STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Lyons Quarry Planning

Snyder, Travis <Travis.Snyder@hdrinc.com> Tue, Aug 17, 2021 at 10:13 AM
To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>
Cc: Kimberly DENNIS <kimberly.dennis@lafargeholcim.com>, "Phillips, Andrew" <andrew.phillips@hdrinc.com>

Good morning Amy,

Attached is the Technical Memorandum from HDR Biologist Andrew Phillips describing the nesting activity at Lyons Quarry. During multiple site visits Andrew observed up to 6 MBTA-protected bird species nesting along the highwall and at the sediment pond for Lyons Quarry. His conclusion was that, In order to avoid disturbance to nesting migratory birds, Project activities should begin after September 1, 2021, and prior to December 1, 2021. Aggregate is making plans to start mobilization, have the site erosion and traffic controls installed in the next week or so, and for excavation to begin following the September 1 start date. Please review and let us know if you have any questions. Thanks,

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Technical Memo

Date: **July 30, 2021**

Project: **Aggregate Industries – LYONS QUARRY RECLAMATION PROJECT**

To: **Amy Eschberger** (Environmental Protection Specialist)
Colorado Division of Reclamation and Mine Safety
1313 Sherman Street, Denver, CO 80203

From: **Travis Snyder**, HDR (Project Manager)
1670 Broadway, Ste 3400, Denver, CO

Subject: **Migratory Bird Pre-Construction Clearance Nesting Survey**

Project Description

Aggregate Industries (Aggregate) is proposing to reclaim and restore the Lyons Quarry which is located about 2 miles southwest of Lyons, Colorado, in Boulder County [Section 25 and 26, Township 3N, Range 72W] (Project) [see **Appendix A-Figure 1 (Project Location) and Figure 2 (Nesting Survey Results)**]. The quarry is currently inactive but in the process of closure and reclamation by following compliance standards set forth in the Colorado Division of Reclamation, Mining and Safety (DRMS) mineral rules and regulations for the extraction of construction materials. Project restoration will meet the slope stability and surrounding topography requirements by excavating, processing, and either backfilling or exporting the overburden material from the site. The dacite highwalls will be stabilized by scaling and using rock bolt anchors to allow for appropriately distanced and protected, public viewing of this unique geologic formation as well as to provide suitable habitat for avian and bat nesting areas. The Project will require blasting and excavation of more than 245,000 cubic yards of material; soil conditioning and revegetation of approximately 40 acres; and installation of stormwater drainage and erosion control infrastructure.

The mining permit for the quarry is still under active status with DRMS. Aggregate has been coordinating reclamation with the current property owner since 2011 and with Boulder County Parks and Open Space (BCPOS). Aggregate intends to initiate Project construction activities (Phase 1 Quarry Area) in the late summer or fall 2021 and conclude before March 2022.

Purpose and Need

Migratory birds are protected by the 1918 Migratory Bird Treaty Act (MBTA) 16 United States Code 703-712. MBTA affords protection to native migratory birds of North America, along with their active nests and eggs. The nesting season for all potential nesting species in the Project area occurs between February 15 and September 1. The prime nesting season for most migratory birds in the Project area is May 1 through September 1. Because Project activities are scheduled to occur during the nesting season, a clearance survey was performed to identify the extent, location, and species of birds nesting in the Project area. The survey results will facilitate a

strategic construction approach in order to minimize the potential for Project effects on nesting raptors and other migratory birds, thereby avoiding violation of the MBTA and/or special conditions of Aggregate's existing mining permit.

Methods

Prior to the nesting survey, a desktop review was conducted of the Project area to identify previously recorded raptor nests or other bird species that could nest in the area. The desktop analysis involved the review of publicly available data such as the eBird online database along with proprietary sources including a Colorado Parks and Wildlife (CPW) database of known raptor nests throughout Colorado. Coordination was also conducted with BCPOS regarding recent survey data of nesting birds in the Project area. Based upon the desktop review, agency coordination, and proposed project disturbance area, a survey area was identified for assessment. The survey area encompassed all potentially suitable nesting habitat that would be impacted during the proposed Project activities (see **Figure A** and **Appendix A-Figure 2**).

A pedestrian survey was conducted within the survey area by one HDR avian biologist on July 2, 2021, and again on July 22, 2021, in search of visual, auditory, or behavioral signs indicative of nesting birds. During the surveys, special emphasis was given to the exposed highwall adjacent to the three open mine quarries. The highwall provides suitable nesting substrate for various bird species and will also incur the majority of the Project disturbances. Trees and shrubs along the South St. Vrain Creek could also support nesting birds and therefore the riparian area was surveyed for nesting activity. Other surveyed areas include shrub dominated uplands and the ponded area adjacent to Quarry 1.

Figure A: Overview of Project Area / Mine Site

Results

The desktop review of the Project area did not identify any previously recorded raptor nesting activity within 1 mile of the Project area. The nearest CPW-recorded raptor nesting activity (a bald eagle nest - *Haliaeetus leucocephalus*) occurs about 1 mile north of the Project area. In addition, the surrounding vicinity of Project area is known to contain nesting sites for peregrine falcons (*Falco peregrinus*), golden eagles (*Aquila chrysaetos*), prairie falcons (*Falco mexicanus*), several owl species, and other birds of prey. A red-tailed hawk (*Buteo jamaicensis*) was incidentally seen soring overhead during the survey on July 2, but no nesting activity was detected for this raptor species within or near the Project area. Additional species that were incidentally observed during the surveys included the turkey vulture (*Cathartes aura*), spotted towhee (*Pipilo maculatus*), Brewer's sparrow (*Spizella breweri*), lark sparrow (*Chondestes grammacus*), house wren (*Troglodytes aedon*), mourning dove (*Zenaida macroura*), and western wood-pewee (*Contopus sordidulus*).

One active American kestrel (*Falco sparverius*) nest was detected within the Project area on the highwall. The kestrel was the only raptor species detected nesting in the Project area. The American kestrel is the smallest and most common falcon species in North America. Kestrels typically have only one brood of young per season, but they will attempt a second brood in response to a nest failure. Young can be dependent upon nest sites for roosting up to about 12 days post-fledge.

The survey also resulted in the detection of five other nesting bird species, including two swallow species, one wren, one swift, and one blackbird species (see **Table 1** below). During the July 2 survey, all five species were detected nesting on or adjacent to the highwall rock face or within the ponded area. Cliff swallows (*Petrochelidon pyrrhonota*) were the most common nesting species detected in the Project area, with several hundred swallow nests detected throughout the quarry highwall. The July 22 survey resulted in notably reduced nesting activity in the Project area. In fact, no nesting activity nor incidental presence of the white-throated swift (*Aeronautes saxatalis*) was detected during the July 22 survey. Rock pigeons (*Columba livia*) were detected nesting on the highwall rock face during both survey events; however, this species is not an MBTA-protected species and is therefore not included within Table 1 or discussed further in this report.

Table 1: MBTA-Protected Bird Species Detected Nesting in the Project Area

Nesting Species	Nesting Site(s)	Fledging Date	Broods / season[1]	Nesting Observations
American kestrel (*Falco sparverius*)	One nest high on the Quarry 1 highwall (40.199823°, -105.300474°)	August 31	1	**One nest detected**. Nest site detected indirectly via behavior of adults. Nesting phenology was not precisely determined but nestlings are very likely present in nest due to the time of year.
Cliff swallow (*Petrochelidon pyrrhonota*)	Rock faces under ledges	August 15	1	**Hundreds of nests detected**. Most common nesting species in Project area. Dense nesting colonies occurred throughout the length of the highwall.

Nesting Species	Nesting Site(s)	Fledging Date	Broods / season[1]	Nesting Observations
Red-winged blackbird (*Agelaius phoeniceus*)	Ponded area and Quarry 1	August 15	1	**Several nests** detected in Quarry 1 and ponded area.
Rock wren (*Salpinctes obsoletus*)	Present in low numbers on quarry faces	August 31	2+	**Several individuals** heard calling. No specific nest sites were detected but pairs are very likely nesting on or near the quarry faces in low numbers.
Violet-green swallow (*Tachycineta thalassina*)	Dacite substrate	August 15	1	**Dozens of nests detected**. Observed nesting pairs routinely catching insects and returning to nests to feed young.
White-throated swift (*Aeronautes saxatalis*)	Upper ledges in vertical rock slits	August 15	1	**Dozens of nests detected**. Observed nesting pairs routinely catching insects and returning to nests to feed young.

1 – Typical number of broods per season assuming successful early season nesting attempts

Summary and Recommendations

The nesting surveys conducted on July 2 and 22, 2021, resulted in the incidental detection of various migratory birds of which 6 species were either directly confirmed or indirectly presumed (rock wren) to be nesting within the Project area due to the presence of suitable habitat. The detected nesting species include the American kestrel, rock wren, two swallow species, and a blackbird species (see **Table 1** above). A red-tailed hawk was detected in the vicinity of the Project area, but no suitable stick nests or other raptor nesting evidence was identified in the Project area.

The results of this survey are valid through the start of the 2022 nesting season which is December 1, 2021, for bald eagles. In order to avoid disturbance to nesting migratory birds, Project activities should begin after September 1, 2021, and prior to December 1, 2021. If Project activities do not begin prior to December 1, then an additional survey could be necessary to clear the Project area for raptor nesting activity. However, establishing ongoing Project activities will discourage raptor species from establishing nests within or near the Project area. The majority of other resident and migratory birds will not begin nesting in the Project area until May 1, 2022.

If nesting activity is detected during construction by Project crews, specific measures could be necessary to avoid disturbing the nesting species. Should nesting birds be detected during Project activities, HDR biologists, BCPOS, and/or the U.S. Fish and Wildlife Service would be consulted to determine the appropriate impact minimization measures. These measures would include, but are not limited to, “no disturbance” buffers for construction around active nests. Nest sites for raptors require relatively large construction avoidance buffers as defined by CPW (see Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors). Most other nesting birds require a 100 to 300 foot construction buffer to avoid directly or indirectly impacting the nesting species. In order to proactively reduce the potential for effects on nesting birds, it is recommended that Project activities establish an ongoing construction presence in the Project area between September 1, 2021, and December 1, 2021, and finish Project activities prior to May 1, 2021.

A

Figures

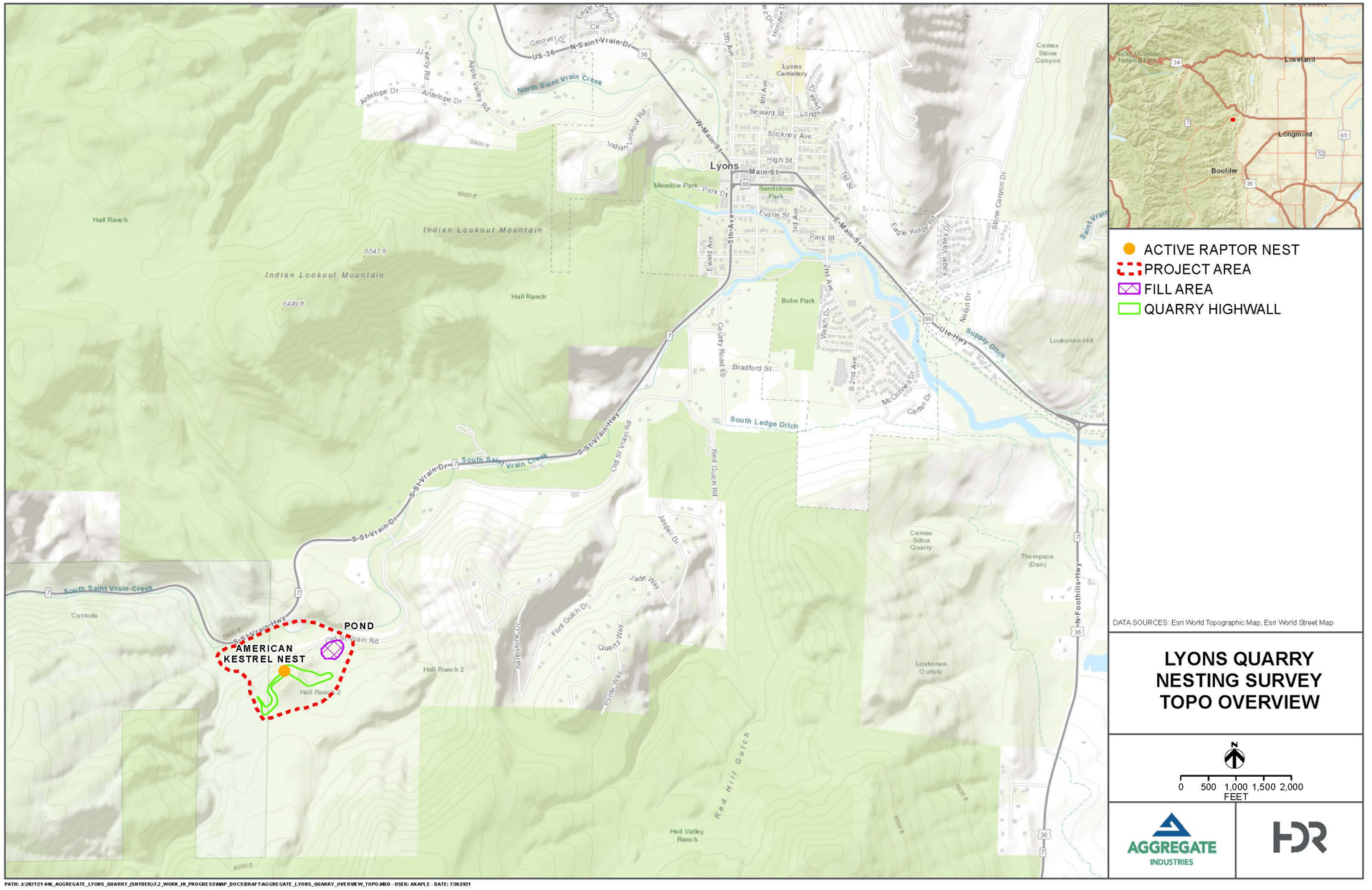

Figure 1. Project Area Location

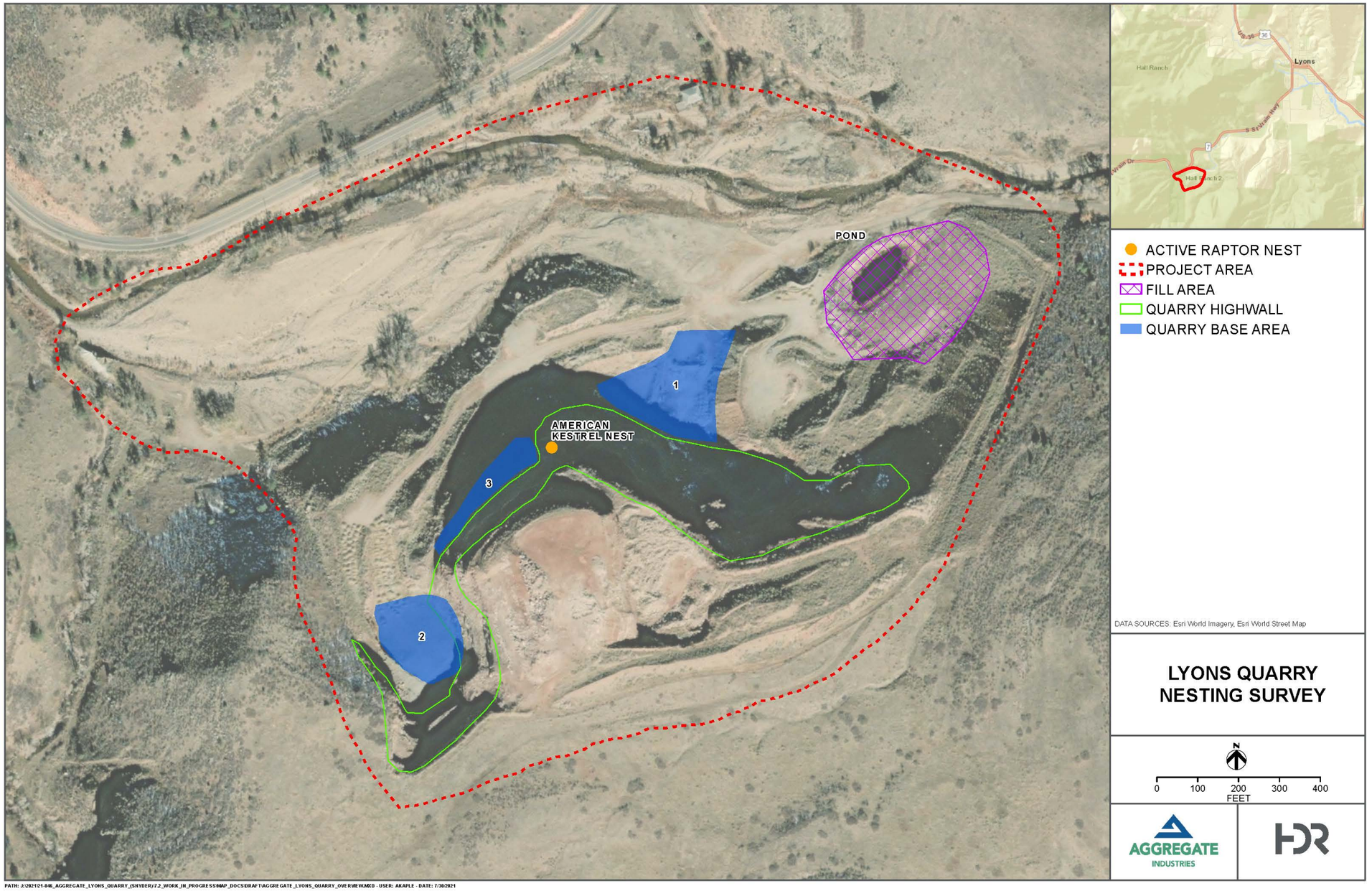

Figure 2. Nesting Survey Results