# FINAL ENVIRONMENTAL IMPACT REPORT

# LE COLLINE VINEYARD PROJECT

## VOLUME II

**DECEMBER 2022**

LEAD AGENCY:

Napa County Planning, Building and
Environmental Services Department
Conservation Division
1195 Third Street, Second Floor
Napa, CA 94559

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# SECTION 1.0

# EXECUTIVE SUMMARY

## 1.1 INTRODUCTION

This Draft Environmental Impact Report (EIR) assesses the potential environmental impacts of the Le Colline Vineyard Erosion Control Plan Application (ECPA; #P14-00410-ECPA) project (Proposed Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and Guidelines. Napa County Planning, Building and Environmental Services (Napa County) is the Lead Agency for this CEQA process. The California Department of Forestry and Fire Protection (CAL FIRE) and the Regional Water Quality Control Board, San Francisco Bay District, are Responsible Agencies. A Timber Harvest Plan (THP) and Timber Conversion Plan (TCP) will be prepared and processed separately by CAL FIRE for the portion of the project involving the removal and conversion of timberland. Inquiries about the Proposed Project and the CEQA process should be directed to:

Napa County
Planning, Building and Environmental Services Department
Conservation Division
Attn: Brian Bordona, Supervising Planner
1195 Third Street, Second Floor
Napa, CA 94599-3092
Email: Brian.Bordona@countyofnapa.org

## 1.2 PROJECT LOCATION

The project site is located at 300 Cold Springs Road in the town of Angwin, in northern Napa County (County), California; assessor parcel numbers (APNs) 024-300-070, 024-300-071, 024-300-072, and 024-340-001. The project site is located within the Conn Creek – Upper Reach and Conn Creek – Main Fork watersheds, which are subwatersheds within the Lake Hennessey watershed and the larger Napa River watershed. Elevations of the project site range from approximately 1,475 to 1,742 feet above mean sea level, and slopes range from 7 to 29 percent within the project footprint, reaching above 50 percent in areas of the project parcels outside of the clearing areas that will not be developed.

## 1.3 PROJECT DESCRIPTION

The Proposed Project involves earthmoving activities on slopes greater than 5 percent in connection with the development of 25 net acres of vineyard within 33.8 acres, which consists of 32.8 gross acres of vineyard and 1 acre of access drives including improvements to exciting dirt trails, on the

approximately 88.34-acre property. All exposed soil surfaces greater than 100 square feet shall be straw mulched and grass seeded, this applies to landing surfaces and road surfaces unless rocked. All permanent road surfaces shall be rocked upon completion. Project components includes 24.51 acres of timber harvest and 9.29 acres vegetation removal including grasslands and manzanita; earthmoving and grading activities; ripping, tilling, and rock removal associated with soil cultivation; installation and maintenance of drainage and erosion control features; vineyard planting and harvesting; and ongoing maintenance and operation of vineyards upon completion.

## EROSION CONTROL MEASURES

Temporary and permanent erosion control measures would be implemented as a part of the #P14-00410-ECPA for the proposed vineyard blocks. The following erosion control measures would be maintained regularly for the Proposed Project, and are described in more detail in **Section 3.0**:

- Earthmoving and grading activities on slopes greater than five percent associated with tree and brush removal, ripping and tilling, rock removal, soil cultivation, installation and maintenance of drainage, irrigation and erosion control features, and vineyard planting and operation on 25 net acres within 33.8 gross acres of disturbance;
- Installation of fiber rolls prior to the rainy season (September 16 through March 31) in the year prior to planting and the application of straw mulch where seeding occurs;
- Existing roads would be maintained as needed and surfaced with crushed rock where year-round access is required;
- Construction of diversion ditches and water bars as shown in the Erosion Control Plan (ECP) (**Appendix B**) and maintained throughout the life of the vineyard;
- Construction of rock lined ditches and rock stabilization at low points in the vineyard;
- Construction of attenuation basins outside class III drainages. Level water spreaders or energy dissipaters would be installed at the basin outlets to release water as sheet; and
- Implementation and adherence to an Annual Winterization program as presented in the ECP (**Appendix B**).

A permanent no-till cover crop would be established throughout the proposed vineyard blocks. Ground-disturbing activities would be completed by September 1 of each year, and erosion control measures and related infrastructure would be implemented by September 15. Erosion control measures would be maintained regularly to function as intended throughout the rainy season. A temporary winter cover crop would be planted prior to September 1 of years P-1 (pre-plant), P (planting), and P+1 (forward). Seeding and mulching of the winter cover crop would be completed by September 15 of each year.

# 1.4 PROJECT ALTERNATIVES

CEQA *Guidelines* require EIRs to describe and evaluate a range of reasonable alternatives to a project that would feasibly attain the majority of project objectives and avoid or substantially lessen significant project impacts.

Although there are no significant unmitigable project impacts identified for the Proposed Project, **Section 5.0** evaluates project alternatives that were considered. These include the No Project Alternative, Reduced Intensity Alternative, and Increased Water Quality and Sensitive Habitat Protection Alternative (Referred to herein as Water and Habitat Alternative), which are briefly described below. Refer to **Section 5.0** for a complete description of these alternatives.

### 1.4.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the property would remain in its existing state as partially-forested with areas of shrubland and grassland. Vineyard would not be developed, timber would not be harvested, and no changes to the property would occur. No ECP, THP, or TCP would be needed.

### 1.4.2 REDUCED INTENSITY ALTERNATIVE

Under the Reduced Intensity Alternative, a lesser amount of vineyard would be developed. This alternative would result in the planting of vineyard on approximately 6.89 acres of non-timberland on the property. No timber would be harvested as a result of this alternative; therefore, no THP or TCP would be needed. The total gross acreage under this alternative would be 6.89.

### 1.4.3 WATER AND HABITAT ALTERNATIVE

Under the Water and Habitat Alternative, approximately 5.35 acres of sensitive habitat would be avoided through a reduction in vineyard acreage. The objective of the Water and Habitat Alternative is to reduce impacts to sensitive habitat in comparison to the Proposed Project as mitigated. The total gross acreage under this alternative would be 28.45.

## 1.5 NOTICE OF PREPARATION

In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) for this EIR was circulated and noticed under CAL FIRE on April 13, 2016. The NOP was circulated through the State Clearinghouse, to the public, local, State, and federal agencies, and other known interested parties for a 30-day review period that ended on May 13, 2016. The purpose of the NOP was to solicit written comments concerning the Proposed Project. A newspaper notice was published on April 13, 2016 in the Napa Valley Register. CAL FIRE received 3 comment letters on the NOP. These comment letters were considered during preparation of the Draft EIR and are presented in **Appendix A**.

### 1.5.1 NOP COMMENTS RECEIVED

The environmental issues below were identified during the scoping process and the comments on the NOP are discussed in more detail in **Section 2.0**:

- Biological Resources: Woodlands loss and wildlife movement;
- Hydrology and Water Quality: Impacts to water supply quality;
- Land Use and Planning: Consistency with Napa County Goals, Policies, and Regulations.

- Transportation and Traffic: Construction impacts and operational hazards.

### 1.5.2 EIR SCOPE

In accordance with CEQA Guidelines Section 15063, an NOP (**Appendix A**) was prepared and used in conjunction with comments received during scoping to focus the EIR on effects determined to be potentially significant. The following environmental resources were determined to require further analysis within this EIR:

- Aesthetics;
- Agriculture and Forestry Resources;
- Air Quality;
- Biological Resources;
- Cultural and Tribal Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use;
- Noise; and
- Transportation and Traffic

## 1.6 ENVIRONMENTAL IMPACT SUMMARY

**Table 1-1** presents a summary of impacts and proposed mitigation measures for the Proposed Project by resource area that would avoid or minimize potential project-related impacts identified in **Section 4.0** of this EIR. In the table, the level of significance of each environmental impact is indicated both before and after the application of the recommended mitigation measure(s). Refer to the environmental analysis sections in **Section 4.0** for detailed discussions of all project impacts and mitigation measures.

The mitigation measures in **Table 1-1**, organized by resource area below, will be implemented with the ECP. Collectively, the mitigation measures included in **Table 1-1** and in the ECP (**Appendix B**) would reduce potentially significant impacts of the Proposed Project to a less-than-significant level.

**TABLE 1-1**
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **4.1 Aesthetics** | | | |
| **Impact 4.1-1**: The Proposed Project would not have a substantial adverse effect on a scenic vista. There is a less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.1-2**: The Proposed Project would not substantially damage scenic resources, such as scenic highway corridors and scenic landscape units. There is a less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.1-3**: The Proposed Project would not substantially degrade the existing visual character of the site and its surroundings. There is a less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.1-4**: The Proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. There is a less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.2 Agriculture and Forestry** | | | |
| **Impact 4.2-1:** The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact. | No Impact | No mitigation is necessary. | Not Applicable |
| **Impact 4.2-2:** The Proposed Project would not conflict with existing zoning or cause rezoning of forestland, timberland, or timberland zoned Timberland. Less-than-significant.. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.2-3:** The Proposed Project would result in the loss of local forestland through conversion of forestland to non-forest use; however, the loss would be considered a less-than-significant impact to forestland of the County and State. Less-than-significant. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.2-4:** The Proposed Project would not involve other changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use or conversion of forest and to non-forest use. Less-than-Significant**.** | Less than Significant | No mitigation is necessary. | Not Applicable |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **4.3 Air Quality** | | | |
| **Impact 4.3-1:** During construction, timber harvest, land clearing, earthmoving, movement of vehicles, and wind erosion of exposed soil, implementation of the Proposed Project may have the potential to cause nuisance related to fugitive dust and exceedance of applicable BAAQMD thresholds for a criteria pollutant. . | Potentially Significant | **Mitigation Measure 4.3-1**<br>A. The Applicant shall implement a fugitive dust abatement program during construction to further reduce fugitive dust, $PM_{10}$, and $PM_{2.5}$ emissions, which shall include the following elements:<br>▪ Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.<br>▪ Cover all exposed dirt stockpiles.<br>▪ Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.<br>▪ Limit traffic speeds on unpaved roads to 15 miles per hour (mph).<br>▪ Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.<br>▪ Post a publicly visible sign with the telephone number and person to contact at Napa County regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.<br>B. The Applicant shall implement the required basic construction reduction measures as recommended by the BAAQMD's 2017 CEQA Guidelines during the construction of the Proposed Project, which shall include the following elements:<br>▪ Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.<br>▪ Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.<br>▪ Idling times shall be minimized either by shutting | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.<br>▪ Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. | |
| **Impact 4.3-2:** Operation of the Proposed Project would result in additional vehicles trips to the project site, resulting in increased criteria pollutant emissions; however, criteria pollutant emissions would not exceed the BAAQMD thresholds. Less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.3-3:** Construction of the Proposed Project would increase traffic volumes on local roadways, resulting in potential changes to increase CO levels at local roadway intersections. Less-than-significant impact. | Potentially Significant | See Reduction Measure 4.3-1 above. | Less than Significant |
| **Impact 4.3-4:** Project emissions have the potential to cause distress to sensitive receptors. However, project-related emissions would not be substantial. Less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.3-5:** Project operation could result in operational odors. However, odors from operation would not be substantial. Less-than-significant impact. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.4 Biological Resources** | | | |
| **Impact 4.4-1**: Implementation of the Proposed Project could have a substantial adverse effect, either directly or through habitat modification, on species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. | Potentially Significant | **Mitigation Measure 4.4-1:**<br>▪ Should ground-disturbing activities associated with the Proposed Project occur during the general nesting season (February 15 to September 15), a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than 5 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests. | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | ▪ Should an active nest be identified, an avoidance buffer shall be established based on the needs of the species identified and pursuant to consultation with the Lead Agency, CDFW, and USFWS prior to initiation of ground-disturbing activities. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels. Construction fencing shall be applied along the outermost perimeter of the avoidance buffer and verified by the Lead Agency or qualified biologist. Avoidance buffers and construction fencing shall remain in place until the end of the general nesting season or upon determination by a qualified biologist that young have fledged or the nest has failed.<br>▪ Should work activity cease for 5 days or greater during the breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.<br>▪ Survey results shall be provided to the Lead Agency, CDFW, and/or USFWS prior to the initiation of ground-disturbing activities.<br><br>**Mitigation Measure 4.4-2:** NSO take avoidance will be achieved via:<br>▪ Retention of 16.50 acres of Douglas Fir Alliance and 0.58 acres of Ponderosa Pine Alliance located outside clearing limits that shall be designated for preservation in a mitigation easement with a County-approved organization or other means of permanent protection. Land placed in protection shall be restricted from development and other uses that would potentially degrade the quality of the habitat, including, but not limited to, conversion to other land uses such as agriculture or urban development, and/or excessive off-road vehicle use that significantly increases erosion. The exact area to be conserved shall be determined and appropriately delineated through consultation between the Applicant and the County, and recorded with the Napa County Recorder's office prior to commencement of land clearing associated with the Proposed Project. | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | ▪ Compliance with California Forest Practice Rule 14 CCR 919.9(e), which requires submission of a letter prepared by a registered professional forester to USFWS describing proposed management;<br>▪ Compliance with USFWS Scenario 4 for Interior Ecotype, which outlines avoidance of disturbance and direct take through habitat retention (USFWS, 2008);<br>▪ Compliance with USFWS Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls (USFWS, 2012);<br>▪ Compliance with USFWS Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (USFWS, 2006);<br>▪ Continued adherence to the Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owl (USFWS, 2012). If an active NSO nest is observed during protocol surveys, a 0.25 mile avoidance buffer shall be applied should construction occur during the NSO breeding season from February 1 to August 31.<br><br>**Mitigation Measure 4.4-3:** For trees proposed for removal that have been identified as potentially suitable habitat for special-status bat species, the following shall apply:<br><br>▪ Trees proposed for removal that have been identified as potentially suitable special-status bat habitat shall be removed under the supervision of a qualified bat biologist with documented experience overseeing tree removal using the two-day phased removal method.<br>▪ On day 1, branches and small limbs not containing potential bat roost habitat (cavities, crevices, exfoliating bark, etc.) shall be removed using chainsaws only. On day 2, the following day, the remainder of the tree shall be removed.<br>▪ Removal shall occur during seasonal periods of bat activity: Prior to maternity season from approximately March 1 (or when night temperatures are above 45 degrees Fahrenheit and when rains have ceased) through April 15 (when | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | females begin to give birth to young) and prior to winter torpor from September 1 (when young bats are self-sufficiently volant) until October 15 (before night temperatures fall below 45 degrees Fahrenheit and rains begin).<br>▪ Should the County determine that replacement of suitable bat roosting habitat at a 1:1 ratio is necessary, consultation with the County and CDFW shall occur to determine proper habitat replacement methodology.<br><br>**Mitigation Measure 4.4-4**<br>▪ Following significant rain events, large numbers of workers shall be restricted from actively working on or accessing the project site. When feasible, 3 days of rest following significant rain events shall be allowed before resuming activity to allow potentially occurring special-status amphibians to move into or away from aquatic breeding sites following rain events.<br>▪ To the extent feasible, burning piles of cuttings or other vegetation stored or piled along Conn Creek shall be avoided, and piles shall be allowed to naturally degrade in place without disturbance. When feasible, native woody debris and natural piles of vegetation shall be allowed to remain in place during and after vegetation removal.<br>▪ Excessive debris and vegetative material shall be limited from entering the project site or becoming mobilized during rain events and high water flows such that it could enter Conn Creek.<br>▪ If required, artificial irrigation shall be minimized. If supplemental watering is required, only the area immediately surrounding newly installed vines shall be irrigated. The use of pesticides and fertilizers within 100 meters of Conn Creek shall be avoided.<br><br>**Mitigation Measure 4.4-5**<br>▪ Populations of Napa false indigo and narrow-anthered California brodiaea shall be avoided with no less than a 25- | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | foot buffer. A qualified biologist shall place construction fencing around the buffer perimeter of populations prior to ground-disturbing activities to ensure protection of special-status plant populations. The avoidance buffer and construction fencing shall remain in place throughout duration of construction.<br>▪ A preconstruction survey shall be conducted prior to the time of fence placement to identify additional populations of the two specials-status plant species, should they occur. Should additional populations be identified outside of clearing limits, the 25-foot buffer and fencing shall be applied. Should additional populations be identified within clearing limits, the County shall be contacted to determine the appropriate course of action prior to construction commencement.<br><br>**Mitigation Measure 4.4-6**<br>▪ A qualified Botanist shall conduct an environmental awareness training session for the property owner and work personnel prior to development of the Proposed Project. Training shall include the identification of Napa false indigo and narrow-anthered California brodiaea, associated habits, existing avoided populations identified on the property, and procedures to follow should they be encountered in other areas over time.<br>▪ Supporting materials containing training information shall be prepared and distributed. Work personnel joining the work crew after the training session shall receive the same training and supporting materials from the property owner prior to beginning work.<br>▪ Upon completion of training, the property owner and work personnel shall sign a form stating that they have attended and understood the training. Proof of this instruction will be kept on file with the property owner and submitted to the County. Copies of signed forms will be submitted to the County monthly as additional training occurs for new employees. | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **Impact 4.4-2:** Implementation of the Proposed Project could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS | Potentially Significant | **Avoidance Measure 4.4-7:** Ponderosa Pine Alliance on the project site shall be avoided through project design and demarcation. A qualified biologist or forester shall place orange construction fencing around the outermost edge of the Ponderosa Pine habitat in areas adjacent to clearing limits along Block E1 and Block E2 prior to ground-disturbing activities to ensure protection. In areas not adjacent to clearing limits, flagging will be used in lieu of fencing to allow for wildlife access and demarcate the protected area. Areas harvested for timber will be demarcated with different flagging to clearly delineate between harvest areas and protected areas. | Less than Significant |
| **Impact 4.4-3:** Implementation of the Proposed Project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, and coastal estuaries) through direct removal, filling, hydrological interruption, or other means. | Potentially Significant | **Mitigation Measures 4.4-7, 4.8-1, 4.8-2, and 4.8-3** | Less than Significant |
| **Impact 4.4-4:** Implementation of the Proposed Project would not interfere substantially with the movement of native resident or migratory fish species, but could interfere with native resident or migratory wildlife species, with established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites | Potentially Significant | **Mitigation Measures 4.4-2, 4.4-7, and 4.4-8.** | Less than Significant |
| **Impact 4.4-4:** Implementation of the Proposed Project would not interfere substantially with the movement of native resident or migratory fish species, but could interfere with native resident or migratory wildlife species, with established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites | Potentially Significant | **Mitigation Measure 4.4-8**<br>Prior to approval, the ECP shall be revised for approval by the County to provide at least 100 feet between clearing limits of Blocks E1 and E2 and Blocks D1 and E1. This would result in larger openings between Blocks E1, E2, and D1 to maintain wildlife movement through the area. Vineyard blocks shall be fenced individually or in small clusters and will maintain openings of at least 100 feet. The adjustment may result in a slightly decreased acreage of clearing limits, and would not result in the in the acquisition of additional areas not already included within the ECP. | Less than Significant |
| **Impact 4.4-5**: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, specifically the Oak Woodlands Preservation Act (PRC Section 21083.4) and local Napa County policies | Potentially Significant | **Mitigation Measure 4.4-9**<br>▪ Native oak trees within close proximity to the project site shall be protected from vineyard ground-disturbing activities. Prior to site preparation, the contractor shall be informed of the need to protect the root zone of surrounding | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | oak trees. Heavy equipment intrusion and parking under the drip line shall be restricted to protect oak tree roots. The drip line of remaining trees adjacent to clearing activities shall be flagged around the drip line to protect oak tree roots from equipment intrusion.<br>▪ The remaining acres of oak woodland located outside of clearing limits shall be designated for preservation in a mitigation easement with a County-approved organization or other means of permanent protection. Land placed in protection shall be restricted from development and other uses that would potentially degrade the quality of the habitat, including, but not limited to, conversion to other land uses such as agriculture or urban development, and/or excessive off-road vehicle use that significantly increases erosion. The exact area to be conserved shall be determined and appropriately delineated through consultation between the Applicant and the County, and recorded prior to commencement of any land clearing associated with the Proposed Project with the Napa County Recorder's office. A copy of the Easement shall be provided to CDFW. | |
| **Impact4.4-6:** Implementation of the Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. | No Impact | No mitigation is necessary. | Not Applicable |
| **4.5 Cultural Resources** | | | |
| **Impact 4.5-1**: Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5**.** | Potentially Significant | **Mitigation Measure 4.5-1**:<br>A. Should any cultural resources, such as wells, foundations, or debris, or unusual amounts of bone, stone or shell, artifacts, burned or baked soils, or charcoal be encountered during onsite construction activities, construction within 50 feet of these materials shall halt immediately and the construction supervisor shall notify the County and Applicant. A qualified professional archaeologist shall be retained to determine the significance of the discovery. If the find appears to be eligible | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | for listing to the CRHR, the archaeologist and consulting parties, including the Native American community if the discovery is prehistoric, shall develop appropriate mitigation measures to mitigate construction impacts. Mitigation may include documentation, testing, data recovery, construction monitoring, or other measures; all efforts shall be documented according to current professional standards. Construction in the vicinity of the find shall not resume until mitigation has been completed.<br>B. If paleontological resources (e.g., fossils) are encountered, work shall halt immediately within 100 feet of the discovery, and the construction supervisor shall notify the County and Applicant. A qualified professional paleontologist or registered geologist shall be retained to assess the significance of the find and to determine appropriate actions, in cooperation with the County and Applicant. Such measures may include avoidance, preservation in place, excavation, documentation, curation, or data recovery. The paleontologist shall submit a follow-up report to the County, which shall include the period of inspection, an analysis of the fossils found, and present repository of fossils. Construction in the vicinity of the find shall not resume until mitigation has been completed.<br>C. If human remains are uncovered during project construction, pursuant to PRC Section 5097.98 and Section 7050.5 of the California Health and Safety Code, all activities within a 100-foot radius of the find shall be halted immediately, and the construction supervisor shall notify the County and Applicant. The County shall immediately notify the County coroner. California law recognizes the need to protect interred human remains, particularly Native American burials and items of cultural patrimony, from vandalism and inadvertent destruction. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | and Safety Code Section 7050[c]). The County shall contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the County and a qualified professional archaeologist, shall develop a plan of action to avoid or minimize significant effects to the human remains prior to resumption of ground-disturbing activities. | |
| **Impact 4.5-2:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. | Potentially Significant | **Mitigation Measure 4.5-1:** See Mitigation Measure 4.5-1 above. | Less than Significant |
| **Impact 4.5-3**: Disturb human remains, including those interred outside of formal cemeteries. | Potentially Significant | **Mitigation Measure 4.5-1:** See Mitigation Measure 4.5-1 above. | Less than Significant |
| **Impact 4.5-4:** : Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. | Potentially Significant | **Mitigation Measure 4.5-1:** See Mitigation Measure 4.5-1 above. | Less than Significant |
| **Impact 4.5-5**: Disturb human remains, including those interred outside of formal cemeteries. | Potentially Significant | **Mitigation Measure 4.5-1:** See Mitigation Measure 4.5-1 above. | Less than Significant |
| **4.6 Geology and Soils** | | | |
| **Impact 4.6-1:** Development of the Proposed Project would not expose people or structures to risk of loss, injury, or death involving rupture of a known fault, strong seismic ground shaking seismic-related ground failure or landslides, or be located on strata or soil that is expansive or unstable, or that would become unstable as a result of the proposed project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.6-2**: Development of the Proposed Project would not result in substantial soil erosion or the loss of topsoil with the implementation of the ECP. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.6-3**: The Proposed Project does not propose the use of septic tanks or alternative wastewater disposal systems as part of the Proposed Project | No Impact | No mitigation is necessary. | Not Applicable |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **4.7 Greenhouse Gas Emissions** | | | |
| **Impact 4.7-1:** Construction of the Proposed Project would emit GHGs and would have the potential to exacerbate global climate change. | Potentially Significant | **Mitigation Measure 4.7-1:** The Applicant shall implement the following mitigation measures to reduce project-related GHG emissions during construction of the Proposed Project:<br>▪ The Applicant shall maintain all construction equipment in accordance with manufacturers' specifications.<br>▪ The Applicant shall limit construction equipment idling time to less than five minutes. | Less than Significant |
| **Impact 4.7-2:** Operation of the Proposed Project would emit GHGs and would have the potential to exacerbate global climate change. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.8 Hazards and Hazardous Materials** | | | |
| **Impact 4.8-1**: Implementation of the Proposed Project could have the potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials | Potentially Significant | **Mitigation Measure 4.8-1:** The property owner shall prepare and submit a HMBP to the Lead Agency and the California Environmental Reporting System (CERS) prior to development of the Proposed Project. The HMBP shall be prepared in accordance with County standards and California 40 CFR, Part 355, Appendix A, and shall document proposed hazardous substances to be used on-site. If storage amounts or the use of hazardous materials change, the property owner shall update the HMBP as necessary. The Lead Agency shall review the HMBP and may conduct inspections to ensure that the HMBP is being followed, and the HMBP shall be on file with the Lead Agency and CERS. Updates to the HMBP, if warranted, would be made through CERS.<br><br>**Mitigation Measure 4.8-2**: Personnel shall follow written BMPs for filling and servicing construction equipment and vehicles. BMPs are designed to reduce the potential for incidents involving hazardous materials and shall include the following:<br>▪ Refueling shall be conducted with approved pumps, hoses, and nozzles.<br>▪ Catch-pans shall be placed under equipment to catch potential spills during servicing.<br>▪ Disconnected hoses shall be placed in containers to collect residual fuel from the hose. | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | ▪ Vehicle engines shall be shut down during refueling.<br>▪ No smoking, open flames, or welding shall be allowed in refueling or service areas.<br>▪ Refueling and all construction work shall be performed outside of any onsite stream buffer zones to prevent contamination of water in the event of a leak or spill.<br>▪ Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.<br>▪ A spill containment kit that is recommended by the Lead Agency or local fire department will be onsite and available to staff if a spill occurs.<br>▪ If permanent or semi-permanent above ground fuel tanks are used on the site for refueling, they shall be fully contained with sufficient capacity. The containment area shall be lined with impermeable material. The operator of the fueling location shall have sufficient clean-up supplies to address potential spills.<br>▪ In the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during construction, work shall be halted in the affected area and the type and extent of the contamination shall be determined.<br><br>**Mitigation Measure 4.8-3**: Prior to the use of pesticides onsite, the applicant shall update the IPM and resubmit to the County for approval. The update shall include a map identifying the vineyard blocks where pesticide will be applied and the following Standard Operating Procedures (SOPs) when applying chemicals to the vineyard:<br><br>▪ Only a certified pest applicator shall apply the pesticides in accordance with the manufacturer's label.<br>▪ The minimal amount of pesticide that would be used per season shall be purchased and minimal efficacy amount applied under acceptable weather (no to low wind speeds [typically less than 10 miles per hour] with no rainfall) and in accordance with the manufacturer's label. | |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | ▪ Chemicals shall be stored in their original containers and kept off-site.<br>▪ Labels on the containers shall not be removed.<br>▪ Chemicals shall be kept in a well-ventilated locked area.<br>▪ Chemical storage areas shall be at least 100 feet from drainage areas, streams, or groundwater wells.<br>▪ If a chemical must be disposed of, the Napa County Agricultural Commissioner shall be contacted to locate a hazardous waste facility for proper disposal.<br>▪ Chemicals or associated rinse water shall not be poured down sinks, toilets, or streams.<br>▪ Proper personal protection equipment shall be utilized when working with chemicals. | |
| **Impact 4.8-2:** The Proposed Project would include the use of common vineyard-related substances such as fuels, pesticides, and fertilizers. The handling and transfer of potentially hazardous substances has the potential for accidental release. Limited quantities of fuel, oil, and grease that could drip from properly maintained vehicles would be of relatively low toxicity and concentration. Due to the temporary and seasonal nature of construction and operational activities and associated maintenance equipment, no long-term effects to the soil, on-site watercourses, or groundwater would occur from minor releases. Mitigation Measure 4.8-4 requires the establishment of fuel loading and chemical mixing areas outside of riparian buffers (setbacks). | Potentially Significant | **Mitigation Measure 4.8-4**: Fuel loading and chemical mixing areas shall be established outside of proposed setbacks and away from areas that could potentially drain off-site or affect surface and groundwater quality. Secondary containment, such as a containment pallet, shall be utilized at the fuel loading and chemical mixing site. | Less than Significant |
| **Impact 4.8-3:** The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter miles of an existing or proposed school | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.8-4**: The Proposed Project is not located on a site that is listed as a hazardous materials site compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment | No Impact | No mitigation is necessary. | Not Applicable |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **Impact 4.8-5**: The Proposed Project is located within an airport land use plan, but would not result in a safety hazard to people residing or working in the project area | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.8-6**: The Proposed Project would not result in a safety hazard for people residing or working in the project area within the vicinity of a private airstrip | No Impact | No mitigation is necessary. | Not Applicable |
| **Impact 4.8-7:** The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.8-8**: The Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.9 Hydrology and Water Quality** | | | |
| **Impact 4.9-1:** Development of the Proposed Project would not substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or conflict with Napa County Code Section 18.108.027, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.9-2:** Development of the Proposed Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality with the implementation of the ECP | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.9-3:** Development of the Proposed Project would not alter the existing drainage pattern of the property in a manner that could result in substantial erosion or siltation on- or off-site or result in flooding on- or off-site with the implementation of the ECP | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.9-4:** The Proposed Project would not place housing within a 100-year flood hazard area, place within a 100-year flood hazard area structures which would impede or redirect flood flows, or expose people or structures to a significant risk of loss, injury or death involving flooding, | Less than Significant | No mitigation is necessary. | Not Applicable |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| including flooding as a result of the failure of a levee or dam | | | |
| **Impact 4.9-5:** Implementation of the Proposed Project would not result in potential inundation by seiche, tsunami, or mudflow. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.10 Land Use** | | | |
| **Impact 4.10-1**: The Proposed Project would not physically divide an existing community. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.10-2**: The Proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.10-3**: The Proposed Project would not conflict with an applicable habitat conservation plan or natural community conservation plan. | No Impact | No mitigation is necessary. | Not Applicable |
| **4.11 Noise** | | | |
| **Impact 4.11-1**: Implementation of the Proposed Project may expose persons to noise levels in excess of standards established in the General Plan or County noise ordinance, or applicable standards of other agencies. This is a potentially significant impact if left unmitigated. | Potentially Significant | **Mitigation Measure 4.11-1:** The following measures shall be enacted during construction of the Proposed Project to minimize noise impacts to nearby sensitive receptors:<br>▪ Stationary equipment and staging areas shall be located as far as practical from noise-sensitive receptors.<br>▪ All construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.<br>▪ Construction within 200 feet of the neighboring residences shall only occur between the hours of 8 am to 6 pm.<br>▪ Landings will not be located within 100' of adjacent residences.<br>▪ Construction within the remainder of the project site shall occur only between the hours of 7 am to 7 pm.<br>▪ The Applicant shall provide a noise complaint contact phone number to all residences within 400 feet of construction activities. The Applicant shall appoint a noise management employee to investigate noise complaints. | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| **Impact 4.11-2:** The Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.11-3:** The Proposed Project would not expose people residing or working in the project area to excessive noise levels from public or private airstrips | Less than Significant | No mitigation is necessary. | Not Applicable |
| **4.12 Transportation and Traffic** | | | |
| **Impact 4.12-1:** Implementation of the Proposed Project could conflict with applicable Napa County plans and policies establishing measures of effectiveness for the performance of the circulation system, including, level of service standards. | Potentially Significant | **Mitigation Measure 4.12-1:**<br>▪ The Licensed Timber Operator (LTO) or Registered Professional Forester (RPF)shall ensure that drivers of all large vehicles (vehicles larger than a two-axle, four-tire vehicle) are advised to use extreme caution when transporting equipment, agricultural products, and/or people, especially in areas of limited site visibility.<br>▪ The LTO or RPF shall ensure drivers are alerted to the proximity of three schools along Cold Springs Road: Discoveryland Preschool, PUC Elementary School, and the Pacific Union College Campus. Drivers shall be informed that school hours are from 7:30 am to 5:30 pm and shall proceed with caution.<br>▪ Large trucks (3 axles or less) shall operate with headlights on for safety and are not to exceed 15 miles per hour on Cold Springs Road. No logging equipment is to use Winding Way at any time. Larger vehicles shall not exceed 25 miles per hour on rural county road.<br>▪ Oversized vehicles (4 axels or more) shall not use Jake brakes in the immediate vicinity of residential neighborhoods.<br>▪ All construction activities are restricted to Monday through Saturday 7 am to 7 pm. No activities shall take place on Sundays and holidays.<br>▪ Signs indicating slow trucks entering the roadway shall be placed at a distance of 300 feet in both directions of the project site and Discoveryland Preschool, PUC Elementary School, and the Pacific Union College | Less than Significant |

| Environmental Impact | Level of Significance Before Mitigation | Mitigation Measure | Level of Significance After Mitigation |
|---|---|---|---|
| | | Campus shall be notified when logging will commence and when logging operations are completed. | |
| **Impact 4.12-2:** Traffic generated by the Proposed Project would not result in significant changes to air traffic patterns. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.12-3:** Traffic generated by the Proposed Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), including increased wear-and-tear | Potentially Significant | **Mitigation Measure 4.12-2**: Prior to construction, the Licensed Timber Operator (LTO) or Registered Professional Forester (RPF) shall video-document the existing condition of Cold Springs Road from the intersection of Las Posadas Road for approximately 0.38 miles (2,000 feet) to the existing driveway at 300 Cold Springs Road. Upon completion of logging, the Applicant shall meet with the County Road Department and discuss the need for repairs attributable to implementation of the Proposed Project. The Applicant shall assume responsibility for repairs commensurate with its use. | Less than Significant |
| **Impact 4.12-4:** Construction and operational traffic generated by the Proposed Project will not result in inadequate emergency access | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.12-5:** Implementation of the Proposed Project would not conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or actively exceeding the site's capacity. | Less than Significant | No mitigation is necessary. | Not Applicable |
| **Impact 4.12-6:** Traffic generated by construction and operation of the Proposed Project does not have the potential to impact pedestrian, bicycle, and public transport in the vicinity of the project. | Less than Significant | No mitigation is necessary. | Not Applicable |

# SECTION 2.0
# INTRODUCTION

## 2.1 PURPOSE OF AN ENVIRONMENTAL IMPACT REPORT

The Napa Planning, Building, and Environmental Services Department (Napa County), as the Lead Agency, has prepared this EIR to provide the public and responsible and trustee agencies with information about the potential effects, both beneficial and adverse, of the implementation of the Le Colline Vineyard Erosion Control Plan Application (ECPA) #P14-00410-ECPA (Proposed Project) on the environment. The California Department of Forestry and Fire Protection (CAL FIRE) and the Regional Water Quality Control Board, San Francisco Bay District, are Responsible Agencies. This EIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), the CEQA Guidelines (CEQA, 2017), and Napa County's local CEQA Guidelines (Napa County, 2015).

As described in CEQA *Guidelines* Section 15121(a), an EIR is a public information document that assesses potential environmental impacts of the Proposed Project and identifies mitigation measures and alternatives that could reduce or avoid adverse environmental impacts. CEQA requires state and local government agencies to consider environmental consequences of projects over which they have discretionary authority. An EIR is an informational document used in the planning and decision-making process. It is not the intent of an EIR to recommend approval or denial of a project.

CEQA requires that a Lead Agency neither approve nor carry out a project as proposed unless significant environmental effects, as defined by the significance criteria adopted by the lead agency (CEQA Guidelines, Sections 15064 and 15064.7), have been reduced to an acceptable level, or unless specific findings are made attesting to the infeasibility of altering the project to reduce or avoid environmental impacts (CEQA *Guidelines*, Sections 15091 and 15092). An acceptable level is defined as eliminating, avoiding, or substantially lessening the significant effects. CEQA also requires that decision-makers balance the benefits of a project against unavoidable environmental risks. If environmental impacts are identified as significant and unavoidable, the project may still be approved if it is demonstrated that social, economic, or other benefits outweigh the unavoidable impacts. The Lead Agency would then be required to state in writing the specific reasons for approving the project based on information presented in the EIR, as well as other information in the record. This process is defined as a "Statement of Overriding Considerations" by the CEQA *Guidelines*, Section 15093.

# 2.2 OVERVIEW

The Proposed Project involves developing approximately 25 net acres of vineyard within 33.8 gross acres (project site) on the approximately 88.34-acre property. This includes timber harvesting, vegetation removal and earthmoving and grading activities, as well as ripping and tilling and rock removal associated with soil cultivation, installation and maintenance of drainage and erosion control features, vineyard planting and harvesting, and maintenance and operation of vineyards upon completion. With the clearing of commercial timber species as part of the Proposed Project, a Timber Harvest Plan (THP) and Timber Conversion Plan (TCP) will be prepared and processed separately by CAL FIRE consistent with the Forest Practice Rules, and the environmental impacts of the THP are considered in that process.

This EIR describes the environmental impacts of the various components of the Proposed Project, and suggests mitigation measures to avoid or reduce potentially significant impacts to less-than-significant levels. The impact analyses in this report are based on a variety of sources, including agency consultation, various reports prepared by others, and reports and field surveys conducted by qualified experts. The property as it existed at the time of the Notice of Preparation (April 13, 2016) is considered the baseline for analyzing the effects of the Proposed Project (**Appendix A**). **Section 4.0** includes detailed descriptions of the existing environmental baseline by resource area, as well as other relevant historical land use information.

This EIR analyzes the effectiveness of the erosion control measures as designed in #P14-00410-ECPA to control short- and long-term erosion and attenuate runoff as a result of the Proposed Project. The Proposed Project as described in **Section 3.0** is designed to avoid significant impacts where possible, and **Section 4.0** includes mitigation measures in addition to those found in the ECP to reduce impacts to less-than-significant levels.

## 2.2.1 AGRICULTURAL ACTIVITIES

In general, agricultural activities are not subject to County discretionary approval under CEQA due to a statutory exemption. However, projects involving grading, earthmoving, or land disturbance activities on slopes greater than five percent require preparation and approval of an ECP, which is subject to review under CEQA by Napa County to ensure protection of waterways such as the Napa River, which is a Clean Water Act Section 303(d) listed impaired waterway for sediment by the U.S. Environmental Protection Agency (EPA) and State Water Resources Control Board (SWRCB). The Proposed Project meets County requirements for an ECP, the ECP for the Proposed Project (#P14-00410-ECPA) will be reviewed using this CEQA document and is included as **Appendix B** to this Draft EIR. Proposed vineyard development, along with subsequent vineyard activities such as vineyard maintenance and operation (including harvest), are analyzed within this EIR. Potential cumulative effects of the project when combined with other past, present, or probable future projects are also considered.

In accordance with the County Code Section 18.108.080 (Napa County, 2017), Le Colline LLC filed an agricultural ECPA #P14-00410-ECPA on December 19, 2014 for development of land currently

owned by the Applicant. In 2016, an Initial Study (IS) and Notice of Preparation (NOP) were circulated (Governor's Office of Planning and Research, State Clearinghouse (SCH) #2016042030; AES, 2016) by CAL FIRE for approval of the Timber Harvest Plan (THP) and Timber Conversion Plan (TCP) for the development of approximately 25 net acres of new vineyard within 33.8 gross acres of disturbance on a 88.34-acre property. Prior to September 2017, CAL FIRE served as the CEQA Lead Agency and Napa County served as the responsible agency for the project. Subsequently CAL FIRE and the County mutually agreed to transfer the project to Napa County, which now serves as the Lead Agency. As such, final THP and TCP were not completed and are considered drafts that will be finalized once the County's EIR process is completed.

For consistency, references to the property include the entire 88.34 acres; references to the project site, study area, or gross acres of disturbance refer to the 33.8 acres subject to alteration and the erosion control features that are located outside the clearing limits; and net acres of vineyard describe the 25 acres of new vineyard proposed for development. A total of 8 proposed vineyard blocks would be developed within areas with slopes greater than five percent.

Agricultural preservation and land use planning goals and policies were adopted in the Napa County General Plan (Napa County, 2008). Goals and policies applicable to the Proposed Project include:

- Goal AG/LU-1: Preserve existing agricultural land uses and plan for agriculture and related activities as the primary land uses in Napa County.
- Goal AG/LU-3: Support the economic viability of agriculture, including grape growing, winemaking, other types of agriculture, and supporting industries to ensure the preservation of agricultural lands.
- Policy AG/LU-1: Agriculture and related activities are the primary land uses in Napa County.
- Policy AG/LU-2: "Agriculture" is defined as the raising of crops, trees, and livestock; the production and processing of agricultural products; and related marketing, sales and other accessory uses. Agriculture also includes farm management businesses and farm worker housing.
- Policy AG/LU-4: The County will reserve agricultural lands for agricultural use including lands used for grazing and watershed/open space, except for those lands which are shown on the Land Use Map as planned for urban development.
- Policy AG/LU-15: The County affirms and shall protect the right of agricultural operators in designated agricultural areas to commence and continue their agricultural practices (a "right to farm"), even though established urban uses in the general area may foster complaints against those agricultural practices. The "right to farm" shall encompass the processing of agricultural products and other activities inherent in the definition of agriculture provided in Policy AG/LU-2, above. The existence of this "Right to Farm" policy shall be indicated on all parcel maps approved for locations in or adjacent to designated agricultural areas and shall be a required disclosure to buyers of property in Napa County.
- Policy AG/LU-20: The following standards shall apply to lands designated as Agriculture,

> Watershed, and Open Space on the Land Use Map of this General Plan. Intent: To provide areas where the predominant use is agriculturally oriented; where watersheds are protected and enhanced; where reservoirs, floodplain tributaries, geologic hazards, soil conditions, and other constraints make the land relatively unsuitable for urban development; where urban development would adversely impact all such uses; and where the protection of agriculture, watersheds, and floodplain tributaries from fire, pollution, and erosion is essential to the general health, safety, and welfare.

In the Conservation Element of the General Plan, the maintenance and enhancement of the agricultural environment is included as a planning policy (Policy CON-2). The policy expresses the intent of Napa County to provide a permanent means of preserving open space land for agricultural production by using various methods including zoning (Napa County Code Section 18.12.010). The above goals and policies comprise a set of development guidelines from which land use designations were developed. The AWOS General Plan designation for the subject property is an example. The respective goals of these designations are to provide areas where the predominant use is agriculturally oriented and where the protection of agriculture is essential to the general health, safety, and welfare, and to continue agricultural use of identified fertile valley and foothill areas.

There are several related sections from the Napa County Code of relevance to the project. In Napa County Code Chapter 2.94 – Agriculture and Right to Farm, the County affirms and protects the right of agriculture operators in designated agricultural areas, even though established urban uses in the general area may foster complaints against those agricultural practices. Napa County Code Chapter 18.04 recognizes the role of agriculture in the County's economic vitality. Napa County Code Chapter 18.108 pertains to hillside agriculture and the need to establish standards on slopes over five percent. In addition, Napa County Code Chapter 18.20 – Agricultural Watershed District, concerns the protection of the public interest in drainage systems and water impoundments from sedimentation, siltation, and contamination by ensuring agricultural projects use sound short and long term erosion control measures.

The County has discretion over earthmoving activities on slopes greater than five percent (Napa County Code 18.108.070 (B)). Napa County Code 18.108.070 (B) requires the preparation of an ECP for earthmoving and grading activities on slopes greater than five percent. The construction and operation of the vineyard as proposed in the ECP are subject to the exercise of judgment or deliberation when the County approves the ECP; thus, the approval of an ECP is a discretionary action and subject to CEQA. Potential environmental impacts associated with the subsequent agricultural activities, such as vineyard planting and operations, are analyzed within this EIR as well.

Napa County Code and Resolution 94-19 (as amended) specify the contents of an ECP and all elements that are required before the ECP application is accepted. These contents are described in the County's ECP Review Application Packet for Structure/Road/Driveway, General Land Clearing, and Agricultural Projects. A qualified professional as described in Section 18.108.080 of the County Code must prepare the ECP. **Appendix B** contains a copy of the ECP application and the ECP.

# 2.3 EIR PROCESS

In accordance with CEQA *Guidelines* § 15050 and 15367, Napa County is now the Lead Agency, defined as the "public agency which has the principal responsibility for carrying out or approving a project." The Lead Agency is also responsible for determining the scope of the environmental analysis, preparing the EIR, and responding to comments received on the Draft EIR. Prior to making a decision on whether to approve a project, the Lead Agency is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the Lead Agency.

## 2.3.1 PRE-HARVEST INSPECTION

- As part of the Timber Harvesting Plan review process conducted by CAL FIRE, a Pre-Harvest Inspection (PHI) of the proposed logging site was conducted. The PHI occurred on August 29, 2016 and was attended by the Applicant and the Applicant's project team including the Registered Professional Forester (RPF) and representatives from California Department of Forestry and Fire Protection (CAL FIRE); Napa County Department of Planning, Building and Environmental Services; California Department of Fish and Wildlife (CDFW); and California Geological Survey (CGS). The following comments were received as a result of the PHI (Appendix A) and were considered during the preparation of the Draft EIR: In a letter dated September 15, 2016, CDFW recommended reductions in the fire hazard reduction areas, removal of old water lines at the rocky outcropping on the project site, updating the THP to accurately depict watercourses and avoid impacts, avoidance of impacts to protected bat species, consideration of wildlife movement and corridors, assessment of foraging and nesting habitat loss for northern spotted owls, and the application of buffers to protect special status plants. Many of these issues have been addressed through project design and through mitigation presented in Section 4.4, Biological Resources.
- In a letter dated September 14, 2016, CGS relayed concerns regarding potential effects of operations on slope stability; construction of new roads and use of existing roads and skid trails; potential for sediment delivery to Conn Creek and tributaries. Many of these issues have been addressed through project design and corresponding analysis is provided in Section 4.6, Geology and Soils, and Section 4.9, Hydrology and Water Quality.

## 2.3.2 NOTICE OF PREPARATION

A transfer of CEQA Lead Agency status for the Proposed Project from CAL FIRE to Napa County occurred in September 2017. In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) for this EIR was circulated and noticed under CAL FIRE on April 13, 2016. The NOP/ Initial Study (IS) was circulated and noticed by CAL FIRE. The NOP was circulated to the public, local, State, and federal agencies, and other known interested parties for a 30-day public and agency review period from April 13, 2016 to May 13, 2016 (**Appendix A**). The purpose of the NOP was to provide notification that an EIR for the Proposed Project was being prepared and to solicit public input on the scope and content of the document. Comments from agencies and the public

submitted in response to the NOP are included within **Appendix A**. Issues raised in these comments on the NOP are summarized below.

## NOTICE OF PREPARATION COMMENTS

Three comment letters were received on the NOP. These comment letters were considered during preparation of the Draft EIR and are presented in **Appendix A**. The following is a list of commenting agencies and organizations, a summary of the concerns raised, and the corresponding section of the EIR where these concerns are addressed.

- City of Napa Public Works Department, Water Division – the two letters from the Water Division expressed concern regarding the Proposed Project's potential impacts on water quality in Lake Hennessey. The Water Division requested that water quality samples be taken every two months downstream of the outfall and runoff area of the project site. Hydrological impacts, including water quality and associated mitigation measures, are addressed in **Section 4.9**.
- Napa County – the County requested the Draft EIR describe the full impact area of all project components (addressed in **Section 3.0**) and provide analysis of impacts related to hydrology and water quality (addressed in **Section 4.9**), biological resources (addressed in **Section 4.4**), land use and planning (addressed in **Section 4.10**), and transportation and circulation (addressed in **Section 4.12**).

### 2.3.3 DRAFT EIR AND PUBLIC REVIEW

This Draft EIR is being circulated to local, state and federal agencies and to interested organizations and individuals who wish to review and comment on the report. During this period, the general public, organizations, and agencies can submit comments to the Lead Agency on the Draft EIR's accuracy and completeness. The document is available for public review at the following locations:

Napa County
Planning, Building and Environmental Services Department
1195 Third Street, Second Floor
Napa, CA 94599-3092

Napa Main Library
580 Coombs Street
Napa, CA 94559

Publication of this EIR marks the beginning of a 45-day public review period, pursuant to CEQA *Guidelines* § 15105, during which written comments may be submitted to Napa County at the following address (including e-mail and fax):

Napa County
Planning, Building and Environmental Services Department
Conservation Division
Attn: Brian Bordona, Supervising Planner
1195 Third Street, Second Floor
Napa, CA 94599-3092
Email: Brian.Bordona@countyofnapa.org

Although Napa County will accept e-mail and fax comments, reviewers are encouraged to follow up any e-mail/fax with letters.

In accordance with CEQA *Guidelines* Section 15204 (a), the focus of review should be on the sufficiency of this EIR in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated.

### 2.3.4 FINAL EIR AND CERTIFICATION

Written comments received in response to the Draft EIR will be addressed in a Response to Comments document, which together with any revisions to the Draft EIR text will constitute the Final EIR. Napa County will then review the Proposed Project, the EIR, and public comment to decide whether to certify the EIR and approve the project (Section 15090 of CEQA *Guidelines*). Before approving the project, Napa County must make written findings with respect to each significant environmental effect identified in the EIR in accordance with Section 15091 of CEQA *Guidelines*. Within five working days following project approval, Napa County shall file a Notice of Determination (NOD) with the SCH and the county clerk in accordance with CEQA *Guidelines* Section 15094.

## 2.4 EFFECTS NOT FOUND TO BE SIGNIFICANT

CEQA *Guidelines* § 15128 states that an "EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." Potential impacts of the Proposed Project to the following environmental resource areas were identified as being less-than-significant and therefore are not evaluated in this Draft EIR: Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems. The Proposed Project would result in either no impact or a less-than-significant impact to these issue areas for the following reasons:

**Mineral Resources**: Mineral resources have not been identified within the property (USGS, 2013). No impact would occur.

**Population and Housing**: The Proposed Project does not involve the construction of new homes or businesses, and would not impact the existing home on the property. Existing roads will be used during construction, project operation activities, and for fire/emergency equipment access to the property as needed. The Proposed Project would not induce substantial population growth either directly or indirectly or create a significant need for additional housing. While an average of

approximately 12 seasonal workers on the property are anticipated for the timber harvest phase and construction of the vineyard and up to 25 seasonal workers are anticipated during certain phases of operation of the vineyard (e.g. grape harvesting), this will not impact the housing supply in the area by causing an increased need for additional housing. Many of the seasonal workers are also employed at existing surrounding vineyards and are therefore already accounted for in the current housing market supply. Therefore, no new housing would be required as a result of the Proposed Project. Also, no residences or people would be displaced by the Proposed Project. Therefore, impacts to population and housing are considered less-than-significant.

**Public Services**: The Proposed Project would not result in substantial growth that would require additional public services. The Proposed Project would not adversely impact Napa County's ability to provide fire and police protection or impact the maintenance of schools, parks, or other public facilities. No impact would occur.

**Recreation**: The Proposed Project would not result in substantial population growth or the associated increased use of recreational facilities and does not include the construction or expansion of recreational facilities. The Proposed Project would also not adversely impact recreational opportunities or prohibit the maintenance of existing recreational opportunities. No impact would occur.

**Utilities and Service Systems**: The Proposed Project would not require and therefore not exceed water treatment requirements or result in the construction of new water or wastewater treatment facilities. The Proposed Project would rely on groundwater to establish and maintain the proposed vineyard from an existing agricultural well on the property and would not require additional water supplies, such as connection to a public water supply. The proven capacity of the well is sufficient to meet the anticipated project demand, even during the first establishment years of the vineyard (refer to **Section 3.9**). To the degree needed during the timber harvest or peak periods of vineyard labor use, portable toilets would be used on site, so no impacts to public wastewater systems would occur. Construction and operation of the Proposed Project would generate a minimum amount of construction waste or other solid waste; therefore, a less-than-significant impact is expected on the landfill capacity in the area. The Proposed Project would not conflict with any statutes or regulations related to solid waste. No significant increase in energy demand, which would cause an impact on public services, is anticipated from the Proposed Project. Impacts to utilities and service systems are considered less-than-significant.

**Energy Conservation**: The Proposed Project will not require the long-term use of electricity, as the vineyards will not require connection to the Pacific Gas & Electric (PG&E) electrical grid. Impacts due to fossil fuel use in both the construction and operation phases have been reduced, there would be no impacts to the region's energy grid, and therefore an additional analysis per CEQA *Guidelines* is not necessary.

# 2.5 EIR TERMINOLOGY

This EIR uses the following terminology to describe environmental effects of the Proposed Project and Alternatives:

- **Significance Criteria:** A set of criteria used by the Lead Agency to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this Draft EIR include factual or scientific information; regulatory standards of local, State, and federal agencies; and/or guiding and implementing goals and policies identified in local or state plans.
- **Less-Than-Significant Impact:** A less-than-significant impact would cause no substantial change in the environment (no mitigation required).
- **Less-Than-Significant Level:** The level below which an impact would cause no substantial change in the environment (no mitigation required).
- **Potentially Significant Impact:** A potentially significant impact may cause a substantial change in the environment; however, it is not certain that effects would exceed specified significance criteria. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact. Mitigation measures and/or project alternatives are identified to reduce project effects to the environment.
- **Significant Impact:** A significant impact would cause a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of effects using specified significance criteria. Mitigation measures and/or project alternatives are identified to reduce or avoid project effects to the environment.
- **Significant and Unavoidable Impact:** A significant and unavoidable impact would result in a substantial change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.
- **Cumulative Significant Impact:** A cumulative significant impact would result in a substantial change in the environment from effects of the project, as well as surrounding projects and reasonably foreseeable development in the surrounding area. To be considered significant, a project's impact must make a cumulatively considerable contribution to a substantial change in the environment.
- **Mitigation:** Mitigation includes measures recommended in the Draft EIR and imposed as condition of approval by the Lead Agency that:
    - Avoid the impact altogether by not taking a certain action or parts of an action;
    - Rectify the impact by repairing, rehabilitating, or restoring the affected environment;
    - Minimize impacts by limiting the degree or magnitude of the action and its implementation; and
    - Compensate for the impact by replacing or providing substitute resources or environments.

# 2.6 EIR ORGANIZATION

**Section 1.0 - Executive Summary** summarizes the elements of the Proposed Project and the environmental impacts that could result from implementation of the Proposed Project, and provides a table which lists impacts, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation.

**Section 2.0 - Introduction** provides an introduction and overview of the EIR, describes the intended use of the EIR, and describes the review and certification process.

**Section 3.0 - Project Description** provides a detailed description of the Proposed Project, including its location, background information, major objectives, and technical characteristics.

**Section 4.0 - Environmental Setting, Impacts, and Mitigation Measures** describes the baseline environmental setting and provides an assessment of impacts for each issue area presented in **Table 1-1**. Each section is typically divided into three sub-sections: Existing Environmental Setting, Regulatory Framework, and Impacts and Mitigation Measures.

**Section 5.0 - Alternatives** describes and compares alternatives to the Proposed Project and associated environmental consequences.

**Section 6.0 - Other CEQA-Required Sections** provides discussions required by CEQA regarding impacts that would result from the Proposed Project, including a summary of cumulative impacts; and significant irreversible changes to the environment.

**Section 7.0 - Report Preparation** lists report authors and agencies consulted for technical assistance in the preparation and review of the EIR.

**Appendices** includes documents and data directly related to analysis presented in the EIR.

# REFERENCES

Napa County, 2008. Napa County General Plan. June 2008. Available online at: http://www.countyofnapa.org/GeneralPlan/.

Napa County, 2015. Napa County's Local Procedures for Implementing the California Environmental Quality Act. Napa County Conservation, Development and Planning Department. Revised February 2015.

United States Geological Survey (USGS), 2013. Mineral Resources Data System. Last updated July 9, 2015. Available online at: http://mrdata.usgs.gov/mineral-resources/mrds-us.html.

# SECTION 3.0
# PROJECT DESCRIPTION

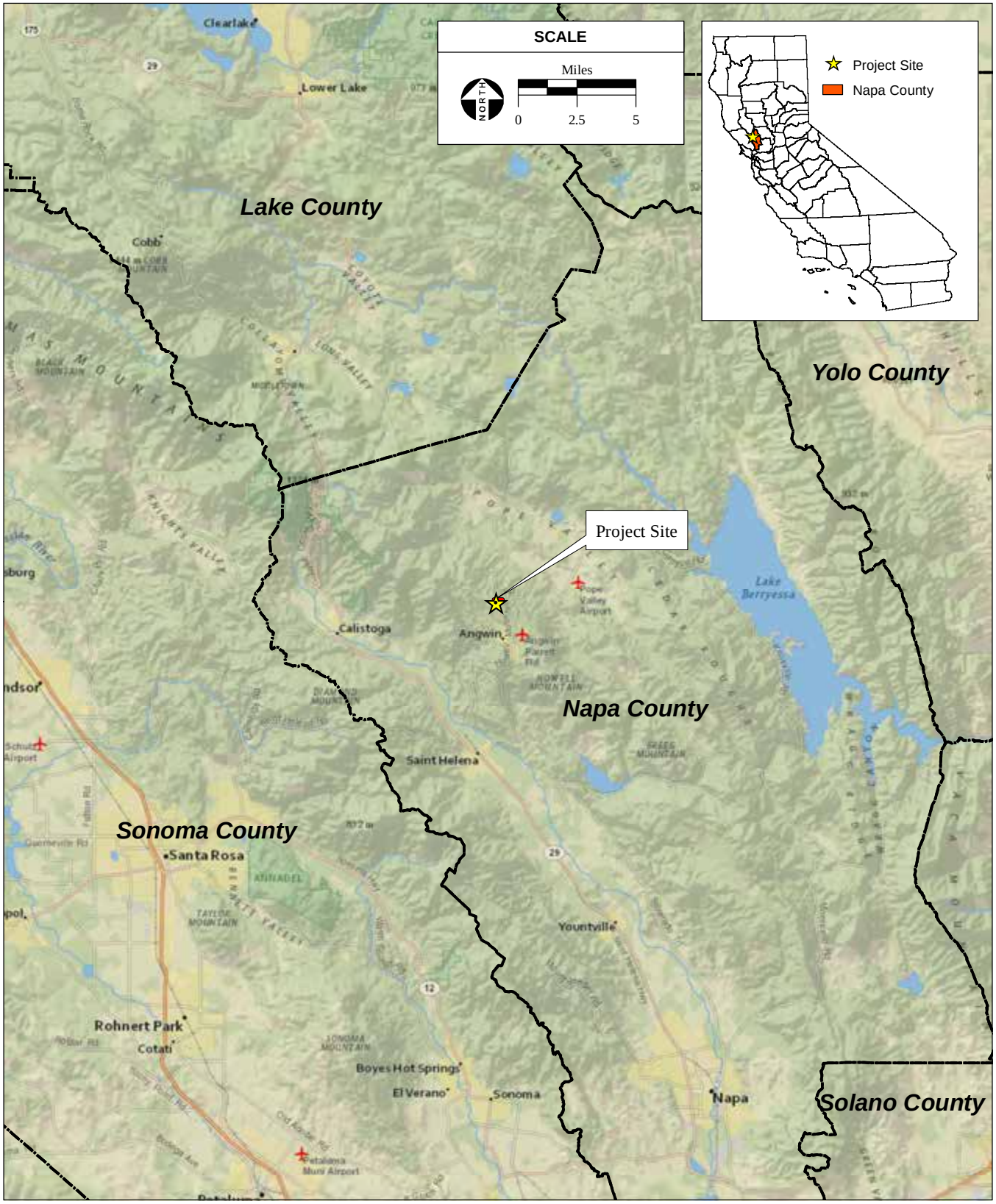
## 3.1 PROJECT LOCATION

The 92-acre property is located at 300 Cold Springs Road south of the town of Angwin in northern Napa County (County), California; Assessor parcel numbers (APN) 024-300-070, 024-300-071, 024-300-072, and 024-340-001. **Figure 3-1** shows a map of the regional location of the property, and **Figure 3-2** shows the site and vicinity. An aerial photograph of the property is included as **Figure 3-3**. The project site is situated within the northwest quarter of Section 8, Township 8 North, Range 5 West of the Mount Diablo Baseline and Meridian on the "St. Helena", California," U.S. Geological Society (USGS) 7.5-minute quadrangle. The property and the majority of surrounding properties are zoned Agricultural Watershed (AW) with an Airport Compatibility overlay. Several nearby residencies are also zoned as Planned Development. There is one residence located 125 feet northeast of Block E2 with ancillary structures (art studio, garage, chicken coup) located on the property, owned by the applicant and leased to someone else. Surrounding land uses include rural residences, vineyards, and open space. The nearest off-site residence is located approximately 41 feet from the northeast property line (approximately 41 feet east of vineyard Block C). Additionally, Pacific Union College (PUC) Elementary School and associated Discoveryland Children's Center are located approximately 2,000 feet north of the property.

The property is situated on west- and south-facing slopes on the east side of Napa Valley. Elevations on the project site range from approximately 1,475 to 1,742 feet above mean sea level, and slopes range from 7 to 29 percent within the project footprint, reaching above 50 percent in areas of the project parcels outside of the clearing areas that will not be developed. The property is located within the Conn Creek—Upper Reach and Main Fork watersheds in the Napa River Basin. The Conn Creek watershed is defined as a sensitive domestic water supply drainage by Napa County as it supports Conn Dam and Lake Hennessey, a municipal water source for the City of Napa. The property contains several predominately Class II and III drainages that flow southwest into Conn Creek. Conn Creek is a Class I watercourse immediately adjacent to the western boundary of the property.

## 3.2 PROJECT DESCRIPTION

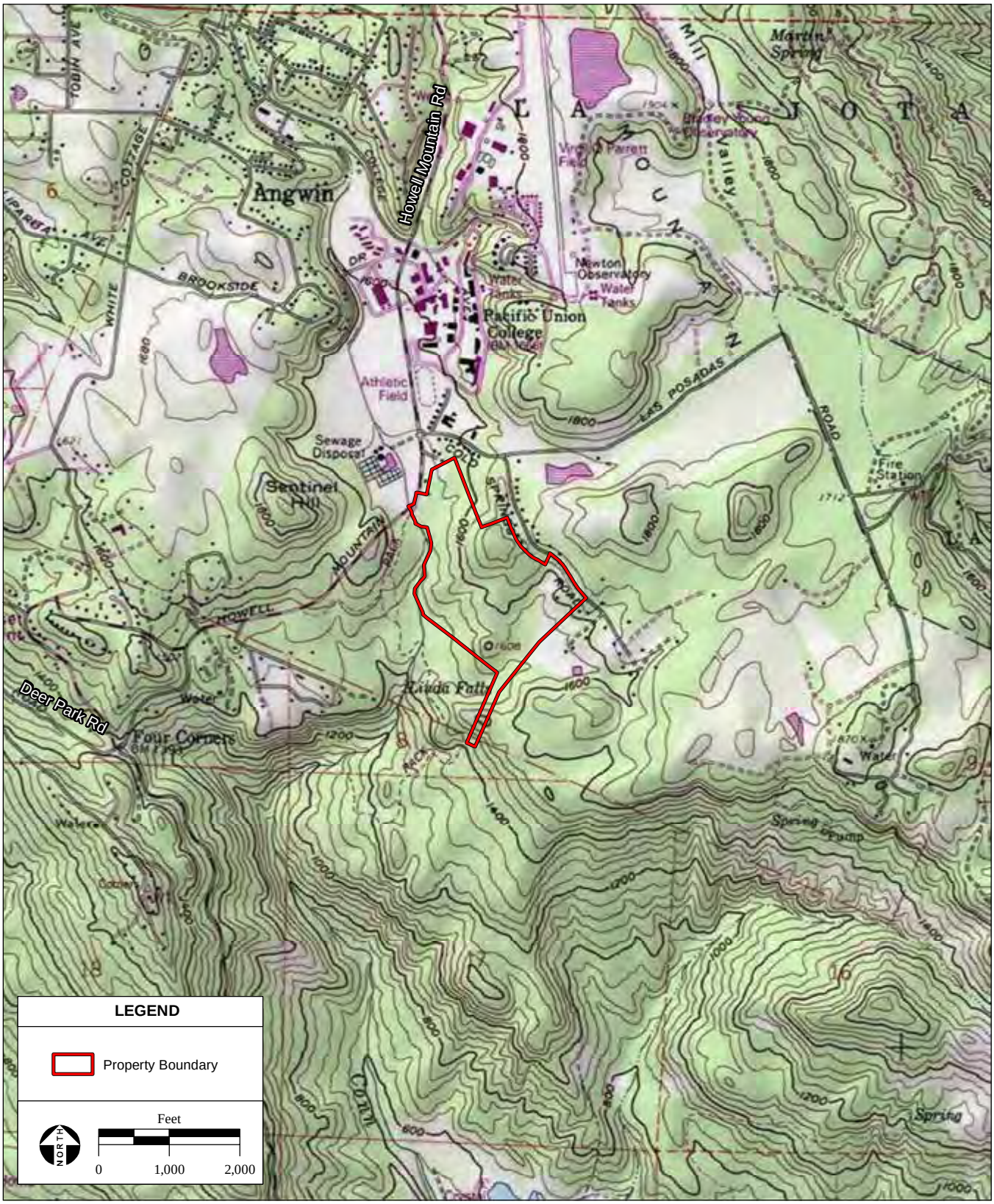
The Proposed Project involves earthmoving activities on slopes greater than 5 percent in connection with the development of 25 net acres of vineyard (**Table 3-1**) within 33.8 acres (project site), which consists of 32.8 gross acres of vineyard and 1 acre of access drives and improvements to the existing dirt trails, on the approximately 88.34-acre property.




SOURCE: NatGeo, 2015; AES, 5/17/2018

*Le Colline Vineyard Project / 217553* ■

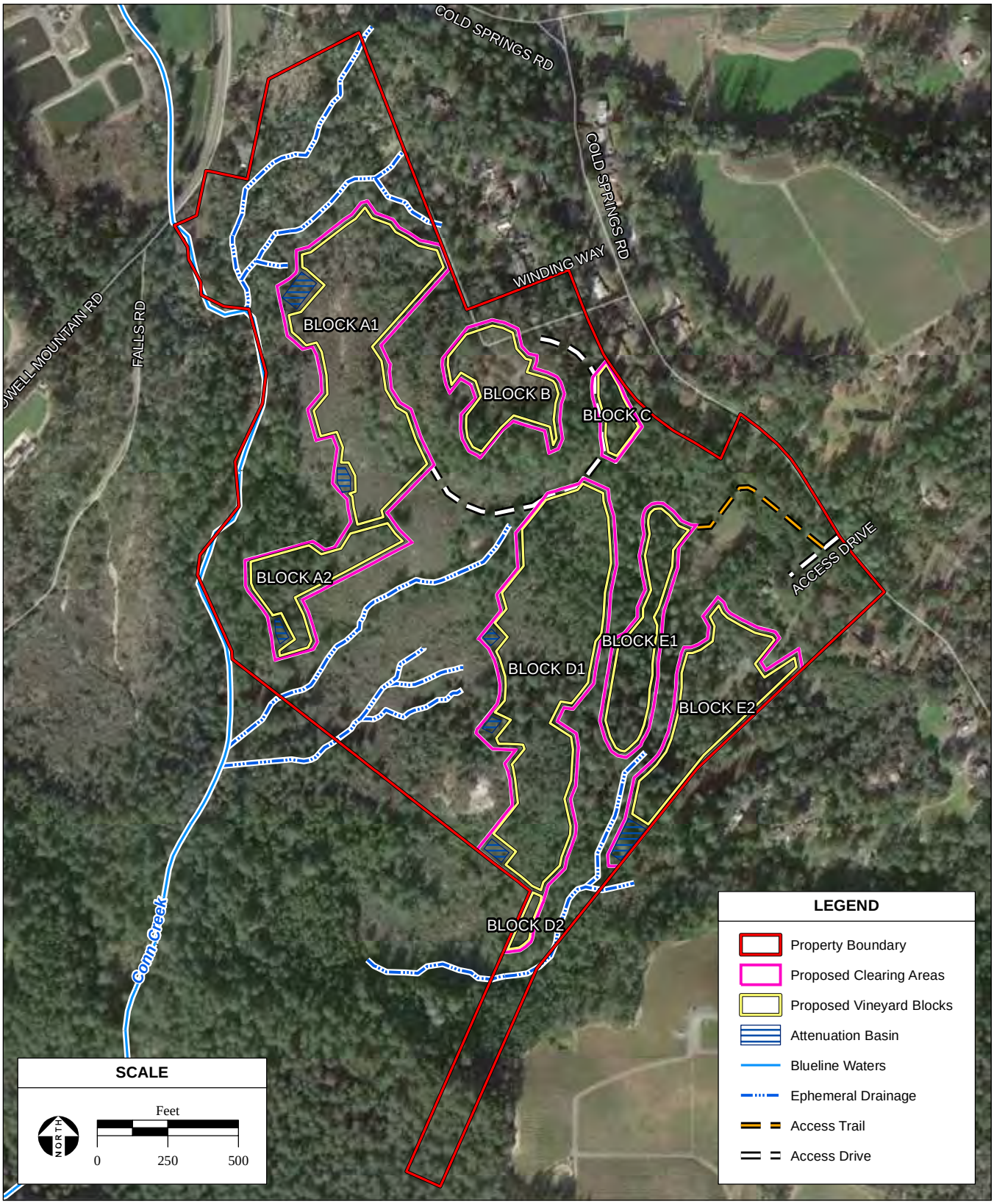
**Figure 3-1**
Regional Location




SOURCE:"Saint Helena, CA" USGS 7.5 Minute Topographic Quadrangle,
T8N R5W, Unsectioned Areas of La Jota, Mt. Diablo Baseline & Meridian; AES, 5/17/2018



**Figure 3-2**
Site and Vicinity




SOURCE: Environmental Resource Management, 5/2016; DigitalGlobe Aerial Photograph, 2/4/2018; Napa Valley Vineyard Engineering, Inc., 2/22/2017; ESRI Data, 2015; AES, 9/13/2018



**Figure 3-3**
Proposed Vineyard Blocks

The gross acreage includes vineyard avenues that would be constructed around each of the proposed vineyard blocks and rock stockpile areas screened from view by the surrounding forests and vineyards, as well as access roads that would be constructed. The Proposed Project has been designed to minimize impacts to water quality, biological resources, slope instability, and other associated environmental effects in accordance with Chapter 18.108.070 of the County Code. A Timber Harvest Plan (THP) and Timber Conversion Plan (TCP) for the portion of the Proposed Project containing commercial timberland will be required to be issued by the California Department of Forestry and Fire Projection (CAL FIRE).

**TABLE 3-1**
VINEYARD BLOCKS AND ACREAGES

| Vineyard Block | Acres | |
|---|---|---|
| | Gross | Net |
| Block A (A1 and A2) | 11.3 | 8.7 |
| Block B | 2.9 | 2.2 |
| Block C | 0.8 | 0.6 |
| Block D (D1 and D2) | 10.4 | 8.4 |
| Block E (E1 and E2) | 7.4 | 5.1 |
| Miscellaneous (Roads etc.) | 1.0 | |
| Total | 33.8 | 25.0 |

Source: NVVE, 2017

The proposed vineyard would be managed using sustainable agricultural methods. Vineyard development activities include: removal of brush, trees, and associated vegetation within proposed clearing limits; soil ripping, and rock removal; installing erosion control measures; staking and installation of a drip system; establishment and maintenance of a cover crop; and mulching, planting, and maintenance of vines. An Erosion Control Plan (ECPA #P14-00410-ECPA, NVVE, 2017) has been prepared for the Proposed Project, and is included as **Appendix B**. Erosion control measures would be maintained regularly in order to function as designed. Temporary erosion control measures that may include, but are not limited to, diversion ditches, water bars, annual winterization, and other measures, would be constructed as indicated in the ECP.

Vineyard blocks would be accessed via the existing driveway at Winding Way and the existing driveway off Cold Springs Road, although large trucks (larger than a pickup truck but less than 3 axles) will be prohibited from using Winding Way. The vineyard blocks will include wine grape vines as well as internal farm avenues and space for vineyard maintenance operations. The establishment of the vineyard as part of the Proposed Project is consistent with the AW zoning designation. The anticipated timeframe for the Proposed Project is included in **Table 3-2**. The years identified in the table below begin on April 1 and end on September 1.

**TABLE 3-2**
PROPOSED PROJECT TIMELINE

| Year | Description |
|---|---|
| Fall 2019 | Timber Harvest Phase, fall and clearing, limit April 1 to November 15th |
| Fall 2019 | Clearing, rock and root removal, stacking vegetation for burning or other disposal, disking, installing permanent erosion control measures prior to vineyard layout, staking and installation of drip system, installing temporary erosion control measures. Winterization, consisting of seeding and mulching; limit April 1st to September 1st<br><br>Maintain erosion control measures, burning as allowed by government agencies; limit September 15th through March 31st |
| Spring to Fall 2020 | Complete unfinished pre-plant operations, plant vineyard and begin cultural practices\. Maintain all erosion control features. |
| 2020 onward | Ongoing maintenance; no-till, spot spray |

Note: Times are approximate, and are impacted by approval dates of the TCP, THP, and ECP.

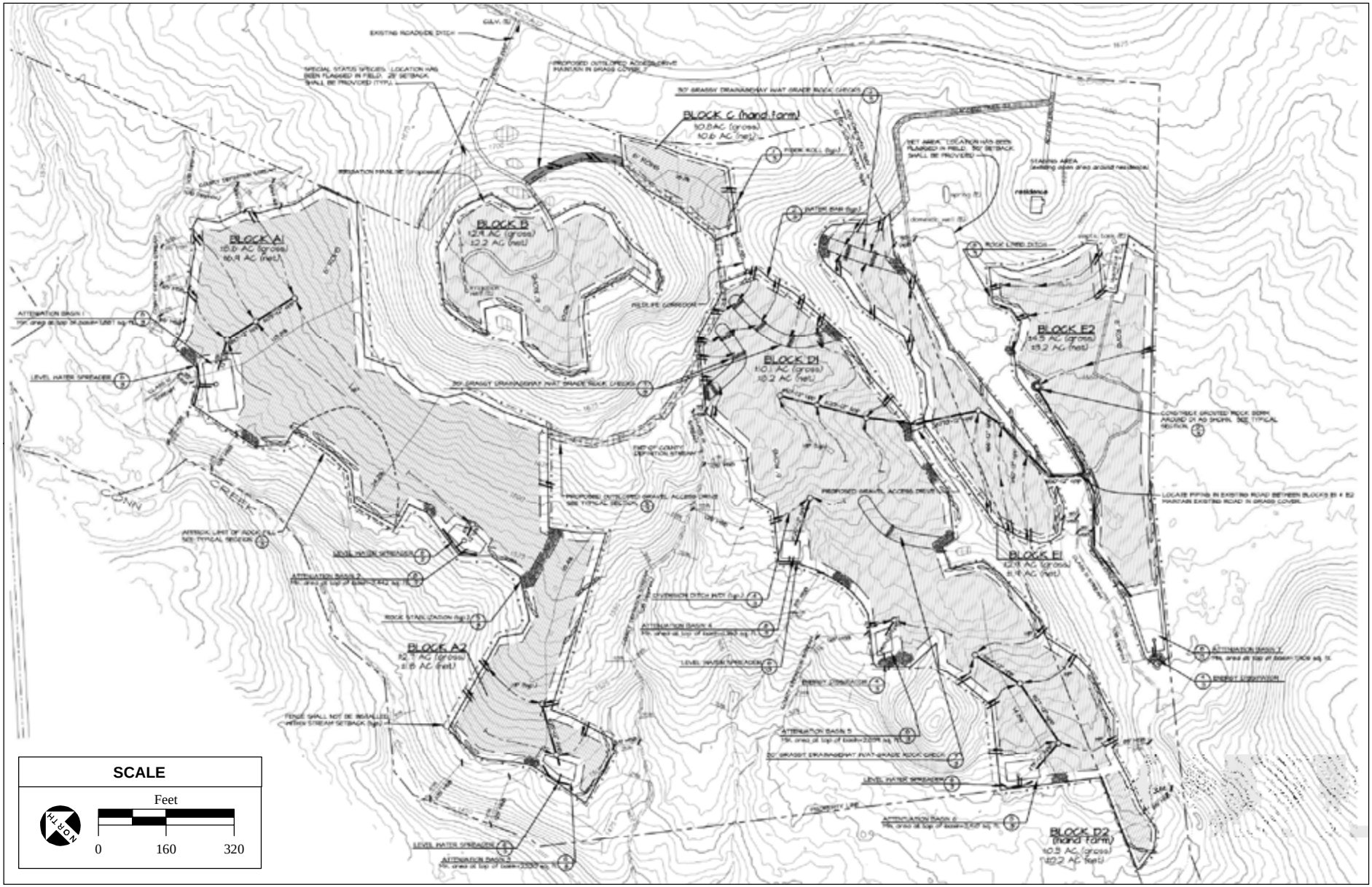
## 3.2.1 EROSION CONTROL PLAN

An ECP (File #P14-00410-ECPA) has been prepared by a Licensed Civil Engineer (Napa Valley Vineyard Engineering) pursuant to Chapter 18.108 of the Napa County Code (Conservation Regulations). An ECP is required for agricultural projects involving grading and earthmoving activities on slopes over five percent in the County. Since County approval of an ECP is required, the ECP is therefore a part of the Proposed Project analyzed in this EIR. In order to maximize the erosion control elements for the Proposed Project, the proposed ECP features cover the entire 33.8-acre conversion site, as shown in **Figure 3-4**. The County action of approving the ECP element of the Proposed Project is subject to CEQA; therefore, the County is the Lead Agency for this EIR. The Napa County Resource Conservation District determined that the original ECP met technical adequacy requirements. A revised ECP reflecting new County erosion modeling standards has been reviewed for technical adequacy. The complete ECP for the Proposed Project (File # P14-00410-ECPA) is included as **Appendix B**.

The basic philosophy for the design of the Proposed Project is to minimize environmental disturbance and control erosion on the property rather than to capture soil after it has been displaced. To help meet this goal, the ECP includes several different measures for prevention of erosion and control of sediment, as described below and further detailed in **Appendix B**.

### TEMPORARY EROSION CONTROL MEASURES

Temporary erosion control measures in the ECP consist of the installation of fiber rolls and the application of straw mulch in areas with bare soil and where seeding occurs. The installation of fiber rolls would be completed in accordance with the details discussed in the ECP (**Appendix B**). Fiber rolls would be installed prior to the rainy season (September 16 through March 31) in the year prior to planting (P-1 and P) and would be left in place through the winter of the first year following after planting (P+1); they would be removed for subsequent years (P+ forward). Erosion control devices will be composed of biodegradable material and will not contain plastic monofilament in which wildlife may become entangled.




SOURCE: Napa Valley Vineyard Engineering, revised 11/29/2017; AES, 5/17/2018



**Figure 3-4**
Erosion Control Plan

Additionally, a straw mulch cover would be applied over open and/or disturbed and seeded areas at the rate specified in seeding requirements.

## PERMANENT EROSION CONTROL MEASURES

Permanent erosion control measures include, but are not limited to the following, and are discussed in additional detail in the ECP (**Appendix B**):

1) Clean and repair existing drainage features as needed.
2) Diversion ditches shall be constructed as shown in the ECP and maintained throughout the life of the vineyard. The ditches shall not be tilled or disked during any vineyard operations.
3) Rock lined ditches and rock stabilization at low points in the vineyard avenues shall be constructed of locally gathered fieldstone in accordance with the appropriate details. Some locations of rock stabilization are shown on the plan. Others may be discovered during construction. Rock structures shall remain in place as permanent features. Construction of water bars where shown in the ECP in accordance with the appropriate design detail.
4) Attenuation basins shall be constructed outside class III drainages, as shown in the design details of the ECP. Level water spreaders or energy dissipaters shall be installed at the basin outlets to release water as sheet flow in accordance with the appropriate design detail.
5) A winter cover crop shall be planted within the new vineyard areas in year P-1. At the end of the growing season in year P, a permanent no-till cover crop would be planted within the entire vineyard area. Maintenance of the permanent cover crop shall occur as described in the ECP.
6) Implementation and adherence to an Annual Winterization program as presented in the ECP.

## COVER CROP

Vegetative erosion control measures would consist of a temporary winter crop initially followed by a permanent cover crop in later years. The temporary winter cover crop would be planted prior to September 1st of years P-1, P, and P+1. Seeding and mulching of the winter cover crop would be completed by September 15th of each year. At the end of the growing season of P+1, a permanent, no-till cover crop would be planted across the entire vineyard area.

Each spring, the permanent cover crop in vineyard Blocks A through D may be mowed and spot sprayed around the base of each vine using applications of post-emergent contacts sprays. Weeds within those blocks may be spot sprayed as well. However, no strip spraying or pre-emergent sprays shall be used. In Block E, while the cover crop may be mowed, no spraying shall occur. After the seed has fully matured; a minimum mowing height of four inches would be maintained for all grasses. The owner would be responsible for reseeding and maintenance to ensure that each winter ground coverage of 80 percent or greater is maintained in Blocks A through D and 85 percent or greater in Block E. Maintenance of a vegetative cover crop would provide surface roughness to help prevent the concentration of runoff, collect moisture, and help prevent the loosening of soil that would be susceptible to erosion.

As a normal agricultural practice, no ripping or other tillage shall take place in or around the vineyard after planting. It is possible that every three to four years, it may be necessary to disk the vine rows in order to open the ground or reestablish proper ground cover. If this were to occur, the Resource Conservation District would be notified and work would be done as prescribed in the Napa County Planning, Building, and Environmental Services department guidelines entitled "Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crop" (Napa County Planning, Building, and Environmental Services Department 2004).

Consistent with the ECP, disturbed areas would be planted with a vegetative cover crop, using the Le Colline Mix at 100 pounds per acre (30 percent annual California brome, 20 percent perennial California brome, 15 percent blue wild rye, 15 percent 3 weeks fescue, 10 percent California poppy, and 10 percent blue lupine; **Appendix B**).

## ROAD CONSTRUCTION AND MAINTENANCE

Approximately 1 acre of new access drives and improvement of an existing dirt trail is planned. All exposed soil surfaces greater than 100 sq. ft shall be straw mulched and grass seeded, this applies to landing surfaces and road surfaces unless rocked. All permanent road surfaces shall be rocked upon completion. Approximately 6.0 acres of the project site are planned to be allocated to accommodate erosion control features (attenuation basins, rock stabilization, etc.), as well as internal farm avenues for farm trucks, equipment turn around, and vineyard maintenance operations. New farm avenues would be located around a portion or the entire perimeter of vineyard blocks. The majority of new farm avenues will be built and maintained with crushed rock.

## ANNUAL WINTERIZATION

The ECP requires annual winterization to prevent erosion during the rainy season. Winterization would be completed prior to the first rains but no later than September 15th of each year. Some of the winterization measures include, but are not limited to:

1) Evaluate the effectiveness of the seed mix and condition of the non-tilled cover crop, including areas outside the vineyard;
2) Seed, fertilize, and mulch all roads that are not rocked or paved;
3) Inspect, clean, and repair all ditches, drop inlets, culverts;
4) Inspect, clean, and repair all basins;
5) Inspect and clean all existing erosion control features; and
6) Inspect, clean, and repair all other erosion control and drainage features, as necessary.

## IMPLEMENTATION SCHEDULE FOR THE ECP

After the 33.8 acres of timber, oak woodlands, brush, and grasses are cleared, and prior to installation of the vineyard, the ECP components would be installed on the property prior to the start of the rainy season (September 15). Planting year operations for the vineyard may be conducted over one or two growing seasons. Ground disturbing activities should be completed by September 1

and erosion control measures should be in place by September 15. Erosion control measures should be maintained throughout the year.

## 3.2.2 VINEYARD LAYOUT AND INSTALLATION

The Proposed Project would result in the development of five vineyard blocks constituting approximately 25 net acres. Vine rows will run northeast and southwest and will be planted approximately six feet apart. New vineyard avenues/turn around areas would be created to accommodate the row directions.

Existing timber, oak woodlands, brush, trees and resident grasses, would be removed with the implementation of P14-00410-ECPA. Ground preparation for vineyard installation would result in soil ripping and grading activities. Soil amendments (dolomitic lime and compost) will be added to Blocks E1 and E1. Vineyard avenues and turn-spaces shall be shaped during ground preparation. A new drip irrigation system will be installed and an existing irrigation well will serve as the water source. Onsite mulching would be the primary method used for the removal of non-merchantable vegetated material; however, in the event burning is required, onsite burning of cleared vegetation would occur during land preparation and during the wet season as permitted by the governing agencies in accordance with the BAAQMD Regulation 5. Vegetation that would require onsite burning would be required to be conducted in accordance with Bay Area Air Quality Management District (BAAQMD) guidelines.

Residences exist to the northeast of the property, and are separated by existing chain link and barbed wire fencing. The southeast side of the property also contains chain link and 6-foot vineyard fencing. This existing fencing is proposed to remain. Wildlife exclusion fencing with exit doors (gates) and/or cattle guards is proposed to encompass individual vineyard blocks (refer to **Appendix B**). Barbed wire will not be used. Wildlife corridors are provided surrounding Blocks E1 and E2, D1, and B as well as between Blocks A1/A2 and D1.

### CONSTRUCTION, EQUIPMENT, AND DURATION

Construction of the Proposed Project is anticipated to occur over a one to two year period, with ECP related construction and vineyard planting occurring only during the dry months April 1 through September 15. The typical construction hours would be 7 am to 7 pm Monday through Saturday. Sufficient equipment, labor, and materials would be committed and transported to the property prior to the commencement of construction to complete construction during the dry season. Once equipment is transported to the property, it would remain onsite until implementation is completed.

Site stabilization and erosion control under the ECP is anticipated to occur during the Spring/Summer/Fall of 2019. Most of the vineyard installation and planting would occur in the second half of the dry season, and would conclude by fall of 2020. Construction will require approximately 12 workers during each phase of the Proposed Project: The precursor THP phase, the installation of the ECP features, and the planting of the vineyard. Vineyard operation and maintenance would typically require 10 workers per day or less but would require up to 25 workers

for short durations during certain operational tasks, such as pruning. The total equipment proposed and materials/equipment deliveries anticipated for the timber harvest, ECP installation, and vineyard installation is provided in **Table 3-3**.

**TABLE 3-3**
TYPICAL CONSTRUCTION ELEMENTS AND EQUIPMENT

| Phase 1: Timber Harvest | |
|---|---|
| Equipment* | Quantity |
| Excavator | 1 |
| Skidder | 1 |
| Log loader | 1 |
| Logging Truck | 5 |
| Vehicle Trips | Duration/Amount |
| Heavy Equipment Transport | 3 trips (maximum) |
| Logging Truck Trips | Up to 100** |
| Phase 2: Erosion Control Plan Installation | |
| Equipment* | Quantity |
| Excavator | 2 |
| Grader | 1 |
| Dozer | 2 |
| Vehicle Trips | Duration/Amount |
| Heavy Equipment Transport | 5 trips (maximum) |
| Material Deliveries | Up to 10** |

Notes:
* Equipment per day is based on 8 hours, 20 days per month usage.
** Material Deliveries include materials necessary for the operation and installation of the THP, ECP and Vineyard such as culverts, straw, drip irrigation, vines etc.

## VINEYARD OPERATION AND MAINTENANCE

Vineyard blocks would be farmed using standard operating procedures except for vineyard blocks C and D2. Proposed vineyard blocks C and D2 would be hand-farmed with limited use of motorized equipment. Operation and maintenance of the vineyard would include: pruning; pest, disease, and weed control; mowing; vine management; irrigation; fertilization; and harvesting activities. Practices would be employed that rely on integrated pest management techniques as described in the Integrated Pest Management Plan prepared for the proposed vineyard (**Appendix L**). As outline in the Integrated Pest Management (IPM) plan, see **Appendix L**, the use of non-chemical and minimalist chemical practices (utilizing chemicals that require the minimal amount to achieve efficacy) would be the first line of defense against pests and diseases in the vineyard. Should the situation arise where a more intrusive technique or material is required, other avenues for a non-chemical approach would be exhausted first, and then more intrusive techniques would be implemented in consultation with the County to ensure no further environmental impacts result from use. Chemical application would be done in accordance with the registration and under the guidance of a pesticide control advisor.

Primary vineyard operations would be carried out over two distinct seasons. Vineyard operation and maintenance would typically require 3 to 4 people per day or less. Pruning season would generally begin in December and end in March. The Proposed Project would require up to 25 people for short durations during pruning. The most labor-intensive period for the vineyard would occur during harvest. Harvest would generally begin in September - October. Approximately 20 workers would be needed at the project site during the harvest season. Frost protection would be provided by the use of wind machines (typically from 12 am to 7 am), which would operate approximately 15 days out of the year.

**TABLE 3-4**
TYPICAL VINEYARD OPERATION ELEMENTS AND EQUIPMENT

| Equipment* | Quantity |
|---|---|
| Tractor | 2 |
| ATV | 1 |
| Vehicle Trips | Duration/Amount |
| Grape Trucks | Up to 25** |

NOTES:
* Equipment per day is based on 8 hours, 20 days per month usage.
** 25 total grape truck trips over the harvest season, with a maximum of 3 trips in one day.

Groundwater would be the irrigation water source for the Proposed Project. Groundwater would be obtained from the existing agricultural well on the property, which is located within proposed vineyard Block B and is capable of a sustained yield of 150 gallons per minute (gpm). It is anticipated that the proposed vineyard would require 11.6± afa and that total use on the holding would be 12.44 afa (**Appendix P**).

The vineyard would utilize a drip irrigation system. Portable water storage tanks would be located near the irrigation well (within southwest corner of Block D) as needed. Irrigation lines are shown on the ECP (**Appendix B**) and would be installed within access roadways and within areas of clearance. No additional clearance would be required solely for the installation of the irrigation lines. The total equipment proposed and materials/equipment deliveries anticipated for the timber harvest, ECP installation, and vineyard installation is provided in Table 3-3.

## WATER QUALITY MONITORING PROGRAM

The Applicant has agreed to implement a voluntary water quality monitoring program (WQMP) (**Appendix R**) to assist the City of Napa with ongoing efforts of collecting water quality information throughout the watershed feeding Lake Hennessy. While the WQMP states that the program is not intended to address any significant environmental impacts associated with the Proposed Project, provisions for corrective actions are incorporated into the program. Under the WQMP, samples would be collected from Conn Creek both upstream and downstream of the project site and analyzed, at a minimum, for the following parameters:

| | |
|---|---|
| Stream discharge | Water temperature |
| Air temperature | Specific conductance |
| Dissolved oxygen | Turbidity |
| Total Kjeldahl nitrogen (organic N +ammonia + ammonium) | Soluble Kjeldahl nitrogen |
| Nitrate + nitrite | Ammonia, ammonium |
| Total phosphorus | Orthophosphate |
| Total organic carbon | Dissolved organic carbon |
| Total suspended solids | Total dissolved solids |
| Total volatile suspended solids | Carbonaceous biochemical oxygen demand (CBOD) |
| Sulfate | Chloride |
| Total hardness | Alkalinity |
| Calcium | Pesticides and Herbicides* |

* If pesticides or herbicides are applied on the site, then one sample above and below the project site will be taken and analyzed for pesticides/herbicides following the first rain event during the winter. The sampling will be representative of a readily-identifiable constituent of the pesticide/herbicide applications. If no pesticides nor herbicides are applied, then analyses for said constituents are not required.

*Frequency*

Sampling would commence when construction activities begin and would end two years after all improvements and plantings have been completed. For each year the WQMP is being implemented, samples would be collected at the following frequency:

- Within 48 hours after the first significant rain event of the wet season (Oct 1-April 30.)
- Within 48 hours of at least one major storm event. A major event is defined as 1-inch or more of rain within a 24-hour period.
- Once every two months (bimonthly) for the rainy period from Dec 1-May 1 (so long as creek flow is sufficient to sample.) The two samples described above may qualify as a bimonthly sample event.

*Corrective Actions*

If analyses indicate constituents are elevated downstream of the project site when compared to upstream, the Applicant would examine the BMPs being implemented to control discharge of constituents from the project site. The Applicant would try to identify the actual or suspected cause of the elevated constituent(s) and would either modify relevant BMPs or add one or more new BMPs in order to eliminate the cause of the elevated constituent(s). The Applicant would make every effort to complete the BMP review within 72 hours of notification of the elevated constituent.

The Applicant would also provide the City of Napa's Water Division with a Corrective Action Memorandum describing the BMP review and modification(s) within 30 days after receiving a sample test result with elevated constituent(s). Sampling and analyses will be extended until consecutive annual sets of monitoring data show no elevated levels of constituents.

If unexpected site discharge due to over irrigation, production of agricultural tailwater or site run-off caused for any reason other than natural rainfall is observed in an otherwise dry/non-discharge period (typically May -October), immediate monitoring of such discharge would commence.

## FIRE RISK PROCEDURES AND EMERGENCY ACTION PLAN

The applicant has agreed to include a Fire Risk Reduction Program as part of the project as follows:

# LE COLLINE WILDFIRE RISK PROCEDURES

Numerous procedures and management practices would be in place to minimize fire risk during both construction and operation:

- Equipment, fuels, and chemicals would be stored in appropriate containment facilities and areas that would be appropriate for reducing the risk of fire ignition.
- Equipment would be allowed to cool during a break before refueling.
- No equipment would be operated that would have the potential to create a spark when the National Weather Service issues Red Flag Warnings.
- All equipment will be equipped with fire extinguishers and or shovels, and any future equipment would be equipped, with fire extinguishers and or shovels. Equipment operators would be trained by a qualified professional during onboarding and annually in the use of best fire prevention practices as well as in the use of fire equipment.
- Brush would be burned in accordance with the standards of the California Department of Forestry and Fire Protection, and only on approved burn days with appropriate permits and/or authorization from the Bay Area Air Quality Management District.
- In accordance with standard practice, any blasting would occur only after vegetation has been cleared from the site, reducing the fuel load in the area.
- A fire safety plan would be provided to Napa County for approval and the approved plan would be supervised by a licensed third-party vendor during blasting.
- All employees would be trained, to address site-specific environment and evacuation nuances for fire, emergency, preventive measures such as establishing and maintaining firebreaks and establishing safe work zones as necessary; safety measures that would be implemented during an incident including an evacuation plan, communication procedures, and isolation and securing of power and other ignition sources; and reporting and communication protocols with management and emergency officials.

# 3.3 PROJECT OBJECTIVES

The following objectives have been identified for the Proposed Project:

- Implement an ECP for the project site to ensure post-project runoff is lower than baseline conditions, which will be an environmental improvement for the watershed;
- Minimize project-related soil erosion with implementation of an ECP and through project design by avoiding highly erosion-prone areas and preventing erosion;
- Develop approximately 25 net acres of vineyard on the portions of the property suitable for the cultivation of high-quality wine grapes to ensure economic viability of the Proposed Project;
- Provide opportunities for vineyard employment and economic development in Napa County; and
- Implement sustainable vineyard farming practices.

# 3.4 REGULATORY APPROVALS AND PERMITTING

Permits and approvals that may be necessary for implementation of the Proposed Project are identified below. This EIR may be utilized for the evaluation of the following actions:

**County of Napa**

- Approval of the ECP (File #P14-00410-ECPA) for the Proposed Project, subject to CEQA; and
- Discretionary approvals and requirements, including compliance with applicable ordinances and policies, such as the General Plan and zoning regulations;
- Approval of building permits for the constriction of onsite water tanks and the retaining wall connecting vineyard Blocks A1 and D1.

**CAL FIRE**

- Approval of the THP; and
- Approval of the TCP.

**California Department of Fish and Wildlife (CDFW)**

- Consultation with CDFW, permitting, and/or monitoring and reporting programs may be required in accordance with the Lead Agency.

**United States Fish and Wildlife Services (USFWS)**

- Consultation with USFWS, permitting, and/or monitoring and reporting programs may be required in accordance with the Lead Agency.

**California Regional Water Quality Control Board, San Francisco Bay Region**

- Approval of the project's coverage under the General Waste Discharge Requirements for Vineyard Properties in the Napa River and Sonoma Creek Watersheds is required as the new vineyard property would be greater than 5 acres and developed on slopes of less than 30 percent grade.

# REFERENCES

Napa County Planning, Building, and Environmental Services Department, 2004. Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crop. April 8, 2004.

Napa Valley Vineyard Engineering (NVVE), 2017. Erosion Control Plan for the Le Colline Vineyard Project # P14-00410-ECPA. Revised November 29, 2017. Included as **Appendix B**.

# SECTION 4.0
## ENVIRONMENTAL ANALYSIS

**Section 4.0** of this Draft EIR contains individual sections that assess the potential environmental impacts of the Proposed Project. The existing setting, background information, descriptions of impact determination, and mitigation measures to reduce significant impacts identified as such are included in each section. The following issue area sections are addressed in **Section 4.0**:

**Section 4.1** – Aesthetics
**Section 4.2** – Agriculture and Forestry Resources
**Section 4.3** – Air Quality
**Section 4.4** – Biological Resources
**Section 4.5** – Cultural and Tribal Cultural Resources
**Section 4.6** – Geology and Soils
**Section 4.7** – Greenhouse Gas Emissions
**Section 4.8** – Hazards and Hazardous Materials
**Section 4.9** – Hydrology and Water Quality
**Section 4.10** – Land Use
**Section 4.11** – Noise
**Section 4.12** – Transportation and Traffic

# 4.1 AESTHETICS

This section addresses the potential for the Proposed Project to result in impacts associated with aesthetics and visual resources. Following an overview of the visual resource setting in **Section 4.1.1** and the relevant regulatory setting in **Section 4.1.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.1.3**.

## 4.1.1 EXISTING SETTING

### REGIONAL

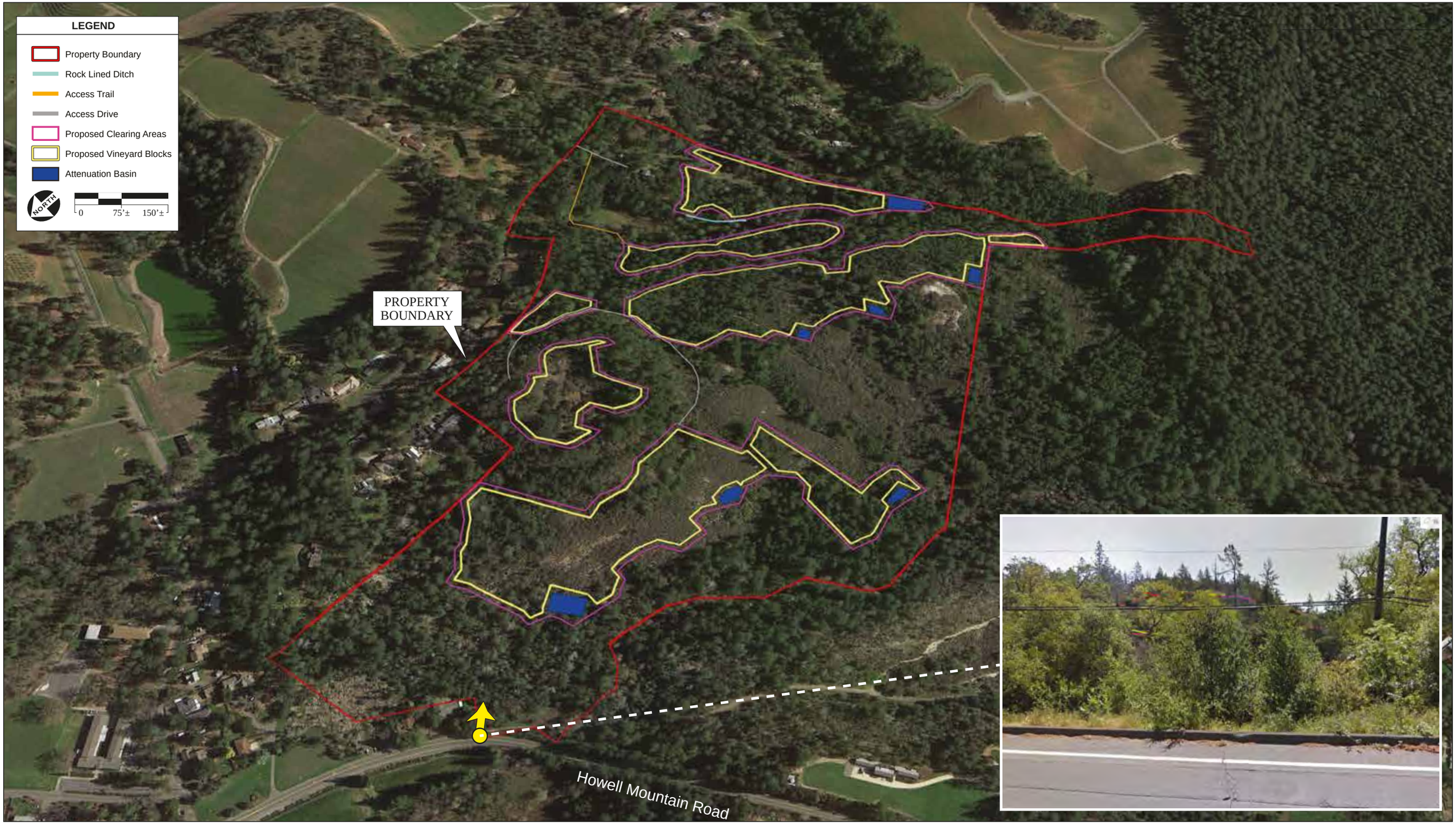
Vineyards, rolling hills, lush forest, and mountains define the visual character of Napa County's (County) landscape. The majority of the County is composed of agricultural and rural lands, with urban development primarily concentrated within the incorporated cities. Vineyards represent a prominent visual feature of the County, with over 43,951 acres of hills and valleys designated for wine grape production (Napa County, 2008). Additionally, many associated wineries are valued for their unique contribution to the aesthetic setting of the County.

There are currently no roadways within the County that are designated as State Scenic Highways; however, State Route (SR) 29, SR-121, and SR-221 are considered eligible for scenic highway designation (Caltrans, 2017). These "eligible" roadways would become officially "designated" if the local jurisdiction were to adopt a scenic corridor protection plan, apply for scenic highway approval through Caltrans, and receive official notification from Caltrans that the highway has been designated as scenic (Caltrans, 2017). The project site is not visible from these routes, as shown in **Figures 4.1-1**. There are approximately 280 miles of County-designated scenic roadways included in the Scenic Highways Element of the Napa County General Plan, such as Howell Mountain Road, which is adjacent to the northwestern corner of the project site. These roadways are also shown in **Figure 4.1-1**.

### PROJECT SITE

The area surrounding the project site consists of agriculture, residences, and various types of community buildings dispersed through shrublands and forest. Where areas have been continuously disturbed, ruderal grassland has developed. The aesthetic viewshed along Howell Mountain Road is comprised of various types of vegetation along with rising banks where the roadway was cut into hillsides. The vegetative screening provides scenic aesthetic properties. Adjacent to the project site, dense vegetation along Howell Mountain Road obscures the general public's direct view of the project site as shown in **Figure 4.1-2**.

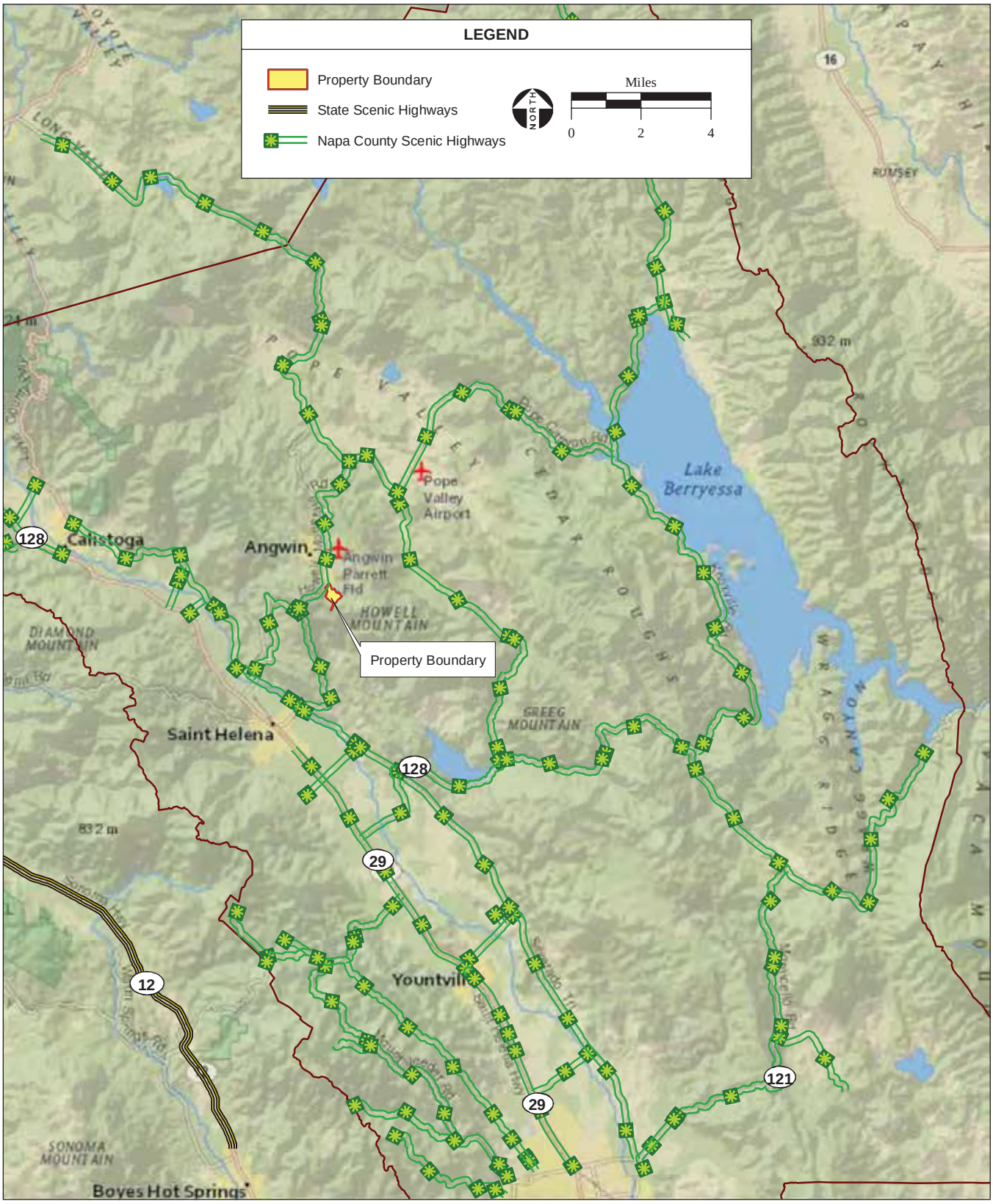
Cold Springs Road splits off Howell Mountain Road as the road bends due north, adjacent to Pacific Union College (PUC) Elementary School and the Discoveryland Preschool and Childcare Center at the Cold Springs Road/Las Posadas road intersection. Cold Springs Road is a minor residential road and provides access to the southeastern portion of the project site.




SOURCE: Napa Valley Vineyard Engineering, 11/29/2017; AES, 5/17/2018



**Figure 4.1-1**
Representative View of the Proposed Project Site




SOURCE: NatGeo, 2015; AES, 5/17/2018



**Figure 4.1-2**
State and County Scenic Highways

Several residences are located along Cold Springs Road, with those on the southbound side adjacent to the project site. The eastern portion of the project site that borders these residences was previously developed as orchard, which has since been overtaken by forestland. Land to the east consists of rural residential and vineyard. Land to the southeast is forested with the exception of a small area south of the project site. North of the project site across Howell Mountain Road consists of forest adjacent to the road, ruderal grassland, and development, including a school, park, and wastewater treatment plant.

The project site is located on slopes of 7 to 29 percent. The physical attributes of the project site that provide aesthetic value include shrubland and various types of trees (Douglas fir, Ponderosa pine, and various oaks). However, a large swath of the center of the project site has been overtaken by manzanita as shown in a recent aerial photograph (**Figure 3-3**).

## 4.1.2 REGULATORY FRAMEWORK

The project site is under the jurisdiction of the County; therefore, the County's General Plan and Zoning Ordinance are applicable to development on the site as it relates to aesthetics. The surrounding lands are also under the jurisdiction of the County. The following discussion provides the regulatory framework relevant to the project site and/or the Proposed Project.

### STATE

#### SCENIC HIGHWAYS

The State Scenic Highways program is administered by the California Department of Transportation (Caltrans) to preserve and protect scenic highway corridors from projects that would diminish the aesthetic value of lands adjacent to highways (California Streets and Highways Code § 260). The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

### LOCAL

#### SCENIC HIGHWAYS ELEMENT

The Scenic Highways Element of the Napa County General Plan designates a system of roadways within the County that are located in areas of "natural scenic beauty and recreational interest," including those that pass through vineyards, forested areas, and provide access to historic and recreation areas (Napa County, 2008). These designated roadways are valued for providing a scenic traveling experience for residents and tourists.

#### Napa County General Plan Goals and Policies on Aesthetics

The Community Character Element of the Napa County General Plan incorporates goals and policies pertaining to aesthetics, arts and culture, views, and scenic roadways that are applicable to the Proposed Project (Napa County, 2008):

**Goal CC-1:** Preserve, improve, and provide visual access to the beauty of Napa County.

**Goal CC-2:** Continue to promote the diverse beauty of the entire county since this beauty is intricately linked to the continued economic vitality of the region and benefits residents, businesses, and visitors.

**Policy CC-1:** The County will retain the character and natural beauty of Napa County through the preservation of open space.

**Policy CC-5:** Recognizing that vineyards are an accepted and attractive visual feature of Napa County, but that visual change can cause public concern, the County shall require the retention of trees in strategic locations when approving conversion of existing forested land to vineyards in order to retain landscape characteristics of the site when viewed from public roadways and shall require the retention of trees to screen non-agricultural activities and other proposed developments.

**Policy CC-6:** The grading of building sites, vineyards, and other uses shall incorporate techniques to retain as much as possible a natural landform appearance. Examples include:

- The overall shape, height, and grade of any cut or fill slope shall be designed to simulate the existing natural contours and scale of the natural terrain of the site.
- The angle of the graded slope shall be gradually adjusted to the angle of the natural terrain.
- Sharp, angular forms shall be rounded and smoothed to blend with the natural terrain.

**Policy CC-10**: Consistent with the County's Viewshed Protection Program, new developments in hillside areas should be designed to minimize their visibility from the County's scenic roadways and discourage new encroachments on natural ridgelines.

## 4.1.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential project impacts to aesthetic resources. Criteria for determining the significance of impacts to visual resources have been developed based on Appendix G of the California Environmental Quality Act's (CEQA) Guidelines and relevant agency thresholds. Impacts associated with aesthetics would be considered significant if the Proposed Project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, such as scenic highway corridors and scenic landscape units;
- Substantially degrade the existing visual character of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

## ANALYSIS METHODOLOGY

Impairment of existing aesthetic resources may result from the degradation of a visual feature that has aesthetic significance, or from the introduction of objects or patterns that exhibit a relatively high degree of visual contrast with the existing objects and patterns on the site. Physical changes that may impair the quality of important views include changes in scale, form, color, and texture of natural features existing on the site. Such changes could result from new structures, grading and excavation, landscaping, or elimination of existing vegetation.

Views within the viewshed are described by expressing the strength of the viewing experience, framed within the analytical criteria listed below. While the viewing experience is personal and subjective in nature, the application of these criteria allows for an objective baseline assessment of the visual environment and subsequent visual impacts of the Proposed Project. The visual experience within each view is comprised of the following constituent elements:

1. Clarity in Line of Sight—the overall visibility of the object within the viewshed, influenced by such factors as trees, buildings, topography or any other potential visual obstruction.
2. Duration of Visibility—the amount of time the object is exposed to viewers within the viewshed. For example, a passing vehicle will experience a shorter period of viewing time than a resident within the viewshed.
3. Proximity of the Viewer—the effects of foreshortening due to the distance of the viewer from the object will influence the dominance of the object in the perspective of the viewer.
4. Number of Viewers—the number of viewers anticipated to experience the visual character of the object.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.1-1: Implementation of the Proposed Project would not have a substantial adverse effect on a scenic vista. Less-than-significant.**

The Proposed Project would be located on a gently sloped west- and south-facing ridge in a mixed residential and agricultural area. The site is surrounded by forested vegetation and is thus difficult to view for the general public. Implementation of the Proposed Project would not result in the removal of the vegetative canopy that currently provides the aesthetic viewshed along Howell Mountain Road, a County Scenic Roadway.

As shown in **Figure 4.1-2,** with no disturbance to the roadside vegetation, alteration to the project site would not significantly affect the existing viewshed of those travelling along Howell Mountain Road. Due to the topography and residential development, the project site is not visible to passing motorists from Cold Springs Road or Winding Way. Should a small portion of vineyard be visible through the vegetation, the aesthetics would be consistent with the views north of Howell Mountain Road and therefore would not disrupt the continuity of the existing viewshed. The impacts to scenic vistas would be less-than-significant.

**Impact 4.1-2: Implementation of the Proposed Project would not substantially damage scenic resources, such as scenic highway corridors and scenic landscape units. Less-than-significant.**

Although there are no designated State Scenic Highways in the vicinity of the project site, Howell Mountain Road immediately adjacent to the western property boundary is designated as a County Scenic Highway. As discussed above, due to topography and existing vegetation that will be retained, views from nearby roadways and nearby public access areas would not be significantly altered. Views that would arise from alteration of the project site would be consistent with the various agricultural land north and east of the project site. Cold Springs Road and Winding Way provide access to the project site and are not designated as scenic roadways under Napa County's Viewshed Protection Ordinance.

Additionally, Cold Springs Road and Winding Way do not provide passing motorists views of the project site due to vehicle speed and obstructing vegetation along the roadways. However, the project site may be visible to residents along Cold Springs Road that are immediately adjacent to the property, but it would not alter the scenic landscape as the conversion to vineyard would be similar to land uses east of Cold Springs Road. Impacts to scenic highway corridors and scenic landscape units would be less-than-significant.

**Impact 4.1-3: Implementation of the Proposed Project would not substantially degrade the existing visual character of the site and its surroundings. Less-than-significant.**

The property to the southeast contains existing vineyard and will share the Proposed Project's fencing. Given that the Proposed Project also includes vineyard development, this is not a significant change to the existing visual character to the southeast, and this is a less-than-significant impact. The Napa Land Trust open space area is adjacent to the southwestern border of the property along Conn Creek. Setbacks of at least 105 feet from Conn Creek are proposed. In addition, the property is upslope from Conn Creek and there is a steep decline between where project activities would occur and the Land Trust Property, which would further prevent the project from being visible. As such, there would be a minimum of 105 feet of dense vegetation and a large slope break between the Proposed Project and the Napa Land Trust and open space area, and therefore no significant aesthetic impacts are anticipated.

The project site could be partially visible to approximately four residences to the east along Winding Way (nearest to Blocks A1 and B) and approximately five residences located approximately 130-feet to the east along Cold Springs Road (nearest to Blocks B and C). Furthermore, the eastern portion of the site has historically been used for orchards and therefore the site has a history of agricultural use. The proposed conversion to vineyard would be compatible with the existing visual character of surrounding areas and would result in a less-than-significant impact to existing visual character.

**Impact 4.1-4: Implementation of the Proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Less-than-significant.**

The Proposed Project does not include permanent sources of lighting or glare. However, annual harvesting activities may require temporary lighted nighttime activities. Lighting could be in the form of headlights on equipment being used at night for harvest or spraying. The Proposed Project could include nighttime harvest (typically from 12 am to 7 am within approximately a period of 1-2 continuous months each year, as well as sulfur/pesticide/herbicide application (typically from 10 pm to 7 am during one to one and a half months of the year, and frost protection with wind machines (typically from 12 am to 7 am) about 15 days out of the year. As noted above, public views of the project site would not be significantly affected as a result of the Proposed Project due to the dense vegetation that will be retained and topography of the site. Accordingly, implementation of the Proposed Project would have a less-than-significant impact on daytime and nighttime views.

# REFERENCES

California Department of Transportation (Caltrans), 2017. California State Scenic Highway Program. Available online at: http://www.dot.ca.gov/dist3/departments/mtce/scenic.htm.

Napa County, 2008. Napa County General Plan. Available online at: http://www.countyofnapa-.org/GeneralPlan/.

# 4.2 AGRICULTURE AND FORESTRY RESOURCES

This section addresses the potential for the Proposed Project to result in impacts associated with agriculture and forestry resources. Following an overview of the agricultural setting in **Section 4.2.1** and the relevant regulatory setting in **Section 4.2.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.2.3**.

## 4.2.1 EXISTING SETTING

### REGIONAL

Napa County consists of more than 500,000 acres, 90 percent of which are in the General Plan designated as Agriculture, Watershed, and Open Space. Approximately 10 percent of this designation consists of wine grape production. The Nation's first Agricultural Preserve Ordinance was enacted in 1968 to preserve open space and prevent over-development in Napa County through the established of agriculture and open space as the highest and best use for Napa County land in fertile valley and foothill areas. The ordinance was passed by the Napa County Board of Supervisors in 1968 to protect 26,000 acres of local farmland, and has since grown to encompass 31,609 acres (Napa County Department of Agriculture and Weights & Measures, 2017). Additionally, the Land Trust of Napa County was founded in 1976 to protect natural diversity, scenic open space, and agricultural vitality of the County. The trust covers over 50,000 acres through the acquisition of conservation easements, facilitation of land transfers to local, state, and federal agencies, and the acceptance of donations of land within and outside the boundary of the Agricultural Preserve.

According to the 2017 Agricultural Crop Report, the total value of agricultural production for Napa County set an annual record of $757,115,100 (Napa County Department of Agriculture and Weights & Measures, 2017). The gross value of wine grape production was $750,832,400. Vegetable production, floral and nursery crops, and olive fruit set decreased in 2017 compared to previous years largely due to wet weather conditions and nursery closures. However, overall wine grape value increased by more than 2.9 percent compared to 2016 values, despite total tonnage having decreased by 6.9 percent (Napa County Department of Agriculture and Weights & Measures, 2017).

Approximately 40,000 acres of land in Napa County contains commercial timber species (Napa County, 2008). The majority of the County's timberland occurs in five areas (in descending order): The Western Mountains, Eastern Mountains, Livermore Ranch, Pope Valley, and Angwin. Timber harvesting in the County usually involves a one-time cutting of forests and the conversion of timberlands into other uses, such as vineyards. However, a limited amount of sustainable-yield timber harvest also occurs. Approximately 623 acres of timberland was converted in Napa County between 1977 and 2012 (Cal Fire, CCC), almost 90 percent of which was due to agricultural uses (Cal Fire 2002). Approximately 17 percent of total timberland conversion in Napa County from January of 1991 to May of 1999 was related to vineyard production.

## PROJECT SITE

The State of California maps important farmland to assess conversion rates and corresponding losses of important agricultural land throughout the state. **Figure 4.2-1** shows the California Farmland Mapping and Monitoring Program (FMMP) designations within the project site and surrounding area. A small portion of the project site is designated as "Other Land," which indicates that it is not considered farmland or grazing land (Department of Conservation, 2010). Historically, areas of the project site proposed as Blocks E1 and E2 were utilized for agriculture and were planted with orchards in the 1940's and 1950's. Residual orchards are still present in these areas.

The project site is zoned as Agricultural Watershed: Airport Compatibility (AW:AC), further discussed in **Section 4.10**. Agricultural use, such as timber harvesting and vineyard production, is a permitted use under this designation. The project property consists of 66.41 acres of forestland as defined under Public Resources Code Section 12220(g). The forestland consists of Mixed Oak Alliance (22.81 acres), Douglas Fir Alliance (43.02), and Ponderosa pine alliance (0.58 acres). The remaining 25.59 acres of the 88.34-acre property consists of non-timber lands, including 23.43 acres of thick-growth mixed manzanita, annual grasslands, wetlands, and rock outcrops. Dominant tree species include Douglas firs, with several scattered Ponderosa Pines. The hardwood understory is predominantly composed of oak and madrone species. Density and plant succession vary throughout the property.

# 4.2.2 REGULATORY FRAMEWORK

## FEDERAL

### FARMLAND PROTECTION POLICY ACT

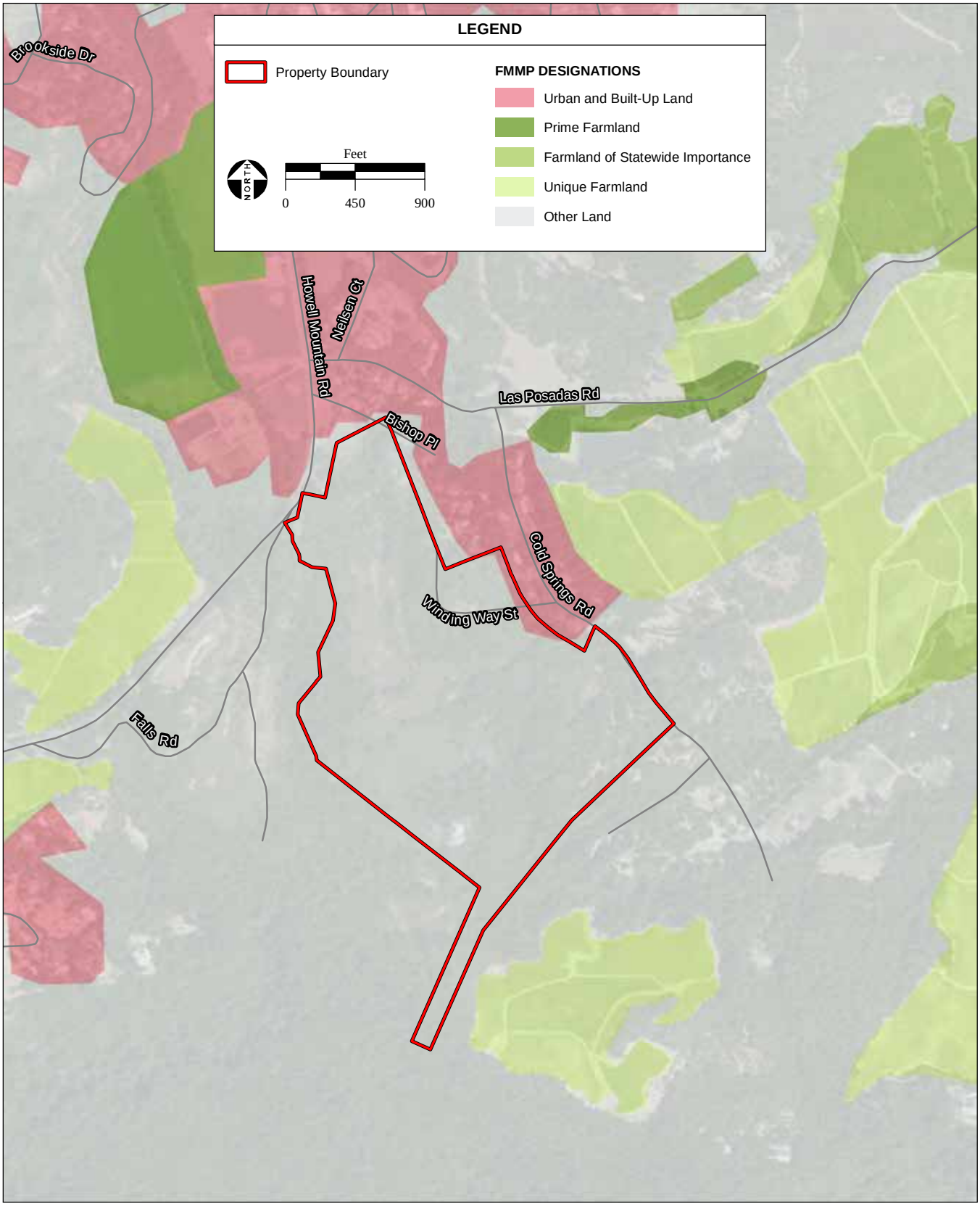
The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that federal programs are administered in a matter that is compatible with state and local units of government, as well as private programs and policies to protect farmland (7 U.S.C. § 4201).

The Natural Resource Conservation Service, responsible for the implementation of the FPPA, categorizes farmland in a number of ways. These categories include: prime farmland, farmland of statewide importance, and unique farmland. Prime farmland is considered to have the best possible features to sustain long-term productivity. Farmland of statewide importance includes farmland similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to retain soil moisture. Unique farmland is characterized by inferior soils and it generally requires irrigation depending on the climate.

## STATE

### CALIFORNIA FARMLAND MAPPING AND MONITORING PROGRAM

The California Farmland Mapping and Monitoring Program (FMMP) monitors the conversion of State farmland to and from agricultural use and was established by the California Department of




SOURCE: CA Dept. of Conservation, FMMP, 2010;
USDA NAIP Aerial Photograph, 2016; AES, 5/17/2018



**Figure 4.2-1**
FMMP Designations

Conservation under the Division of Land Resource Protection. The FMMP maintains an inventory of state agricultural land and updates "Important Farmland Series Maps" every two years. The FMMP is an informational service and does not constitute state regulation of local land use decisions. The four categories of farmland defined under FMMP include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. These four categories of farmland are considered valuable and any conversion of land within these categories is typically considered to be an adverse impact. The Department of Conservation provides the following definitions for the categories of agricultural land:

**Prime Farmland**: Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

**Farmland of Statewide Importance**: Farmland with a good combination of physical and chemical features but with minor shortcomings, such as greater slopes or a lesser ability to hold and store moisture.

**Unique Farmland (U)**: Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping

**Farmland of Local Importance (L)**: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

**Grazing land**: Land on which the existing vegetation is suited to the grazing of livestock.

## WILLIAMSON ACT

The Williamson Act is a state program that was implemented to preserve agricultural land. Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the county to maintain agricultural or open space use of their lands in return for reduced property tax assessments. The Williamson Act contract is self-renewing; however, the landowner may notify the county at any time of intent to withdraw the land from its preserve status. Withdrawal from a Williamson Act contract involves a ten-year period of tax adjustment to full market value before protected agricultural/open space land can be converted to urban uses. In extraordinary situations, immediate termination may be granted.

## Z'BERG-NEJEDLY FOREST PRACTICE ACT

The Z'berg-Nejedly Forest Practice Act (Forest Practice Act) was enacted in 1973 to ensure that logging is conducted in a manner that will preserve and protect fish, wildlife, forests, and streams (CAL FIRE, 2015). The California Department of Forestry and Fire Protection (CAL FIRE) has

enforcement responsibility for the Forest Practice Act. Additionally, CAL FIRE has enacted Forest Practice Rules. The purpose of the Forest Practice Rules is to implement the provisions of the Forest Practice Act in a manner consistent with other laws, including, but not limited to, the Timberland Productivity Act of 1982, CEQA, the Porter Cologne Water Quality Act, and the California Endangered Species Act (CAL FIRE, 2015). The Forest Practice Rules are implemented by application of the Timber Harvest Plan as directed by the California Department of Forestry.

## LOCAL

### NAPA COUNTY

The Napa County General Plan provides the goal of planning for agriculture and related activities as the primary land uses in the County while concentrating urban uses within existing cities and urban areas (Goals 1 and 2) (Napa County, 2008). The County considers the development of urban uses outside of urbanized areas as detrimental to agriculture and the maintenance of open spaces, which are uses defined as economic and aesthetic attributes and assets of the County (Napa County, 2008).

The Agricultural Preservation and Land Use Element of the Napa County General Plan provides the following policies related to agricultural practices:

**Policy AG/LU-1:** Agriculture and related activities are the primary land uses in Napa County.

**Policy AG/LU-3:** The County's planning concepts and zoning standards shall be designed to minimize conflicts arising from encroachment of urban uses into agricultural areas.

**Policy AG/LU-4:** The County will reserve agricultural lands for agricultural use, including lands used for grazing, except for those lands which are shown on the Land Use Map as planned for urban development.

Additionally, as stated in the Napa County General Plan, the County has approximately 40,000 acres of land that contains commercial timber species (Napa County, 2008). Most of the County's timberland is located in five areas (in descending order): the Western Mountains, the Eastern Mountains, Livermore Ranch, Pope Valley, and Angwin. Most timber harvesting in the County is a one-time cutting of forests and the conversion of timberlands into other uses, such as vineyards. However, a limited amount of sustainable yield timber harvesting does take place in the County. As stated above, timber harvest is considered a compatible agricultural use of the subject property for the Proposed Project under the current zoning designation of AW.

The Agricultural Preservation and Land Use Element and the Conservation Element of the Napa County General Plan provide the following policies related to forestry practices:

**Policy AG/LU-18:** Timber production areas in the County shall be considered to be those defined in the most recent adopted mapping available from CAL FIRE, unless local areas

are defined through a public planning process.

**Policy CON-1:** The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

**Policy CON-35:** The County shall encourage active forest management practices to preserve and maintain existing forests and timberland, allowing for their economic and beneficial use.

The Community Character Element of the Napa County General Plan incorporates goals and policies pertaining to aesthetics, arts and culture, views, and scenic roadways that are applicable to the Proposed Project (Napa County, 2008):

**Policy CC-5:** Recognizing that vineyards are an accepted and attractive visual feature of Napa County, but that visual change can cause public concern, the County shall require the retention of trees in strategic locations when approving conversion of existing forested land to vineyards in order to retain landscape characteristics of the site when viewed from public roadways and shall require the retention of trees to screen non-agricultural activities and other proposed developments.

## 4.2.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project on agriculture and forestry resources. Criteria for determining the significance of impacts on agriculture and forestry resources have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

## ANALYSIS METHODOLOGY

This section identifies impacts to agriculture and forestry resources that could occur from implementation of the Proposed Project. Impacts to agriculture and forestry resources were analyzed by assessing whether proposed uses of the project site would result in the conversion of agricultural or forestry resources to the extent that local and regional agricultural and forestry resources would be significantly impacted. The evaluation was made considering project plans and applicable resource management plans, regulations, and guidelines.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.2-1: Implementation of the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact.**

The Proposed Project is an agricultural development project located on land zoned for agricultural uses. Additionally, the project site is not under a Williamson Act contract.

**Impact 4.2-2: Implementation of the Proposed Project would not conflict with existing zoning or cause rezoning of forestland, timberland, or timberland zoned Timberland. Less-than-significant.**

The project site is zoned agriculture with an Airport Compatibility overlay that includes agricultural uses such as timber harvest and vineyard development with land use constraints to prevent impacts to the Angwin-Parrett Field Airport. Refer to **Section 4.10** for a discussion of land use and potential impacts. Accordingly, implementation of the Proposed Project would not conflict with existing zoning or cause rezoning of forestland, timberland, or timberland zoned Timberland.

**Impact 4.2-3: Implementation of the Proposed Project would result in the loss of local forestland through conversion of forestland to non-forest use; however, the loss would be considered a less-than-significant impact to forestland of the County and State. Less-than-significant with mitigation.**

Refer to **Section 4.4.3** (Impact 4.4-5) for analysis regarding tree canopy and oak woodland retention. Forestland will be preserved with implementation of **Mitigation Measure 4.4-2 and 4.4-8.** Implementation of the Proposed Project would result in agricultural use consistent with historic uses of portions of the property as orchards and agricultural operations located east, west, and south of the project property. Development of the Proposed Project would result in the conversion of 24.51 acres (Douglas Fir Alliance and Mixed Oak Alliance) of the 66.41 acres of forestland on the project property. Timber conversion would account for 36.02 percent of the total acreage of forest on the project site. The remaining 63 percent of the project site would be maintained as forest, scrubland, and aquatic habitat. The conversion would be consistent with agricultural operations east of Cold Springs Road and north and northwest of Howell Mountain Road and therefore would exist in continuity with the agricultural operations surrounding the project site. With the vast amount of forest occurring south and southwest of the project site, the loss of 24.51 acres of forestland adjacent to

the Town of Angwin would not be considered a significant loss to local forests.

The Ponderosa Pine Alliance is considered forest land and also a habitat of limited distribution in Napa County due to low abundance (NCCDPD, 2018 Napa County, 2005; Table 4.4-1). Surveys identified approximately 0.58 acres of Ponderosa Pine growing independently of the Douglas Fir Alliance on the property. The Proposed Project, specifically the vineyard blocks and clearing limits, were designed to avoid impacts to Ponderosa Pine. However, avoidance measures have been included in Section 4.4 to ensure avoidance of this habitat of limited distribution. Accordingly, with the implementation of **Mitigation Measure 4.4-4**, the limits of the Ponderosa Pine Alliance would be clearly demarcated to provide additional protection during installation of Vineyard Blocks E1 and E2.

Regionally, the County has approximately 45,545 acres of land that contains commercial timber species, of which the Angwin area contains the smallest amount of timberland (Napa County, 2008). The loss of 24.51 acres would account for a relatively small portion (0.05 percent) of the overall commercial conifer timberland acreage of Napa County. Since the project site is not located within the commercial forest land base of California and represents a small percentage of the forested land in the watershed and in Napa County, no significant impact to timber resources of the state or the state's timber productivity and economy would occur. Additionally, as stated in the Napa County General Plan, the County has approximately 45,545 acres of land that contains commercial timber species, of which the Angwin area contains the smallest amount of timberland. A cumulative impact analysis of the Proposed Project on Agriculture and Forestry Resources is provided in **Section 6.0**. Implementation of the Proposed Project would result in a less-than-significant loss (0.05 percent) of forest land compared to County-wide commercial forestry resources.

**Impact 4.2-4: Implementation of the Proposed Project would not involve other changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use or conversion of forest and to non-forest use. Less-than-Significant.**

Implementation of the Proposed Project would directly convert forestland to agricultural land and these direct impacts are addressed under **Impact 4.2-3**.

# REFERENCES

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# 4.3 AIR QUALITY

This section addresses the potential for the Proposed Project to result in impacts associated with air quality. Following an overview of the environmental setting in **Section 4.3.1** and the relevant regulatory setting in **Section 4.3.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.3.3**.

## 4.3.1 EXISTING SETTING

### REGIONAL

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, are equally important. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The Proposed Project is located south of the town of Angwin in Napa County, within the foothills of Napa Valley. Napa Valley is a long, narrow valley running north to south between two ridges formed within the coastal mountains that have an average ridgeline height of about 2,000 feet. Some peaks in the valley approach 3,000 to 4,000 feet in height. Up-valley winds (from the south during the day) and down-valley winds (from the north during the night) occur because of the surrounding terrain. Topography in the County is defined by the Napa Valley and surrounding upland areas, which contain smaller valleys and hillsides.

Napa Valley has a high potential for natural air pollution due to diminished ventilation caused by the terrain. Locally and regionally generated pollutants can be transported by the prevailing winds northward into the Napa Valley, often trapping and concentrating the pollutants under stable conditions. The local up-valley and down-valley flows shaped by the surrounding mountains may also re-circulate pollutants, contributing to a buildup of pollutants. Napa Valley generally has good air quality due to relatively little development across much of the valley despite its natural predisposition for air pollution. The property is located within the San Francisco Bay Area Air Basin (SFBAAB).

Air quality in the area is a function of the criteria air pollutants (CAPs) emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity. The project site's air quality is based on the CAPs meeting the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). NAAQS have been established by the U.S. Environmental Protection Agency (USEPA) to protect public health and welfare for the six CAPs, ozone, carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter 10 and 2.5 microns in size ($PM_{10}$ and $PM_{2.5}$), and lead (Pb). California has adopted the NAAQS CAPs with more stringent standards than the NAAQS and has included four additional CAPs, sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles, which are designated as CAAQS. If

a CAP exceeds the NAAQS or CAAQS, then the air basin or region is designated by the USEPA or the California Air Resources Board (CARB) as nonattainment. The Bay Area Air Quality Management District (BAAQMD) provides California Environmental Quality Act (CEQA) thresholds for CAPs designated nonattainment in an air basin or region. These thresholds are based on the ability of the air basin or region to meet the NAAQS or CAAQS. **Table 4.3-1** shows the NAAQS attainment status for the SFBAAB.

**TABLE 4.3-1**
ATTAINMENT STATUS FOR THE SFBAAB

| Pollutant | Average Time | CAAQS | NAAQS |
|---|---|---|---|
| Ozone ($O_3$) | 8-hour | Nonattainment | Nonattainment |
| | 1-hour | Nonattainment | N/A |
| $PM_{2.5}$ | 24-hour | N/A | Nonattainment |
| | Annual | Nonattainment | Unclassified/Attainment |
| $PM_{10}$ | 24-hour | Nonattainment | Unclassified |
| | Annual | Nonattainment | N/A |
| Carbon Monoxide (CO) | 8-hour | Attainment | Attainment |
| | 1-hour | Attainment | Attainment |
| Lead (Pb) | Quarterly | N/A | Attainment |
| Nitrogen Dioxide ($NO_2$) | 1-hour | Attainment | Unclassified |
| | Annual | N/A | Attainment |
| Sulfur Dioxide ($SO_2$) | 24-hour | Attainment | Attainment |
| | Annual | N/A | Attainment |
| Sulfates ($SO_4^{2-}$) | 24-hour | Attainment | N/A |
| Hydrogen Sufide ($H_2S$) | 1-hour | Unclassified | N/A |
| Vinyl Chloride | 24-hour | N/A | N/A |
| Visibility Reducing Particles | 8-hour | Unclassified | N/A |

NOTE: N/A = not applicable.
SOURCE: BAAQMD, 2016a.

## SENSITIVE RECEPTORS

Some receptors are considered more sensitive than others to air pollutants. Some reasons for increased sensitivity include a person's pre-existing health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses such as schools, hospitals, and convalescent homes are considered sensitive to poor air quality. This is because infants and children, the elderly, and people with health afflictions (especially respiratory ailments) are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential areas are also considered sensitive to air pollution, because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

There is one residence located on the property, owned by the Applicant and the owner leases the residence. The on-site residence is approximately 130 feet north of Block E2. Additionally, the

closest sensitive receptor is a residence located approximately 41 feet from the northeast property line (approximately 41 feet east of vineyard Block C, refer to **Figure 4.3-1** which provides a view of the residences surrounding the vineyard blocks. Pacific Union College Discoveryland Children's Center is located north of Cold Springs Road approximately 2,000 feet from the project site.

## 4.3.2 REGULATORY FRAMEWORK

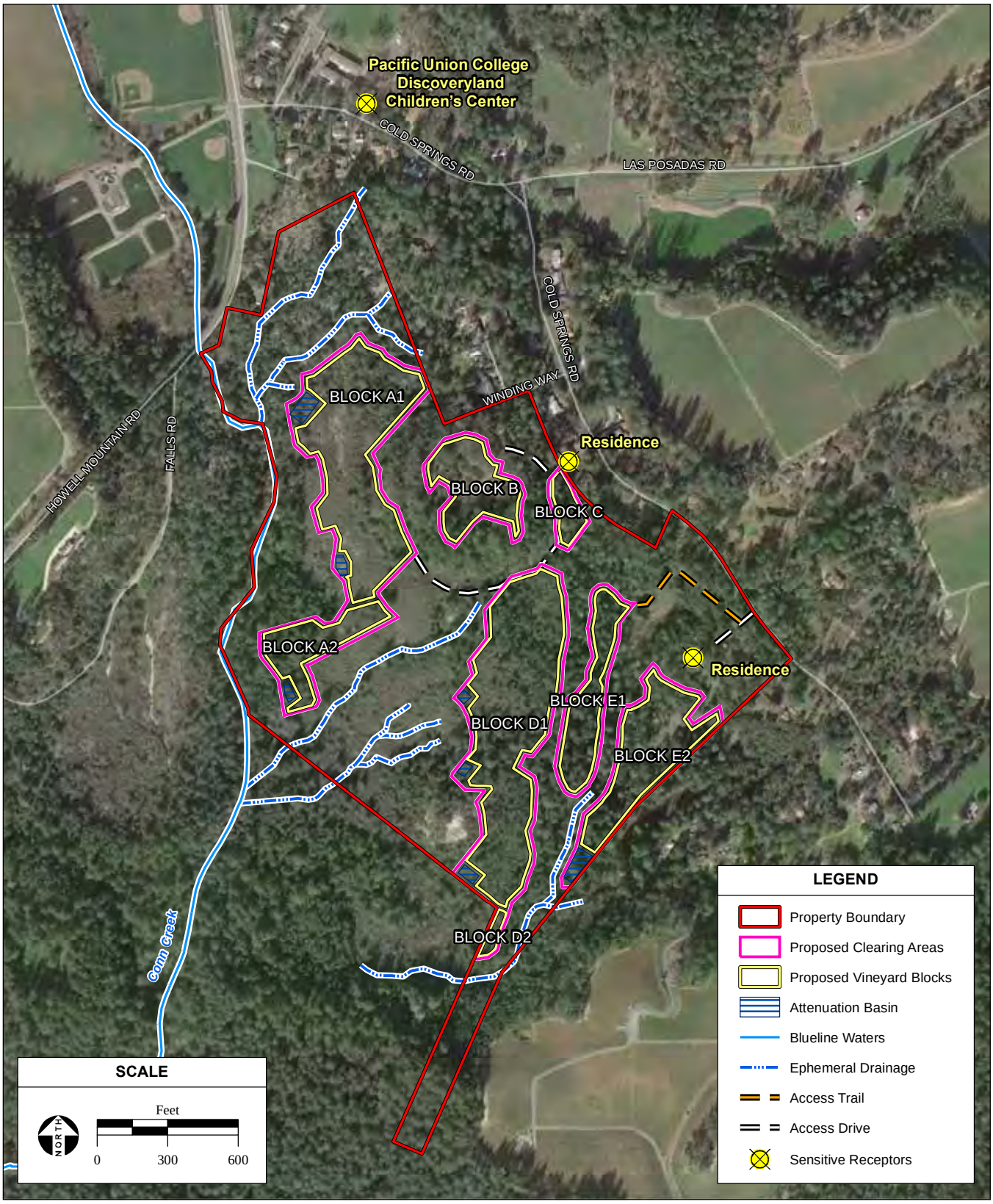
### FEDERAL AND STATE

Federal and State Regulation of air pollution is achieved through both national and state ambient air quality standards and emission limits for individual sources of air pollutants. As required by the Federal Clean Air Act (FCAA), the USEPA has identified "criteria pollutants" and established NAAQS to protect public health and welfare. California has adopted more stringent ambient air quality standards for most of the CAPs (referred to as CAAQS). Because of the unique meteorological conditions in California, there is considerable diversity between the CAAQS and NAAQS currently in effect in California. **Table 4.3-2** presents both state and national standards.

**TABLE 4.3-2**
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY PRIMARY STANDARDS

| Pollutant | Averaging Time | CAAQS | NAAQS |
|---|---|---|---|
| Ozone ($O_3$) | 1 hour | 0.09 ppm | N/A |
| | 8 hour | 0.070 ppm | 0.070 ppm |
| Carbon Monoxide (CO) | 1 hour | 20 ppm | 35 ppm |
| | 8 hour | 9.0 ppm | 9 ppm |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 0.25 ppm | N/A |
| | Annual Mean | N/A | 0.053 ppm |
| Sulfur Dioxide ($SO_2$) | 1 hour | 0.25 ppm | N/A |
| | 3 hour | N/A | 0.5 ppm |
| | 24 hour | 0.04 ppm | 0.14 ppm |
| | Annual Mean | N/A | 0.030 ppm |
| Respirable Particulate Matter ($PM_{10}$) | 24 hour | 50 $\mu g/m^3$ | 150 $\mu g/m^3$ |
| | Annual Mean | 20 $\mu g/m^3$ | N/A |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hour | N/A | 35 $\mu g/m^3$ |
| | Annual Mean | 12 $\mu g/m^3$ | 12 $\mu g/m^3$ |
| Lead (Pb) | 30 day | 1.5 $\mu g/m^3$ | N/A |
| | Calendar Quarter | N/A | 1.5 $\mu g/m^3$ |
| Sulfates | 24 hour | 25 $\mu g/m^3$ | N/A |
| Hydrogen Sulfide | 1 hour | 0.03 ppm | N/A |
| Visibility Reducing Particles | 8 hour | 0.23 per kilometer | N/A |
| Vinyl Chloride | 24 hour | 0.010 ppm | N/A |

NOTE: ppm = parts per million by volume; μg/m3= micrograms per cubic meter.
N/A=Not Applicable
SOURCE: CARB, 2016a




SOURCE: Environmental Resource Management, 5/2016; DigitalGlobe Aerial Photograph, 2/4/2018; Napa Valley Vineyard Engineering, Inc., 2/22/2017; ESRI Data, 2015; AES, 9/13/2018



**Figure 4.3-1**
Sensitive Receptors

Under amendments to the FCAA, the USEPA has classified air basins, or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. In 1988, the State legislature passed the California Clean Air Act (CCAA), which is patterned after the FCAA to the extent that it also requires areas to be designated as "attainment" or "nonattainment", but with respect to the CAAQS rather than the NAAQS.

The FCAA also requires nonattainment areas to prepare air quality plans that include strategies for achieving attainment. Air quality plans developed to meet the NAAQS are referred to as State Implementation Plans (SIPs). The CCAA also requires plans for nonattainment areas (except for PM10) with respect to the State standards. Thus, just as areas in California have two sets of designations, many also have two sets of planning requirements; one to meet federal requirements relative to the NAAQS and one to meet requirements relative to the CAAQS.

The USEPA is responsible for implementing the programs established under the FCAA, such as establishing and reviewing the NAAQS and judging the adequacy of SIPs, but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

CARB, California's state air quality management agency, regulates mobile emissions sources and oversees the activities of regional/county air districts. CARB is responsible for establishing emissions standards for on-road motor vehicles sold in California. The BAAQMD is the regional agency empowered to regulate air pollutant emissions from stationary sources in the SFBAAB. Both agencies regulate air quality though their permit authority and through their planning and review activities. Pollutants of Concern

The pollutants of concern in the project area are ozone, particulate matter, and toxic air contaminates (TACs). A pollutant of concern is one that is designated nonattainment under the NAAQS or the CAAQS. TACs are discussed below, although no adopted air quality standards exist.

## OZONE (O3)

Photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen ($NO_X$) resulting from the incomplete combustion of fossil fuels are the largest source of ground-level $O_3$. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. As a photochemical pollutant, $O_3$ is formed only during daylight hours under appropriate conditions, but is destroyed throughout the day and night. $O_3$ is considered a regional pollutant, as the forming reaction occurs over time downwind from the sources of the emissions.

## PARTICULATE MATTER ($PM_{10}$ AND $PM_{2.5}$)

Particle pollution is a mixture of microscopic solids and liquid droplets suspended in air. This pollution, also known as particulate matter, is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such

as fragments of pollen or mold spores). The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers (µm) in diameter pose the greatest problems because they can travel deep into lungs ($PM_{10}$) and the bloodstream ($PM_{2.5}$). Exposure to such particles can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

# LOCAL

## BAY AREA AIR QUALITY MANAGEMENT DISTRICT

The project site is under the jurisdiction of the BAAQMD. The BAAQMD develops SIPs for CAPs designated by the EPA as nonattainment, stationary source permits, CEQA guidelines and thresholds, and the following applicable Regulations:

Regulation 1: The provisions and definitions in this Regulation are applicable to all District Regulations and are in addition to the provisions and definitions in individual Rules and Regulations. Regulation I includes sections on exclusions, breakdown procedures, definition of terms, registration, right of access, sampling facilities, record maintenance, and many other provisions.

Regulation 5: Generally prohibits open burning, but also allows for exemptions such as agricultural burning, disposal of hazardous materials, fire training, and range, forest, and wildlife management.

Regulation 7: Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds.

The most recently adopted air quality plan for the Bay Area is the 2017 Clean Air Plan, which provides a regional strategy to protect public health and the climate. The Clean Air Plan control strategy includes 85 individual control measures to reduce emissions which are categorized into sectors, including: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants (BAAQMD, 2017b).

## AIR QUALITY MONITORING

CARB maintains several ambient air quality monitoring stations within the BAAQMD that provide information on the average levels of CAPs in the region. Monitored ambient air pollutant levels reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. The closest monitoring station to the property is located in the City of Napa, at Jefferson Street near Central Avenue, approximately 23 miles south of the property. It should be noted that the monitoring station is located in an urban area while the property is located in a relatively rural area. **Table 4.3-3** presents a three-year summary of ambient air quality monitoring data from the Napa station and compares ambient air pollutant levels of ozone, $PM_{2.5}$, and $PM_{10}$ to CAAQS and NAAQS. The ambient air quality standards were not exceeded at the monitoring

location during the years 2014 to 2016 according to the NAAQS and CAAQS for 8-hour $O_3$ or the federal 24-hour $PM_{2.5}$, as shown in **Table 4.3-3**.

**TABLE 4.3-3**
AIR QUALITY DATA SUMMARY FOR NAPA VALLEY 2014-2016

| Pollutant/Standard | Standard | Days Standard Exceeded[1] in: | | |
|---|---|---|---|---|
| | | 2014 | 2015 | 2016 |
| Ozone | Federal 8-Hour | 0 | 0 | 0 |
| Ozone | State 8-Hour | 0 | 0 | 0 |
| Ozone | State 1-Hour | 0 | 0 | 0 |
| $PM_{10}$ | State 24-Hour | 0 | 0 | N/A[2] |
| $PM_{2.5}$ | Federal 24-Hour | 0 | 0 | N/A[2] |

NOTES: [1] An exceedance is not necessarily a violation.
[2] Insufficient (or no) data available
SOURCE: CARB, 2018

## 4.3.3 IMPACT ANALYSIS

This air quality analysis includes a qualitative discussion of expected emissions generated from sources, such as timber harvesting, log hauling, and vineyard construction activities, including grading. This analysis also includes calculations of operational emissions from project initiation to build out of the Proposed Project.

### SIGNIFICANCE CRITERIA

Impacts would be considered significant if the Proposed Project were to:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment;
- Expose sensitive receptors to substantial pollutant levels; or
- Create objectionable odors affecting a substantial number of people.

For construction and operational related emissions of CAPs, the 2012 BAAQMD CEQA Guidelines provides a 54 pounds per day (ppd) threshold for $NO_x$, ROG, and $PM_{2.5}$, and an 82 ppd threshold for $PM_{10}$. The BAAQMD CEQA Guidelines also require that basic construction mitigation measures, which are outlined in the guidance document, be implemented (BAAQMD, 2012).

### ANALYSIS METHODOLOGY

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to construction and operation of the Proposed Project. Emissions resulting from implementation of the Proposed Project are analyzed in two distinct phases, construction and operation.

### CONSTRUCTION

Construction emissions are temporary in nature. During the construction phase, pollutants of concern are $NO_X$ and PM - the primary pollutants resulting from diesel combustion.

The BAAQMD recommended, 2016 California Emissions Estimator Model (CalEEMod), Version 2013.2.2, which estimates air pollution emissions from a wide variety of land use projects, was used to estimate the projected emissions from the Proposed Project during construction. For the purposes of the CalEEMod model, it was assumed that logging and clearing would occur in the fall of 2019. Construction equipment use was determined through consultation with the licensed timber operator, consultation with the vineyard management company, and the examination of similar projects in the area. To provide a conservative estimate, emissions from project-related construction activities assume an area of ground disturbance of 35 acres, which more than fully encompasses the potential area of disturbance. The BAAQMD CEQA significance thresholds for ROG, $NO_x$, and PM have been utilized to evaluate project related impacts.

### OPERATION

Operation of the Proposed Project would result in emissions of CAPs from area sources, stationary sources, and mobile sources from employee trips, delivery truck trips, and hauling of solid waste. The Proposed Project would generate operational emissions of the criteria pollutants, including ozone precursors (ROG and $NO_x$), CO, $PM_{10}$, $PM_{2.5}$, and $SO_2$.

CalEEMod was used to estimate project-related emissions from mobile sources, off road sources, and area sources including landscaping. Operational emissions results from CalEEMod are presented below in **Impact 4.3-2**, and CalEEMod input and output files are included in **Appendix C**. Analysis of operational emissions is based on buildout of the Proposed Project in the year 2021. This approach provides a conservative estimate of project related emissions, as the emission estimates calculated by the CalEEMod would be reduced in future years due to regulatory requirements and improvements in fuel economy.

Maximum operational mobile and area source emissions would occur during the grape harvest and pruning seasons for the proposed vineyard. Vineyard operations require the use of tractors and additional farming equipment (**Appendix C**). An estimated eight one-way employee trips would occur on average during this season (typically 2 to 4 workers per vehicle) with a one-way average trip length of approximately 16 miles. Additionally, 25 grape trucks per season with a total hauling distance of 750 miles will serve the site. Mobile, area, and off road operational sources and their respective emissions are detailed further in **Impact 4.3-2**.

## IMPACTS AND MITIGATION

**Impact 4.3-1: Timber harvest, land clearing, earthmoving, movement of vehicles, and wind erosion of exposed soil associated with implementation of the Proposed Project may have the potential to cause nuisance related to fugitive dust and exceedance of applicable BAAQMD thresholds for a criteria pollutant. This would be a potentially significant impact if**

**left unmitigated. Less-than-significant with mitigation.**

Conversion of the existing project site to vineyard requires clearing of vegetation and earthmoving activities, which would expose bare soil to wind erosion, thereby generating fugitive dust. Earthmoving activities would be performed by heavy-duty construction equipment, which would directly emit $NO_x$, ROG, $PM_{2.5}$, and $PM_{10}$ emissions. The property is located in a rural area; nevertheless, site preparation activities would have the potential to cause air quality impacts to the area. Projected emissions from construction of the Proposed Project are presented in **Table 4.3-4** below; CalEEMod output files are provided in **Appendix C**.

**TABLE 4.3-4**
UNMITIGATED CONSTRUCTION EMISSIONS

| Construction Phase | ROG | $NO_x$ | $PM_{10}$ (exhaust) | $PM_{2.5}$ (exhaust) |
|---|---|---|---|---|
| | Pounds per Day | | | |
| Logging and Clearing – Fall 2019 | 0.98 | 12.95 | 0.48 | 0.44 |
| Vineyard Installation – Spring/Summer 2020 | 3.05 | 32.96 | 1.67 | 1.54 |
| **Maximum Emissions** | **3.05** | **32.96** | **1.67** | **1.54** |
| *BAAQMD Significance Thresholds* | *54* | *54* | *82* | *54* |
| **Threshold Exceeded** | **No** | **No** | **No** | **No** |

SOURCE: **Appendix C**

BAAQMD requires projects, regardless of emissions, to utilize Best Management Practices (BMPs) to reduce emissions of fugitive particulate matter (both $PM_{10}$ and $PM_{2.5}$). BAAQMD articulates these thresholds in the 2017 CEQA Guidelines and these BMPs are included in **Reduction Measure 4.3-1** to reduce or avoid impacts by eliminating or reducing sources of pollution.

Onsite mulching would be the primary method used for the removal of non-merchantable vegetated material; however, in the event burning is required, onsite burning of cleared vegetation would occur during land preparation and during the wet season as permitted by the governing agencies in accordance with the BAAQMD Regulation 5 (BAAQMD, 2016b; 2013).

The measures below are in addition to the permanent erosion control measures specified in the erosion control plan and the temporary measures in the Timber Harvest Plan, which include establishing a permanent no till cover crop on all disturbed areas. The permanent erosion control measures would avoid the creation of fugitive dust, $PM_{10}$, and $PM_{2.5}$ emissions during construction of the Proposed Project. As shown in **Table 4.3-4** no criteria pollutant would exceed the BAAQMD threshold and with the implementation of **Reduction Measure 4.3-1**, air quality impacts would be less-than-significant.

**Reduction Measure 4.3-1**

A. The Applicant shall implement a fugitive dust abatement program during construction to further reduce fugitive dust, $PM_{10}$, and $PM_{2.5}$ emissions, which shall include the following elements:

- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Cover all exposed dirt stockpiles.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.
- Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Post a publicly visible sign with the telephone number and person to contact at Napa County regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

B. The Applicant shall implement the required basic construction reduction measures as recommended by the BAAQMD's 2017 CEQA Guidelines during the construction of the Proposed Project, which shall include the following elements:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

**Impact 4.3-2: Operation of the Proposed Project would result in additional vehicles trips to the project site, resulting in increased criteria pollutant emissions; however, criteria pollutant emissions would not exceed the BAAQMD thresholds. Less-than-significant.**

**Table 4.3-5** shows the operational emissions from farm equipment usage, employee trips, and grape haul trips associated with the long-term operation of the Proposed Project, and compares the total emissions for the Proposed Project to the BAAQMD operational thresholds. The Proposed Project would not exceed the BAAQMD thresholds of significance; therefore, air quality impacts due to operation are less-than-significant.

**TABLE 4.3-5**
OPERATIONAL INCREASE IN EMISSIONS FROM VINEYARD CONVERSION

| Source | ROG | NOx | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| | Pounds per Day | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.96 | 9.71 | 4.39 | 0.99 |
| Total Operational Emissions | 0.96 | 9.71 | 4.39 | 0.99 |
| *BAAQMD Significance Thresholds* | *54* | *54* | *82* | *54* |
| **Threshold Exceeded** | **No** | **No** | **No** | **No** |

SOURCE: **Appendix C**

**Impact 4.3-3: Construction of the Proposed Project would increase traffic volumes on local roadways, resulting in potential changes to increase CO levels at local roadway intersections. Less-than-significant with mitigation.**

The Proposed Project is in a designated attainment area for CO; the Napa Valley region has low background levels of CO (1.48 parts per million in 2012) (CARB, 2012). CO does not disperse rapidly in the atmosphere, making it a local pollutant. High levels of CO from vehicles occur when a large number of vehicles are idling for more than 35 seconds at an intersection; this generally occurs at signalized intersections with large volumes of traffic (greater than 10,000 vehicles per hour)(BAAQMD, 2012). There are no intersections in the project vicinity that meet this criteria (Napa County, 2008). Idling and operation of equipment during construction and operation of the Proposed Project on-site have the potential to increase CO levels near the property. However, due to the low number of construction vehicles and the intermittent and temporary use of equipment during construction, nearby sensitive receptors would not be exposed to significantly increased levels of CO. Furthermore, operation of the Proposed Project would consist of seasonally intermittent harvest activities, thus would also not result in a significant increase in CO levels. Therefore, with the implementation of **Reduction Measure 4.3-1**, permanent CO levels related to construction and operation would be reduced. The Proposed Project's effect on CO levels during construction and operation is a less-than-significant impact.

**Impact 4.3-4: Construction and operational criteria pollutant and diesel particulate matter emissions have the potential to expose sensitive receptors to substantial pollutant levels. However, project-related emissions would be less than the BAAQMD construction and operation threshold (Table 4.3-4). Less-than-significant.**

Some receptors are considered more sensitive than others to air pollutants as discussed in **Section 4.3.1-1** above. Construction emissions are temporary and vineyard operations are seasonally intermittent, which can be abated through mitigation (see also **Impact** and **Reduction Measure 4.3-1** above). The Proposed Project includes development of 26± net acres of vineyard within a gross disturbed area of approximately 35 acres; the property's land use is designated as Agriculture, Watershed and Open Space under the Napa County General Plan. Land uses in the vicinity of the property include rural residences, vineyards, and open spaces. Additionally, Pacific Union College

and associated Discoveryland Children's Center is approximately 2,000 feet north of the property. There are also no hospitals or convalescent homes within 1 mile of the property that would be affected by construction or operation emissions from the Proposed Project. The nearest sensitive receptor is a residence located approximately 41 feet from the northeast property line near vineyard Block C. As shown in **Tables 4.3.4** and **4.3.5** no criteria pollutant emissions would exceed the BAAQMD thresholds; therefore, no substantial increase in pollutant levels would occur.

**Impact 4.3-5: Project construction and operation could result in an increase in odors in the vicinity of the Proposed Project. However, odors would not be substantial. Less-than-significant.**

During construction and subsequent vineyard operations, various diesel-powered vehicles and equipment and herbicides used on the property may create odors. These sources are mobile and transient in nature. The nearest sensitive residential receptors to Blocks B and E2 (nearest conventionally farmed Blocks) is approximately 130 feet. While Vineyard Block C is 41 feet the nearest Block to a sensitive receptor, it will be hand-farmed once vineyard operations begin. Retention of existing off-site vegetation between proposed vineyard blocks and off-site residences is expected to shield sensitive receptors from odor impacts. Vineyard construction and operation odors are expected to disperse rapidly due to the up-valley winds. Because of these factors, activities from construction and operation would not create objectionable odors affecting a substantial number of people beyond the boundaries of the project site. However, other odors that may be generated during vineyard operation include the potential application of wettable sulfur and sulfur dust to control mildew. These odors would be temporary and would be similar to the odors produced by other vineyards in the vicinity of the project site.

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# 4.4 BIOLOGICAL RESOURCES

This section addresses the potential for the Proposed Project to result in impacts associated with biological resources. Following an overview of the environmental setting in **Section 4.4.1** and the relevant regulatory setting in **Section 4.4.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.4.3**.

## 4.4.1 ENVIRONMENTAL SETTING

### METHODOLOGY

#### DESKTOP REVIEW

Background biological information including speciation and land cover types were obtained from the following sources:

- U.S. Fish and Wildlife Service (USFWS) list of special-status species with the potential to occur on and near the project site (**Appendix G**);
- California Natural Diversity Database (CNDDB) query of special-status species known to occur in the St. Helena quadrangle (**Appendix G**);
- California Native Plant Society (CNPS) query of special-status species known to occur in the St. Helena quadrangle (**Appendix G**);
- Custom Soil Resource Report of the project site from the NRCS (**Appendix H**);
- Current and historic aerial photographs of the project dated 1958 to 2018.

#### Wildlife Corridors

Aerial photos were reviewed to assess habitats surrounding the project site for potential wildlife movement or wildlife corridors. Field methodology for identifying corridors for movement included searching for game trails or habitat that would favor movement of wildlife or potential gene flow. Barriers were also assessed for as they could prevent or direct movement to particular areas. The following five functions were used to evaluate potential wildlife corridors on the project site and whether the Proposed Project would interrupt significant corridors:

1. Wide-ranging animals can travel, migrate and meet mates.
2. Plants can propagate.
3. Genetic interchange can occur.
4. Populations can move in response to environmental changes and natural disasters.
5. Individuals can re-colonize habitats from which populations have been locally extirpated.

#### SURVEYS

Biological surveys of the project site have been conducted beginning in 2014 (**Appendix E**). Additional site visits were made between 2014 and 2019 by biologists from Forest Ecosystem Management (**Appendix P**), members of the California Department of Forestry and Fire Protection

and the California Department of Fish and Wildlife (CDFW), and AES biologists. Survey results are discussed in **Appendix D**. A Focused Wetland Delineation is included in **Appendix F**, and an updated Addendum to the BRR is included in **Appendix E**. Bat habitat assessment surveys have been conducted on the project site since 2014 with a focus on areas within and immediately adjacent to the project site, and results are included in **Appendix Q**.

Surveys were conducted by walking meandering transects throughout and around the project site. Data was collected visually and via a Trimble Geo XH hand-held GPS receiver. Survey goals consisted of identifying land cover types, sensitive habitats, wetlands and Waters of the U.S, potentially hazardous materials, plant and wildlife species, special-status species, wildlife corridors, and oak trees. Habitat requirements of special-status species were compared to habitats present on and adjacent to the project site based surveys and aerial photographs. Wildlife was directly identified by calls, scat, remains, or direct sight. Evidence of wildlife dens, nests, or burrows, if present, were assessed to indirectly identify potentially occurring wildlife species on the project site.

### HABITAT IDENTIFICATION

Napa County Vegetation Alliance data designates specific land cover types present in the region. Land cover types mapped in Napa County by the University of California Davis's Information Center for the Environment (ICE) (Thorne et al. 2004) were mapped onto the project site and refined based on survey observations. Land cover types were also classified or refined by assessing the dominant species present and the amount of cover of the uppermost canopy layer, according to the Manual of California Vegetation, Second Edition (MCV) (Sawyer et al., 2009). CDFW considers sensitive biotic communities to be those listed on the CNDDB (e.g., native grasslands; CDFW, 2016). Sensitive biotic communities are either designated by CDFW, considered by local experts to be communities of limited distribution, and/or considered to be Waters of the U.S. or State by Napa County (Napa County, 2005; 2017). Other natural communities in the County are considered sensitive due to limited distribution.

Species and land cover types encountered were classified using the *General Rare Plant Survey Guidelines* (CDFW, 2002), *Botanical Survey Guidelines of the California Native Plant Society* (CNPS, 2001), and *The Jepson Manual* (Baldwin, 2012). Botanical assessment followed protocols described in the *General Rare Plant Survey Guidelines* (CDFW, 2002), *Botanical Survey Guidelines of the California Native Plant Society* (CNPS, 2001), and Hickman, 1993a and 1993b. Vegetative, dried flower or fruit morphology, and skeletal plant remains from previous seasons were examined to identify plant species not in bloom.

## REGIONAL SETTING

Napa County is located within the Inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province (Hickman, 1993) that is strongly influenced by the Pacific Ocean. Average precipitation in Angwin is approximately 40.7 inches per year, and average annual temperatures for the region range from 45 to 68 degrees Fahrenheit. (WRCC, 2015). Oak woodland is the dominant natural land cover in Napa County, comprising approximately 33 percent

of the land cover. Coniferous forest is common in the County's higher elevation areas. Agricultural cropland is also a prominent land cover.

## PROJECT SITE

The project site is located within the "Saint Helena, California" USGS 7.5 minute quad in the Conn Creek Watershed. Conn Creek is a Class I blueline perennial stream that occurs off-site along the western and southern property boundary. Slopes on the project site range from 7 to 29 percent, and elevations range from 450 to 531 meters above mean sea level (amsl). Soils within the project parcel are classified by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) as Forward gravelly loam, 2 to 9 percent slopes, 9 to 30 percent slopes, and 30 to 75 percent slopes; Kidd loam, 15 to 30 percent slopes; Pleasanton loam, 2 to 5 percent slopes; and Tehama Silt loam, 0 to 5 percent slopes. The project site was historically used for agriculture and remnant orchards remain. Adjacent land uses include rural residential, agriculture, and open space.

### LAND COVER TYPES

Land cover types identified on the property are shown in **Figure 4.4-1** and are described in more detail below**. Table 4.4-1** shows the total acreage of each land cover type in the County, on the property, and within clearing limits. Instances where County data is not available are marked as "—". The property totals 88.34 acres and clearing limits total 33.8 acres.

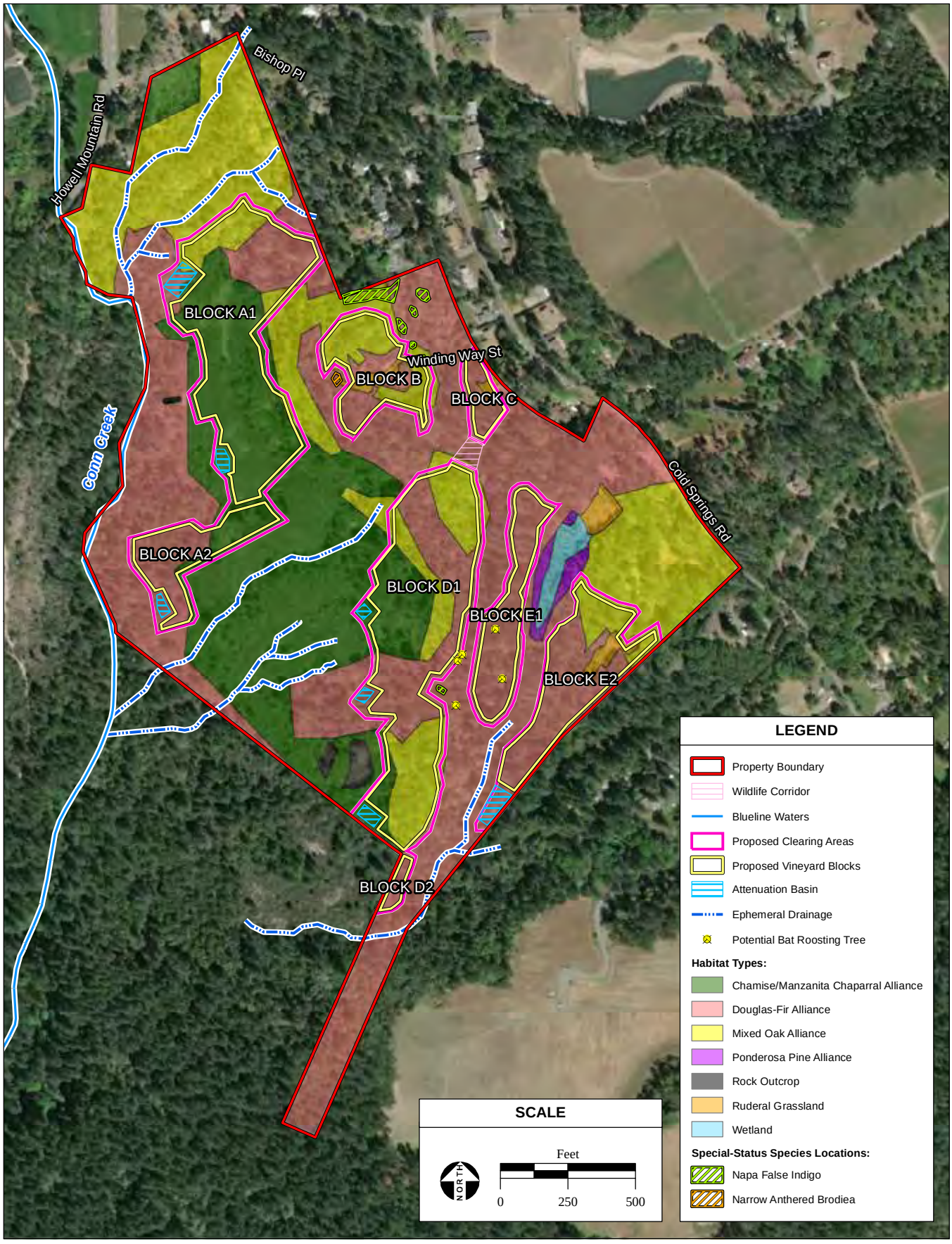
**TABLE 4.4-1**
LAND COVER TYPES OF THE PROPERTY

| Land Cover Type | Acres in County | Acres on Property | Acres in Clearing Limits | % Developed of Property | % Developed of County |
|---|---|---|---|---|---|
| Mixed Manzanita (Interior Live Oak - California Bay - Chamise) West County NFD Alliance | 7,907 | 20.62 | 9.29 | 40.05% | 0.12% |
| Mixed Oak Alliance | 28,319 | 22.81 | 7.42 | 32.53% | 0.03% |
| Douglas Fir Alliance | 17,074 | 43.02 | 16.50 | 38.35% | 0.10% |
| California Annual Grasslands Alliance | 36,455 | 0.66 | 0.59 | 89.39% | 0.00% |
| Ponderosa Pine Alliance | 152 | 0.58 | 0.00 | 0.00% | 0.00% |
| Wetland | — | 0.33 | 0.00 | 0.00% | 0.00% |
| Rock Outcrop | 1,672 | 0.32 | 0.00 | 0.00% | 0.00% |
| **Total** | — | **88.34** | **33.80** | — | — |

SOURCES: **Appendix D**, **Appendix E**, and Napa County, 2005

### Mixed Manzanita Alliance

Mixed Manzanita (Interior Live Oak - California Bay - Chamise) NFD Alliance (Mixed-Manzanita Alliance) covers approximately 7,907 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 20.62 acres of Mixed Manzanita Alliance occurs on the property, and approximately 9.29 acres occurs within clearing limits (0.12 percent of Mixed Manzanita Alliance in Napa County). This land cover type is not considered sensitive or of limited distribution.




SOURCE: Kjeldsen Biological Consulting, 7/2015; Napa Valley Vineyard Engineering, Inc., 2/22/2017; Napa County Orthophoto, 2014; Montrose Environmental, 1/10/2022



**Figure 4.4-1**
Habitat Types

Dominant plant species found in the Mixed Manzanita Alliance include white leaf manzanita (*Arctostaphylos viscida*), common manzanita (*Arctostaphylos manzanita*), chamise (*Adenostema fasciculatum*), Stanford manzanita (*Arctostaphylos stanfordiana*), and leather oak (*Quercus durata*). Additional species include musk brush (*Ceanothus jepsonii* var. *albiflorus*), poison oak (*Toxicodendron diveresilobum*), silk-tassel bush (*Garrya congdonii*), toyon (*Heteromeles arbutifolia*), deer brush (*Ceanothus integerrimus*), and fremontia (*Fremontodendron californicum*). The shrub layer canopy is approximately one to two meters in height and the sparse herbaceous layer is comprised of non-native grasses. Common wildlife species in this habitat include western rattlesnake (*Crotalis oreganus*), California mountain kingsnake (*Lampropeltis zonata*), Sonoma chipmunk (*Tamias sonomae*), and California quail (*Callipepla californica*).

## Mixed Oak Alliance

Mixed Oak Alliance covers approximately 28,319 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 22.81 acres of Mixed Oak Alliance occurs on the property, and approximately 7.42 acres of Mixed Oak Alliance occurs within clearing limits (0.03 percent of Mixed Oak Alliance in Napa County). This alliance qualifies as Mixed Oak Alliance based on three or more *Quercus* species present at greater than 30 percent constancy as co-dominants of the tree canopy. The canopy varies from intermittent to continuous and plant density within the understory shrub and herbaceous layers ranges from sparse to abundant. Oaks within this alliance range from 6 to 20 inches in diameter at 10 to 20 foot spacing. This land cover type is not considered sensitive or of limited distribution, however Mixed Oak Alliance is afforded protection via Napa County General Plan policies (Policy CON-24).

The property is located in a declared zone of infestation for Sudden Oak Death (SOD), however no known locations of SOD occur within 4.0 miles of the property. Surveys did not identify SOD on or adjacent to the property. Dominant tree species found in the Mixed Oak Alliance include coast live oak (*Quercus agrifolia*), blue oak (*Q. douglasii*), Oregon white oak (*Q. garryana*), California black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizeni*). Additional tree species include California buckeye (*Aesculus californica*), Pacific madrone (*Arbutus menziesii*), California foothill pine (*Pinus sabiniana*), Douglas fir (*Pseudotsuga menziesii*), and California bay laurel (*Umbellularia californica*). The understory is composed of non-native annual grass species and patches of shrub species such as hillside gooseberry (*Ribes californica*) and poison oak, vine species such as hairy honeysuckle (*Lonicera hispidula*), and herbaceous species such as rigid hedge nettle (*Stachys ajugoides*) and miner's lettuce (*Claytonia perfoliata).* Common wildlife species in this habitat include acorn woodpecker (*Melanerpes formicivorus*), California scrub jay (*Aphelocoma californica*), western gray squirrel (*Sciurus griseus*), black-tailed deer (*Odocoileus hemionus columbianus*), Lawrence's goldfinch (*Carduelis lawrencei*), lark sparrow (*Chondestes grammacus*), Bullock's oriole (*Icterus bullockii*), and Hutton's vireo (*Vireo huttoni*).

## Douglas Fir Alliance

Douglas Fir Alliance covers approximately 17,074 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 43.02 acres of Douglas Fir Alliance occurs on the

property, and approximately 16.50 acres occurs within clearing limits (0.10 percent of Douglas Fir Alliance in Napa County). The structure of the Douglas Fir Alliance on the property consists of relatively dense stands of trees at less than 10 foot spacing and satisfies the membership rules of successful reproduction and greater than 50 percent relative cover in the tree canopy. Douglas Fir Alliance can exist co-dominantly with Ponderosa pine (Sawyer et al., 2009), however, the Ponderosa Pine habitat on the property was identified as a separate land cover type (**Figure 4.4-1**). Douglas Fir Alliance is not considered sensitive or of limited distribution.

Maturation of Douglas fir forests typically occurs at 80 to 110 years of age and mature forests represent a relatively stable stage with substantial continued growth and biomass accumulation (United States Department of Agriculture, 1986). Old-growth Douglas fir forest is predominately 150 years of age or greater, and the transition from the mature to old-growth stage is gradual and becomes apparent around 175 to 200 years of age (United States Department of Agriculture, 1986; **Appendix E**). The Douglas Fir Alliance on the property represents seral stages of growth indicative of a historic fire regime, with dense regeneration and different age classes (**Appendix D, Appendix E**). Block E1 consists of Douglas-Fir Forest Alliance with low density undergrowth and firs of various age classes (**Appendix E**). Review of historic aerial photographs of the property and surveys did not identify old-growth Douglas Fir Alliance.

Dominant tree species found in the Douglas Fir Alliance include Douglas fir, which is dominant or co-dominant in the canopy with hardwoods including white fir (*Abies concolor*), big-leaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), Pacific madrone, incense cedar (*Calocedrus decurrens*), Port Orford cedar (*Chamaecyparis lawsoniana*), giant chinquapin (*Chrysolepis chrysophylla*), Pacific dogwood (*Cornus nuttallii*), lodgepole pine (*Pinus contorta*), sugar pine (*P. lambertiana*), Jeffrey pine (*P. jefferyi*), coast live oak, and canyon live oak (*Quercus chrysolepis)*. Shrub species associated with this land cover type often include California hazel *(Corylus cornuta* var. *californica*), oceanspray (*Holodiscus disco*), creeping snowberry (*Symphoricarpos mollis*), poison oak, California nutmeg (*Torreya californica*), and manzanita. Herbaceous species found in the understory include yerba de selva (*Whipplea modesta*). Wildlife species commonly found in Douglas Fir Alliance include ring-necked snake (*Diadophis punctatus*), rubber boa (*Charina bottae*), hairy woodpecker (*Picoides villosus*), pileated woodpecker (*Dendropus pileatus*), Steller's jay (*Cyanocitta stelleri*), black bear (*Ursus americanus*), and western gray squirrel (*Sciurus griseus*).

## California Annual Grasslands Alliance

California Annual Grassland Alliance covers approximately 36,455 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 0.66 acres of California Annual Grasslands Alliance occurs on the property, and approximately 0.59 acres of California Annual Grassland Alliance occurs within clearing limits (<0.01 percent of California Annual Grassland Alliance in Napa County). California Annual Grasslands Alliance is considered a sensitive biotic community when the relative percent cover of native grasses is ten percent or greater. California Annual Grasslands Alliance within the property are ruderal and disturbed. Due to the lack of native grasses in abundance, this land cover type is not considered sensitive or of limited distribution.

Dominant plant species found in the California Annual Grassland Alliance include sweet-brier (*Rosa rubiginosa*), wild carrot (*Dacus carota*), hedge parsley (*Torilis arvensis*), yellow star thistle (*Centaurea solstitalis*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), hedge mustard (*Sisymbrium officinalis*), silver European hairgrass (*Aira caryophyllea*), slender wild oat (*Avena barbata*), and ripgut grass (*Bromus diandrus*). Wildlife species commonly found in the California Annual Grassland Alliance are similar to those found within Douglas Fir Alliance.

### Ponderosa Pine Alliance

Ponderosa Pine Alliance covers approximately 152 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 0.58 acres of Ponderosa Pine Alliance occurs on the property. Surveys identified this land cover type as growing independently of the Douglas Fir Alliance. The structure of the Ponderosa Pine Alliance on the property satisfies the membership rules of successful reproduction, greater than 50 percent relative cover of ponderosa pine in the tree canopy, and hardwoods such as California black oak are low in cover, if present. This land cover type is considered a biotic community of limited distribution in Napa County. Ponderosa Pine Alliance does not occur within clearing limits.

Ponderosa pine (*Pinus ponderosa*) comprises the dominant tree species found in the Ponderosa Pine Alliance. Shrub species associated with this land cover type often include California hazel, ocean spray, creeping snowberry, poison oak, California nutmeg, woodland rose, thimbleberry, and manzanita. Herbaceous species found in the understory of this land cover type include yerba de selva. Wildlife species commonly found in the Ponderosa Pine Alliance are similar to those found within Douglas Fir Alliance.

### Wetland

Approximately 0.33 acres of wetland (non-vernal pool) was observed in the southeast section of the property, originating from a spring or seep (**Figure 4.4-1**; **Appendix D**). The wetland was determined by indicative vegetation, soils, and hydrologic information. A Wetland Delineation is included in **Appendix F**. Wetlands do not occur within clearing limits.

### Rock Outcrop

Rock outcrop covers approximately 1,672 acres of the total vegetative cover in Napa County (NCCDPD, 2018; **Table 4.4-1**). Approximately 0.49 acres of rock outcrop occurs on the property. Surveys identified rock outcrop in the western and lower southwestern portions of the project site. This land cover type is not considered sensitive or of limited distribution. Rock outcrop does not occur within clearing limits.

### Aquatic Features

Conn Creek is a Class I blueline perennial stream that occurs off-property along the western and southern boundary. Conn Creek flows approximately 7.8 miles from the base of the dam forming the reservoir to its confluence with the Napa River. The Napa River provides habitat for fish spawning and rearing. Historically, Conn Creek supported a run of anadromous central California coast

steelhead, however construction of a dam has since restricted access to spawning and rearing grounds in upper Conn Creek and tributaries (UC Davis, 2014). Anadromous Chinook salmon may have also historically utilized lower gradient reaches of Conn Creek for spawning and rearing, and continue to spawn in the Napa River near the confluence with Conn Creek (UC Davis, 2014).

Potential waters of the U.S. or State on the property include several Class II and Class III ephemeral drainages on the northern, central, and southern portions. The drainages flow southwest into Conn Creek, as shown in **Figure 4.4-1**. Certain segments of drainages become Class II watercourses as they near the confluence of Conn Creek. Aquatic features were not observed within clearing limits. Vegetation associated with the aquatic features includes poikilohydric bryophytes on larger boulders in streambeds. Evidence of in-channel aquatic life was not observed within the aquatic features.

### WILDLIFE

Common wildlife species that occur in the region of the project site include: bobcat (*Lynx rufus*), coyote (*Canis latrans*), fox (*Vulpes vulpes*), jackrabbit (*Lepus californicus*), Columbian black tail deer (*Odocoileus hemionus columbianus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), Cooper's hawk (*Accipiter cooperii*), olive-sided flycatcher (*Contopus cooperi*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), great-horned owl (*Bubo virginianus*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), California scrub jay (*Aphelocoma californica*), western fence lizard (*Sceloporus occidentalis*), California newt (*Taricha torosa*), and Pacific chorus frog (*Pseudacris (Hyla).*

## Wildlife Movement

Data from riparian corridors associated with vineyards in nearby Sonoma County indicate large native predators as more likely to utilize wide riparian corridors (greater than 98 feet or 30 meters on each side of a stream), and smaller native and non-native mammalian predators as more active in narrow and denuded riparian corridors (33 to 98 feet, or 10 to 30 meters on each side of the creek) (Hilty and Merenlender, 2002). Data suggest that preferred corridor widths are of 100 feet wide or greater to provide adequate wildlife movement (Tewksbury, 2002).

The property has not been identified as part of a major regional movement corridor (NCCDPD, 2010). Wildlife movement and high-quality habitat in the vicinity of the property is limited and fragmented by existing vineyards, residences, and roadways to the north, east, south, and west of the property, and an airfield further north. Cold Springs Road northeast to southeast of the property is largely lined with housing and associated portions of property fencing. Howell Mountain Road, northwest to southwest of the property, is largely lined with vineyards, property fencing, residences, and steep roadside slopes. Game trails were identified on the property, however evidence of distinct continuous natural wildlife corridors was not observed (**Appendix D**).

The western/southern property boundary is adjacent to a portion of Conn Creek and 140 acres of open space held in trust by the Napa Land Trust that provides areas for wildlife movement. Conn

Creek and the open space area are located off-site and provide areas for wildlife movement, however slopes along Block A1 and A2 abutting Conn Creek are steep and may obstruct or prevent wildlife from accessing the property from the west and south. Scattered areas between adjacent residences and vineyards may allow for limited wildlife movement, however Conn Creek and the open space area are less developed and contain higher quality habitat more likely to support wildlife movement, including a permanent water source, dense tree canopy, and associated riparian habitat. A portion of Block E1 contains low density understory and openings that may allow for wildlife movement, should wildlife find access. However, with the exception of Conn Creek and the open space area, continuous wildlife movement and high-quality habitat in the vicinity of the property is otherwise fragmented.

### CRITICAL HABITAT

No designated critical habitat for special-status species occurs on or immediately adjacent to the property (**Appendix G**). The nearest designated critical habitat occurs approximately 1.0 mile northeast from the project site for the Northern Spotted Owl (NSO).

### SPECIAL-STATUS SPECIES

Special-status species are those considered to be of management concern to local, State, and/or federal resource agencies, including species:

- Listed as endangered, threatened, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§ 1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§§ 3511, 4700 or 5050);
- Designated as species of special concern by the CDFW;
- Meeting the definitions of rare or endangered under CEQA, including plants ranked by the CNPS to be “rare, threatened or endangered in California” (Rank 1A, 1B and 2);
- Listed as “locally rare” special-status plant species in the Napa County Baseline Data Report (NCBDR), which includes plants ranked by the CNPS on Ranks 3 and 4 (Napa RCD, 2005); and
- Sensitive biotic communities, habitats of limited distribution, and special-status species as defined in the NCBDR and General Plan.

Special-status species were targeted based on records obtained from the CNDDB, CNPS, and USFWS (**Appendix G**). Special-status surveys targeted species that were identified as having the potential to occur, that have been recorded within a 5-mile radius, or that are known to occur within specific land cover types on the project site. The name, regulatory status, distribution, habitat requirements, period of identification, and potential to occur on the project site for regionally occurring special-status species are listed in **Table 4.2-2**.

**TABLE 4.4-2**
REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

| SCIENTIFIC NAME COMMON NAME | FEDERAL/STATE /CNPS RANK | DISTRIBUTION | HABITAT REQUIREMENTS | PERIOD OF IDENTIFICATION | POTENTIAL TO OCCUR ON-SITE |
|---|---|---|---|---|---|
| **PLANTS** | | | | | |
| *Amorpha californica* var. *napensis* Napa false indigo | --/--/1B.2 | Know to occur in Monterey, Marin, Napa, and Sonoma counties. | Found in broad-leafed upland forest (openings), chaparral, and cismontane woodland habitats. Elevations range from 120-2000 meters. | April-July | **Yes.** Suitable habitat for this species occurs within the project site. This species was observed during surveys. |
| *Astragalus breweri* Brewer's milk-vetch | --/--/4.2 | Known to occur in Colusa, Lake, Mendocino, Marin, Napa, Sonoma, and Yolo counties. | Found in chaparral, cismontane woodland, meadows and seeps, and open, often gravelly valley and foothill grassland habitats. Often found in serpentinite, volcanic soils. Elevations range from 90-730 meters. | April-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Astragalus claranus* Clara Hunt's milk-vetch | FE/CT/1B.1 | Known to occur in Napa and Sonoma counties. | Found in chaparral (openings), cismontane woodland, and valley and foothill grassland habitats. Found in serpentinite or volcanic, rocky, and clay soils. Elevations range from 75-275 meters. | March-May | **No.** Suitable habitat for this species does not occur within the project site. The project site is outside the known range of elevation for this species. |
| *Astragalus clevelandii* Cleveland's milk-vetch | --/--/4.3 | Known to occur in Colusa, Lake, Napa, San Benito, Sonoma, Tehama, and Yolo counties. | Found in chaparral, cismontane woodland, and riparian forest habitats in serpentinite seeps. Elevations range from 200-1500 meters. | June-September | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Brodiaea leptandra* Narrow-anthered California brodiaea | --/--/1B.2 | Known to occur in Lake, Napa, and Sonoma counties. | Found in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. Found in volcanic soil. Elevations range from 110-915 meters. | May-July | **Yes.** Suitable habitat for this species occurs within the project site. This species was observed during surveys. |
| *Calamagrostis ophitidis* Serpentine reed grass | --/--/4.3 | Known to occur in Lake, Mendocino, Marin, Napa, and Sonoma counties. | Found in chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Found in serpentinite, rocky soils. Elevations range from 90-1065 meters. | April-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Castilleja ambigua* var. *ambigua* Johnny-nip | --/--/4.2 | Known to occur in Alameda, Contra Costa, Del Norte, Humboldt, Mendocino, Marin, Napa, Santa Cruz, San Francisco, San Luis Obispo, San Mateo, and Sonoma counties. | Found in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pool margin habitats. Elevations range from 0-435 meters. | March-August | **No.** Suitable habitat for this species does not occur within the project site. The project site is outside the known range of elevation for this species. |

| SCIENTIFIC NAME COMMON NAME | FEDERAL/STATE /CNPS RANK | DISTRIBUTION | HABITAT REQUIREMENTS | PERIOD OF IDENTIFICATION | POTENTIAL TO OCCUR ON-SITE |
|---|---|---|---|---|---|
| *Ceanothus confusus* Rincon Ridge ceanothus | --/--/1B.1 | Known to occur in Lake, Mendocino, Napa, and Sonoma counties. | Found in closed-cone coniferous forest, chaparral, and cismontane woodland habitats. Found in volcanic or serpentinite soils. Elevations range from 75-1065 meters. | February-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Ceanothus divergens* Calistoga ceanothus | --/--/1B.2 | Known to occur in Lake, Napa, and Sonoma Counties. | Found in chaparral habitat in serpentinite, volcanic, or rocky soils. Elevations range from 170-950 meters. | February-March | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Ceanothus purpureus* Holly-leaved ceanothus | --/--/1B.2 | Known to occur in Napa, Shasta, Solano, Sonoma, and Trinity. | Found in chaparral and cismontane woodland habitat in volcanic, rocky soils. Elevations range from 120-640 meters. | February-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Ceanothus sonomensis* Sonoma ceanothus | --/--/1B.2 | Known to occur in Napa and Sonoma counties. | Found in chaparral habitat (sandy, serpentinite, or volcanic). Elevations range from 215 to 800 meters. | February-April | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Clarkia gracilis* ssp. *tracyi* Tracy's clarkia | --/--/4.2 | Known to occur in Colusa, Humboldt, Lake, Mendocino, Napa, Tehama, and Trinity counties. | Found in chaparral openings in serpentinite soils. Elevations range from 65-650 meters. | April-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Collomia diversifolia* Serpentine collomia | --/--/4.3 | Known to occur in Contra Costa, Colusa, Glenn, Lake, Mendocino, Napa, Shasta, Stanislaus, and Yolo counties. | Found in chaparral and cismontane woodland habitats in serpentinite, rocky, or gravelly soils. Elevations range from 300-600 meters. | May-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Cordylanthus tenuis* ssp. *brunneus* Serpentine bird's-beak | --/--/4.3 | Known to occur in Lake, Napa, and Sonoma counties. | Found in closed-cone coniferous forest, chaparral, and cismontane woodland habitats in serpentinite soils. Elevations range from 475-915 meters. | July-August | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Delphinium uliginosum* Swamp larkspur | --/--/4.2 | Known to occur in Colusa, Lake, Napa, and Siskiyou counties. | Found in chaparral and valley and foothill grassland habitats. Also found in serpentinite seeps. Elevations range from 340-610 meters. | May-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Erigeron biolettii* Streamside daisy | --/--/3 | Known to occur in Humboldt, Mendocino, Marin, Napa, Solano, and Sonoma counties. | Found in broadleafed upland forest, cismontane woodland, and North Coast coniferous forest habitats. Found in rocky, mesic soils. Elevations range from 30-1100 meters. | June-October | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |

| SCIENTIFIC NAME COMMON NAME | FEDERAL/STATE /CNPS RANK | DISTRIBUTION | HABITAT REQUIREMENTS | PERIOD OF IDENTIFICATION | POTENTIAL TO OCCUR ON-SITE |
|---|---|---|---|---|---|
| *Erigeron greenei* Greene's narrow-leaved daisy | -/-/1B.2 | Napa, Sonoma, and Lake counties. | Found in chaparral habitat (serpentinite or volcanic). Elevations range from 80-1005 meters. | May - September | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Eryngium jepsonii* Jepson's coyote-thistle | -/-/1B.2 | Known to occur in Alameda, Contra Costa, Napa, San Mateo, Solano, and Yolo counties. | Found in clay vernal pools and valley and foothill grassland habitats. Elevation range 3-300 meters. | April-August | **No.** Suitable habitat for this species does not occur within the project site. The project site is outside the known range of elevation for this species. |
| *Harmonia nutans* Nodding harmonia | --/--/4.3 | Known to occur in Lake, Napa, Sonoma, and Yolo counties. | Found in chaparral and cismontane woodland habitats. Found in rocky, gravelly, or volcanic soils. Elevations range from 75-975 meters. | March-May | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Hesperolinon bicarpellatum* Two-carpellate western flax | --/--/1B.2 | Known to occur in Lake, Napa, and Sonoma counties. | Found in chaparral habitats in serpentinite soils. Elevations range from 60-1005 meters. | May-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Hesperolinon sharsmithiae* Sharsmith's western flax | --/--/1B.2 | Known to occur in Lake and Napa counties. | Found in chaparral habitats in serpentinite soils. Elevations range from 270-300 meters. | May-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. The project site is outside the known range of elevation for this species. |
| *Layia septentrionalis* Colusa layia | --/--/1B.2 | Known to occur in Colusa, Glenn, Lake, Mendocino, Napa, Sonoma, Sutter, Tehama, and Yolo counties. | Found in chaparral, cismontane woodland, valley and foothill grassland habitats. Found in serpentinite soils. Elevations range from 100-1095 meters. | April-May | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Leptosiphon jepsonii* Jepson's leptosiphon | --/--/1B.2 | Known to occur in Lake, Napa, and Sonoma counties. | Found in chaparral and cismontane woodland habitats. Usually found in volcanic soils. Elevations range from 100-500 meters. | March-May | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Lomatium repostum* Napa lomatium | --/--/4.3 | Known to occur in Lake, Napa, Solano, and Sonoma counties. | Found in chaparral and cismontane woodland habitats. Found in serpentinite soils. Elevations range from 90-830 meters. | March-June | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the |

| SCIENTIFIC NAME COMMON NAME | FEDERAL/STATE /CNPS RANK | DISTRIBUTION | HABITAT REQUIREMENTS | PERIOD OF IDENTIFICATION | POTENTIAL TO OCCUR ON-SITE |
|---|---|---|---|---|---|
| | | | | | project site. |
| *Lupinus sericatus* Cobb Mountain lupine | --/--/1B.2 | Known to occur in Colusa, Lake, Napa, and Sonoma counties. | Found in broad-leafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest habitats. Elevations range from 275-1,525 meters. | March-June | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Micropus amphibolus* Mt. Diablo cottonweed | --/--/3.2 | Known to occur in Alameda, Contra Costa, Colusa, Lake, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, Solano, and Sonoma counties. | Found in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland habitats. Found in rocky soils. Elevations range from 45-825 meters. | March-May | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Navarretia cotulifolia* Cotula navarretia | --/--/4.2 | Known to occur in Alameda, Butte, Contra Costa, Colusa, Glenn, Lake, Mendocino, Marin, Napa, San Benito, Santa Clara, Siskiyou, Solano, Sonoma, Sutter, and Yolo counties. | Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Found in adobe soils. Elevations range from 4-1830 meters. | May-June | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Navarretia leucocephala* ssp. *bakeri* Baker's navarretia | --/--/1B.1 | Known to occur in Colusa, Glenn, Lake, Lassen, Mendocino, Marin, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties. | Found in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pool habitats. Elevations range from 5-1740 meters. | April-July | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |
| *Penstemon newberryi* var. *sonomensis* Sonoma beardtongue | --/--/1B.3 | Known to occur in Lake, Napa, and Sonoma counties. | Found in very rocky chaparral conditions. Elevations range from 700-1370 meters. | April-August | **No.** Suitable habitat for this species does not occur within the project site. The project site is outside the known range of elevation for this species. |
| *Ranunculus lobbii* Lobb's aquatic buttercup | --/--/4.2 | Known to occur in Alameda, Contra Costa, Mendocino, Marin, Napa, Santa Cruz, San Mateo, Solano, and Sonoma counties. | Found in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pool habitats. Found in mesic soils. Elevations range from 15-470 meters. | February-May | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |
| *Senecio clevelandii* var. *clevelandii* Cleveland's ragwort | --/--/4.3 | Known to occur in Colusa, Lake, and Napa counties. | Found in chaparral (serpentinite seeps). Elevations range from 365-900 meters. | June-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Sidalcea oregana* ssp. *hydrophila* Marsh checkerbloom | --/--/1B.2 | Known to occur in Glenn, Lake, Mendocino, and Napa counties. | Found in meadows and seeps and riparian forest habitats. Found in mesic soils. Elevations range from 1100-2300 meters. | June-August | **No.** Suitable habitat for this species does not occur within the project site. The project site is outside the known range of elevation for this |

| SCIENTIFIC NAME COMMON NAME | FEDERAL/STATE /CNPS RANK | DISTRIBUTION | HABITAT REQUIREMENTS | PERIOD OF IDENTIFICATION | POTENTIAL TO OCCUR ON-SITE |
|---|---|---|---|---|---|
| | | | | | species. |
| *Streptanthus hesperidis* Green jewel-flower | --/--/1B.2 | Known from Glenn, Lake, Napa, and Sonoma counties | Found in chaparral (openings) and cismontane woodland habitats. Found in serpentinite, rocky soils. Elevations range from 130 to 760 meters. | May-July | **No.** Suitable habitat for this species does not occur within the project site. Suitable soil types do not occur within the project site. |
| *Toxicoscordion fontanum* Marsh zigadenus | --/--/4.2 | Known to occur in Lake, Mendocino, Monterey, Marin, Napa, San Benito, Santa Cruz, San Luis Obispo, San Mateo, and Sonoma counties | Found in chaparral, cismontane woodland, lower montane coniferous forest, meadow, seep, marsh, and swamp habitats. Found in vernally mesic, often serpentinite soils. Elevations range from 15-1000 meters. | April-July | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| *Trichostema ruygtii* Napa bluecurls | --/--/1B.2 | Known to occur in Lake, Napa, and Solano counties. | Found in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland and vernal pool habitats. Elevations range from 30-680 meters. | June-October | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| **ANIMALS** | | | | | |
| **Invertebrates** | | | | | |
| *Syncaris pacifica* California freshwater shrimp | FE/CE/-- | Known only throughout Marin, Napa, and Sonoma counties. | Small, low-gradient, perennial coastal streams. Prefers relatively shallow streams with depths of 12-36 inches, exposed live roots of trees such as alder and willow, undercut banks greater than 6 inches, overhanging woody debris, or stream vegetation and vines. Elevations range from 0-116 meters. | Consult Agency | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |
| **Fish** | | | | | |
| *Hypomesus transpacificus* Delta smelt | FT/CE/-- | Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay. | Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta. | Consult Agency | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |

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|---|---|---|---|---|---|
| *Oncorhynchus mykiss irideus* Steelhead-Central California Coast DPS | FT/--/-- | Central California Coastal ESU, spawns in drainages from the Russian River basin, Sonoma and Mendocino Counties, to Soquel Creek, Santa Cruz County (including the San Francisco Bay basin, but not the Sacramento and San Joaquin Rivers or their tributaries). | Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed. | Consult Agency | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |
| **Amphibians** | | | | | |
| *Rana boylii* Foothill yellow-legged frog | --/CCT, CSC/-- | Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County, throughout most of Northern California west of the Cascade crest, and along the western portion of the Sierra south to Kern County, with a few isolated populations in the Central Valley. | Occurs in shallow flowing streams with some cobble in a variety of habitats including woodlands, riparian forest, coastal scrub, chaparral, and wet meadows. Prefers sunny, open shorelines. Elevations typically range from 0-1,940 meters. | March - June | **N/A.** Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur along the adjacent Conn Creek. This species was not observed during surveys. |
| *Rana aurora draytonii* California red-legged frog | FT/CSC/-- | Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County. Current accepted range excludes the Central Valley. | Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 meters | November – March (breeding)<br><br>June - August (non-breeding) | **N/A.** Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur along the adjacent Conn Creek. This species was not observed during surveys. |
| *Dicamptodon ensatus* California giant salamander | --/CSC/-- | Known to occur in Mendocino, Lake, Glenn, Sonoma, Marin, San Mateo, Santa Cruz and historically Monterey counties. | Occurs in wet coastal forests near streams and seepages. Usually found in cool, moist, forest habitat and associated with rocky streams and springs. | N/A | **N/A.** Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur within the adjacent Conn Creek. This species was not observed during surveys. |
| **Birds** | | | | | |
| *Haliaeetus leucocephalus* Bald eagle | FD/CE/-- | Nests in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, Humboldt, and Trinity Counties. Winters throughout most of California. | Found near ocean shorelines, lakes, reservoirs, river systems, and coastal wetlands. Usually less than 2 km to water that offers foraging opportunities. Suitable foraging habitat consists of large bodies of water or rivers with abundant fish and adjacent large perching sites. | Year-round | **No.** Suitable habitat for this species does not occur within the project site. This species was not observed during surveys. |
| *Strix occidentalis* | FT/CT/-- | Geographic range extends from British | Resides in mixed conifer, redwood, and Douglas | Year-round | **Yes.** Suitable foraging habitat |

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|---|---|---|---|---|---|
| *caurina* Northern spotted owl | | Colombia to northwestern California south to San Francisco. The breeding range includes the Cascade Range, North Coast Ranges, and the Sierra Nevada. Some breeding populations also occur in the Transverse Ranges and Peninsular Ranges. | fir habitats, from sea level up to approximately 2,300 meters. Appear to prefer old-growth forests, but use of managed (previously logged) land is not uncommon. Do not appear to use logged habitat until approximately 60 years after logging unless larger trees or snags remain. Nesting habitat is a tree or snag cavity, or the broken top of a large tree. Requires a nearby permanent source of water. Foraging habitat consists of forest habitat with sufficient prey. | | occurs within the project site. Suitable nesting habitat does not occur. This species was not observed during surveys. |
| *Progne subis* Purple martin | --/CSC/-- | Local summer resident in wooded low-elevation habitats throughout California; rare migrant in spring and fall, absent in winter. In the south, now only a rare and local breeder on the coast and in interior mountain ranges. | Inhabits open forests, woodlands, and riparian areas in breeding season. Found in a variety of open habitats during migration, including grassland, wet meadow, and fresh emergent wetland, usually near water. Nests in conifer stands, often in woodpecker holes. Uses valley foothill and montane hardwood and conifer, and riparian habitats. | March-August | **Yes.** Suitable habitat for this species occurs within the project site. This species was not observed during surveys. |
| **Mammals** | | | | | |
| *Antrozous pallidus* Pallid bat | --/CSC/-- | Occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino county. | Known to occur in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests, generally below 2,000 meters. The species is most common in open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, and under bridges. | Year-round | **Yes.** Suitable roosting and foraging habitat for this species occurs within the project site. This species was identified on the project site during focused acoustic surveys. |
| *Corynorhinus townsendii* Townsend's big-eared bat | --/CSC/-- | Occurs throughout California, excluding subalpine and alpine habitats. Range extends through Mexico to British Columbia and the Rocky Mountain states. Also occurs in several regions of the central Appalachians. | Requires caves, mines, tunnels, buildings, or other man-made structures for roosting. Hibernation sites must be cold, but above freezing. | Year-round | **Yes.** Suitable foraging habitat for this species occurs within the project site. This species was identified on the project site during focused acoustic surveys. |
| **Reptiles** | | | | | |
| *Emys marmorata* Western pond turtle | --/CSC/-- | Distribution ranges from Washington to northern Baja California. | Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent and ephemeral wetland habitats. | Year-round | **N/A.** Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur within the adjacent Conn Creek. This species was not observed during surveys. |

SOURCE: **Appendix G**

**STATUS CODES**

**FEDERAL: United States Fish and Wildlife Service**
FE Federally Endangered
FT Federally Threatened
FD Federally Delisted

**STATE: California Department of Fish and Game**
CE California Listed Endangered
CT California Listed Threatened
CCT California Candidate Threatened
CSC California Species of Special Concern

**CNPS: California Native Plant Society**
List 1B Plants rare or endangered in California and elsewhere
List 2 Plants rare or endangered in California, but more common elsewhere
List 3 Plants for which more information is needed
List 4 Plants of limited distribution

**Threat Ranks**
0.1-Seriously threatened in California (high degree/immediacy of threat)
0.2-Fairly threatened in California (moderate degree/immediacy of threat)
0.3-Not very threatened in California (low degree/immediacy of threats or no current threats known)

Species with no potential to occur on the project site were ruled out because the soil types, elevation requirements, necessary substrate, and/or habitats did not meet the known requirements for that species. Special-status species locations identified on the property are shown in **Figure 4.4-1**.

## Special-Status Plants

The project site has the potential to support 16 special-status plant species based on survey results and the review of regionally occurring special-status plant species and associated habitat requirements (**Appendix D)**. CDFW recommends the assessment of California Rare Plant Rank (CRPR) 1A, 1B, and 2 plant species (CDFW, 2014). CRPR 3 and 4 plant species are considered locally rare in Napa County and were also assessed. Special-Status plant species identified on the project site or as having the potential to occur on the project site are discussed below.

### *Napa false indigo (Amorpha californica var. napensis)*

The nearest CNDDB occurrence of this species is approximately 0.88 miles from the project site (CDFW, 2017b). Surveys were conducted within the project site within the evident and identifiable period for Napa false indigo, and this species was observed in scattered locations in northern and southern portions of the property, and the location is shown in **Figure 4.4-1**.

### *Brewer's Milkvetch (Astragalus breweri)*

There are no recorded occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

### *Narrow-anthered California brodiaea (Brodiaea californica var. leptandra)*

The nearest recorded CNDDB occurrence overlaps with the southwest corner of the project site. The Mixed Oak Alliance and grassland margins provide suitable habitat. This species was observed during surveys, and the location is shown in **Figure 4.4-1.**

### *Rincon Ridge ceanothus (Ceanothus confuses)*

The nearest recorded occurrence was observed in 2008 approximately 4.5 miles from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

### *Calistoga ceanothus (Ceanothus divergens)*

The nearest recorded occurrence was observed in 1964 approximately 1.0 mile from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

### *Holly-leaved ceanothus (Ceanothus purpureus)*

The nearest recorded occurrence was observed in 2007 approximately 1.0 mile from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

### *Sonoma ceanothus (Ceanothus sonomensis)*

The nearest recorded occurrence was observed in 1966 approximately 3.58 miles from the project

site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Serpentine collomia (Collomia diversifolia)*

There are no documented occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Swamp larkspur (Delphinium uliginosum)*

There are no documented occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Greene's narrow-leaved daisy (Erigeron greenei)*

The nearest recorded occurrence was observed in 1891 approximately 3.6 miles from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Nodding harmonia (Harmonia nutans)*

There are no documented occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Jepson's leptosiphon (Leptosiphon jepsonii)*

The nearest recorded occurrence was observed in 2004 approximately 1.0 mile from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Mount Diablo cottonweed (Micropus amphibolus)*

There are no documented occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Cobb Mountain lupine (Lupinus sericatus)*

The nearest recorded occurrence was observed in 1978 approximately 3.1 miles from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Marsh zigadenus (Toxicoscordion fontanum)*

There are no documented occurrences of this species within 10 miles of the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

*Napa bluecurls (Trichostema ruygtii)*

The nearest recorded occurrence was observed in 2004 approximately 1.3 miles from the project site (CDFW, 2018a). This species was not identified during surveys within the identifiable bloom period.

## Special-Status Animal Species

Based on survey results and the review of regionally occurring special-status animal species and associated habitat requirements, the project site has the potential to support seven special-status animal species (**Appendix G)**. Special-status animal species identified on the project site or as having the potential to occur on the project site are discussed below.

*California giant salamander (Dicamptodon ensatus)*

Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur along the adjacent Conn Creek. The nearest recorded occurrence was observed in 2016 approximately 1.0 mile from the project site (CDFW, 2018a). This species was not observed during surveys.

*California red-legged frog (Rana draytonii)*

Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur within the adjacent Conn Creek. The nearest recorded occurrence was observed in 1979 near Pope Valley approximately 3.2 miles from the project site (CDFW, 2021a). This species was not observed during surveys.

*Foothill yellow-legged frog (Rana boylii)*

Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur within the adjacent Conn Creek. The nearest recorded occurrence was observed in 2015 near Conn Creek approximately 0.06 miles from the project site (CDFW, 2018a). This species was not observed during surveys.

*Western Pond Turtle (Emys marmorata)*

Suitable habitat for this species does not occur within the project site, however, suitable habitat may occur within the adjacent Conn Creek. The nearest recorded occurrence was observed near Moore Creek approximately 1.50 miles from the project site on an unknown date (CDFW, 2018a). This species was not observed during surveys.

*Purple martin (Progne subis)*

The nearest recorded occurrence was observed in 1995 approximately 1.08 miles from the project site (CDFW, 2018a). This species was not observed during surveys.

*Northern spotted owl (Strix occidentalis caurnia)*

CNDDB cites two NSO activity centers occur within 1.3 miles of the project site (CDFW, 2018a). NSO activity center NAP0014, last detected in 2015, is located 0.68 miles south of the project site, and activity center NAP0028, last detected in 1992, is located 1.24 miles east of the project site (CDFW, 2018a and **Appendix P**).

Suitable foraging and nesting habitat for NSO were initially observed by biologists on the property in 2014 and 2015 (**Appendix D**). Protocol-level northern-spotted owl surveys have been conducted in

2014, 2015, 2016, and 2017 to more specifically identify areas on the property that may be suitable for nesting and foraging (**Appendix P**). Protocol-level surveys identified approximately 3.0 acres of suitable NSO nesting habitat and 17.0 acres of suitable NSO foraging habitat within the central Douglas Fir Alliance and Ponderosa Pine Alliance on the project site (**Appendix P**). The remaining acreage of the project site was determined unsuitable for NSO according to protocol-level surveys (**Appendix P**). Direct evidence of NSO was not observed on the project site during surveys.

*Pallid bat (Antrozous pallidus) and Townsend's big-eared bat (Corynorhinus townsendii)*

The nearest recorded occurrence of pallid bat was observed in 1954 approximately 1.0 mile from the project site (CDFW, 2018a). The nearest recorded occurrence of Townsend's big-eared bat was observed in 1988 on the northern portion of the project site (CDFW, 2018a). An acoustic bat survey and a sunset fly-out survey were conducted by biologists from September 2 through 4, 2015.

Potential roosting habitat was identified in the rock outcrop area along the western edge of the project site and in six trees located within the Douglas Fir Alliance and Ponderosa Pine Alliance shown in **Table 4.4-3** and **Figure 4.4-1.** Sunset surveys observed the general presence of bats in the vicinity of the rock outcrop. Acoustic surveys did not specifically detect pallid bats near the rock outcrop area but did identify Townsend big-eared bats foraging at both locations.

**TABLE 4.4-3**
POTENTIAL BAT ROOSTING TREES

| Tree # | Species | 2015 Description | 2019 Description | Within Clearing Limits? |
|---|---|---|---|---|
| 1 | Douglas fir | Approximately 12-foot tall snag with furrows on the northeast side. | Fallen over. | **No**. Outside of Block E1. |
| 2 | Douglas fir | Contains a large hollow approximately 15 feet from the base where a limb was lost. | Contains a large hollow approximately 15 feet from the base where a limb was lost. | **Yes.** Contained in Block E1. |
| 3 | Douglas fir and unknown | Both trees contain cavities and loose bark. | Both trees contain cavities and loose bark. | **Yes.** Contained in Block D. |
| 4 | Black oak | Contains cavities in broken limbs as well as loose bark. | Contains cavities in broken limbs as well as loose bark. | **Yes.** Contained in Block E1. |
| 5 | Ponderosa pine | A snag with larger and longer cavities than other potential roost trees. There are no remaining branches. | Leaning heavily. | **No**. Between Blocks D1 and E1. |
| SOURCE: Figure 1 of **Appendix Q** | | | | |

Updated bat habitat and acoustic surveys were conducted on July 15-16, 2019. Acoustic bat monitoring equipment was placed overnight near trees identified as potential bat habitat and the rock outcrop near Conn Creek. Sunset flyout surveys were also conducted at each location. At the time of the 2019 surveys, Tree 1 had fallen down and Tree 5 was leaning heavily and appeared unstable (**Figure 4.4-1**). Sunset flyout surveys did not observe bats directly flying out from the identified trees or the rock outcrop.

Updated 2019 survey data near trees 2-5 indicated calls by California myotis (*Myotis californicus*), little brown bat (*Myotis lucifigus*), big brown bat (*Eptesicus fuscus*), and Yuma myotis (*Myotis*

*yumanensis*). Calls from special-stats bat species were not recorded near trees 2-5. Data near the rock outcrop indicated calls by California myotis, little brown bat, Mexican free-tailed bat (*Tadarida brasiliensis*), Hoary bat (*Lasiurus cinereus*), Yuma myotis, western small-footed bat (*Myotis ciliolabrum*), canyon bat (*Parastrellus hesperus*), silver-haired bat (*Lasionycteris noctivagans*), and big brown bat (*Eptesicus fuscus*). Calls from Townsend's big-eared bat (*Corynorhinus townsendii*) and western red bat (*Lasiurus blossevillii*), which are listed as a state species of special concern, were also recorded near the rock outcrop.

### Special-Status Fish Species

Aquatic features on the property include several Class II and Class III ephemeral drainages on the northern, central, and southern portions. The drainages flow southwest into Conn Creek, as shown in **Figure 4.4-1**. Evidence of in-channel aquatic life was not observed within the drainages. Special-status fish species do not have the potential to occur on the property.

The property is situated in the Conn Creek watershed above a significant dam. Conn Creek is a Class I blueline perennial stream that occurs off-property along the western and southern boundary. This reach of Conn Creek provides habitat for non-anadromous fish species. Additionally, Conn Creek converges with the Napa River, which provides habitat for anadromous special-status fish spawning and rearing. Historically, Conn Creek supported a run of anadromous central California coast steelhead, however construction of a dam has since restricted access to spawning and rearing grounds in upper Conn Creek and tributaries (UC Davis, 2014). Anadromous Chinook salmon may have also historically utilized lower gradient reaches of Conn Creek for spawning and rearing, and continue to spawn in the Napa River near the confluence with Conn Creek (UC Davis, 2014).

Intermittently flowing reaches of lower Conn Creek may be used opportunistically for spawning (Napa RCD, 2005). Conn Creek below the dam provides limited habitat for fish species due to the absence of perennial flows, habitat degradation, and high summer water temperatures (UC Davis, 2014). Lower Conn Creek lacks summer habitat for anadromous special-status steelhead rearing (UC Davis, 2014), although native non-anadromous fish species may occur in larger pools that remain through the summer (Napa RCD, 2005).

## 4.4.2 REGULATORY FRAMEWORK

### FEDERAL

#### FEDERAL ENDANGERED SPECIES ACT

The USFWS and the National Marine Fisheries Service (NMFS) implement the Federal Endangered Species Act (FESA) of 1973 (16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from "take" (direct or indirect harm), unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency. The USFWS also designates species of concern. Species of concern receive attention from federal agencies during environmental review, although they are not otherwise protected under FESA.

Project-related impacts to such species would also be considered significant and require mitigation.

### Critical Habitat

Critical habitat is defined under FESA as specific geographic areas within a listed species range that contain features considered essential for the conservation of the listed species. Designated critical habitat for a given species supports habitat determined by USFWS to be important for the recovery of the species. Under FESA, habitat loss is considered to be an impact to the species.

### MIGRATORY BIRD TREATY ACT

Most bird species, especially those that are breeding, migrating, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC Subsection 703-712), migratory bird species and their nests and eggs are protected from injury or death. Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. Fish and Game Code Section 3511 list birds that are "fully protected", which identifies those species that may not be taken or possessed except under specific permit.

### BALD EAGLE PROTECTION ACT

The Bald Eagle Protection Act was originally enacted in 1940 to protect bald eagles and was later amended to include golden eagles (16 USC Subsection 668-668). It prohibits the taking or possession of and commerce in bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions. Bald eagles may not be taken for any purpose unless a permit is issued prior to the taking. The statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses.

### WETLANDS AND WATERS OF THE U.S.

The U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern Waters of the U.S., including wetlands, under Section 404 of the Clean Water Act (CWA). Section 404 regulates the discharge of dredged and fill material into waters of the U.S (waters). The USACE requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters below the ordinary high-water mark. The USACE has established a series of nationwide permits (NWP) that authorize certain activities in waters.

## STATE

### WATERS OF THE STATE

CDFW requires notification prior to commencement. Lake or Streambed Alteration Agreements pursuant to Fish and Game Code Subsection 1601-1616, 5650 are required if a project were to result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board (RWQCB) may require State Water Quality Certification (Clean Water Act Section 401 permit) before other permits are issued. In July 2017, the RWQCB adopted a water

quality control permit (General Permit) for vineyards in the Napa River and Sonoma Creek watersheds. The General Permit regulates areas developed to include 5 acres or more of vineyard.

### CALIFORNIA ENDANGERED SPECIES ACT

CDFW implements State regulations pertaining to fish and wildlife and their habitat. The California Endangered Species Act (CESA) of 1970 (California Fish and Game Code [Fish and Game Code] Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take (interpreted to mean the direct killing of a species) of species listed under CESA (14 CCR Subsection 670.2, 670.5). A CESA permit must be obtained if a proposed project would result in the take of listed species, either during construction or over the life of the project.

### CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES SECTION 15380

Although threatened and endangered species are protected by specific federal and State statutes, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) and (d) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition of FESA and the section of the Fish and Game Code dealing with rare or endangered plants or animals.

### CALIFORNIA NATIVE PLANT PROTECTION ACT

The California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. CNPS inventories the native flora of California and ranks species according to rarity; plants with California Rare Plant Rank (CRPR) 1A, 1B, 2A and 2B are considered special-status species.

## LOCAL

### NAPA COUNTY GENERAL PLAN

Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County, 2009). Below are relevant goals and policies from the General Plan pertaining to wetlands and biological resources in the project area.

#### Open Space Conservation Policies

**Policy CON-1**: The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

**Policy CON-2**: The County shall identify, improve, and conserve Napa County's agricultural land by:

a) Requiring existing significant vegetation be retained and incorporated into agricultural

projects to reduce soil erosion and to retain wildlife habitat. When retention is found to be infeasible, replanting of native or non-invasive vegetation shall be required, and

b) Minimizing pesticide and herbicide use and encourage research and use of Integrated pest control methods such as cultural practices, biological control, host resistance, and other factors.

**Policy CON-5**: The County shall identify, improve, and conserve Napa County's rangeland through the following measures:

a) Providing a permanent means of preservation of open space areas for rangeland.
b) Encouraging responsible brush removal techniques with adequate environmental safeguards, leaving uncleared islands and peninsulas to provide cover for wildlife.
c) Staging land conversion operations to minimize adverse environmental impact on the watershed.
d) Encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas.
e) Encouraging replanting of depleted areas to restore rangeland productivity and/or restore native biological resource values.
f) Coordinating rangeland management programs with those of other counties, the State of California, and the federal government in areas where vegetation conversion programs are planned.
g) Protecting trees and shrubs on rangelands for wildlife habitat and aesthetic purposes and encouraging alternate uses of rangelands, such as wildlife and open space, if grazing is phased out.

### Natural Resource Goals and Policies

**Goal CON-1**: The County of Napa will conserve resources by determining the most appropriate use of land, matching land uses and activities to the land's natural suitability, and minimizing conflicts with the natural environment and the agriculture it supports.

**Goal CON 2**: Maintain and enhance the existing level of biodiversity.

**Goal CON-3**: Protect the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal or local laws or regulations.

**Goal CON-4**: Conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County.

**Goal CON-5**: Protect connectivity and continuous habitat areas for wildlife movement.

**Policy CON-10**: The County shall conserve and improve fisheries and wildlife habitat in cooperation

with governmental agencies, private associations and individuals in Napa County.

**Policy CON-11**: The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including the following as well as best management practices (BMPs) developed over time.

a) Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.
b) Implement road construction and maintenance practices to minimize bank failure and sediment delivery to streams.

**Policy CON-13**: The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:

    1. Sufficient dissolved oxygen in the water.
    2. Adequate amounts of proper food.
    3. Adequate amounts of feeding, escape, and nesting habitat.
    4. Proper temperature through maintenance and enhancement of streamside vegetation, volume of flows, and velocity of water.

b) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially stream side areas, in good condition.
c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the subject special-status species) to avoid nest abandonment by birds and raptors associated with construction and site development activities.
g) Demonstrate compliance with applicable provisions and regulations of recovery plans for federally listed species.

**Policy CON-14**: To offset possible losses of fishery and riparian habitat due to discretionary

development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund. Replacement habitat may occur either on- site or at approved off-site locations, but preference shall be given to on-site replacement.

**Policy CON-15**: The County shall establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluation areas, and shall use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects.

**Policy CON-16**: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the NCBDR, CNDDB, or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.

**Policy CON 17**: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
c) Promote protection from overgrazing and other destructive activities.
d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

**Policy CON 18**: To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures

should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.

c) Preservation of habitat and connectivity of adequate size, quality, and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specifics needs of the species.
d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact caused by the new vineyard development.
f) The County shall disseminate information about impacts that fencing has on wildlife movement in wild land areas of the County and encourage property owners to use permeable fencing.
g) The County shall develop a program to improve and continually update its database of biological information, including identifying threats to wildlife habitat and barriers to wildlife movement.
h) Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.

**Policy CON-19**: The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

**Policy CON-20**: The County shall monitor biodiversity and habitat connectivity throughout the County and apply appropriate adaptive management practices as necessary to achieve applicable Natural Resources Goals. Changing conditions may include external forces such as changing state or federal requirements, or changes in species diversity, distribution, etc.

**Policy CON-21**: The County shall initiate and support efforts relating to the identification, quantification, and monitoring of species biodiversity and habitat connectivity throughout Napa County.

**Policy CON-22**: The County shall encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes. As areas are identified, they should be delineated on environmental constraints maps so that appropriate steps can be taken to appropriately manage and protect them.

**Policy CON-26**: Consistent with Napa County's Conservation Regulations, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and special-status species and flood protection where appropriate. Site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, and other coordinating resource agencies that identify essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds.

Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration, and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat functions and values within the county's watersheds.

**Policy CON-27**: The County shall enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate. Incentives shall include streamlined permitting for certain vineyard proposals on slopes between 5 and 30 percent and flexibility regarding yard and road setbacks for other proposals.

## Oak Woodlands Goals and Policies

**Goal CON-6**: Preserve, sustain, and restore forests, woodlands, and commercial timberland for their economic, environmental, recreation, and open space values.

**Policy CON-24**: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.
b) Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of residential, commercial, and industrial approvals.
c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.

d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.
e) Maintain, to the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub, and live oaks are common associations.
f) Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.

**Policy CON-28**: To offset possible additional losses of riparian woodland due to discretionary development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved riparian woodland habitat improvement and acquisition fund in Napa County. While on-site replacement is preferred where feasible, replacement habitat may be either on-site or off-site as approved by the County.

**Policy CON-29**: The County shall coordinate its efforts with other agencies and districts such as the Resource Conservation District and share a leading role in developing and providing outreach and education related to stream setbacks and other BPMs that protect and enhance the County's natural resources.

**Policy CON-30**: All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

### Water Resources Policies

**Policy CON-6**: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

**Policy CON-41**: The County will work to protect Napa County's watersheds and public and private water reservoirs to provide for the following purposes:

a) Clean drinking water for public health and safety;
b) Municipal uses, including commercial, industrial and domestic uses;
c) Support of the eco-systems;
d) Agricultural water supply;
e) Recreation and open space; and
f) Scenic beauty.

**Policy CON-42**: County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

Support environmentally sustainable agricultural techniques and BMPs that protect surface

water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

**Policy CON-45**: Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreational uses.

**Policy CON-48**: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or storm water pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan) requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

## NAPA COUNTY CODE

### Stream Setbacks

Napa County Code defines streams and provides setbacks for land clearing for agricultural development. Under Section 18.108.030, a "stream" means any of the following:

1) A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United State Geological Survey maps most recently published, or any replacement to that symbol;
2) Any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 (horizontal to vertical bank ratio) and contains hydrophilic (i.e., water-adapted) vegetation, riparian vegetation or woody vegetation including tree species greater than ten feet in height; or
3) Those watercourses listed in Resolution No. 94-19 and incorporated herein by reference.

Erosion gullies and ravines being repaired with the technical assistance and/or under the direction of the Napa County Resource Conservation District/National Resource Conservation Service, "scour-holes," and other non-linear features are not considered streams.

Napa County Code 18.108.025 applies setbacks for agricultural development adjacent to streams. Setbacks included in the Code range from 35 to 150 feet measured from the top of bank and increase with the slope of the terrain parallel to the top of bank.

### Vegetation Preservation and Replacement

Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

- Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the county's environmental sensitivity maps.
- Existing trees six inches in diameter or larger, measured at diameter breast height, (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.
- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriate methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities.
- Wherever removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality, and quantity.

Napa County Code 18.108.027 requires that as part of any use involving earth-disturbing activity in sensitive domestic water supply drainages, the following vegetation-retention requirements apply:

- A minimum of 60 percent of the tree canopy cover on the parcel or holding existing on June 16, 1993 along with any understory vegetation, and
- When vegetation consists of shrub and brush without tree canopy, a minimum of 40 percent of the shrub, brush and associated annual and perennial herbaceous vegetation.

## 4.4.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project on biological resources. Criteria for determining the significance of impacts on biological resources have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Have a substantial adverse effect, either directly or through habitat modification, on species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, and coastal estuaries) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### ANALYSIS METHODOLOGY

Applicable Napa County General Plan goals and policies require avoidance of targeted resources including special-status and locally rare species, sensitive biotic communities, communities of limited distribution, and areas of high natural biodiversity to the extent feasible (Napa County, 2008). No net loss of sensitive biotic communities and habitats of limited distribution is required through avoidance, restoration, or replacement where feasible.

When avoidance (in whole or in part) of sensitive biotic communities or oak woodlands is demonstrated to be infeasible, Napa County requires the preservation of like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible. When impacts cannot be fully mitigated by way of avoidance, the combination of avoidance, preservation, and replacement are intended to be applied to ultimately reduce potentially significant impacts to-less-than significant levels.

This section identifies impacts to biological resources that could occur from implementation of the Proposed Project. Analysis is based on surveys (**Appendix D, Appendix E,** and **Appendix F**) and a review of special-status species lists included in **Appendix G**. Potential impacts were assessed in accordance with applicable resource management plans, regulations, and guidelines. Mitigation measures are recommended to reduce identified impacts to less-than-significant levels. Compliance and potential conflicts of the Proposed Project with County General Plan Goals and Policies associated with biological resources are assessed in the **Section 4.10.**

## IMPACTS AND MITIGATION

**Impact 4.4-1: Implementation of the Proposed Project could have a substantial adverse effect, either directly or through habitat modification, on species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

## NESTING MIGRATORY BIRDS

The project site may provide potential nesting habitat for migratory birds, including the special-status purple martin, in the Douglas Fir Alliance, Ponderosa Pine Alliance, and Mixed Oak Alliance. Birds observed in the vicinity of the project site during surveys include red-tailed hawk, acorn woodpecker, and California scrub jay. The general nesting season for migratory birds occurs from February 15th through September 15th, and nesting season for the purple martin occurs from April to August. Potential foraging and nesting habitat for migratory birds would be retained through avoidance and preservation of greater than 60 percent of the property located outside proposed clearing limits, including approximately 64 percent of tree canopy on the property (potential nesting habitat) (**Table 4.4-1**).

The majority of the property would remain undeveloped, thus the majority of potential foraging and nesting habitat would remain available to nesting migratory birds. Habitat loss that could result from implementation of the Proposed Project would not significantly affect migratory birds and other birds of prey. However, the Proposed Project could result in impacts to active migratory bird nests if vegetation removal or loud noise-producing activities associated with construction were to occur during the nesting season (February 15 through September 15). Implementation of **Mitigation Measure 4.4-1** would reduce impacts to nesting migratory birds.

**Mitigation Measure 4.4-1**

- Should ground-disturbing activities associated with the Proposed Project occur during the general nesting season (February 15 to September 15), a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than 5 days prior to the start of ground disturbing activities. Areas within 500 feet of construction shall be surveyed for active nests.
- Should an active nest be identified, an avoidance buffer shall be established based on the needs of the species identified and pursuant to consultation with the Lead Agency, CDFW, and USFWS prior to initiation of ground-disturbing activities. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels. Construction fencing shall be applied along the outermost perimeter of the avoidance buffer and verified by the Lead Agency or qualified biologist. Avoidance buffers and construction fencing shall remain in place until the end of the general nesting season or upon determination by a qualified biologist that young have fledged or the nest has failed.
- Should work activity cease for 5 days or greater during the breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.
- Survey results shall be provided to the Lead Agency, CDFW, and USFWS prior to the initiation of ground-disturbing activities.

## NORTHERN SPOTTED OWL

Ongoing protocol-level surveys for NSO have been conducted on the property by foresters and qualified biologists since 2014, and results are included in **Appendix P**. Surveys follow the *Protocol*

*for Surveying Proposed Management Activities that May Impact Northern Spotted Owl* (USFWS, 2012). The USFWS defines four categories to assess the quality of roosting/foraging habitat for NSO (USFWS, 2009). The quality of the NSO habitat in the vicinity of the project site is under private landownership and is not accessible, therefore, habitat in **Appendix P** has been classified as nesting/roosting, foraging, or unsuitable NSO habitat using the minimum requirements for each category. The project site falls between the 0.5 mile and 1.3 mile Assessment Area centered on the activity center for two known NSO territories within 1.3 miles of the project site. The 1,000-foot and 0.5 Mile Assessment Areas are located outside the project site and therefore will not be affected. The USFWS retention requirements for Assessment Areas between 0.5 mile radius and 1.3 mile of an activity center specify that greater than 935 acres of suitable habitat must be retained as follows (**Appendix P**):

1) At least 655 acres of foraging habitat;
2) At least 280 acres of low quality foraging habitat; and
3) No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP.

Although unlikely, potential impacts to NSO could still occur if NSO were to forage or begin nesting within the Douglas Fir or Ponderosa Pine Alliances during timber harvest. Approximately 3 acres of nesting/roosting habitat, 17 acres of foraging habitat, and 16 acres of unsuitable habitat were identified on the project site (**Appendix P**). As shown on the Pre & Post-Harvest tables for both activity centers (**Appendix P)**, NSO habitat requirements for each activity center will be met post-harvest. Over 60 percent of the property will remain undeveloped and available to NSO for foraging and nesting. The majority of Douglas Fir Alliance and the entirety of Ponderosa Pine Alliance that may provide suitable nesting and foraging habitat for NSO will be avoided through project design. Ongoing protocol surveys will continue and survey procedures will follow the revised January 9, 2012 *Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owl*. Potential impacts to foraging NSO, NSO nesting habitat, and NSO foraging habitat will be avoided with implementation of **Mitigation Measure 4.4-2**. Impacts to NSO would be less than significant with mitigation.

**Mitigation Measure 4.4-2**
NSO take avoidance will be achieved via:

- Retention of 16.50 acres of Douglas Fir Alliance and 0.58 acres of Ponderosa Pine Alliance located outside clearing limits that shall be designated for preservation in a mitigation easement with a County-approved organization or other means of permanent protection. Land placed in protection shall be restricted from development and other uses that would potentially degrade the quality of the habitat, including, but not limited to, conversion to other land uses such as agriculture or urban development, and/or excessive off-road vehicle use that significantly increases erosion. The exact area to be conserved shall be determined and appropriately delineated through consultation between the Applicant and the County, and recorded

with the Napa County Recorder's office prior to commencement of land clearing associated with the Proposed Project.

- Compliance with California Forest Practice Rule 14 CCR 919.9(e), which requires submission of a letter prepared by a registered professional forester to USFWS describing proposed management;
- Compliance with USFWS Scenario 4 for Interior Ecotype, which outlines avoidance of disturbance and direct take through habitat retention (USFWS, 2008);
- Compliance with USFWS Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls (USFWS, 2012);
- Compliance with USFWS Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (USFWS, 2006);
- Continued adherence to the Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owl (USFWS, 2012). If an active NSO nest is observed during protocol surveys, a 0.25 mile avoidance buffer shall be applied should construction occur during the NSO breeding season from February 1 to August 31.

## SPECIAL-STATUS BAT SPECIES

Features shown on **Figure 4.4-1** have been identified as potentially suitable habitat for special-status bat species within the 92-acre property. Updated 2019 bat habitat, sunset flyout, and overnight acoustic surveys were conducted on the property on July 15-16, 2019. The 2019 bat habitat survey found that the potentially suitable roost tree near the wetland had fallen, and one of the snags was heavily leaning. Sunset flyout surveys did not observe bats directly flying out from the identified trees or the rock outcrop. Calls from special-stats bat species were not recorded near the trees, however, calls from Townsend's big-eared bat (*Corynorhinus townsendii*) and western red bat (*Lasiurus blossevillii*), which are listed as a state species of special concern, were recorded foraging near the rock outcrop.

Four trees identified as potentially suitable habitat for special-status bat species are within clearing limits of proposed vineyard blocks. Removal of potential bat habitat could result in impacts to special-status bat species should bats be present at the time of removal as well as through permanent loss of potential roosting habitat. Potential foraging and roosting habitat would be retained through avoidance and preservation of greater than 60 percent of the property located outside proposed clearing limits, including approximately 64 percent of tree canopy on the property. Additional retention and protection to special-status bat species and associated habitat would occur with implementation of **Mitigation Measures 4.4-2 and 4.4-3.** Potential impacts to special-status bat species would be reduced to a less-than-significant level with implementation of **Mitigation Measures 4.4-2** and **4.4-3.**

**Mitigation Measure 4.4-3**

For trees proposed for removal that have been identified as potentially suitable habitat for special-status bat species, the following shall apply:

- Trees proposed for removal that have been identified as potentially suitable special-status bat habitat shall be removed under the supervision of a qualified bat biologist with documented experience overseeing tree removal using the two-day phased removal method.
- On day 1, branches and small limbs not containing potential bat roost habitat (cavities, crevices, exfoliating bark, etc.) shall be removed using chainsaws only. On day 2, the following day, the remainder of the tree shall be removed.
- Removal shall occur during seasonal periods of bat activity: Prior to maternity season from approximately March 1 (or when night temperatures are above 45 degrees Fahrenheit and when rains have ceased) through April 15 (when females begin to give birth to young) and prior to winter torpor from September 1 (when young bats are self-sufficiently volant) until October 15 (before night temperatures fall below 45 degrees Fahrenheit and rains begin).
- Should the County determine that replacement of suitable bat roosting habitat at a 1:1 ratio is necessary, consultation with the County and CDFW shall occur to determine proper habitat replacement methodology.

### SPECIAL-STATUS AQUATIC REPTILE AND AMPHIBIAN SPECIES

Construction activities include timber harvest, land clearing, and vineyard planting. Suitable habitat for special-status amphibians and aquatic reptile species does not occur within clearing limits. Conn Creek does not occur within clearing limits but does occur at least 105 feet from areas proposed for disturbance along the southern property line. Conn Creek could support special-status aquatic species such as foothill yellow-legged frog (FYLF), California giant salamander, and western pond turtle. As shown in the ECP, steep slopes separate the project site from Conn Creek, however, construction and timber harvest could indirectly impact potentially occurring populations of special-status aquatic species through noise and disturbance. Implementation of **Mitigation Measure 4.4-4** would avoid impacts to special-status aquatic reptile and amphibian species during construction and timber harvest. Impacts to special-status amphibians would be less than significant with implementation of **Mitigation Measure 4.4-4**.

**Mitigation Measure 4.4-4**

- Following significant rain events, large numbers of workers shall be restricted from actively working on or accessing the project site. When feasible, 3 days of rest following significant rain events shall be allowed before resuming activity to allow potentially occurring special-status aquatic species to move into or away from aquatic breeding sites following rain events.
- To the extent feasible, burning piles of cuttings or other vegetation stored or piled along Conn Creek shall be avoided, and piles shall be allowed to naturally degrade in

place without disturbance. When feasible, native woody debris and natural piles of vegetation shall be allowed to remain in place during and after vegetation removal.

- Excessive debris and vegetative material shall be limited from entering the project site or becoming mobilized during rain events and high water flows such that it could enter Conn Creek.
- If required, artificial irrigation shall be minimized. If supplemental watering is required, only the area immediately surrounding newly installed vines shall be irrigated. The use of pesticides and fertilizers within 100 meters of Conn Creek shall be avoided.

## SPECIAL-STATUS FISH SPECIES

Special-status fish species do not have the potential to occur on the project site or Conn Creek. Additionally, the Proposed Project would rely on groundwater irrigation, and would therefore not directly impact or impede flows in Conn Creek. Approval of the Proposed Project and implementation of the ECP (**Appendix B**) would result in the development of erosion control and water quality protection measures (further discussed in **Impact 4.4-3, Section 4.8,** and **Section 4.9**), designed to prevent indirect soil erosion and sediment impairment downstream in the Conn Creek and Napa River watersheds, as well as other downstream water courses that may support special-status fish species. Implementation of the ECP as part of the Proposed Project and **Mitigation Measures 4.4-4, 4.4-7, 4.8-1, 4.8-2,** and **4.8-3** would reduce impacts to water quality and special-status fish habitat and fish species to a less-than-significant level.

## SPECIAL-STATUS PLANT SPECIES

### Construction

Construction activities include timber harvest, land clearing, and vineyard planting. Construction activities have the potential to impact approximately 0.29 acres of Napa false indigo and approximately 0.02 acres of narrow-anthered California brodiaea identified on the project site (**Figure 4.4-1**) through removal of these species or associated suitable habitat (Oak Woodland Alliance, Ponderosa Pine Alliance, Douglas Fir Alliance, openings in the Mixed Manzanita Alliance, and California Annual Grasslands Alliance). Implementation of **Mitigation Measures 4.4-5** and **4.4-6** would reduce impacts to Napa false indigo and narrow-anthered California brodiaea to a less-than-significant level through the use of setbacks, woven drift fencing or similar protection, and proper identification.

**Mitigation Measure 4.4-5**

- Populations of Napa false indigo and narrow-anthered California brodiaea shall be avoided with a buffer of no less than 25 feet and as determined in the field by a qualified botanist. The qualified botanist shall place woven drift fencing or similar protection around the buffer perimeter of populations prior to ground-disturbing activities to ensure protection of special-status plant populations. Avoidance shall remain in place throughout duration of construction and operation
- A preconstruction survey shall be conducted prior to the time of fence placement to

identify additional populations of the two specials-status plant species, should they occur. The survey shall follow methodology outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018b). Should additional populations be identified outside of clearing limits, a buffer shall be applied as determined in the field by a qualified botanist. Should additional populations be identified within clearing limits, the County and CDFW shall be contacted to determine the appropriate course of action prior to construction commencement.

**Mitigation Measure 4.4-6**

- A qualified botanist shall conduct an environmental awareness training session for the property owner and work personnel prior to development of the Proposed Project. Training shall include the identification of Napa false indigo and narrow-anthered California brodiaea, associated habits, existing avoided populations identified on the property, and procedures to follow should they be encountered in other areas over time.
- Supporting materials containing training information shall be prepared and distributed. Work personnel joining the work crew after the training session shall receive the same training and supporting materials from the property owner prior to beginning work.
- Upon completion of training, the property owner and work personnel shall sign a form stating that they have attended and understood the training. Proof of this instruction will be kept on file with the property owner and submitted to the County. Copies of signed forms will be submitted to the County monthly as additional training occurs for new employees.

## Operation

Ongoing operational activities associated with vineyard management include planting and harvesting grapes, as well as maintenance of operational equipment. The Proposed Project has been designed to avoid impacts to areas containing special-status plant species. To insure protection of special status plant populations, vineyard blocks have been set back from populations of Napa False Indigo and Narrow Anthered California Brodiaea by no less than 25 feet.(**Appendix B**). Implementation of **Mitigation Measures 4.4-5 and 4.4-6** would reduce impacts to Napa false indigo and narrow-anthered California brodiaea to a less-than-significant level through awareness and proper identification.

**Impact 4.4-2: Implementation of the Proposed Project could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

## HABITATS OF LIMITED DISTRIBUTION

Ponderosa Pine Alliance is considered a habitat of limited distribution in Napa County due to low abundance (Napa County, 2005; **Table 4.4-1**). Surveys identified approximately 0.58 acres of Ponderosa Pine growing independently of the Douglas Fir Alliance on the property. The Proposed Project was designed to avoid impacts to sensitive habitats. To ensure avoidance is maintained during vineyard development, **Mitigation Measure 4.4-7** would result in demarcation of the Ponderosa Pine Alliance to prevent potential disturbance during construction.

> **Mitigation Measure 4.4-7**
> Ponderosa Pine Alliance on the project site shall be avoided through project design and demarcation. A qualified biologist or forester shall place orange construction fencing around the outermost edge of the Ponderosa Pine habitat in areas adjacent to clearing limits along Block E1 and Block E2 prior to ground-disturbing activities to ensure protection. In areas not adjacent to clearing limits, flagging will be used in lieu of fencing to allow for wildlife access and demarcate the protected area. Areas harvested for timber will be demarcated with different flagging to clearly delineate between harvest areas and protected areas.

**Impact 4.4-3: Implementation of the Proposed Project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, and coastal estuaries) through direct removal, filling, hydrological interruption, or other means. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

### Construction

Wetlands and aquatic features do not occur with clearing limits of the Proposed Project. The wetland and aquatic features would be protected by a Water and Lake Protection Zone; a buffer required by Forest Practice Rules and Napa County ordinances during the THP, TCP, and vineyard development and operation. Drainage setbacks are designated in the ECP as part of the Proposed Project, and would be implemented during construction. Setbacks range from 35 to 125 feet according to slope steepness and specifications of the Forest Practice Rules and Napa County ordinances.

A 50-foot buffer would also be applied around the wetland through project design (**Appendix B**). Additionally, **Mitigation Measure 4.4-7** requires the protection and demarcation of the Ponderosa Pine Alliance during construction and therefore applies further protection to the wetland located within the Ponderosa Pine Alliance. Implementation of the ECP as part of the Proposed Project and **Mitigation Measures 4.4-7, 4.8-1, 4.8-2,** and **4.8-3** would reduce impacts to wetlands and waters of the U.S. and state to a less-than significant level through avoidance.

### Operation

Operation of the Proposed Project was designed to avoid direct impacts to wetlands and waters of the U.S. and state. Indirect impacts to wetlands and waters of the U.S and state could occur from

operations associated with timber harvest, land clearing, vineyard planting, and equipment maintenance, and could result in erosion and sediment or chemical discharge into aquatic features. Ongoing activities associated with vineyard management have the potential to cause erosion, result in fuel or oil spills, or lead to herbicide, pesticide, and nutrient discharge into aquatic features.

Total sediment load of the project site is anticipated to decrease following implementation of the Proposed Project, and groundwater would be utilized for irrigation of the Proposed Project (further discussed in **Sections 4.6** and **4.9**). Implementation of the ECP as part of the Proposed Project and **Mitigation Measures 4.8-1, 4.8-2,** and **4.8-3** would reduce impacts to wetlands and waters of the U.S. and state to a less-than significant level through avoidance.

**Impact 4.4-4: Implementation of the Proposed Project would not interfere substantially with the movement of native resident or migratory fish species, but could interfere with native resident or migratory wildlife species, with established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

Refer to **Impact 4.4-1** for further discussion on potential impacts to fish species in Conn Creek. The Proposed Project would be setback from on-site drainages and would rely on groundwater irrigation. Therefore, the Proposed Project would not impede flows in Conn Creek nor restrict fish passage. The Proposed Project has the potential to impact wildlife movement and passage through the property via implementation of vineyard blocks and deer fencing. Corridors of widths greater than 30 meters (98 feet) on each side of a creek are most likely to be used by mammals, particularly predators (Hilty and Merenlender, 2002). Preservation of streams that may function, in part, as wildlife movement routes can provide connectivity within the landscape. Habitat avoidance and preservation may also facilitate wildlife movement.

Block E1 consists of Douglas-Fir Forest Alliance with little to no undergrowth, which represents seral stages of growth with dense regeneration and different age classes indicative of a historic fire regime (**Appendix E**). A grassland area and wetland are located between Blocks E1 and E2 with a Class III watercourse occurring below the wetland (**Figure 4.4-1**). Block E1 and the surrounding area shows signs of wildlife use via bear and fox scat as well as prey remains from raptors. Two wildlife movement areas have been implemented in project design through individual vineyard block fencing between Block D and E1 and between Blocks E1 and E2 (**Appendix B**). Block E1 to E2 currently maintains a 70-foot opening to allow wildlife to access the wetland.

Wildlife exclusion fencing is proposed for installation to encompass individual vineyard blocks with exit doors (gates or cattle guards) as shown in the ECP (**Appendix B**). The proposed fencing would be approximately 7 to 8 feet high, woven wire, with 6-inch openings near the bottom to allow small animals to pass through. Barbed wire would not be used. Unfenced corridors between proposed vineyard blocks throughout the property, especially nearest to Conn Creek, could be traversed by larger wildlife species. The proposed fencing would be permeable to smaller wildlife species. Distances shown in **Table 4.4-4** have been maintained between fenced blocks to allow for wildlife

movement. However, openings between Blocks E1 and D1 as well as between E1 and E2 will be increased to no less than 100 feet with implementation **Mitigation Measure 4.4-8** to further facilitate wildlife movement (**Table 4.4-4**). **Mitigation Measure 4.4-8** is also required to comply with General Plan Policies CON-13 and CON-18 (**See Chapter 4.10 – Land Use**).

**TABLE 4.4-4**
DISTANCES BETWEEN ADJACENT BLOCKS

| Blocks | Corridor Width Before Mitigation | Corridor Width After Mitigation |
|---|---|---|
| A1 and B | 200’ | 200’ |
| A2 and D | 375’ | 375’ |
| B and C | 100’ | 100’ |
| C and D | 100’ | 100’ |
| E1 to D1 | 50’ | 100’ |
| E1 to E2 | 70’ | 100’ |
| SOURCE: **Appendix B** | | |

Wildlife movement potential would be increased between Block E1 Block E2 as well as between Block D1 and E1 with implementation of **Mitigation Measure 4.4-8.** Passages of at least 100 feet in width would therefore be maintained between all proposed vineyard blocks to allow for wildlife movement. Throughout the remainder of the property, additional potential movement areas would be preserved consistent with stream setbacks ranging between 35 and 125 feet pursuant to Section 18.108.025 of the Napa County Code (**Appendix B**). Other habitat would be retained for wildlife use via implementation of **Mitigation Measures 4.4-2, 4.4-7**, and **4.4-9**. Overall, greater than 60 percent of the property occurs outside proposed clearing limits, including approximately 64 percent of the tree canopy. Thus, over 60 percent of habitat would be retained through avoidance to allow for wildlife movement. The majority of the property would remain undeveloped and available to wildlife. Impacts on wildlife movement would be less-than-significant with mitigation.

**Mitigation Measure 4.4-8**

Prior to approval, the ECP shall be revised for approval by the County to provide at least 100 feet between clearing limits of Blocks E1 and E2 and Blocks D1 and E1. This would result in larger openings between Blocks E1, E2, and D1 to maintain wildlife movement through the area. Vineyard blocks shall be fenced individually or in small clusters and will maintain openings of at least 100 feet. The adjustment may result in a slightly decreased acreage of clearing limits, and would not result in the in the acquisition of additional areas not already included within the ECP.

**Impact 4.4-5: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, specifically the Oak Woodlands Preservation Act (PRC Section 21083.4) and local Napa County policies. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

Potential conflicts and consistency with County General Plan Goals and Policies are addressed in Section 4.10. The Proposed Project would result in the conversion of approximately 7.42 acres (32.53% percent) of the total 22.81 acres of Mixed Oak Alliance on the property to vineyard. Preservation of oak woodland at a 2:1 ratio would at a minimum necessitate approximately 14.84 acres of oak woodland be maintained within the property. The entirety of the remaining 15.39 acres of Mixed Oak Alliance on the property outside of clearing limits would be retained to exceed the minimum 2:1 requirement.

Conn Creek watershed properties are subject to the requirements of the "60/40 Rule," (Napa County Code Section 18.108.027). Approximately 60 acres of tree canopy, 32 acres of brush/grass cover, and 1 acre of developed land were present on the property according to 1993 aerial photographs. Therefore, up to 24 acres of tree cover may be removed from the property (60 x 40 percent). Additionally, up to 19.2 acres of brush/grass may be removed from the property (32 x 60 percent). The Proposed Project would result in the removal of 23.92 acres of tree canopy and 9.88 acres of brush/grass. This is less than the maximum allowable acreages as stated in the ECP, and would therefore conform to Napa County Code Section 18.108.027.

The Proposed Project would not result in the removal of oak woodland to the extent that oak woodland would no longer be the dominant natural land cover type in Napa County. Project design and preservation and avoidance limit potential impacts to total tree canopy and oak woodlands. Vineyard block areas have been selected and setback to avoid special-status species, wetlands and waters of the U.S, other sensitive habitats, and nearby locations of sensitive receptors. The Proposed Project shall comply with local policies regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and to retain existing oak woodlands to the extent feasible. Additionally, implementation of **Mitigation Measure 4.4-9** would reduce impacts to oak woodlands to a less-than significant level through protection and permanent preservation.

**Mitigation Measure 4.4-9**

- Native oak trees within close proximity to the project site shall be protected from vineyard ground-disturbing activities. Prior to site preparation, the contractor shall be informed of the need to protect the root zone of surrounding oak trees. Heavy equipment intrusion and parking under the drip line shall be restricted to protect oak tree roots. The drip line of remaining trees adjacent to clearing activities shall be flagged around the drip line to protect oak tree roots from equipment intrusion.
- The remaining acres of oak woodland (Mixed Oak Alliance) located outside of clearing limits shall be designated for preservation in a mitigation easement with a County-approved organization or other means of permanent protection. Land placed in protection shall be restricted from development and other uses that would potentially degrade the quality of the habitat, including, but not limited to, conversion to other land uses such as agriculture or urban development, and/or excessive off-road vehicle use that significantly increases erosion. The exact area to be conserved shall be determined and appropriately delineated through consultation between the Applicant and the County, and recorded prior to commencement of any land clearing

associated with the Proposed Project with the Napa County Recorder's office. A copy of the easement or other form of permanent protection shall be provided to CDFW.

**Impact 4.4-6: Implementation of the Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact.**

There are no Habitat Conservation Plans, Natural Community Conservation Plans, or other federal, state, or local plans applicable to the project site.

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# 4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

This section addresses the potential for the Proposed Project to result in impacts related to cultural and paleontological resources or cultural resources of tribal significance. Following an overview of the environmental setting in **Section 4.5.1** and the relevant regulatory setting in **Section 4.5.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.5.3**

## 4.5.1 SETTING

### REGIONAL SETTING

The geology of the study area is composed of Pliocene volcanic rocks, including andesite flows, tuff, breccias, and agglomerates of the Sonoma Group (Barrow, 2015). The rocks of the Sonoma Group include basalt and obsidian, which were used by prehistoric Native Americans for making tools. Nearby Napa Glass Mountain was a particularly significant source of obsidian.

Soils of the study area consist of Forward gravelly loams and Kidd loams, well-drained soil types found in an upland setting. Both Forward and Kidd soils are formed from weathered rhyolite. Forward soils support the growth of Douglas fir, madrone, scrub oak, pepper, and bay trees. Kidd soils support the growth of chamise, ceanothus, scrub oak, grasses, forbs, and ponderosa pines. Historically, land containing these soils was used primarily for watershed and wildlife habitat, but in some locations it has been used for limited timber production and for livestock range (Barrow, 2015).

### PREHISTORIC SETTING

The following is a summary of temporal periods with descriptions of associated cultural patterns that have been identified in the Project region. The summaries incorporate recent taxonomic and interpretative revisions that are summarized from White and Fredrickson (1992), as well as others.

The **Paleo-Indian Period (10,000 B.C. to 6000 B.C.)** saw the first demonstrated entry and spread of humans into California with most known sites situated along lakeshores. A developed milling tool technology may have been present at this time, although evidence regarding this technology is scarce. Trade with other groups occurred on an ad hoc, individual basis.

The beginning of the **Lower Archaic Period (6000 B.C. to 3000 B.C.)** coincides with the middle Holocene climatic shift to more arid conditions that brought about the drying up of the pluvial lakes so important to Paleo-Indian settlement patterns. Subsistence appears to have been more focused on plant foods, although hunting clearly still provided important sources of food and raw materials. Settlement was semi-sedentary, with seasonal foraging of resources. Most tools were manufactured of local materials, and exchange remained on an ad hoc basis. Distinctive artifact types include large projectile points, milling slabs, and handstones.

The **Middle Archaic Period (3000 B.C. to 1000 B.C.)** starts at the end of a mid-Holocene climactic shift when weather patterns became similar to present-day conditions. Cultural change may have been influenced by the changes in climate and accompanying variation in available floral and faunal resources. Hunting remained an important source of food and raw materials, although reliance on plant foods appears to have dominated the subsistence system, which likely included the beginning of acorn processing technology. Sedentism appears to have been fully developed with an overall growth in population and a general expansion in land use. Typologically and technologically important artifacts characteristic of this period include the bowl mortar and pestle.

A marked expansion of sociopolitical complexity marks the **Upper Archaic Period (1000 B.C. to A.D. 500)**, with the development of status distinctions based on material wealth. Group-oriented religions emerge and may represent the origins of the Kuksu religious system that arose at the end of the period. The Upper Archaic is marked by evidence of a higher degree of sedentism possibly facilitated by intensified resource exploitation. Shell beads gained in significance as possible indicators of personal status and as important trade items.

The **Emergent Period (A.D. 500 to 1800)** is distinguished by the advent of several technological and social changes. The bow and arrow were introduced, ultimately replacing the atlatl (spear-thrower). Territorial boundaries between groups became well established and were documented in early historic accounts. It became increasingly common for distinctions in an individual's social status to be linked to acquired wealth. The exchange of goods between groups became more regularized with more raw materials, along with finished products, entering into the exchange networks. In the latter portion of this period (1500 A.D. to 1800 A.D.), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit of exchange and increasing quantities of goods were transported over greater distances.

## ETHNOGRAPHIC SETTING

Ethnographic literature indicates that at the time of historic contact, the project site was within the eastern portion of the territory occupied by Wappo-speaking people. There were five dialects of Wappo, which is a member of the Yukian language family. Four of these dialects were centered in the Napa/Alexander Valley area and the fifth was an isolated enclave on the south bank of Clear Lake (Sawyer, 1978:257). The territory of the Southern Wappo extended roughly from the north side of the City of Napa to the City of St. Helena, encompassing the lower half of the Napa Valley and the fringing foothills and low mountains to the east and west including Pope Valley. The Wappo economy was based on fishing, hunting, and gathering, with village community, or tribelet, members seasonally shifting within the territory to take full advantage of different resources as they became available.

The Wappo culture was significantly disrupted through missionization and Euroamerican settlement during the 19th century. "Wappo" is the Americanization of "Guapo," the Spanish word for brave. This was the Spanish name applied to the tribe during the time of missionizaton due to the people's resistance to the Franciscan establishment (Kroeber, 1925).

## HISTORICAL SETTING

Following the settlement of San Diego and Monterey, the Spanish made steady progress in the exploration and settlement of the coastal regions of Alta California. The interior regions, such as the Central Valley and the Sierra Nevada, remained largely uncharted. The first recorded expedition into what is now Napa County was made in 1823; it was led by Francisco Castro with Jose Sanchez and Father Jose Altamira, who were scouting for possible future mission locations. The earliest sustained settlement of the region by non-natives began later that same year when Mission San Francisco Solano, at Sonoma, was established (Hoover et al., 1990: 242-243).

A community of Americans spread into the interior of Mexican California in the decades after American Jedediah Smith blazed an overland trail in 1826. Trappers from the Hudson's Bay Trading Company soon arrived, utilizing the Siskiyou Trail from their outpost at Fort Vancouver. These early fur traders may have introduced malaria into the Sacramento Valley in 1833, resulting in an epidemic that killed tens of thousands of native people by 1846 (Hurtado, 1988), including many of the Wappo and their neighbors. During the American period, Napa County was established as one of the original 27 counties, and the City of Napa has always been the county seat (Hoover et al., 1990: 242). Agriculture has always been the primary economic pursuit in Napa, beginning with ranching during the Mexican period. Napa County continued to grow following the mass emigration to California sparked by the Gold Rush, but since that time, viticulture has increased in importance and Napa is now known as one of the world's premier wine producing regions.

## PALEONTOLOGICAL SETTING

The region's geologic history is characterized by old volcanic formations and tectonic uplifting of ancient sea floor deposits, which together form the Coast Ranges. Rock formations underlying the Proposed Project area are volcanic tuffs and agglomerates (Fox et al., 1973). Ash ejected from a volcano may fall through the air and settle in beds, called ash-falls when unconsolidated, or tuffs when consolidated (University College London, 2018); the high temperatures inherent in the material at the time of initial deposition are unlikely to preserve organic materials, therefore reducing the potential for fossil finds in the Project vicinity.

## EXISTING SETTING

Cultural resources background research, an initial Native American contact program, and field surveys were undertaken by Tom Origer & Associates (**Confidential Appendix M**).

### RECORDS SEARCH

Archival research included examination of the library and project files at Tom Origer & Associates. A more formal review at the Northwest Information Center (NWIC File No. 14-0730) was also completed on December 5, 2014. The NWIC examined archaeological site base maps and records, survey reports, and other materials on file at the repository. Sources of information included but were not limited to:

- National Register of Historic Places (National Register),
- California Historical Landmarks,
- California Register of Historical Resource (CRHR), and
- California Points of Historical Interest as listed in the Office of Historic Preservation's Historic Property Directory.

Archival research included an examination of historical maps to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area. Maps ranged from hand-drawn maps of the 1800s (e.g., General Land Office plats) to topographic maps issued by the United States Geological Survey (USGS) and the Army Corps of Engineers from the early to the middle 20th century. In addition, ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed.

The record search found that no previous archaeological studies have encompassed the project area, but six cultural resources surveys had been conducted within a one-half-mile radius of the project area, identifying six cultural resources during the process (Barrow, 2015).

Review of historical maps showed that the study area was part of the *Rancho de la Jota* Mexican land grant, given to George Yount in 1843 (Hoover et al., 1990:231). Yount died in 1865, and by 1876, the majority of *Rancho de la Jota* was under the ownership of William Watson, though a small portion of the land grant was owned by Edwin Angwin (Lyman and Throckmorton, 1876). By 1895, William Geiselman was trustee of 262 acres of land which included the entire Proposed Project site. No buildings or structures were noted within the Proposed Project site on any of the historic maps examined until 1942, when a house appears on topographic maps; further investigation determined that the house had been constructed in 1936 (Barrow, 2015).

## NATIVE AMERICAN CONTACTS

Tom Origer & Associates contacted individuals identified by the Native American Heritage Commission (NAHC) (October 7, 2014), mailing each contact on January 5, 2015 and again on February 5, 2015. A log of those efforts is included in **Confidential Appendix M**. No responses were received.

In addition to Origer's efforts, the Napa County Department of Planning, Building & Environmental Services has undertaken consultation in accordance with the requirements of Assembly Bill (AB) 52. On June 12, 2018 registered letters were sent to:

- Marilyn Delgado, Director of Cultural Resources, Yocha Dehe Wintun Nation,
- Scott Gabaldon, Chairman, Mishewal Wappo Tribe of Alexander Valley, and
- Stephanie L. Reyes, Tribal Historic Preservation Officer, Middletown Rancheria

The only response received was from Yocha Dehe, dated July 17, 2018. In the response, Yocha Dehe acknowledged the County's consultation effort but deferred to Middletown Rancheria.

On August 1, 2018, the County again mailed the three contacts, noting that the AB 52-allotted 30 day response period had ended without any requests for consultation. Therefore, Napa County considered that consultation under AB 52 had concluded. However, the County did commit to sending notice to the Tribes of the CEQA document when it becomes available. Copies of the Tribal correspondence may be found in **Appendix M**, separate from the confidential portion of the appendix).

### FIELD SURVEY

A field survey of the project site was completed on December 9, 2014. Due to the terrain and vegetation, the surveyors used a mixed strategy focusing more intensively on more open lands and less intensively in steeper, more heavily vegetated areas. Land surveyed intensively was walked in transects no farther apart than 10-15 meters. Land surveyed less intensively was surveyed by walking transects no farther than 25-30 meters apart.

### RESULTS

The archaeological survey team identified an isolated, corner-notched obsidian projectile point, an isolated obsidian unifacially flaked tool, an orchard, pump house, one residence with ancillary structures including an art studio, garage, two sheds, and two modified chicken coops. The residence (built in 1936) is a two-story wood-framed house with modern updates (the same structure noted in the Records Search section above). The other two main structures (art studio and garage) are more modern in construction. The chicken coops may date to the same period as the 1936 house, but all have been heavily modified and updated (Barrow, 2015; **Confidential Appendix M**).

## 4.5.2 REGULATORY FRAMEWORK

### CULTURAL RESOURCES

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Numerous laws, regulations, and statutes at the state and local level govern archaeological and historic resources deemed to have scientific, historic, or cultural value. The pertinent regulatory framework of these laws is summarized below.

### STATE - CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA requires that, for projects financed by, or requiring the discretionary approval of public agencies in California, the effects that a project has on historical and unique archaeological resources must be considered (PRC Section 21083.2). Historical resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance (PRC Section 50201). The CEQA *Guidelines* (Section 15064.5) define three cases in which a property may qualify as a historical resource for the purpose of CEQA review:

A. The resource is listed in or determined eligible for the listing in the California Register of Historical Resources (CRHR). Section 5024.1 defines eligibility requirements and states that a resource may be eligible for inclusion in the CRHR if it:

    1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    2. Is associated with the lives of persons important in our past;
    3. Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
    4. Has yielded, or may be likely to yield, information important in prehistory or history.

B. Properties must retain integrity to be eligible for listing on the CRHR. Properties that are listed in or eligible for listing in the National Register of Historic Places are considered eligible for listing in the CRHR, and thus are significant historical resources for the purpose of CEQA (PRC section 5024.1(d)(1)).
C. The resource is included in a local register of historic resources, as defined in section 5020.1(k) of the PRC, or is identified as significant in a historical resources survey that meets the requirements of section 5024.1(g) of the PRC (unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant).
D. The lead agency determines that the resource may be a historical resource as defined in PRC section 5020.1(j), 5024.1, or significant as supported by substantial evidence in light of the whole record.

PRC Section 21083.2 governs the treatment of unique archaeological resources, defined as "an archaeological artifact, object, or site about which it can be clearly demonstrated" as meeting any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

## ASSEMBLY BILL 52 (AB 52)

AB 52 mandates early tribal consultation prior to and during CEQA review for those tribes which have formally requested, in writing, notification on projects subject to AB 52, i.e. projects which have published Notices of Preparation for EIRs or Notices of Intent to adopt Negative Declarations or Mitigated Negative Declarations since July 1, 2015. The bill establishes a new category of Tribal Cultural Resources (TCR) for which only tribes are experts; these resources may not necessarily be visible or archaeological, but could be religious or spiritual in nature. Significant impacts to a TCR are considered significant effects on the environment.

## LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

### Napa County General Plan – Community Character Element

The General Plan identifies the following goal and policies to preserve and enhance cultural resources in Napa County (Napa County, 2008):

**Goal CC-4:** Identify and preserve Napa County's irreplaceable cultural and historic resources for present and future generations to appreciate and enjoy.

**Policy CC-19:** The County supports the identification and preservation of resources from the County's historic and prehistoric periods.

**Policy CC-21:** Rock walls constructed prior to 1920 are important reminders of the County's agricultural past. Those walls which follow property lines or designated scenic roadways shall be retained to the extent feasible and modified only to permit required repairs and allow for openings necessary to provide for access.

**Policy CC-23:** The County supports continued research into and documentation of the county's history and prehistory, and shall protect significant cultural resources from inadvertent damage during grading, excavation, and construction activities.

**Policy CC-30:** Because the County encourages preservation of historic buildings and structures in place and those buildings and structure must retain "integrity" to be considered historically significant, the County shall discourage scavenging of materials from pre-1920 walls and other structures unless they are beyond repair.

### Napa County Code 18.04.010

Under Title 18, Zoning of the Napa County Code, the Board of Supervisors made several findings with respect to the zoning ordinance. One of those findings (F.15) relates to the objective of preserving sites and structures of a special historical, archaeological, or architectural character and to provide for the maintenance and development of appropriate settings for such resources.

## PALEONTOLOGICAL RESOURCES

Paleontological resources are the traces or remains of prehistoric plants and animals. Such remains often appear as fossilized or petrified skeletal matter, imprints or endocasts, and reside in sedimentary rock layers. Paleontological resources are protected by state regulations and policies including CEQA, and the Public Resources Code.

### California Environmental Quality Act

CEQA provides protection for unique paleontological resources and unique geologic features, and requires that impacts to such resources must be considered in the project review process. The Act distinguishes between ubiquitous fossils that are of little scientific consequence, and those which are of some importance by providing protection for the latter.

While CEQA does not precisely define unique paleontological resources, criteria established by the Society of Vertebrate Paleontology (SVP) provide guidance. The SVP defines a significant paleontological resource as one which meets one or more of the following criteria (SVP, 1995):

- Provides important information shedding light on evolutionary trends and/or helping to relate living organisms to extinct organisms;
- Provides important information regarding the development of biological communities;
- Demonstrates unusual circumstances in the history of life;
- Represents a rare taxon or a rare or unique occurrence, is in short supply and in danger of being destroyed or depleted;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- Provides important information used to correlate strata for which it may be difficult to obtain other types of age dates.

CEQA similarly fails to precisely define a unique geologic feature. For the purpose of this analysis, a unique geologic feature is defined as a resource or formation that:

- Is the best example locally or regionally;
- Embodies distinct characteristics of a geologic principal that is exclusive locally or regionally;
- Provides a key piece of geologic information important in geology or geologic history;
- Is a type locality of a geologic feature;
- Contains a mineral not known to occur elsewhere locally or regionally; or
- Is used repeatedly as a teaching tool.

#### California Public Resources Code

Section 5097.5 of the Public Resources Code prohibits "knowing and willful" excavation, removal, destruction, injury, or defacement of paleontological resources on public lands without prior permission from the appropriate agency. Public lands include those "owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof." If paleontological resources are identified within a given project area, the lead agency must take those resources into consideration when evaluating project impacts. The level of consideration may vary with the importance of the resource in question.

## 4.5.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project on cultural, paleontological, and Tribal resources. Criteria for determining the significance of impacts on these resources have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5; or
- Destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

CEQA Guidelines Section 15064.5 defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings.

## ANALYSIS METHODOLOGY

This section identifies impacts to cultural, paleontological, and Tribal resources which could result from construction, operation, or maintenance of the Proposed Project. Impacts to these resources were analyzed by reviewing existing information for the region and completing a field survey of the Proposed Project site (Barrow 2015). CEQA significance criteria were then applied to each identified potential resource that could be impacted by the Proposed Project.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.5-1: Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5.**

Under CEQA, cultural resources are routinely evaluated to determine whether or not they are eligible for listing on the California Register of Historical Resources (CRHR). Background research and field surveys identified three residences, two sheds, a garage, two modified chicken coops, an orchard, pump house, and two prehistoric isolated artifacts. The earliest residence dates from 1936 and the outbuildings and garage may be from the same period, but the other two residences appear to be modern, and therefore do not require evaluation under CEQA.

None of the structures or artifacts includes associations with specific events or individuals important in California's past (CRHR Criteria 1 and 2). All of the structures have been heavily modified over time and do not embody the distinctive characteristics of a type, period, region, or method of construction, nor do they represent the work of an important creative individual, or possesses high

artistic values (CRHR Criterion 3) or data potential (CRHR Criterion 4). Isolated artifacts are generally not considered to be historical resources or unique archaeological resources for the purposes of CEQA as they provide limited information by virtue of their lack of associated artifacts and features. In the case of the Proposed Project, the corner-notched projectile point and unifacially flaked tool serve as evidence of prehistoric use of the area, but do not provide other substantive data potential (CRHR Criterion 4) once their presence has been documented.

While structures and prehistoric artifacts were noted during the field survey, none possess values which would make them eligible for listing on the CRHR. Therefore, construction of the Proposed Project would not impact known historical or archaeological resources. However, there is always the potential that previously unknown resources could be encountered during subsurface construction activities. This is a **potentially significant** impact. Recommended mitigation for potential impacts to as-yet unknown cultural resources are specified in **Mitigation Measure 4.5-1**. Implementation of **Mitigation Measure 4.5-1** would ensure that inadvertently discovered resources that may be eligible to the CRHR are identified and important information related to these sites is recovered and would reduce potential impacts to previously unidentified cultural resources to a **less-than-significant** level.

**Mitigation Measure 4.5-1**

Should any cultural resources, such as wells, foundations, or debris, or unusual amounts of bone, stone or shell, artifacts, burned or baked soils, or charcoal be encountered during onsite construction activities, construction within 50 feet of these materials shall halt immediately and the construction supervisor shall notify the County and Applicant. A qualified professional archaeologist shall be retained to determine the significance of the discovery. If the find appears to be eligible for listing to the CRHR, the archaeologist and consulting parties, including the Native American community if the discovery is prehistoric, shall develop appropriate mitigation measures to mitigate construction impacts. Mitigation may include documentation, testing, data recovery, construction monitoring, or other measures; all efforts shall be documented according to current professional standards. Construction in the vicinity of the find shall not resume until mitigation has been completed.

If paleontological resources (e.g., fossils) are encountered, work shall halt immediately within 100 feet of the discovery, and the construction supervisor shall notify the County and Applicant. A qualified professional paleontologist or registered geologist shall be retained to assess the significance of the find and to determine appropriate actions, in cooperation with the County and Applicant. Such measures may include avoidance, preservation in place, excavation, documentation, curation, or data recovery. The paleontologist shall submit a follow-up report to the County, which shall include the period of inspection, an analysis of the fossils found, and present repository of fossils. Construction in the vicinity of the find shall not resume until mitigation has been completed.

If human remains are uncovered during project construction, pursuant to PRC Section 5097.98 and Section 7050.5 of the California Health and Safety Code, all activities within a

100-foot radius of the find shall be halted immediately, and the construction supervisor shall notify the County and Applicant. The County shall immediately notify the County coroner. California law recognizes the need to protect interred human remains, particularly Native American burials and items of cultural patrimony, from vandalism and inadvertent destruction. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The County shall contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the County and a qualified professional archaeologist, shall develop a plan of action to avoid or minimize significant effects to the human remains prior to resumption of ground-disturbing activities.

**Impact 4.5-2: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

No paleontological resources or unique geologic features were noted during the survey, and the underlying geology indicates that the chance of encountering paleontological resources is remote. However, there is always the potential that paleontological or geological resources could be encountered during subsurface construction activities. This is a **potentially significant** impact. Recommended mitigation for potential impacts to as-yet unknown paleontological resources or unique geologic features is specified in **Mitigation Measure 4.5-1**. Implementation of **Mitigation Measure 4.5-1** would ensure that inadvertently discovered paleontological or geological resources are evaluated for significance, treated appropriately, and would reduce potential impacts to these resources to a **less-than-significant** level.

**Impact 4.5-3: Disturb human remains, including those interred outside of formal cemeteries.**

No known human remains or cemeteries occur within the Proposed Project site. However, there is always the potential that human remains could be encountered during subsurface construction activities. This is a **potentially significant** impact. Recommended mitigation for potential impacts to human remains is specified in **Mitigation Measure 4.5-1**. Implementation of **Mitigation Measure 4.5-1** would ensure that inadvertently discovered burials are addressed in accordance with applicable sections of the PRC and Health and Safety code. These actions would reduce potential impacts to previously unidentified human remains to a **less-than-significant** level.

**Impact 4.5-4: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.**

In accordance with the provisions of AB 52 Napa County has completed consultation with Middletown Rancheria, the Mishewal Wappo Tribe of Alexander Valley, and the Yocha Dehe Wintun Nation. No TCRs, as defined in Public Resources Code Section 21074 and Public Resources Code Section 5024.1, were identified during consultation. Accordingly, there is **No Impact** to known TCRs. Unanticipated discoveries made during construction may impact more tangible aspects of TCRs; this is a **potentially significant** impact. Implementation of **Mitigation Measure 4.5-1** would ensure that inadvertently discovered resources that may be eligible to the CRHR as TCRs are identified and important information from these sites is recovered. These actions would reduce potential impacts to previously unidentified elements of TCRs to a less-than-significant level.

**Impact 4.5-4: Cumulative Impacts to Cultural and Paleontological Resources.**

Potential cumulative projects in the Proposed Project region, including residential and agricultural development, have the potential to impact cultural, paleontological, and Tribal resources. However, archaeological, historical, tribal and paleontological resources are afforded special legal protections designed to reduce the cumulative effects of development. Potential cumulative projects and the Proposed Project would be subject to the protections of CEQA Guidelines Section 15064.5, related provisions of the Public Resources Code, AB 52, and relevant local policies. Given the non-renewable nature of these resources, any impact to CRHR-eligible sites, paleontological resources, or TCRs could be considered cumulatively considerable. However, there are no known historical, archaeological, paleontological, or Tribal resources within the Proposed Project site. **Mitigation Measure 4.5-1** provides for the protection of unanticipated discoveries made during ground disturbing activities. With the implementation of the mitigation measure, the Proposed Project's incremental contribution to cumulative impacts to cultural, paleontological, and Tribal resources is considered to be **less than significant**.

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# 4.6 GEOLOGY AND SOILS

This section addresses the potential for the Proposed Project to result in impacts associated with geology and soils. Following an overview of the geologic setting in **Section 4.6.1** and the relevant regulatory setting in **Section 4.6.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.6.3**.

## 4.6.1 EXISTING SETTING

### REGIONAL

The Project Property is located within the Coast Ranges geomorphic province, which are characterized by northwest-southeast trending valleys and ridges and extend along the Pacific Coast from Oregon to Southern California. The Coast Ranges are comprised of the Franciscan Assemblage, an accreted tectonostratigraphic terrane of heterogeneous rocks comprised of marine sediments, volcanic rocks, and high-pressure metamorphic rocks, faulted and folded due to the collision of the Farallon and North American Tectonic Plates and subsequent shearing along the San Andreas Transform Fault. These rocks are among the oldest in the Napa County region.

The Sonoma Volcanics lie stratigraphically above the Franciscan Assemblage, located to the east in the Vaca Mountains and enveloping the north and northeast crests and flank of Diamond Mountain (Fox et al., 1973). In most locations, the older Franciscan Assemblage is present at a depth below the Sonoma Volcanics. Formed from volcanic activity in the Sonoma/Napa region about three to 11 million years ago, the Sonoma Volcanics are comprised of layers of various Pliocene- and possible Miocene-age volcanic deposits of andesitic to basaltic lava flows (Fox et al., 1973). The various components are subdivided into volcanic rocks including: rhyolite (light colored, fine-grained, volcanic rock), tuff (cemented volcanic ash), and other pyroclastic (explosive or aerially ejected volcanic material) rocks. These chemically-variable and lithologically-diverse rocks underlie the entire property. The bedrock in the site vicinity is mapped as Sonoma Volcanics ash flow tuff with basaltic and andesitic lava flow interlayered (Fox et al., 1973). This unit is characterized by an assortment of volcanic deposits including rhyolitic, andesite or basaltic lava (**Appendix K**).

### PROJECT SITE

Topography of the project site is similar to the upland plateau surrounding Angwin, located at the southern extent of a broad upland surface that incorporates the Angwin airstrip to the north of the property and rises from 40 to 120 feet above the surrounding upland areas of Howell Mountain. Elevations at the project site range from approximately 1500 feet above mean sea level (AMSL) along the western property line to approximately 1730 feet amsl along the hills on the northern portion of the project. The proposed vineyard blocks occupy near level to gently sloping ground on the main knoll and spur ridges and their flanks. The knoll is incised by a drainage channel that forms a large bowl-shaped amphitheater on the southern slopes of the knoll (**Appendix K**). Several seasonal drainages originate on the property and flow to the southwest into Conn Creek which lies along the western property boundary. Conn Creek is a USGS blueline perennial creek.

## SOILS

Soil types and their characteristics in the Napa Valley subregion depend in part on their location in either valleys or hillsides. The surficial geologic deposits of the Napa Valley subregion consist of widespread, locally-deep alluvium, and on the flanking ridge systems generally discontinuous deposits of colluviums, soil creep, and landslide deposits. The Napa Valley alluvium, or deposits of clay, silt, sand, and gravel left by flowing streams and runoff, consists primarily of alluvial fan, stream channel, floodplain deposits, and terrace deposits. The soils in Napa Valley are generally very deep, have high productivity, and are often used for vineyards, orchards, and pastures. The colluvial and landslide deposits are typically more heterogeneous in composition and consist of various combinations of mostly unconsolidated soil and rock fragments.

The Natural Resources Conservation Service (NRCS) *Custom Soil Resource Report for Napa County, California, Le Colline Vineyard* (2018) provided a detailed report of soils within the property (**Appendix H**), as shown in **Table 4.6-1**. In addition, a soil analysis performed by Crop Care Associates determined onsite soils able to support ground covers typically found in north coast vineyards (Crop Care Associates, 2016).

Soils on the Project Property are shown in **Figure 4.6-1** and soil characteristics pertaining to erosion and hydrologic factors are summarized in **Table 4.6-1**. The soils mapped at the site include the Forward gravelly loam (2 to 9, 9 to 30, and 30 to 75 percent slopes), Kidd loam (15 to 30 percent slopes) Pleasanton loam (2 to 5 percent slopes), and Thama Silt loam (0 to 5 percent slopes).

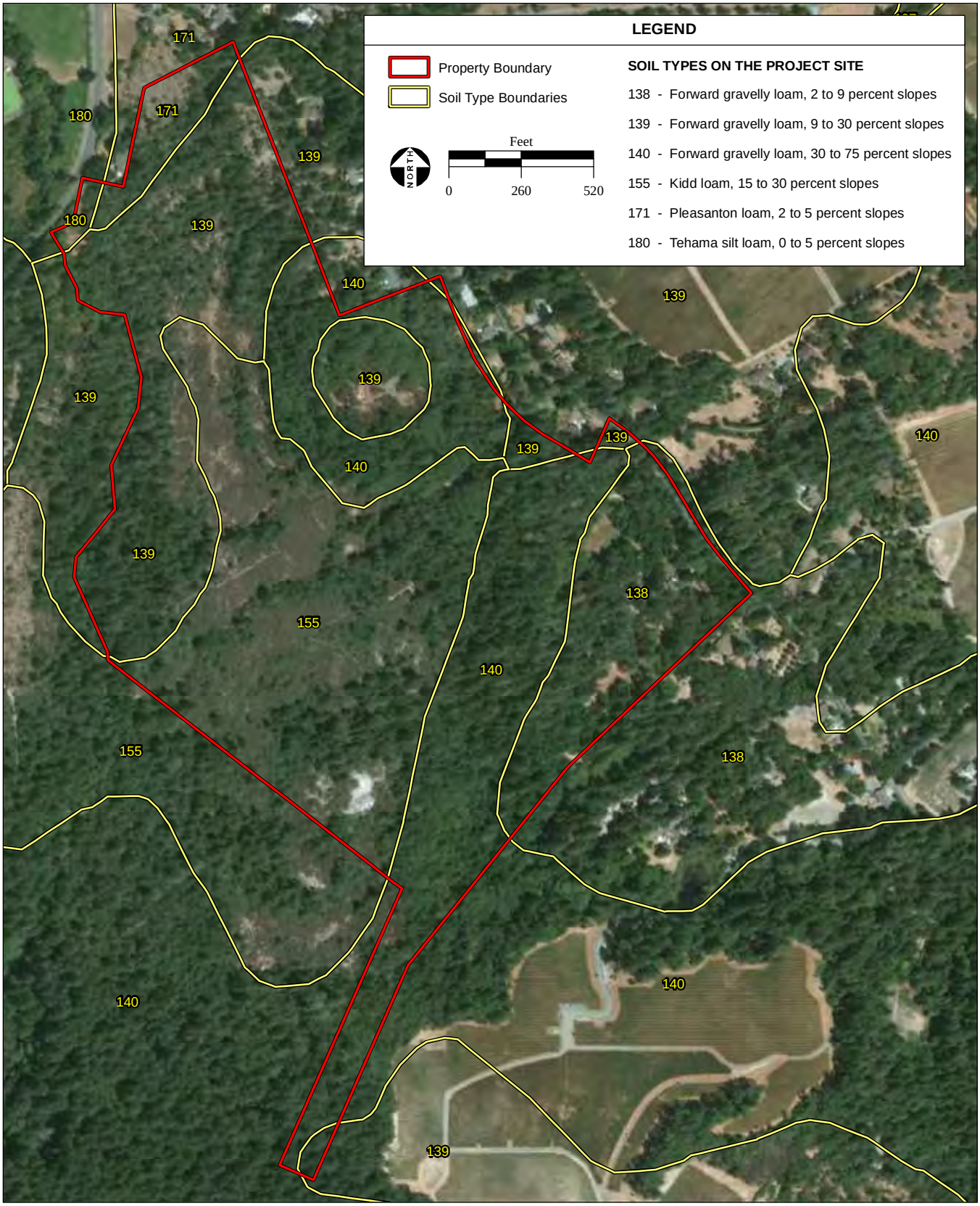
**TABLE 4.6-1**
SOIL CHARACTERISTICS ON THE PROPERTY

| Map Unit Symbol | Map Unit Name | Percent of Property | Drainage | Surface Runoff | Erosion | Shrink-Swell Capacity |
|---|---|---|---|---|---|---|
| 138 | Forward gravelly loam, 2 to 9 percent slopes | 17.0% | Well drained | Medium | Slight | Low |
| 139 | Forward gravelly loam, 9 to 30 percent slopes | 23.8% | Well drained | High | Moderate | Low |
| 140 | Forward gravelly loam, 30 to 75 percent slopes | 28.3% | Well drained | High | Very Severe | Low |
| 155 | Kidd loam, 15 to 30 percent slopes | 29.2% | Well drained | Medium | Moderate | Very Low |
| 171 | Pleasanton loam, 2 to 5 percent slopes | 1.7% | Well drained | Low | Slight | Moderate |
| 180 | Tahama Silt loam, 0 to 5 percent slopes | 0.1% | Well drained | Medium | Slight | Low |

SOURCE: **NRCS, 2017**

## Erosion

Sediment erosion is the mechanical breakdown of rock material and the removal of the resultant materials, such as soil and rock particles, by water, wind, and ice. The potential for erosion of a particular area is dependent upon the geology, slope, vegetation cover, hydrology, precipitation, and the intensity of associated storm events. Shallow soil creep is the slow downward movement of soil and loose rock on slopes. On steep hillside areas, the potential for erosion is greater and




SOURCE: USDA SSURGO Soils Surveys of Napa County,12/2007;
Microsoft aerial photograph, 11/2/2010; AES, 5/17/2018



**Figure 4.6-1**
Soil Types

rilling, rutting, and damaging of channel systems can occur. Along many natural drainage courses on both hillsides and valley areas, stream and river flow can result in bank erosion. In overland flow areas, or areas where the ground is impermeable or semi-impermeable, sediment is easily dislodged and transported to receiving waters. Large-scale erosion can occur during shallow and deep-seated landsliding or earthflows, particularly during high intensity storm events.

The annual surface erosion from hillside vineyards with limited straw or cover crops ranges from 2.3 to 23 tons per acre (Napa County RCD, 1997). Notable amounts of sheetwash and rilling may also occur during large-magnitude storms due to the hydrologic effects of wildfires or vegetation removal. Large rainstorms that sweep across the Napa River watershed periodically induce both shallow and deep-seated landsliding.

The project site and vicinity drains through ephemeral drainages that flow to Conn Creek thence the Napa River. In its existing, undeveloped state, approximately 169.9 tons of sediment per year is generated from the project site, or approximately 3.7 tons per acre per year (**Appendix J**).

## Sediment Control

Temporary and permanent erosion control measures would limit sediment delivery to off-site receiving waters. Measures for the vineyard development are outlined in the ECP (**Appendix B**). Level spreaders associated with attenuation basins, diversion ditches, and water bars will be installed to decrease the flow and potential for erosion during substantial precipitation events. Seven attenuation basins are proposed throughout the vineyard to prevent sediment from leaving the site. Minimum ground cover of 80 percent and 85 percent will be obtained each winter throughout the vineyard. Additional undisturbed soil and vegetation within streams setbacks will provide a deposition zone which sediment potentially mobilized from within the project site may be deposited prior to reaching a stream channel (**Appendix J**).

Temporary erosion control measures include the installation of fiber rolls and the application of straw mulch where seeding occurs. Fiber rolls will be installed and left in place through the winter after planting, and then removed afterwards. A straw mulch cover would be applied over all open and/or disturbed and seeded areas at the rate specified in the seeding requirements. Permanent erosion control measures, as detailed in the ECP (**Appendix B**) include: cleaning, repair, or replacement of existing drainage features as needed; construction of water bars; construction of rock stabilizers; grading of diversion ditches and installation of level water spreaders or energy dissipators, drop inlets and water spreaders; attenuation basins; the planting of a winter cover crop; and the implementation and adherence to the Annual Winterization program as presented in detail in the ECP. Additionally, **Mitigation Measures 4.8-1, 4.8-2**, and **4.8-3** in **Section 4.8 Hazardous Materials** will ensure there is no risk to chemical loading and turbidity of the Napa River.

An erosion assessment for the property is provided in **Appendices J** and **K**. Observations of the project site in its pre-project condition indicate that erosion is occurring on-site. Soil loss for the project site was estimated by using the Universal Soil Loss Equation (USLE). Post-project conditions are expected to reduce surface erosion from approximately 146.7 tons/year to

approximately 56.2 tons/year, a 62 percent reduction.

## Landslides

Napa County prepared Geographic Information System (GIS) maps of landslide deposits and areas of potential landslide hazards for the Napa County Environmental Baseline Data Report (NCCDPD, 2005). The data was collected from the interpretation of U.S. Geological Survey (USGS) aerial photographs from sources published over several decades. According to the results of the Napa County Environmental Baseline Data Report, there are no areas susceptible to landsides identified within the property.

A geological reconnaissance of the site was performed to analyze overall slope stability and local surface erosion with the development of the proposed vineyard, which included research, field mapping, test pit exploration, and aerial photographic review (**Appendix K**). It was observed that the overall slope stability seems favorable due to ground conditions and underlying geologic formations throughout the property, although it is advised that the steep slopes adjacent to Block B should be avoided during construction. Local surface erosion, soil slumps, or other slope instability was not observed during the reconnaissance of the project site (**Appendix K**). The bowl-shaped drainage on the southern slopes of the knoll is an erosional feature often associated with landsliding. However, no evidence of soil instability such as landslide debris was associated with it and the erosional feature is believed to be "the result of long-term spring sapping erosion of the hillside," (**Appendix K**).

## Seismicity

Numerous faults exist throughout the Bay Area of Northern California in the regional vicinity of the property. The majority of active faults within the Bay Area are components of the San Andreas Fault zone, a broad north-northwest trending system that extends along coastal California. An active fault is a fault that shows displacement within the last 11,000 years (the Holocene epoch), and therefore is considered more likely to generate a future earthquake than a fault that has not shown signs of recent activity. A potentially active fault is one that has shown activity in the last 2.5 million years (the Quaternary Period). A fault that the California Geological Survey (CGS) determines to be sufficiently active and well-defined is zoned as an earthquake fault zone according to mandates of the Alquist-Priolo Earthquake Fault Zoning Act of 1972.

When an earthquake occurs, energy waves are radiated outward from the fault. The amplitude and frequency of earthquake ground motions partially depends on the material through which it is moving and distance from the source. The earthquake force is transmitted through hard rock in short, rapid vibrations, while this energy movement becomes a long, high-amplitude motion when moving through soft ground materials, such as valley alluvium. The force an earthquake applies to a structure is expressed in terms of a percentage of gravity (g). For example, an earthquake that produces 0.30 g horizontal ground acceleration will impose a lateral force on a structure equal to 30 percent of its total vertical weight. The intensity of an earthquake is expressed in terms of its effects, as measured by the Modified Mercalli Intensity Scale, and in terms of the quantity of energy

released, or magnitude, as measured by the Richter scale. On the Richter scale every one-unit increase indicates an increment of roughly 30 times the energy.

There are several active or potentially active faults in the vicinity of the property, as shown in **Figure 4.6-2**. The closest active fault to the property that has experienced activity in the past 130,000 years is the Hunting Creek-Berryessa Fault, located approximately 6.5 miles northeast of the project site. The Hunting Creek-Berryessa fault is capable of generating an earthquake of Moment Magnitude 6.9 (**Appendix K**).

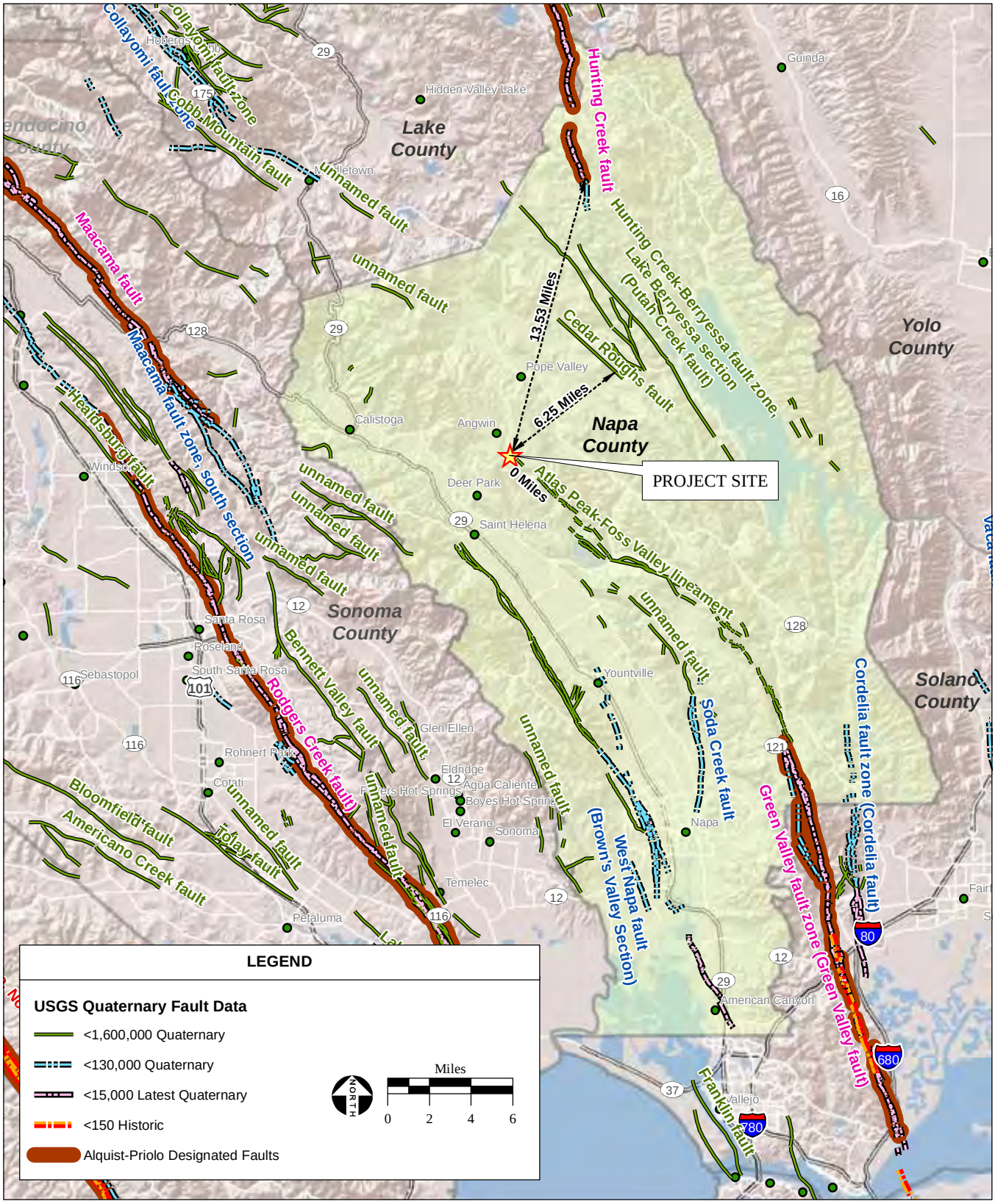
Several earthquakes have occurred in the Napa County region within historic times. Between 1735 and 2005, 97 earthquakes were recorded with a magnitude of 5.0 on the Richter scale or larger within 200 kilometers (or approximately 124 miles) of the center of Napa County (NCCDPD, 2005). Seven substantial earthquakes have been recorded since 1836 within 61 miles of the center of Napa County, and had median peak bedrock accelerations of 0.04 g to 0.10 g. This includes the 1906 earthquake of magnitude 8.3 with a median peak bedrock acceleration of 0.10 g located 55 miles from the center of Napa County. Other earthquakes have occurred in the vicinity of Napa County along the previously mentioned faults in the Bay Area, including the 1989 earthquake along the Loma Prieta Fault. Recently, on August 24, 2014, a Moment Magnitude 6.0 earthquake occurred on the West Napa Fault approximately 23 miles south of the project site. This earthquake caused extensive damage in the City of Napa, and although it was felt throughout the Napa Valley and Northern California, it did not cause any damage at the project site.

To estimate the probability of future earthquake events in the Bay Area, USGS considered potential sources of an event on seven different fault systems in the Bay Area. Based on a combined probability of all seven fault systems and background earthquakes, there is a 60 percent chance of a magnitude 6.0 or larger earthquake occurring at the project site within the next 50 years (USGS, 2009). Smaller earthquakes, between magnitudes 6.0 and 6.7, which are capable of causing considerable damage, have about an 80 percent chance of occurring in the Bay Area by 2030 (USGS, 2003).

## Seismic Hazards

Seismic hazards describe the effects caused by surface fault rupture and seismic shaking from a seismic event. Surface fault rupture occurs when a fault breaks through to the ground surface during a seismic event. The California Department of Conservation has not identified the project site as located within an earthquake fault zone (California Department of Conservation, 2015).

Seismic shaking can result in structural damage. This risk is high because shaking damage can be caused by any of the active faults in the Bay Area discussed above. The severity of the shaking damage at a particular location depends on a number of factors, including the magnitude of the earthquake, the distance to its epicenter, and the nature and thickness of the deposits at the location. Areas that are subject to the greatest ground shaking damage are anticipated to be within Napa County's various valleys, because they consist of deep, unconsolidated alluvial deposits




SOURCE: USGS Earthquake Hazards Program, 7/26/2010;
California Geological Survey, 2005; AES, 5/17/2018



**Figure 4.6-2**
Napa County Faults

underlain by saturated estuarine deposits, which are subject to higher amplitude and longer duration shaking motions (NCCDPD, 2005).

Ground failures, or secondary effects, from ground shaking can extend many miles from the earthquake fault that generated the shaking. Ground failures include landsliding, differential settlement, lateral spreading, and liquefaction. Landsliding triggered by ground shaking occurs in the same types of mountainous terrains that are susceptible to non-seismically induced sliding events. Ground shaking can reactivate dormant landslides, cause new landslides, and accelerate or aggravate movement on active slides. Differential settlement is the non-uniform densification of loose soils that occurs during strong ground shaking and causes uneven settlement of ground surface. Differential settlement could occur in numerous locations, but most likely the valley areas of Napa County. Lateral spreading is a ground failure in which a subsurface layer of soil liquefies, resulting in the overlying soil mass deforming laterally toward a free face. Limited lateral spreading is extremely unlikely given the project area's low probability for liquefaction on the property, discussed below. Although there is potential for seismic ground shaking on the property as mapped by USGS, there are strong bedrock formations, which reduces the risk for seismically-induced landslides.

Liquefaction is a process in which sandy, saturated soils become liquefied and lose their bearing capacity during seismic ground shaking. As a result, sufficiently liquefied soils can no longer support structures built on or beneath them. Liquefaction potential is dependent on such factors as soil type, depth to groundwater, degree of seismic shaking, and the relative density of the soil. Soils most susceptible to liquefaction are saturated, clean, loose, uniformly graded, fine-grained, and unconsolidated materials that are most commonly associated with alluvial valleys with high groundwater levels. On a countywide basis, the potential for liquefaction-induced ground failures is relatively low, since only about 20 percent of the County is characterized as an alluvial valley. The Association of Bay Area Governments (ABAG) creates maps of Bay Area counties that show the susceptibility of mapped areas to liquefaction based on the presence of water-saturated sand and silty materials that may be more prone to liquefaction than other soils. The property's susceptibility to liquefaction is considered very low, although the area nearest Howell Mountain Road along the northwest boundary of the property is mapped as having a moderate susceptibility to liquefaction (ABAG, 2016).

## 4.6.2 REGULATORY FRAMEWORK

### FEDERAL

#### FEDERAL EARTHQUAKE HAZARDS REDUCTION ACT

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program

Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS.

## STATE

### ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act was passed by the California Legislature to mitigate the hazard of surface faulting to structures. The act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Fault Study Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

### CALIFORNIA SEISMIC HAZARDS MAPPING ACT

The California Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

### SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, WASTE DISCHARGE REQUIREMENTS FOR VINEYARD PROPERTIES IN THE NAPA RIVER AND SONOMA CREEK WATERSHEDS

The San Francisco Bay Regional Water Quality Control Board (RWQCB) has adopted waste discharge requirements (WDRs) for vineyard properties in the Napa River and Sonoma Creek watersheds under the National Pollutant Discharge Elimination System (WDRs), administered by the State under the Clean Water Act. The WDRs regulate parcels developed with 5 or more acres of vineyards that are located in the Napa River and Sonoma Creek watersheds. All vineyard parcels subject to the WDRs must achieve performance standards for soil erosion in the farm area, and for discharge of nutrients and pesticides. Hillslope vineyard parcels also

must achieve performance standards for vineyard storm runoff and for sediment discharge from unpaved roads (SFB RWQCB, 2018). Projects similar to the Proposed Project are required to develop a Farm Water Quality Protection Plan (Farm Plan). The Farm Plan must include a comprehensive inventory of vineyards, roads, reservoirs, and waterways located throughout the property and document best management practices (BMPs) to comply with the conditions of the WDRs and performance standards. Long-term monitoring for effectiveness of Farm Plans on an individual and watershed-level basis has also been included in the General Permit process.

## LOCAL

### NAPA COUNTY

The Napa County General Plan (Napa County, 2008) serves as a broad framework for planning within Napa County. State law requires general plans to cover a variety of topics. The General Plan contains goals and policies related to open space conservation, natural resources, water resources and safety that provide guidance for issues related to geology and soils from the Proposed Project. The following goals and policies related to geology and soils in the General Plan are applicable to the Proposed Project:

#### Open Space Conservation Policies

Policy CON-5: The County shall identify, improve, and conserve Napa County's rangeland through the following measures:

a) Encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas.

Policy CON-6: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

#### Natural Resources Policies

Policy CON-38: The County shall identify, improve, and conserve Napa County's sand and gravel resources, preventing removal of streambed sand and gravel in any manner that would cause adverse effects on water quality, fisheries, riparian vegetation, or flooding.

#### Water Resources Policies

Policy CON-48: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or stormwater pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan)

requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Policy CON-49: The County shall develop and implement a water quality monitoring program (or programs) to track the effectiveness of temporary and permanent Best Management Practices (BMPs) to control soil erosion and sedimentation within watershed areas and employ corrective actions for identified water quality issues (in violation of Basin Plans and/or associated Total Maximum Daily Loads [TMDLs]) identified during monitoring.

Policy CON-50: The County will take appropriate steps to protect surface water quality and quantity, including the following:

g) Address potential soil erosion by maintaining sections of the County Code that require all construction-related activities to have protective measures in place or installed by the grading deadlines established in the Conservation Regulations. In addition, the County shall ensure enforceable fines are levied upon code violators and shall require violators to perform all necessary remediation activities.

### Safety Goals and Policies

Goal SAF-1: Safety considerations will be part of the County's education, outreach, planning, and operations in order to reduce loss of life, injuries, damage to property, and economic and social dislocation resulting from fire, flood, geologic, and other hazards.

Goal SAF-2: To the extent reasonable, protect residents and businesses in the unincorporated area from hazards created by earthquakes, landslides, and other geologic hazards.

Policy SAF-8: Consistent with County ordinances, require a geotechnical study for new projects and modifications of existing projects or structures located in or near known geologic hazard areas, and restrict new development atop or astride identified active seismic faults in order to prevent catastrophic damage caused by movement along the fault. Geologic studies shall identify site design (such as setbacks from active faults and avoidance of on-site soil-geologic conditions that could become unstable or fail during a seismic event) and structural measures to prevent injury, death and catastrophic damage to structures and infrastructure improvements (such as pipelines, roadways and water surface impoundments not subject to regulation by the Division of Safety of Dams of the California Department of Water

Resources) from seismic events or failure from other natural circumstances.

Policy SAF-9: As part of the review and approval of development and public works projects, planting of vegetation on unstable slopes shall be incorporated into project designs when this technique will protect structures at lower elevations and minimize the potential for erosion or landslides. Native plants should be considered for this purpose, since they can reduce the need for supplemental watering which can promote earth movement.

Policy SAF-10: No extensive grading shall be permitted on slopes over 15 percent where landslides or other geologic hazards are present unless the hazard(s) are eliminated or reduced to a safe level.

## Napa County Code (Chapter 18.108 – Conservation Regulations)

Napa County Code 18.108 includes conservation regulations such as requirements for standard erosion control measures, provisions for intermittent or perennial streams, requirements for use of erosion hazard areas. This section of the code also defines streams and provides stream setbacks for grading and land clearing for agricultural development (see **Section 4.4** for the discussion of this code section).

Some portions of the project area have slopes greater than five percent, therefore, under Napa County Code Section 18.108.070, the Proposed Project would require permit approval prior to any grading activities (see **Section 3.0**).

Napa County Code 18.108.027 requires that as part of any use involving earth-disturbing activity in sensitive domestic water supply drainages, the following vegetation-retention requirements apply:

- A minimum of 60 percent of the tree canopy cover on the parcel or holding existing on June 16, 1993 along with any understory vegetation, and
- When vegetation consists of shrub and brush without tree canopy, a minimum of 40 percent of the shrub, brush and associated annual and perennial herbaceous vegetation.
- All earth-disturbing activities shall be limited to the period of April 1st through September 1st of each year, with the exception of NPDES related earth-disturbing activities, which are limited to April 1st through October 1st.
- Concentrated runoff, wherever feasible, shall be avoided.
- Notice will be provided to the owners/operators of public-serving water supply systems located in sensitive domestic water supply drainages of an ECP filed within the drainage.
- A geotechnical report is required for projects located in sensitive domestic water supply drainage.

### NAPA COUNTY RESOURCE CONSERVATION DISTRICT

The Napa County Resource Conservation District (RCD) published the Napa River Watershed Owner's Manual in 1996. The manual contains the following objective and recommendations that pertain to the Proposed Project:

#### Objective G: Reduce Soil Erosion

**Recommendation G2:** Reduce erosion resulting from agricultural activities. Agricultural activities in the Napa River watershed include grazing, viticulture, small farms and horticulture. Soil disturbance or vegetation removal as a result of agricultural activities can result in loss of topsoil and subsequent water quality degradation. Good agricultural management can also benefit water quality and wildlife habitat, and can contribute to the overall good health of the watershed.

Relevant sub-recommendations include:

- G2.1. Emphasize erosion prevention over sediment retention as a priority in agricultural planning and operations.
- G2.2. Promote the use of permanent vegetative ground cover in vineyards. Support research, demonstrations and technology exchange to refine cover crop technology for vineyards and orchards.
- G2.4. Maintain access roads and farm roads to control storm water runoff in agricultural areas. Utilize assistance from the Civil Engineer, U.S. Department of Agriculture (USDA) Natural Resource Conservation Service, or other erosion control professionals, for design of storm water runoff control on rural roads.
- G.2.5. Minimize wet weather vehicle traffic through or across agricultural areas, especially on hillsides.
- G.2.6. Provide adequate energy dissipaters for culverts and other drainage pipe outlets.
- G.2.7. Establish vegetated buffer strips along waterways.

## 4.6.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project associated with geology and soils. Criteria for determining the significance of impacts have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Zoning Map issued by the State Geologist for the area or based on other

substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located in a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- of off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil;
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

## METHOD OF ANALYSIS

This section identifies any impacts associated with geology and soils that could occur from construction, operation, and/or maintenance of the Proposed Project. Impacts to and from geological resources were analyzed based on an examination of the project site, published information regarding geological hazards of the project area, field studies, and comparison of these factors to the significance criteria listed below.

The Napa County Engineering Division evaluates all technical documents submitted with an ECP package and reviews them for technical adequacy and correctness. The Engineering Division has reviewed the Erosion Control Plan (**Appendix B**), the Hydrologic Analysis (**Appendix I**), the Le Colline Project Soil Loss Evaluation (**Appendix J**), and the Water Availability Analysis (**Appendix O**), submitted with the Le Colline ECP packages and found the subject documents to be technically adequate.

The impact analysis focused on the potential for the Proposed Project to impact the geology and soils within the project site, as well as geologic features in close proximity that might have an adverse impact on the site. The evaluation was made in light of project plans and applicable regulations and guidelines. If it was determined that implementation of the Proposed Project has the potential to meet or exceed the significance criteria listed below, mitigation measures may be recommended to reduce impacts to less-than-significant levels.

Due to the similarity in the Significance Criteria listed above, several of the criteria have been combined and analyzed together in the Impact and Mitigation section below.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.6-1: Development of the Proposed Project would not expose people or structures to risk of loss, injury, or death involving rupture of a known fault, strong seismic ground shaking seismic-related ground failure or landslides, or be located on strata or soil that is expansive or unstable, or that would become unstable as a result of the proposed project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction,**

**or collapse. Less-than-significant.**

The Proposed Project could be subject to an earthquake event from one of the active faults within the San Andreas Fault zone. Several earthquakes with large magnitudes have occurred in the Bay Area over the last few centuries, and the USGS estimates that an earthquake of magnitude 6.0 or greater will likely occur at the project site in the next 50 years (USGS, 2009). However, surface fault rupture would not be anticipated to occur at the property, since none of the active faults in Napa County that the CGS determined capable of underground surface fault rupture are located at or near the property. The Proposed Project includes the conversion of forested areas and shrubland areas into vineyard. Construction of the Proposed Project would involve earthmoving activities, soil cultivation, installation, and maintenance of drainage and erosion control features, and vineyard plantings. Modifications that would alter the geologic setting of the property would be relatively minor changes associated with earthmoving activities for development of vineyards and associated avenues. Since the Proposed Project would not include construction of buildings or other facilities that would attract a large number of people, the potential risk of exposing people or structures to hazards from a seismic event is nonexistent.

Ground failures due to seismically-induced ground shaking can reactivate dormant landslides, cause new landslides, accelerate or aggravate movement on active slides, as well as result in differential settlement, lateral spreading, and liquefaction. Seismically-induced ground shaking could potentially occur from the Hunting Creek-Berryessa Fault, located approximately 6.5 miles east of the property. Based on existing slope stability, the project area's susceptibility to landslides is considered low. The risk of liquefaction of the project site soils is considered similarly low. Although no evidence of active slope instability was observed in the basin-shaped drainage or near the top of the slope adjacent to vineyard Block B, a 50-foot setback from the headwall of the basin-shaped feature and 30-foot setback from the sides has been incorporated in the ECP, as recommended in the updated engineering geological and geotechnical investigation (**Appendix K**).

Additionally, the geotechnical investigation states that the road alignment on the north and south sides of the project are in stable slope conditions. On the south side, the alignment above the Class III drainage is on a well-defined bedrock bench. The alignment on the north side crosses the gentle slope above residences. Bedrock outcrops and gentle slope inclinations indicate stable conditions. According to the engineering geological and geotechnical investigation (**Appendix K)**, vineyard development and road construction will not adversely impact existing slope stability or pose a hazard for residences downslope and north of the project site as the erosion control improvements and proper road construction (see improvements below) will only improve existing slope stability.

Although impacts to people or structures as a result of seismically-induced ground failure are less-than-significant, the engineering geological and geotechnical investigation (**Appendix K**) include two additional recommendations for implementation of the ECP to further reduce potential impacts. As recommended in the ECP a setback shall be established for the south side of Block B by representing an imaginary line inclined at 2:1 horizontal to vertical extending from the base of the basin-shaped drainage and intersecting the level area presently planned for vineyard. The setback

shall be 50 feet from the headwall of the basin-shaped drainage and 30 feet on the sides, and Road construction should include excavation of a keyway a minimum of two feet into firm soil or bedrock. Road fill should be placed in eight-inch maximum lifts and compacted to a minimum of 90 percent relative compaction. Therefore, impacts associated with seismically induced ground failure as a result of the Proposed Project would be less-than-significant.

**Impact 4.6-2: Development of the Proposed Project would not result in substantial soil erosion or the loss of topsoil with the implementation of the ECP. Less-than-significant.**

The Proposed Project would result in the removal of 33.4 gross acres of existing vegetation from the ECP clearing area. One vineyard transect shows a small increase in erosion, however the total watershed of the project site is anticipated to undergo a net decrease in erosion through the implementation of the Proposed Project. The 33.4-acre area of disturbance would be utilized for erosion control features (attenuation basins, sediment basins, rock stabilization, etc.), as well as internal farm avenues for access of farm trucks, equipment turn around, and vineyard maintenance operations. The vineyard conversion would result in the removal of existing vegetation and trees, as well as soil ripping, earthmoving and grading activities. Vegetation clearing would remove obstacles to sediment transport while exposing more soils to erosion. However, an impact from the conversion of existing vegetation to vineyard areas would only be considered significant if sediment erosion and yield are substantial to the extent that damage occurs to roads, vineyard facilities, or adjoining vineyards, or if sedimentation in receiving waters is significant.

The mainstem Napa River is listed as sediment-impaired according to the Clean Water Act, Section 303 (d), because it does not meet the beneficial uses for which is was designated, including steelhead habitat. Section 303 (d) requires the Regional Water Quality Control Board (RWQCB) to create a TMDL for sediment in the Napa River watershed. In order to meet the TMDL standard, it is County Policy (Napa General Plan Policy CON-48) that there should be no change in erosion ("maintain pre-development sediment erosion conditions") or, alternatively, that the project complies with State Water Quality and General Permit for Vineyard Properties requirements. With the proposed sediment control features detailed in the ECP (**Appendix B**), sediment erosion from the project site will be reduced by approximately 62 percent from pre-project levels under the Proposed Project (**Appendix J**). Therefore, the Proposed Project meets Napa County standards and will comply with the TMDL standard, as well as the State's General Permit for Vineyard Properties.

The USLE, (per USDA Agriculture Handbook Number 537, Special Applications for Napa County, CA) erosion estimates were used to calculate sediment detachment and erosion potential for the Proposed Project (**Appendix J)**. The total surface erosion of the Proposed Project (after implementation of the ECP measures) as predicted by USLE is approximately 56.2 tons per year. Under current conditions, the project site would produce a total of 146.7 tons per year of eroded sediment. As a result of the Proposed Project and implementation of the ECP, erosion rates from the project site will decrease by approximately 62 percent (**Appendix J**). **Table 4.6-2** provides the results of the USLE analysis of pre- and post-project sediment production and delivery conditions.

The requirements of Napa County's Conservation Regulations (Chapter 18.108) are specifically listed as an effective measure at reducing sediment delivery. The Proposed Project complies with Policy CON-48 because it complies with the Basin Plan requirements with respect to estimated erosion rates. The project ECP and USLE calculations prepared by O'Connor Environmental, Inc. demonstrate that the project would limit potential erosion to 0.58 tons per acre per year, which is below the USDA soil erosion tolerance of 3.0 tons per acre per year. The use of erosion control measures including attenuation basins, water bars, rock stabilization, and the installation of fiber rolls would filter all surface runoff from the project site prior to its discharge into the existing drainage channels, and would prevent sediment, including the sand size-fraction, from leaving the property. The Proposed Project was designed such that post-project soil loss was achieved on the watershed and sub-watershed level. Additionally, the individual transects showed a decrease in post-project soils loss at a local level. Project Watersheds are defined based on a topographic analysis of the Napa County LiDAR-derived digital elevation model with a ten foot square grid. Since the vineyard transects utilized in **Appendix J** and their respective areas will drain to the same point of interest at the outlet of Watershed 8 (Figure 2d of **Appendix J**), the net change in erosion for transects C, D1, D4, D6, E1, E2 and E3 should be considered together. Combining the substantial net decrease in estimated erosion from transects C, D1, D4, D6, E1 E2, and E3 yields a net decrease of 4.78 tons for Watershed 8. Changes in groundwater and surface hydrology that may occur as a result of the Proposed Project are discussed further in **Section 4.9.**

**TABLE 4.6-2**
PRE-PROJECT AND POST-PROJECT ESTIMATED SEDIMENT PRODUCTION

| Vineyard Area Transect | Gross Acres | Erosion (t/yr) Pre-Project | Erosion (t/yr) Post-Project | Change in Pre- to Post-Project Erosion (t/yr) | Percent Change (%) |
|---|---|---|---|---|---|
| A1 | 4.75 | 6.80 | 6.60 | -0.20 | -38.23 |
| A2 | 3.89 | 63.70 | 20.89 | -42.81 | -67.17 |
| A3 | 2.67 | 7.36 | 5.23 | -2.13 | -28.94 |
| B | 2.91 | 25.93 | 2.94 | -22.99 | -88.66 |
| C | 0.80 | 2.99 | 1.49 | -0.15 | -22.22 |
| D1 | 1.80 | 2.44 | 2.36 | -0.08 | -3.28 |
| D2 | 3.33 | 5.39 | 5.11 | -0.28 | -5.19 |
| D3 | 2.30 | 21.81 | 4.57 | -17.24 | -79.05 |
| D4 | 1.13 | 1.25 | 1.16 | -0.09 | -7.20 |
| D5 | 0.81 | 0.58 | 0.51 | -0.07 | -12.07 |
| D6 | 1.00 | 4.84 | 2.14 | -2.70 | -55.79 |
| E1 | 1.51 | 0.71 | 0.67 | -0.04 | -7.87 |
| E2 | 1.35 | 0.75 | 0.72 | -0.03 | -11.25 |
| E3 | 4.56 | 2.17 | 1.83 | -0.34 | -16.22 |
| **Total** | **32.8** | **146.7** | **56.2** | **-90.5** | **-62.0** |

SOURCE: **Appendix J**

The use of the erosion control measures in the ECP, as described above, will minimize sediment delivery of the Proposed Project to streams. As sediment is identified in the Napa River Sediment TMDL as a primary concern due to potential impacts on beneficial uses, with implementation of the

erosion control measures in the ECP, the Proposed Project would have a less-than-significant impact on the surrounding watershed. With incorporation of erosion and runoff control measures proposed in the ECP and discussed above, the overall production of sediment from the project site and load of sediment transported to local waterways is anticipated to be a significant reduction from pre-project conditions with implementation of the Proposed Project. With implementation of the erosion control measures in the ECP, the Proposed Project would have a less-than-significant impact on the surrounding watershed.

**Impact 4.6-3: The Proposed Project does propose the use of septic tanks or alternative wastewater disposal systems as part of the Proposed Project. No impact.**

The Proposed Project does not include the use of septic tanks or alternative wastewater disposal systems. There would be no impact.

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# 4.7 GREENHOUSE GAS EMISSIONS

This section addresses the potential for the Proposed Project to result in impacts associated with greenhouse gas (GHG) emissions. Following an overview of the environmental setting in **Section 4.7.1** and the relevant regulatory setting in **Section 4.7.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.7.3**.

## 4.7.1 EXISTING SETTING

Climate change is a global phenomenon attributable to the sum of all human activities and natural processes. The California Air Pollution Control Officers Association (CAPCOA) provide guidance on integrating analysis of climate change in California Environmental Quality Act (CEQA) documents (CAPCOA, 2008). It is anticipated that the average global temperature could rise 0.3 to 0.7 degrees (º) Celsius (C) (0.54 to 1.26 °Fahrenheit (F)) between the years 2016 and 2035 (IPCC, 2014). The Intergovernmental Panel on Climate Change (IPCC) report identifies anthropogenic greenhouse gases (GHGs) as likely to be a contributing factor to observed changes in the Earth's climate since the mid-20$^{th}$ century (IPCC, 2014).

The fifth IPCC report *Climate Change Synthesis Report 2014* was released in its entirety by the end of 2014. The IPCC modeling estimates that anthropogenic carbon dioxide ($CO_2$) in the lower atmosphere has increased by approximately 31 percent since the year 1750. At the same time, average temperature in the lower atmosphere has increased approximately 0.6 to 0.8 °C (1.08 to 1.44 °F). Due to the challenges inherent in modeling the complexities of the Earth's climate, the proportional importance of anthropogenic activities as opposed to natural feedback systems is exceptionally difficult to establish. Nonetheless, the IPCC concludes that "most of the observed increase in globally-averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations." This Draft Environmental Impact Report (EIR) assumes that an increase in anthropogenic GHG concentration is in fact contributing to global warming, consistent with State policy.

IPCC theorizes that a continuation of this warming trend could have profound implications in North America, including flooding, erratic weather patterns, and reduced arctic ice. The IPCC projects a number of future GHG emissions scenarios leading to a varying severity of impacts on the environment and the global economy. According to the IPCC 2014 Fifth Assessment, if anthropogenic GHG continue to increase in the atmosphere there will be a point at which the above impacts would become irreversible, this point is commonly referred to as the "tipping point." The 2014 IPCC report states it is difficult if not impossible for the climate system to revert to its previous state once it has reached its tipping point, and the change is termed irreversible over some timescale and forcing range.

Sources of GHG emissions in the region include, but are not limited to, on and off road vehicles, agriculture (cattle and farming), water and wastewater transport, indirect electricity use, solid waste disposal, loss of carbon sequestration in flora, and changes in land use.

## 4.7.2 REGULATORY FRAMEWORK

### STATE

#### ASSEMBLY BILL 32 AND CALIFORNIA'S SCOPING PLAN

Signed by the California State Governor on September 27, 2006, Assembly Bill (AB) 32 codifies a key requirement of Executive Order (EO) S-3-05, specifically the requirement to reduce statewide GHG emissions to year 1990 levels by the year 2020. AB 32 tasks the California Air Resources Board (CARB) with monitoring State sources of GHGs and designing emission reduction measures to comply with the law's emission reduction requirements.

AB 32 required that CARB prepare a comprehensive "scoping plan" that identifies all strategies necessary to fully achieve the required 2020 emissions reductions. In early December 2008, CARB released its scoping plan to the public and on December 12, 2008, the CARB Board approved the scoping plan.

In the adopted Climate Change Scoping Plan, CARB lays out the GHG reductions that need to be achieved and the types of measures that will be used to reach them. The Plan predicts that under a "business as usual" (BAU) scenario, 2020 GHG emissions would equal 596 million metric tons (MMT) $CO_2e$. Consequently, compared to the 1990 GHG emissions inventory, emissions would need to be reduced by 169 MMT $CO_2e$ in 2020. This represents a 30 percent GHG reduction from the 1990 levels to be achieved by 2020. In 2011, CARB updated the projected GHG emissions to reflect the effects of the economic downturn, finding that a reduction of 21 percent from the projected BAU scenario would be necessary to achieve the statewide emission targets. This 21 percent reduction assumes that the BAU scenario does not account for the effect of additional GHG regulations that have been adopted. The scoping plan provides the following key recommendations to reduce GHG emissions:

- Expand and strengthen existing energy efficiency programs as well as building and appliance standards;
- Achieve a statewide renewable energy mix of 33 percent;
- Develop a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establish targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
- Adopt and implement measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.

The updated Plan outlines the progress California has made to date regarding near-term 2020 GHG limits, such as cleaner and more efficient energy, cleaner transportation, and CARB's Cap-and-Trade Program. The updated Plan identifies six key areas where further control strategies are needed, which are: energy, transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), agriculture, water, waste management, and natural and working lands.

In 2017, CARB provided a draft Scoping Plan, which provides strategies for achieving California's 2030 GHG reduction target. The 2017 draft Scoping Plan provides a summary of recent legislation, such as AB 398, EO B-30-15, Senate Bill (SB) 350, SB 32, SB 1383, etc.). Climate change mitigation policies provided in the draft Scoping Plan include the following:

- Implementing SB 350 by 2030, which will reduce GHG emissions in the electricity sector;
- Implement Mobile Source Strategy (cleaner technology and fuels), which will reduce GHG emissions in the transportation sector;
- Increase stringency of SB 375 (sustainable communities strategy);
- Develop pricing policies to support low-GHG transportation;
- Adopt Low Carbon Fuel Standard with and carbon Intensive reduction of 18 percent;
- Develop regulation and programs to support organic waste landfill reductions;
- Implement carbon accounting framework for natural and working lands (SB 859); and
- Implement forest carbon plans.

In addition to new mitigation policies listed above, the 2017 draft Scoping Plan incorporates past policies from both the initial (2008) and first updated Scoping Plans.

### SENATE BILL 97

Signed by the Governor on August 24, 2007, Senate Bill (SB) 97 required that the OPR prepare CEQA guidelines for evaluating the effects of GHG emissions and for mitigating such effects. The Natural Resources Agency adopted these guidelines on December 31, 2009.

In April 2009, OPR released the CEQA Guidelines Section Proposed to be Added or Amended, which included guidelines for evaluating the effects of GHG emissions and for mitigating such effects. On December 31, 2009, the Natural Resources Agency delivered its rulemaking package to the Office of Administrative Law for their review pursuant to the Administrative Procedure Act.

### CEQA GUIDELINES

In accordance with SB 97, the Natural Resources Agency adopted Amendments to the CEQA *Guidelines* for GHGs on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010. The amendments to the CEQA *Guidelines* provide the following direction for consideration of climate change impacts in a CEQA document:

- The determination of significance of GHG emissions calls for a careful judgment by the lead agency;
- A model or methodology shall be used to quantify GHG emissions resulting from a CEQA project;
- Significance may rely on qualitative analysis or performance based standards;
- The CEQA document shall discuss regional and/or local GHG reduction plans;

- A CEQA document shall analyze GHG emissions if they are cumulatively considerable;
- A description of the effects of climate change on the environment shall be included in CEQA documents;
- A CEQA document shall contain mitigation measures, which feasibly reduce GHG emissions;
- GHG analysis in a CEQA document may be Tiered or Streamlined; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long term commitment to AB 32 implementation.

### EXECUTIVE ORDER B-30-15 (EO B-30-15)

EO B-30-15 was signed by the Governor on April 29, 2015. EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. This intermediate GHG emissions reduction target will make it possible to meet the ultimate GHG emissions reduction target of 80 percent below 1990 levels by 2050, as established in EO S-3-05.

### SENATE BILL 350 (SB 350)

SB 350 codifies the GHG targets for 2030 set by EO B-30-15. To meet these goals, SB 350 also raises the renewable portfolio standard (RPS) from 33 percent renewable generation by 2020 to 50 percent renewable generation by December 31 2030.

### SENATE BILL 375

SB 375 was approved by the Governor on September 30, 2008. SB 375 provides for the creation of a new regional planning document called a "sustainable communities strategy" (SCS). A SCS is a blueprint for regional transportation infrastructure and development that is designed to reduce GHG emissions from cars and light trucks to target levels that will be set by CARB for 18 regions throughout California. Each of the various metropolitan planning organizations and the Association of Bay Area Governments must prepare an SCS and include it in that region's regional transportation plan. The SCS would influence transportation, housing, and land use planning. CARB determines whether the SCS will achieve the region's GHG emissions reduction goals. Under SB 375, certain qualifying in-fill residential and mixed-use projects would be eligible for streamlined CEQA review.

## LOCAL

Since the certification of the Final General Plan EIR and adoption of the General Plan, Napa County has undertaken numerous efforts aimed at reducing GHG emissions. The County participated in a multi-jurisdictional effort led by the Napa County Transportation and Planning Agency to quantify community-wide emissions for all jurisdictions within the County and to develop a non-binding emission reduction framework that each jurisdiction can use to guide their decision making and planning.

The County is currently in the process of preparing a Climate Action Plan (Plan) specific to unincorporated areas of the County. The Plan is being developed to meet qualifications established by CARB. The Plan will include a refined inventory and forecast of GHG emissions for unincorporated Napa County, including emissions associated with agriculture and changes in carbon sequestration over time. The Plan will quantify emissions from vineyard development and operations (as well as other sectors), and will include emission reduction measures aimed at achieving goals of AB 32. A draft Plan was completed in January 2011 and was proposed to be adopted in late 2011. That draft Plan included a 52 percent reduction in GHG emissions from BAU practices. In March 2012, the draft Plan was revised based on public input and it was determined that fewer vineyard conversion projects and the potential for even further reductions in GHG emissions from existing vineyards would occur. Therefore, the reduction from development and vineyard projects was revised to 38 percent.

The draft Plan represents a guiding framework for this analysis; however, the draft Plan was not adopted by the County. The County is in the process of revising the draft Plan. In July 2015, a contract was awarded to an environmental firm to assist the Napa County Department of Planning, Building, and Environmental Services staff in completing a legally defensible Plan that meets all applicable State requirements. A final draft redline version of the CAP was released on June 21, 2017, and the document went to the Planning Commission for review in July 2017 (Hade, 2017). The CAP is currently undergoing environmental review. Therefore, in the absence of an adopted County Climate Action Plan, State goals and adopted thresholds from other nearby jurisdictions are used in this analysis as the basis for determining significance level of impacts during project construction (see **Section 4.7.3-1** below).

### BAY AREA AIR QUALITY MANAGEMENT DISTRICT CLIMATE CHANGE GUIDELINES

In June 2010, the Bay Area Air Quality Management District's (BAAQMD) Governing Board adopted new CEQA Guidelines (Guidelines), which provide guidance for analyzing project-level climate change impacts. The Guidelines provide GHG emissions thresholds for project operation; however, the Guidelines do not provide project construction GHG emission thresholds. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds provided in its CEQA Guidelines. The court did not determine whether the thresholds were valid on the merits. The court set aside the thresholds and ceased dissemination of them until the BAAQMD complies with CEQA. The BAAQMD appealed the Alameda County Superior Court's decision. On August 13, 2013, the Court of Appeal of the State of California, First Appellate District, held that establishing thresholds of significance is not a "project" subject to its own CEQA review and found in favor of the BAAQMD. Late in the process the BAAQMD made changes to their CEQA guidelines. An analysis of this change is found in **Response to Comment A3-07**). A Memo (**attachment 1** to the Response to Comments) provides further analysis of the late BAAQMD guideline change. As discussed in detail in the Memo the impacts from the project remain less that significant.

### NEWHALL RANCH DECISION

On November 30, 2015, the California Supreme Court filed a decision in the case *Center for Biological Diversity v. California Department of Fish and Wildlife and the Newall Land and Farming Company (2015)* (Newhall Ranch Decision). The Newhall Ranch Decision upheld the use of a "Business as Usual" (BAU) scenario as a significance threshold to analyze a project's GHG emissions. The Court also held, however, that the EIR in that instance did not contain substantial evidence supporting the application of that threshold to the project at issue.

The Newhall Ranch EIR determined whether the project would impede achievement of AB 32's goals by relying on CARB's Scoping Plan and comparing the project's emissions to a BAU projection as a measure of GHG emission reductions needed to meet the AB 32's 2020 goal (determined to be a reduction of 29 percent from BAU). Although the Court determined that the EIR employed a legally permissible threshold of significance, it maintained that the EIR's finding that the project's emissions would not be significant under that threshold was "not supported by a reasoned explanation based on substantial evidence." The Court explained that the lead agency erred in assuming that because the Scoping Plan concluded that the State of California, as a whole, had to reduce its GHG emissions by 29 percent compared with the hypothetical BAU scenario, the project would not have significant GHG-related impacts if the project itself also reduced its own GHG emissions by 29 percent compared with what would have occurred under a BAU scenario (RMM, 2015). The Court held there was no substantial evidence to support that assumption. Therefore, the EIR's reliance on the project-specific reduction in GHG emissions compared to the BAU scenario was not sufficient to support the conclusion that GHG impacts would be less than significant.

The Supreme Court upheld the use of either adopted numerical significance thresholds or a BAU calculation, provided that substantial evidence is presented showing that the BAU reduction is consistent with the Scoping Plan and AB 32.

## 4.7.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project associated with GHG emissions. Criteria for determining the significance of impacts have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As discussed in **Section 4.7.2**, the BAAQMD CEQA Guidelines were adopted by the BAAQMD Board of Directors in June 2010 and upheld in court on August 13, 2013. The BAAQMD CEQA Guidelines do not provide specific thresholds for GHG emissions from construction. As stated

above, since the County has not yet adopted any further GHG significance criteria, the nearest adopted numerical threshold will be used to determine significance, in accordance with the Newhall Ranch Decision. The nearest jurisdiction with an adopted GHG significance threshold for construction is Sacramento Metropolitan Air Quality Management District (SMAQMD), which covers the entirety of Sacramento County. On October 23, 2014, the SMAQMD adopted a 1,100 MT/CO2e per year GHG significance threshold for the construction phase of projects.

As described in **Section 4.7.2**, the court did not set aside the BAAQMD operational GHG thresholds on its merits; therefore, the BAAQMD GHG operation threshold of 1,100 MT per year or less shall be the basis for determining project operational significance. In accordance with BAAQMD Guidelines, a project can be determined to have a less-than-significant impact by providing either project components or mitigation that would reduce operational GHG emissions below a threshold of 1,100 metric tons (MT) per year of $CO_2$ equivalent ($CO_2e$) (BAAQMD, 2012).

Although the Guidelines provide clear guidance on how to analyze GHG emissions from biogenic sources, which result from natural biological processes such as the decomposition or combustion of vegetative matter (wood, paper, vegetable oils, animal fat, yard waste, etc.), the Guidelines do not require the quantification of biogenic GHG emissions as part of the quantification of project-related GHG emissions and does not provide a GHG emission threshold for these sources for either operation and construction activities. However, the Guidelines do recommend that construction-related GHG emissions be quantified using the California Emissions Estimator Model 2013.2.2 air quality program (CalEEMod) and disclosed in the appropriate environmental document. The Guidelines require that only exhaust from construction equipment be included in the climate change analysis, similar to the analysis for criteria pollutants.

## ANALYSIS METHODOLOGY

The analysis in this section considers whether project emissions are individually or cumulatively significant. Emissions resulting from implementation of the Proposed Project are analyzed in two distinct phases, construction and operation. Construction and operational GHG emissions were estimated using the 2017 BAAQMD CEQA guidelines and CalEEMod. Operational GHG emissions were estimated upon completion of the erosion control measures and vineyard development and take into consideration vineyard operation and maintenance.

GHG sources are both anthropogenic (man-made) and natural. Some examples of anthropogenic sources are combustion of fossil fuel, evaporation of synthetic chemicals, agriculture, and combustion of coal. Natural sources include water vapor and naturally occurring $N_2O$, $CO_2$, and $CH_4$. GHGs are relatively stable in the atmosphere and uniformly disperse throughout the troposphere and stratosphere; therefore, the climatic impact of GHG emissions does not depend on the location of the emissions.

$CO_2e$ is a method by which GHGs other than $CO_2$ are converted to a $CO_2$-like emission value based on a heat-capturing ratio or global warming potential. $CO_2$ is used as the base and is given a value of one. Methane ($CH_4$) has the ability to capture 21 times more heat than $CO_2$; therefore, $CH_4$ is

given a $CO_2e$ value of 21. GHG emissions are multiplied by the $CO_2e$ value to achieve one GHG emission value. By providing a common measurement, $CO_2e$ provides a means for presenting the relative overall effectiveness of emission reduction measures for various GHGs in reducing project contributions to global climate change.

Based on the Proposed Project's GHG emissions, it was determined that specific climate change impacts could not be attributed to the proposed development. As such, project impacts are most appropriately addressed in terms of the incremental contribution to a global cumulative impact.

## CONSTRUCTION

GHG emissions from construction equipment were estimated using CalEEMod air quality model. Typical equipment to be used during the timber harvest and installation of the vineyard and erosion control measures include crawler tractors, excavators, and backhoes. A complete description of the equipment to be used during construction of the Proposed Project is found in **Table 3-3** (**Section 3.0**). The total gross area of disturbed land would be approximately 33.8 acres and installation of 25 acres of vineyard. Projected GHG emissions from construction of the Proposed Project are presented in **Table 4.7-1**. CalEEMod output files are provided in **Appendix C**.

**TABLE 4.7-1**
GREENHOUSE GAS CONSTRUCTION EMISSIONS

| Proposed Project | GHG Emissions (MT of $CO_2e$ per year) |
|---|---|
| Construction GHG Emissions | |
| Construction Activities[1] | 93.93 |
| Timber Removal[2] | 3,552 |
| Soil Tilling/Ground Clearing[3] | 1,132 |
| **Total Construction GHG Emissions** | **4,777** |
| GHG Emission Reduction Measures | |
| Timber to Lumber[4] | 2,434 |
| Retention of 14.84 acres Oak Woodland[6] | 1,912 |
| Construction GHG Emissions after Timber Retention | 431 |
| **SMAQMD Construction GHG Emissions Threshold** | **1,100** |
| **Significant?** | **No** |

NOTES: MT = metric tons; CO2e = carbon dioxide equivalent
[1] Phase 1 Timber Harvest (2017) and Phase 2 Site Prep and Vineyard Installation (2018) (CalEEMod, 2014)
[2] Actual harvesting of standing carbon from the trees that will be cleared for vineyard construction. Timber removal is based on 111 MT of CO2e per acre, using a conservative acreage of 32± acres of timber cleared (CalEEMod, 2014).
[3] Carbon loss from tilling and ground disturbing activities based on a conservative estimate of 27.6± acres tilled, 41 MT of carbon stored per acre.
[4] Based on 72 percent of timber converted to lumber; 1,853.7 MT CO2e*0.72 (ERM, 2015)
[5] Based on USEPA emissions factor of 23.2 pounds of sequestered carbon per conifer over 10 years, multiplied by 1,000 conifers over a 100-year period (USEPA, 2016).
[6] Based on USEPA emissions factor of 125.46 MT CO2e of carbon sequestered by 1 acre of forest preserved from conversion to cropland (USEPA, 2016).

## OPERATIONS

Operational GHG emissions from mobile and area sources were estimated using CalEEMod air quality model. Mobile sources include worker trips and transport of grapes and materials. Indirect

GHG emissions from water conveyance, average annual loss of carbon sequestration, and agricultural activities were also estimated by CalEEMod. GHG emissions from Proposed Project operations were converted to $CO_2e$ and compared to appropriate climate change thresholds. In the absence of a County-approved CAP and in accordance with BAAQMD CEQA Guidelines, the operational threshold for GHG emissions is 1,100 metric tons per year.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.7-1: Construction of the Proposed Project would emit GHGs and could have the potential to exacerbate global climate change. This is a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

Project sources of GHG emissions during construction would include the transport and delivery of construction equipment to the property; operation of construction equipment, including equipment used for the timber harvest, planting the vineyard, and installing the erosion control system; worker trips; and material transport. **Table 4.7-1** shows the estimated project construction emissions of GHG from construction activities including mobile and indirect sources as well as the GHG emissions from biogenic sources.

As shown in **Table 4.7-1**, GHG emissions from construction activities, including removal of trees and carbon emitted due to tillage and ground clearing would result in 4,777 MT of $CO_2e$. The Proposed Project's design would retain 2,434 MT of $CO_2e$, or 50.1 percent of the project's GHG emissions in the form of lumber (refer to **Table 4.7-1** for additional information). In addition, as discussed in **Section 4.4**, the Proposed Project will retain and permanently preserve 14.84 acres of oak woodland on the property. The retention of 14.84 acres of oak woodland would sequester approximately 1,912 MT of $CO_2e$ (**Table 4.7-1**; USEPA, 2016).

After considering the GHG emission reduction measures, the total of construction GHG emissions from the Proposed Project would be 431 MT of $CO_2e$. This one-time construction emission of GHGs is less than the SMAQMD construction significance threshold of 1,100 MT of $CO_2e$.

Construction GHG emissions would be reduced with the milling and conversion of removed trees to lumber. Transportation emissions of timber to the mill was accounted in the CalEEMod. The retention of timber as lumber is expected to retain approximately 72 percent of the original biomass carbon. Once the vineyard is established and the cover crop is applied, the vine plantings will occupy approximately 25 acres (net vineyard). Construction GHG emissions would be further reduced with the implementation of the BAAQMD construction emission reduction measures and practices outlined in **Mitigation Measure 4.7-1**; however, these reductions are not readily quantifiable. Therefore, reductions from the construction emission reduction measures included in **Mitigation Measure 4.7-1** are not included in this analysis, which results in a more conservative estimate of construction GHG emissions (**Table 4.7-1**). Construction of the Proposed Project would have a less-than-significant impact to global climate change.

**Mitigation Measure 4.7-1**

A. The Applicant shall maintain construction equipment in accordance with manufacturing specifications.
B. The Applicant shall limit construction equipment idling time to less than five minutes.

**Impact 4.7-2: Operation of the Proposed Project could emit GHGs, however, emission levels would not be emitted at a rate that would potentially exacerbate global climate change. Less-than-significant.**

Project operational sources of GHG emissions would include vehicles (produce, material, and worker transport) traveling to and from the Proposed Project, energy use, and limited water transport. **Table 4.7-2** shows the estimated project-related operational GHG emission from direct and indirect GHG emission sources. Agricultural land depends on water for irrigation provided from wells, lakes, or streams. The movement of water can be energy intensive. The use of gas or diesel powered pumps to extract water from the ground or move water from lakes or streams for various land uses increases GHG emissions. However, the Proposed Project does not exhibit these factors since the proposed water use would be from an existing onsite well, located adjacent to Block B. Thus, the Proposed Project would make efficient use of water from onsite water sources to the degree necessary, thereby reducing the energy required to transport water and reducing GHG emissions.

**TABLE 4.7-2**
GREENHOUSE GAS OPERATIONAL EMISSIONS

| Proposed Project | GHGs | GHG Emissions (MT/yr of $CO_2e$) |
|---|---|---|
| Direct Operational GHG Emissions | | |
| Loss of Sequestration[1] | $CO_2e$ | 34 |
| Area | $CO_2$ | 0 |
| Indirect Operational GHG Emissions | | |
| Mobile | $CO_2$ | 25 |
| **Total Annual Operational GHG Emissions** | -- | **59** |
| **BAAQMD Operational GHG Emissions Threshold** | -- | **1,100** |
| **Significant** | -- | **No** |

NOTE: ST= short tons; MT = metric tons; $CO_2e$ = carbon dioxide equivalent
[1] Actual annual loss of carbon sequestration due to the permanent removal of 32± acres of timber.
SOURCE: CalEEMod20132.2; USEPA, 2016

There are several other beneficial aspects of the Proposed Project's design that would reduce impacts to climate change. Construction equipment would be kept on site during construction to reduce vehicle trips, engine idling would be minimized, equipment would be properly maintained, and a cover crop would be established on disturbed areas. These project components, which would reduce GHG emissions, are not readily quantifiable; therefore, a conservative approach was taken in this analysis and the GHG emissions reductions due to these specific project components were not included in the analysis. Therefore, the GHG emissions impacts identified in **Table 4.7-2** are

conservative estimates.

As shown in **Table 4.7-2**, operational GHG emissions would be less than the BAAQMD CEQA threshold of 1,100 MT of $CO_2e$ for project-level operation; therefore, operation of the Proposed Project would result in a less-than-significant impact to climate change.

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# 4.8 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the potential for the Proposed Project to result in impacts associated with hazardous materials, public safety, and emergency response plans. Following an overview of the environmental setting in **Section 4.8.1** and the relevant regulatory setting in **Section 4.8.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.8.3**.

## 4.8.1 ENVIRONMENTAL SETTING

### REGIONAL

#### HAZARDOUS MATERIAL DEFINITION

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A site may be listed on a hazardous materials database while still being compliant with federal, State, and local laws. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as:

> *"A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed" (CCR, Title 22, Section 66260.10).*

#### DATABASE SEARCHES

Databases from regulatory agencies that track hazardous material generation, storage, transport, and permitted or incidental releases were searched to identify the potential for hazardous materials to occur in the region of the project site. The State Water Resources Control Board (SWRCB) GeoTracker database search listed two hazardous sites within a one-mile radius of the project site (SWRCB, 2017). The Hazardous Waste and Substances Sites (Cortese) List is used by State and local agencies and developers to comply with CEQA requirements through providing information about locations of known hazardous materials release sites. No listed Cortese sites occur within one mile of the project site (EnviroStor, 2017).

The nearest documented leaking underground storage tank (LUST) site is located over 0.5 miles north of the project site on the Pacific Union College (PUC) campus. The PUC Heating Plant (T0605500127) was cleaned up for potential waste oil (motor, hydraulic, lubricating) contamination to soil, with the case closed as of September 19, 1994 (SWRCB, 2017). The other documented case, further north of the PUC Heating Plant, was cleaned up and closed in 2001.

The nearest airport to the project site is the Angwin-Parrett Field Airport, a public use airport, located approximately 0.5 miles north on the east side of Angwin, California. The airport experiences

approximately 32 aircraft operations per day or three operations per hour. Approximately 92 percent of the aircraft operating at the airport are single-engine aircraft. The airport is listed by the SWRCB as a LUST cleanup site, which was completed as of April, 2001 (SWRCB, 2017).

### PROJECT SITE

#### DATABASE SEARCHES

The SWRCB GeoTracker database search did not identify hazardous sites on the project site (SWRCB, 2017). The project site is not listed on the LUST database or Cortese list.

#### WILDLAND FIRES

The Project Site is located on land designated as a "Very High Fire Hazard Severity Zone" within a State/federal responsibility area according to the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE, 2007).

## 4.8.2 REGULATORY FRAMEWORK

### FEDERAL

#### ENVIRONMENTAL PROTECTION AGENCY

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) governs the sale, distribution and use of pesticides in the United States (USEPA, 2012). Pesticides are regulated under FIFRA until they are disposed, at which time they become waste and are regulated under the Resource Conservation and Recovery Act (RCRA), which ensures responsible management of hazardous and nonhazardous waste (USEPA, 2014). Certain pesticides are regulated as hazardous waste when disposed. FIFRA was enacted in 1947, and significantly amended in 1972 and 1996, to provide federal control of pesticide distribution, sale, and use. FIFRA requires that each manufacturer register each pesticide and its label with the U.S. Environmental Protection Agency (USEPA) before it can be manufactured for commercial use.

#### OCCUPATIONAL SAFETY AND HEALTH ACT

The Occupational Safety and Health Administration was created to ensure worker safety and health in the United States by working with employers and employees to create better working environments. Section 1919, Subpart H-Hazardous Materials of the Occupational Safety and Health Act of 1970 provides information and guidelines for working with hazardous materials.

#### HAZARDOUS MATERIALS TRANSPORTATION ACT

The U.S. Department of Transportation has the authority to regulate safety aspects of hazardous material transportation in accordance with the Hazardous Materials Transportation Act of 1975. The Motor Carrier Act of 1980 requires carriers of hazardous materials to demonstrate their ability to pay for damages sustained from an accident involving such materials by means of adequate insurance. The California Highway Patrol (CHP) regulates transportation of hazardous materials in California. Vehicles and drivers involved in the transportation of hazardous materials must obtain a hazardous

materials transportation license from the CHP (CHP, 2008).

# STATE

## CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION

The California Department of Pesticide Regulation (CDPR) protects human health and the environment by regulating pesticide sales and use and fostering reduced-risk pest management. Oversight by CDPR includes product evaluation and registration, environmental monitoring, residue testing of fresh produce, and local use enforcement through Napa County Agricultural Commissioner's Office.

## CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL

The RCRA and the California Health and Safety Code authorize the California Department of Toxic Substance Control (DTSC) to regulate the handling, storage, transportation, and disposal of hazardous substances. Senate Bill 1082 requires the establishment of a unified hazardous waste and hazardous materials management program. The result was the California Environmental Protection Agency (CalEPA) Unified Program. The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. State agencies responsible for these programs set the standards, while local governments implement the standards. CalEPA oversees implementation of the program.

## PUBLIC RESOURCES CODE, DIVISION 4, CHAPTER 6

### 4427. Operation of Fire Causing Equipment

This section does not apply to portable power saws and other portable tools powered by a gasoline-fueled internal combustion engine. During times of the year when burning permits are required, no individual shall use or operate motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, located on or near forest, brush, or grass-covered land, without the following:

a) First clearing away flammable material, including snags, from the area around such operation for a distance of 10 feet.
b) Maintaining one serviceable round point shovel with an overall length of no less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

### 4428. Use of Hydrocarbon Powered Engines near Forest, Brush, or Grass Covered Land without Maintaining Firefighting Tools

No person, except a member of an emergency crew or the driver or owner of service vehicles owned or operated by or for, or operated under contract with, a publicly or privately owned utility, which is used in the construction, operation, removal, or repair of the property or facilities of such utility when engaged in emergency operations, shall use or operate any vehicle, machine, tool or equipment

powered by an internal combustion engine operated on hydrocarbon fuels, in any industrial operation located on or near any forest, brush, or grass-covered land between April 1 and December 1, or at any other time when ground litter and vegetation will sustain combustion permitting the spread of fire, without providing and maintaining, for firefighting purposes only, suitable and serviceable tools in the amounts, manner and location prescribed in this section.

a) On any such operation, a sealed box of tools shall be located within the operating area at a point accessible in the event of fire. This fire toolbox shall contain: one backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and a sufficient number of shovels so that each employee at the operation can be equipped to fight fire.
b) One or more serviceable chainsaws of three and one-half or more horsepower with a cutting bar 20 inches in length or longer shall be immediately available within the operating area, or, in the alternative, a full set of timber-felling tools shall be located in the fire toolbox, including one crosscut falling saw six feet in length, one double-bit ax with a 36-inch handle, one sledge hammer or maul with a head weight of six, or more, pounds and handle length of 32 inches, or more, and not less than two falling wedges.
c) Each rail speeder and passenger vehicle, used on such operation shall be equipped with one shovel and one ax, and any other vehicle used on the operation shall be equipped with one shovel. Each tractor used in such operation shall be equipped with one shovel.
d) As used in this section:

    1) "Vehicle" means a device by which a person or property may be propelled, moved, or drawn over any land surface, excepting a device moved by human power or used exclusively upon stationary rails or tracks.
    2) "Passenger vehicle" means a vehicle which is self-propelled and which is designed for carrying not more than 10 persons including the driver, and which is used or maintained for the transportation of persons, but does not include any motor truck or truck tractor.

## CALIFORNIA FOREST PRACTICE RULES, ARTICLE 8

### 918, 938, 958 Fire Protection [Coast, Northern, Southern]

When burning permits are required pursuant to PRC § 4423, timber operators shall:

a) Observe the fire prevention and control rules within this article.
b) Provide and maintain fire suppression related tools and devices as required by PRC §§ 4427, 4428, 4429, 4431, and 4442.
c) Submit each year, either before April 1st or before the start of timber operations, a fire suppression resources inventory to the Department as required by the rules.

### 918.1, 938.1, 958.1 Fire Suppression Resource Inventory [All Districts]

The Fire Suppression Resource Inventory shall include, as a minimum, the following information:

a) Name, address, and 24-hour telephone number of an individual and an alternate who has authority to respond to Department requests for resources to suppress fires.
b) Number of individuals available for firefighting duty and their skills.
c) Equipment available for firefighting. The Fire Suppression Resource Inventory shall be submitted to the ranger unit headquarters office of the Department having jurisdiction for the timber operation.

### 918.3, 938.3, 958.3 Roads to be Kept Passable [All Districts]

Timber operators shall keep all logging truck roads in a passable condition during the dry season for fire truck travel until snag and slash disposal has been completed.

### 918.4, 938.4, 958.4 Smoking and Matches [All Districts]

Subject to any law or ordinance prohibiting or otherwise regulating smoking, smoking by persons engaged in timber operations shall be limited to occasions where they are not moving about and are confined to cleared landings and areas of bare soil at least three feet (0.914 m) in diameter. Burning material shall be extinguished in such areas of bare soil before discarding. The timber operator shall specify procedures to guide actions of his employees or other persons in his employment consistent with this subsection.

### 918.5, 938.5, 958.5 Lunch and Warming Fires [All Districts]

Subject to any law or ordinance regulating or prohibiting fires, warming fires or other fires used for the comfort or convenience of employees or other persons engaged in timber operations shall be limited to the following condition:

1. There shall be a clearance of 10 feet (3.05 m) or more from the perimeter of such fires and flammable vegetation or other substances conducive to the spread of fire.
2. Warming fires shall be built in soil depressions to contain the ash created by such fires.
3. The timber operator shall establish procedures to guide actions of his employees or other persons in their employment regarding the setting, maintenance, or use of such fires that are consistent with (1) and (2) of this subsection.

### 918.6, 938.6, 958.6 Posting Procedures [All Districts]

Timber operators shall post notices which set forth lists of procedures that they have established consistent with Sections 918.4 [938.4, 958.4] and 918.5 [938.5, 958.5]. Such notices shall be posted in sufficient quantity and location throughout their logging areas so that all employees, or other persons employed by them to work, shall be informed of such procedures. *Coast and Northern*: Timber operators shall provide for diligent supervision of such procedures throughout their operations.

### 918.7, 938.7, 958.7 Blasting and Welding [All Districts]

Timber operators shall provide for a diligent fire watch service at the scene of any blasting or welding operations conducted on their logging areas to prevent and extinguish fires resulting from such

operations.

### 918.8, 958.8 Inspection for Fire [Coast, Southern]

The timber operator or his/her agent shall conduct a diligent aerial or ground inspection within the first two hours after cessation of felling, yarding, or loading operations each day during the dry period when fire is likely to spread. The person conducting the inspection shall have adequate communication available for prompt reporting of any fire that may be detected.

### 938.8 Inspection for Fire [Northern]

The timber operator or his/her agent shall conduct a diligent aerial or ground inspection within the first two hours after cessation of felling, yarding, or loading operations each day during the dry period when fire is likely to spread. The person conducting the inspection shall have adequate communication available for prompt reporting of any fire that may be detected.

### 918.10, 938.10, 958.10 Cable Blocks [All Districts]

During the period when burning permits are required, all tail and side blocks on a cable setting shall be located in the center of an area that is either cleared to mineral soil or covered with a fireproof blanket that is at least 15 ft. in diameter. A shovel and an operational full five-gallon back pump or a fire extinguisher bearing a label showing at least a 4A rating must be located within 25 feet of each such block before yarding.

## LOCAL

Napa County PBES is the CUPA for Napa County, including all of its cities (Napa County, 2009). As the CUPA, the Napa County PBES administers the following Unified Programs:

- Hazardous Materials Release Response Plans and Inventory (Business Plan) Program;
- California Accidental Release Prevention Program (CalARP);
- Underground Storage Tank Program;
- Hazardous Waste Generator and Hazardous Waste Onsite Treatment Programs; and
- AST Program (Spill Prevention, Control and Countermeasure Plans).

Through the enactment of Assembly Bill 2185 in 1985, the Business Plan Program was developed, commonly known as the Hazardous Materials Business Plan (HMBP) or Community Right to Know Program. The purpose of the program is to make available to the public information on what hazardous materials are being handled at businesses in the community, provide information to emergency responders on what hazardous materials are handled at a facility, and provide training to employees in how to handle a release or threatened release of hazardous materials at a facility. There are an estimated 1,250 facilities in Napa County subject to the HMBP program. The Napa County PBES began countywide implementation of this program in 1989. The Napa County PBES requires businesses that store hazardous materials above the minimum reportable quantities (a total weight of 500 pounds for solids, a total volume of 55 gallons for liquids, and 200 cubic feet for compressed gases) to have a HMBP. The HMBP consists of owner/operator information, chemical

inventory, and an emergency response plan and maps.

The CalARP Program regulates facilities that handle extremely hazardous materials in quantities that are greater than state or federal planning standards. The purpose of the program is to reduce the incidences of releases of extremely hazardous materials and decrease the impact of a release. A Restricted Materials Permit is required for hazardous materials listed on the Regulated Substances List, and if the quantity of hazardous materials stored or handled onsite are greater than the regulated limit. If a permit were required, a Risk Management Plan would need to be submitted.

The Napa County Agricultural Commissioner and staff are responsible for the implementation of federal, state and local hazardous materials regulatory programs within Napa County. The Agricultural Commissioner is authorized to enforce the laws administered by the DPR. The Agricultural Commissioner requires a private applicator certificate for restricted materials (pesticides) use.

Safety issues associated with transportation of hazardous substances are discussed in the Safety Element of the Napa County General Plan. The following safety and conservation policies are listed in the General Plan (Napa County, 2009):

**Policy SAF-5:** The County shall cooperate with other local jurisdictions to develop intra-county evacuation routes to be used in the event of a disaster within Napa County.

**Policy SAF-30:** Potential hazards resulting from the release of liquids (wine, water, petroleum products, etc.) from the possible rupture or collapse of aboveground tanks should be considered as part of the review and permitting of these projects.

**Policy SAF-31:** All development projects proposed on sites that are suspected or known to be contaminated by hazardous materials and/or are identified in a hazardous material/waste search shall be reviewed, tested, and remediated for potential hazards.

**Policy CON-2 (e):** Encourage inter-agency and inter-disciplinary cooperation, recognizing the agricultural commissioner's role as a liaison and the need to monitor and evaluate pesticide and herbicide programs over time and to potentially develop air quality, wildlife habitat, or other programs if needed to prevent environmental degradation.

**Policy CON-2 (f):** Minimize pesticide and herbicide use and encourage research and use on integrated pest control methods such as cultural practices, biological control, hose resistance and other factors.

**Policy CON-41:** County will work to protect Napa County's watersheds and public and private water reservoirs to provide: clean drinking water for public health and safety, municipal uses, including commercial, industrial and domestic uses, support of

eco-systems, agricultural water supply, recreation and open space, and scenic beauty.

**Policy CON-42:** The County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

Support environmentally sustainable agricultural techniques and best management practices (BMPs) that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

**Policy CON-45:** Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreations uses. [Implemented by Action Item CON WR-3]

## 4.8.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project associated with hazards and hazardous materials. Criteria for determining the significance of impacts have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Create a significant hazard through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter miles of an existing or proposed school;
- Be located on a site that is listed as a hazardous materials site compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- Be located within an airport land use plan or within an area where such a plan has not been adopted, that would result in a safety hazard to people residing or working in the project area;
- Result in a safety hazard for people residing or working in the project area for a project located within the vicinity of a private airstrip;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Or expose people or structures to a significant risk of loss, injury or death involving wildland

fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

## ANALYSIS METHODOLOGY

Potential hazardous materials and hazards impacts were analyzed through a review of the existing project site setting, project description, and risks inherent to the proposed construction methods and materials. As discussed above, methods used to characterize the existing hazardous material setting in the project site and vicinity include, but are not limited to, regulatory agency database searches conducted for records of known sites of hazardous waste and substances within the project area.

The impact analysis focused on potential effects of hazardous materials or waste associated with current and past conditions at the project site, as well as properties and associated hazards in close proximity that might have an adverse impact on the site. The evaluation was made in light of project plans, and applicable regulations and guidelines. If it was determined that implementation of the Proposed Project has the potential to meet or exceed the significance criteria listed below, mitigation measures have been recommended to increase the compatibility and safety of the project site and to reduce impacts to less-than-significant levels.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.8-1: Implementation of the Proposed Project could have the potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

A list of proposed construction equipment can be found in **Section 2.4**. Construction and operation of the Proposed Project would utilize and transport limited quantities of miscellaneous substances such as fuels, solvents, and oils. Proper transport, use, and storage would reduce the potential for spills or leaks. Fueling and oiling of construction equipment would be performed only as needed. Non-biodegradable wastes and residual materials would be transported off-site in closed containers.

Risk mitigation of soil loss, erosion, material application, and material composition will be performed as detailed in the ECP (**Appendix B**). A sustainable Integrated Pest Management (IPM) plan will be implemented for the Proposed Project (**Appendix L**) to minimize the necessity of off-site materials. Materials detailed in **Appendix L** are not known to be bio-accumulators and would not pose a threat as environmental accumulators. The use of inputs onsite, when necessary, would rely on organic (OMRI-certified) materials where appropriate.

The Proposed Project may include the use of organic-certified chemicals for vineyard maintenance in the event other non-chemical methods were previously exhausted and found insufficient. There would be no permanent storage of fertilization and pesticide materials on-site. Vineyard employees would be trained annually in the proper use of pesticides. Additionally, implementation of **Mitigation**

**Measures 4.8-1, 4.8-2,** and **4.8-3** would further reduce risks associated with the routine transport, use, or disposal of hazardous materials.

**Mitigation Measure 4.8-1**
The property owner shall prepare and submit a HMBP to the Lead Agency and the California Environmental Reporting System (CERS) prior to development of the Proposed Project. The HMBP shall be prepared in accordance with County standards and California 40 CFR, Part 355, Appendix A, and shall document proposed hazardous substances to be used on-site. If storage amounts or the use of hazardous materials change, the property owner shall update the HMBP as necessary. The Lead Agency shall review the HMBP and may conduct inspections to ensure that the HMBP is being followed, and the HMBP shall be on file with the Lead Agency and CERS. Updates to the HMBP, if warranted, would be made through CERS.

**Mitigation Measure 4.8-2**
Personnel shall follow written BMPs for filling and servicing construction equipment and vehicles. BMPs are designed to reduce the potential for incidents involving hazardous materials and shall include the following:

- Refueling shall be conducted with approved pumps, hoses, and nozzles.
- Catch-pans shall be placed under equipment to catch potential spills during servicing.
- Disconnected hoses shall be placed in containers to collect residual fuel from the hose.
- Vehicle engines shall be shut down during refueling.
- No smoking, open flames, or welding shall be allowed in refueling or service areas.
- Refueling and all construction work shall be performed outside of any onsite stream buffer zones to prevent contamination of water in the event of a leak or spill.
- Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.
- A spill containment kit that is recommended by the Lead Agency or local fire department will be onsite and available to staff if a spill occurs.
- If permanent or semi-permanent above ground fuel tanks are used on the site for refueling, they shall be fully contained with sufficient capacity. The containment area shall be lined with impermeable material. The operator of the fueling location shall have sufficient clean-up supplies to address potential spills.
- In the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during construction, work shall be halted in the affected area and the type and extent of the contamination shall be determined.

**Mitigation Measure 4.8-3**
- Prior to the use of pesticides onsite, the applicant shall update the IPM and resubmit to the county. The update shall include a map identifying the vineyard blocks where pesticides will be applied and the following Standard Operating Procedures (SOPs)

when applying chemicals to the vineyard. Only a certified pest applicator shall apply the pesticides in accordance with the manufacturer's label.

- The minimal amount of pesticide that would be used per season shall be purchased and minimal efficacy amount applied under acceptable weather (no to low wind speeds [typically less than 10 miles per hour] with no rainfall) and in accordance with the manufacturer's label.
- Chemicals shall be stored in their original containers and kept off-site.
- Labels on the containers shall not be removed.
- Chemicals shall be kept in a well-ventilated locked area.
- Chemical storage areas shall be at least 100 feet from drainage areas, streams, or groundwater wells.
- If a chemical must be disposed of, the Napa County Agricultural Commissioner shall be contacted to locate a hazardous waste facility for proper disposal.
- Chemicals or associated rinse water shall not be poured down sinks, toilets, or streams.
- Proper personal protection equipment shall be utilized when working with chemicals.

**Impact 4.8-2: Implementation of the Proposed Project could have the potential to create a significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. This would be a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

The Proposed Project would include the use of common vineyard-related substances such as fuels, pesticides, and fertilizers. The handling and transfer of potentially hazardous substances has the potential for accidental release. Limited quantities of fuel, oil, and grease that could drip from properly maintained vehicles would be of relatively low toxicity and concentration. Due to the temporary and seasonal nature of construction and operational activities and associated maintenance equipment, no long-term effects to the soil, on-site watercourses, or groundwater would occur from minor releases. **Mitigation Measure 4.8-4** requires the establishment of fuel loading and chemical mixing areas outside of riparian buffers (setbacks). Potential impacts associated with accidental release of potentially hazardous substances would be reduced to a less-than-significant level with implementation of **Mitigation Measures 4.8-1, 4.8-2, 4.8-3, and 4.8-4**.

**Mitigation Measure 4.8-4:**
Fuel loading and chemical mixing areas shall be established outside of proposed setbacks and away from areas that could potentially drain off-site or affect surface and groundwater quality. Secondary containment, such as a containment pallet, shall be utilized at the fuel loading and chemical mixing site.

**Impact 4.8-3: The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter miles of an existing or proposed school. Less-than-significant.**

Construction and operation of the Proposed Project would not result in potentially hazardous emissions. Additionally, there are no schools located within one-quarter mile of the project site. This would be a less-than-significant impact.

**Impact 4.8-4: The Proposed Project is not located on a site that is listed as a hazardous materials site compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. No impact.**

The project site is not listed as having previous and/or current generation, storage, or use of hazardous materials on a database. SWRCB GeoTracker database searches, LUST database searches, and the Cortese list did not identify hazardous sites on the project site (SWRCB, 2018). There would be no impact.

**Impact 4.8-5: The Proposed Project is located within an airport land use plan, but would not result in a safety hazard to people residing or working in the project area. Less-than-significant.**

The Angwin-Parrett Field Airport, a public use airport, is located approximately 0.5 miles north of the project site. The Napa County Zoning Ordinance has zoned the land within the project boundary as Agricultural Watershed (AW) with an Airport Compatibility (AC) overlay, further discussed in **Section 4.10.** The AW and Airport Compatibility overlay designation is a combining zone. The combining zone serves to modify the primary classification, including limitations on building height, lot coverage, population density, and flight hazards. According to the Napa County Airport Land Use Commission 1999 Airport Land Use Compatibility Plan, a combing zone's purpose is to establish requirements in addition to those of the underlying land use district (Napa County Airport Land Use Commission, 1999).

Vineyards are considered an allowable agricultural land use under the zoning designations of the project site. As discussed in **Section 4.1**, the Proposed Project does not propose permanent sources of lighting or glare. However, annual harvest and limited maintenance activities may require minimal nighttime lighting, which would be similar to surrounding vineyards and residences of the area. The Proposed Project would not result in significant vertical alterations that would conflict with airspace or flight patterns, therefore, this is a less-than-significant impact.

**Impact 4.8-6: The Proposed Project would not result in a safety hazard for people residing or working in the project area within the vicinity of a private airstrip. No impact.**

As discussed in **Impact 4.8-5,** the Angwin-Parrett Field Airport is a public use airport owned by Pacific Union College located approximately 0.5 miles north of the project site. There are no private airstrips located in the vicinity of the project site.

**Impact 4.8-7: The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Less-than-significant.**

Property access for firefighting equipment is provided from existing driveways along Winding Way and Cold Springs Road, which provide direct access to vineyard blocks. As discussed in **Section 4.12**, the level of temporary construction traffic associated with timber harvest and vineyard development is minimal. The Proposed Project would result in a very low increase in long-term traffic volumes associated with the addition of worker trips. Therefore, traffic related to the Proposed Project would not result in significant impacts to emergency response times or associated plans, resulting in a less-than-significant impact.

**Impact 4.8-8: The Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Less-than-significant.**

The project site is located on land designated as a "Very High Fire Hazard Severity Zone" (CAL FIRE, 2007). Equipment used during timber harvest, ECP implementation, and/or vineyard development activities have the potential to result in sparks or accidental fuel ignitions. The project site includes an existing residence that is intermixed within wildlands.

The Proposed Project would include clearing of timberland and brush, and several adjacent landowners have cleared vegetation to reduce potential fire hazards associated with the dense forested environment of the area. Implementation of the Proposed Project would reduce fire susceptibility through the reduction and separation of overstory biomass fuels in the existing forest canopy, resulting in a less fire-sensitive irrigated agricultural crop. Reduction in continuity of wildland fire biomass fuel reduces the potential exposure of people and the on-site residential structure to significant risk of loss, injury, or death involving wildland fires. Thus, development of the vineyard would result in a less-than-significant impact relating to exposing people or structures to a significant risk of loss, injury, or death involving wildland fires. Additionally, implementation of **Mitigation Measures 4.8-1** and **4.8-2** would further reduce the potential for fire hazards associated with fuel ignitions and sparks leading to wildland fires.

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# 4.9 HYDROLOGY AND WATER QUALITY

This section addresses the potential for the Proposed Project to result in impacts associated with hydrology and water quality. Following an overview of the hydrology setting in **Section 4.9.1** and the relevant regulatory setting in **Section 4.9.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.9.3**.

## 4.9.1 ENVIRONMENTAL SETTING

### REGIONAL

#### CLIMATE

The majority of the precipitation in Napa County occurs in the form of rain, though snow is not uncommon at higher elevations. Approximately 90 percent of annual precipitation falls as rain during the winter and early spring months. Annual precipitation varies significantly from year to year, and deviations can be as high as 200 percent from the 85-year average. In general, precipitation varies significantly throughout Napa County ranging from 22.5 inches per year to 75 inches per year, decreasing from north to south and with lower elevations (NCCDPD, 2005). The greatest rainfall intensity occurs in the mountain regions along the northern and western edges of Napa County. For 100-year, 24-hour, and six-hour storm events, the maximum amount of precipitation ranges from five to 14 inches (NCCDPD, 2005).

#### SURFACE WATER

The topography of Napa County consists of a series of parallel northwest-trending mountain ridges and intervening valleys of varying sizes. These mountain ridges subdivide the County into three principal watersheds: Napa River watershed, Putah Creek/Lake Berryessa watershed, and Suisun Creek watershed. The Napa River watershed covers an area of approximately 426 square miles and extends in a northwesterly direction roughly 45 miles from San Pablo Bay to the hills north of Calistoga. The Napa River watershed includes primarily a central valley floor surrounded on three sides by mountains to the north, west, and east. The watershed further demarcated into the Upper Napa River Watershed and the Napa River watershed. The Upper Napa River watershed extends from the northern headwaters of the Napa River on Mount St. Helens to Howell Mountain to the east and Sulphur Creek to the west (NCRCD, 2005).

The Napa River is the largest river in Napa County and drains numerous tributaries of the watershed along a 55-mile stretch from Mount St. Helena to the San Pablo Bay where it empties to the south. The lowest reaches of the Napa River and its tributaries north into the City of Napa are influenced by tides due to the proximity to San Pablo Bay. In general, tributaries to major drainages typically form canyons in their steeper upstream reaches, where they flow over the more resistant bedrock of the mountainous areas. In terms of geomorphic form, Napa County streams typically descend from steep headwater reaches onto alluvial fan surfaces and then onto valley floors. Some of the upstream reaches of tributaries are intermittent, while others are perennial. The downstream

reaches, especially of the larger streams, are generally perennial. Stream flows generally peak in January or February and are lowest from August through November. Average and maximum stream flows are scaled with drainage areas.

Within a short time period (1946 to 1959), three major dams were built that resulted in regulation of approximately 17 percent of the Napa River watershed area: Conn, Bell, and Rector dams (Stillwater Sciences et al., 2002). Since then, the number of reservoirs and dams in the watershed has increased, leaving very few natural, unregulated streams in the County. Significant dams in the Napa River watershed include Conn Creek, Rector Creek, Bell Canyon, and Milliken Creek dams. All of these dams are located on the tributary streams along the eastern side of the watershed, and effectively block every major east side tributary between St. Helena and Napa, except Soda Creek (NCRCD, 2005).

## Flooding

The valley portion of Napa County is a flood-prone region as a result of the Mediterranean climate with wet winters and dry summers, and a landscape of steep hills and a wide valley floor. Downstream flooding may cause hazards if flows are impeded by crossings, culverts, or roads, and if structures in urban areas are inundated with flood flows from upstream. The Federal Emergency Management Agency (FEMA) has mapped flood zones in Napa County for 100- and 500-year flood events.

### SURFACE WATER QUALITY

Section 303 (d) of the Clean Water Act (CWA) requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., not meeting one or more of the water quality standards established by the state). Once a water body or segment is listed, the state is required to establish a Total Maximum Daily Load (TMDL) for the pollutant causing the conditions of impairment. Napa River is designated as impaired for sediment, nutrients, and pathogens; therefore, these constituents are a concern for the portion of the property that drains to Conn Creek thence Lake Hennessey (SWRCB, 2015).

The San Francisco Bay Regional Water Quality Control Board (Water Board) has adopted waste discharge requirements for vineyard properties in the Napa River and Sonoma Creek watersheds under the National Pollutant Discharge Elimination System (WDRs), administered by the State under the Clean Water Acct. The WDRs regulate parcels developed which includes vineyards of 5-acre-or-larger that are locate in the Napa River and Sonoma Creek watersheds. All vineyard parcels subject to the WDRs must achieve performance standards for soil erosion in the farm area, and for discharge of nutrients and pesticides. Hillslope vineyard parcels also must achieve performance standards for vineyard storm runoff and for sediment discharge from unpaved roads (SFB RWQCB, 2018). Projects similar to the Proposed Project are required to develop a Farm Water Quality Protection Plan (Farm Plan). The Farm Plan must include a comprehensive inventory of vineyards, roads, reservoirs, and waterways located throughout the property and document BMPs to comply with the conditions of the WDRs and performance standards.

## Sediment Loading

The construction of several large dams between 1924 and 1959 on major tributaries in the eastern Napa River watershed and northern headwater areas of Napa River has affected sediment transport processes into the mainstem Napa River by reducing the delivery of the coarse load sediments to the river. Thirty percent of the Napa River watershed drains into dams, such that ponds and reservoirs behind these dams capture a significant fraction of all sediment input to channels (Napolitano, et al. 2007).

The mainstem Napa River is listed as sediment-impaired according to the CWA, Section 303 (d) because it does not meet the beneficial uses for which is was designated, including steelhead habitat. Historically, the Napa River system has been described as a gravel-bed river; more recently, the Napa River has become increasingly dominated by finer sediments. Dams that trap sediment in the area have not significantly reduced the degree to which finer sediments are being delivered to the watershed.

Section 303 (d) requires the Regional Water Quality Control Board (RWQCB) to establish a TMDL for sediment in the Napa River watershed. Under California Water Code §13242, the RWQCB is also authorized to develop an implementation program to meet the TMDL. The RWQCB Staff Report for the development of the TMDL specifically cites vineyards as a source of human caused sediment discharge, and states that a total 50 percent reduction in sediment loading to the watershed is necessary in order to meet the TMDL (Napolitano et al., 2007). The TMDL load reductions are based on natural conditions prior to human activities. The Napa County ECP regulations are designed to address this ongoing issue with water quality. Per the San Francisco Bay RWQCB which issued the Napa River TMDL, these County Regulations are “effective in the control of excessive rates of sediment delivery resulting from vineyard surface erosion.”

## Nutrients

Nutrients, specifically nitrogen and phosphorus, are essential for life and play a primary role in ecosystem functions. In addition to naturally present concentrations in the atmosphere and organic matter, nutrients are introduced to waterbodies through human or animal waste disposal or agricultural application of fertilizers. Nutrients are commonly the limiting factor for growth in aquatic systems. However, excessive levels of nutrients affect aquatic systems in a wide range of ways, including producing toxic or eutrophic conditions, both of which impair aquatic life. The Napa River is identified as impaired by nutrient loading according to Section 303 (d) of the CWA. Nutrient load contributors have been identified, including point sources such as wastewater treatment plants, and non-point sources such as septic system seepage, agricultural and urban runoff, and atmospheric deposition (Wang et al, 2004). Although the Napa River was previously listed for nutrient pollution, given improving water quality in the non-tidal portions of the Napa Rivero, the San Francisco RWQCB adopted Resolution No. R2-2014-0006 on February 12, 2014 to delist the non-tidal Napa River for nutrients. It is currently being processed by the U.S. Environmental Protection Agency (USEPA). The State Water Resources Control Board (SWRCB) hearing on the 2018 list will occur in summer 2020; SWRCD will decide in conjunction with the It is currently being

processed by the U.S. Environmental Protection Agency (USEPA) if the Napa River can be removed from the 303(d) list for nutrients. No specific numeric nutrient targets for the Napa River watershed have been established by the San Francisco RWQCB.

### Pathogens

High concentrations of fecal bacteria have been recorded in the Napa River since the 1960s. Consequentially, the San Francisco RWQCB identified the Napa River as impaired by pathogens according to Section 303 (d) of the CWA. Sources that contribute to the significant pathogen loads in the watershed include faulty onsite sewage treatment systems, failing sanitary sewer lines, municipal runoff, and livestock grazing. Past monitoring efforts indicate that urban runoff and failing septic systems are the primary pathogen sources during wet weather months, while failing sanitary sewer lines and septic tanks may constitute the primary pathogen sources during the dry season. To address this issue, a TMDL has been developed for the Napa River and its tributaries, which implements density-based targets and zero discharge of untreated or inadequately treated human waste.

### GROUNDWATER

Groundwater is generally available in Napa Valley and some of the hill areas surrounding the valley. The Sonoma Volcanics Formation, which occurs in much of the area, has moderate to high primary porosity, and generally contains groundwater in fractures and joints, in zones of deep weathering, along remnant flow channels, and between individual flow units that developed amid successive volcanic events. Due to the nature of groundwater occurring in these rocks, the amount of groundwater available to wells in the volcanic materials is highly dependent on well depth, as well as the size, frequency, openness, lateral continuity and degree of interconnection of the fractures and joints encountered in the rocks at a specific site.

In general, groundwater quality throughout most of the San Francisco hydrologic region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high total dissolved solids (TDS), nitrate, boron, and organic compounds. Areas of high TDS (and chloride) concentrations have typically been found in groundwater basins situated close to the San Francisco Bay including portions of the Napa Valley.

## PROJECT SITE

### CLIMATE

In the vicinity of the project site, average annual precipitation was approximately 40.7 inches between 1940 and 2015, measured at the Angwin Pacific Union College weather station located approximately 3,800 feet north of the project site (WRCC, 2015). The northwestern coastal U.S. is classified as type IA out of the four 24-hour rainfall distributions (USDA, 2009). Type IA rainfall represents a Mediterranean climate with dry summers and wet winters. For the property, rainfall events of a 24-hour duration were simulated in the model for the 2, 5, 10, 25, 50, and 100 year reoccurrence interval storms. A rainfall depth-duration-frequency analysis was determined from

queries of the NOAA Atlas 14 Volume 6 Version 2; results are shown in **Table 4.9-1** below.

**TABLE 4.9-1**
RAINFALL DEPTHS FOR TYPICAL RECURRENCE INTERVAL STORMS ON THE PROPERTY

| Recurrence Interval Storm (24-hour Duration) | Precipitation Depth (in) |
|---|---|
| 2 year | 4.94 |
| 5 year | 6.21 |
| 10 year | 7.25 |
| 25 year | 8.80 |
| 50 year | 9.98 |
| 100 year | 11.20 |

SOURCE: **Appendices E and F**

## SURFACE WATER

The project site lies within the Conn Creek – Main Fork and Upper Reach watersheds, a subbasin that drains to Lake Hennessey. The property is situated on west- and south-facing slopes on the southern side of Howell Mountain, a peak that separates Napa Valley from Pope Valley to the east. Onsite elevations range from 1,475 to 1,742 feet above mean sea level, and slopes within proposed vineyard blocks range from approximately 7 to 29 percent. The property drains to the Conn Creek watershed, a sub-watershed of the Napa River watershed. Conn Creek drains a watershed of approximately 62.7 square miles, of which 12.6 square miles are below the Conn Dam. The project site is situated in the headwaters of Conn Creek, above the dam. Conn Creek is one of three main tributaries to Lake Hennessey, along with Sage Creek and Chiles Creek. Conn Creek flows approximately 7.8 miles from the base of the dam forming the reservoir to its confluence with the Napa River. Lake Hennessey is a municipal water source for the City of Napa; as such, Conn Creek watershed is considered a sensitive domestic water supply drainage.

### Flooding

The Proposed Project is not located within FEMA designated flood zones, however the immediate areas surrounding Conn Creek to the west are designated as Flood Zone A (FEMA map 06055C0270E, 06055C0265E, and 06055C0275E) (FEMA, 2008). Flood Zone A areas are subject to inundation by 1-percent-annual-chance flood events generally determined using approximate methodologies (FEMA, 2016). The proposed vineyard would not be located within these Zone A areas.

### Drainage

The property contains several predominately Class III drainages that flow southwest into Conn Creek. Certain segments of these drainages become Class II watercourses as smaller drainages merge or they near the confluence of Conn Creek, a Class I blue-line perennial stream. One small wetland is located in the southwest portion of the property. Drainage features and the wetland are located outside clearing limits. The proposed project has been designed in a manner consistent with Water and Lake Protection Zone (WLPZ) buffers required by the Forest Practice Rules as well as

Napa County's zoning ordinances.

To determine the drainage flow of the project, the pre-project drainage basins based on 2003 LIDAR mapping have been delineated (**Appendix I**). There are nine delineated sub-basins in the pre-project condition, ranging in size from 2.2 acres to 7.7 acres. As discussed further in the Hydrologic Analysis (**Appendix I**), three of the nine drainage basins (2, 3, and 4) are bounded on the downhill edge by the edge of Conn Creek; flows crossing these boundaries were modeled as channelized flow. The remaining basins extend below the proposed vineyard boundaries and were modeled as channelized and shallow concentrated flow.

## Runoff Potential

The property is above Lake Hennessey, which acts to trap sediment as described above. The primary landscape features affecting the volume and the rate of runoff are soil type, use, vegetative cover, and slope. The most predominate soil type located on the property is classified by the U.S. Department of Agriculture (USDA) Soil Conservation Service for the Napa County Soil Survey as Forward gravelly loam (SCS 138, 139, and 140), Kidd loam (SCS 155), Pleasanton loam (SCS 171), and Tehama silt loam (SCS 180) (**Appendix H**). Hydrologic soil classifications are based on the minimum infiltration rate obtained for the bare soil after prolonged wetting (USDA, 2007). The Kidd loam series is in hydrologic soil group D which has "high runoff potential when thoroughly wet." The Pleasanton loam series and the Tehama silt loam series are in hydrologic soil group C which has a "slow rate of infiltration when thoroughly wet." Forward gravelly loam series is in hydrologic soil group B, which is described as having "moderately low runoff potential when thoroughly wet" and water transmission through the soil is unimpeded (USDA, 2007).

Different land uses have different types and amounts of vegetation coverage, which influences runoff. Currently, the property consists of mostly mixed conifer and hardwood forest, brush, and grassland (**Appendix D**). Habitats with dense vegetation coverage disperse runoff by intercepting precipitation and providing obstacles to the concentration of runoff. A curve number is attributed to different land uses to measure the influence of land cover on infiltration and runoff rates. Curve numbers depend on the vegetative type, amount of cover, and the land use practice, and are weighted to take into account variances over the study area. Higher curve numbers indicate higher amounts of impervious surfaces, and therefore higher potential for runoff. The composite curve numbers for the current conditions were designated by these factors, such as "Grassland, HSG B, good" or "Brush, HSG D, fair" (**Appendix I**). Post-project composite curve numbers were estimated by the ECP cover crop specifications and soil group, such as "Vineyard, HSG V, good" or "Rocky road" (**Appendix I**).

### GROUNDWATER

The project site does not lie within a groundwater basin, but is underlain by rocks of the Sonoma Volcanics. Irrigation water for the project site is derived from these groundwater-bearing volcanic formations.

In regional basins, municipal and irrigation wells have average depths ranging from about 200 to 500 feet. Well yields in these basins range from less than 50 gallons per minute (gpm) to approximately 3,000 gpm. The property is not located in a designated groundwater basin.

There are two existing wells on the property; the first is located approximately 200 feet west of the existing onsite residence and the second is located within proposed vineyard Block B. The well located near the onsite residence is for residential use only and will not be used for irrigation of the Proposed Project. Accordingly, the use of the residential well will be consistent with existing conditions. The agricultural well located in the NW corner of Block B is capable of sustaining a yield of approximately 284 gallons per minute (gpm), but the actual pumping rate would be limited by the 150 gpm pump that would be installed in the well. Groundwater pumped from the well would be the source of irrigation water for the proposed vineyard (**Appendix I**). The existing well is supported by surface water infiltration and groundwater within the Sonoma Volcanics formation. Additionally, there are no groundwater wells located within a five-hundred foot radius of the existing irrigation well. The nearest known onsite well is approximately 1,131 feet and the nearest known offsite well is approximately 529 feet, from the existing irrigation well. Therefore, no off-site wells are known to exist within 500 feet of the existing onsite irrigation well.

Approximately 9 to 13 percent of precipitation that falls on Sonoma Volcanics soils can percolate into the underlying formation and appear in the deep aquifers (Michael Johnson, 1977). The property comprises of 88.34 acres overlying these formations and the average annual rainfall is approximately 33 inches. The property receives approximately 243 acre-feet (af) per year of rainfall (88.34-acre property multiplied by the average annual precipitation rate of 33 inches). Using a conservative estimate of 10 percent recharge, the property recharges approximately 24.3 af of groundwater annually. The Water Availability Analysis (**Appendix O**) determined a maximum groundwater allotment for the property of approximately 31.6 acre feet per annum (afa). The total vineyard water use is expected to be 11.14 afa with an additional 0.01 afa for other minor agricultural uses, for a total vineyard use of approximately 11.15 afa. The water use for the onsite residence is expected to be 0.5 afa for a total groundwater demand of 11.65 afa (**Appendix O**).

## 4.9.2 REGULATORY FRAMEWORK

### FEDERAL

The Federal CWA is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all pollutant discharges into the nation's waters are unlawful unless specifically authorized by a permit. The CWA authorizes the USEPA to protect and maintain the quality and integrity of the nation's waters. Part of the CWA provides for the National Pollutant Discharge Elimination System (NPDES), in which discharges into navigational waters are prohibited except in compliance with specified requirements and authorizations.

## STATE

The Regional Water Quality Control Plan for the San Francisco Bay Basin and the California Enclosed Bays and Estuaries Plan serve to protect the water quality of the state consistent with identified beneficial uses. These plans govern the waste discharge and non-point source control requirements in the state through the regional boards. The property is under the jurisdiction of the San Francisco Bay RWQCB.

Section 303 (d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). Once a water body or segment is listed, the state is required to establish a TMDL for the pollutant causing the conditions of impairment. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating water quality standards. The intent of the 303 (d) list is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for continued water quality degradation. The San Francisco RWQCB has identified waters that are polluted and need further attention to support their beneficial uses. The 303 (d) list includes the Napa River for nutrients, pathogens, and sedimentation/siltation.

The San Francisco Bay RWQCB identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The existing beneficial uses designated for the Napa River are agricultural, municipal, and domestic supply, cold freshwater habitat, fish migration, navigation, preservation of rare and endangered species, water contact and non-water contact recreation, fish spawning, warm freshwater habitat, and wildlife habitat.

### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In California, the USEPA has delegated the implementation of this program to the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards. The NPDES program regulates storm water discharges under the requirements of the CWA. Initially, the NPDES program permits focused on regulating point source pollution. In the early 1970s, an amendment to the CWA directed the NPDES program to address non-point source pollution through a phased approach.

### SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, WASTE DISCHARGE REQUIREMENTS FOR VINEYARD PROPERTIES IN THE NAPA RIVER AND SONOMA CREEK WATERSHEDS

The San Francisco Bay RWQCB has adopted a General Permit for waste discharge requirements (WDRs) for vineyard properties in the Napa River and Sonoma Creek watersheds under the National Pollutant Discharge Elimination System (WDRs), administered by the State under the CWA. The WDRs regulate parcels developed with 5 of more acres of vineyards that are located in the Napa River and Sonoma Creek watersheds. All vineyard parcels subject to the WDRs must achieve performance standards for soil erosion in the farm area, and for discharge of nutrients and pesticides. Hillslope vineyard parcels also must achieve performance standards for vineyard storm

runoff and for sediment discharge from unpaved roads (SFB RWQCB, 2018). Projects similar to the Proposed Project are required to develop a Farm Water Quality Protection Plan (Farm Plan). The Farm Plan must include a comprehensive inventory of vineyards, roads, reservoirs, and waterways located throughout the property and document best management practices (BMPs) to comply with the conditions of the WDRs and performance standards. Long-term monitoring for effectiveness of Farms Plans on an individual and watershed-level basis has also been included in the General Permit process. For new vineyard properties where a timber conversion plan are required, a report of waste discharge (ROWD) is required and individual WDRs will be established.

## LOCAL

### NAPA COUNTY GENERAL PLAN

The Napa County General Plan (General Plan) serves as a broad framework for planning within Napa County (Napa County, 2009). State law requires general plans to cover a variety of topics. The General Plan contains goals and policies related to: open space conservation, natural resources, water resources, safety, circulation, and provides guidance for issues related to hydrology and water quality. Applicable General Plan policies for the Proposed Project are provided below.

#### Open Space Conservation Policies

Policy CON-6: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

#### Water Resources Goals and Policies

Goal CON-8: Reduce or eliminate groundwater and surface water contamination from known sources (e.g., underground tanks, chemical spills, landfills, livestock grazing, and other dispersed sources such as septic systems).

Goal CON-9: Control urban and rural storm water runoff and related non-point source pollutants, reducing to acceptable levels pollutant discharges from land-based activities throughout the county.

Goal CON-10: Conserve, enhance and manage water resources on a sustainable basis to attempt to ensure that sufficient amounts of water will be available for the uses allowed by this General Plan, for the natural environment, and for future generations.

Goal CON-11: Prioritize the use of available groundwater for agricultural and rural residential uses rather than for urbanized areas and ensure that land use decisions recognize the long term availability and value of water resources in Napa County.

Goal CON-12: Proactively collect information about the status of the county's surface and groundwater resources to provide for improved forecasting of future supplies and effective management of the resources in each of the County's watersheds.

Policy CON-18: To reduce impacts on habitat conservation and connectivity (the following polices apply):

- In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.

Policy CON-42: The County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

Support environmentally sustainable agricultural techniques and best management practices (BMPs) that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

Policy CON-47: The County shall comply with applicable Water Quality Control/Basin Plans as amended through the Total Maximum Daily Load (TMDL) process to improve water quality. In its efforts to comply, the following may be undertaken:

1. Ensuring continued effectiveness of the National Pollution Discharge Elimination System (NPDES) program and storm water pollution prevention.
2. Ensuring continued effectiveness of the County's Conservation Regulations related to vineyard projects and other earth-disturbing activities.

Policy CON-48: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or stormwater pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan) requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Policy CON-50: The County will take appropriate steps to protect surface water quality and quantity, including (the following specific policies):

3. Preserve riparian areas through adequate buffering and pursue retention,

maintenance, and enhancement of existing native vegetation along all intermittent and perennial streams through existing stream setbacks in the County's Conservation Regulations.

4. The County shall require discretionary projects to meet performance standards designed to ensure peak runoff in 2-, 10-, 50-, and 100-year events following development is not greater than predevelopment conditions.
5. In conformance with National Pollution Discharge Elimination System (NPDES) requirements, prohibit grading and excavation unless it can be demonstrated that such activities will not result in significant soil erosion, silting of lower slopes or waterways, slide damage, flooding problems, or damage to wildlife and fishery habitats.

Policy CON-52: Groundwater is a valuable resource in Napa County. The County encourages responsible use and conservation of groundwater and regulates groundwater resources by way of its groundwater ordinances.

Policy CON-53: The County shall ensure that the intensity and timing of new development are consistent with the capacity of water supplies and protect groundwater and other water supplies by requiring all applicants for discretionary projects to demonstrate the availability of an adequate water supply prior to approval. Depending on the site location and the specific circumstances, adequate demonstration of availability may include evidence or calculation of groundwater availability via an appropriate hydrogeologic analysis or may be satisfied by compliance with County Code "fair-share" provisions or applicable State law. In some areas, evidence may be provided through coordination with applicable municipalities and public and private water purveyors to verify water supply sufficiency.

Policy CON-55: The County shall consider existing water uses during the review of new water uses associated with discretionary projects, and where hydrogeologic studies have shown that the new water uses will cause significant adverse well interference or substantial reductions in groundwater discharge to surface waters that would alter critical flows to sustain riparian habitat and fisheries or exacerbate conditions of overdraft, the County shall curtail those new or expanded water uses.

## SAFETY GOALS AND POLICIES

Goal SAF-5: To protect residents and businesses from hazards caused by human activities.

Policy SAF-30: Potential hazards resulting from the release of liquids (wine, water, petroleum products, etc.) from the possible rupture or collapse of aboveground tanks should be considered as part of the review and permitting of these projects.

## NAPA COUNTY CODE (CHAPTER 18.108 – CONSERVATION REGULATIONS)

Napa County Code 18.108 includes conservation regulations such as requirements for standard erosion control measures, provisions for intermittent or perennial streams, requirements for use of erosion hazard areas. This section of the code also defines streams and provides stream setbacks for grading and land clearing for agricultural development (see **Section 4.4** for the discussion of this code section).

Some portions of the project area have slopes greater than five percent, therefore, under Napa County Code Section 18.108.070, the Proposed Project would require permit approval prior to any grading activities (see **Section 3.0**).

Napa County Code 18.108.027 requires that as part of any use involving earth-disturbing activity in sensitive domestic water supply drainages, the following vegetation-retention requirements apply:

- A minimum of 60 percent of the tree canopy cover on the parcel or holding existing on June 16, 1993 along with any understory vegetation, and
- When vegetation consists of shrub and brush without tree canopy, a minimum of 40 percent of the shrub, brush and associated annual and perennial herbaceous vegetation.
- All earth-disturbing activities shall be limited to the period of April 1st through September 1st of each year, with the exception of NPDES related earth-disturbing activities, which are limit to April 1st through October 1st.
- Concentrated runoff shall be avoided, as feasible
- Notice will be provide to the owners/operators of water supply systems located in sensitive domestic water supply of an ECP filed within the drainage
- A geotechnical report is required for projects located in sensitive domestic water supply drainage.

## NAPA COUNTY RESOURCE CONSERVATION DISTRICT

The NCRCD published the Napa River Watershed Owner's Manual in 1996. This manual lists the following objectives and recommendations that pertain to the Proposed Project:

### Objective G: Reduce Soil Erosion

Recommendation G2: Reduce erosion resulting from agricultural activities. Agricultural activities in the Napa River watershed include grazing, viticulture, small farms and horticulture. Soil disturbance or vegetation removal as a result of agricultural activities can result in loss of topsoil and subsequent water quality degradation. Good agricultural management can also benefit water quality and wildlife habitat, and can contribute to the overall good health of the watershed. Sub-recommendations include:

G2.1. Emphasize erosion prevention over sediment retention as a priority in agricultural planning and operations.

G2.2. Promote the use of permanent vegetative ground cover in vineyards. Support research, demonstrations and technology exchange to refine cover crop technology for vineyards and orchards.
G2.3. Establish tree cover in unused areas to decrease erosion of topsoil.
G2.4. Maintain access roads and farm roads to control storm water runoff in agricultural areas. Utilize assistance from the Civil Engineer, USDA Natural Resource Conservation Service, or other erosion control professionals, for design of storm water runoff control on rural roads.
G2.5. Minimize wet weather vehicle traffic through or across agricultural areas, especially on hillsides.
G2.6. Provide adequate energy dissipaters for culverts and other drainage pipe outlets.
G2.7. Establish vegetated buffer strips along waterways.
G2.8. Develop grazing management plans to increase vegetation residue on rangeland.

## 4.9.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project on water resources. Criteria for determining the significance of impacts on water resources have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site or result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow.

### METHOD OF ANALYSIS

This section identifies potential impacts to hydrology and water quality that could occur from

construction, operation, and/or maintenance of the Proposed Project. An examination of the project site, project components, and published information regarding the water resources in the project area was conducted to determine impacts to hydrology and water quality. Where necessary, impact-specific studies were conducted and are summarized within the appropriate impact analysis.

The Napa County Engineering Division evaluates all technical documents submitted with an ECP package and reviews them for technical adequacy and correctness. The Engineering Division has reviewed the Erosion Control Plan (**Appendix B**), the Hydrologic Analysis (**Appendix I**), the Le Colline Project Soil Loss Evaluation (**Appendix J**), and the Water Availability Analysis (**Appendix O**), submitted with the Le Colline ECP packages and found the subject documents to be technically adequate. The updated WAA, as discussed in the Response to Comments **A3-08** was updated to ensure that current County requirements were still fully met. No significant changes were noted in the conclusion from the original WAA circulated with the Draft EIR.

The Proposed Project has been designed to maintain or reduce existing levels of runoff and sediment transport within the project areas. As discussed in Section 3.0, the ECP includes several measures for prevention of erosion and control of sediment to reduce the production of sediment by 62 percent. The Proposed Project intends to preserve the existing runoff and drainage courses onsite to the degree feasible. The ECP measures are designed to improve the quality of onsite runoff generated within the vineyard blocks and capacity and efficacy of the onsite drainages. Where it was concluded that impacts to hydrology and water quality resulting from the Proposed Project would exceed the significance thresholds listed below, mitigation measures have been recommended to reduce impacts to less-than-significant levels.

To evaluate the effects of the Proposed Project on runoff, a quantitative watershed hydrology study was completed (**Appendices I** and **J**). The analysis assessed changes in runoff due to changes in existing land cover types to vineyard, and due to changed drainage patterns by the installation of the erosion control measures in the ECP (**Appendix B**).

The hydrologic analysis was performed using HydroCAD software developed by HydroCAD Software Solutions, LLC. The HydroCAD software employs methods from common hydrologic models including TR-55 and TR-20 to simulate watershed runoff processes. Both TR-20 and TR-55 are hydrologic models commonly used in Napa County to estimate runoff and peak discharges and develop hydrographs for small basins using unit hydrograph theory and routing procedures that depend on runoff travel time through segments of the watershed. A number of parameters are required as inputs for the development of the model including rainfall, soil hydrologic groups, ground cover types along with channel characteristics and dimensions.

## IMPACTS AND MITIGATION

**Impact 4.9-1: Development of the Proposed Project would not substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or conflict with Napa County Code Section 18.108.027, such that there would be a net deficit in aquifer**

**volume or a lowering of the local groundwater table. Less-than-significant.**

The existing on-site well would be used as the source of irrigation water for the proposed vineyard. Long-term groundwater use of the proposed vineyard would be approximately 11.15 afa (or 25.2 percent) of the County's allowable maximum groundwater allotment for the parcel of 31.6 afa (**Appendix O** as updated on 4/4/2022). Including the existing residential water use of 0.5 afa, the total water demand on the parcel would be 11.65 afa, or 36.9 percent of the parcel's allowable groundwater allotment. The water system for the Proposed Project consists of one existing well and the proposed installation of a drip irrigation system that will be used predominantly primarily for the establishment irrigation of the vineyard. Furthermore, as noted in Appendix O, Exhibit B, there nearest off-site well is 539 foot from the project's irrigation well.

It is estimated that the property provides the recharge opportunity for approximately 24.3 af per year of percolation into the Sonoma Volcanics soils, which is more than the long-term irrigation needs of the Proposed Project. Long-term water use of the Proposed Project is approximately 48 percent of the property's average annual recharge. Therefore, development of the Proposed Project would have a less-than-significant impact on local and regional groundwater levels. . The revised WAA also addressed dry years and back to back dry years. Even with this multiple dry year scenario the WAA concludes that," Even during those back to back dry year, it is expected that vineyard irrigation would not have a diminished the underlying aquifer nr impact other wells." There for the impacts of the proposed project remain less than significant.

**Impact 4.9-2: Development of the Proposed Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality with the implementation of the ECP. Less-than-significant.**

## SEDIMENT LOADING

Since the mainstem Napa River has been listed as sediment-impaired according to Napa County General Plan policy CON-48, no net increase in sediment yield from the property will be allowed to occur from development of the Proposed Project. The Water Board's WDRs regulate vineyards of 5-acre-or-larger that are locate in the Napa River and Sonoma Creek watersheds. The Proposed Project must achieve performance standards for soil erosion in the farm area. With the incorporation of erosion and runoff control measures proposed in the ECP, the overall load of sediment transported to local waterways from the project site is anticipated to decrease by 62 percent compared to pre-project conditions. Therefore, implementation of the ECP for the Proposed Project would be beneficial in reducing both offsite and onsite erosion and sedimentation loads from contributing to sedimentation entering the Napa River. Thus, this is a less-than-significant impact. For a more detailed analysis of the project impacts to sediment loading from erosion, refer to **Impact 4.6-1** within **Section 4.6**.

## CHEMICAL LOADING

The Proposed Project does not involve discharges that would affect local or regional site specific or general waste discharge requirements. The Proposed Project will be operated using integrated pest management (IPM) techniques and best management practiced (BMPs) that focus on environmentally sensitive methods of reducing agricultural pests and avoids the use of harsh chemicals, as discussed in **Appendix J**. Additionally, the Proposed Project will be assigned waste discharge requirements for the discharge of nutrients and pesticides pursuant to the Water Boards WDRs since the vineyard is subject to a Timber Conversion Plan. Soil and foliar fertilizers used on the property would be organic certified (**Appendix J**). Use of fertilizers can result in runoff laden with excessive plant nutrients, which can lead to eutrophication and algal growth in receiving waters; pesticide use can result in runoff contributing to toxic conditions in receiving waters. However, the runoff from the property is reduced under post-project conditions, and adherence to the IPM plan, BMPs, and **Mitigation Measures 4.8-1, 4.8-2**, and **4.8-3** in **Section 4.8 Hazardous Materials** will ensure there is no risk to chemical loading of the Napa River. Accordingly, implementation of the Proposed Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality with the implementation of the ECP and mitigation measures within this EIR.

The project site is located within the Conn Creek watershed approximately five miles northwest of Lake Hennessey. As the site is a designated sensitive domestic water supply drainage by Napa County, additional protective regulations are required as discussed above in **Section 4.9.2** under the State regulatory setting. The SWRCB manages the Safe Drinking Water Information System (SDWIS). SDWIS provides monitoring results for individual sampling points within various waters. SDWIS indicates a recent uptick in various pesticides and herbicides within Lake Hennessey; however, no Maximum Contaminant Levels (MCLs) have been set for these particular chemicals. The SDWIS also indicates that certain contaminants commonly associated with vineyard land uses are below set MCLs, such as turbidity and sulfate. Despite proximity to vineyards, Lake Hennessey is within MCL ranges for numerous key contaminants.

The Proposed Project may require the use of sulfur products as discussed in the IPM (**Appendix L**). Based on samples collected by the City of Napa, Lake Hennessey consistently contains sulfate anywhere from 30 to 50 times less than the MCL. The only constituent with consistently high sample results is manganese, which is a naturally occurring mineral that will not be used as a soil additive for the Proposed Project. The guidelines set forth in the IPM (**Appendix L**) that limit the use of pesticides, herbicides, and fertilizers would prevent contribution of such chemicals into the Lake Hennessey watershed. Therefore, the Proposed Project will not have a significant impact on turbidity, sulfate, iron, or manganese levels in Lake Hennessey.

Additionally, during storm events, the riparian buffer zones which range from 35 feet to 125 feet would act as a filter to reduce the potential for pollutants to reach both onsite drainages and offsite Conn Creek. Vegetated filter strips serve as an important natural mechanism to reduce off-site sediment transport, sometimes by as much as 75 to 100 percent (Grismer et al, 2006). The use of stream setbacks to reduce pollutant transfer and nutrient loading to receiving waters is an effective

and appropriate mitigation measure that is consistent with Napa County Code (Section 18.108.025), CEQA *Guidelines* (§ 15126.4(a)), and Napa County General Plan policies (CON-18, CON-45, and CON-50). With adherence to the IPM Plan and incorporation of riparian buffers within the project description, this is a less-than-significant impact.

### TEMPERATURE

Water temperature influences a number of chemical processes within water bodies. The elevation of the water temperature is influenced by ambient air temperature, humidity, riparian vegetation, topography, surrounding land use, and flow conditions. The Proposed Project would maintain adequate riparian buffers and would not alter the thermal characteristics of the downstream waterways. This impact is less-than-significant.

The Proposed Project would not alter the topography of local creeks located downstream of the property. Fiber rolls, water spreaders, and drop inlets will slow surface runoff and trap sediments to reduce the loosening of topsoil. As determined from the sediment budget discussed in **Impact 4.6-1**, sediment yield from the proposed vineyard and sediment accumulation in receiving waters would be expected to decrease with the Proposed Project and implementation of the ECP. Potential impacts from sedimentation that can increase water temperature, such as excess sediment runoff due to the conversion of timberland to vineyard, would not occur. The modification of the vegetative cover on the site would not affect watercourse shading, as appropriate setbacks and buffers would be maintained from the ephemeral drainages on the property. This is a less-than-significant impact.

### WATER QUALITY MONITORING PROGRAM

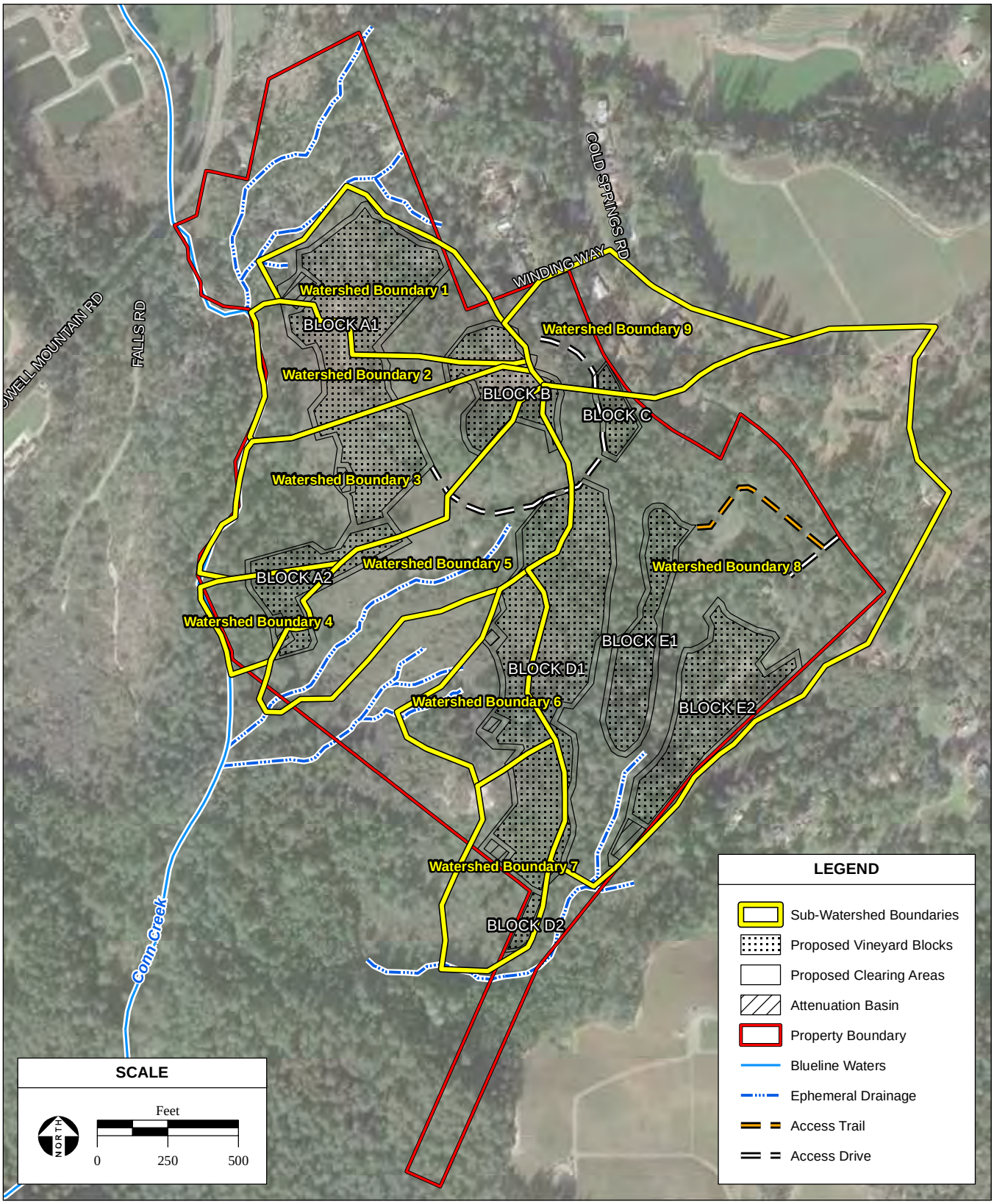
While impacts are expected to be less than significant, the Applicant, in support of the City of Napa's watershed water quality monitoring program, has agreed to voluntarily conduct water quality monitoring within Conn Creek as summarized in **Section 3.2.2**. While not intended to address any significant environmental impacts associated with the Proposed Project, implementation of the WQMP, which is a component of the project description, would help ensure impacts remain less than significant through routine monitoring.

**Impact 4.9-3: Development of the Proposed Project would not alter the existing drainage pattern of the property in a manner that could result in substantial erosion or siltation on- or off-site or result in flooding on- or off-site with the implementation of the ECP. Less-than-significant.**

Post-project drainage basins were defined by modifying pre-project basins to reflect the changes in flow paths proposed in the ECP. After implementation of the Proposed Project and rerouting of some flows in the proposed erosion control measures, three of the nine drainage basins will be resized from their pre-project condition, shown in **Figure 4.9-1**. Each drainage basin flowing to a drainage ditch and then into a pipe became a new basin for purposes of post-project analysis. Of the nine basins created for the baseline condition, three were sub-divided, resulting in a total of 19 basins ranging in size from 0.2 to 15.9 acres. However, the total area of basins remains the same

between pre- and post-project conditions, allowing for a direct comparison of potential changes in the hydrologic regime.

The drainage pattern of an area will, in part, determine the rate and volume of runoff. Drainage patterns refer to the characteristics of a landscape that determine the course of runoff in an area, which is determined by the size and extent of vegetation, and topographic and geologic features. Development activities involved with the Proposed Project would alter the existing drainage pattern of the property. Lands that typically generate greater concentrations of runoff characteristically contain few obstacles, impervious surfaces, and poorly drained soils. The vegetation removal and subsequent conversion of the property into a vineyard involve soil ripping and earthmoving activities required for vineyard preparation. Installation of the proposed structural erosion control measures, as described in **Section 3.0**, would preserve water quality in downstream areas off the property.




SOURCE: Environmental Resource Management, 5/2016; DigitalGlobe Aerial Photograph, 2/4/2018; Napa Valley Vineyard Engineering, Inc., 2/22/2017; ESRI Data, 2015; AES, 9/14/2018



**Figure 4.9-1**
Subwatershed Analysis

The erosion control measures provided for in the ECP and the vegetative erosion control measures to increase ground vegetation cover would provide new obstacles to runoff concentration that would reduce impacts to onsite water features (**Appendix B**).

Peak discharges for the post-project drainage sub-basins were calculated using HydroCAD. Initial runs of HydroCAD for the proposed vineyard without the seven proposed attenuation basins resulted in mild increases in peak runoff in 25- and 50-year 24-hour rainfall events. Therefore, the attenuation basins were added to the ECP, as currently proposed in Appendix B. The individual drainage basins were analyzed for 2-, 5-, 10-, 25-, 50-, and 100-year 24-hour rainfall events in current, post-project conditions with no attenuation, and post-project conditions with the proposed ECP. The current conditions provide a baseline for comparison with the post-project conditions with erosion mitigation (**Appendix B**). **Table 4.9-2** below, compares the pre-project and post-project (with ECP) peak discharges in cubic feet per second (cfs) for 2- and 100-year 24-hour rainfall events, respectively. Comparisons are shown among all nine watersheds/drainages delineated for the HydroCAD model. A complete comparison of storm types (2-, 5-, 10- 25-, 50-, and 100-year storm event) can be found in **Appendices I and J**.

**TABLE 4.9-2**
PEAK FLOW COMPARISON UNDER A 2- AND 100-YEAR 24-HOUR STORM EVENT

| 24-hour storm event | 2-year | | | 100-year | | |
|---|---|---|---|---|---|---|
| **Project condition** | **Pre** | **Post** | **% Change** | **Pre** | **Post** | **% Change** |
| Watershed 1 | 0.67 | 0.24 | -64.2% | 4.70 | 3.81 | -18.9% |
| Watershed 2 | 1.37 | 1.36 | -0.7% | 6.37 | 5.51 | -13.5% |
| Watershed 3 | 2.61 | 2.42 | -7.3% | 12.02 | 11.67 | -2.9% |
| Watershed 4 | 0.30 | 0.27 | -10.0% | 1.94 | 1.88 | -3.1% |
| Watershed 5 | 3.80 | 3.61 | -5.0% | 13.04 | 12.70 | -2.6% |
| Watershed 6 | 2.04 | 1.86 | -8.8% | 6.36 | 6.33 | -0.5% |
| Watershed 7 | 1.57 | 1.57 | 0.0% | 5.99 | 5.96 | -0.5% |
| Watershed 8 | 7.62 | 6.60 | -13.4% | 39.63 | 36.10 | -8.9 |
| Watershed 9 | 1.48 | 1.48 | 0.0% | 6.62 | 6.62 | 0.0% |

SOURCE: **Appendix J**

Overall, there would be decreases in the peak runoff from the project site under all storm types with the erosion control features proposed in the ECP. With the development of the Proposed Project including the erosion control measures found in the ECP, there are decreases in peak runoff during storm events ranging from 0 to 18.9 percent in post-project conditions (**Appendices I** and **J)**. In addition, the HydroCAD model provides preliminary analysis to compare pre- and post-project runoff volumes, shown in **Table 4.9-3**. Post-project runoff volumes account for inclusion of the proposed attenuation basins and ECP components. Overall, there would be decreases in runoff volume from the project site under 2-, 5-, 10-, 25-, 50-, and 100-year storm events with the proposed erosion control features. Maintenance for proposed diversion and erosion control structures would be performed on a routine basis to ensure effective operation, as described in the ECP (**Appendix B**).

**TABLE 4.9-3**
PEAK RUNOFF COMPARISON FOR THE PROPERTY

| Storm Type (24-hour) | Existing Runoff Volume (af) | Post-Project Runoff Volume (af) | Percent Change |
|---|---|---|---|
| 2-year | 8.5 | 7.5 | -12.7% |
| 5-year | 13.8 | 12.5 | -9.0% |
| 10-year | 18.5 | 17.3 | -6.5% |
| 25-year | 26.2 | 25.1 | -4.1% |
| 50-year | 32.4 | 31.33 | -3.3% |
| 100-year | 39.0 | 38.02 | -2.6% |

SOURCE: **Appendix J**

## FINDINGS

Development of the Proposed Project would alter the drainage pattern of the property, but would not result in an increased rate or volume of runoff. The primary reason for the decrease in runoff is the construction of attenuation basins that would delay peak flow timing. Another factor contributing to the reduction in runoff is the use of cover crops within all the vineyard blocks and the installation of cross slope diversion ditches. Drainage system features onsite would not result in flooding because the rate of runoff would not increase from the Proposed Project, and because these drainage features were determined to be appropriate for local hydrology conditions during development of the ECP. This is a less-than-significant impact.

**Impact 4.9-4: The Proposed Project would not place housing within a 100-year flood hazard area, place within a 100-year flood hazard area structures which would impede or redirect flood flows, or expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Less-than-significant.**

The project site is not located within a FEMA mapped flood zone for a 100- or 500-year precipitation event and is not downstream of a levee or dam. According to the hydrology analysis presented in **Impact 4.9-1**, no increase in the rate or volume of runoff would occur along project watercourses under the Proposed Project conditions. The Proposed Project would not exacerbate flood flows downstream, impede or redirect flood flows, or expose people or structures to flooding hazards.

**Impact 4.9-4: Implementation of the Proposed Project would not result in potential inundation by seiche, tsunami, or mudflow. Less-than-significant.**

The project site is not located within a tsunami zone or near a water body with the potential for seiche. Based on existing slope stability, the project site's susceptibility to landslides is low. The risk of liquefaction on the project site is also low. Areas surrounding the project site are vegetated or developed, and have a low potential for mudflow. Impacts would be less-than-significant.

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# 4.10 LAND USE

This section addresses the potential for the Proposed Project to result in impacts associated with land use and zoning. Following an overview of the land use setting in **Section 4.10.1** and the relevant regulatory setting in **Section 4.10.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.10.3**.

## 4.10.1 EXISTING SETTING

### REGIONAL

Approximately 51,000 acres of Napa County (County) consists of active agriculture land and 54,000 acres consists of grazing land. The remaining area includes several towns and cities, including the City of Napa, Yountville, American Canyon, Calistoga, and St. Helena (WICC, 2010). St. Helena is the nearest incorporated city to the project site, located in the northwestern portion of the County, approximately four miles southwest of the project site. The property is located near the unincorporated town of Angwin. Land uses in this portion of Napa County primarily consist of Rural Residential, Urban Residential, Suburban, Public-Institutional, Agriculture, and Open Space.

### PROJECT SITE

As described in **Section 3.0**, the project site is situated on west- and south-facing slopes on the east side of Napa Valley. Very hot wildland fires and some fire suppression practices are the major factors that have influenced the landscape in more recent years. The project site is accessed via Cold Springs Road and Winding Way.

Land uses adjacent to the property are rural, including existing vineyards and residences. Residences are located on properties adjacent to the project site and along Cold Springs Road. See **Figure 4.10-1** for a county zoning map of the surrounding area. Additionally, the Land Trust of Napa County (Land Trust) holds approximately 140 acres in preserve to the southeast of the property. The Land Trust also utilizes this property for guided hikes.

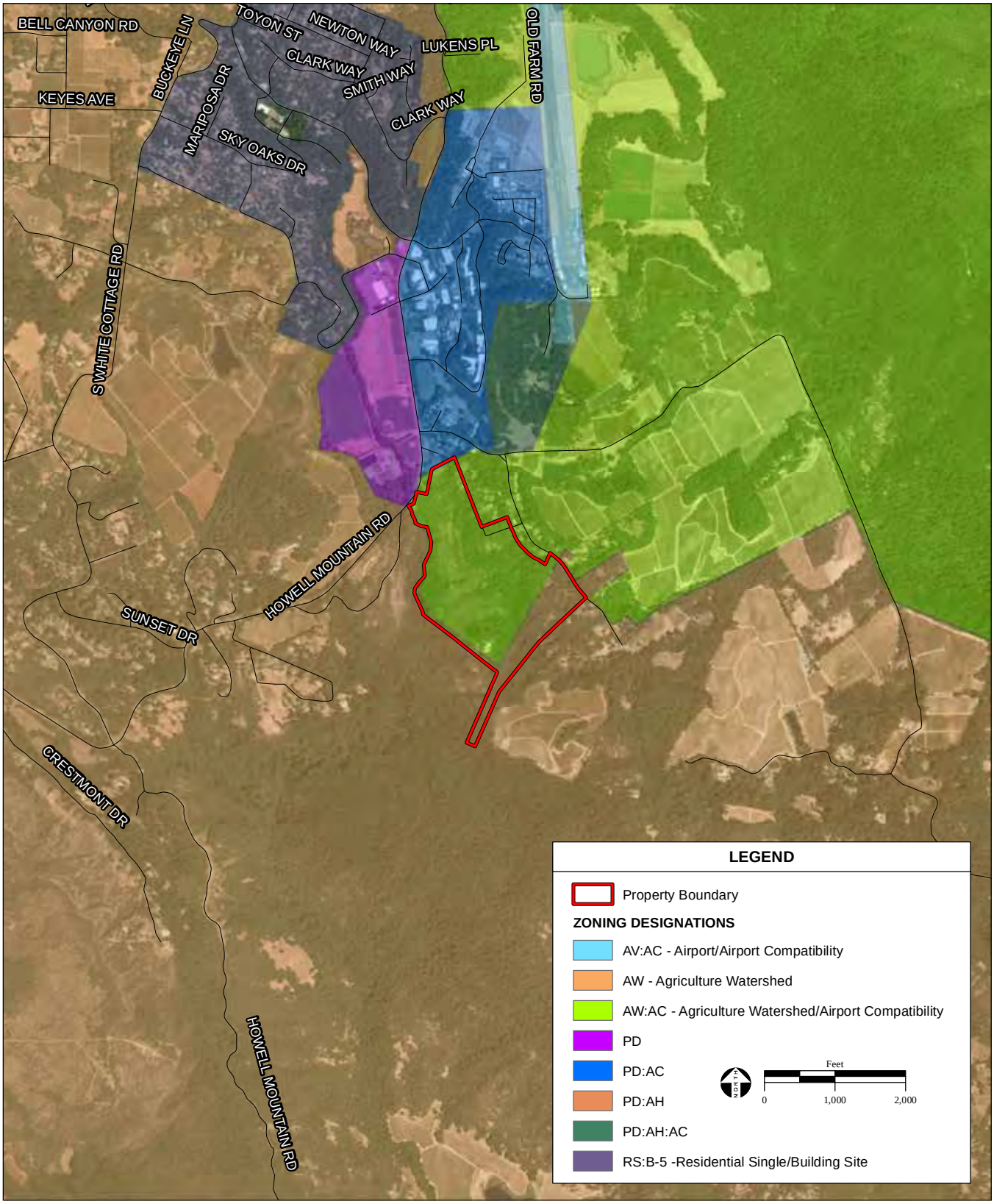
## 4.10.2 REGULATORY FRAMEWORK

### LOCAL

As shown in **Figures 4.10-1** and **4.10-2**, the property is located in rural, unincorporated Napa County. The parcel is under the jurisdiction of the County; therefore, only the County's General Plan and Zoning Ordinance are applicable to land uses on the site. The surrounding lands are also under the jurisdiction of Napa County.

#### NAPA COUNTY CODE OF ORDINANCES

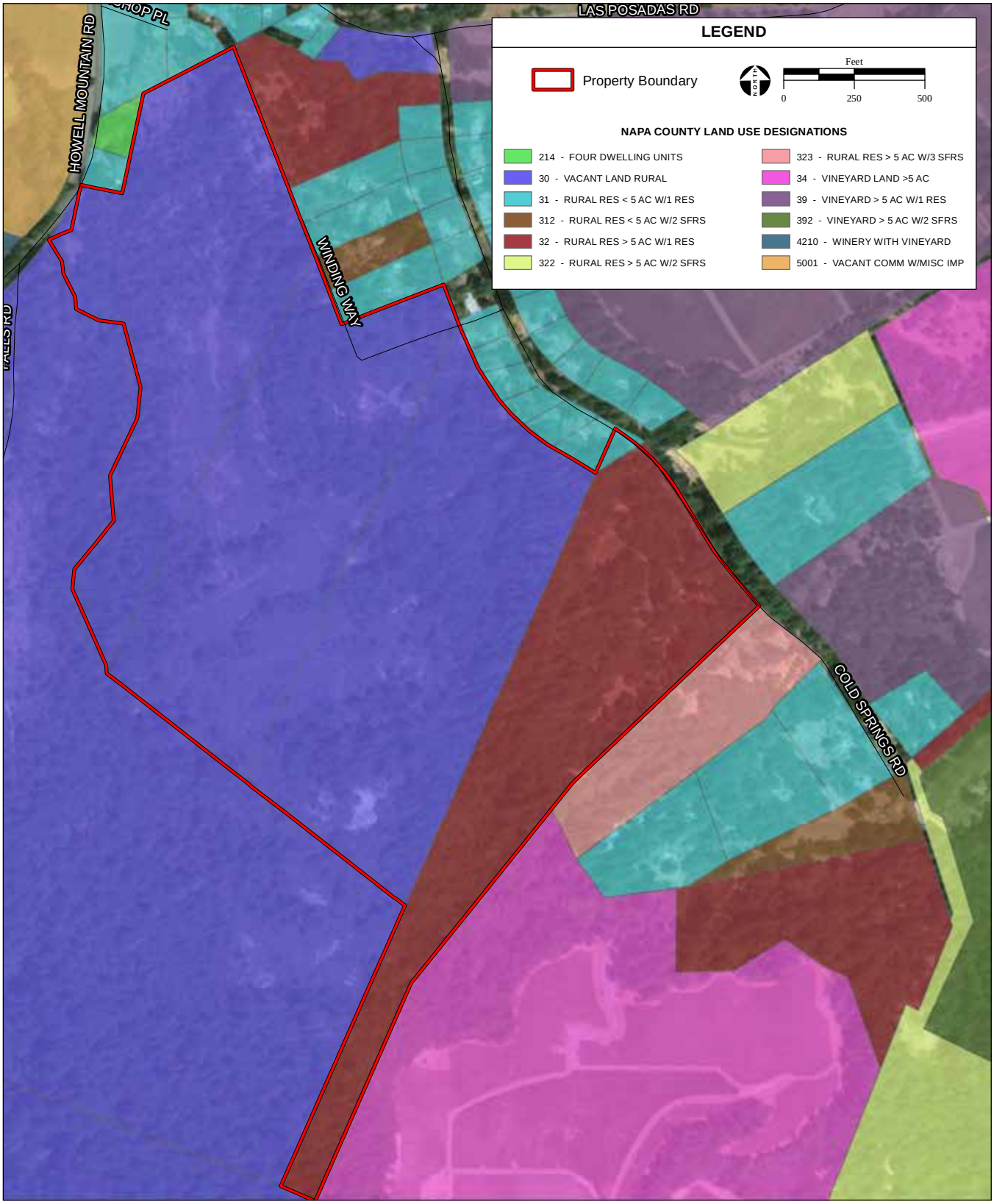
As shown in **Figure 4.10-1**, the Napa County Zoning Ordinance has zoned the land within the project boundary as Agricultural Watershed (AW) with an Airport Compatibility (AC) overlay.




SOURCE: Napa County Planning, Building, and Environmental Services Department, 2013; Napa County Aerial Photograph, 6/05/2014; AES, 5/17/2018



**Figure 4.10-1**
Napa County Zoning Designations




SOURCE: Napa County Planning, Building, and Environmental Services Department, 2015; Napa County Aerial Photograph, 6/05/2014; AES, 5/17/2018



**Figure 4.10-2**

Napa County General Plan Land Use Designations

The Napa County Zoning Ordinance describes the intent of this zoning designation as follows:

> *"The AW district classification is intended to be applied in those areas of the county where the predominant use is agriculturally oriented, where watershed areas, reservoirs and floodplain tributaries are located, where development would adversely impact on all such uses, and where the protection of agriculture, watersheds and floodplain tributaries from fire, pollution and erosion is essential to the general health, safety and welfare*," (Napa County, 2013).

Agricultural uses, such as timber harvesting and vineyard production, are considered permitted land uses under the applicable land use designation within the project site (Napa County Zoning Ordinance). Generally, permitted uses, as set forth in Section 18.20.020 include, but are not limited to, the following:

> *"Agriculture, including but not limited to, as defined in Section 18.08.040 as: (a) growing and raising trees, vines, shrubs, berries, vegetables, nursery stock, hay, grain, and similar food crops and fiber crops, and (d) sale of agricultural products grown, raised, or produced on the premises" (Napa County, 2017)."*

The property's AW and Airport Compatibility overlay designation is a combining zone. According to the Napa County Airport Land Use Commission 1999 Airport Land Use Compatibility Plan, a combing zone's purpose is to establish requirements in addition to those of the underlying land use district (Napa County Airport Land Use Commission, 1999). The principal zoning classification, AW for the Proposed Project, continues to define most of the use and site design parameters. The combining zone, AC, serves to modify the primary classification, including limitations on building height, lot coverage, population density, and flight hazards (smoke, glare, electrical interference, etc.).

## NAPA COUNTY GENERAL PLAN LAND USE DESIGNATIONS

As shown in **Figure 4.10-2**, the Napa County General Plan's land use designation for the property is "Rural Residential" and "Vacant Land Rural" with surrounding land use designations consistent with the property.

### Napa County General Plan Goals and Policies for Land Use

The General Plan policies and goals applicable to the Proposed Project are analyzed in Impact Analysis **Section 4.10.3**, Impact 4.10-2 and **Table 4.10-1**, General Plan Consistency Analysis.

### Napa County Erosion Control Plans

Erosion Control Plans are required for earthmoving activity, grading, improvement, or construction of a structure on sites of five percent slope or greater. The Napa County Planning, Building, and Environmental Services (PBES) Department administers this ordinance and grants approvals. The Napa County Resource Conservation District reviews all erosion control plans for agricultural

activities proposed on slopes greater than five percent, and passes on its recommendations to the Napa County PBES.

### NAPA COUNTY STREAM SETBACKS

Section 18.108.025 of the Napa County Conservation Regulations states that clearing of land for new agricultural uses is required to comply with designated stream setbacks which are based on slope, unless a use permit is obtained from Napa County, or unless an exemption in Section 18.108.050 applies. Setbacks are measured from the top of the bank on both sides of the stream as it exists at the time of replanting, redevelopment, or new agricultural activity.

### NAPA COUNTY SLOPE REGULATIONS

Section 18.108.060 of the Napa County Conservation Regulations states that no construction, improvement, grading, earthmoving activity or vegetation removal associated with the development or use of land shall take place on those parcels or portions thereof having a slope of 30 percent or greater, unless an exemption under Sections 18.108.050 or 18.108.055 apply, or unless an exception through the use permit process is granted pursuant to Section 18.108.040 and resolution 94-19.

### NAPA COUNTY EROSION HAZARD AREAS

Sections 18.108.070 and 18.108.100 of the Napa County Conservation Regulations outline requirements in erosion hazard areas, including vegetation preservation and replacement.

## 4.10.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project associated with land use and zoning. Criteria for determining the significance of impacts have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Physically divide an existing community;
- Result in a substantial inconsistency with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan, or natural community conservation plan.

### ANALYSIS METHODOLOGY

The Proposed Project was evaluated for compatibility with existing and planned land uses adjacent to the project site and consistency with adopted plans, policies, and zoning designations. Long-term incompatibilities arise when adjacent land uses result in activities that could conflict with each other.

The respective environmental sections of this Draft EIR discuss any potential physical/environmental impacts that could impact adjacent sensitive receptors whereas this section addresses the Proposed Projects' consistency with land use plans, polices, and regulations.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.10-1: The Proposed Project would not physically divide an existing community. No impact.**

The Proposed Project includes the development of 25 net acres of vineyard within approximately 33.8 gross acres of disturbance on the 88.34-acre property. The remaining acreage would not be impacted. The existing residence on the property would not be impacted. Conversion would remain within the parcels and would not physically divide an existing community, therefore, there would be no impact.

**Impact 4.10-2: The Proposed Project would not conflict with certain provisions of applicable Napa County land use plan policies and County ordinances. Less-than-significant with mitigation.**

The Proposed Project is consistent with most applicable land use plans defined by the Napa County Code of Ordinances and the Napa County General Plan. Vineyards are considered an allowable agricultural land use under the zoning designations of the project site. A discussion of the Proposed Project's consistency with each relevant General Plan policy and goal is provided in **Table 4.10-1** below. While specific land use mitigation measures are not required, various mitigation measures are required to reduce resource specific impacts to ensure compliance with the Napa County Code of Ordinances and the Napa County General Plan. Because these impacts and mitigations are addressed elsewhere throughout this EIR, **Table 4.10-1** provides a reference to the specific mitigation measure that would ensure compliance. Additionally, as discussed in detail in **Sections 4.6** and **4.8**, an Erosion Control Plan (**Appendix B**) has been prepared consistent with Chapter 18.108 Conservation Regulations of the Napa County Code and associated guidance. Because Mitigation Measure 4.4-7 is required in order for the Proposed Project to be consistent with Napa County General Plan Policy CON-18, , there would be a less-than-significant impact with mitigation.

**Impact 4.10-3: The Proposed Project would not conflict with applicable habitat conservation plans or natural community conservation plans. There would be no impact**.

There are no habitat conservation plans or natural community conservation plans that are applicable to the Proposed Project. Additionally, the Proposed Project would not have substantial adverse effects, either directly or through habitat modifications, on any species identified as candidate, sensitive, and special status species in local or regional plans, policies, or regulations with implementation of the mitigation measures identified in **Section 4.4.6**. No substantial adverse effects to riparian habitat or other sensitive natural communities as found in local or regional plans, policies, or regulations would occur as well. Therefore, there would be no impact.

**TABLE 4.10-1**
GENERAL PLAN CONSISTENCY ANALYSIS

| Policy | Policy Summary | Proposed Project Consistent? | Location of Analysis in EIR | Mitigation |
|---|---|---|---|---|
| **Community Character (CC)** | | | | |
| CC-1<br>CC-5<br>CC-6<br>CC-10 | County will retain character and natural beauty through preservation of open space (CC-1); vineyards are an accepted visual feature of Napa County but change can cause concern (CC-5); grading of building sites and vineyards shall retain natural landform appearance as much as possible (CC-6); new developments in hillsides shall minimize visibility from County scenic roadways (CC-10). | Yes, with Mitigation | Impacts 4.1-1 through 4.1-4; Impact 4.2-1 | MM 4.1-3 |
| CC-7 | Accept sounds that are a part of the County's agricultural character while protecting people from excessive exposure. | Yes, with Mitigation | Impacts 4.11-1 through 4.11-3 | MM 4.11-1 |
| CC-19<br>CC-21<br>CC-23<br>CC-30 | The County supports the identification and preservation of resources from the County's historic and prehistoric periods (CC-19); rock walls constructed prior to 1920 shall be retained to the extent feasible (CC-21); supports continued research into and documentation of the county's history and prehistory, and protect significant cultural resources from inadvertent damage during grading, excavation, and construction activities (CC-23); and discourage scavenging of materials from pre-1920s walls and other structures unless they are beyond repair (CC-30). | Yes, with Mitigation | Impact 4.5-1<br>Impact 4.5-2 | MM 4.5-1<br>MM 4.5-2 |
| CC-35<br>CC-38 | Noises associated with agriculture are considered acceptable and necessary (CC-35). Standards for maximum exterior noise levels are established in the County's Noise Ordinance (CC-38). | Yes, with Mitigation | Impacts 4.11-1 through 4.11-3 | MM 4.11-1 |
| CC-49 | Ensure reasonable measures are taken such that temporary noise associated with construction does not become intolerable to those in the area. Construction hours shall be limited per requirements of the Noise Ordinance. | Yes, with Mitigation | Impact 4.11-1 | MM 4.11-1 |
| **Agriculture and Land Use (AG/LU)** | | | | |
| AG/LU-1<br>AG/LU-3<br>AG/LU-4 | Agriculture is the primary land use in the County (AG/LU-1); planning and zoning shall minimize encroachment of urban uses into agricultural areas (AG/LU-3); designated agricultural lands are reserved for agricultural use (AG/LU-4) | Yes | Impact 4.2-1 | N/A |
| AG/LU-15 | The county shall protect the right of agricultural operators in designated agricultural areas to commence and continue their "right to farm" even though there may be complaints against those practices. The existence of this "Right to Farm" shall be indicated on all parcel maps and shall be a required disclosure to buyers of the property | Yes | Section 4.10<br>Section 4.11 | N/A |
| AG/LU-17 | The County encourages active, sustainable forest management practices, including timely harvesting to preserve existing forests, retaining their health, product, and value. | Yes | Section 4.10 | N/A |
| AG/LU-18 | Timber production areas are defined by CAL FIRE mapping (AG/LU-18); County shall encourage active forest management practices to allow for economic and beneficial use of timberland (CON-35). | Yes | Impact 4.2-1 | N/A |
| AG/LU-49 | The County shall use zoning to ensure that land uses in airport approach zones comply with applicable Airport Land Use Compatibility policies. If necessary, the County shall acquire development rights in airport approach zones. This policy shall apply to the Napa County Airport and Angwin Airport (Parrett Field). | Yes | Section 4.10 | N/A |
| **Conservation (CON)** | | | | |

| Policy | Policy Summary | Proposed Project Consistent? | Location of Analysis in EIR | Mitigation |
|---|---|---|---|---|
| CON-1 | County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection. | Yes | Project Design, Impact 4.2-1 Impact 4.9-5 | N/A |
| CON-2 | Agricultural land will be conserved and improved by: 1) requiring existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat, 2) minimizing pesticide and herbicide use and encourage use of Integrated pest control methods, and 3) encouraging inter-agency cooperation, recognizing the agricultural commissioner's role as a liaison and the need to monitor and evaluate programs. | Yes, with Mitigation | Impact 4.8-2 Impact 4.9-5 | MM 4.4-2 MM 4.4-7 MM 4.4-8 MM 4.8-2 |
| CON-4 | The County recognizes that preserving watershed open space is consistent with and critical to the support of agriculture and agricultural preservation goals. | Yes | Project Design | N/A |
| CON-5 | The County shall identify, improve, and conserve rangeland through encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas. | Yes, with Mitigation | Impact 4.6-1 | MM 4.6-1 |
| CON-6 | The County shall impose discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas. | Yes. | Project Design Impact 4.4-3 Impact 4.9-3 | N/A |
| CON-9 | The County shall pursue a variety of techniques and practices to achieve the County's Open Space Conservation policies, including: 1) Exclusive agriculture zoning of Transfer of Development Rights. 2) Acquisition through purchase, gift, grant, bequest, devise, lease, or otherwise, the dee or any lesser interest or right in real property, Williamson Act, or other incentives to maintain land in agricultural production or other open space uses. 3) Requirements for mitigation of development impacts, either on-site or at other location in the county or through the payment on in-lieu fees in limited circumstances when impacts cannot be avoided. | Yes | Project Design | N/A |
| CON-10 | Conserve and improve fisheries and wildlife habitat in cooperation with government agencies, private associations, and individuals. | Yes | Project Design | N/A |
| CON-11 | Maintain and improve fisheries habitat by: 1) controlling sediment production from mines, roads, agricultural activities; and 2) implement road construction practices to minimize bank failure and sediment delivery. | Yes, with Mitigation | Project Design Impact 4.4-3 Impact 4.6-1 Impact 4.9-2 | MM 4.3-1 MM 4.6-1 |
| CON-13 | Discretionary agricultural projects shall consider and address impacts to wildlife habitat and habitat supporting special-status species. Where impacts to wildlife and special-status species cannot be avoided, mitigation should include: maintain adequate feeding, escape, and nesting habitat; providing protection for habitat through buffering or other means; provide replacement habitat of like quantity and quality on- or off-site; enhance existing habitat values through restoration and replanting; require temporary or permanent buffers to avoid nest | Yes, with Mitigation | Impacts 4.4-4 through 4.4-7 | MM 4.4-1 through MM 4.4-8 |

| Policy | Policy Summary | Proposed Project Consistent? | Location of Analysis in EIR | Mitigation |
|---|---|---|---|---|
| | abandonment by birds and raptors. | | | |
| CON-14 | To offset possible losses of fishery and riparian habitat due to discretionary development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement fund. | Yes | Project Design<br>Impact 4.4-3 | N/A |
| CON-15 | The County shall establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluation areas, and shall use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects. | Yes, with Mitigation | Impacts 4.4-1 through 4.4-7 | MM 4.4-1 through MM 4.4-8 |
| CON-16 | Discretionary projects require biological resources evaluations prior to earth moving. | Yes | Appendix D | N/A |
| CON-17 | Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. Mitigation shall include preventing disturbance or removal; mitigate significant impacts where avoidance is infeasible; promote protection from overgrazing; require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County. | Yes | Impact 4.4-1<br>Impact 4.4-2<br>Impact 4.4-5 | MM 4.4-7<br>MM 4.4-8 |
| CON-18 | To reduce impacts on habitat connectivity, in sensitive domestic water supply drainages between 40 and 60 percent of the vegetation that existed as of June 16, 1993 shall be maintained; habitat of adequate size, quantity, and configuration shall be maintained to support special-status species; discretionary policies shall be required to retain movement corridors of adequate size to allow for continued wildlife use; and new vineyard development shall be designed to minimize the reduction of wildlife movement corridors. | Yes | Project Design<br>Impact 4.4-5<br>Impact 4.9-5 | MM 4.4-2<br>MM 4.4-8 |
| CON-19 | County will use conservation easements as well as vegetation retention and stream setbacks to preserve critical habitat areas and habitat connectivity. | Yes | Project Design<br>Impact 4.4-3<br>Impact 4.4-8 | N/A |
| CON-22 | County will encourage protection and enhancement of natural habitats. | Yes | Project Design | N/A |
| CON-23 | The County shall work with local resources and land management agencies to develop a comprehensive approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land, including developing an invasive weed ordinance. The Invasive Weed Ordinance shall include among other things regulatory standards for construction activities that occur adjacent to natural areas, including riparian and/or intermittent streams or watercourses, to inhibit the establishment of noxious weeds through accidental seed import. | Yes | Project Design | N/A |
| CON-24 | Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, | Yes, with Mitigation | Project Design | MM 4.4-8 |

| Policy | Policy Summary | Proposed Project Consistent? | Location of Analysis in EIR | Mitigation |
|---|---|---|---|---|
| | and wildlife habitat, including by preserving oak trees near the heads of drainages; complying with the Oak Woodlands Preservation Act; providing replacement or preservation of like habitat at a 2:1 ratio; maintaining a mixture of oak species; and encouraging enforcement of regulations to stop the spread of Sudden Oak Death. | | Impact 4.4-5 | |
| CON-26<br>CON-27 | Natural vegetation along streams shall be retained varying in width with the steepness of terrain. | Yes | Project Design<br>Impact 4.4-3 | N/A |
| CON-28 | Offset additional losses of riparian woodland by maintaining similar quantity and quality of replacement habitat. | Yes | Project Design<br>Impact 4.4-3 | N/A |
| CON-29 | Coordinate with other agencies related to stream setbacks and other BMPs to protect Napa County's natural resources. | Yes | Project Design<br>Impact 4.4-3 | N/A |
| CON-30 | All public and private projects shall avoid impacts to wetlands to the extent feasible. | Yes, with Mitigation | Impact 4.4-3 | MM 4.4-7 |
| CON-35 | County shall encourage active forest management practices to allow for economic and beneficial use of timberland. | Yes | Impact 4.2-1 | N/A |
| CON-38 | The County shall identify, improve, and conserve Napa County's sand and gravel resources, preventing removal of streambed sand and gravel that would cause adverse effects on water quality, fisheries | Yes, with Mitigation | Impact 4.6-1<br>Impact 4.9-2 | MM 4.6-1 |
| CON-41 | County will work to protect Napa County's watersheds and public and private water reservoirs to provide: clean drinking water, municipal uses, support of eco-systems, agricultural supply, recreation and open space, and scenic beauty. | Yes, with Mitigation | Impact 4.4-3<br>Impact 4.9-2<br>Impact 4.9-5<br>Impacts 4.8-1 through 4.8-3 | MM 4.8-1 through MM 4.8-3 |
| CON-42 | County will work to improve and maintain the vitality and health of its watersheds by supporting environmentally sustainable agricultural techniques and best management practices (BMPs) that protect surface water and groundwater quality and quantity. | Yes, with Mitigation | Impact 4.8-1 through 4.8-3 | MM 4.8-1 through MM 4.8-3 |
| CON-45 | Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean water. Continue implementation of current Conservation Regulations relevant to these areas such as vegetation retention, consultation with water purveyors/system owners and erosion controls. | Yes, with Mitigation | Impact 4.4-3<br>Impact 4.9-2<br>Impact 4.9-5<br>Impact 4.8-1 through 4.8-3 | MM 4.8-1 through MM 4.8-3 |
| CON-47 | County shall comply with applicable Water Quality Control/Basin Plans as amended through the Total Maximum Daily Load. Ensuring effectiveness of the National Pollution Discharge Elimination System and the County's Conservation Regulations. | Yes, with Mitigation | Impact 4.6-1<br>Impact 4.9-2 | MM 4.6-1 |
| CON-48 | Proposed developments shall implement project specific sediment and erosion control measures that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control requirements and require detailed technical reports. BMPs shall be monitored and tracked in controlling soil erosion within watershed areas and employ corrective actions for water quality issues. | Yes, with Mitigation | Impact 4.6-1<br>Impact 4.9-2 | MM 4.6-1 |

| Policy | Policy Summary | Proposed Project Consistent? | Location of Analysis in EIR | Mitigation |
|---|---|---|---|---|
| CON-49 | The County shall develop and implement a water quality monitoring program (or programs) to track the effectiveness of temporary and permanent Best Management Practices (BMPs) to control soil erosion and sedimentation within watershed areas and employ corrective actions for identified water quality issues (in violation of Basin Plans and/or associated Total Maximum Daily Loads [TMDLs]) identified during monitoring. | Yes | Project Design Impact 4.6-1 | N/A |
| CON-50 | County shall require all construction-related activities to have protective measures in place. County shall ensure fines are levied upon code violators and require remediation activities. | Yes, with Mitigation | Impact 4.6-1 Impact 4.9-2 | MM 4.6-1 |
| CON-52 | County encourages responsible use and conservation of groundwater. | Yes | Impact 4.9-4 Appendix O | N/A |
| CON-53 | County shall ensure new development is consistent with capacity of water supplies by requiring all applicants for discretionary projects to demonstrate availability of supply. | Yes | Impact 4.9-4 Appendix O | N/A |
| **Safety (SAF)** | | | | |
| SAF-5 | The County shall cooperate with other local jurisdictions to develop intra-county evacuation routes to be used in the event of a disaster within Napa County. | Yes | Impact 4.8-4 Impact 4.8-5 | N/A |
| SAF-8 | Require a geotechnical study for new projects located near geologic hazard areas and restrict new development atop seismic faults. Geologic studies shall identify site design and structural measures to prevent injury from seismic events. | Yes | Impact 4.6-2 Appendix G | N/A |
| SAF-9 | Planting of native vegetation on unstable slopes shall be incorporated into project designs to minimize the potential for erosion or landslides. | Yes | Project Design | N/A |
| SAF-10 | No extensive grading shall be permitted on slopes over 15 percent where landslides or other geologic hazards are present unless the hazard(s) are eliminated or reduced to safe levels. | Yes | Impact 4.6-2 Appendix G | N/A |
| SAF-30 SAF-31 | Potential hazards resulting from the release of liquids from the possible rupture of aboveground tanks should be considered as part of the review of projects (SAF-30). All development projects proposed on sites known to be contaminated by hazardous materials shall be reviewed, tested, and remediated for potential hazards (SAF-31). | Yes, with Mitigation | Impacts 4.8-1 through 4.8-3 | MM 4.8-1 through MM 4.8-3 |
| **Circulation (CIR)** | | | | |
| CIR-13 | County seeks to provide a roadway system that maintains current roadway capacities in most locations and is both safe and efficient in terms of providing local access. Install improvements on rural roads and highways throughout the county. | Yes, with Mitigation | Impacts 4.12-1 through 4.12-7 | MM 4.12-1 MM 4.12-7 |
| CIR-15 | County shall maintain and apply consistent highway access standards regarding new driveways to minimize interference with through traffic while providing adequate local access. | Yes, with Mitigation | Impacts 4.12-1 through 4.12-7 | MM 4.12-1 |
| CIR-16 | The County shall seek to maintain an adequate Level of Service on roads and at intersections. | Yes, with Mitigation | Impacts 4.12-1 through 4.12-7 | N/A |

# REFERENCES

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Napa County, 2013. Napa County General Plan: Agricultural Preservation and Land Use Element. Available online at: http://www.countyofnapa.org/GeneralPlan/.

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Watershed Information Center & Conservancy of Napa County (WICC), 2010. Agricultural Resources. Available online at: http://www.napawatersheds.org/app_pages/view/210.

# 4.11 NOISE

This section addresses the potential for the Proposed Project to result in impacts associated with noise. Following an overview of the acoustic setting in **Section 4.11.1** and the relevant regulatory setting in **Section 4.11.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.11.3**.

## 4.11.1 EXISTING SETTING

### BACKGROUND AND TERMINOLOGY

Noise is often defined as unwanted sound. Pressure variations occurring frequent enough (at least 20 times per second) for the human ear to detect are called sounds. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called hertz (Hz).

The perceived loudness of sounds depends upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable. The decibel scale measures sound levels using the hearing threshold (20 micropascals of pressure) as the point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. **Table 4.11-1** shows the most commonly used noise descriptors.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum (20 Hz to 20,000 Hz). As a result, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz to better represent the human ear's sensitivity to mid-range frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the level of a sound source is measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All of the noise levels reported herein are A-weighted unless otherwise stated.

#### NOISE EXPOSURE

An individual's noise exposure is a measure of noise over a period of time. **Table 4.11-2** shows examples of noise sources that correspond to various sound levels. The noise levels presented in **Table 4.11-4** are representative of measured noise at a given instant. These levels rarely persist consistently over a long period of time and community noise levels vary continuously due to the contributing sound sources of the ambient noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure.

**TABLE 4.11-1**
DEFINITION OF ACOUSTICAL TERMS

| Terms | Definitions |
|---|---|
| Decibel, dB | A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter) |
| Frequency, Hz | The number of complete pressure fluctuations per second above and below atmospheric pressure. |
| A-Weighted Sound Level, dBA | Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network, which de-emphasizes very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. |
| Equivalent Noise Level, Leq | The average A-weighted noise level during the measurement period. |
| Community Noise Equivalent Level, CNEL | The average A-weighted noise level during a 24-hour day, obtained after adding 5 decibels to measurements taken in the evening (7:00 to 10:00 pm) and 10 decibels to measurements taken between 10:00 pm and 7:00 am. |
| Day/Night Noise Level, Ldn | The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am. |
| Lmax, Lmin | The maximum and minimum A-weighted noise level during the measurement period. |
| Ambient Noise Level | The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location. |
| Intrusive | That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level. |

SOURCE: FHWA, 2011

The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources such as aircraft flyovers, moving vehicles, sirens, etc., which are typically readily identifiable to an individual. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to characterize a community noise environment and evaluate cumulative noise impacts.

Nighttime ambient noise levels are typically lower than daytime ambient noise levels. For this reason, and because of the potential for sleep disturbance, people tend to be more sensitive to increased noise levels at night than during the day, and increases in nighttime noise have a far greater impact on the community noise environment than increases in daytime noise.

Nighttime ambient noise levels are typically lower than daytime ambient noise levels. For this reason, and because of the potential for sleep disturbance, people tend to be more sensitive to increased noise levels at night than during the day, and increases in nighttime noise have a far greater impact on the community noise environment than increases in daytime noise.

**TABLE 4.11-2**
TYPICAL A-WEIGHTED SOUND LEVELS

| Activities | Noise Level in Decibels |
|---|---|
| Limit of Hearing | 0 |
| Normal Breathing | 10 |
| Soft Whisper | 30 |
| Library | 40 |
| Refrigerator | 50 |
| Rainfall | 50 |
| Washing Machine | 50-75 |
| Normal Conversation | 60 |
| Hair Dryer | 60-95 |
| Alarm Clock | 65-80 |
| Power Mower | 65-95 |
| Dumpster Pickup (at 50 feet) | 80 |
| Garbage Disposal | 80-95 |
| Noisy Restaurant | 85 |
| Chainsaw (at 50 feet) | 85-90 |
| Tractor | 90 |
| Shouting in Ear | 110 |
| Loud Rock Concert | 120 |
| Stock Car Race | 130 |
| Jet Engine at Takeoff | 150 |

SOURCE: Napa County, 2008.

## EFFECTS OF NOISE

The effects of noise on people can be divided into three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the third category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 2009):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal

environmental noise;

- It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA;
- A change in level of 5 dBA is a readily perceptible increase in noise level; and
- A 10-dBA change is recognized as twice as loud as the original source.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. Noise levels are measured on a logarithmic scale, instead of a linear scale. On a logarithmic scale, the sum of two noise sources of equal loudness is 3 dBA greater than the noise generated by only one of the noise sources (e.g., a noise source of 60 dBA plus another noise source of 60 dBA generate a composite noise level of 63 dBA). To apply this formula to a specific noise source, in areas where existing levels are dominated by traffic, a doubling in traffic volume will increase ambient noise levels by 3 dBA. Similarly, a doubling in heavy equipment use, such as the use of two pieces of equipment where one formerly was used, would also increase ambient noise levels by 3 dBA. A 3 dBA increase is the smallest change in noise level detectable to the average person. A change in ambient sound of 5 dBA can begin to create concern. A change in sound of 7 to 10 dBA typically elicits extreme concern and/or anger.

## NOISE ATTENUATION

Stationary “point” sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 dBA to 7.5 dBA per doubling of distance from the source, depending upon environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility spread over many acres or a street with moving vehicles (a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 2009). Noise from large construction sites (with heavy equipment moving dirt and trucks entering and exiting the site daily) would have characteristics of both “point” and “line” sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance.

## VIBRATION

The effects of groundborne vibrations typically cause only a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although groundborne vibration can be felt outdoors, it is typically an annoyance only indoors, where the associated effects of a building shaking can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves.

Peak particle velocity (PPV) is often used to measure vibration. PPV is the maximum instantaneous peak (inches per second) of the vibration signal. Scientific studies have shown that human responses to vibration vary by the source of vibration, which is either continuous or transient. Continuous sources of vibration include construction, while transient sources include truck

movements. Generally, the thresholds of perception and annoyance are higher for transient sources than for continuous sources. **Table 4.11-3** shows PPV vibration levels caused by representative construction equipment, as published by Caltrans.

**TABLE 4.11-3**
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

| Equipment | PPV at 25 Feet (Inches/Second) |
|---|---|
| Large bulldozer | 0.089 |
| Excavator | 0.089 |
| Scraper | 0.089 |
| Loaded trucks | 0.076 |
| Small bulldozer | 0.003 |

Source: Caltrans, 2004

### NOISE LEVELS AND SOURCES

The area surrounding the project site consists of the rural community of Angwin, including Angwin-Parrett Field Airport to the north, rural residential to the south, southeast, east and west, and open space to the southwest. The nearest roads to the property are Cold Springs Road, Winding Way and Howell Mountain Road, which run parallel and immediately adjacent to the southeast and northwest corners of the site, respectively. The noise environment at and in the immediate vicinity of the property is also influenced by the Angwin-Parrett Field Airport 0.5 miles to the north and numerous scattered vineyard activities located to the northeast, east, and southeast of the project site. However, because of the rural nature of the property the ambient noise level is estimated to be 45 dBA, Leq (The Engineering Toolbox, 2017). There are no existing sources of groundborne vibration source within 0.5 miles of the project site.

### SENSITIVE RECEPTORS

Some land uses are considered more sensitive to ambient noise levels than others, sensitivity being a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Residential, hospital, and school land uses are generally more sensitive to noise than commercial and industrial land uses.

There are several residences located approximately 41 feet from Block C (**Figure 4.3-1**). Pacific Union College, Dauphinee Chapel, and the Pacific Union College SDA Church are located approximately 0.15, 0.25, and 0.50 miles from the project site. There are no hospitals within 1 mile of the project site.

## 4.11.2 REGULATORY FRAMEWORK

### FEDERAL

Federal regulations establish noise limits for medium and heavy trucks (defined as a vehicle weighing more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations,

Part 205, Subpart B. The federal truck pass-by noise standard is 80 dB at 15 meters (approximately 50 feet) from the vehicle pathway centerline. Federal regulations governing truck manufacturing implement these controls.

## STATE AND LOCAL

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by noise standard is equal to the federal standard (80 dB). The State pass-by standard for light trucks and passenger cars (defined as a vehicle weighing less than 4.5 tons, gross vehicle weight rating) is also 80 dB at 15 meters (approximately 50 feet) from the centerline. These standards are implemented in two ways: (1) controls on vehicle manufacturers; and (2) legal sanctions from State and local law enforcement officials on vehicle operators in violation of these standards.

### NAPA COUNTY GENERAL PLAN

The Napa County General Plan, adopted in 2008 (General Plan), is the guiding document for development in the unincorporated areas of Napa County (County), which include the subject property and surrounding properties. Policies in the General Plan that are relevant to noise and applicable to the Le Colline Vineyards Project (Proposed Project) include the following:

Goal CC-7: Accept those sounds which are part of the County's agricultural character while protecting the people of Napa County from exposure to excessive noise.

Policy CC-35: The noises associated with agriculture, including agricultural processing, are considered an acceptable and necessary part of the community character of Napa County, and are not considered to be undesirable provided that normal and reasonable measures are taken to avoid significantly impacting adjacent uses.

Policy CC-38: Standards for maximum exterior noise levels for various types of land uses are established in the County's Noise Ordinance. Additional standards are provided in the Noise Ordinance for construction activities (i.e., intermittent or temporary noise) (Refer to **Table 4.11-4**).

Policy CC-49: Consistent with the County's Noise ordinance, ensure that reasonable measures are taken such that temporary and intermittent noise associated with construction and other activities does not become intolerable to those in the area. Construction hours shall be limited per the requirements of the Noise Ordinance. Maximum acceptable noise limits at the sensitive receptor are defined in Policy CC-35.

**TABLE 4.11-4**
EXTERIOR NOISE LEVEL STANDARDS
(NOT TO EXCEED MORE THAN 30 MINUTES AN HOUR)

| Land Use Type | Time Period | Noise Level (dBA) by Noise Zone Classification | | |
|---|---|---|---|---|
| | | Rural | Suburban | Urban |
| Single-Family homes and Duplexes | 10 pm to 7 am | 45 | 45 | 50 |
| | 7 am to 10 pm | 50 | 55 | 60 |
| Multiple residential 3 or More units Per Building (Triplex +) | 10 pm to 7 am | 45 | 50 | 55 |
| | 7 am to 10 pm | 50 | 55 | 60 |
| Office and Retail | 10 pm to 7 am | 60 | | |
| | 7 am to 10 pm | 65 | | |
| Industrial and Wineries | Anytime | 75 | | |

NOTE: dBA = hourly A-weighted sound level in decibels
SOURCE: Napa County, 2008.

Policy AG/LU-15: The County affirms and shall protect the right of agricultural operators in designated agricultural areas to commence and continue their agricultural practices (a "right to farm"), even though established urban uses in the general area may foster complaints against those agricultural practices. The "right to farm" shall encompass the processing of agricultural products and other activities inherent in the definition of agriculture provided in Policy AG/LU-2, above. The existence of this "Right to Farm" policy shall be indicated on all parcel maps approved for locations in or adjacent to designated agricultural areas and shall be a required disclosure to buyers of property in Napa County.

## NAPA COUNTY NOISE ORDINANCE

Section 8.16.080 Specific Types of Noise Prohibited under the County's Noise Ordinance that are applicable to construction of the project, include:

### Construction or Demolition:

1. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of seven pm and seven am, such that the sound there from creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the appropriate authority. This subsection shall not apply to the use of domestic power tools, as specified in subsection (B)(3) of this section.
2. Noise Restrictions at Affected Properties. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedule (refer to **Table 4.11-5**):

**TABLE 4.11-5**
NOISE LIMITS FOR CONSTRUCTION ACTIVITIES

| | Residential | Commercial | Industrial |
|---|---|---|---|
| Daily: 7 am to 7 pm | 75 dBA | 80 dBA | 85 dBA |
| Daily: 7 pm to 7 am | 60 dBA | 65 dBA | 70 dBA |

NOTE: dBA = hourly A-weighted sound level in decibels
SOURCE: Napa County, 2008.

Section 8.16.090 Exemptions to noise regulations which are applicable to operation of the Proposed Project, include:

### Agricultural Operations:

All mechanical devices, apparatus or equipment associated with agricultural operations conducted on agricultural property. Wineries are not included in this Section 8.16.090 exemption.

## 4.11.3 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

This section addresses potential impacts of the Proposed Project associated with noise. Criteria for determining the significance of impacts have been developed based on Appendix G of the CEQA Guidelines and relevant agency thresholds. Impacts would be considered significant if the Proposed Project were to:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration of groundborne noise levels;
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

### SIGNIFICANCE THRESHOLDS

Because the significant criteria refer to local standards, the following discussion provides the significance thresholds utilized in the analysis to assess the significance criteria. According to the County's Construction Noise Ordinance 8.16.080, if construction-related noise increases the ambient noise level above 75 dBA, Leq in the vicinity of a residence, a significant impact would occur (refer to **Table 4.11-5**). Operational noise impacts are considered significant if a project-related noise source

increases the ambient noise level above 75 dBA, Leq (refer to **Table 4.11-4;** Napa County, 2008).

However, according to Napa County General Plan Policy CC-35 and Napa County Noise Ordinance 8.16.090, noise resulting from agricultural operations are considered a necessary part of the community character of Napa County and are exempt from standard non-agricultural noise regulation. The Proposed Project seeks to develop agricultural land (vineyards) in land zoned for agriculture within a rural area. For this analysis, excessive groundborne vibrations are defined as those that are equal to or exceed 0.5 PPV at the nearest non-residential structure, and exceed 0.1 PPV (in/sec) experienced at the nearest residence (Caltrans, 2004). Therefore, an impact is considered potentially significant if construction or operation of the Proposed Project would result in an increase of 0.5 PPV (in/sec) at the nearest non-residential structure, or 0.1 PPV at the nearest residence.

## METHODOLOGY

Noise levels from operation of construction equipment were estimated using Caltrans guidelines, as standard construction equipment will be used and the County does not produce its own estimated noise levels for construction equipment (Caltrans, 2009). Project-related construction noise levels were compared to Napa County's construction noise significance levels provided in **Table 4.8-1** and **Table 4.8-2** to determine noise impact due to construction of the Proposed Project.

Traffic volumes related to the Proposed Project were compared to existing traffic volumes. Caltrans noise guidelines were used to determine traffic noise level increase along local roadways attributable to the Proposed Project (Caltrans, 2009). The existing noise levels were added to the increased noise attributed to the Proposed Project and were compared to applicable significance thresholds. Increases in the ambient noise level due to stationary sources (parking lot and truck noise) were estimated using known noise levels and comparing those noise levels to the applicable significance thresholds.

### VIBRATION

Vibration noise levels for construction and operation of the Proposed Project were determined using Caltrans guidelines (Caltrans, 2013). Those vibration noise levels were then compared to Napa County significance thresholds. Structural damage can occur when PPV values are 0.5 inches per second or greater. Annoyance can occur at levels as low as 0.1 inches per second and become strongly perceptible at approximately 0.9 inches per second (Caltrans, 2004).

## IMPACTS AND MITIGATION MEASURES

**Impact 4.11-1: Implementation of the Proposed Project may expose persons to noise levels in excess of standards established in the General Plan or County noise ordinance, or applicable standards of other agencies. This is a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

### Construction

Construction noise associated with construction of the Proposed Project is not considered an agricultural operation, and would be subject to the County noise thresholds of 75 dBA. Using the Caltrans noise levels for standard construction equipment, it was determined that the Proposed Project would generate noise a maximum 85 dBA at 50 feet as shown in **Table 4.11-6**. The nearest sensitive receptor is approximately 41 feet from construction activities. The estimated noise level at the nearest sensitive noise receptor would be approximately 85 dBA, which exceeds the County threshold of 75 dBA, Leq. Construction noise activities near sensitive noise receptors would not occur for more than two days and would not be consistent throughout the day.

**TABLE 4.11-6**
TYPICAL CONSTRUCTION NOISE LEVELS

| Equipment | dBA Leq at 50 feet |
|---|---|
| Excavator | 85 |
| Front-end loader | 80 |
| Bulldozer | 85 |
| Water truck | 85 |
| Chainsaw[1] | 85 |
| Loaded/haul trucks | 84 |
| Grader | 85 |
| Tractor | 84 |

NOTES: [1]A typical usage factor for chainsaws is 20 percent. However, to account for the more frequent use of chainsaws during the timber harvest phase, a usage factor of 100 percent was used. This is extremely conservative, as it assumes that chainsaws would be operated continuously.
Calculated via Caltrans equation: Leq(h), dBA = Lmax at 50 feet – 20log(D / 50) + 10log(UF)
SOURCE: Caltrans, 2009

A maximum of 100 vehicle trips per day would occur during the Proposed Project's timber harvest and construction phase (refer to **Section 4.12**). The existing volume of traffic on Cold Springs Road is approximately 524 vehicles per day. The increase in the ambient noise level in the vicinity of Cold Mountain Road due to construction traffic is 0.76 dBA, which would not be audible; therefore, noise from timber harvest and construction traffic on Cold Springs Road would result in a less-than-significant impact.

**Mitigation Measure 4.11-1** requires the Applicant to locate stationary noise sources as far away from sensitive receptors as possible, limit the hours of construction per Napa County ordinance, and equip construction equipment with mufflers or acoustic shields. With the implementation of **Mitigation Measure 4.11-1,** this is a less-than-significant impact.

**Mitigation Measure 4.11-1**
The following measures shall be enacted during construction of the Proposed Project to minimize noise impacts to nearby sensitive receptors:

- Stationary equipment and staging areas shall be located as far as practical from noise-sensitive receptors.

- All construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.
- Construction within 200 feet of the neighboring residences shall only occur between the hours of 8 am to 6 pm.
- Landings will not be located within 100 feet of adjacent residences.
- Construction within the remainder of the project site shall occur only between the hours of 7 am to 7 pm.
- The Applicant shall provide a noise complaint contact phone number to all residences within 400 feet of construction activities. The Applicant shall appoint a noise management employee to investigate noise complaints.

**Operation**

Operation of the Proposed Project generally consists of replanting, pruning, harvesting, fertilizer and/or pesticide application, use of wind machines for frost protection, annual harvesting, and grape transport. As discussed above, agricultural operations are exempt from County noise standards. The following discussion is provided for disclosure purposes. The Proposed Project may increase ambient noise levels in the immediate vicinity of the property; however, on-site agricultural operations would be exempt under Section 8.16.090(E) of the Napa County municipal code. Additionally, Block C, the closest vineyard block to sensitive receptors, will be hand-farmed, effectively limiting mechanical operational source noise. As shown in **Table 4.11-6** above, grape haul trucks can generate noise levels of 84 dBA at distances of 50 feet. The main truck route for grape haul trucks would be Cold Springs Road. The existing volume of traffic on Cold Springs Road is approximately 524 vehicles per day, as discussed above. The increase in project-related traffic includes approximately 33 vehicle trips during harvest (refer to **Section 4.12.3-2**) on Cold Springs Road, a less than 7 percent increase that would be seasonally intermittent. The increase in ambient noise levels in the vicinity of Cold Springs Road is 0.27 dBA, which would not be audible. Since project-related traffic would not audibly increase ambient noise levels at nearby sensitive receptors, the addition of project-related traffic on Cold Springs Road would not interfere with Napa County General Plan policies. Accordingly, operational noise impacts would be less-than-significant.

**Impact 4.11-2: The Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. Less-than-significant.**

## CONSTRUCTION

Construction activities for the Proposed Project would consist of using earthmoving equipment shown in **Table 4.11-7**. Generally, excessive vibration is only an issue when construction requiring the use of equipment with high vibration levels (i.e., compactors, large dozers, etc.) occurs within 25 to 100 feet of an existing structure. Medium-sized dozers, compactors, scrapers, and other equipment are anticipated to be used during construction of the Proposed Project.

**TABLE 4.11-7**
PREDICTED PPV AT 25 AND 41 FEET FROM CONSTRUCTION

| Equipment | PPV (inches/second) at 25 feet | PPV (inches/second) at 41 feet |
|---|---|---|
| Excavator[1] | 0.089 | 0.034 |
| Tractor[1] | 0.089 | 0.034 |
| Loaded trucks[1] | 0.076 | 0.029 |

[1]PPV was predicted using the equation:
PPV predicted = PPVref * (25 /Dsource) ^1.4.
PPV = peak particle velocity
SOURCE: Caltrans, 2013

The nearest noise receptors are several single-family residences approximately 41 feet from the eastern property boundary. Actual distance to where equipment will be used may be greater. **Table 4.11-7** provides estimated construction vibration levels at this distance. As shown in **Table 4.11-7**, the predicted PPV levels for all of the equipment to be used in construction of the Proposed Project would be below the significance thresholds of 0.5 PPV for non-residential structures and 0.1 PPV for residences (see **Section 4.11.2-1**). This would be a less-than-significant impact.

### OPERATION

Loaded trucks traveling to and from the property during operation would be the only significant source of vibration during operation of the Proposed Project. Truck usage on local roadways generated by the Proposed Project would increase during harvest season. Loaded trucks may occur as close as 50 feet to sensitive noise receptors. Based on the calculations presented in **Table 4.11-7**, vibrations from loaded trucks can be 0.0288 PPV, which is below the significance threshold of 0.1 PPV for residences (see **Section 4.11.3-3**). Therefore, the additional loaded truck traffic during harvest would not expose sensitive noise receptors to excessive groundborne vibration or groundborne noise levels. This would be a less-than-significant impact.

**Impact 4.11-3: The Proposed Project would not expose people residing or working in the project area to excessive noise levels from public or private airstrips. Less-than-significant.**

The project site is located within 0.5 miles of the Angwin-Parrett Field Airport, a public use airport. The Proposed Project would not place residences in the vicinity of the airport; therefore, the Proposed Project would not provide an avenue for new residences to be exposed to the airport operations noise levels. Workers have the potential to be temporarily exposed to air craft noise during construction and operation of the Proposed Project. With 32 aircraft operations per day, workers may be exposed to approximately three aircraft per hour, assuming all aircraft flight paths use the southern approach (runway 34) which would travel adjacent to the western corner of the project site (refer to **Figure 3-2**). With approximately 92 percent of the aircraft being single-engine aircraft, engine noise would be far below a commercial airline.

Due to the tree coverage (identified as 100-foot trees) 2,100 feet to the south, runway 34 has a clearance ratio of 19:1 or 19 feet of height increase or decrease required for every foot of forward travel (AirNav.com, 2018). The portion of the project site where exposure may occur is

approximately 5,000 feet from the edge of runway 34. Accordingly, in order for aircraft to meet the 19:1 approach slope, the planes would be several hundred feet above the western corner of the project site either ascending away from the airport, or on the descent approach. Furthermore, at approach speeds, each aircraft would traverse adjacent to the project site for no more than 45 seconds to a minute if turning into the approach or descent. At three aircraft per hour, this would equate to an exposure of at most a few minutes. Based on the anticipated height planes need to meet the clearance slope, typical aircraft (single engine), and assumed exposure time, noise levels experienced by vineyard workers would not exceed the County noise standard of 75 dBA, Leq for 30 minutes in any one hour; therefore, this is a less-than-significant impact.

# REFERENCES

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Federal Highway Administration (FHWA), 2011. Measurement of Highway-Related Noise, Terminology. Available online at: http://www.fhwa.dot.gov/environment/noise-/measurement/mhrn02.cfm.

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# 4.12 TRANSPORTATION AND TRAFFIC

This section addresses the potential for the Proposed Project to result in impacts associated with transportation and traffic circulation. Following an overview of the transportation setting in **Section 4.12.1** and the relevant regulatory setting in **Section 4.12.2**, project-related impacts and recommended mitigation measures are presented in **Section 4.12.3**.

## 4.12.1 EXISTING SETTING

### EXISTING ROADWAY NETWORK

Access to the project site is provided via an existing roadway network south of the town of Angwin. Direct access to the project site is provided primarily by Cold Springs Road and to a lesser degree, Winding Way. Roadways that would be utilized by project related traffic are described below.

A private residential access road (refer to **Figure 3-3**) provides access to the project site. The road is a paved single-lane residential access road located approximately 0.2 miles from the southern terminus of Cold Springs Road.

*Cold Springs Road* is a single-lane east/west and north/south oriented paved country road. The driveway at 300 Cold Springs Road provides access to the project site. Cold Springs Road extends from Howell Mountain Road until its terminus approximately 0.2 miles southwest of the property. Before turning south towards the eastern boundary of the project site, Cold Springs Road continues into Las Posadas Road, which runs approximately 2.6 miles until its terminus southeast of the property. The road has no centerline striping, limited or no shoulder areas, and an asphalt path (or sidewalk) along the north side of the road (CTG, 2018).

*Winding Way* is a single-lane paved road that extends west off of Cold Springs Road. It runs approximately 575 feet from Cold Springs Road to its terminus. A driveway off Winding Way provides access to the project site.

*Howell Mountain Road* is a two-lane north/south oriented major roadway that provides regional access to the project site. Howell Mountain Road turns into Deer Park Road just south of the town of Angwin, and connects the Silverado Trail in the Napa Valley with the Pope Valley to the north.

*Deer Park Road* is a two-lane paved roadway that intersects with Howell Mountain Road and White Cottage Road. Deer Park Road runs south until it meets Hwy 128 or Silverado Trail N which allows access into the City of St. Helena.

### EXISTING TRAFFIC CONDITIONS

As identified by Napa County in the Traffic Volume Summary, peak day volumes on Howell Mountain Road are 1,196 northbound trips and 1,168 southbound trips. Deer Park Road (portion to the west of Howell Mountain Road/White Cottage Road) peak day volumes are 3,123 eastbound

trips and 3,181 westbound trips. The peak day volumes on Cold Springs Road are 265 eastbound trips and 259 westbound trips (Napa County, 2009). Typically, the practical capacity of most two-lane rural roadways is 14,000 vehicles per day (HCM, 2000). However, given the rural nature of the roadways leading to the project site, the topography of the region, and the relatively minimal existing traffic volumes, the practical capacity for Howell Mountain Road and Cold Springs Road was assumed for this analysis to be less than half the typical maximum at 5,000 vehicles per day, consistent with Napa County road standards for a Major Arterial road. Cold Springs Road is best categorized a General Minor road that serves primarily as access to adjacent land (Napa County, 2016). Therefore, its practical capacity is up to 1,000 vehicles per day (Napa County, 2016). Winding Way is best categorized as a Non-Continuing Minor road, with a practical capacity of up to 250 vehicles per day (Napa County, 2016). The residential driveway is a private paved single-lane road.

According to a recent traffic study (CTG, 2018), peak-hour volumes on Howell Mountain Road (south of the intersection with Cold Springs Road) reach 227 northbound trips and 233 southbound trips. The peak-hour volumes on Cold Springs Road (west of the intersection with Las Posadas Road) reach 47 eastbound trips and 31 westbound trips. South of the intersection with Las Posada Road, Cold Springs Road experiences 17 northbound peak-hour trips and 18 southbound peak hour trips.

Other roadways in the surrounding area have historically and are currently being used for the transport of agricultural crops by a wide variety of landowners in the County. Many of the roads in the surrounding area were originally built to transport agricultural products, including forest products and grapes, early in the last century.

### BIKEWAYS, PEDESTRIAN FACILITIES, PUBLIC TRANSPORTATION SYSTEMS

There are no dedicated bicycle pathways/routes in the immediate vicinity of the project site. The nearest bicycle pathway is a small section of Howell Mountain Road in the vicinity of the PUC, which is approximately 2,700 feet northwest of the project site. No public transportation currently serves the project site.

## 4.12.2 REGULATORY FRAMEWORK

### STATE

#### CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) manages interregional transportation, including the management and construction of the state highway system. In addition, Caltrans is responsible for the permitting and regulation of state roadways. Caltrans establishes performance standards that apply to specific routes and publishes those standards in transportation concept reports. There is one roadway that falls under Caltrans' jurisdiction, State Route 29, which is approximately four miles southwest of the project site.

# LOCAL

## NAPA COUNTY GENERAL PLAN (2008)

The Napa County General Plan Circulation Element (2008) seeks to provide safe and efficient movement on well-maintained roads throughout the County. The following are related goals and policy guidelines that pertain to transportation and circulation:

Goal CIR-2: The County's transportation system shall provide for safe and efficient movement on well-maintained roads throughout the County, meeting the needs of Napa County residents, businesses, employees, visitors, special needs populations, and the elderly.

Policy CIR-13: The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is both safe and efficient in terms of providing local access. The following list of improvements has been supported by policy makers within the County and all five incorporated cities/town, and will be implemented over time by the County and other agencies to the extent that improvements continue to enjoy political support and funding becomes available:

- Install safety improvements on rural roads and highways throughout the county including but not limited to new signals, roundabouts, bike lanes, shoulder widening, softening sharp curves, etc.

Policy CIR-15: The County shall maintain and apply consistent highway access standards regarding new driveways to minimize interference with through traffic while providing adequate local access. The County shall also maintain and apply consistent standards (though not exceeding public road standards) regarding road widths, turn lanes, and other improvements required in association with new development. Application of these standards shall consider the level of improvements on contiguous roads.

Policy CIR-16: The County shall seek to maintain an adequate Level of Service (LOS) on roads and at intersections as follows. The desired level of service shall be measured at peak hours on weekdays.

- The County shall seek to maintain an arterial LOS D or better on all county roadways, except where maintaining this desired level of service would require the installation of more travel lanes than shown on the Circulation Map.
- The County shall seek to maintain a LOS D or better at all signalized intersections, except where the level of service already exceeds this standard (i.e., LOS E or F) and where increased intersection capacity is not feasible without substantial additional right-of-way.
- No single level of service standard is appropriate for un-signalized

intersections, which shall be evaluated on a case-by-case basis to determine if signal warrants are met.

## 4.12.4 IMPACT ANALYSIS

### SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts to traffic and circulation have been developed based on Appendix G of the California Environmental Quality Act's (CEQA) *Guidelines* and relevant agency guidelines. Impacts to the existing transportation network would be considered significant if the Proposed Project were to:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), including increased wear-and-tear;
- Result in inadequate emergency access;
- Conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or actively exceeding the site's capacity; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

### ANALYSIS METHODOLOGY

Impacts to transportation and circulation were analyzed based on an examination of the project site and published information regarding transportation and circulation within the vicinity of the project site. These factors were then compared to the significance criteria listed above. If significant impacts may occur, mitigation measures are included to increase the compatibility and safety of the Proposed Project and reduce impacts to less-than-significant levels.

## IMPACTS AND MITIGATION MEASURES

**Impact 4.12-1: Implementation of the Proposed Project could conflict with applicable Napa County plans and policies establishing measures of effectiveness for the performance of the circulation system, including, level of service standards. This is a potentially significant impact if left unmitigated. Less-than-significant with mitigation.**

### CONSTRUCTION

Construction traffic typically occurs outside of peak hour traffic. The typical construction hours of the Proposed Project would be 7 am to 7 pm Monday through Saturday. Construction activities would be intermittent and short-term in nature. Accordingly, peak day traffic conditions were utilized to analyze the impact of construction traffic associated with the Proposed Project. The existing driveway off Cold Springs Road would be the primary access roadways for traffic entering and exiting the property. Winding Way will not be used for logging trucks or construction equipment for the implementation of the vineyard installation under the ECP. Due to the narrow intersection with Cold Spring Road, Winding Way will only accept cars and pickups.

Vehicles expected to be used during the timber harvest (Phase I) include, but are not limited to, legally loaded, four or more axle trucks; three-axle trucks; dump trucks; delivery trucks; and construction worker vehicles. Access will be provided via the existing residential access road located off of Cold Springs Road. It is anticipated that an average of up to 10 trips for material delivery to and from the site would occur and that the heavy equipment listed in **Table 3-3** would be delivered to the project site once at the start of timber harvest and remain onsite in accordance with the phasing of timber harvesting, erosion control plan installation and vineyard development, then vineyard operation and harvesting. Therefore, there would be 5 heavy equipment delivery trips at the beginning of construction and 5 trips to remove the equipment at the end of the season. Logging trucks will be used to transport timber to northern California facilities. Approximately 100 trips would be required over the course of the timber harvest phase to haul logs away from the project site. As the timber harvest phase is expected to take up to 1 month (30 days), this would spread the logging truck trips out to just over 3 per day. To be conservative, it is assumed that there will be approximately 6 round-trip logging truck trips per day (an estimated 3 logging trucks each making 2 trips to the sawmill, assumed to located west of Angwin, north or west of Santa Rosa, each day for a total of 6 round-trips). As such, in total, there will be up to 12 logging truck trips to and from the project site each day (6 trips in and 6 trips out), with an additional 5 heavy equipment deliveries happening two times per year and 10 trips for material delivery to and from the site over the duration of project construction.

There would be approximately 12 construction workers carpooling in 4 cars during the timber harvest phase. For peak day conditions, 8 worker trips per day were assumed to account for round-trip commuting to and from the project site (4 trips in the a.m. and 4 trips in the p.m.). Therefore, up to 20 total trips would be added to the local roadway network during construction of the Proposed Project, with an additional 5 heavy equipment deliveries happening two times during the year and 10 material deliveries happening over the course of construction. This represents the timber harvest

phase, which is the construction phase with the largest number of vehicle trips for construction workers, material deliveries, and logging trucks. The 20 daily trips will be used in the following calculations as the most conservative estimate, as all other phases will have lesser impacts due to fewer construction worker trips and no logging truck trips.

Peak day volume on Howell Mountain Road is 1,196 eastbound trips and 1,168 westbound trips, peak day volume on Deer Park Road (portion to the west of Howell Mountain Road/White Cottage Road) is 3,123 eastbound trips and 3,181 westbound trips, and peak day volume on Cold Springs Road are 265 eastbound trips and 259 westbound trips (Napa County, 2009). The addition of 20 trips is well below the assumed County maximum capacity of 5,000 vehicles per day on Howell Mountain Road and Cold Springs Road. The additional 20 trips represents an increase in peak day volume trips of 1.67 percent (eastbound) and 1.71 percent (westbound) on Howell Mountain Road, 0.64 percent (eastbound) and 0.62 (westbound) on Deer Park Road, and 7.5 percent (eastbound) and 7.7 percent (westbound) on Cold Springs Road. Further, these trips would be temporary and averaged over the course of a day.

The practical capacity for Winding Way is 250 vehicles per day (Napa County, 2016). Given that there are 10 parcels that abut the 575-foot long Winding Way, it has been conservatively assumed that 10 residences typically utilize Winding Way. This is conservative because not all parcels contain a single-family residence, and not all parcels use Winding Way as the primary access point (several of those parcels are directly access via Cold Springs Road). The Institute of Traffic Engineers (ITE) assumes a trip generation rate for a single-family residence of 9 trips per day; therefore, it can be conservatively assumed that Winding Way has approximately 90 daily trips (ITE, 2008).

Since larger vehicle are not able to use the Winding Way entrance, it is estimated that four morning and four evening worker trips would occur on Winding Way, however it is likely that construction trips would be split between the entrance directly off of Cold Springs Road and the entrance off of Winding Way. The capacity of Winding Way would not be exceeded. In addition, **Mitigation Measure 4.12-1** ensures that logging trucks will not utilize the Winding Way entrance, to further minimize potential traffic issues on this one-lane roadway.

However, the temporary increase in traffic trips during construction of the Proposed Project has the potential to result in an increase in traffic volumes on area roadways. As discussed in **Section 4.12.1-2**, peak day volume on Cold Springs Road is conservatively estimated at 259 trips, and although the addition of 20 trips would still be well below assumed County maximum capacity of 1,000 vehicles per day, it would temporarily increase peak day volumes of trips by 7.7 percent on Cold Springs Road. Both roads are narrow, rural roads, thus **Mitigation Measure 4.12-1** requires large trucks to operate with caution and that material and equipment deliveries be limited to 7 am to 4 pm). With implementation of **Mitigation Measure 4.12-1**, potential impacts related to construction traffic are reduced to a less-than-significant level.

**Mitigation Measure 4.12-1**

- The Licensed Timber Operator (LTO) or Registered Professional Forester (RPF) shall ensure that drivers of all large vehicles (vehicles larger than a two-axle, four-tire vehicle) are advised to use extreme caution when transporting equipment, agricultural products, and/or people, especially in areas of limited site visibility.
- The LTO or RPF shall ensure drivers are alerted to the proximity of three schools along Cold Springs Road: Discoveryland Preschool, PUC Elementary School, and the Pacific Union College Campus. Drivers shall be informed that school hours are from 7:30 am to 5:30 pm and shall proceed with caution. The LTO or RPF shall notify the three schools the timing and schedule for large vehicle accessing the project site via Cold Springs Road.
- Large trucks (3 axles or less) shall operate with headlights on for safety and are not to exceed 15 miles per hour on Cold Springs Road. No logging equipment or large trucks shall use Winding Way at any time. Larger vehicles shall not exceed 25 miles per hour on rural county road.
- Oversized vehicles (4 axels or more) shall not use Jake brakes in the immediate vicinity of residential neighborhoods.
- All construction activities are restricted to Monday through Saturday 7 am to 7 pm. No activities shall take place on Sundays and holidays.
- Signs indicating slow trucks entering the roadway shall be placed at a distance of 300 feet in both directions of the project site and Discoveryland Preschool, PUC Elementary School, and the Pacific Union College Campus shall be notified when logging will commence and when logging operations are completed.

## OPERATION

Operation of the Proposed Project would generate trips for vineyard maintenance and grape harvest. Vineyard operation and maintenance would typically require 3 to 4 people per day or less, but would require up to 25 people for short durations during certain operational tasks, such as pruning or harvest. These 25 workers would typically carpool to the project site; as such, approximately 8 worker vehicles per day are anticipated. Operational traffic associated with the Proposed Project would be greatest during harvest of the vineyard. During operation of the Proposed Project, grapes are anticipated be transported in farm trucks to wineries in the Napa Valley area. The grape harvest is expected to be transported over a 25-day harvest period when the vineyard reaches maturity. This type of agricultural traffic anticipated to be generated by the Proposed Project would be minimal and very similar to other agricultural transport activities presently taking place in the vicinity. Approximately 25 10± ton trucks are anticipated to transport harvested grapes during this 30-day period, with a maximum of three trips per day. At worst case scenario, 22 peak day trips would be added to the transportation system (8 worker trips and 3 grape truck trips in the a.m., and the same vehicles leaving in the p.m.). This long-term addition of operational trips to and from Cold Springs Road would be minimal, seasonal, and would not exceed capacity on existing roadways serving the property and in the vicinity. Therefore, operation of the Proposed Project would result in a less-than-significant impact to area circulation.

**Impact 4.12-2: Traffic generated by the Proposed Project would not result in significant changes to air traffic patterns. Less-than-significant.**

Traffic generated by the proposed project would not interfere with existing air traffic patterns from Angwin-Parrett Field airport located approximately 0.65 miles northeast of the project site. There would be no anticipated increase in the use of the airport which could result in the need to change air traffic patterns due to the number of incoming or outgoing planes, nor would the Proposed Project introduce structures that would conflict with the existing air traffic patterns. This impact would be less-than-significant.

**Impact 4.12-3: Traffic generated by the Proposed Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), including increased wear-and-tear. If left unmitigated, this would be a potentially significant impact. Less-than-significant with mitigation.**

Adding large vehicles to Winding Way, a one-way road, would substantially increase the hazards due to incompatible uses. However, as discussed under **Impact 4.12-1**, **Mitigation Measure 4.12-1** would ensure that logging and large vehicles avoid Winding Road and therefore this impact is less-than-significant with mitigation.

The use of trucks to transport equipment and materials to and from the project site during construction, logging vehicles to haul logs, and worker trips during operation could affect road conditions on Cold Springs Road by increasing the rate of road wear. Roads in the vicinity, such as Howell Mountain Road, were constructed to accommodate a mix of vehicle types, including heavy trucks. Cold Springs Road and Winding Way are designated by Napa County as minor roads, which are generally not built with the pavement thickness that would withstand substantial or continuous traffic. Cold Springs Road (which will receive all of the logging truck trips pursuant to **Mitigation Measure 4.12-1**) may have increased wear-and-tear due to these trips during the timber harvest phase of construction. The increase in construction worker related trips (estimated at a maximum of 8 trips per day during construction) would not substantially increase the wear-and-tear of a local road (Cold Springs Road) as vehicles would be passenger cars and not heavy trucks.

Although high volumes of heavily-loaded trucks have the potential to damage roadways, truck trips associated with project construction would be legally loaded. The number of project-related truck and equipment trips anticipated to travel on Cold Springs Road is small in comparison to larger construction projects. Approximately 100 trips over 30 days would be required of logging trucks during timber harvest would be needed, which could damage Cold Springs Road. **Mitigation Measure 4.12-2** requires that the Applicant document the existing condition of Cold Springs Road prior to any construction traffic and return the road to pre-construction conditions, if any deterioration is observed. It should be noted that all heavy equipment deliveries, material deliveries, and logging truck transport trips would occur during the non-rainy season, which avoids saturated ground conditions that could impact asphalt pavement.

Ongoing operation of the Proposed Project is an agricultural use that is in keeping with the vineyards in the area. The use of the County-maintained roads for agricultural transport is in keeping with the goals and policies of the Napa County General Plan, and is not significantly different from the existing vineyards in the area. The property owner will pay a fair-share payment for future wear-and-tear of roads from this typical and expected agricultural use via the ongoing payment of property taxes. Heavy truck construction traffic shall comply with the CVC sections related to vehicle weight and width. Extra-legal loads needed for specialized deliveries shall be subject to special permit requirements from Napa County and Caltrans. After the Applicant obtains necessary local or State traffic permits for movement of equipment, impacts to local roadways are less than significant.

**Mitigation Measure 4.12-2**

Prior to construction, the Licensed Timber Operator (LTO) or Registered Professional Forester (RPF) shall video-document the existing condition of Cold Springs Road from the intersection of Las Posadas Road for approximately 0.38 miles (2,000 feet) to the existing driveway at 300 Cold Springs Road. Upon completion of logging, the Applicant shall meet with the County Road Department and discuss the need for repairs attributable to implementation of the Proposed Project. The Applicant shall assume responsibility for repairs commensurate with its use.

**Impact 4.12-4: Construction and operational traffic generated by the Proposed Project will not result in inadequate emergency access. Less-than-significant.**

The property's main access point (including emergency access) connects via existing driveways on Winding Way and Cold Springs Road. As discussed under **Impact 4.12-1**, since the level of temporary construction traffic (timber harvest and vineyard development) is minimal and there is a very small increase in long-term traffic volumes associated with the addition of worker trips for operation of the vineyard, these factors would not change the LOS experienced by fire and emergency services in accessing the project site and surrounding properties.

The Proposed Project is located in a Very High Fire Hazard Severity Zone (CAL FIRE, 2007). Access for firefighting equipment to the property occurs from existing driveways off of Winding Way and Cold Springs Road, which provides direct access to all vineyard blocks. Biomass fuel loading is high on and in the vicinity of the property. Installation of the proposed vineyard will further reduce fire susceptibility by breaking up some of the overstory biomass fuels in the existing forest canopy, providing a less fire-sensitive irrigated agricultural crop than the existing use. Thus, the potential demands on fire services and emergency access would be reduced with the completion of the Proposed Project. Therefore, because the Proposed Project would not result in inadequate emergency access, this impact is less than significant.

**Impact 4.12-5: Implementation of the Proposed Project would not conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or actively exceeding the site's capacity. Less-than-significant.**

The Proposed Project entails the use of the site for agricultural purposes and does not include facilities to be visited by the public. Accordingly, parking for the site is only necessary to support the growing and harvesting operations on the site and would be limited to the levels necessary to meet these needs. There are no planned spaces on the property for which excess parking could be developed and no immediate land uses that would have the need to park on the project site. Accordingly, implementation of the project would not conflict with General Plan Policy Cir-23. There would be a less-than-significant impact.

**Impact 4.12-6: Traffic generated by construction and operation of the Proposed Project does not have the potential to impact pedestrian, bicycle, and public transport in the vicinity of the project. Less-than-significant.**

There are no roadway pedestrian systems or public transportation facilities in the immediate vicinity of the Proposed Project. Also, the development of the Proposed Project would not create a need for such facilities in the vicinity of the property. Although there are no designated bicycle facilities in the vicinity of the project site, some bicycles operate along Howell Mountain Road adjacent to the Angwin PUC. Construction and operation of the Proposed Project would generate a small amount of project-related construction and operational traffic; however, it would not impact bicycle transportation or exceed Howell Mountain Road traffic volumes. The safety measures provided in **Mitigation Measure 4.12-1** would ensure that pedestrian and bicyclist safety in the area would not be impacted by project-related construction equipment. Therefore, the Proposed Project would not affect bicycle transportation given the temporary and minimal project-related traffic. A less-than-significant impact would occur to bicycle, public transportation, and pedestrian facilities from implementation of the Proposed Project.

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# SECTION 5.0
# PROJECT ALTERNATIVES

## 5.1 INTRODUCTION

This section describes and evaluates alternatives to the Proposed Project. According to CEQA *Guidelines* § 15126.6(a), the purpose of the alternative analysis is to describe a range of reasonable alternative projects that could feasibly attain the majority of the objectives of the Proposed Project and to evaluate the comparative merits of the alternatives. CEQA *Guidelines* § 15126.6(b) requires the consideration of alternatives that could reduce potential impacts to a less-than-significant level or eliminate significant adverse environmental effects of the Proposed Project, including alternatives that may be more costly or could otherwise impede the Proposed Project's objectives. The range of alternatives evaluated in an EIR is governed by a "rule of reason," which requires the evaluation of alternatives "necessary to permit a reasoned choice." Alternatives considered must include those that offer substantial environmental advantages over the Proposed Project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors. An EIR does not need to consider every possible alternative, but must consider alternatives that will foster informed decision-making and public participation.

In accordance with the CEQA *Guidelines*, alternatives considered in this EIR include those that 1) could accomplish the majority of project objectives, and 2) could avoid or substantially lessen one or more significant effects of the project. To provide the appropriate context for the analysis of alternatives, the Proposed Project's objectives and key significant effects are summarized in **Section 5.2**. Project alternatives determined to achieve the CEQA selection criteria are discussed in **Section 5.3**. This discussion evaluates the capacity of project alternatives to accomplish the basic objectives of the Proposed Project and provides a comparison of the potential environmental impacts expected to occur for each resource area. These comparisons are used in **Section 5.4** to determine the Environmentally Superior Alternative.

## 5.2 PROJECT OBJECTIVES

The following objectives have been identified for the Proposed Project:

- Implement an ECP for the project site to ensure post-project runoff is lower than baseline conditions, which will be an environmental improvement for the watershed;
- Minimize project-related soil erosion with implementation of an ECP and through project design by avoiding highly erosion-prone areas and preventing erosion;
- Develop approximately 25 net acres of vineyard on the portions of the property suitable for the cultivation of high-quality wine grapes to ensure economic viability of the Proposed Project;
- Provide opportunities for vineyard employment and economic development in Napa County;

and

- Implement sustainable vineyard farming practices.

# 5.3 ALTERNATIVES

## 5.3.1 NO PROJECT ALTERNATIVE

As required by CEQA *Guidelines* Section 15126.6(e), a No Project Alternative has been evaluated. The evaluation of the No Project Alternative allows decision makers to compare the impacts of the Proposed Project against no development. According to the CEQA *Guidelines* Section 15126.6(e)(2), the No Project Alternative shall discuss what would reasonably be expected to occur in the foreseeable future if the project were not approved. Thus, the No Project Alternative consists of environmental conditions that currently exist without future development on the property. The property would remain as discussed in the setting section of each issue area assessed in **Section 4.0** under the No Project Alternative.

### ABILITY TO MEET PROJECT OBJECTIVES

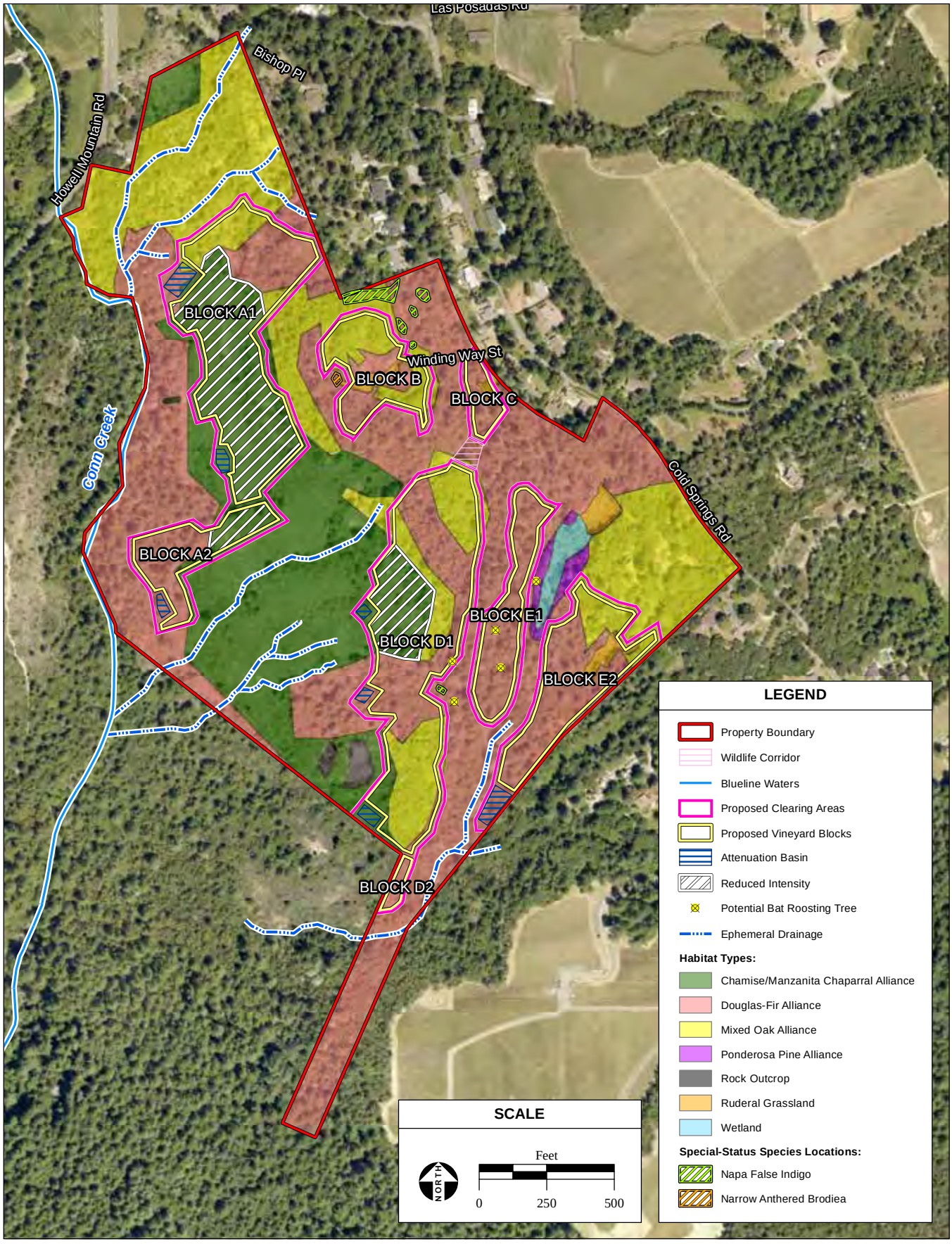
With the No Project Alternative, the property would remain in its existing state as forested with areas of oak woodland, shrubland, grassland, and a single-family residence. No changes to the forested areas, oak woodlands, and shrubland/grassland areas would occur. Conversion of the property to non-timber uses would not occur. Trees and vegetative cover proposed for removal through timber harvest would remain unaffected. The current vegetative cover would remain. This alternative would not accomplish the basic objectives of the Proposed Project.

### ENVIRONMENTAL IMPACTS

The No Project Alternative would eliminate short-term impacts related to construction activities. Temporary impacts associated with noise, pollutants, and greenhouse gas (GHG) emissions from construction activities would be avoided. Additionally, because ground-disturbing activities would not occur, potential impacts to hydrology, water quality, and biological resources would be avoided. However, the 62 percent reduction in erosion from the property would not occur. The development of project features associated with vegetation removal, installation of the ECP, and vineyard conversion would not occur under this alternative. Impacts identified in **Section 4.0** would be avoided and the environmental setting would remain unchanged.

## 5.3.2 REDUCED INTENSITY ALTERNATIVE

The Reduced Intensity Alternative consists of planting approximately 6.89 acres of vineyard on non-timberland areas within the property, shown in **Figure 5-1**. Forested areas (Douglas-Fir Alliance and Mixed Oak Alliance) on the property would not be converted to vineyard and therefore no Timber Conversion Plan (TCP) or Timber Harvest Plan (THP) would be needed. This alternative would result in the conversion of approximately 6.89 acres of shrubland to vineyard. The total gross acreage under this alternative would be 6.89. Because slopes are greater than five percent in these areas, an ECP would still be required, and Napa County would continue to have approval authority.




SOURCE: Kjeldsen Biological Consulting, 7/2015; Napa Valley Vineyard Engineering, Inc., 2/22/2017; Napa County Orthophoto, 2014; AES, 11/4/2019



**Figure 5-1**
Reduced Intensity Alternative

Forested habitat and sensitive habitats would not be removed as a result of this alternative, therefore no habitat mitigation would be needed.

## ABILITY TO MEET PROJECT OBJECTIVES

The Reduced Intensity Alternative would partially meet project objectives as it would allow for the conversion of a portion of the project site to vineyard, would require implementation of an ECP, and would develop a vineyard on portions of the property suitable for the cultivation of high-quality wine grapes. This would provide opportunities for vineyard employment and economic development in the County. Due to the reduced development footprint, such objectives would be met at a lesser scale.

The Reduced Intensity Alternative would not meet all project objectives, specifically the goal to ensure economic viability of the Proposed Project, as it would significantly reduce the acreage available for vineyard planting. This would in turn significantly reduce the opportunities for vineyard employment and economic development in the County, and according to the Applicant would not be economically viable. Additionally, the goal of avoiding highly erosion-prone areas and preventing erosion, as well as the goal of protecting water quality from sources including sedimentation, would be met at a lesser scale in comparison to the Proposed Project due to the reduced ECP area and its associated erosion protections.

## ENVIRONMENTAL IMPACTS

The Reduced Intensity Alternative would result in similar impacts to land use as impacts associated with the Proposed Project. Similar to the Proposed Project, the Reduced Intensity Alternative would not have a substantial adverse effect on a scenic vista, damage scenic resources, substantially degrade the existing visual character of the site and its surroundings, or create a new source of substantial light or glare. However, because less acreage would be developed, impacts to aesthetics would be reduced when compared to the Proposed Project. Also similar to the Proposed Project, the Reduced Intensity Alternative would not physically divide an existing community, conflict with an applicable land use plan, policy, or regulation, or conflict with an applicable habitat conservation plan or natural community conservation plan.

Compared to the Proposed Project, impacts to forested land would be reduced under the Reduced Intensity Alternative. This alternative would not result in the harvesting of timber and would result only in the conversion of 6.89 acres of shrubland habitat to vineyard. The Reduced Intensity Alternative, similar to the Proposed Project, would generate construction-related dust and particulate matter, additional vehicles on the local transportation system, and noise, but on a lesser scale.

This alternative does not include the harvest of timber and proposes a smaller vineyard and ECP implementation area, therefore impacts due to construction would be less than the Proposed Project. Additionally, no logging trucks would be necessary as there would be no timber harvest, which would result in less of potential impacts to local roadways.

However, these impacts were analyzed under the Proposed Project and determined to be either less-than-significant or less-than-significant with mitigation (air quality, noise, and traffic, refer to **Sections 4.3**, **4.11**, and **4.12**). Mitigation measures for the Proposed Project regarding air quality and traffic would still be necessary for the Reduced Intensity Alternative to minimize potential impacts.

As there are no known California Register of Historical Resources or National Register of Historic Places eligible cultural resources on the property, the Reduced Intensity Alternative would result in a less-than-significant impact. Similarly, as discussed in **Section 4.5**, the Proposed Project would result in a less-than-significant impact with mitigation to unknown cultural resources on the property. The Reduced Intensity Alternative would result in a similar but lesser potential to affect previously unknown cultural resources and a similar but lesser potential to discover and disturb of unknown human remains as the Proposed Project. Mitigation measures included in **Section 4.5** for the Proposed Project would be necessary for the Reduced Intensity Alternative to minimize potential impacts to cultural resources.

Areas proposed for conversion to vineyard under the Reduced Intensity Alternative are greater than five percent slopes and would require development of an ECP with project-specific erosion control measures. Similar to the ECP for the Proposed Project, the ECP for this alternative would be designed to reduce sedimentation to downstream, off-site watercourses, such as the Napa River, which is currently listed as an impaired water body for nutrients, pathogens, and sediment under Section 303 (d) of the Clean Water Act (CWA) (**Section 4.9**). The Reduced Intensity Alternative would be required to reduce post-project sediment production on the project site as is required of the Proposed Project. However, the ECP for this alternative would be less acreage than the ECP for the Proposed Project, and would not improve existing conditions on the project site to the same extent by decreasing sediment by approximately 62 percent. Impacts of the Reduced Intensity Alternative associated with erosion and water quality would be slightly greater than those under the Proposed Project. The Reduced Intensity Alternative would be developed on the same property as the Proposed Project, therefore impacts associated with seismicity would be the same as those associated with the Proposed Project.

Construction of the Reduced Intensity Alternative would result in lesser GHG emissions than the Proposed Project, as the installation of the ECP and vineyard would be developed over a smaller area, thereby requiring fewer materials and construction activities. Sources of GHG emissions during construction of this alternative would include the transport and delivery of construction equipment to the property; operation of construction equipment, including equipment used for the planting the vineyard and installing the erosion control system; worker trips; fuel use; and material transport. As no timber harvest would occur, the Reduced Intensity Alternative would result in less vegetation removal, and therefore loss in long-term carbon sequestration would be less.

Compared to the Proposed Project, impacts related to hazardous materials would be slightly less under the Reduced Intensity Alternative. A similar potential for incidental leakage, rupture, or spillage when fueling equipment during construction and operation of the Reduced Intensity

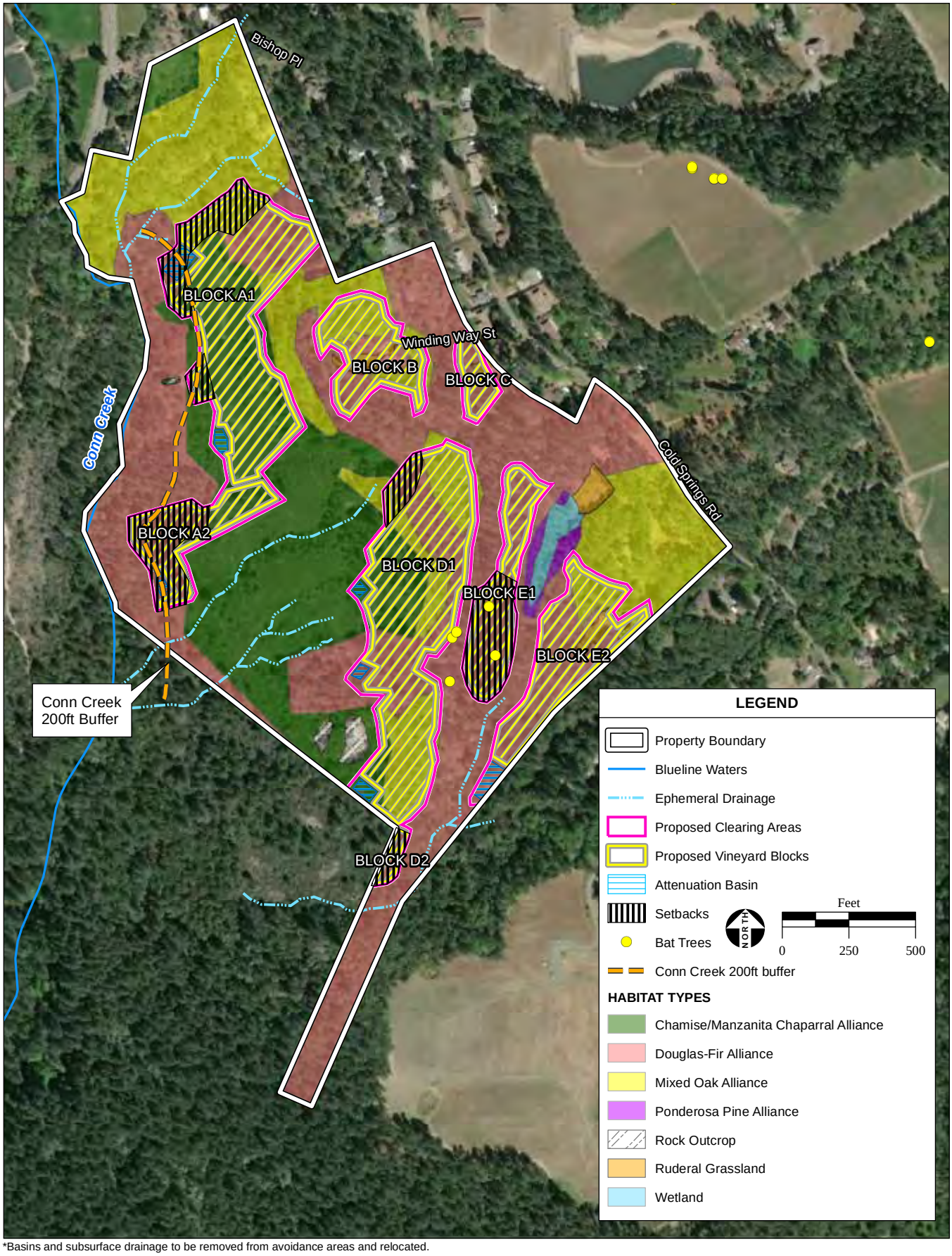
Alternative would occur as that of the Proposed Project, albeit at a reduced scale since there is no timber harvest component and the construction area would be smaller. Additionally, similar risks associated with improper pesticide use, storage, or disposal would occur under the Reduced Intensity Alternative compared to the Proposed Project, again at a reduced scale as the vineyard area would be smaller. Mitigation measures included in **Section 4.8** for the Proposed Project would be required for the Reduced Intensity Alternative to minimize potential impacts related to hazardous materials.

As the proposed vineyard under the Reduced Intensity Alternative would be smaller than the proposed vineyard under the Proposed Project, this alternative would result in less demand for groundwater resources as the Proposed Project, since vineyard acreage would be approximately 80% less than the Proposed Project. Therefore, impacts to groundwater supply of the Reduced Intensity Alternative would be 80% less when compared to the Proposed Project. However, impacts to water quality due to sediment would be greater than the Proposed Project because of the smaller ECP area related erosion control measures. As discussed in **Section 4.9**, even with the Proposed Project, the property would provide the same amount of annual recharge, which exceeds the long-term irrigation needs of the Proposed Project and the smaller Reduced Intensity Alternative.

### 5.3.3 INCREASED WATER QUALITY AND SENSITIVE HABITAT PROTECTION ALTERNATIVE (REFERRED TO HEREIN AS WATER AND HABITAT ALTERNATIVE)

Under the Water and Habitat Alternative, approximately 1.12 acres of Mixed Oak Alliance and 4.23 acres of Douglas-Fir Alliance would be avoided through a reduction in vineyard acreage. As shown in **Figure 5-2,** this alternative would have a reduced acreage (compared to the Proposed Project) of approximately5.35 acres. The total gross acreage under this alternative would be 28.45. The objectives of the Water and Habitat Alternative are to further increase stream setbacks of vineyard blocks, which would avoid areas with relative higher biological value beyond the Proposed Project and provide for greater wildlife movement.

Vineyard blocks would be reduced in size in certain areas to account for increased stream setbacks and avoidance of sensitive habitats. The Water and Habitat Alternative increases the minimum distance between the northwestern portion of block A1 to the ephemeral drainages from approximately 30 feet to 125 feet and also reductions in the western portions of block A1 and block A2 to ensure the buffer to Conn Creek is maintained at a minimum of 200 feet compared to the Proposed Project. The alternative includes a reduction in the northwestern corner of block D1 to increase the buffer from the ephemeral drainage from approximately 20 feet to 125 feet compared to the Proposed Project. The elimination of block D2 assists in protecting the ephemeral drainage in the southern portion of the project site. In regards to the ephemeral drainage located between the southern portion of block E1 and block E2, block E2 acreage has been reduced by moving the boundary further from the drainage to provide a minimum of 50 feet between E2 and the drainage as delineated. With the removal of the southern portion of E1, the drainage would have a minimum buffer distance of 185 feet from the southern portion of D1




*Basins and subsurface drainage to be removed from avoidance areas and relocated.

SOURCE: Kjeldsen Biological Consulting, 7/2015; Napa Valley Vineyard Engineering, Inc., 2/22/2017; Maxar aerial photograph, 4/16/2021; AES, 10/5/2022



**Figure 5-2**
Water and Habitat Alternative

to approximately 400 feet near where the ephemeral drainage was delineated as having defined bed and bank verses the upstream swale.

Mitigation measures discussed in **Section 4.0** for the Proposed Project would apply to this alternative as well, reduced commensurate to the reduced level of impact. Other Mitigation Measures associated with the Proposed Project regarding avoidance and/or minimization of impacts to biological resources would also apply to this alternative, also reduced commensurate to the reduced level of impact.

## ABILITY TO MEET PROJECT OBJECTIVES

The Water and Habitat Alternative would generally meet project objectives by the conversion of a reduced area of the project site to vineyard. This alternative would require implementation of an ECP for portions of the project site similar to that of the Proposed Project, and would develop vineyard on portions of the property suitable for the cultivation of high-quality wine grapes, which would provide opportunities for vineyard employment and economic development in the County. The Water and Habitat Alternative would not meet all project objectives, such as developing approximately 25.0 net acres of vineyard on the property.

## ENVIRONMENTAL IMPACTS

With the Water and Habitat Alternative impacts to biological resources would be less than those of the Proposed Project, as additional sensitive habitats would be protected.

With the Water and Habitat Alternative, construction-related dust and particulate matter would be generated, additional vehicles would travel to the project site during project construction and operation compared to current conditions, and odors would be generated similar to the Proposed Project. These impacts are considered less-than-significant with implementation of mitigation measures discussed in **Section 4.0**, and would similarly be anticipated to result in less-than-significant impacts under this alternative. The Water and Habitat Alternative could result in the potential to affect previously unknown cultural resources, and could result in the discovery and disturbance of unknown human remains, similar to the Proposed Project. Mitigation measures included in the Proposed Project would be necessary for the Water and Habitat Alternative to minimize potential impacts to cultural resources. Similar to the Proposed Project, this alternative would not conflict with the property's AW:AC zoning. The Water and Habitat Alternative would also have similar impacts to aesthetics and would not significantly alter nearby views of the property.

Due to the reduced ECP area, the Water and Habitat Alternative would result in slightly greater erosion and sediment yield compared to the Proposed Project, however, because of the additional setbacks to on-site drainages, specifically Conn Creek, potential impacts to water quality would be slightly less than the Proposed Project. Like the Proposed Project, the Water and Habitat Alternative would result in a reduction in the volume and rate of runoff compared to current conditions. Impacts to water quality would be less than significant with the Proposed Project but would also be less than significant under the Water and Habitat Alternative, as the vineyard blocks are further from

drainages. This alternative would result in less demand for groundwater resources as the Proposed Project, since vineyard acreage would be approximately 22% less than the Proposed Project.

This alternative would not result in additional changes that would alter the geologic setting to an extent that would initiate or exacerbate the potential for seismic hazards to occur on the property, and would not result in a risk of loss of life or property beyond those of the Proposed Project.

Construction of the Water and Habitat Alternative would likely result in a decrease to the emission of GHGs relative to the Proposed Project, as the vineyard acreage is slightly decreased. This alternative would require the use, storage, and disposal of hazardous materials, similar to the Proposed Project. The release of hazardous materials into the environment during construction, operation, and maintenance of the Proposed Project are potentially significant impacts. Mitigation measures for the Proposed Project would be necessary for the Water and Habitat Alternative to minimize potential impacts to hazardous materials to less-than-significant levels.

The Water and Habitat Alternative would result in increased construction-related traffic similar to the Proposed Project. Mitigation measures included in the Proposed Project would be necessary for this alternative to minimize impacts to local roadways.

Like the Proposed Project, the Water and Habitat Alternative would result in increases to noise levels and ground borne noise and vibration generated during construction and subsequent operations and maintenance. Mitigation measures included in the Proposed Project would be necessary for the Water and Habitat Alternative to minimize impacts to nearby sensitive receptors.

# 5.4 ALTERNATIVES ELIMINATED FROM CONSIDERATION

## 5.4.1 LONG-TERM TIMBER HARVEST ALTERNATIVE

The Long-Term Timber Harvest Alternative would involve harvesting on portions of the property and replanting seedlings. No vineyard development would occur on the property. The timber harvest area is designed to accommodate the vineyard conversion under the Proposed Project, therefore a larger timber harvest area would occur under the Long-Term Timber Harvest Alternative. Apart from developed areas, drainages, areas of special-status species, and the wetland, the majority of the property would be selectively cleared and harvested for timber products and replanted for future timber harvest operations. The property does not contain large amounts of high quality timber and is not within a Timberland Protection Zone, therefore economic benefits and long-term viability of this alternative are low. Because vineyard development is the primary objective of the Proposed Project, this alternative has been removed from further consideration.

### ABILITY TO MEET PROJECT OBJECTIVES

The Selective Long-Term Timber Harvest and Management Alternative would not fully meet the objectives of the project. The harvest of timber over a larger portion of the property would provide short-term economic benefits in the form of increased marketable timber products.

However, it would take roughly 20 to 40 years before another timber harvest would be feasible given the size of the trees or economically viable given the costs for harvesting operations and the sale of timber products. Likewise, the economic tax benefits to the County and the addition of jobs to the local workforce would be significantly reduced under this alternative as there would be no ongoing work force needed for the vineyard operations. The erosion control measures that would be implemented as part of a project that includes a vineyard development component would not occur. Finally, the development of portions of the property that are suitable for the cultivation of high-quality wine grapes is the central objective of the project; one that would provide the greatest economic returns in the long term while also operating in a sustainable, environmentally sensitive manner.

### ENVIRONMENTAL IMPACTS

Impacts to biological resources under the Long-Term Timber Harvest Alternative would be greater to Douglas fir, Ponderosa Pine Alliance, and Mixed Oak Alliance than those of the Proposed Project. Impacts to the onsite wildlife movement corridors and habitat would be temporary during the operation of the timber harvest and replanting activities. No deer fencing would be installed. Reduced vegetation cover over a greater acreage of the property under this alternative could impact foraging and cover for terrestrial and bird species during the forest re-growth period. Similar to the Proposed Project, the recommended mitigation measures to reduce impacts to biological resources would be necessary (**Section 4.4**).

The Long-Term Timber Harvest Alternative would result in more extensive impacts in terms of total acreage and would have the potential for greater impacts to hydrology and water quality as well as geology and soils from continuous long-term clearing and harvesting. The disturbance to the forest associated with the Selective Long-Term Timber Harvest and Management Alternative would cause ground disturbing activities over a greater total acreage than those anticipated and mitigated for in the Proposed Project. During timber harvest activities, potential impacts to resource areas such as aesthetics, hydrology and water quality, biological resources, noise, and air quality would likely be greater than those associated with and mitigated for in the Proposed Project. However, the THP process would require mitigation measures to lessen or eliminate these potential impacts.

## 5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA *Guidelines* Section 15126.6(d) requires an evaluation of alternatives to the Proposed Project:

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

**Table 5-1** compares the effectiveness of each project alternative in reducing environmental impacts when compared to the Proposed Project. There would be no significant and unavoidable impacts as a result of the Proposed Project. Each impact identified under the Proposed Project would be considered less-than-significant after mitigation. Therefore, "greater" and "lesser" impacts identified in **Table 5-1** are referring to varying degrees of impacts below established significance thresholds. In summary, the environmentally superior alternative is the alternative that would cause the lowest impact to the environment.

Implementation of the No Project Alternative would result in no change in land use on the property; however, it fails to meet project objectives. Under the No Project Alternative, impacts to hydrology and water quality as well as geology and soils would likely be greater than the Proposed Project since the reduction in sediment production on the property would not be realized. Therefore, the current erosion and sedimentation occurring from this source would continue. Without implementation of the ECP, the water quality of off-site watercourses would not be improved by the reduction in sediment and runoff. This could lead to greater impacts to water quality in the long term for off-site watercourses such as the Napa River, which is currently listed as a Section 303 (d) impaired water body under the CWA.

**TABLE 5-1**
ENVIRONMENTAL IMPACT COMPARISON

| Impact Area | Project Alternatives | | |
|---|---|---|---|
| | No Project Alternative | Reduced Intensity Alternative | Water and Habitat Alternative |
| Aesthetics | Lesser | Lesser | Similar |
| Agriculture and Forestry Resources | Lesser | Lesser | Lesser |
| Air Quality | Lesser | Lesser | Lesser |
| Biological Resources | Lesser | Lesser | Lesser |
| Cultural and Tribal Cultural Resources | Lesser | Similar | Similar |
| Geology and Soils | Greater | Greater | Greater |
| Greenhouse Gas Emissions | Lesser | Lesser | Lesser |
| Hazards and Hazardous Materials | Lesser | Lesser | Similar |
| Hydrology and Water Quality | Greater | Greater | Lesser |
| Land Use | Lesser | Similar | Similar |
| Noise | Lesser | Lesser | Lesser |
| Transportation and Traffic | Lesser | Lesser | Lesser |

**TABLE 5-2**
APPROXIMATE VINEYARD BLOCKS AND ACREAGES

| Vineyard Block | Proposed Project acres | | Reduced Intensity Alternative acres | | Water Habitat Alternative acres | |
|---|---|---|---|---|---|---|
| | Gross | Net | Gross | Net | Gross | Net |
| Block A (A1 and A2) | 11.3 | 8.7 | 5.24 | 3.88 | 8.12 | 6.01 |
| Block B | 2.9 | 2.2 | | | 2.9 | 2.15 |
| Block C | 0.8 | 0.6 | | | .08 | .59 |

| Vineyard Block | Proposed Project acres | | Reduced Intensity Alternative acres | | Water Habitat Alternative acres | |
|---|---|---|---|---|---|---|
| | Gross | Net | Gross | Net | Gross | Net |
| Block D (D1 and D2) | 10.4 | 8.4 | 1.65 | 1.22 | 9.68 | 7.16 |
| Block E (E1 and E2) | 7.4 | 5.1 | | | 5.95 | 4.4 |
| Miscellaneous (Roads etc.) | 1.0 | | | | 1 | .74 |
| Total | 33.8 | 25.0 | 6.89 | 5.1 | 28.45 | 20.9 |

Source: NVVE, 2017, Montrose AES, ERM

The Reduced Intensity Alternative would result in lesser impacts as compared to those of the Proposed Project due to the reduced footprint and lack of timber harvest. Given the smaller size of the vineyard proposed under the Reduced Intensity Alternative, air quality impacts and GHG emissions associated with construction would be less compared to the Proposed Project.

The Reduced Intensity Alternative would avoid converting forested areas to other land uses and would therefore result in lesser biological impacts in the short-term. The Reduced Intensity Alternative would result in the implementation of an ECP, which would result in similar impacts associated with hydrology and water quality as well as geology and soils compared to the Proposed Project. However, because the ECP would cover only 6.89 acres, the beneficial reduction in sedimentation would be less under the Reduced Intensity Alternative compared to the Proposed Project. Overall, the Reduced Intensity Alternative would likely result in lesser direct impacts to the environment than the Proposed Project, but it would not result in the erosion benefits and associated water quality protection of the Proposed Project.

The environmentally superior alternative is the alternative that would cause the least damage to the environment. Since implementation of the No Project Alternative would result in fewer adverse environmental effects than would occur under the Proposed Project and other alternatives, the No Project Alternative would be considered the environmentally superior alternative. However, the No Project Alternative would not achieve the central project objective of developing vineyard and would not provide employment and economic benefits.

If the No Project Alternative is the environmentally superior alternative, CEQA *Guidelines* Section 1526.6(e)(2) requires identification of an environmentally superior alternative among the other alternatives considered in the EIR. While the Reduced Intensity Alternative would result in less impacts than the Water and Habitat Alternative in some areas, it would not provide employment and economic benefits or reduce existing sedimentation conditions to the same extent as the Water and Habitat Alternative. The Reduced Intensity Alternative also does not provide the same level of permanent protection of the remaining forestland due to decreased requirements for deed restrictions and/or conservation easements. It also does not provide the same reduction wildfire fuels or provide the same level of increased access for fire responders or buffers associated with vineyards to protect surrounding communities from wildfire risks. When comparing alternatives all of which result in no significant environmental impacts, smaller is not necessarily better and in this

instance the increased long-term habitat protections, reduction of existing sediment runoff, increased emergency and management access, fuel reduction, and increased setbacks on Conn Creek result in the Water and Habitat Alternative being the most environmentally superior alternative.

Vineyard block acreage under the Proposed Project was determined based on terrain, slopes, sensitive environmental resources, and economic viability. Approximately 50 acres of the property is suitable for the development of vineyard, however, the Proposed Project only consists of approximately 25.0 acres of vineyard to allow for greater protection of environmental resources, facilitate wildlife movement, and still achieve an appropriate level of erosion and sediment control. The Proposed Project meets all project objectives and has been designed to minimize impacts to the environment to less-than-significant levels through project design, setbacks, and implementation of mitigation measures provided in **Section 4.0**.

# SECTION 6.0

# OTHER CEQA-REQUIRED SECTIONS

## 6.1 CUMULATIVE IMPACTS

In accordance with Section 15130 of the California Environmental Quality Act (CEQA) *Guidelines*, this Draft Environmental Impact Report (EIR) provides an analysis of overall cumulative impacts of #P14-00410-ECPA (Proposed Project), taken together with other past, present, and future projects (as defined by Section 15378 of the CEQA *Guidelines*) that occur within the same geographical context.

The CEQA *Guidelines* define a cumulative impact as two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. A cumulative impact occurs from a change in the environment, which results from the incremental impact of the proposed project when added to other closely related past, present, and reasonably foreseeable future projects. In other words, the goal of the required analysis is to first create a broad context in which to assess the proposed project's incremental contribution to anticipated cumulative impacts, viewed on a geographic scale commensurate to the potential for cumulative impacts, and then to determine whether the project's incremental contribution to any significant cumulative impacts from all cumulatively considerable projects is significant. Cumulatively considerable projects are projects within the same geographic context (which varies depending upon the environmental resource assessed) that have a physical effect on the environment as defined in Section 15358 of the CEQA *Guidelines*. Accordingly, a proposed project would have a cumulatively considerable impact if the impact (whether significant or less than significant), when combined with the impacts of cumulatively considerable projects, would result in a significant impact in accordance with the significance criteria and methodology presented in **Section 4.0**.

Consistent with Section 15130 of the CEQA *Guidelines*, the discussion of cumulative impacts in this Draft EIR focuses on significant and potentially significant cumulative impacts. Section 15130 (b) of the CEQA *Guidelines* states the following for establishing the cumulative environment:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. An adequate discussion of significant cumulative impacts should either list past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency (1A), or provide a summary

> of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency (1B).

## 6.1.1 GEOGRAPHIC SCOPE

CEQA requires that the cumulative analysis define the geographic scope of the area affected by a cumulative effect and provide a reasonable explanation for geographic limitations. While resources such as air quality, soils, and hydrology require analysis within a larger geographic scope such as the entirety of the air basin or the Conn Creek – Main Fork Watershed, other resource areas are limited by the topography and other physical features of the local area and the geographic scope may vary. Because of these differences, the analysis in **Section 6.1.4** further defines, where appropriate, the geographic scope for the cumulative analysis for each specific resource.

Given the nature of the Proposed Project (agricultural versus commercial or residential development) and identification of no significant and unavoidable impacts, a three-mile radius (which equates to approximately 18,095 acres) was selected as the general outer limit for the geographic scope to assess, the potential extent of cumulatively considerable projects and impacts of the Proposed Project. The three-mile radius includes approximately 80 percent of the Con Creek – Main Fork Watershed and the Conn Creek – Upper Reach Watershed, and portions of 13 adjacent watersheds. Given that impacts assessed in Section 4.0 are less than significant (or less-than-significant with mitigation) a three-mile radius was selected to conservatively establish an outer limit of projects that may result in cumulatively considerable impacts when compared to the Proposed Project. If cumulative impacts were not considered significant within a three-mile radius covering 80 percent of the Con Creek – Main Fork Watershed and the Conn Creek – Upper Reach Watershed, then no further analysis regarding potential cumulatively considerable impacts was considered warranted.

## 6.1.2 PROJECT TIMING

To determine the scope of the projects that were considered as part of the cumulative environment, past, present, and reasonably foreseeable future projects must be defined. For the purposes of this analysis, a “past project” is defined as a project that has been approved and has valid permits that was undertaken in the last 25 years. “Present and reasonably foreseeable future projects” are hereby defined as those projects within a three-mile radius of the project site currently under review by the County or pending final decisions at the time the NOP was released for this EIR along with a projection of future ECP applications that may be received in the next 10 years. Those projects included in the Cumulative Context section meet the criteria for reasonably foreseeable future projects. Although the timing of the projects in the cumulative environment is likely to fluctuate due to schedule changes or other unknown factors, this analysis assumes these projects would be implemented concurrently with the implementation of the Proposed Project.

## 6.1.3 CUMULATIVE CONTEXT

In order to determine the past projects to be analyzed for the Proposed Project, a cumulative listing of all ECP projects within a 3-mile radius since 1993 (the only readily available data set that could be used for the cumulative context), provided by the County, was reviewed. **Table 6-1** identifies approved vineyard Erosion Control Plan applications in relation to the Proposed Project. **Table 6-1** does not include ECP application required for the replanting of existing vineyards. **Figure 6-1** shows all existing vineyard development in the cumulative area (regardless if an ECP was required), the identification of those vineyard requiring an ECP, and pending vineyard ECP projects.
To determine the cumulative context for current and reasonably foreseeable future projects, projects pending on the ECP list and the major projects list for Napa County was also reviewed (Napa County, 2018). Projects from the major projects list were considered if they were within a three-mile radius of the Proposed Project. The resulting projects, including the acreage and current status of the development, are provided in **Table 6-2**. These projects have been identified are those that are reasonably foreseeable and may result in impacts that are cumulatively considerable to the Proposed Project. Each of these projects will be subjected to County permit requirements, local ordinances, zoning controls, and the Napa County General Plan Policies.

**TABLE 6-1**

CUMULATIVE ECP PROJECTS LIST WITHIN 3 MILES OF THE PROPOSED PROJECT (1993 - 2018)[1]

| ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage | ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage |
|---|---|---|---|---|---|---|---|
| 93052 | 1993-08-19 | Abbott John | 8.10 | 97468 | 1998-05-08 | Pina Vineyard Management | 21.07 |
| 93435 | 1994-04-15 | Bjornstad Greg | 16.50 | 98004 | 1998-07-27 | Robert Craig Winery | 12.24 |
| 94050 | 1994-09-27 | Burgess Thomas | 8.30 | 96654 | 1998-08-24 | Kennedy Kevin | 10.40 |
| 96024 | 1996-08-01 | O'Shaughnessy | 25.00 | 98039 | 1998-09-09 | Pringle Leslie | 3.38 |
| 96042 | 1996-08-20 | Pina Dave | 19.40 | 98038 | 1998-09-10 | Jack Neal & Son | 23.29 |
| 96134 | 1996-10-08 | Stephens Donald | 10.00 | 98018 | 1998-09-10 | Peanut LLC | 7.20 |
| 96416 | 1997-01-14 | Reyes Gabriel | 16.20 | 97565 | 1998-12-29 | Pina Vineyard Management | 41.40 |
| 96531 | 1997-04-14 | Pina Vineyard Management | 7.50 | 98078 | 1999-04-01 | Laherradura Vineyards | 37.00 |
| 96662 | 1997-06-17 | Murphy Peter | 10.00 | 97429 | 1999-04-01 | Barbour Jim | 10.90 |
| 96488 | 1997-08-06 | Chafen Les | 27.30 | 98278 | 1999-04-02 | Aspegren Drew | 2.90 |
| 97158 | 1997-10-10 | Laird Murdo | 5.00 | 98476 | 1999-05-04 | Joseph Phelps Vineyards | 2.70 |
| 97430 | 1998-04-09 | PPI Engineering | 2.00 | 98232 | 1999-05-17 | Turley Wine | 19.90 |

| ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage | ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage |
|---|---|---|---|---|---|---|---|
| | | | | | | Cellars | |
| 98523 | 1999-05-27 | Lamborn Michael | 2.74 | 02037 | 2002-05-15 | HMS Vineyards LLC | 1.14 |
| 98312 | 1999-06-04 | Pina Vineyard Management | 17.50 | 02184 | 2003-09-05 | Cople G M & Sally | 2.60 |
| 98431 | 1999-06-28 | Krausz Ron | 11.94 | n/a | 2003-11-13 | JASON WOODBRIDGE | 13.50 |
| 98539 | 1999-08-11 | Cakebread Cellars | 10.60 | 02568 | 2004-03-17 | Henry Family Living Trust | 21.04 |
| 99264 | 2000-06-20 | Rombauer Koerner | 2.28 | 02263 | 2004-04-02 | Cohen Marc | 2.04 |
| 99024 | 2000-06-22 | Criscoine Vineyards | 10.59 | 03082 | 2004-07-23 | Jackson Family Estate | 1.60 |
| 00059 | 2000-09-05 | Benson Carlyle | 2.10 | 03435 | 2004-08-02 | Mondavi Marc | 11.00 |
| 99257 | 2001-03-28 | Cakebread John | 6.26 | 03491 | 2004-11-22 | McClatchy Trust Partners | 4.00 |
| 99288 | 2001-05-21 | Boeschen Daniel | 1.74 | P04-310 | 2005-02-15 | LaJota Vineyard & Winery LLC | 1.50 |
| 99313 | 2001-05-22 | Cole John | 1.84 | 03454 | 2005-05-20 | Mondavi Marc | 32.00 |
| 99465 | 2001-07-16 | Elsberg Mark | 2.20 | P04-0444 | 2005-06-15 | Crain Richard & Lilly | 8.89 |
| 99517 | 2001-07-19 | Viader Delia Emilia | 5.30 | 03488 | 2005-08-23 | Winters Gregory S & Debra A | 2.99 |
| 99154 | 2002-01-04 | Dotzler Vineyard | 10.50 | 03080 | 2005-08-30 | Fleury Brian | 5.76 |
| 05-0158 | 2005-10-19 | Mondavi Marc Etal | 8.78 | P10-00018 | 2011-02-23 | Galatea Vineyards | 2.06 |
| 99517 | 2001-07-19 | Viader Delia Emilia | 5.30 | 03488 | 2005-08-23 | Winters Gregory S & Debra A | 2.99 |
| 02337 | 2006-04-03 | Bravante George | 1.25 | P11-00095 | 2011-04-25 | Ehren Jordan | 3.90 |
| P06-0122 | 2007-01-25 | Ladera Vineyards | 5.50 | P09-00274 | 2011-07-27 | Rogers Ranch Vineyards | 21.30 |
| P06-0087 | 2007-02-01 | Zakin Vineyards | 5.26 | P12-00001 | 2012-04-03 | Patterson Vineyard Phase Four | 1.47 |

| ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage | ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage |
|---|---|---|---|---|---|---|---|
| P06-01107 | 2007-07-02 | Partridge Richard | 5.25 | P12-00142 | 2013-03-20 | OShaughnessy Estate Winery | 5.42 |
| P06-01514 | 2008-09-23 | McCrane Vineyards | 6.10 | P13-00018 | 2013-06-21 | HM Opportunities, LLC | 0.70 |
| P08-00378 | 2008-12-15 | Robert Foley Vineyards | 1.81 | P05-0376 | 2014-01-24 | David Abreu | 17.00 |
| P04-069 | 2009-07-07 | Ragsdale Glen & Shirley | 3.21 | P13-00396 | 2014-02-20 | Seiler Family Vineyards | 1.20 |
| P04-074 | 2009-07-09 | Diogenes Ridge LLC | 3.21 | P12-00376 | 2014-04-24 | Kodo Inc | 2.61 |
| P09-00220 | 2009-10-29 | Wornick Ronald | 1.50 | P14-00156 | 2014-06-24 | Ratfield Vineyards | 1.59 |
| P09-00465 | 2010-07-28 | TFC Vineyard 22 LLC | 9.70 | P14-00274 | 2014-10-03 | Livingston-Moffett | 4.20 |
| P09-00264 | 2010-10-13 | V3 Lamborn Family Vineyards | 2.00 | P14-00354 | 2014-12-12 | Broman Vineyards | 1.50 |
| P08-00565 | 2010-10-25 | Tetz Emmett | 7.90 | P14-00407 | 2015-03-23 | G Wine LLC | 2.41 |
| 99313 | 2001-05-22 | Cole John | 1.84 | 03454 | 2005-05-20 | Mondavi Marc | 32.00 |
| 99465 | 2001-07-16 | Elsberg Mark | 2.20 | P04-0444 | 2005-06-15 | Crain Richard & Lilly | 8.89 |
| 99517 | 2001-07-19 | Viader Delia Emilia | 5.30 | 03488 | 2005-08-23 | Winters Gregory S & Debra A | 2.99 |
| P05-0158 | 2005-10-19 | Mondavi Marc Etal | 8.78 | P10-00018 | 2011-02-23 | Galatea Vineyards | 2.06 |
| 02337 | 2006-04-03 | Bravante George | 1.25 | P11-00095 | 2011-04-25 | Ehren Jordan | 3.90 |
| P06-0122 | 2007-01-25 | Ladera Vineyards | 5.50 | P09-00274 | 2011-07-27 | Rogers Ranch Vineyards | 21.30 |
| P06-0087 | 2007-02-01 | Zakin Vineyards | 5.26 | P12-00001 | 2012-04-03 | Patterson Vineyard Phase Four | 1.47 |
| P06-01107 | 2007-07-02 | Partridge Richard | 5.25 | P12-00142 | 2013-03-20 | OShaughnessy Estate Winery | 5.42 |

| ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage | ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage |
|---|---|---|---|---|---|---|---|
| P06-01514 | 2008-09-23 | McCrane Vineyards | 6.10 | P13-00018 | 2013-06-21 | HM Opportunities, LLC | 0.70 |
| P08-00378 | 2008-12-15 | Robert Foley Vineyards | 1.81 | P05-0376 | 2014-01-24 | David Abreu | 17.00 |
| P04-069 | 2009-07-07 | Ragsdale Glen & Shirley | 3.21 | P13-00396 | 2014-02-20 | Seiler Family Vineyards | 1.20 |
| P04-074 | 2009-07-09 | Diogenes Ridge LLC | 3.21 | P12-00376 | 2014-04-24 | Kodo Inc | 2.61 |
| P09-00220 | 2009-10-29 | Wornick Ronald | 1.50 | P14-00156 | 2014-06-24 | RATFIELD VINEYARDS | 1.59 |
| P09-00465 | 2010-07-28 | TFC Vineyard 22 LLC | 9.70 | P14-00274 | 2014-10-03 | Livingston-Moffett | 4.20 |
| P09-00264 | 2010-10-13 | V3 Lamborn Family Vineyards | 2.00 | P14-00354 | 2014-12-12 | Broman Vineyards | 1.50 |
| P08-00565 | 2010-10-25 | Tetz Emmett | 7.90 | P14-00407 | 2015-03-23 | G Wine LLC | 2.41 |
| P05-0158 | 2005-10-19 | Mondavi Marc Etal | 8.78 | P10-00018 | 2011-02-23 | Galatea Vineyards | 2.06 |
| 02337 | 2006-04-03 | Bravante George | 1.25 | P11-00095 | 2011-04-25 | Ehren Jordan | 3.90 |
| P06-0122 | 2007-01-25 | Ladera Vineyards | 5.50 | P09-00274 | 2011-07-27 | Rogers Ranch Vineyards | 21.30 |
| P06-0087 | 2007-02-01 | Zakin Vineyards | 5.26 | P12-00001 | 2012-04-03 | Patterson Vineyard Phase Four | 1.47 |
| P06-01107 | 2007-07-02 | Partridge Richard | 5.25 | P12-00142 | 2013-03-20 | OShaughnessy Estate Winery | 5.42 |
| P06-01514 | 2008-09-23 | McCrane Vineyards | 6.10 | P13-00018 | 2013-06-21 | HM Opportunities, LLC | 0.70 |
| P08-00378 | 2008-12-15 | Robert Foley Vineyards | 1.81 | P05-0376 | 2014-01-24 | David Abreu | 17.00 |
| P04-069 | 2009-07-07 | Ragsdale Glen & Shirley | 3.21 | P13-00396 | 2014-02-20 | Seiler Family Vineyards | 1.20 |
| P04-074 | 2009-07-09 | Diogenes Ridge | 3.21 | P12- | 2014-04-24 | Kodo Inc | 2.61 |

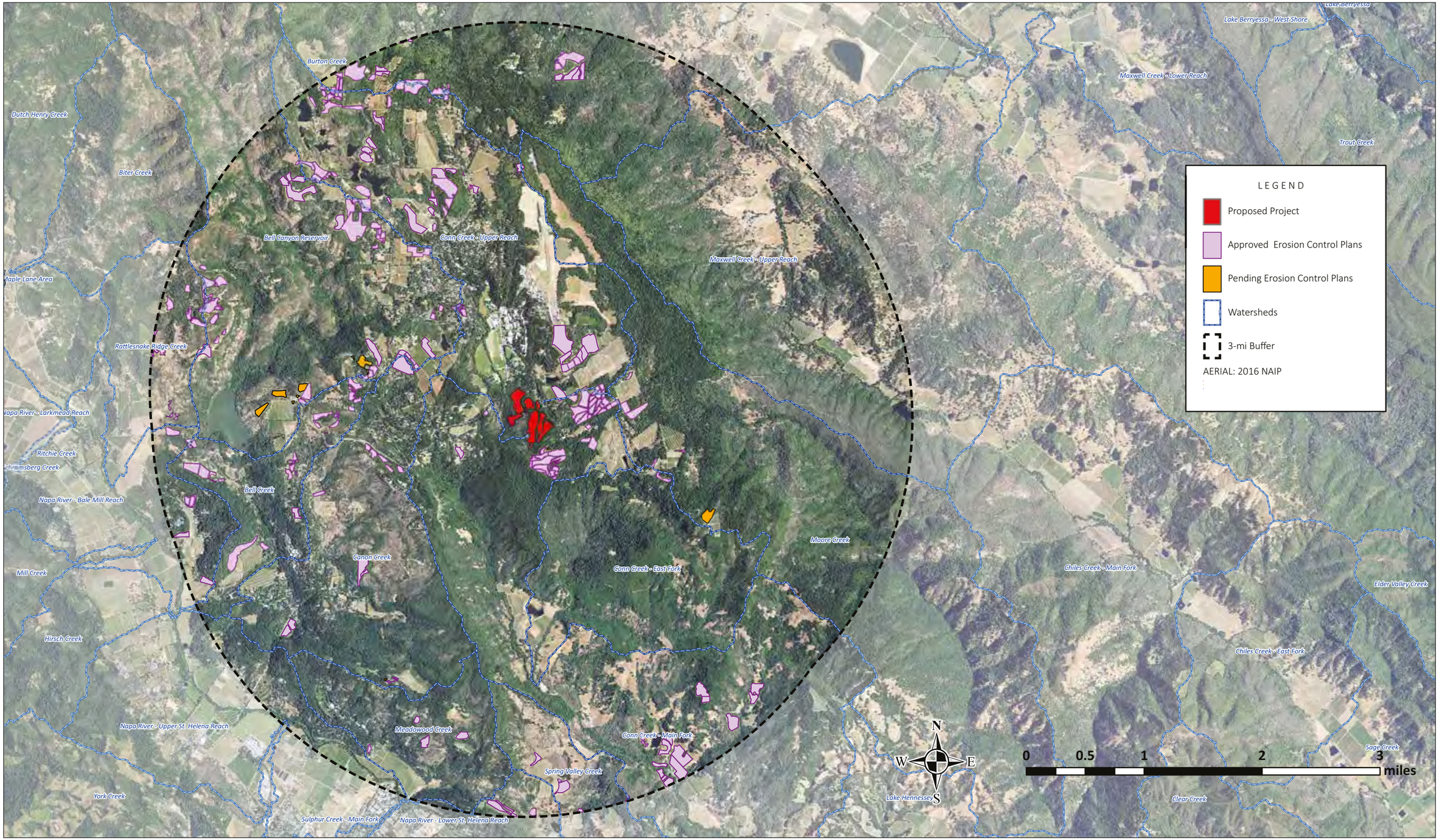
| ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage | ECPA # | Date Approved | Applicant Name | Vineyard Development Acreage |
|---|---|---|---|---|---|---|---|
| | | LLC | | 00376 | | | |
| P09-00220 | 2009-10-29 | Wornick Ronald | 1.50 | P14-00156 | 2014-06-24 | RATFIELD VINEYARDS | 1.59 |
| P09-00465 | 2010-07-28 | TFC Vineyard 22 LLC | 9.70 | P14-00274 | 2014-10-03 | Livingston-Moffett | 4.20 |
| P09-00264 | 2010-10-13 | V3 Lamborn Family Vineyards | 2.00 | P14-00354 | 2014-12-12 | Broman Vineyards | 1.50 |
| P08-00565 | 2010-10-25 | Tetz Emmett | 7.90 | P14-00407 | 2015-03-23 | G Wine LLC | 2.41 |
| P16-00028 | 2016-12-20 | Summit Lake Vineyards & Winery | 2.20 | P16-00230 | 2018-02-06 | Steinschriber Vineyard | 3.10 |
| P16-00407 | 2017-03-07 | Dunnington & Stocker Vineyard | 0.88 | P17-00261 | 2018-05-04 | Denali Track I ECP | 2.70 |
| P15-00006 | 2017-11-28 | LPC California Associates, LLC | 17.80 | P16-00341 | 2018-07-03 | North Winery LLC | 3.27 |
| | | | | | | **Total ECP Acreage** | **698.11** |

[1] Totals do not include those areas within the watershed developed that are under five percent slope.

**TABLE 6-2**

CUMULATIVE PENDING ECP PROJECTS LIST WITHIN 3 MILES OF PROPOSED PROJECT

| Project # | Applicant Name | Approximate Vineyard Development Acreage | Status |
|---|---|---|---|
| **Submitted in 2015** | | | |
| 00389 | James B. Heiser/Heiser West Lane Vineyard | 5.7 | Pending |
| **Submitted in 2016** | | | |
| 00429 | Aloft Winery | 3.31 | Pending |
| **Submitted in 2018** | | | |
| 00265 | Dunnington | 0.27 | Pending |
| 00221 | McSherk | 5.5 | Pending |
| 00251 | Viader | 11.78 | Pending |
| **Proposed Project (Pending Development):** | | **33.8** | - |
| **Total Acres of Pending Development:** | | **26.56** | - |
| **Total Acres of Development:** | | **60.36** | - |




SOURCE: Napa County GIS, 11/2018; AES, 11/21/2018



**Figure 6-1**
ECPs Submitted Within 3 Miles of the Proposed Project

As shown in **Table 6-2**, the projects are pending vineyards requiring erosion control plans as well as a winery. The Aloft Winery entails the development of a 50,000 gallon per year winery located on a 50.07 acre parcel approximately 500 feet southwest of Block D2. The winery would include 28,106 square feet of wine caves, production area of 28,106 square feet, and 5,066 square feet of accessory use. Nearly 90 percent of the 3.31 acres of disturbance would be located within the existing access driveway and existing vineyards and approximately 0.45 acres of forestland would be removed. The pending erosion control plans account for an additional 26.56 acres of development within a 3-mile radius of the Proposed Project. When added to the Proposed Project, the total pending development under ECPs and the Aloft Winery within a 3-mile radius is 60.36 acres. This accounts for approximately 0.33 percent of the total land area within a 3-mile radius of the Proposed Project.

The nearest project to the site is the James B. Heiser/Heiser West Lane Vineyard Project (Heiser Project). While the Heiser Project is outside of the Conn Creek – Upper Reach watershed, it is approximately one mile northwest of the Proposed Project. Development of this vineyard includes converting approximately 5 acres of timberland, oak woodland and shrubland to vineyard. The project is located within the Bell Canyon Reservoir Watershed. Four additional pending (at the time the NOP was released) ECP projects are within three miles of the Proposed Project**:**

- Dunnington Track I vineyard is a 0.27 acre project located approximately 2.5 miles southwest of the Proposed Project. The Dunnington Track I vineyard is located in the Cannon Creek Watershed.
- McSherk is a 5.5 acre vineyard project located approximately 1.4 miles east of the Proposed Project. The McSherk Track I vineyard project is located within the Moore Creek Watershed.
- Viader Vineyards Track I project is an 11.78 acre (9.68 net planted acres) vineyard project located approximately 1.86 miles west of the Proposed Project. Viader Vineyards is located in the Bell Canyon Reservoir Watershed.

While it is not possible to quantify precisely the acreage and location of additional vineyard development that would be pursued by property owners in a three-mile radius of the project site, it is possible to make a conservative estimate based on previous trends. The number of approved and pending projects in the cumulative environment listed in **Tables 6-1** and **6-2** and their relative sizes (in acres) were used to project an estimation of vineyard development under and ECP for the next three to five years. The total existing vineyard acreage within the cumulative area is approximately 1834.20 acres. Of the total acreage within the cumulative area, approximately 3.9 percent are covered by a county approved ECPs. Within the past 25 years, the County has experienced an average of 26.85 acres of vineyard development per year (standard deviation of the data set is 31.78 acres, with a maximum of approximately 121 acres within a year) within the 18,095-acre 3-mile radius around the project site.

Chapter 18.108 of the Napa County Code includes policies that require setbacks of 35 to 150 feet from drainages (depending on slopes), which limits the amount of potential vineyard acreage that

could be converted within the watersheds. It has also been the County's experience with ECP projects that there are generally site-specific issues, such as wetlands, other water features, rare plant species, or cultural resources that further reduce areas that can be developed to other land uses. Additionally, the vineyard acreage projections for the next ten years do not consider environmental factors that influence vineyard site selection, such as sun exposure, soil type, water availability, slopes greater than 30 percent, or economic factors such as land availability, cost of development, or investment returns. However, taking the average as the projection, approximately 268.50 acres may be developed under an ECP in the next 10 years. Taken with the projects identified in **Table 6-2**, current and reasonably foreseeable projects would result in an additional 301.49 (or 10.67 percent) acres of development under an ECP in a three-mile radius of the project site.

### SUMMARY

#### PAST PROJECTS

The total acreage of vineyard development under an ECP approved over the past 25 years accounts for 3.86 percent of the acreage within a 3-mile radius around the project site. On average, since 1993 approximately 0.15 percent of the acreage within a 3-mile radius of the project site has been converted to vineyard under an ECP per year.

#### CURRENT AND REASONABLE FORESEEABLE PROJECTS

Current and reasonably foreseeable projects would result in the conversion of an additional 1.67 percent (1.85 percent when including the Proposed Project) of the total acreage within a 3-mile radius of the project site into vineyards under an ECP. The Proposed Project and current projects would result in an increase of 60.36 acres in the near term (assumed to be within the same year for the purposes of this analysis), which is approximately 3.29 percent of the total vineyard area within a 3-mile radius of the project site. Within the next 10 years, it is estimated that the Proposed Project with current and reasonably foreseeable future projects would result in an increase of 17.93 percent compared to existing vineyard totals within a 3-mile radius or a 1.82 percent increase in vineyards under an ECP over 10 years within the entire acreage within a 3-mile radius.

## 6.1.4 CUMULATIVE EFFECTS

This section identifies the potential cumulatively considerable effects of the implementation of the Proposed Project concurrently with the other projects identified in **Table 6-1**.

### 6.1.4-1 AESTHETICS

The geographic scope for the aesthetics cumulative impact analysis encompasses the immediate vicinity of the project parcels and any accompanying viewsheds. The Proposed Project is located in a mixed residential and agricultural area surrounded by forested vegetation and is difficult to view for the general public. Implementation of the Proposed Project does not result in the drastic alteration of the viewshed along Howell Mountain Road, a County Scenic Roadway.

In addition, due to topography as well as the surrounding vegetation, views of the Proposed Project are screened. In the case of the Heiser Project, aesthetics were not evaluated further as the project

site is well outside a scenic corridor and is considered compatible with surrounding land uses and in keeping with the existing visual character of the area. Cumulative impacts between the Heiser Project and the Proposed Project are therefore considered to be not significant as the two projects are compatible with surrounding land uses and do not impact designated Scenic Roadways. Cumulative impacts between the Proposed Project and the other projects identified in **Table 6-1** are also not significant as the projects do not substantially differ from existing viewsheds due to topography, existing vegetation coverage, and surrounding uses.

## 6.1.4-2 AGRICULTURE AND FORESTRY RESOURCES

The geographic context for agriculture and forestry resources entail the area within a three-mile radius of the Proposed Project, as well as the county-wide acreage for commercial timberland. The Proposed Project is an agricultural development project located on land zoned for agricultural use. Implementation of the Proposed Project would result in agricultural use consistent with neighboring properties. The Proposed Project would result in the clearing of approximately 24.51 acres of forestland, or 0.06 percent of the overall 40,000 acres of commercial conifer timberland acreage of Napa County Implementation of the Proposed Project would result in a less-than-significant loss of 0.06 percent of forest land compared to County-wide commercial forestry resources and no significant impact to timber resources or the timber productivity and economy would occur.

The nearest development project to the Proposed Project is the Heiser Project. The Heiser Project would result in the clearing of approximately 4.1 acres of forestland within the 5.7 acre project site. The loss of 4.1 acres of timberland would account for approximately 0.01 percent of commercial timberland acreage in Napa County. Implementation of the both the Heiser Project and the Proposed Project would result in the removal of approximately 0.09 percent of the overall timberland acreage of Napa County. Therefore there would be a less-than-significant impact to forestland.

Assuming each of the projects (excluding the Proposed Project) in **Table 6-1** and the present and reasonably foreseeable future projects total acreage resulted in 100 percent removal of forestland within a 3-mile radius of the Proposed Project, the removal of approximately 1,929.74 acres of forestland would only account for a conservative estimate of a 10.66 percent loss of forestland acreage in a 3-mile radius of the Proposed Project over a 35-year cumulative horizon. Within Napa County, this loss would account for 4.82 percent loss of forestlands. Therefore, impacts resulting from timberland conversion of the Proposed Project are considered less than significant within the cumulative context.

## 6.1.4-3 AIR QUALITY

The geographic scope for the cumulative air quality impact analysis includes the SFBAAB because air quality is managed basin wide. Cumulative air quality issues in the SFBAAB are addressed through regional air quality control plans developed by the Bay Area Air Quality Management District (BAAQMD). These plans account for projected growth in the Bay Area, as embodied in the adopted General Plans of the various cities and counties that comprise the SFBAAB and are therefore addressing cumulatively considerable impacts. Accordingly, there is no need to identify each and

every specific "probable future project" that might contribute emissions within the air basin.

### CONSTRUCTION

Project construction, including implementation of the Proposed Project concurrently with other projects in the air basin, would generate emissions of criteria air pollutants, including suspended and inhalable particulate matter ($PM_{10}$) from equipment exhaust emissions. For construction-related impacts, the BAAQMD has developed cumulatively significance thresholds of 54 pounds per day for oxides of nitrogen ($NO_X$), reactive organic gases (ROG), and $PM_{2.5}$; and 82 pounds per day for $PM_{10}$. In addition, to prevent cumulatively considerable impacts, the BAAQMD recommends basic construction mitigation for all projects (BAAQMD, 2012), as discussed in **Section 4.3 Air Quality**. Construction emissions from the development of the Proposed Project would not exceed the BAAQMD threshold as shown in **Table 4.3-4** (**Impact 4.3-1** in **Section 4.3)** and projects throughout the air basin are required to comply with BAAQMD requirements for reducing criteria air pollutant emissions. The cumulative contribution to air quality impacts associated with construction of the Proposed Project would be further reduced through the implementation of **Reduction Measure 4.3-1** discussed in **Section 4.3**. These measures are recommended by the BAAQMD to all projects within the air basin and are standard reduction measures incorporated into CEQA analysis. Implementing these reduction measures further reduce a project's emissions, minimizing the cumulative contribution to the air quality within the air basin to a less-than-significant level.

### OPERATION

The BAAQMD also provides cumulative operational significance thresholds for NOx, ROG, $PM_{2.5}$, and $PM_{10}$ (BAAQMD, 2012). The SFBAAB non-attainment status for NOx, ROG, $PM_{2.5}$, and $PM_{10}$ is attributed to the region's development history. Past, present, and future developments contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact; no single project is sufficient in size to result in non-attainment of the ambient air quality standards. However, if a project contribution is considerable, then the project's cumulative impact on regional air quality would be considered significant. Cumulative thresholds are the same as project thresholds, which are provided in **Section 4.3**. As shown in **Table 4.3-5** (**Impact 4.3-2** in **Section 4.3**, operational NOx, ROG, $PM_{2.5}$, and $PM_{10}$ emissions would not exceed the BAAQMD significance thresholds. As shown in **Table 4.3-1**, the SFBAAB is designated as a non-attainment area for $O_3$, $PM_{10}$, and $PM_{2.5}$. The BAAQMD Guidelines take into account past, present, and future emissions of criteria pollutants; therefore, since operation of the Proposed Project would not exceed BAAQMD thresholds, the cumulative impacts due to operation would be less than significant.

## 6.1.4-4 BIOLOGICAL RESOURCES

The geographic scope for the biological resources cumulative impact analysis encompasses a three-mile radius around the project property. As discussed above, given that impacts assessed in **Section 4.0** are less than significant (or less-than-significant with mitigation), a three-mile radius was selected to conservatively establish an outer limit of projects that may result in cumulatively considerable impacts when compared to the Proposed Project. If cumulative impacts were not

considered significant within a three mile radius covering 80 percent of the Con Creek – Main Fork Watershed and the Conn Creek – Upper Reach Watershed, then no further analysis regarding potential cumulatively considerable impacts was considered warranted. Biological resource protections at the federal, State, and local level are cumulative in nature in that they prevent incremental take of special-status species or destruction of associated habitat that could result in the inability for a species to thrive. For example, if a project were to result in the take of a protected federal species, the U.S. Fish and Wildlife Service would require an assessment of the habitat of the species in the region and provide a Biological Opinion as to the potential for the take to impact the species and what the petitioner must do to ensure the take does not result in the inability for the species to thrive.

### CONSTRUCTION

**Section 4.4** includes mitigation measures to reduce potential environmental impacts to nesting migratory birds during construction to less-than-significant levels. Impacts to nesting migratory birds would be avoided with proper identification thence avoidance prior to construction. It is anticipated that projects in the cumulative environment would produce similar impacts to biological resources during construction and the County would similarly require other projects to comply with federal, State, and local regulations and ordinances protecting nesting migratory birds in accordance with the requirements of the implementation of Migratory Bird Treaty Act to reduce impacts to less-than-significant levels.

Through project design, compliance with California Forest Practice Rule 14 CCR 919.9(e), and the implementation of the Mitigation Measures proposed in **Section 4.4**, the Proposed Project would avoid impacts to special-status species, and therefore the project would not result in cumulatively considerable impacts to sensitive species. The County would similarly require future projects with potentially significant environmental impacts to comply with federal, State, and local regulations and ordinances, thus protecting biological resources. Because each of the other projects in the cumulative environment is held to the same CEQA and County standards, especially those under the jurisdiction of Napa County, cumulative impacts on biological resources due to construction would be less-than-significant with implementation of Mitigation Measures proposed in **Section 4.4**.

### VINEYARD CONVERSION

Approximately 0.58 acres of Ponderosa Pine Alliance was identified on the property, which will be avoided. Ponderosa Pine Alliance is considered a habitat of limited distribution in Napa County due to low abundance (**Table 4.4-1**). Oak woodland in Napa County is afforded protection through Policy CON-24 and the Oak Woodlands Preservation Act (PRC Section 21083.4). The conversion of approximately 7.42 acres of Mixed Oak Alliance to vineyard represents approximately 0.03 percent of the total Mixed Oak Alliance in the County. Oak woodland would remain the dominant natural land cover after implementation of the Proposed Project. Proposed mitigation recommends 2:1 preservation of oak woodland.

Other projects in the vicinity of the project site would also be required to avoid or preserve oak woodland and sensitive habitats pursuant to General Plan policies preventing incremental removal of

protected Oak Woodlands from being cumulatively considerable.

Local regulations require projects to maintain open space on properties proposed for development to provide habitat for plants and wildlife. Although wildlife movement through the property is currently limited by surrounding development, passages greater than 100 feet in width would be maintained to allow for wildlife movement. In addition, two additional wildlife movement areas would be implemented through individual vineyard block fencing and one 70-foot opening will be maintained to allow wildlife to access the wetland. Other projects in the vicinity of the project site would be required to implement similar measures in order to conform to local policies and regulations.

The project would result in an increase of 0.19 percent of vineyards developed under an ECP within a three-mile radius of the Proposed Project (7.69 percent conversion when including past projects). Current and reasonably foreseeable future projects in the next 10 years, when combined with the Proposed Project, would result in an additional 1.82 percent of growth within a three-mile radius of the Proposed Project. A majority of the past development has been in accordance with the land use plan of the General Plan and therefore has not resulted in unanticipated vineyard conversion, and it is anticipated that future vineyard projects would also comply with land use designations. Project that require variances from land use designation would be required to mitigate for the unanticipated impacts. Furthermore, the Proposed Project and cumulatively considerable project areas, do not provide unique habitats that are vital to sustaining populations of special-status species (i.e. the areas do not contain the only habitat required for the regionally-occurring species to continue to thrive). Accordingly, development of the Proposed Project, past projects, current projects, and reasonable foreseeable future projects would not result in incremental impacts to special- status species that would be cumulatively considerable to the point of resulting in the take of special- status species and the inability for a special -status species to thrive. Accordingly, the Proposed Project would not result in significant cumulatively considerable impacts to biological resources from vineyard development under ECP within a three-mile radius of the project site.

## 6.1.4-5 CULTURAL AND TRIBAL CULTURAL RESOURCES

The geographic scope for the cultural resources cumulative impact analysis includes a three-mile radius surrounding the project site because the projects located within this area have the potential to degrade existing cultural resources. Installation of new vineyard blocks has the potential to impact prehistoric resources, historic resources, and as-yet unknown archaeological resources. However, as stated in **Section 4.5 Cultural Resources**, potential impacts to known and unknown cultural and paleontological resources would be reduced to less-than-significant levels through the implementation of the identified mitigation measures. Cumulative impacts in the area would be also be at less-than-significant as each project permitted through the County would address cultural resources through individual site permitting as well as implementation of mitigation measures in place for any unknown resources located during construction activities. Therefore, the Proposed Project's potential contribution to cultural resource impacts associated with the installation of the new vineyard blocks would be rendered less than cumulatively significant.

## 6.1.4-6 GEOLOGY AND SOILS

Cumulatively considerable geologic and soils impacts would be limited to sedimentation within the Conn Creek Upper Reach and Main Fork Watersheds. The Proposed Project would not result in additional habitable structures or other load-bearing structures. In addition, the Proposed Project site has favorable slope stability conditions with low to moderate slope inclinations, combined with moderately strong to very strong volcanic bedrock underlying the site that will not be adversely affected by the proposed new vineyards. Accordingly, seismic considerations and potentials for slope instabilities are not cumulatively considerable and require no further cumulative analysis.

Sedimentation impacts from the Proposed Project would occur to onsite sediment trapping waters and offsite receiving waters of Conn Creek. Therefore, these watersheds define the geographic scope of cumulative sedimentation impacts. Cumulative impacts to sedimentation could result from reasonably foreseeable projects within this watershed. Cumulative effects would be considered significant if cumulative sedimentation from reasonably foreseeable projects and the Proposed Project in the watershed is considerable, or if the incremental impact of the Proposed Project within the cumulative environment were considerable.

Like the Proposed Project, any future development would be required to comply with the Napa River TMDL for sediment, which prevents the increase of sedimentation into the Napa River and its tributary watersheds and provides a cumulatively considerable threshold to ensure individual projects incremental sedimentation loading does not result in exceedances of water quality thresholds. Regardless, the Proposed Project is expected to decrease the current level of sediment delivered to the watershed. The Proposed Project and other cumulative projects are required to comply with the erosion control measures contained in the Napa County General Plan. These measures require erosion control plans and/or building plans, as well as site-specific geotechnical, soils and hydrological reports be prepared for new projects with the potential to general erosion. Accordingly, these measures require projects to avoid or implement mitigation measures to ensure sedimentation rates do not increase as a result of vineyard or project development. Therefore, when taken with the other reasonably foreseeable projects described in **Table 6-1**, the Proposed Project would not have an incremental increase on the sediment loading to the Napa River that would be cumulatively considerable.

## 6.1.4-7 GREENHOUSE GAS EMISSIONS

A complete discussion of GHG emissions generated during project construction and operation is included in **Section 4.7**. As discussed, climate change is inherently a cumulative issue that results from the incremental contribution of projects' GHG emissions; therefore, it was determined that climate change impacts were most appropriately addressed in terms of the incremental contribution to a global cumulative impact and could not be solely attributed to the proposed development.

## 6.1.4-8 HAZARDS AND HAZARDOUS MATERIALS

The geographic scope for the hazardous materials cumulative impact analysis includes the Conn Creek Upper Reach and Main Fork Watersheds, as any release of improperly contained hazardous

materials into the environment that could reach the surface and/or groundwater of these watersheds.

### CONSTRUCTION

If unmitigated, construction and operation of the Proposed Project in combination with potential cumulative development in the project vicinity could lead to impacts related to hazards and hazardous materials. The Proposed Project as well as those identified in **Table 6-1** would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction. Impacts related to these activities are regulated by various federal, State, and local agencies, and it is assumed that related projects would also comply with these hazardous materials regulations.

Based on the cumulatively considerable increase in development of 83 acres, the potential for the Proposed Project and reasonable foreseeable projects to result in cumulatively considerable hazardous materials impacts to the watershed are low. Furthermore, reduction of on-site hazardous-related impacts, as discussed in **Section 4.8 Hazardous Materials**, would further ensure that construction activities would not result in impacts that would be cumulatively considerable.

### OPERATION

Operation of the Proposed Project and cumulative projects could result in impacts if development were to result in potential exposure of hazardous materials to sensitive individuals or the general public-at-large, or if additional projects in the vicinity were to include the use or storage of hazardous materials. Because hazardous materials impacts are site specific and the Proposed Project would not include land uses that utilize or require substantial volumes of hazardous materials, the project would not contribute to cumulatively considerable hazardous impacts.

Therefore, when taken with other reasonably foreseeable projects, the Proposed Project would not result in an incremental increase in the risk of hazardous materials that would be cumulatively considerable. Taken in context with the additional 49 acres of planned development, implementation of the Proposed Project and reasonably foreseeable future projects would not result in cumulatively considerable significant impacts within the Conn Creek – Upper Reach watershed concerning hazardous materials.

## 6.1.4-9 HYDROLOGY AND WATER QUALITY

The geographic scope for the hydrology and water quality cumulative impact analysis includes the Conn Creek Upper Reach and Main Fork Watersheds. Impacts to runoff from the Proposed Project would have the potential to affect the volume and rate of runoff in onsite drainages and the offsite receiving waters of Conn Creek. Cumulative impacts to runoff could occur from the reasonably foreseeable future projects within the watersheds. Cumulative effects would be considered significant if the cumulative rate and volume of runoff from reasonably foreseeable future projects in the watershed and the Proposed Project to receiving waters would result in exceeding the significance criteria presented in **Section 4.9.3**.

To estimate the rate and volume of runoff from the Proposed Project, a hydrologic analysis was completed to calculate peak runoff flows and the total volume of runoff for 2-, 5-, 10-, 25-, 50-, and 100-year storm events. **Section 4.9 Hydrology and Water Quality** discusses the potential impacts to the rate and volume of runoff discharged to receiving waters from the Proposed Project. It was estimated that peak flows and the total volume of surface water runoff over the property as a whole would decrease as a result of the implementation of the Proposed Project as indicated by the modeled storm event scenarios. Decreases in peak discharge is attributed to increases in infiltration and vegetative cover, which leads to a decrease in erosion, thereby reducing sediment delivery to receiving waters as well as reduction of the flooding potential in the Conn Creek (**Appendix J**). The reduction in the peak flows and the volume of runoff for the Conn Creek drainages indicate that the Proposed Project would not have an impact on flooding in the Conn Creek – Upper Reach watershed (**Appendix J**). Like the Proposed Project, any future development would be required to comply with the same standards of keeping project impacts at pre-project levels, which would ensure that no effects on the cumulative environment would result from the implementation of the additional 49.4 acres of reasonable foreseeable future projects.

### IMPACTS TO GROUNDWATER

The Proposed Project would be irrigated with groundwater. Groundwater demands for the Proposed Project are estimated to be 11.65 acre-feet (af) per year. Napa County's allowable allotment of groundwater for parcels located in mountain areas that are not designated as groundwater deficient areas is defined as less than the equivalent groundwater recharge rate. The property provides recharge of approximately 24.3 af per year (**Appendix J**). The proposed water demand of the Proposed Project would account for 46 percent of the annual recharge rate resulting in a net positive groundwater balance. Accordingly, groundwater use on the project site would not be cumulatively considerable as no net decrease in the groundwater table would occur.

This analysis demonstrates that under the worst-case scenario (maximum groundwater pumping for the maximum amount of vineyard planting that is proposed), groundwater recharge would be adequate to meet project demand. Therefore, the overall cumulative effect of reasonably foreseeable future projects is not considerable and the incremental impact of the Proposed Project would not be significant when considered in the context of those cumulative projects.

### IMPACTS TO SURFACE WATER

Through implementation of **Mitigation Measure 4.9-5** which requires setbacks from wetlands and streams, and the stream setbacks incorporated into the project description, the Proposed Project would not have an effect on surface water quality. The Proposed Project would be irrigated with groundwater, and would not affect surface water quantity. The Proposed Project, when considered with cumulative projects in the area and other projects on the same property, would not have a significant cumulative effect on surface water.

## 6.1.4-10 LAND USE

The geographic scope of the cumulative land use setting is related to compliance with the General

Plan within the County and impacts to the community surrounding the project parcels. The Agricultural Preservation Element and Land Use Element of the Napa County General Plan specifically identifies several goals geared towards preserving agricultural land uses, planning for agriculture as a primary land use, and supporting the economic viability of agriculture, including grape growing. Therefore, the cumulative impact of both the Proposed Project and other development projects is a net positive as this assists the County with meeting their Land Use Goals. Further, as discussed in **Section 4.10**, there are no significant land use impacts identified as a result of the Proposed Project. The Project would not physically divide an existing community, does not conflict with applicable land use plans, policies, or regulations, and there are no Habitat Conservation Plans, or Natural Community Conservation Plans applicable to the site. Furthermore, approved and future projects would require compliance with the General Plan which in and of itself addresses cumulative impacts of growth through land use controls. Should a future project proposed to alter land use and zoning requirements, that project would be required to assess, and mitigate if necessary, cumulative impacts associated with the requested change. However, because the Proposed Project is in compliance with land use and zoning controls, the Proposed Project would not be cumulatively considerable in the context of impacts related to land use and other future projects.

## 6.1.4-11 NOISE

Due to noise attenuation, the geographic scope for impacts to noise are the immediate vicinity of the project parcels.

### CONSTRUCTION

Cumulative impacts from short term construction generated noise could result if planned construction activities occurred near to the Proposed Project. The Heiser project is the nearest proposed development to the Proposed Project and is approximately one mile northwest from the site. Construction noise tends to be site specific and affects those in close proximity to the construction activities. As stated in **Section 4.11 Noise**, construction noise at the Proposed Project is anticipated to be 85 dBA at the nearest residence which is approximately 41 feet from the border. This is above the Napa County Noise Ordinance 8.16.090 limit of 75 dBA. However, this construction noise is limited to approximately 2 days during construction, and will dissipate as one moves further away from the project boundary. The Heiser Project has similar noise estimates and is approximately a mile away from the Proposed Project. Due to distance, topography and attenuation, cumulative noise impacts from both the Heiser Project and the Proposed Project are not cumulatively considerable. Additionally, construction of the Proposed Project is temporary, and in combination with sources of noise in the vicinity would not expose persons to temporary or substantial permanent increases in the ambient noise level or generate noise levels in excess of standards established in the General Plan, County noise ordinance, or applicable standards of other agencies. It is short-term in nature and would not cause an increase in ambient noise that is cumulatively considerable.

### OPERATION

As stated in **Section 4.11**, operation of the Proposed Project would slightly increase the ambient noise level in the immediate vicinity of the property. However, given the County's General Plan Policy CC-35, which states that agriculture and agricultural processing is considered an acceptable and necessary part of the community character of Napa County and these activities are exempt from standard non-agricultural noise regulations as set forth in Napa County General Plan Policy CC-35 and Napa County Noise Ordinance 8.16.090. The slight increase in noise due to operation of the Proposed Project would be in keeping with the community character of the area even combined with the noise from nearby facilities and the closest cumulative facility, the Heiser Project. Therefore the Proposed Project would not be cumulatively considerable when considered in the context of other past, present, and future projects.

## 6.1.4-12 TRANSPORTATION AND TRAFFIC

The geographic scope for the transportation and traffic setting is the immediate roadway network that provides access to the project site.

### CONSTRUCTION

As stated in **Section 4.12**, construction of the Proposed Project would result in a maximum trip generation of approximately 20 total vehicle trips per day (8 worker trips, and 12 logging/heavy equipment). The additional 20 trips represents an increase in peak day volume trips of 1.67 percent (eastbound) and 1.71 percent (westbound) on Howell Mountain Road, and 7.5 percent (eastbound) and 7.7 percent (westbound) on Cold Springs Road. This one-time trip generation will not be cumulatively significant to traffic in the area. The Heiser Project is the nearest project, and would generate approximately 8 trips per day during construction that would traverse Howell Mountain Road. Currently, Howell Mountain Road experiences 2,346 trips per day. Even assuming a maximum growth rate within the County, the addition of 20 trips on Howell Mountain Road would not exceed the County maximum capacity of 5000 per day. For Cold Springs Road, the addition of 20 trips would not exceed the assumed County maximum capacity of 1000 per day considering the roadway currently experiences 524 trips per day. Therefore, the combination of both the Heiser Project and the Proposed Project are not cumulatively considerable. The other projects identified in **Table 6-1** would create similar volumes of traffic; however within a different roadway network as the Proposed Project, and therefore these trips would not be cumulatively considerable. According to a recent traffic study (CTG, 2018), traffic conditions in 2030 would not result in any significant level of service or signal warrant (traffic levels requiring removal of a stop sign and installing a traffic signal) impacts at the intersections of Cold Springs Road and Howell Mountain Road or Las Posada Road during either the Friday or Saturday PM peak traffic hours. The traffic study assumed full build out of the general plan for the 2030 roadway network and does not specifically address the Proposed Project. With 20 anticipated daily trips during construction of the Proposed Project, and assuming 50 percent of these would occur during the PM peak hour, an addition of 10 peak hour trips to these intersection would not result in lowering of the level of service or result in a signal warrant. Accordingly. Implementation of the Proposed Project would result in a less-than-significant cumulative impact to the roadway network.

### OPERATION

Operation of the Proposed Project would generate trips on account of vineyard maintenance and grape harvest. The peak day maximum number of worker trips and grape truck trips is estimated at 22 trips. Operational traffic associated with the Proposed Project would be greatest during harvest of the vineyard. During operation of the Proposed Project, grape harvest will be transported in farm trucks to wineries in the Napa Valley area. This type of agricultural traffic anticipated to be generated by the Proposed Project would be minimal and very similar to other agricultural transport activities (i.e. grapes, cattle, sheep, horses, apples, rock aggregates, fire wood, etc.) presently taking place on local roadways in the vicinity of the Proposed Project.

In summary, this long-term addition of operational trips to Howell Mountain Road and Cold Springs Road would be minimal, seasonal, and would not exceed capacity on existing roadways serving the property and in the vicinity. The additional projects identified in **Table 6-1** would create similar volumes of traffic as the Proposed Project, however, the incremental contribution of the Proposed Project would be less than cumulatively considerable. The Heiser Project is the nearest project, and will also use Howell Mountain Road with an additional 7 trips during operations, which is well below the assumed County maximum capacity. Therefore the combination of both the Heiser Project and the Proposed Project are not cumulatively considerable. The other projects identified in **Table 6-1** would create similar volumes of traffic as the Proposed Project, however, the incremental contribution of the Proposed Project would be less than cumulatively considerable. Therefore, operation of the Proposed Project would not result in cumulative impacts to transportation and circulation in the area.

## 6.2 GROWTH INDUCEMENT

CEQA *Guidelines* Section 15126.2(d) requires that an EIR evaluate the growth-inducing impacts of a proposed project and provides the following guidance for assessing growth inducing impacts:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth. Increases in population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide development patterns and growth policies that guide orderly urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer services, and solid waste services. A project that would induce “disorderly”

growth (i.e., conflict with the local land use plans) could directly or indirectly cause additional adverse environmental impacts and other public services impacts. An example of this would be the re-designation of property planned for agricultural uses to urban uses, possibly resulting in the development of services and facilities that encourage the transition of additional land in the vicinity to more intense urban uses. Another example would be the extension of urban services to a non-urban site, thereby encouraging conversion of non-urban lands to urban lands.

As discussed in **Section 1.0 Introduction**, the Proposed Project would not result in new homes, businesses, or public roads and would not increase demand for public services, infrastructure, or utility service systems. The project is consistent with Napa County General Plan and zoning agricultural designations for the site and is therefore considered within the cumulative planning environment. While the project would require up to approximately 12 workers during peak operation, workers would be located in the local area. Therefore, operation of the vineyard would not result in population growth or removal of an obstacle to population growth and therefore no new housing or associated infrastructure would be required. Implementation of the Proposed Project would result in economic gains that are sustainable within the surrounding area and would utilize existing resources provided by existing commerce in the region. Considering viticulture is the main economic enterprise within the County, there would be no anticipated need to expand commerce serving vineyards do to implementation of the Proposed Project. Therefore, the increase in vineyard operation within the County that would result from the Proposed Project would not result in significant growth-inducing impacts.

## 6.3 SIGNIFICANT, UNAVOIDABLE ENVIRONMENTAL IMPACTS

While many of the potential impacts associated with the Proposed Project would be ameliorated through implementation of the provisions of #P14-00410-ECPA, project-related and cumulative impacts that were identified as potentially significant have been reduced to a less-than-significant level by mitigation measures. Therefore, no significant and unavoidable impacts would result from implementation of the Proposed Project if all recommended mitigation measures are adopted.

## 6.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines (Section 15126) require a discussion of the significant irreversible environmental changes which would be involved in a project should it be implemented. The irreversible and irretrievable commitment of resources is the permanent loss of resources for future or alternative purposes. Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. The proposed project would result in the irreversible and irretrievable loss timber lands, commitment of energy and material resources during construction and operation, including the following:

- Conversion of 24.51 acres of commercial timberland to vineyard.
- Construction materials, including such resources as soil, rocks, and wood;

- 33.8 acres of land area committed to vineyard;
- Water supply for project operation; and
- Energy expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project construction and vineyard operation.

The use of these nonrenewable resources is expected to account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures in accordance with timber harvest requirements and vineyard installation requirements including mitigation measures included in **Section 4.0** of this EIR. Long-term project operation would not result in substantial long-term consumption of energy and natural resources.

The Proposed Project is not proposing the development of a previously inaccessible area. Vineyard development has occurred and would continue to occur in the area with or without the Project, based on development allowed by the existing Napa County Land Use Plan and zoning. Thus, the Project would not commit future generations to a significant irreversible change. Conversion to agricultural land is not considered an entirely irreversible type of development, which is why agricultural lands are often protected to prevent conversion to other land uses.

# REFERENCES

BAAQMD, 2012. California Environmental Quality Act Air Quality Guidelines. Updated May 2012. Available online at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en. Accessed June 21, 2018.

Napa County, 2018. Napa County, Current Projects. https://www.countyofnapa.org/591/Current-Projects Accessed on June 13, 2018.

# SECTION 7.0
# REPORT PREPARATION

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## STATE AGENCIES CONSULTED

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California San Francisco Bay Regional Water Quality Control Board
California Department of Mines and Geology