



Vegetation & Wildlife Habitat Existing Conditions

Hogan Pancost Property
Boulder County, Colorado

prepared for:

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Acknowledgments

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1.0 Introduction

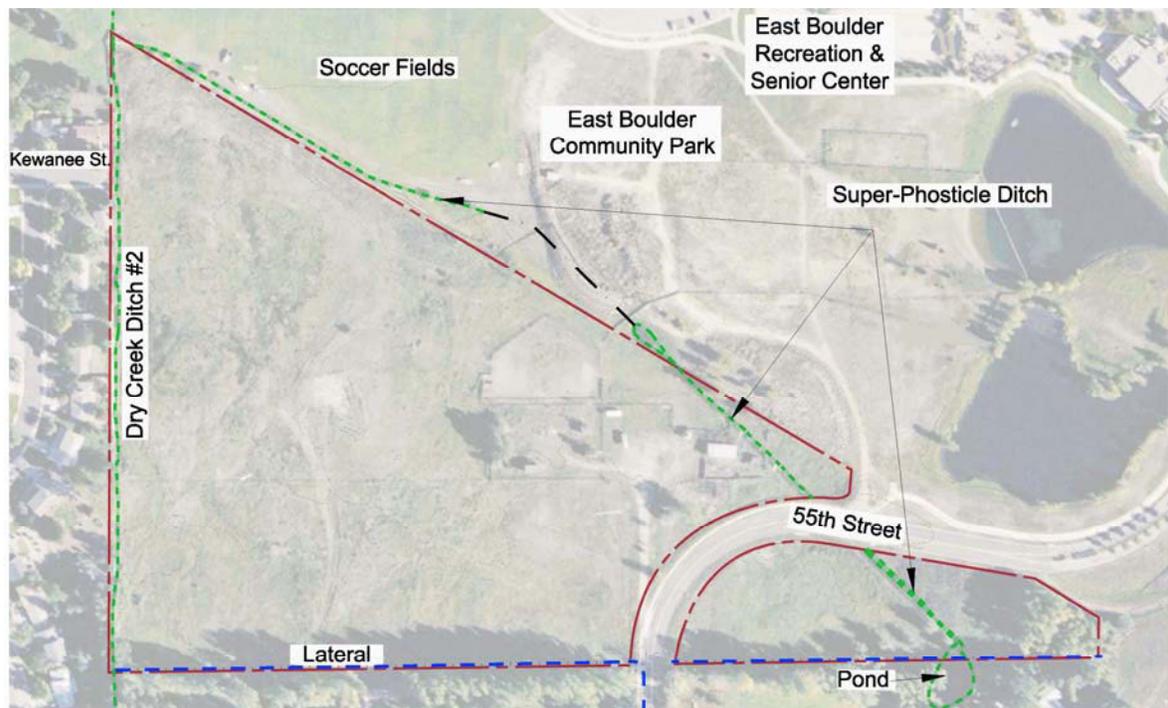
BCC, LLC has plans to develop the Hogan Pancost property located in Boulder County, Colorado, southwest of the East Boulder Community Park (Figure 1). 55th Street bisects the property to create a 2.73 acre East Parcel and a 19.09 acre West Parcel. Development would be confined to the West Parcel. Specifically, the property is located in parts of Sections 3 and 4 of Township 1 North and Range 70 West in Boulder County (Figure 2).

Please note, Figures are located in Section 6.0 and Tables are in Section 7.0.

2.0 Environmental Setting

The West Parcel, which ranges from a high of 5,325 feet on the south to a low of 5,312 feet on the northwest, has a vertical relief of 13 feet. This parcel is characterized by numerous small swales 12-24 inches deep. The relatively flat East Parcel extends from a high of 5,325 feet on the southwest to a low of 5,319 feet on the north along 55th Street. There are no streams on the project site. However, South Boulder Creek flows north 180 feet east of the East Parcel and a small irrigation water storage pond occurs on the property to the south and extends into the East Parcel.

Dry Creek Ditch #2 (Ditch) parallels the western boundary of the West Parcel, and the Super-phosticle Lateral bisects the East Parcel, the east end of the West Parcel, and the northwest corner of the West Parcel. The CD Bodam Lateral (Lateral) occurs along the south boundary of the West Parcel.



Hogan Pancost Property
Ditches and Laterals

The project site is undeveloped except for several small sheds associated with historic agricultural land uses. Numerous barbed wire steel fences partition the property into various sized lots. Historically, the parcel has had an agricultural land use which likely extends back to the settlement era in the late 1800's (Hogan, 2008). Historically, the West Parcel was flood irrigated, however flood irrigation of this parcel was terminated many years ago. Typically, the East Parcel is flood irrigated once or twice per summer for a period of two weeks (CD Bodam, 2016).

3.0 Vegetation

The vegetation of the East and West Parcels is characterized by 5.05 acres of a degraded agricultural seeding, 14.69 acres of Colorado noxious and other weeds, 0.33 acres of plains cottonwood trees (*Populus deltoides*) on the east end of the East Parcel, and 1.59 acres of man-induced wetlands (Table 1 and Figure 3). The upland pasture is best developed in swales just north of the Lateral where they were historically flood irrigated. Please note, this Lateral has now been lined and the flood irrigation has been terminated. The swale areas are characterized by agricultural and native wetland and facultative plants such as meadow fescue (*Festuca pratensis*), redtop (*Agrostis gigantea*), Baltic rush (*Juncus arcticus subsp. ater*) and numerous upland species, including timothy (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), chicory (*Cichorium intybus*), narrow-leaf birds-foot trefoil (*Lotus tenuis*), curly dock (*Rumex crispus*), and red clover (*Trifolium pratense*).

Weedy areas occur in the slightly higher elevations of the project site where prairie dogs have created disturbed habitats and in mesic areas on the East Parcel. These areas have a vegetation cover composed of a diversity of Colorado state listed noxious weeds and other introduced plants. The most abundant weeds in the West Parcel include Scotch thistle (*Onopordum acanthium*), diffuse knapweed (*Acosta diffusa*), Canada thistle (*Cirsium arvense*), mullein (*Verbascum thapsus*), chicory, and field bindweed (*Convolvulus arvensis*). See Photo 4. The East Parcel has large stands of teasel (*Dipsacus fullonum*) intermixed with the wetland plants, as well as stands of Canada thistle and a few Russian olive (*Elaeagnus angustifolia*) trees.

Wetlands on the project site are dominated by graminoids and perennial forbs, and in places woody shrubs. Major graminoids include redtop, meadow fescue, American mannagrass (*Glyceria grandis*), Baltic rush, Nebraska sedge (*Carex nebrascensis*), clustered field sedge (*Carex praegracilis*), and prairie cordgrass (*Spartina pectinata*). Common forbs present include Macoun's buttercup (*Ranunculus macounii*), water smartweed (*Persicaria amphibia*), largeleaf avens (*Geum macrophyllum*), field mint (*Menta arvensis*), and white panicle aster (*Aster lanceolatus ssp. hesperius*). Many of the wetlands, especially on the drier edge, have introduced weeds including Canada thistle, teasel, prickly lettuce (*Lactuca serriola*), and others. Sandbar willows (*Salix exigua*) occur along the irrigation ditches. Less abundant woody plants include chokecherry (*Prunus virginiana var. melanocarpa*), Russian olive, plains cottonwood (*Populus deltoides*), and crack willow (*Salix fragilis*).

Finally, a small stand of plains cottonwood trees occur in the eastern portion of project area. The understory is comprised of upland and facultative plants such as smooth brome (*Bromus inermis*), meadow fescue (*Festuca pratensis*), Canada goldenrod (*Solidago canadensis*), and goldenbanner (*Thermopsis divaricarpa*).

4.0 Wildlife

Figure 3 illustrates the vegetation and habitat types present on the project site. The native prairie which once dominated this site has been replaced by introduced agricultural communities, disturbed weedy areas, and structures. Flood irrigation practices and the seepage of water from

irrigation ditches has resulted in the development of a small acreage of wetland and a small stand of plains cottonwood trees.

The disturbed areas do not provide habitat for most species of wildlife, but typically support those species which are habitat generalists. In the disturbed areas it is likely that the most represented wildlife is small rodents. Black-tailed prairie dogs (*Cynomys ludovicianus*) are present within the West Parcel. This area most likely has high numbers of deer mouse (*Peromyscus maniculatus*) and house mouse (*Mus musculus*). The East Parcel is more mesic, therefore it is expected that because of the better habitat, the prairie vole (*Microtus ochrogaster*) and/or meadow vole (*Microtus pennsylvanicus*) may be present. With the diverse prey base, predators and scavengers likely use the property. Raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), coyotes (*Canis latrans*), and red foxes (*Vulpes vulpes*) likely use both parcels for hunting and denning. Fox squirrels (*Sciurus niger*) use the trees on the southern side of the property for nesting and foraging.

Avian use and diversity associated with the property is also limited because of the current environmental condition. Non-native invasive species including European starlings (*Sturnus vulgaris*), English sparrows (*Passer domesticus*), and rock pigeons (*Columba livia*) are likely the most abundant species within the property. The trees south of the property boundary do provide suitable nesting habitat for warblers, vireos, orioles, etc. No raptor nests were observed within or near the property. Raptors including American kestrels (*Falco sparverius*), red-tailed hawks (*Buteo jamaicensis*), and Swainson's hawks (*Buteo swainsoni*) likely incorporate the property into their home ranges and use it for hunting.

In its current degraded state, most of the property does not offer useable habitat to most wildlife species except those capable of existing within highly modified landscapes. Since these species are generalists, they are capable of existing across a wide range of the landscape. Therefore, development of this property is likely not to have a negative impact on the local wildlife population.

5.0 References

Bodam, CD. 2016. Personal communication. Ditch president.

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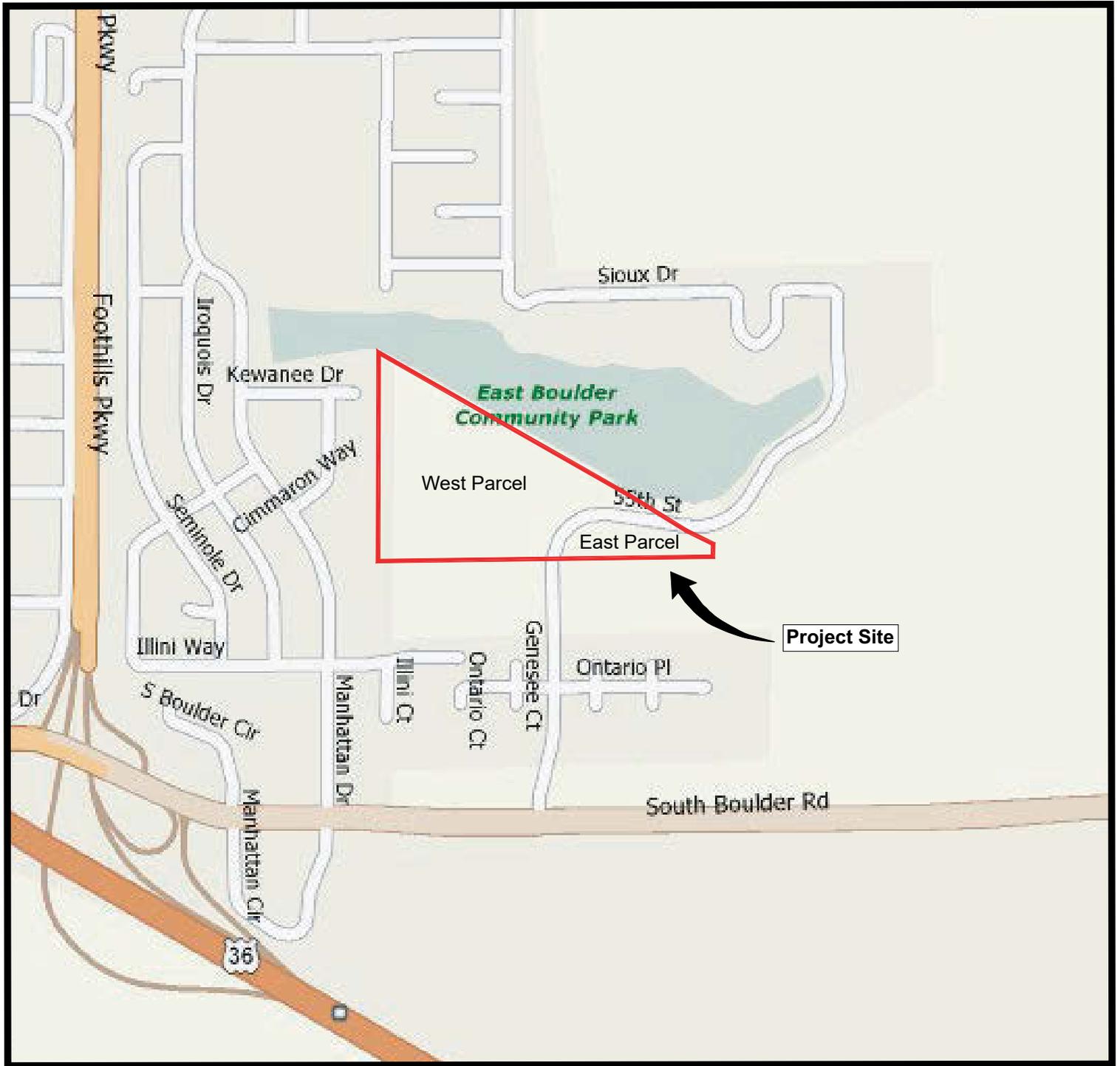
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6.0 Figures



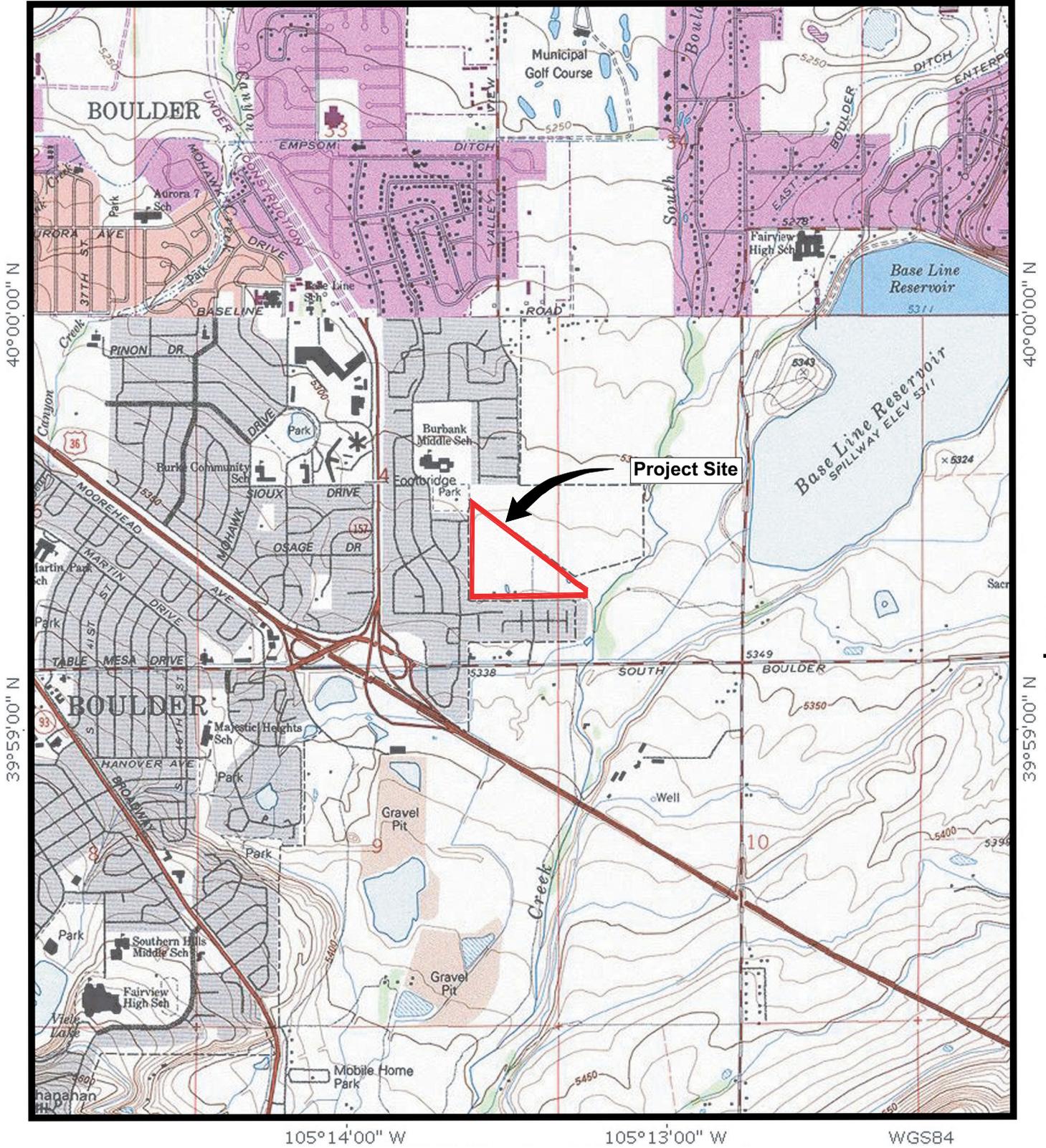
BASE: Map Data Mapquest 2008 NAVETQ or TeleAtlas

**FIGURE 1. Vicinity Map
Hogan Pancost Property**



Scale 1" = 600'





BASE: USGS 7.5 Minute Louisville, Colorado Quadrangle
Photorevised: 1990

**FIGURE 2. Project Location Map
Hogan Pancost Property**

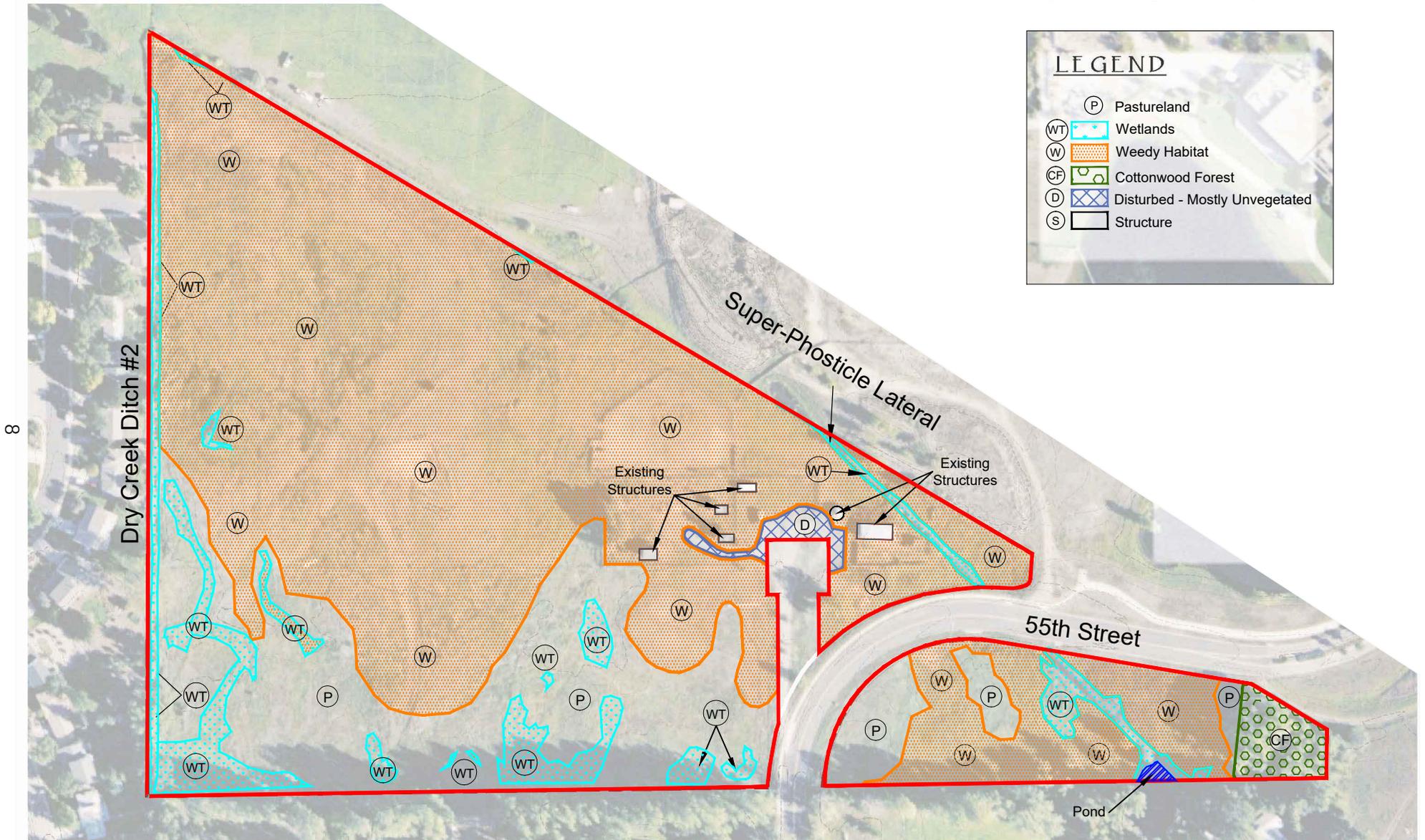


Map Location



Scale 1" = 2000'
Contour Interval = 10'

Figure 3. Vegetation Type Map



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Scale: 1" = 200 ft
 Contour Interval: 1 ft
 Date: August 2016

**BOULDER CREEK COMMONS
 VEGETATION TYPE MAP**

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7.0 Tables

Table 1
Vegetation Types
Hogan Pancost Property

<u>Vegetation Type</u>	<u>West Parcel (acres)</u>	<u>East Parcel (acres)</u>	<u>Total</u>
Pastureland	4.45	0.59	5.05
Weeds	13.13	1.56	14.69
Cottonwood Forest	---	0.33	0.33
Wetlands	1.37	0.22	1.59
Disturbed Areas	0.14	---	0.14
Pond	---	0.02	0.02
Total	19.09	2.73	21.82

TABLE 2
Plant Species List
Hogan-Pancost Property
Boulder, Colorado
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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin⁺</u>	<u>Wetland Status⁺⁺</u>
Trees				
<i>Acer negundo</i>	Boxelder	Aceraceae	N	FACW*
<i>Elaeagnus angustifolia</i>	Russian olive	Eleagnaceae	I+	FAC
<i>Fraxinus pennsylvanica</i>	Green Ash	Oleaceae	I	FACW
<i>Populus deltoides</i>	Plains cottonwood	Salicaceae	N	FAC
<i>Salix fragilis</i>	Crack willow	Salicaceae	I	FAC
<i>Ulmus pumila</i>	Chinese elm	Ulmaceae	I	NL
Shrubs/Subshrubs				
<i>Prunus Americana</i>	Wild plum	Rosaceae	N	UPL
<i>Prunus virginiana</i> var. <i>melanocarpa</i>	Native chokecherry	Rosaceae	N	FACU
<i>Rosa woodsii</i>	Wood rose	Rosaceae	N	FACU
<i>Salix exigua</i>	Sandbar willow	Salicaceae	N	OBL
Perennial Graminoids				
<i>Agrostis gigantea (alba)</i>	Redtop	Poaceae	I	FACW
<i>Alopecurus pratensis</i>	Meadow foxtail	Poaceae	I	FACW
<i>Andropogon gerardii</i>	Big bluestem	Poaceae	N	FAC-
<i>Bromus inermis</i>	Smooth brome	Poaceae	I	NL
<i>Carex bebbii</i>	Bebb sedge	Cyperaceae	N	OBL
<i>Carex emoryi</i>	Emory sedge	Cyperaceae	N	OBL
<i>Carex lanuginosa</i>	Woolly sedge	Cyperaceae	N	OBL
<i>Carex nebrascensis</i>	Nebraska sedge	Cyperaceae	N	OBL
<i>Carex praegracilis</i>	Clustered field sedge	Cyperaceae	N	FACW
<i>Carex vulpinoidea</i>	Fox sedge	Cyperaceae	N	OBL
<i>Catabrosa aquatica</i>	Brook grass	Poaceae	N	OBL
<i>Chondrosum gracile</i>	Blue grama	Poaceae	N	NL
<i>Dactylis glomerata</i>	Orchardgrass	Poaceae	I	FACU
<i>Eleocharis macrostachya</i> (= <i>E. palustris</i>)	Creeping spikerush	Cyperaceae	N	OBL
<i>Elytrigia repens</i>	Quackgrass	Poaceae	I+	FAC
<i>Festuca pratensis</i>	Meadow fescue	Poaceae	I	FAC
<i>Glyceria grandis (maxima)</i>	American mannagrass	Poaceae	N	OBL
<i>Juncus arcticus</i> subsp. <i>ater</i> (= <i>J. balticus</i>)	Baltic rush	Juncaceae	N	OBL
<i>Juncus articulatus</i>	Jointed rush	Juncaceae	I	NO, (OBL)
<i>Juncus tennis</i>	Slender rush	Juncaceae	N	FAC
<i>Panicum virgatum</i>	Switchgrass	Poaceae	N	FAC

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 Plant Species List
 Hogan-Pancost Property
 Boulder, Colorado
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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin⁺</u>	<u>Wetland Status⁺⁺</u>
<i>Pascopyrum smithii</i> (<i>Agropyron</i>)	Western wheatgrass	Poaceae	N	FACU
<i>Phalaris arundinacea</i>	Reed Canarygrass	Poaceae	[N]	FACW+
<i>Phleum pratense</i>	Timothy	Poaceae	I	FACU
<i>Poa pratensis</i>	Kentucky bluegrass	Poaceae	I	FACU
<i>Scirpus acutus</i>	Hardstem bulrush	Cyperaceae	N	OBL
<i>Scirpus validus</i>	Softstem bulrush	Cyperaceae	N	OBL
<i>Sorghastrum nutans</i>	Indian grass	Poaceae	N	FACU
<i>Spartina pectinata</i>	Prairie cordgrass	Poaceae	N	OBL
<i>Typha latifolia</i>	Broadleaf cattail	Typhaceae	N	OBL
Perennial Forbs				
<i>Achillea lanulosa</i>	Yarrow	Asteraceae	N	FACU
<i>Ambrosia psilostachya</i>	Naked spike ragweed	Asteraceae	N	FAC
<i>Asclepias speciosa</i>	Showy milkweed	Asclepiadaceae	N	FAC
<i>Asparagus officinalis</i>	Asparagus	Liliaceae	I	FACU-
<i>Aster lanceolatus</i> ssp. <i>hesperius</i>	Siskiyou aster	Asteraceae	N	OBL
<i>Barbarea orthoceras</i>	Wintercress	Brassicaceae	N	OBL
<i>Cardaria draba</i>	Hoary cress; Whitetop	Brassicaceae	I+	
<i>Cichorium intybus</i>	Chicory	Asteraceae	I+	NL
<i>Cirsium arvense</i> (<i>Breea</i>)	Canada thistle	Asteraceae	I+	FACU
<i>Convolvulus arvensis</i>	Field bindweed	Convolvulaceae	I+	NL
<i>Daucus carota</i>	Wild carrot	Apiaceae	I	
<i>Epilobium ciliatum</i>	Northern willowherb	Onagraceae	N	OBL
<i>Erigeron flagellaris</i>	Running fleabane	Asteraceae	N	FAC
<i>Gaura mollis</i> (<i>parviflora</i>)	Velvetleaf butterfly weed	Onagraceae	N	NI
<i>Geum macrophyllum</i> var. <i>perincisum</i>	Largeleaf avens	Rosaceae	N	OBL
<i>Glycyrrhiza lepidota</i>	Wild licorice	Fabaceae	N	FACU
<i>Grindelia squarrosa</i>	Sticky gumweed	Asteraceae	N	FACU-
<i>Heterotheca villosa</i>	Golden aster	Asteraceae	N	NL
<i>Lathyrus latifolius</i>	Perennial pea	Fabaceae	I	
<i>Leucanthemum vulgare</i> (<i>Chrysanthemum</i> <i>leucanthemum</i>)	Ox-eye daisy	Asteraceae	I+	NL
<i>Linaria genistifolia</i> subsp. <i>dalmatica</i> (<i>L. dalmatica</i>)	Dalmatian toadflax	Scrophulariaceae	I+	NL
<i>Lotus tenuis</i>	Narrow-leaf birds-foot trefoil	Fabaceae	I	NL
<i>Malva neglecta</i>	Cheeseweed	Malvaceae	I	NL

TABLE 2
Plant Species List
Hogan-Pancost Property
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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin⁺</u>	<u>Wetland Status⁺⁺</u>
<i>Marrubium vulgare</i>	Horehound	Lamiaceae	I	NL
<i>Mentha arvensis</i>	Field mint	Lamiaceae	N	FACW
<i>Oxalis dillenii</i>	Wood sorrel	Oxalidaceae	N	NL
<i>Persicaria amphibian var. stipulaceum</i>	Water smartweed	Polygonaceae	N	OBL
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	I	FAC
<i>Plantago major</i>	Common plantain	Plantaginaceae	I	FAC
<i>Potentilla recta</i>	Sulphur cinquefoil	Rosaceae	I+	
<i>Ranunculus macounii</i>	Macoun's buttercup	Ranunculaceae	N	OBL
<i>Rumex crispus</i>	Curly dock	Polygonaceae	I	FACW
<i>Securigera varia</i>	Crown vetch	Fabaceae	I	NL
<i>Solidago canadensis</i>	Canada goldenrod	Asteraceae	N	FACU
<i>Tanacetum vulgare</i>	Common tansy	Asteraceae	I+	
<i>Taraxacum officinale</i>	Dandelion	Asteraceae	I	FACU
<i>Thermopsis divaricarpa</i>	Spreading goldenbanner	Fabaceae	N	NL
<i>Trifolium pratense</i>	Red clover	Fabaceae	I	FACU
<i>Trifolium repens</i>	White Dutch clover	Fabaceae	I	FACU
<i>Verbena hastata</i>	Blue vervain	Verbenaceae	N	FACW
Ferns and Fern Allies				
<i>Equisetum arvense</i>	Field horsetail	Equisetaceae	N	FAC
<i>Hippochaete hyemalis</i>	Scouring rush	Equisetaceae	N	FACW
<i>Hippochaete laevigata</i>	Smooth horsetail	Equisetaceae	N	FACW
Cacti				
<i>Opuntia polyacantha</i>	Prickly pear	Cactaceae	N	NL
Annual/Biennial Forbs				
<i>Acosta diffusa (Centaurea)</i>	Diffuse knapweed	Asteraceae	I+	NL
<i>Alyssum desertorum</i>	Desert madwort	Brassicaceae	I	
<i>Amaranthus retroflexus</i>	Red-root pigweed	Amaranthaceae	I	FACU
<i>Arctium minus</i>	Common burdock	Asteraceae	I+	NL
<i>Bidens cernua</i>	Nodding beggar tick	Asteraceae	N	OBL
<i>Camelina microcarpa</i>	False flax	Brassicaceae	I	NL
<i>Carduus nutans ssp. macrolepis</i>	Musk thistle	Asteraceae	I+	NL
<i>Chenopodium album</i>	Lambs quarters	Chenopodiaceae	I	FAC
<i>Conyza canadensis</i>	Canada horseweed	Asteraceae	I	FACU-
<i>Cynoglossum officinale</i>	Houndstongue	Boraginaceae	I+	NL

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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin⁺</u>	<u>Wetland Status⁺⁺</u>
<i>Dipsacus fullonum</i> (<i>D. sylvestris</i>)	Common Teasel	Dipsacaceae	I+	FACU
<i>Erodium cicutarium</i>	Redstem filaree	Geraniaceae	I+	NL
<i>Impatiens capensis</i>	Jewelweed	Balsaminaceae	N	FACW
<i>Lactuca serriola</i>	Prickly lettuce	Asteraceae	I	FAC
<i>Oenothera villosa</i>	Hairy evening primrose	Onagraceae	N	FAC
<i>Onopordum acanthium</i>	Scotch thistle	Asteraceae	I+	NL
<i>Persicaria lapathifolia</i>	Curlytop knotweed	Polygonaceae	N	OBL
<i>Persicaria pensylvanica</i>	Pennsylvania smartweed	Polygonaceae	N	FACW+
<i>Rorippa sphaerocarpa</i>	Roundfruit yellowcress	Brassicaceae	N	NO
<i>Sisymbrium altissimum</i>	Tumble mustard	Brassicaceae	I	FACU
<i>Thlaspi arvense</i>	Pennycress	Brassicaceae	I	NI
<i>Tragopogon dubius</i>	Salsify	Asteraceae	I	NL
<i>Verbascum thapsus</i>	Common mullein	Scrophulariaceae	I+	NL
Annual Graminoids				
<i>Anisantha tectorum</i> (<i>Bromus</i>)	Cheatgrass; Downy brome	Poaceae	I+	NL

⁺ Origin
 N = Native; [N] = Naturalized, native?
 I = Introduced
 I+ = Colorado State Noxious Weed

⁺⁺ Wetland Status (R5 Great Plains Region)
 OBL = Obligate Wetland
 FACW = Facultative Wetland
 FAC = Facultative
 FACU = Facultative Upland
 UPL = Obligate Upland
 NL = Not listed on USFWS Regional Hydrophyte List
 NI = No Indicator (insufficient information)
 NO = Non-occurrence (species does not occur in this region)
 * = tentative assignment
 + = frequency toward the higher end of the category
 - = frequency toward the lower end of the category