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September 11, 2015

Ms. Leslie Burnside
Wood Rodgers
5440 Reno Corporate Drive
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Project: Burke Creek Highway 50 Crossing and Realignment Project – Willow flycatcher and northern goshawk surveys

Dear Ms. Burnside,

This letter reports the results of Wildlife Resource Consultants LLC (WRC) protocol surveys for willow flycatchers (*Empidonax traillii*) and northern goshawks (*Accipiter gentilis*) for the Burke Creek Highway 50 Crossing and Realignment Project (hereafter referred to as the Burke Creek project). The Burke Creek project is located at Burke Creek, Douglas County, Nevada. The project is within portions of Sections 22 and 23, Township 13 north, Range 18 east of the U.S. Geological Survey South Lake Tahoe quadrangle.

Proposed Project

The project area includes open space administered by Douglas County and the USFS, and commercial development, with the majority of the project area sloping west to Lake Tahoe. The Nevada Tahoe Conservation District is partnering with USFS, Nevada Department of Transportation (NDOT), Douglas County and the Nevada Division of State Lands to implement the Burke Creek Highway 50 Crossing and Realignment Project (Project). The project area spans from Jennings Pond in Rabe Meadow to the eastern boundary of the Sierra Colina Development in Lake Village. Burke Creek flows through five property ownerships in the project area including the USFS, private (Sierra Colina and 801 Apartments LLC), Douglas County and NDOT. The Project proposes to remove a portion of a parking lot and restore to stream channel and floodplain; improve conveyance capacity at HWY 50; improve stream and riparian habitat; increase stream connectivity to the floodplain; and treat stormwater runoff. The stream restoration, floodplain enhancement and stormwater treatment components of this project will reduce fine-grained sediment transport and reduce nutrient discharge to Lake Tahoe.

The Project will be designed and implemented in two phases. Phase I will install a geomorphically appropriate crossing under HWY 50, remove a portion of the parking lot for restoration of the floodplain and stream channel, spot treat headcuts upstream of HWY 50 and install additional conveyance improvements and stormwater treatment along HWY 50. Phase II will realign Burke Creek directly downstream of HWY 50 on USFS land. These improvements will eliminate the discharge of untreated stormwater to Burke Creek thereby reducing the transport of FSP, P and N to Lake Tahoe. The Project is expected to increase the water quality of Burke Creek.

Following are project-specific improvements:

Burke Creek Upstream of Highway 50

- Decommission approximately 12,000 square feet of commercial parking lot, recently acquired by Douglas County, adjacent to Burke Creek that is currently located within the historic floodplain;
- Abandon 230 feet of Burke Creek from its current location on the hillside levee and reconstruct approximately 250 feet of geomorphically stable channel within its historic floodplain located in the commercial parking to be decommissioned. The channel/floodplain design will include features to ensure protection of adjacent private properties; and
- Utilize revegetation, minor reshaping, and/or rock/log structures to restore relatively short lengths of head cuts, entrenchment and floodplain pinching along 400 feet of Burke Creek upstream of the section to be relocated.

Highway 50

- Install a culvert capable of passing 50 year Burke Creek stream flows (94 cubic feet per second). The new culvert will be approximately 100 feet long, compared to the existing, which is 300 feet long;
- Install storm water conveyance improvements along Highway 50 adjacent to Lake Village and the Professional Building;
- Construct two storm water treatment basins of approximately 900 square feet and 325 square feet respectively, on the west side of Highway 50; and
- Readjust the easement adjacent to Highway 50 to encompass all storm water treatment and conveyance infrastructure.

Burke Creek Downstream of Highway 50

- Abandon and recontour 500 feet of existing unstable channel and replace with approximately 500 feet of new geomorphically stable channel, to tie into the new Highway 50 stream crossing;
- Possibly remove willows and other stream vegetation from the decommissioned channel and replant along the new channel edge; and
- Design features would be incorporated to minimize adverse impacts to other resources during implementation including but not limited to: temporary water quality protection, recreation use and recreation infrastructure, Highway 50 traffic flow during construction, wildlife habitat, spread of invasive plants, and historic resources.

Survey Methodology

Willow Flycatcher

The willow flycatcher surveys adhered to *A Willow Flycatcher Survey Protocol for California* (Bombay et al. 2000). The primary objective of the protocol is to determine the presence or absence of willow flycatchers at a given site during the year in which surveys are completed.

The willow flycatcher survey was performed on private lands located east of State Route 50. United States Forest Service (USFS) lands were to be surveyed by Lake Tahoe Basin Management Unit (LTBMU) biologists.

Locations of survey points were initially developed by overlaying a 30 x 30 m grid on a color aerial photograph of the project area. The protocol calls for points a maximum of 50 meters apart in meadow vegetation and 30 meters apart in tall dense vegetation. The survey area is a combination of the two vegetation types, although suitable nesting habitat primarily consists of tall dense vegetation in a narrow linear strip and some meadow areas with conifers and aspens. The survey points were ground-truthed in the field June 14. Points in locations where the biologist's sight or hearing were reduced, were moved to a better survey location within a foot-paced 10 meter radius of the designated point. Points in any meadow locations were foot-paced to a 50 meter spacing. A total of 12 survey points were used for the Burke Creek project (Figure 1). The survey points were downloaded into a handheld GPS to navigate in the field.

Two surveys are required to document presence or absence. One must be conducted between Survey Period 2 (June 15-25); the other during either Survey Period 1 (June 1-14) or Survey Period 3 (June 26-July 15). For this project, the first survey was conducted June 19 during Survey Period 2. The second survey was performed July 12 during Survey Period 3 (June 26-July 15).

Northern Goshawk

The northern goshawk survey followed the broadcast acoustical survey method in the *Northern Goshawk Inventory and Monitoring Technical Guide* (USDI, Gen. Tech. Report WO-71, July 2006). The purpose of the protocol is to detect goshawks, locate nests, and determine various stages of nesting and reproductive success.

The northern goshawk survey was performed within a 0.5 mile radius of the project area on private lands east and west of State Route 50. United States Forest Service (USFS) lands were to be surveyed by Lake Tahoe Basin Management Unit (LTBMU) biologists.

Locations of call stations were initially developed by placing parallel transects a maximum distance of 250 meters apart on aerial photography and topographic mapping. Call stations were located 200 meters apart and offset on adjacent transects by 100 meters. Stations were only placed in undeveloped, potentially suitable nesting habitat. A total of 26 call stations were mapped in the office. The stations were downloaded into a handheld GPS to navigate in the field. Once in the field, the stations were checked and moved if necessary. One call station was eliminated because it was on posted, fenced private land and permission to pass had not been obtained. Call station 6 was moved in the field due to noise. Final call stations are depicted on Figure 2.

Two surveys are required during the nestling and fledgling stages, including early post-fledging dependency. The first survey was conducted June 14 and the second survey was performed August 8. The adult alarm call was broadcast during the first survey. For the second survey, the wail call and nestling and fledgling food begging calls were also broadcast.

Results

Willow Flycatcher

No willow flycatchers were detected at or between any of the survey points. The meadow portion of the survey area was dry. Bird species detected during the surveys are listed in Table 1.

Northern goshawk

No northern goshawks were detected at or between any of the call stations. No signs of northern goshawk occupancy were found (e.g., stick nests, white-wash, plucking posts, prey remains, pellets, molted feathers). Email correspondence from the LTBMU suggested that goshawk plucking posts were found earlier in the year within 0.5 miles of the easternmost boundary of the project area. The three waypoints provided were checked during both survey sessions. However, no prey remains (i.e., plucked feathers) or other sign was found. Bird species detected during the surveys are listed in Table 1.

It should be noted that hikers, dog-walkers, and bicyclists were present at numerous locations with the call station survey area during both survey sessions. The biologist often had to wait until people were gone before broadcasting the calls.

Table 1. Bird species recorded in the project area during the willow flycatcher and northern goshawk surveys.

| Common Name | Scientific Name | Notes |
|-----------------------|----------------------------------|---|
| American robin | <i>Turdus migratorius</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Black-headed grosbeak | <i>Pheucticus melanocephalus</i> | Observed during willow flycatcher surveys |
| Brewer's blackbird | <i>Euphagus cyanocephalus</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Brown creeper | <i>Certhia americana</i> | Observed during northern goshawk survey |
| Brown-headed cowbird | <i>Molothrus ater</i> | Observed during willow flycatcher surveys |
| California quail | <i>Calipepla californica</i> | Observed during willow flycatcher surveys |
| Common raven | <i>Corvus corax</i> | Observed during both willow flycatcher and northern goshawk surveys |
| European starling | <i>Sturnus vulgaris</i> | Observed during both willow flycatcher and northern goshawk |

| Common Name | Scientific Name | Notes |
|-------------------------|-------------------------------|---|
| | | surveys |
| Eurasian collared dove | <i>Streptopelia decaocto</i> | Observed during northern goshawk survey, close to urban areas |
| Hairy woodpecker | <i>Picoides villosus</i> | Observed during both willow flycatcher and northern goshawk surveys |
| House finch | <i>Carpodacus mexicanus</i> | Observed during northern goshawk survey |
| House wren | <i>Troglodytes aedon</i> | Observed during northern goshawk survey |
| MacGillivray's warbler | <i>Geothlypis tolmiei</i> | Observed during willow flycatcher surveys |
| Mountain chickadee | <i>Poecile gambeli</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Mourning dove | <i>Zenaida macroura</i> | Observed during willow flycatcher surveys |
| Northern flicker | <i>Colaptes auratus</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Orange-crowned warbler | <i>Oreothlypis celata</i> | Observed during willow flycatcher surveys |
| Pygmy nuthatch | <i>Sitta pygmaea</i> | Observed during northern goshawk survey |
| Red-breasted nuthatch | <i>Sitta canadensis</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Red-breasted sapsucker | <i>Sphyrapicus ruber</i> | Observed during willow flycatcher surveys |
| Red-winged blackbird | <i>Agelaius phoeniceus</i> | Observed during willow flycatcher surveys |
| Song sparrow | <i>Melospiza melodia</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Steller's jay | <i>Cyanocitta stelleri</i> | Observed during both willow flycatcher and northern goshawk surveys |
| Western wood-pewee | <i>Contopus sordidulus</i> | Observed during both willow flycatcher and northern goshawk surveys |
| White-breasted nuthatch | <i>Sitta carolinensis</i> | Observed during both willow flycatcher and northern goshawk surveys |
| White-crowned sparrow | <i>Zonotrichia leucophrys</i> | Observed during northern goshawk survey |

| Common Name | Scientific Name | Notes |
|-------------------------|------------------------------|---|
| White-headed woodpecker | <i>Picoides albolarvatus</i> | Observed during northern goshawk survey |
| Yellow-rumped warbler | <i>Dendroica coronata</i> | Observed during northern goshawk survey |

Should you have any questions, please contact me.

Sincerely,



Sue Fox
Wildlife Resource Consultants LLC



Base data ESRI and National Geographic Society.
 Projection UTM NAD 83.

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Burke Creek Highway 50 Crossing and Realignment Project

Figure 1

Willow Flycatcher Survey Points

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Base data ESRI and National Geographic Society.
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Burke Creek Highway 50 Crossing and Realignment Project

Figure 2

Northern Goshawk Call Stations

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MEMORANDUM

Wildlife Resource Consultants

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TO: Leslie Burnside

FROM: Sue Fox

DATE: September 25, 2013

REGARDING: Burke Creek Tahoe Regional Planning Agency (TRPA) Species of Special Interest/Threshold Species

This memorandum addresses occurrences of the TRPA Species of Special Interest that may be affected by the Burke Creek project (Table 1).

Table 1. W-1 Standard Threshold for Wildlife (Special Interest Species)

| Species | Population Sites | Disturbance Zone (mi.) | Potential to Impact Threshold Standard? Y/N |
|--|------------------|--|---|
| Northern goshawk (<i>Accipiter gentiles</i>) | 12 | 0.25 Most suitable 500 acres surrounding nest site including a 0.25 mile buffer centered on nest sites | Y |
| Osprey (<i>Pandion haliaetus</i>) | 4 | 0.25 | N |
| Bald eagle (winter) (<i>Haliaeetus leucocephalus</i>) | 2 | Mapped Areas | N |
| Bald eagle (nesting) | 1 | 0.50 | N |
| Golden eagle (<i>Aquila chrysaetos</i>) | 4 | 0.25 | N |
| Peregrine falcon (<i>Falco peregrinus anatum</i>) | 2 | 0.25 | N |

| Species | Population Sites | Disturbance Zone (mi.) | Potential to Impact Threshold Standard? Y/N |
|---|--------------------------|--|---|
| Waterfowl | 18 | Mapped Areas | N |
| Mule deer (<i>Odocoileus hemionus</i>) | Critical fawning habitat | Meadows-Critical fawning habitat is mapped | N |

Methods

Occurrence data on TRPA Species of Special Interest, as well as United States Forest Service Lake Tahoe Basin Management Unit sensitive species, was requested from Dan Segan, Principal Natural Resource Analyst, on September 21, 2015. A GIS shapefile of the project area was provided to Mr. Segan via email. The TRPA provided an emailed figure depicting known occurrences of special status species on September 24, 2015 (Sean Tevlin, Assistant Environmental Specialist).

Results

The potential occurrence of TRPA Species of Special Interest in the Burke Creek project area is discussed below.

Northern Goshawk

No goshawks were detected in or within a 0.5 mile radius of the Burke Creek project area during protocol broadcast acoustic surveys performed in June and August 2015. In an April 17, 2015 email, the Forest Service reported possible goshawk plucking posts found east of the project area and provided UTM coordinates. These locations were checked during the protocol surveys and no sign was found.

According to the TRPA, a historic goshawk territory (Roundhill/Burke Creek) is located east of the project area. A northern goshawk Protected Activity Center (PAC) is delineated for the Burke Creek territory (see TRPA figure). Four nests are mapped within the territory. None of the nests have been active since 1992.

Goshawks might occasionally forage or perch in the project area, however, due to the high levels of human disturbance, this species is not expected to nest within the project area.

Osprey

The TRPA does not have any records of osprey nesting in or near the project area. No ospreys or osprey sign (e.g., prey remains, feathers) were observed during the protocol surveys conducted for northern goshawks and willow flycatchers. However, the project area and vicinity may occasionally be used by osprey to perch. Few large diameter trees suitable for nesting were observed in the project area. High levels of human disturbance (e.g., vehicle traffic, hikers, bicyclists, dog walkers, etc.) further reduce the project area’s suitability as nesting habitat and it is unlikely osprey would nest in the project area.

Bald Eagle (winter and nesting)

The TRPA does not have any records of bald eagles wintering or nesting in or near the project area. This species is unlikely to occur in the project area and its vicinity due to a lack of large diameter trees suitable for nesting and perching and the high levels of human disturbance. It is possible that individuals might occasionally perch or forage near the project, but this would be expected to occur primarily to the west, closer to Lake Tahoe.

Golden Eagle

The TRPA does not have any records of golden eagles nesting in or near the project area. Few large diameter trees suitable for nesting were observed in the project area. High levels of human disturbance (e.g., vehicle traffic, hikers, bicyclists, dog walkers, etc.) further reduce the project area's suitability as nesting habitat and it is unlikely golden eagles would nest in the project area. However, golden eagles may occasionally fly over or forage in the vicinity of the project area

Prairie Falcon

The TRPA does not have any records of peregrine falcons nesting in or near the project area. Suitable nesting habitat is not present in or near the project area.

Waterfowl

Small numbers of waterfowl might use the aquatic and emergent habitat along Burke Creek. However, human disturbance could reduce the likelihood of long-term use due to repeated flushing in response to hikers, dog walkers, bicyclists, and other human presence.

Mule Deer

The project area does not contain mapped fawning habitat. Suitable foraging and loafing habitat are present in the project area. While riparian and meadow habitat are present, due to the high levels of human disturbance, it is unlikely the project area would be used for fawning. No mule deer or their sign were observed in the project area, however, mule deer scat was observed outside the project area to the east while performing the northern goshawk surveys.