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Habitat Assessment

Silverado Resort & Spa Project
Minor Modification to Non-Winery Use Permit
P24-00141-MM
Planning Commission Hearing – October 15, 2025

The Grove at Silverado Resort

Habitat Assessment

Project No.:
1171

Zentner Planning and Ecology
Walnut Creek

Prepared for:
Meinert, Coblentz Patch Duffy and Bass LLP

Revised:
November 2024

The Grove at Silverado Resort

Habitat Assessment

I. Introduction

A. Purpose

Zentner Planning and Ecology ("Zentner") conducted a site review and habitat assessment of the Grove Project Site (Project Site) in the Napa County on August 19, 2024. The Project Site is located at the Silverado Resort adjacent to an unnamed, ephemeral tributary to Milliken Creek.

The assessment was conducted for the purpose of reviewing the mapped top of bank, evaluating and identifying the habitat types within the Project Site, reviewing proposed project impacts, and providing recommendations. Scott Greenwood-Meinert of Coblentz Patch Duff & Bass LLP and David Walter the Silverado Resort's director of agronomy were present during the preliminary part of the site review and provided information and context for the site and proposed project.

B. Methods

During the site review the mapped top of bank was located and confirmed using a sub-meter GPS unit. The ephemeral tributary was walked up- and downstream of the Project Site to assess the vegetation, topography, and site conditions. The surrounding golf course and a portion of Milliken Creek within the Silverado Resort was also walked for the same purpose. Zentner staff also reviewed project plans and examined current and historic aerial imagery of the Project Site prior to the site review to assist with this site assessment.

II. Results

A. Habitats within the Project Site

Based upon our analysis, we found that the Project Site is mostly developed habitat consisting of the golf course, paths, patios, outbuildings and other areas. Outside of these areas, the wooded portions of the site are oak woodland/oak savannah habitat. These woodlands are highly maintained, relictual fragments of what were once a matrix of grassland, oak woodlands, and oak savannahs. Further details regarding our analysis are provided below.

The Project Site was mapped by the Napa County Online Public Map as containing riparian woodland and developed habitat types; a screen shot of the Napa County Public Map showing the project site is included as **Figure 1** below.

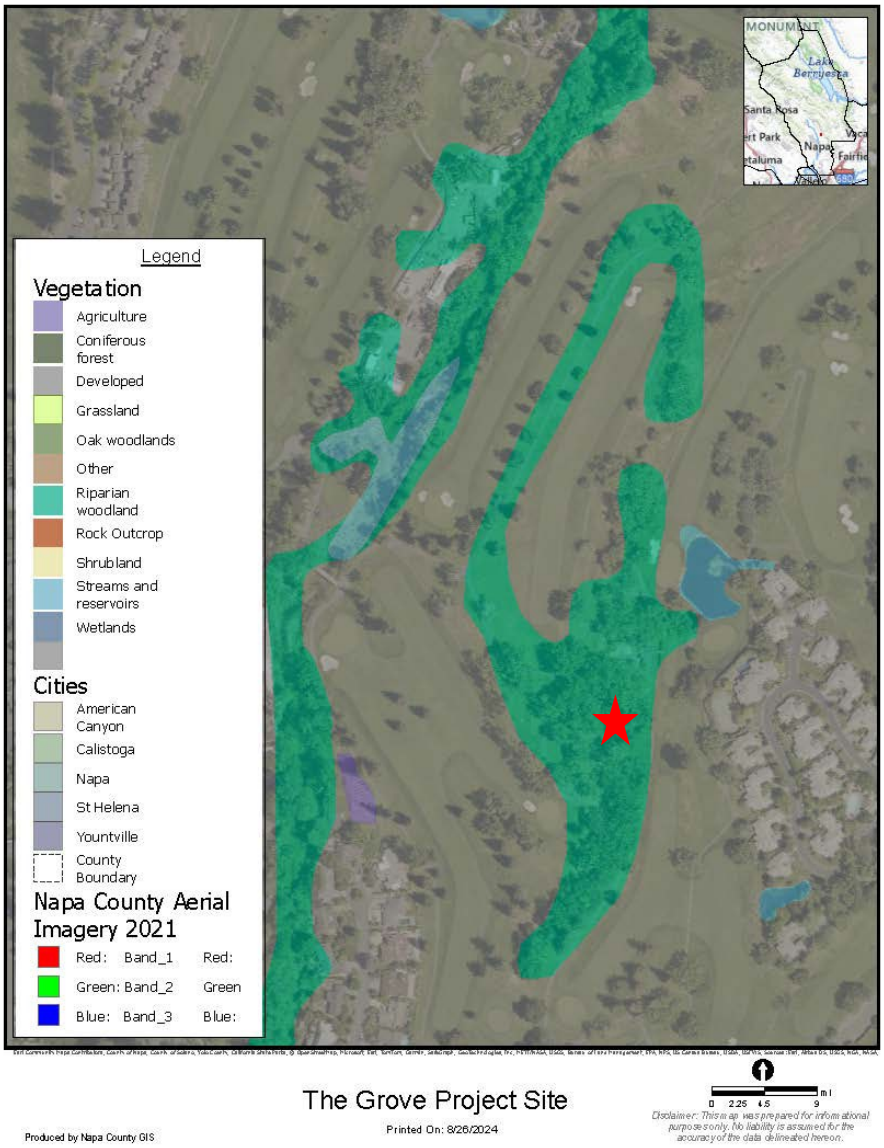

Figure 1: Screen shot from the Napa County Online Public Map. The approximate location of the Project Site is identified with a red star on the photo.

This mapping was done in 2016 by a University of California Davis group using 2016 edition of 1 meter color aerial imagery taken by the National Agriculture Imagery Program (NAIP) as the base imagery. Though aerial imagery can provide good baseline information, actual site conditions can vary significantly from what is visible on aerial images and, therefore, site assessments and ground reviews are necessary to confirm the presence, extent, and condition of habitat types.

The aerial mapping at the Silverado Resort is a good example of when large-scale mapping based on aerial images can be inaccurate. As shown on Figure 1, the mapped riparian woodland vegetation community (light green) is shown as extending north, northwest of the Project Site into the center portion of the golf course. This center portion of the mapped area is devoid of any waterways and the understory and surroundings are developed golf course; it is not riparian habitat. As well, the mapping fails to pick up numerous other pockets of relictual Oak Woodland habitat within and outside of the Resort and instead labeling it all as Developed.

The Project Site and surrounding oak trees are, in fact, remnants of oak woodland and oak savannah habitat that once dominated this region. The scattered presence of oak trees throughout the site and not just along aquatic features is indicative of this. The oak trees in the area around the Project Site were likely historically part of a much larger oak woodland habitat. Development at the Silverado Resort for agriculture and later as the golf course removed much of the surrounding oak woodland leaving only a small scattering of mature oak trees. It is likely that the higher concentration of oak trees at the Project Site are the result of the golf course design that required the removal of less oak trees at this location and management and maintenance practices that have preserved existing oak trees and enabled new oak trees to grow in this area at higher concentrations than elsewhere on the Silverado Resort.

The riparian zone within the Project Site is the area where trees and other vegetation are affected by the presence of the ephemeral channel. At the Project Site, the presence of hydrophytic vegetation and other riparian indicators occur within the ephemeral channel's top of bank. A true riparian habitat, such as that which exists at Milliken Creek, contains a diverse structure of vegetation with different levels of canopy. Instead of this, the ephemeral tributary onsite contains a scattering of primarily valley oaks (*Quercus lobata*) within the top of bank, with little to no vegetation beneath, except non-native annual grassland. Because the ephemeral channel flows only periodically, following rainfall events, and because the channel is relatively narrow and contained within a well-defined top of bank, it is unlikely that the presence of the ephemeral channel has an effect on any trees rooted outside of the channel's top of bank and the majority of herbaceous hydrophytic vegetation is restricted to the channel itself. Therefore, we noted just seven trees that are located within the top of bank. These trees within the riparian zone are shown on **Figure 2**, while the extent of the oak woodland/oak savannah habitat within the Project Site is also shown, as is the developed golf course/urban habitat. We also have included the locations of the trees that are slated to be removed as part of the project, which are located within the oak woodland/oak savannah habitat.

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FIGURE 2

Habitat Map

The Grove Project
Napa, California

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Scale: 1 inch = 80 feet

0 40' 80' 160'

Legend

- Riparian Tree (dbh approximate)
- Existing Tree to be Removed
- Developed Golf Course/Urban (0.88 Acres)
- Oak Woodland/Oak Savannah Habitat (1.27 Acres)
- Limits of the Project Site
- Top of Bank

Source: Google Earth 2024	Revisions	By
Date: 9/04/2024		
Cartographer: XM		

File: C:\Users\15105\OneDrive - Zentner Planning and Ecology\Graphicprojects\1171 The Grove\CAD\Fig2_Habitat map_082624.dwg

Photo 1: View looking upstream along the ephemeral channel towards Oak Woodland/Oak Savanna habitat. Note the lack of riparian vegetation within the top of bank. The Project site is shown on the right side of the photo, including non-native shrubbery and existing Developed habitat that will be removed. August 2024.

Photo 2: View of Riparian Woodland habitat along Milliken Creek, just a few hundred feet from the project site. August 2024

In contrast to the ephemeral tributary that runs through the project site, Milliken Creek outside of the Project Site, contains riparian habitat on both sides of the creek channel. This riparian habitat is relatively well developed structurally up to the top of the bank throughout the reach within the Silverado Resort. In addition to valley oaks, this riparian habitat contains live oak (*Quercus agrifolia*), buckeye (*Aesculus californica*), willows (*Salix lasiolepis* and *S. laevigata*), and ash (*Fraxinus sp.)* as an overstory, along with a host of native understory vegetation including blue elderberry (*Sambucus nigra ssp. caerulea)*, California wild grape (*Vitis californica*), dogwood (*Cornus sp.*), and others. This is a true riparian habitat, and with the exception of the two small areas that the map shows as extending well west of the riparian habitat, the Napa County Public Map captures this riparian habitat very well, as is illustrated by the relatively long, and narrow habitat shown along the creek in Figure 1.

Photo 3: View of the project site showing the Developed and Oak Woodland habitats. The ephemeral channel is located to the left outside of the photo frame. August 2024.

III. Project Impacts and Recommendations

A. Impacts

The proposed project has been designed to stay outside of the unnamed tributary's top of bank while maintaining appropriate setbacks per Napa County regulations. As well, the proposed design has been situated to remove the smallest number of trees feasible; 10 trees will be removed from the oak woodland habitat, but none of these trees are within the top of bank (Figure 2).

The Project Site includes existing landscaping and hardscape that were placed within the unnamed tributary's top of bank and setback prior to Napa County's current protections and regulations. As part of the proposed project this landscaping and hardscaping will be removed and a native plant dominated understory will be restored to this area. The removal of this development and the restoration of a native dominated understory will improve habitat values and benefit native wildlife in the region.

B. Recommendations

The proposed project will result in the removal of 10 valley oak trees that are part of the oak woodland/oak savannah habitat. Each oak tree that is removed as part of the project shall be replaced on site at a minimum of a 3:1 (planted to removed) ratio.

In order to offset impacts resulting from the project, the existing landscaping and hardscaping will be removed from the ephemeral tributary's setback and the area will be restored. Restoration of this area as well as the replacement of all removed oak trees at a minimum 3:1 ratio will ensure that the proposed project results in an overall ecological benefit to the area.

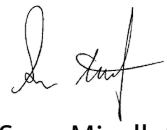
To ensure the success of the planted trees and the restored habitat, a restoration plan shall be developed by a qualified biologist. The restoration plan shall include the following:

- A planting plan showing the locations where the replacement oak trees are planned to be replanted.
- Monitoring plan requiring at least 5 years of monitoring for all replacement oak trees.
- Replanting and monitoring requirements to ensure that failed plantings are replaced.
- A provision requiring a biologist, certified arborist, or similarly experienced professional, to file a report that evaluates the survival rate of the replanted oaks with the county, in the fifth year after the replanting.
- If the survival rate of the replanted oaks falls below 80%, additional remediation shall be completed to ensure a 3:1 replacement of the original oak trees removed.
- A detailed planting plan for the understory restoration area within the top of bank.
- Performance criteria for the restoration area requiring at least 45% relative native vegetation cover and at least 75% cover at the end of the 5-year monitoring period.

IV. Conclusion

Zentner Planning and Ecology reviewed the mapped top of bank and agreed that the top of bank has been accurately mapped on the existing project plans within the Project Site. Zentner staff also determined that the Project Site consists of fragments of old oak woodland/savannah habitat along with existing developed habitat. A limited number of trees are growing within the ephemeral channel's top of bank that runs through the Project Site. These trees are riparian in that they are rooted in the top of bank and their roots reach into the channel zone. However, the site does not contain riparian habitat in contrast to Milliken Creek, which does have a nicely developed riparian habitat.

Though the proposed project will result in the removal of 10 trees from the oak woodland, the project will also remove hardscape and landscaping from the top of bank and the channel setback and restore these areas. Additionally, none of the trees within the top of bank will be removed and all trees removed by the project will be restored and replaced at a minimum 3:1 ratio. Because the project will replace all removed oak trees at a 3:1 ratio and restore native dominated trees and understory habitat within the top of bank, the project is expected to result in increased habitat values within the site and along the ephemeral channel. As well, by replanting and maintaining oak trees within the Silverado Resort, the project will extend the oak canopy beyond its current extent and increase age diversity amongst the oak trees on site. Overall, the project is expected to result in a net increase in habitat values.



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