

March 23, 2020

To: Jordan Swisher, Brue Baukol Capital Partners (Brue Baukol)
From: Heidi Gerstung and Julia Snieder, ERO Resources Corporation (ERO)
RE: 2020 Initial Raptor Nest Survey

Brue Baukol is planning the proposed Redtail Ridge development in Boulder and Broomfield Counties, Colorado (Figure 1; project area). As part of planning for the project, Brue Baukol requested that ERO complete an initial survey for raptor nests within ½ mile of the proposed development (survey area; Figure 2). ERO conducted the initial raptor nest survey on March 3, 2020 (2020 survey). During the 2020 survey, ERO identified large stick nests and other suitable raptor nest sites. The nests found during the 2020 survey are shown on Figure 2 and are described in more detail below.

Raptor Nests

Background

The Migratory Bird Treaty Act (MBTA) protects raptors and other migratory birds. Unless permitted by regulations, the MBTA provides that “it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not.” In Colorado all birds except for the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock dove (pigeon; *Columba livia*) are protected under the MBTA. A Nest Depredation Permit, issued by the U.S. Fish and Wildlife Service, is needed to remove, disturb, or destroy an occupied nest. Because raptors may be sensitive to human disturbances near their nests, resulting in abandonment of their eggs or fledglings, Colorado Parks and Wildlife (CPW) has developed recommended buffer zones and seasonal restrictions to avoid causing raptors to abandon their nests (Colorado Division of Wildlife [CDOW] 2008). Additionally, the Bald and Golden Eagle Protection Act (BGEPA) prohibits the take of any eagle nest, whether active or inactive. However, after several years of inactivity, nests that are not maintained by eagles may eventually disintegrate into a pile of sticks and debris that would not be protected under the BGEPA.

The 2020 survey area included the project area plus a ½-mile buffer. Before the 2020 survey, ERO reviewed the CPW raptor database and previous raptor surveys to determine known locations of raptor nests near the project area. The 2020 survey was conducted in early

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Hotchkiss
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

Idaho
4001 East Main Street
Emmett, ID 83617
208.365.7684

spring before the trees had leafed out to make it easier to locate and map existing nests, although some nests were inactive at that time.

Survey Results

ERO recorded the location of each nest with a global positioning system (GPS) unit or marked the location on an aerial photograph and noted the raptor species (if known) and any other pertinent information. Because access permission was not available for all properties, some of the nests within the buffer were not accessible, and ERO recorded these nest locations using binoculars to survey trees from publicly accessible areas and drawing on aerial photographs.

During the 2020 survey, seven raptor nests were observed within the survey area (Figure 2) (Photos 1 through 6). Based on data collected during the 2020 survey, three nests were identified as active – two great-horned owl occupied nests and one red-tailed hawk nest. The remaining nests observed were inactive during the 2020 survey, and it is currently unknown if they will become active and which species may use them during the 2020 breeding season. For the inactive nests, a default buffer of $\frac{1}{8}$ mile is shown as this encompasses the buffer zones of most raptors that likely occur in the project area.

During the 2020 survey, multiple red-tailed hawks (*Buteo jamaicensis*), horned larks (*Eremophila alpestris*), black-billed magpies (*Pica hudsonia*), mountain bluebirds (*Sialia currucoides*), and an American kestrel (*Falco sparverius*) were observed within the survey area. A red-tailed hawk was perched near the nest on the west side of the project area (Photo 1) but did not occupy the nest or show any signs of nesting. A great horned owl (*Bubo virginianus*) was perched in the nest in the northern portion of the project area (Photo 5). The nest on the eastern side of the project area (Photo 4) was not active but recent signs of great horned owl use were observed underneath in the form of feathers and owl pellets. While the nest was not active during the 2020 survey, it is occupied and may become active during the breeding season. One red-tailed hawk was in the nest on the east side of Midway Boulevard (Photo 6) while a second hawk was perched nearby.

The results of the 2020 survey are shown in Table 1 and on Figure 2. Figure 2 also shows the buffer zones for raptor species as recommended by CPW (CDOW 2008).

Table 1. Raptor nests found in the survey area during the 2020 survey.

Nest Species	Notes
Red-tailed hawk	One active red-tailed hawk nest was observed within ½ mile of the project area (Photo 6).
Great-horned owl	One active great-horned owl nest and one occupied nest were observed within the project area (Photo 4 and Photo 5).
Unknown	Four raptor nests that were inactive at the time of the 2020 survey were observed within the project area (Photos 1 through 3).

Recommendations

The active nesting season and buffer zones for each species that is known to have occurred, or has the potential to occur, near the project area are shown in Table 2.

Table 2. Nest buffer zones and active breeding season for raptors occurring or potentially occurring in the project area.

Species	Buffer Zones	Active Breeding Season
Bald eagle	½ mile	October 15 to July 31
Red-tailed hawk	½ mile	February 15 to July 15
Swainson's hawk	¼ mile	April 1 to July 15
Great horned owl	No official buffer; 300 to 1,200 feet is usually sufficient to prevent disturbance depending on existing activity. Consultation with CPW may be necessary for project-specific recommended buffers.	February 1 to July 31*

Source: CDOW 2008.

*Kingery 1998

The recommended actions for each nest found within ½ mile of the project area during the 2020 survey are shown in Table 3.

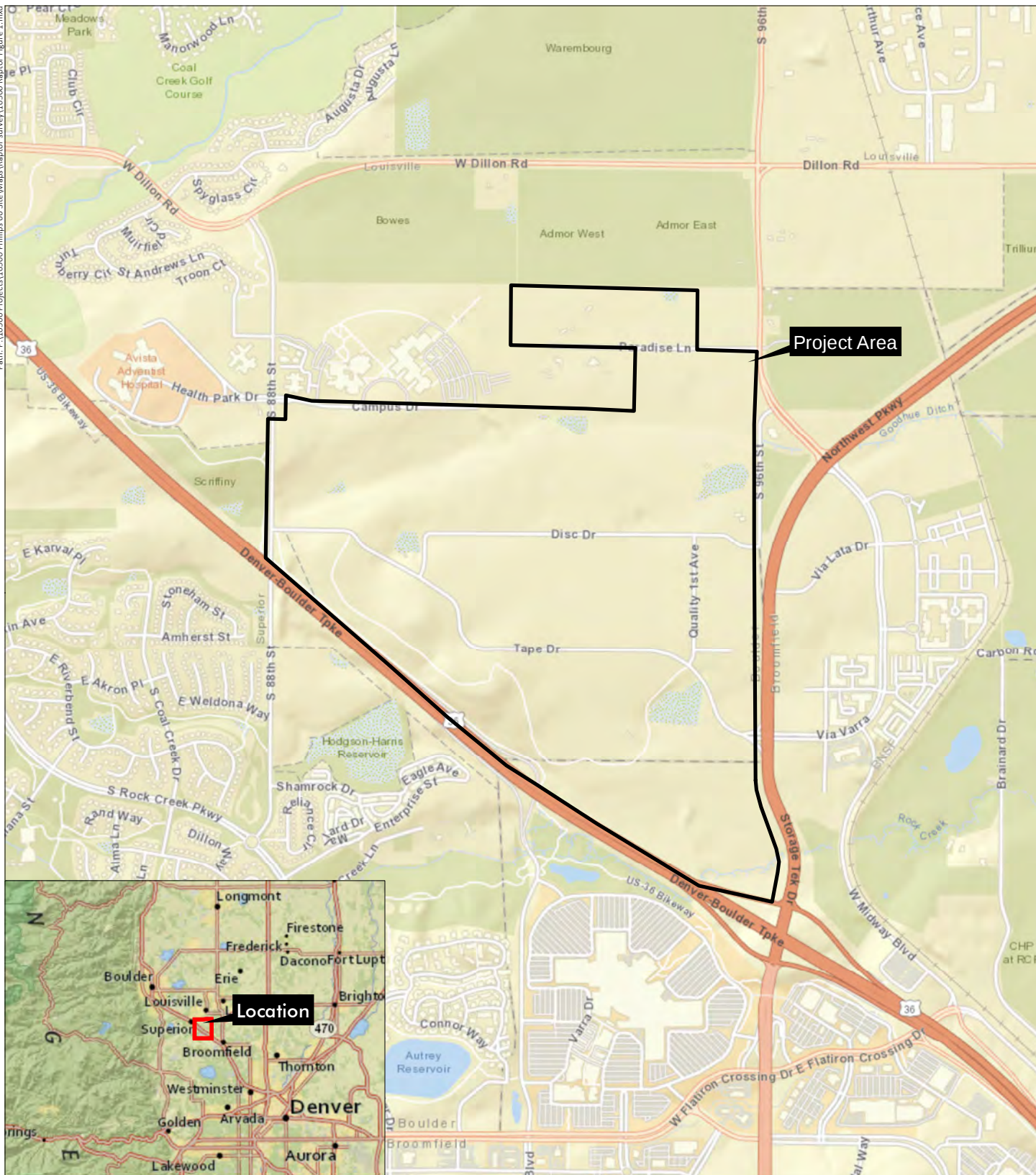
Table 3. Recommended actions regarding raptor nests found in the project area during the 2020 survey.

Nest Species	Notes	Further Actions Needed?
Red-tailed hawk	One raptor nest observed east of the project area along Midway Drive	No further action is recommended for this nest since it is not located within 1/3 mile of proposed ground disturbance and the nest is separated from the project area by several busy roads.
Great horned owl	Two raptor nests within the project area occupied by a great horned owl	No official buffer, but 300 to 1200 feet is usually sufficient to prevent disturbance. Prior to any construction activities, consult with CPW on protective measures or monitoring that may be necessary.
Unknown	Inactive nests and trees suitable for nesting raptors located within the project area	Remove trees within the project area that are designated for removal prior to the active breeding season which starts February 15th. Within one week prior to vegetation removal, conduct a nest survey to determine if any migratory bird nests are active and implement protective measures of active migratory bird nests as necessary.

To avoid any potential impacts on active nests and preclude future nesting, vegetation removal should occur from September through February (i.e., outside of the breeding season) per Colorado Department of Transportation standard specifications. If the construction schedule does not allow vegetation removal outside of the breeding season, ***ERO recommends, at a minimum, a nest survey be conducted within one week prior to construction or vegetation removal*** to determine if any active migratory bird nests would require implementing protective measures. Removal of inactive nests may occur during the nonbreeding season to preclude future nesting and avoid violations of the MBTA. No permit or approval is necessary for removing nests during the nonbreeding season.

References

- Colorado Division of Wildlife (CDOW). 2008. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. February.
- Kingery, H.E. 1998. Colorado Breeding Bird Atlas. Colorado Breeding Bird Atlas Partnership and Colorado Division of Wildlife.
- Attachments: Figures 1 and 2; Photo Log



Redtail Ridge Raptor Survey Memo

Sections 20, 21, and 29, T1S, R69W; 6th PM

UTM NAD 83: Zone 13N; 488402mE, 4421737mN

Longitude 105.135760°W, Latitude 39.945675°N

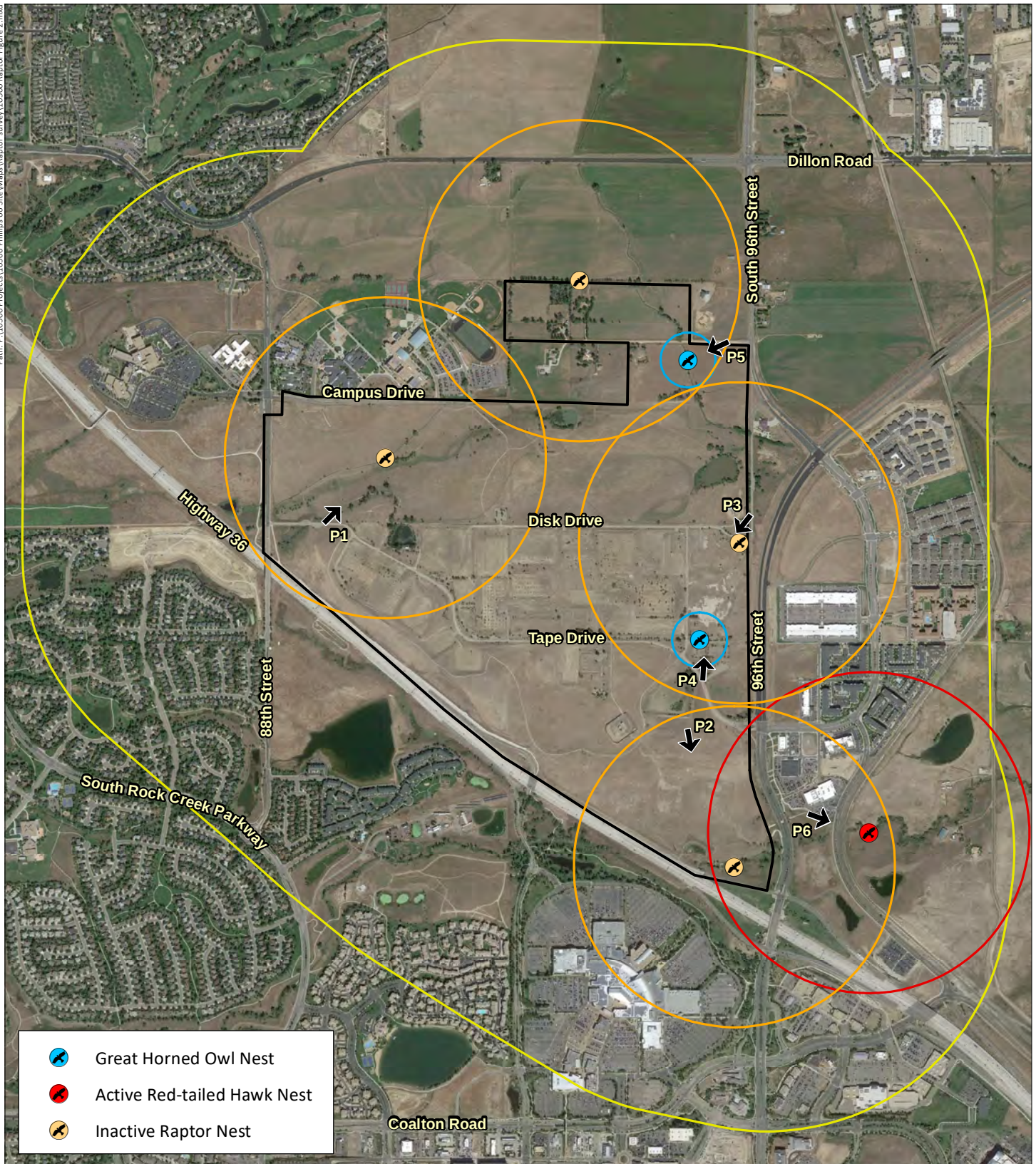
USGS Louisville, CO Quadrangle

Boulder and Broomfield Counties, Colorado

Figure 1
Vicinity Map

Prepared for: Brue Baukol
Capital Partners
File: 10500 Raptor Figure 1.mxd (GS)
March 20, 2020

ERO
ERO Resources Corp.



Redtail Ridge Raptor Survey Memo

- ➔ Photo Point
- Red-tailed Hawk Nest 1/3-Mile Buffer
- Great Horned Owl Nest 300-Foot Buffer
- Raptor Nest 1/3-Mile Buffer

- Project Area Boundary
- Survey Area

0 750 1,500
Feet



Figure 2 Existing Conditions

Image Source: Google Earth®, September 2019

Prepared for: Brue Baukol
File: 10500 Raptor Figure 2.mxd (GS)
March 23, 2020

ERO
ERO Resources Corp.

PHOTO LOG
REDTAIL RIDGE DEVELOPMENT RAPTOR SURVEY
MARCH 3, 2020



Photo 1 - Inactive raptor nest in the northwestern portion of the project area. View is to the northeast.



Photo 2 - Inactive raptor nest in the southeastern portion of the project area. View is to the southeast.

PHOTO LOG
REDTAIL RIDGE DEVELOPMENT RAPTOR SURVEY
MARCH 3, 2020



Photo 3 - Inactive raptor nest near South 96th Street. View is to the southwest.



Photo 4 - Active great horned owl nest northeast of Tape Drive. View is to the north.

PHOTO LOG
REDTAIL RIDGE DEVELOPMENT RAPTOR SURVEY
MARCH 3, 2020



Photo 5 - Active great horned owl nest along Goodhue Ditch south of Paradise Lane in the northeastern portion of the project area. View is to the southwest.



Photo 6 - Active red-tailed hawk nest east of the project area along West Midway Boulevard. View is to the southeast.