

Burke Creek Highway 50 Crossing and Realignment Project

Nevada Tahoe Conservation District, Nevada Department of Transportation and the US Forest Service-Lake Tahoe Basin Management Unit Douglas County, California

Location

Burke Creek is a small stream in the Lake Tahoe Basin which passes just north of the intersection of Highway 50 (HWY 50) and Kahle Drive in Douglas County, NV. The project is located on National Forest System (NFS) lands, private lands (Sierra Colina and Apartments 801), Douglas County and Nevada Department of Transportation (NDOT). The project area spans from Jennings Pond in Rabe Meadow to the eastern boundary of the Sierra Colina Development in Lake Village. See attached map.

Legal Description: The approximately 16 acre site is located near Lake Tahoe, Section 22, Township 13 North, Range 18 East, Mount Diablo Baseline and Meridian, Latitude 38.9717°, Longitude -119.9361°, Stateline, Douglas County, Nevada.

Background

This is a cooperative project involving multiple agencies. Work is proposed on lands under the jurisdiction of Douglas County, NDOT, private (Sierra Colina and Apartments 801) and the US Forest Service, Lake Tahoe Basin Management Unit (USFS). The Nevada Tahoe Conservation District (NTCD) is acting on the behalf of NDOT and Douglas County, as the recipient of a federal Erosion Control Grant for the project, administered by the Lake Tahoe Basin Management Unit. NDOT is also contributing funds to the project, as well as the Nevada Division of State Lands (NDSL) and Tahoe Regional Planning Agency.

Existing Condition

The project area is approximately 16.5 acres, and includes stream channels, meadows, and portions of HWY 50. The area also includes a portion of the parking access to the Lam Watah Trail and the Rabe Meadow Multi-Use Trail. This area provides popular recreation access and opportunity. Pedestrians and bike riders travel through the meadow and enjoy meadow, forest, and stream environments as they travel to Nevada Beach or along the bike path to Round Hill Pines Resort. The area's proximity to the concentrated Stateline hotels contributes to its popular recreation use. The existing trailhead parking lot located at Kahle Drive and HWY 50 includes 20 parking spaces, a restroom, a picnic area, and multiple interpretive signs/kiosks. The trailhead parking lot and Rabe Meadow Multi-Use Trail are managed by Douglas County under Special Use Permit with the Forest Service. The Lam Watah Trail is managed by the Forest Service.

Burke Creek upstream of HWY 50 was moved and straightened in the 1950s to create room for development. The channel is actively eroding, and the adjacent floodplain has been impacted by the construction of the Douglas County ball field and commercial parking lot at the former Tahoe Nugget Casino property (now Apartments 801) constructed within the historic floodplain. In addition, a 1997 mudslide adjacent to the Kahle ball field slope has encroached onto the floodplain. Untreated storm water runoff from HWY 50 and private property are directly connected to the stream channel. A 24" undersized culvert runs 300 feet along and under HWY 50. This culvert restricts flows resulting in flooding of HWY 50 travel lanes during large runoff events, and is not passable to fish or other aquatic

species. There are also numerous barriers preventing the free migration of fish species upstream of the HWY 50 crossing, including headcuts and steep channel sections.

Downstream of HWY 50, the stream was modified and relocated as a result of development including the Jennings Casino, HWY 50, Kahle Drive and the Oliver Park subdivision. Around 1980, the land below HWY 50 was acquired by the USFS, including the foundation of the incomplete construction of the Jennings Casino. Restoration conducted at that time included removal of the above ground structures, burial of some of the below ground foundation structure, as well as channel restoration. Although this channel is currently bordered by very robust willows, it is avulsing in numerous locations. The bed of the channel is covered with a thick layer of silt, degrading the quality of the aquatic habitat.

The meadow adjacent to stream channel downstream of HWY 50 has known infestations of invasive plants such as bull thistle, oxeye daisy, Canada thistle, and sulfur cinquefoil and does not contain desired wet meadow species.

Purpose and Need

The goal of the project is to restore ecological function and processes within the Burke Creek channel and its adjacent floodplain, reduce pollutant loading to Lake Tahoe, and improve public safety on Highway 50 related to flooding. This can be achieved by addressing the following needs:

- Improve drainage along HWY 50 and stream crossing for Burke Creek under HWY 50 that provides safe transport of flow and sediment to reduce the frequency of flooding of highway and private property, reduce level of maintenance needed, and also provides aquatic habitat passage between up and downstream reaches.
- Improve channel stability and aquatic habitat. Utilize channel restoration/floodplain design approach that will also increase groundwater level and restore natural surface flooding within the meadow floodplain to inhibit persistence and spread of invasive weeds, promote conversion to wet meadow habitat, and provide filtering of fine sediments and dissolved nutrients.
- Reduce fine sediment particle, nitrogen and phosphorus loading to Lake Tahoe.

Proposed Action

NTCD is partnering with the USFS, NDOT, Douglas County and NDSL to propose the Burke Creek Highway 50 Crossing and Realignment Project (Project). The Project intends to achieve the purpose and need described above, while minimizing impacts to private property, recreation infrastructure, and traffic flow on HWY 50. The following actions are proposed to meet these intentions.

Burke Creek above HWY 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.
- 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 above the section to be relocated.

HWY 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.
- Install storm water conveyance improvements along HWY 50 adjacent to Lake Village and the Professional Building, and construct two storm water treatment basins of approximately 900 square feet and 325 square feet respectively, on the west side of HWY 50.
- Readjust the easement adjacent to HWY 50 to encompass all storm water treatment and conveyance infrastructure.

Burke Creek below HWY 50

- Abandon 500 feet of existing unstable channel and replace with approximately 500 feet of new geomorphically stable channel, to tie into the new HWY 50 stream crossing.
- Possibly remove willows and other stream vegetation from the decommissioned channel and replant along the new channel edge.

In addition, 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, HWY 50 traffic flow during construction, wildlife habitat, spread of invasive plants, and historic resources. The timing of proposed actions would be between May 1 through October 15th of 2016 (HWY 50 and above) and 2017 (below HWY 50).

Anticipated level of NEPA:

At this time, the level of Analysis is expected to be documented in an Environmental Assessment. Scoping will be used to inform NEPA analysis.

NEPA analysis will support US Forest Service decision for actions proposed on US Forest Service lands, as well as allow the use of federal grant funds for actions proposed on non-federal lands.