynoutria japonica	Polygonum cuspidatum												

Common Name	Species Name	Synonym	Vegetation Community Type											
			APS	CFSH	CHSH	CWH	CWW	D	ECTW	IC	KBH	OT	ROW	SBH
lesser burdock	Arctium minus			■			■	■					■	
musk thistle	Carduus nutans ssp. macrolepis						■	■						
poison hemlock	Conium maculatum			■	■		■						■	
prickly lettuce	Lactuca serriola			■	■		■	■						■
spotted ladysthumb	Persicaria maculata	Polygonum persicaria						■						■
tall tumblemustard	Sisymbrium altissimum							■						
yellow salsify	Tragopogon dubius ssp. major					■	■				■			■
yellow sweetclover	Melilotus officinalis							■			■			■
Native Graminoids														
Baltic rush	Juncus arcticus ssp. ater	Juncus balticus		■	■									
broadleaf cattail	Typha latifolia			■	■		■						■	
buffalograss	Buchloe dactyloides	Bouteloua dactyloides									■			■
clustered field sedge	Carex praegracilis			■	■									
common threesquare	Schoenoplectus pungens	Scirpus pungens, S. americanus		■	■									
Indian ricegrass	Achnatherum hymenoides	Oryzopsis hymenoides, Stipa hym.									■			■
narrowleaf cattail	Typha angustifolia			■	■		■						■	
Nebraska sedge	Carex nebrascensis			■	■		■						■	
sedge	Carex sp.		■	■	■									
slender wheatgrass	Elymus trachycaulus	Agropyron trachycaulum		■			■		■					
western wheatgrass	Pascopyrum smithii	Agropyron smithii		■			■							
Introduced Grasses														
cereal rye	Secale cereale						■	■			■		■	
cheatgrass	Anisantha tectorum	Bromus tectorum				■		■			■			■
crested wheatgrass	Agropyron desertorum	A. cristatum		■		■	■	■			■		■	■
intermediate wheatgrass	Thinopyrum intermedium	Agropyron intermedium					■	■			■			
Japanese brome	Bromus japonicus	Bromus arvensis						■			■			
Kentucky bluegrass	Poa pratensis			■			■	■			■			
orchardgrass	Dactylis glomerata						■	■						
quackgrass hybrid	Agropyron x repens hybrid					■		■						■

Common Name	Species Name	Synonym	Vegetation Community Type											
			APS	CFSH	CHSH	CWH	CWW	D	ECTW	IC	KBH	OT	ROW	SBH
redtop	Agrostis gigantea	A. alba	■	■	■									
reed canarygrass	Phalaroides arundinacea	Phalaris arundinacea	■	■	■		■						■	
smooth brome	Bromopsis inermis	Bromus inermis		■			■	■			■			
tall fescue	Festuca arundinacea	Schedonorus phoenix	■	■			■						■	
Native Shrubs and Trees (including subshrubs and agavoids)														
American plum	Prunus americana		■				■		■					■
black chokecherry	Padus virginiana ssp. melanocarpa	Prunus virginiana ssp. melanocarpa	■				■		■					
box elder	Negundo aceroides						■		■			■		
coyote willow	Salix exigua		■				■		■					
Douglas fir	Pseudotsuga menziesii											■		
narrowleaf cottonwood	Populus angustifolia						■		■			■		
peachleaf willow	Salix amygdaloides						■		■					
plains cottonwood	Populus deltoides ssp. monilifera								■					
prairie sagewort	Artemisia frigida								■		■			■
rubber rabbitbrush	Chrysothamnus nauseosus	Ericameria nauseosa							■					■
skunkbush sumac	Rhus aromatica ssp. trilobata	Rhus trilobata	■				■		■					
snowberry	Symphoricarpos sp.						■		■					
soapweed yucca	Yucca glauca													■
Woods' rose	Rosa woodsii		■				■		■		■			
Introduced Trees														
black locust	Robinia pseudoacacia											■		
crack willow	Salix fragilis						■						■	
Honey locust	Gleditsia triacanthos											■		
Northern Catalpa	Catalpa speciosa											■		
Ohio buckeye	Aesculus glabra											■		
Russian olive	Elaeagnus angustifolia				■		■	■					■	
Siberian elm	Ulmus pumila		■			■	■							■
Agricultural Plants														
corn	Zea mays							■		■				

Nomenclature used: Weber, William A.; Wittmann, Ronald C. 2001. Colorado Flora: Eastern Slope. Third edition. University Press of Boulder Colorado. 521p.

Appendix C
References

APPENDIX C
REFERENCES

Boulder County. 2008a. Boulder County Assessor's Office. <http://www.co.boulder.co.us/assessor/asrproprecords/assess_input.asp >. January 24.

Boulder County. 2008b. Boulder County Comprehensive Plan, Archaeologically Sensitive Areas. <http://www.co.boulder.co.us/lu/bccp/cult_res.htm >. January 25.

Boulder County. 2008c. Boulder County Comprehensive Plan, Significant Agricultural Land. <http://www.co.boulder.co.us/lu/bccp/images/sal.jpg>. January 25.

Boulder County. 2008d. Boulder County Zoning District Map. <http://www.co.boulder.co.us/lu/pdf/zoningmap.pdf>. January 25.

CDWR (Colorado Division of Water Resources). 2008. Online Mapping. <http://165.127.23.116/website/lttool>. January 24.

City of Boulder Open Space and Mountain Parks (OSMP). 2005. Visitor Master Plan.

CNHP. (Colorado Natural Heritage program). 2006. Potential Conservation Area GIS database.

NDIS (Natural Diversity Information Source). 2008. GIS mapping of significant habitat elements for various wildlife species. Prepared by the Colorado Division of Wildlife.

NRCS (National Resource Conservation Service). 1975. Soil Survey of Boulder County Area, Colorado. Denver, CO.

OAHP (Colorado Historical Society, Office of Archeology and Historic Preservation). 2008. Records Search. February 27. Denver, CO.

Trimble, Donald E. 1975. Geological Map of the Niwot Quadrangle, Boulder County, Colorado. U.S. Geological Survey. Denver, CO.

Tweto, Ogden. 1979. Geologic Map of Colorado. U.S. Geological Survey. Denver, CO.

USFWS (U.S. Fish and Wildlife Service). 2007. Trapping data for the Preble's meadow jumping mouse.

USGS (U.S. Geological Survey). 1967, photorevised 1979. Niwot Quadrangle. Denver, CO.

Photo 1 - View west from southeast corner.

Photo 2 - View northwest from southeast corner.

Photo 3 - View north from southeast corner.

Photo 4 - View north of missing fence along the eastern boundary.

Photo 5 - View north of missing fence along the eastern boundary.

Photo 6 - View south along eastern boundary.

Photo 7 - View west of Dry Creek from eastern boundary.

Photo 8 - View east of underground gas line warning sign on east boundary.

Photo 9 - View west of Dry Creek from eastern boundary.

Photo 10 - View north along eastern boundary.

Photo 11 - View north along eastern boundary.

Photo 12 - View of measuring gage for the Andrews and Farwell Ditch in the northeastern corner.

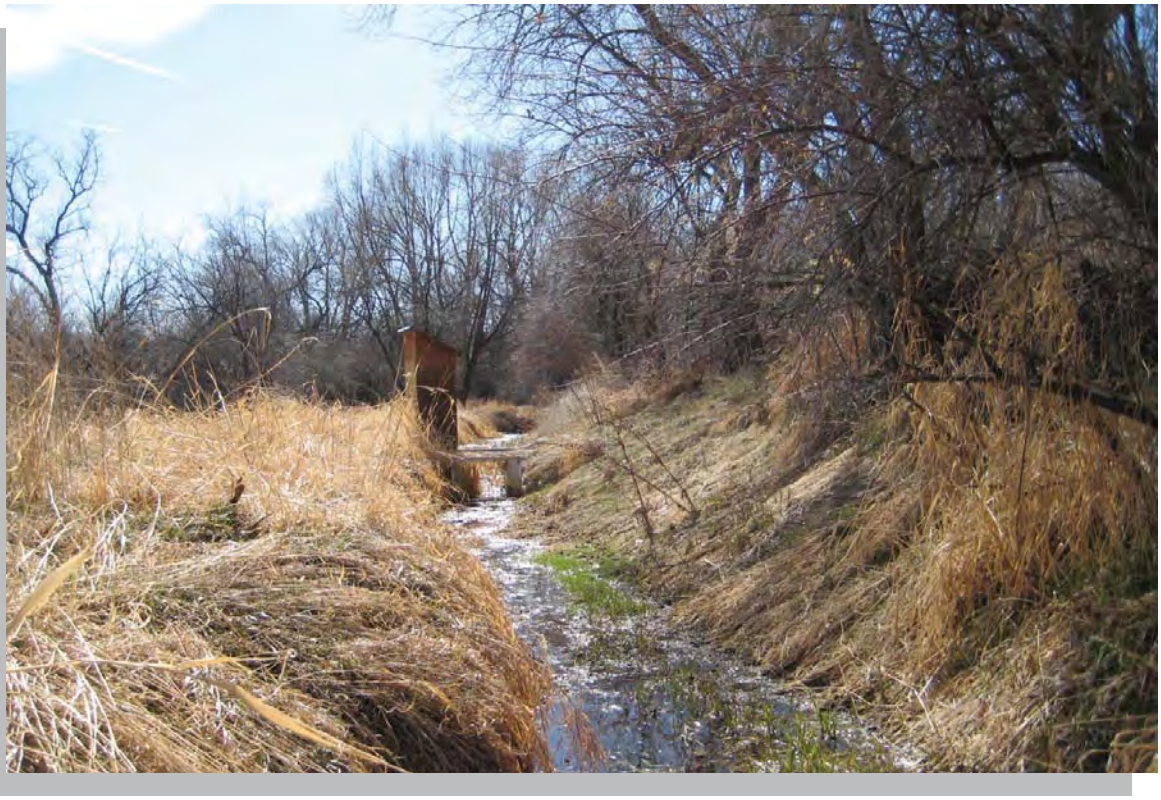


Photo 13 - View of Andrews and Farwell Ditch in northeastern corner.

Photo 14 - View south from northeast corner.

Photo 15 - View west from northeast corner.

Photo 16 - View southwest from northeast corner.

Photo 17 - View of magpie nest inside transmission line along north boundary.

Photo 18 - View west along northern boundary.

Photo 19 - View south along northern boundary.

Photo 20 - View east along northern boundary.

Photo 21 - View west of lateral ditch paralleling north boundary.

Photo 22 - View south of lateral ditch from north boundary.

Photo 23 - View east along northern boundary.

Photo 24 - View north of plastic irrigation remnants.

Photo 25 - View south of lateral ditch.

Photo 26 - View of crack willow temporary flooded woodland alliance.

Photo 27 - View of smooth brome semi-natural herbaceous alliance along Dry Creek.

Photo 28 - View of American plum shrubland alliance.

Photo 29 - View of discarded farm equipment.

Photo 30 - View of discarded farm equipment.

Photo 31 - View east of discarded farm equipment.

Photo 32 - View northwest of discarded farm equipment.

Photo 33 - View southwest of discarded farm equipment.

Photo 34 - View of cattail herbaceous semi-permanently flooded alliance in foreground and clustered field sedge seasonally flooded herbaceous alliance in the background. The water source is an irrigation tile drain.

Photo 35 - View of common burdock in a herbaceous weed patch near the south central property boundary.

Photo 36 - View of houndstongue in the foreground and common burdock in the background in a herbaceous weed patch near the south central property boundary.

Photo 37 - View south from northwestern corner.

Photo 38 - View southeast from northwestern corner.

Photo 39 - View east from northwestern corner.

Photo 40 - View south along the Cottonwood #2 ditch near northwest property corner.

Photo 41 - View north along lateral ditch near northwest property corner.

Photo 42 - View south along small lateral ditch near northwest property corner.

Photo 43 - View north along small lateral ditch near northwest property corner.

Photo 44 - View southwest along lateral ditch near northwest property corner.

Photo 45 - View of concrete culvert under 75th street near northwestern property corner.

Photo 46 - View south along west boundary.

Photo 47 - View of open gate along west boundary.

Photo 48 - View of underground gas line warning sign on west boundary.

Photo 49 - View north along west boundary.

Photo 50 - View east from west boundary.

Photo 51 - View south from west boundary.

Photo 52 - View of water diversion structure.

Photo 53 - View north from near southwest corner.

Photo 54 - View southeast along southwest corner.

Photo 55 - View east from southwest corner.

Photo 56 - View west along south boundary.

Photo 57 - View north from south boundary.

Photo 58 - View east along south boundary.

Photo 59 - View west from south boundary near gate.

Photo 60 - View north from entry gate on south boundary.