



## Biological Resources Evaluation Memorandum

**Date:** November 8, 2018  
**To:** Jacqueline Giles, Colorado Department of Transportation, Region 4  
**CC:** Brian Moffitt, University of Colorado; Dan Beltzer, Loris and Associates, Inc.  
**From:** Pam Wegener, Pinyon Environmental, Inc.  
**Subject:** Biological Resources Evaluation Memorandum, 19<sup>th</sup> Street Pedestrian Bridge over Boulder Creek, Boulder County, Colorado

Summary of Biological Resources in the Project Area						
<b>Biological Resources</b>						
<b>PMJM?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>ULTO?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<b>PMJM Block Clearance Zone?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>CBP?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<b>Other Federally listed Threatened and Endangered Species?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>Other State Listed Species of Concern?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>Raptors?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>Migratory Birds?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>&gt;8,000 feet elev.?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>Prairie Dogs?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<b>Noxious weeds prevalent?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>INWMP Needed?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
If work is on or near USFS or BLM, give name of federal lands:			Not applicable			
Consultant Contact Info:		Allison Haraminac, Pinyon, haraminac@pinyon-env.com (303) 984-0865				
<b>Waters of the U.S., including Wetlands; Senate Bill 40</b>						
Wetland Survey Needed?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
Impacts to wetlands or open waters?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
<i>Permanent impacts &lt;0.5 acre to wetlands or open waters?</i>				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
<i>Permanent impacts &gt;0.5 acre or &gt;200 linear feet to wetlands or open waters?</i>				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
<i>Section 401 Permit from CDPHE?</i>				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
<i>Wetland Finding Required?</i>				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
Work required within or adjacent to stream or river?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Work on banks of stream (perennial or intermittent) or rivers?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Notes: PMJM= Preble's meadow jumping mouse ( <i>Zapus hudsonicus preblei</i> ) CBP= Colorado butterfly plant ( <i>Oenothera coloradensis</i> ) USFS= United States Forest Service CDPHE= Colorado Department of Public Health and Environment ULTO= Ute ladies' tresses orchid ( <i>Spiranthes diluvialis</i> ) INWMP= Integrated Noxious Weed Management Plan BLM= Bureau of Land Management						

## **Introduction**

Pinyon Environmental, Inc. (Pinyon), on behalf of University of Colorado at Boulder (CU Boulder), has been contracted to complete environmental support for the 19<sup>th</sup> Street Pedestrian Bridge Project (project) in Boulder County, Colorado. The project will be funded by the Denver Regional Council of Governments Transportation Improvement Project grant, which is being administered by the Colorado Department of Transportation (CDOT). This Biological Resources Evaluation Memorandum has been prepared to assess existing conditions regarding biological resources and protected species in accordance with federal and state regulations or policies.

## **Project Description and Location**

The proposed project will build a new Americans with Disabilities Act (ADA) compliant multiuse bridge and trail from the Boulder Creek multiuse path at 19<sup>th</sup> Street connecting the CU properties north of Boulder Creek to Main Campus. The path and bridge will be a minimum of 10' wide and designed to fit within the existing ecosystem of the Boulder Creek Corridor. As part of the proposed actions, the project will remove the previous 19<sup>th</sup> Street bridge abutments. Construction is expected to begin Summer/Fall of 2019 and end 2020.

The proposed project is located between 19<sup>th</sup> Street and 21<sup>st</sup> Street, directly south of Grandview Ave (Figure 1). The approximate geographical location of the project is centered at decimal degree coordinates (North American Datum [NAD] 83) latitude 40.011246°, longitude -105.268987°. The project is in Section 31, Township 1 North, Range 70 West, of the 6th Principal Meridian on the United States Geological Survey (USGS) Boulder, Colorado 7.5-Minute Quadrangle (USGS, 1966). The average elevation of the project is approximately 5,360 feet above mean sea level. Boulder Creek flows from west to east through the project area.

## **Methods**

Pinyon conducted an initial desktop review of biological resources in the project area using Google Earth imagery, the Colorado Natural Heritage Program (CNHP) online lists of threatened and endangered species, and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) System (CNHP 1997+; USFWS, 2018). Following the initial desktop review, Pinyon conducted two site visits to assess the project area for biological resources.

Pinyon first visited the site on August 5<sup>th</sup>, 2016. The project area was subsequently modified to include the Boulder Creek Path, the parking area directly north of the Boulder Creek Path, a mowed picnic area, and more of the riparian area surrounding the proposed bridge. Pinyon revisited the site on March 6<sup>th</sup>, 2018, to assess the modified project area for biological resources. Design progressed, and the limits of disturbance increased to account for construction feasibility and therefore the project area was expanded a third time to include a small area to the northeast and southeast. Pinyon revisited the site on October 16, 2018, to assess the most recent project area for biological resources. Photos and field notes were used to document the general habitat conditions.

The following conditions were noted during the site visits:

- Dominant tree and shrub species
- Habitat suitability for federally listed species, state listed species, and state species of special concern
- Evidence of migratory birds and other wildlife, including raptor nests within 0.5 mile of the project area

- Noxious weeds
- Waters of the United States (WUS), including wetlands (jurisdictional and non-jurisdictional)
- Senate Bill (SB) 40 resources (i.e., riparian vegetation)

Pinyon used a Trimble Geo XH-6000 global positioning system unit to document locations of noxious weeds and SB 40 resources, and to delineate WUS. Pinyon delineated WUS using methods and technical guidance outlined in the United States Army Corps of Engineers (USACE) Wetland Delineation Manual and the USACE Regional Supplement to the Western Mountains, Valleys, and Coast Region (Version 2.0) (Environmental Laboratory, 1987; USACE, 2010).

## Results

### *General Habitat and Vegetation*

Due to the high pedestrian and bicycle traffic in the area, previous disturbance events, and the number and amount of exotic vegetative species in the project area, the habitat and vegetation is degraded and, in general, provides low quality wildlife habitat. There is also evidence of mowing activities in the project area. The only evidence of wildlife noted during the site visits included deer pellets and rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*) in Boulder Creek.

The primary habitat feature within the project area is a riparian corridor along Boulder Creek (Figure 2). The riparian corridor north of Boulder Creek is surrounded by mowed areas and parking lots, and to the south of Boulder Creek is bounded by a steep hillside. Native, horticultural, and weedy upland shrubs and trees are located within the project area along the steep hillside in the southern portion of the project.

The tree canopy in the riparian corridor along Boulder Creek is dominated by crack willow (*Salix fragilis*), ash (*Fraxinus sp.*), and box elder (*Negundo acroides*), with interspersed plains cottonwoods (*Populus deltoides*). Crack willow and ash are both introduced species, with crack willow also being considered a nuisance species. Box elder and plains cottonwood are native to the Front Range area. Some of the trees in the riparian area are mature and may provide small pockets of quality habitat for wildlife species. Other tree species growing in the project area and the vicinity include: Siberian elm (*Ulmus pumila*), narrowleaf cottonwood (*Populus angustifolia*), peachleaf willow (*Salix amygdaloides*), Kentucky coffeetree (*Gymnocladus dioicus*), silver maple (*Acer saccharinum*), Norway maple (*Acer platanoides*), hackberry tree (*Celtis occidentalis*), honeylocust (*Gleditsia triacanthos*), black walnut (*Juglans nigra*), and catalpa (*Catalpa sp.*).

The understory on the north side of Boulder Creek is open with few shrubs. The understory on the south side of Boulder Creek is denser than on the north side, but is still relatively open. The native coyote willow (*Salix exigua*), although present, is not abundant and does not form dense thickets along the creek. The most common shrub in the project area is the exotic shrub common buckthorn (*Rhamnus cathartica*), which forms thickets on the steep hillside in the southern portion of the project area. Other shrub species in the project area and the vicinity include: creeping mahonia (*Mahonia repens*), chokecherry (*Prunus virginiana*), Woods' rose (*Rosa woodsia*), wayfaringtree (*Viburnum lantana*), lilac (*Syringa reticulata*), netleaf hackberry (*Celtis reticulata*), snowberry (*Symphoricarpos occidentalis*), and privet (*Ligustrum vulgare*).

### *Federally Listed Species*

Based on a review of the USFWS online IPaC System, there are federally listed species with the potential to occur in, or be impacted by, projects near the area (USFWS, 2018). Some federally listed species occur downstream of the project area and could be impacted by projects that would result in water depletions to the South Platte River or its tributaries. These include the interior least tern (*Sterna antillarum*), pallid sturgeon

(*Scaphirhynchus albus*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), and western prairie fringed orchid (*Platanthera praeclara*). However, because the project will not result in water depletions, the project will have **no effect** on these species.

Pinyon conducted a habitat evaluation for the remaining species. Due to lack of suitable habitat within or near the project area, the project will have **no effect** on the Canada lynx (*Lynx canadensis*), Mexican spotted owl (*Strix occidentalis*), or greenback cutthroat trout (*Oncorhynchus clarkii stomias*). Although no suitable and/or critical habitat exists within the project area for Preble's meadow jumping mouse (*Zapus hudsonius preblei*; Preble's mouse), the mouse could be washed down from known locations upstream or could use the project area as a travelling corridor. Therefore, there is a potential that the project **may affect, but is not likely to adversely affect** the Preble's mouse.

Two federally listed plant species have the potential to occur in, or be impacted by, projects near the area. The Colorado butterfly plant has been documented in Boulder County in the past although is now considered historical and possibly extirpated (CNHP, 1997+). The Ute ladies'-tresses orchid is known to occur within Boulder County (CNHP, 1997+). Critical habitat has not been designated for either plant species. While both plant species have the potential to occur in Boulder County, the lack of wetlands, high human activity levels along the streambank, and degraded vegetation within the project area are not suitable for either species. Further, neither the Colorado butterfly plant nor the Ute ladies'-tresses orchid were noted during the surveys. At the time of the August 5<sup>th</sup>, 2016 survey, a reference population of each species was known to be in full bloom (Photos 6 and 7 in Photographic Log). Therefore, project-related activities will have **no effect** on Colorado butterfly plant and Ute ladies'-tresses orchid.

Pinyon is documenting the above effects determinations with greater detail in a concurrence request letter to USFWS. Because there is potential for the project to impact a threatened species, concurrence from the USFWS is required before construction activities can proceed.

#### *State Listed Species and State Species of Special Concern*

Based on a review of the Colorado Parks and Wildlife (CPW) species activity mapping data and CNHP tracking list, there are state listed species and state species of special concern with the potential to be impacted by work occurring in the Boulder, Colorado 7.5-Minute Quadrangle (CPW, 2018; CPW, 2011+; CNHP, 2018; USGS, 1966). These species are American peregrine falcon (*Falco peregrinus anatum*; State Species of Special Concern [SC]), common garter snake (*Thamnophis sirtalis*; SC), Bald Eagle (*Haliaeetus leucocephalus*; SC), Canada lynx (State Endangered [SE]), northern leopard frog (*Rana pipiens*; SC), northern redbelly dace (*Phoxinus eos*; SE), black-tailed prairie dog (*Cynomys ludovicianus*; SC), Preble's mouse (State Threatened [ST]), river otter (*Lontra canadensis*; ST), Townsend's big-eared bat (*Corynorhinus townsendii pallescens*; SC), and wolverine (*Gulo gulo*; SE).

Due to lack of suitable habitat within or near the project area, American Peregrine Falcon, black-tailed prairie dog, common garter snake, Canada lynx, northern leopard frog, northern redbelly dace, river otter, Townsend's big-eared bat, and wolverine are not expected to occur in the project area. However, Bald Eagle and Preble's mouse have the potential to occur in the project area and to be affected by project-related activities.

The Preble's mouse is also a federally listed species, and is therefore discussed in the *Federally Listed Species* section of this memo. The Bald Eagle is a state species of special concern and is also protected under the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA). Nesting or roosting sites for Bald Eagles are mapped 5.5 miles northeast of the study area, and winter range is mapped 3.1 miles east of the study area (CPW, 2011+). Bald Eagles may utilize large trees near the project area for perching as well as Boulder Creek for foraging. However, because Bald Eagles do not regularly nest nor roost within the project

area, and because the project area footprint is relatively small compared with the area traveled by these wide-ranging species, any potential impacts are expected to be minor and will be mitigated by following MBTA nest survey guidelines, as outlined in Revision of Section 240–Protection of Migratory Birds.

#### *Migratory Birds*

The MBTA protects migratory birds, their active nests, and their eggs (except for pigeons, starlings, and some other non-native birds). In Colorado, most nesting and rearing activities occur between April 1 and August 31, but raptors may nest as early as February 15. These dates are guidelines and nesting birds are protected at all times.

Trees, shrubs, and man-made structures in the project area may provide numerous potential nest sites for migratory birds. In addition, large deciduous trees around the project area may provide nest sites for raptors habituated to human presence. Two potential raptor nests were noted during the March 6<sup>th</sup> site visit within 0.5 mile of the project area (Figure 3; Photos 8 and 9 in Photographic Log). While no raptors were noted near the two potential raptor nests, the survey was conducted early in the nesting season. Therefore, there is potential that the nests will be used by raptors during the nesting season.

#### *Noxious Weeds*

Weeds present within the project area are typical of Colorado Front Range riparian and developed areas. The CDA classifies the plant species it identifies as noxious weeds into three categories: List A, List B, and List C (CDA, 2017). List A species are designated by the Commissioner of the CDA for eradication. List B species are those species that are managed to stop continued spread. List C species are weed species that are not required to be managed by local jurisdictions, but are monitored to provide additional education and research.

The noxious weeds observed in the project area include: Canada thistle (*Cirsium arvense*, List B), chicory (*Cichorium intybus*, List C), common burdock (*Arctium minus*, List C), common mullein (*Verbascum thapsus*, List C), and poison hemlock (*Conium maculatum*, List C). The most common noxious weed in the project area was chicory, which was present in medium densities along the south bank of Boulder Creek and north of the Boulder Creek Path in the western portion of the project area.

#### *Waters of the United States*

Section 404 of the Clean Water Act regulates WUS, which include open waters and wetlands. Impacts to these features require permitting through the USACE.

Boulder Creek contains open water and is assumed to qualify as WUS under the jurisdiction of the USACE (Figure 2). Within the project area, the creek consists of an approximately 13-foot-wide channel with sand- to boulder-sized substrate, and flows from west to east. The banks of Boulder Creek are heavily utilized by the public, and are generally devoid of vegetation. No wetlands were noted in the project area, and no other creeks or streams flow through the area.

#### *Colorado Senate Bill 40*

Colorado SB 40 requires any agency of the state to obtain wildlife certification from the CPW when the agency plans construction in “...any stream or its bank or tributaries...” Although SB 40 emphasizes the protection of fishing waters, it acknowledges the need to protect and preserve all fish and wildlife resources associated with streams in Colorado. CDOT and CPW have a Memorandum of Agreement to clarify when SB 40 certification is required and to describe the procedures to be followed by CDOT in securing this certification (CPW and CDOT, 2013).

Based on the CDOT/CPW guidelines, Boulder Creek and the surrounding riparian area fall under the jurisdiction of SB 40. Trees and shrubs that constitute SB 40 vegetation were mapped within the project area (Figure 2). A total of 1,412 SB 40 trunk/stems with a diameter at breast height (DBH) of two inches or greater were noted. The average DBH for all 1,412 SB 40 trunks/stems was seven inches. Crack willow, ash, and plains cottonwood were the dominant SB 40 tree species, followed by boxelder, common hackberry, and walnut. A total of 0.46 acre (20,240 square feet) of SB 40 shrubs or saplings were noted in the project area. Common buckthorn, ash, and narrowleaf cottonwood were the dominant SB 40 shrub/sapling species, followed by Woods' rose and privet.

### Conclusions and Recommendations

Pinyon visited the 19<sup>th</sup> Street Pedestrian Bridge project area to assess biological resources. Based on the habitat and resources present, Pinyon recommends the following:

- Project-related activities **may affect, but are not likely to adversely affect** Preble's mouse. Pinyon will document this determination in a request for concurrence letter to USFWS. Because there is potential for the project to impact threatened and endangered species, concurrence from the USFWS is required before construction activities can proceed.
- The nesting season for migratory birds generally occurs from April 1 – August 31, although raptors may nest as early as February. If construction activities occur during the nesting season, Pinyon recommends that the contractor follows MBTA nest survey guidelines during the nesting season, which are outlined in Revision of Section 240–Protection of Migratory Birds.
- During construction, the project should minimize the spread of noxious weeds. Pinyon recommends that the project plans include Revision of Section 217–Herbicide Treatment. This specification will also be provided to the engineer separately for inclusion in the project for cleaning equipment and other Best Management Practices specific to noxious weed management.
- Based on the scope of the project and the identified potential WUS, it is anticipated that impacts to Boulder Creek would be covered under a USACE Nationwide Permit. Only the USACE has the authority to make final determinations regarding jurisdiction, permitting, and mitigation. Once project designs are finalized, Pinyon will request the appropriate authorization from USACE under Section 404 of the Clean Water Act.
- Based on the CDOT/CPW guidelines, Boulder Creek and the surrounding riparian area fall under the jurisdiction of SB 40. Because the project includes a new stream crossing and has the potential to impact federally threatened or endangered species, a Formal SB 40 Wildlife Certification from CPW is required before construction activities can proceed. Once impacts to SB 40 resources are quantified, Pinyon will request a Formal SB 40 Wildlife Certification from CPW on behalf of CDOT.

### Limitations

This memo was prepared by Pinyon for Loris, CU Boulder, and CDOT Region 4 and can be used for other agency consultations if necessary. The conclusions and recommendations offered in this report are based on the data obtained from a limited number of samples, within a prescribed study area as described in the text. Soil, hydrologic, vegetation, biological, and ecological conditions typically vary, even over short distances, by season, elevation, and meteorological conditions. Thus, the nature and extent of variations outside this biological investigation may not become evident except through further investigation. It is possible that ecological conditions may change from those observed, particularly over time. Ecological analysis has been performed for specific conditions during investigation, as described in the text. This study makes no attempt

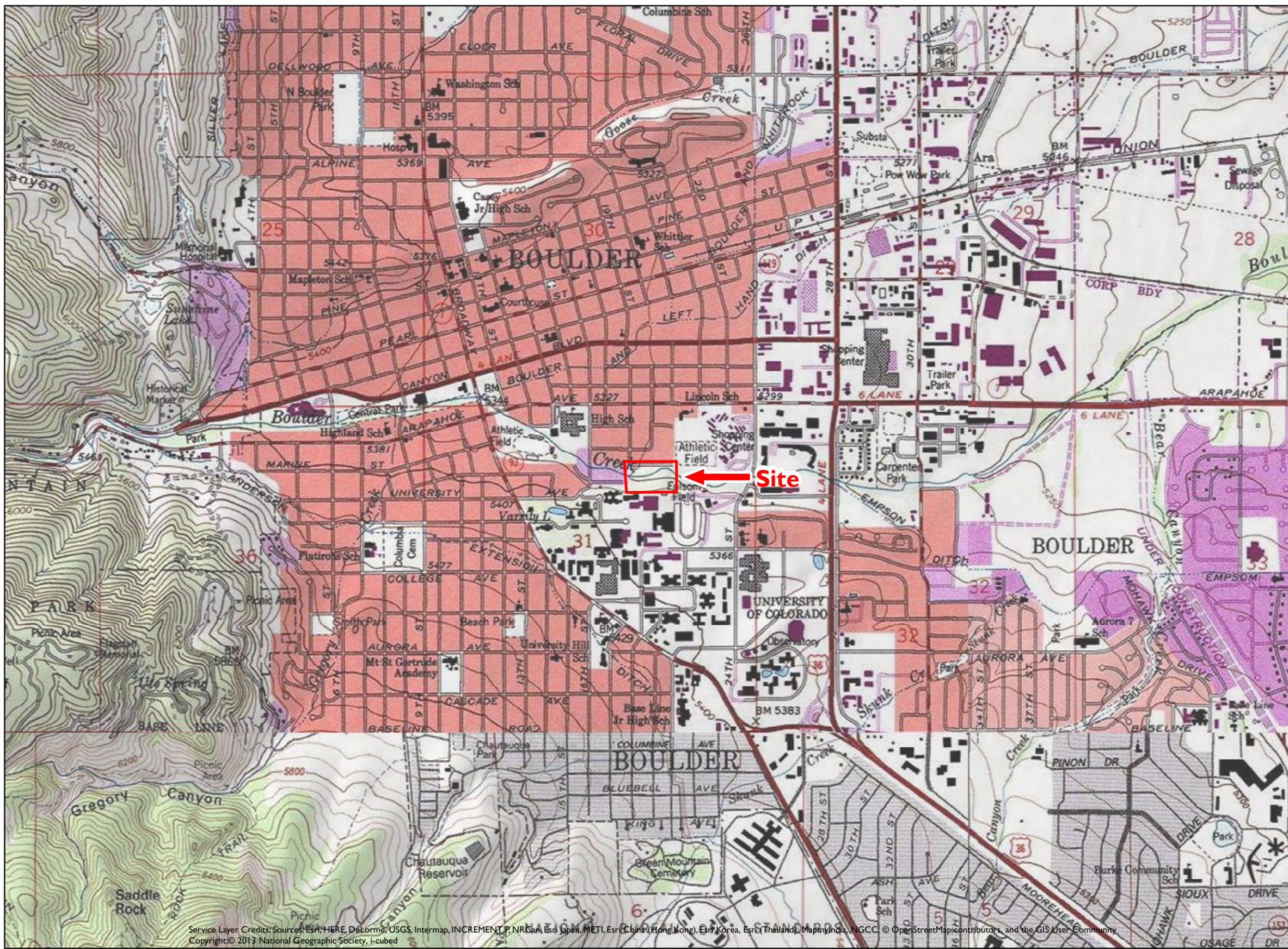
to assess ecological/biological conditions not searched for as described in the text. Conclusions stated herein refer only to the specific site at the time of the investigation.

### **Attachments**

Figure 1 – Project Location  
Figure 2 – Biological Resources  
Figure 3 – Potential Raptor Nests  
Photographic Log

### **References**

- CDA, 2017. "Colorado Noxious Weed List", <https://www.colorado.gov/pacific/agconservation/noxious-weed-species>. List effective March 31, 2017.
- CNHP, 2018. "CNHP Conservation Status Handbook (Tracking Lists)", <https://cnhp.colostate.edu/ourdata/trackinglist/>. Accessed in October 2018.
- CNHP, 1997+. "Colorado Rare Plant Guide", [www.cnhp.colostate.edu](http://www.cnhp.colostate.edu). Latest update: August 24, 2017.
- CPW, 2018. "Threatened & Endangered List," Colorado Parks and Wildlife. Available at: <http://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx>. Accessed in April 2018.
- CPW, 2011+. "CPW All Species Activity Mapping Data; last modified October 26, 2018", Colorado Parks and Wildlife, Species Activity Mapping, <http://www.arcgis.com/home/item.html?id=190573c5aba643a0bc058e6f7f0510b7>. Accessed April 2018.
- CPW and CDOT, 2013. "Guidelines for Senate Bill 40 Wildlife Certification," Developed and Agreed Upon By the Colorado Parks and Wildlife and the Colorado Department of Transportation. April 1, 2013.
- CPW, 2008. "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors," Colorado Parks and Wildlife, Revised February 2008.
- Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- USACE, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USFWS, 2018. "IPaC- Information for Planning and Consultation System," United States Fish and Wildlife Service. Available at: <http://ecos.fws.gov/ipac/>. Accessed in October 2018.
- USGS, 1966. "7.5 Minute Topographic Map, Boulder, Colorado," United States Geological Survey, Revised 1979.



**Legend**

Project Area



0 1,000 2,000 Feet

USGS 7.5' Topographic Map  
Boulder, Colorado 1966 (Revised 1979)



**PROJECT LOCATION**  
19th Street Pedestrian Bridge  
University of Colorado Boulder  
Boulder, Colorado

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community  
Copyright: © 2013 National Geographic Society, i-cubed

Site Location: Section 31, Township 1N, Range 70W, 6th Principal Meridian

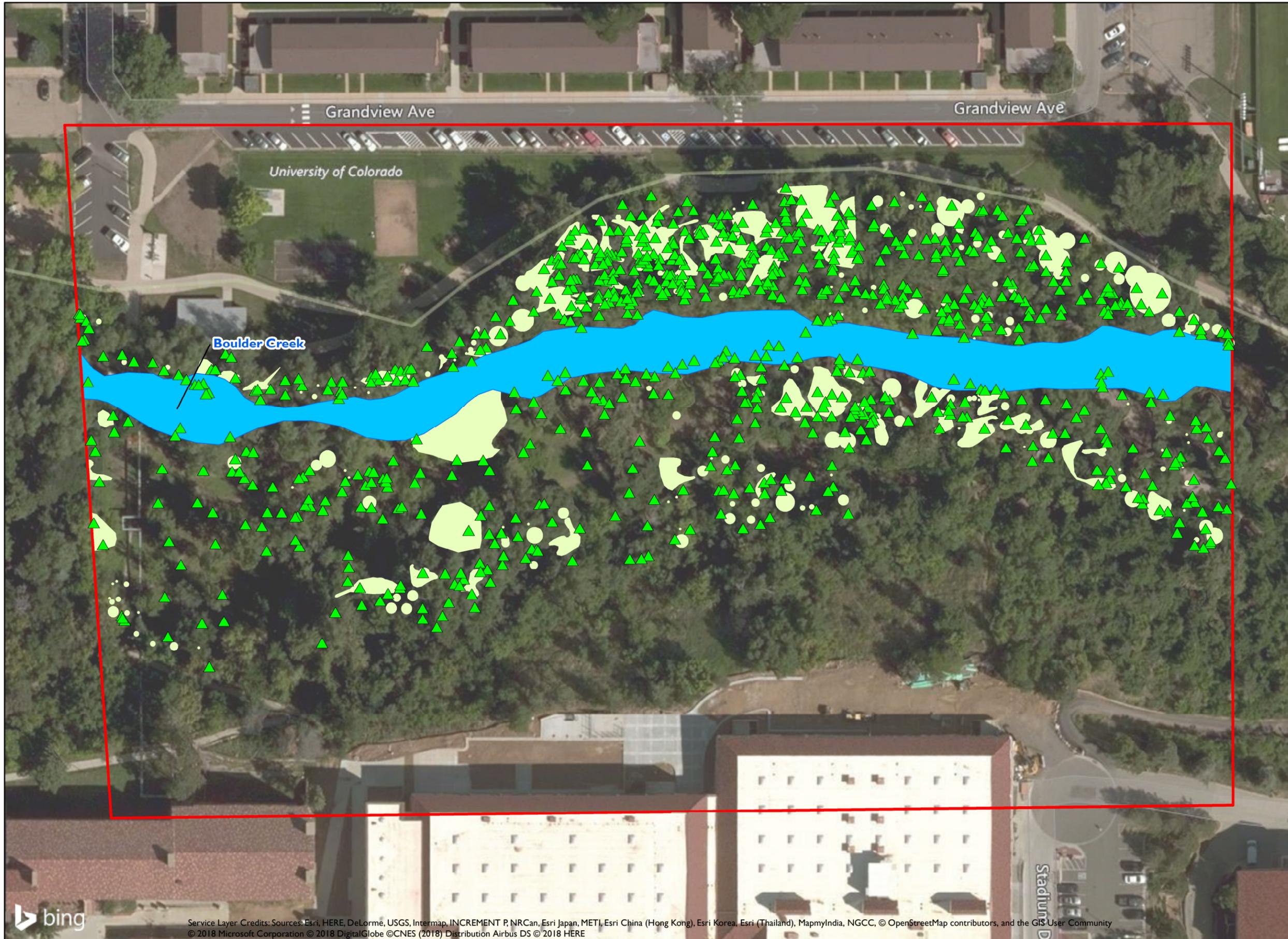
Pinyon Project Number: I/18-1195-01.8300

Drawn By: PJW

Figure: 1

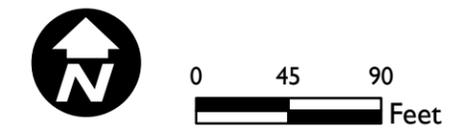
Reviewed By: BCA

Date: 10/19/2018



**Legend**

-  Project Area
-  Open Waters
-  Senate Bill 40 Trees
-  Senate Bill 40 Shrubs



**BIOLOGICAL RESOURCES**

*19th Street Pedestrian Bridge  
University of Colorado Boulder  
Boulder, Colorado*

bing  
Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community  
© 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS © 2018 HERE

Site Location: Section 31, Township 1N, Range 70W, 6th Principal Meridian

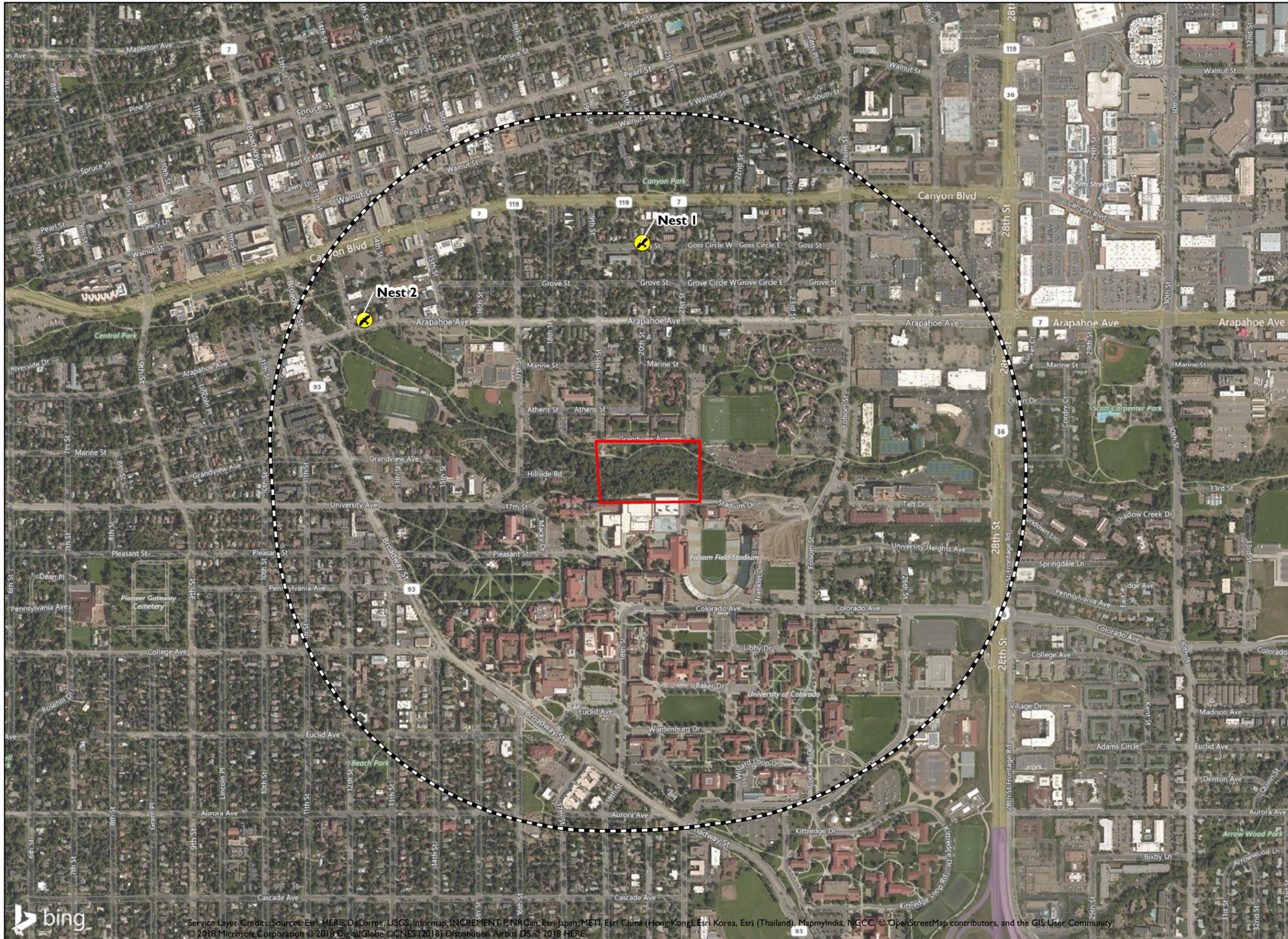
Pinyon Project Number: I/18-1195-01.8300

Drawn By: PJW

Figure: 2

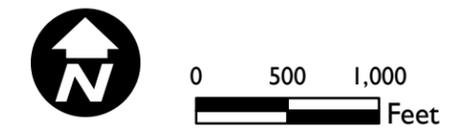
Reviewed By: BCA

Date: 10/19/2018



### Legend

-  Project Area
-  Half Mile Buffer of Project Area
-  Potential Raptor Nests



**Pinyon**  
 Environmental, Inc.

**POTENTIAL RAPTOR NESTS**  
 19th Street Pedestrian Bridge  
 University of Colorado Boulder  
 Boulder, Colorado

Site Location: Section 31, Township 1N, Range 70W, 6th Principal Meridian

Pinyon Project Number: I/18-1195-01.8300

Drawn By: PJW	Figure: 3
Reviewed By: BCA	Date: 10/19/2018

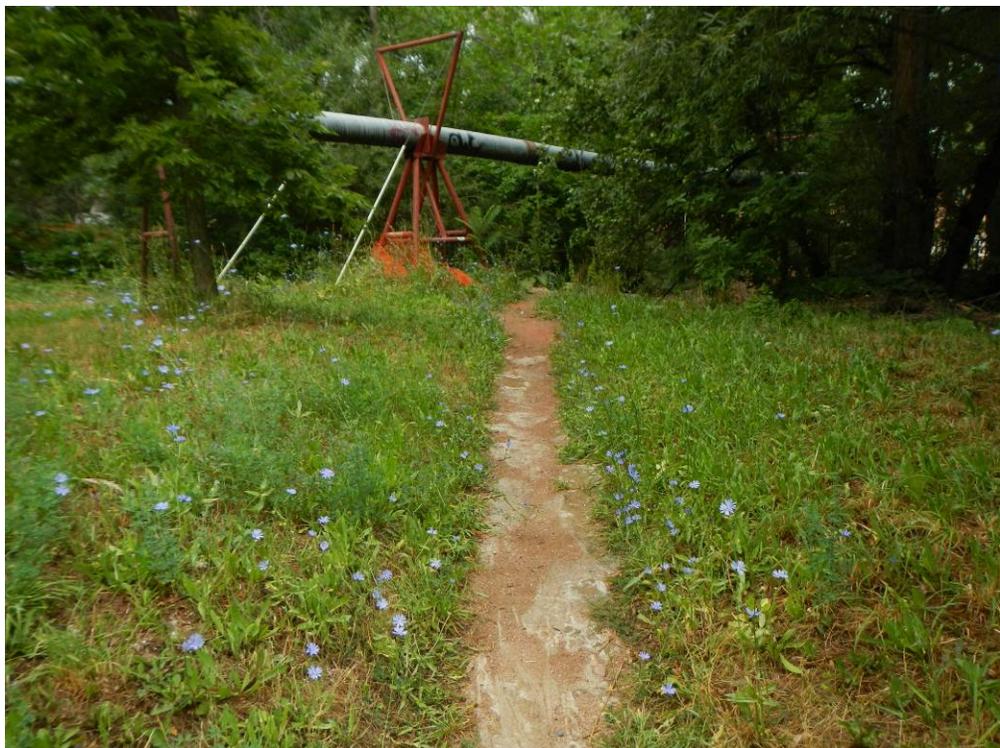
Document Path: Z:\PROJECTS\2018\118119501 19th Street Pedestrian Bridge CUI\Figures\ArcMap\MXD\Bio\2018-10 Study Area\BIO03\_RaptorNests.mxd

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community © 2018 Microsoft Corporation © 2018 DigitalGlobe © CNES (2018), Distribution Airbus DS © 2018 HERE

Photo 1.  
19<sup>th</sup> Street  
Bridge, south of  
Boulder Creek.  
Facing northeast.



Photo 2.  
19<sup>th</sup> Street  
Bridge area,  
south of Boulder  
Creek. Facing  
northwest  
toward Boulder  
Creek.



---

**19<sup>th</sup> Street Pedestrian Bridge Project**

Photographic Log

Photos 1 – 7 taken in August 2016; Photos 8 and 9 taken in March 2018

Photo 3.  
Area southeast  
of 19<sup>th</sup> Street  
Bridge, south of  
Boulder Creek.  
Facing east.  
Social trail and  
memorial bench  
in view.



Photo 4.  
Area southeast  
of 19<sup>th</sup> Street  
Bridge, south of  
Boulder Creek.  
Facing  
southwest. Area  
of open water  
below steep hill.



---

**19<sup>th</sup> Street Pedestrian Bridge Project**

Photographic Log

Photos 1 – 7 taken in August 2016; Photos 8 and 9 taken in March 2018

Photo 5.  
Proposed  
crossing east of  
19<sup>th</sup> Street  
Bridge, south of  
Boulder Creek.  
Facing northeast  
along Boulder  
Creek.



Photo 6.  
Reference  
population of  
Colorado  
butterfly plant  
blooming.  
Photo taken  
August 4, 2016.



---

**19<sup>th</sup> Street Pedestrian Bridge Project**

Photographic Log

Photos 1 – 7 taken in August 2016; Photos 8 and 9 taken in March 2018

Photo 7.  
Reference  
population of  
Ute Ladies'  
Tresses orchid  
blooming. Photo  
taken August 4,  
2016.



Photo 8.  
Potential raptor  
nest (Nest I in  
Figure 3).



Photo 9.  
Potential raptor  
nest (Nest 2 in  
Figure 3).

