

MUSCI

NATURAL RESOURCE ASSESSMENT

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6 September 2007

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Mr Burke:

**RE: LTR-07-93 – TUCKER ROAD RESIDENTIAL DEVELOPMENT
WATERCOURSE REVIEW AND NORTHERN SPOTTED OWL
CONSIDERATION**

We have reviewed your proposed development of three existing parcels along Tucker Road south of Calistoga (APN 020-262-009/010/011-000) in Napa County with respect to the classification of the watercourse identified by Napa County Planning as subject to their jurisdiction, and with respect to the potential for effects on the nearby known Northern Spotted Owl territory.

During our field review of 3 August 2007 we determined that the watercourse traversing a portion of Lots 2 and 3 (Albion Survey Project 3009, 24 July 2007) (APN 020-262-011-000 and APN 020-262-009-000) is a watercourse subject to stream setback jurisdiction of Napa County. The watercourse exhibits a well-defined channel and bank, with sediment transport and scour. Although dry when observed, there is no doubt that aquatic macro-invertebrates and amphibians frequent the channel during late fall, winter and early spring while flows occur. There is no evidence of fish presence. The watercourse exhibits characteristics of a Class II stream according to California Department of Forestry and Fire Protection and California Department of Fish and Game interpretations.

In addition, the unnamed watercourse crossing a portion of Lot 1 (APN 020-262-010-000) at the existing dirt road also exhibits channel configuration, sediment transport and scour, thus matching criteria for classification as a Class II watercourse.

We noted that flows merge within Lot 2 (APN 020-262-011-000) then enter the reconfigured channel at the base of the parcel contiguous to Highway 29, just north of its intersection with Tucker Road. Water is conveyed to an underground channel traveling to the east beneath Highway 29, then further to the east towards the Napa River. A significant portion of the stream reach between the reviewed parcels and the

Napa River is underground or highly modified (straightened with little or no riparian vegetation cover between vineyards). Because of the highly modified nature of that lower reach, the biological functioning of the watercourses reviewed above is low. Lacking aboveground channel continuity with the Napa River, the channels on the west side of Highway 29 may contribute water but little nutritional benefit to fish in the river. In addition, the low gradient (1-2%) of the modified lower channel suggests that little sediment could escape from the hillsides, journey beneath the highway and enter the river during normal flows.

Therefore, the biological value of the Class II watercourses observed within the reviewed parcels is considered low due to the absence of functional biological connectivity with the sensitive aquatic habitat of the Napa River. As for sediment generation and transport, construction and development practices could maintain levels consistent with current background amounts, thus resulting in no net increase in sediment loading to the habitat of anadromous salmonids. Although the loss of riparian function within the parcels would have a local adverse impact, there should be no net effect on the target anadromous salmonid habitat within the Napa River watershed. In regard to the conservation of biological function within the Napa River watershed, there should be no violation of the intent of the stream setback requirements.

The project site supports and is surrounding by lands vegetated with mixed evergreen and deciduous trees and shrub understory. There are two layers on the site, but nearby parcels support multi-layer canopies, some with conifers (singly and in small groves) extending above the mixed evergreen canopy. The nearby Northern Spotted Owl territory is separated from the parcel by intervening intensive agriculture and topography. There are no obvious nest or roost trees within or contiguous with the parcels. The parcels represent marginal NSO habitat, primarily for foraging.

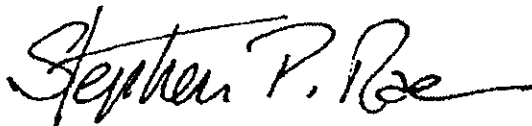
The joint US Fish and Wildlife Service – California Dept of Fish and Game protocols for surveying Northern Spotted owls call for visits to known nest sites to determine their occupancy and review of project sites to determine their use. The nearest known site could be surveyed according to protocol to determine whether it is still active, but that would not reveal whether the owls using that site were extending their use to the target parcels. In order to determine whether NSOs include the parcels in their territory, surveys must encounter the bird and follow them back to a known nest or roost site. An observation not linked to an active site would not indicate a resident owl as transients occur. Transient owls are those young looking for mating and nesting opportunities or older birds who have lost a mate or a territory and are on the hunt.

In any case, there is a very low probability of locating either nesting or roosting sites within or contiguous to the parcels. Their topography and vegetation are marginal, and the intensity of residential use suggest a long history of conflict. However, foraging could occur as owls fly through the canopy on their way to roost sites. In this area, I would expect to see hawks with this in-canopy flying behavior. To determine NSO occupancy of the known site and connectivity to the target parcels would require protocol surveys during the next breeding season starting on 15 March. Keep in mind,

however, that such surveys establish connectivity by observing (visual or audible observation) an individual owl and following it back to the nest or roost site. Due to the topography and fragmented ownership such surveys are difficult to impossible to perform in the Tucker Road – Summit Drive area. Surveys are conducted in the early morning and late evening (before sunrise and after sunset). Surveyors run through the forest, going up and down slopes, crossing watercourses and breaking brush as they follow the bird to the nest or roost site. Such survey behavior is not possible on and around the parcels because of road cuts, residential and appurtenant structures and fences. From experience I will say that encountering a barbed wire fence during a low light run through the forest would result in calling the effort to a halt. For these reasons (low probability of establishing connectivity with the known territory, low probability of encountering suitable nesting or roosting sites within or adjacent to the parcel and serious physical issues associated with conducting a protocol survey in the Tucker Road – Summit Drive area), I conclude that NSO surveys are problematic with low potential of observing the target bird. And, a protocol survey at the known territory would not yield information pertinent to the proposed residential use of the parcels.

Thank you requesting our services in evaluating the effects of the project on this resource.

Sincerely,



Stephen P. Rae, Ph.D.
Managing Partner