

COUNTY OF NAPA
PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT
1195 THIRD STREET SUITE 210
NAPA, CA 94559
(707) 253-4417

Initial Study Checklist
(form updated January 2019)

1. **Project Title:** Real Thorevilos LLC Vineyard Conversion Agricultural Erosion Control Plan #P21-00170-ECPA
2. **Property Owner(s):** Real Thorevilos LLC, c/o Jay Heckenlively, 180 Mund Road, St. Helena, CA 94574
3. **Contact Person, Phone Number and Email:** Pamela Arifian, Planner III, (707) 259-5934, pamel.a.arifian@countyofnapa.org
4. **Project Location and APN:** 180 Mund Road, St. Helena; APNs 021-320-022, -026, -027 & -028 (**Figures 1 and 2**)
5. **Project Sponsor:** Applied Civil Engineering, Inc.
Agent: Michael R. Muelrath (Registered Professional Engineer No. 67435)
2160 Jefferson Street, Suite 230, Napa, CA 94559

Contact: (707) 320-4968
6. **General Plan Description:** Agriculture, Watershed and Open Space (AWOS)
7. **Zoning:** Agricultural Watershed (AW)
8. **Background & History:** The proposed project is located on a property comprised of five contiguous parcels (021-320-022; 021-320-024; 021-320-026; 021-320-027; and 021-320-028) having a total area of 389.6 acres and is located at the terminus of Mund Road in St. Helena. Existing development on the property consists of a primary residence, a secondary residence (guest house) and a barn, and approximately 21.9 acres of vineyards. The existing vineyards were installed prior to 1993 and were approved for replanting under a Track 1 Replant Erosion Control Plan #P20-00306-ECPA (approved April 23, 2021).

The property was heavily impacted by the 2020 Glass Fire, which destroyed the guest house and barn. A Notice of Emergency Timber Operations was issued for the property on May 18, 2021, which authorized the emergency harvest of approximately 120 acres of fire-damaged trees following the 2020 Glass Fire, including approximately 2.9 acres of trees within the proposed Ecotone North block (Notice of Emergency Timber Operations - **Exhibit G**). According to the Applicant, most, if not all of the trees in the Ecotone South project area sustained significant burn damage from the 2020 Glass Fire; it is expected that as many as 75% of the trees identified for removal will not survive.

The Applicant is preparing a Less Than 3 Acre Timber Conversion Exemption application, which will be submitted by Registered Professional Forester Scott Butler (RPF #1851) to California Department of Forestry and Fire Protection (CAL FIRE). CAL FIRE will utilize this IS/MND for its CEQA compliance in issuing the Less Than 3 Acre Timber Conversion Exemption. The Timber permit process has its own environmental procedural protections built into the process. The Less Than 3 Acre Timber Conversion Exemption will only proceed once this CEQA process is completed.

9. **Description of Project:** The proposed project involves the clearing of vegetation, earthmoving, and installation and maintenance of erosion control measures associated with the development of approximately 23.2 gross acres of new vineyard (i.e., development area, proposed clearing limits; 19 net planted acres) within three vineyard blocks, located on three parcels (with existing road access through a fourth parcel) totaling approximately 384 acres (i.e., project site) (**Figures 3a and 3b**). Block EN (Ecotone North) would be located on APN 021-320-026 and would consist of approximately 9 gross acres (7.4 net planted acres). Block ES-1 (Ecotone South-1) would consist of 0.7-gross acres (0.5 net planted acres) and would be located on APN 021-320-028. Block ES-2 (EcoTone South-2) would be located on APNs 021-320-028 and APN 021-320-022 and would consist of approximately 13.5 gross acres (11.1 net planted acres). Block ES-1 is separated from Block ES-2 by an existing paved driveway that provides access to the main residence site. Average slopes within the development area are gentle to moderate and range from 2 percent (%) to 19% within the proposed vineyard block areas, with a total of less than 0.1-acre on slopes over 30%, and an overall average slope of 9%. The project would convert to vineyard approximately 10.9 acres of oak woodland (including 6.6 acres of blue oak woodland, 3.2 acres of California black oak woodland and 1.1 acres of coast live oak woodland) as well as 2.9 acres of Douglas fir forest. Vegetation removal would include a total of approximately 265 trees (including coast live oak, black oak, blue oak, manzanita and olive) ranging in size from 6-inches to 36-inches diameter-at-breast-height (dbh). Rock generated as a result of site preparation may be buried as fill, used for lining existing roads within the vineyard development area and/or on existing ranch roads if sufficient rock is encountered. Temporary rock stockpiles and staging

areas would be located inside of proposed clearing limits; no long-term stockpiles of rock or soil are anticipated, and all temporary stockpiles, equipment staging and storage areas would be kept within the proposed vineyard development area. No grading activities or ground disturbance would occur outside of the proposed clearing limits. The vineyard would be irrigated with water sourced from an existing groundwater well "Well 1-2020" that would replace the existing "Vineyard Well" in providing water for the existing and proposed vineyard; the Vineyard Well would be used in the future as redundant and/or emergency back-up well only. These wells are located within 50 feet of each other within the development area of the existing vineyard. The residential uses on the property, once rebuilt, would continue to be served by the existing "Domestic Well" located immediately east of proposed EcoTone South-1 block, near the site of the residential uses. No new or altered wells or other water sources are anticipated as part of the proposed project. Water pipeline for irrigation of Ecotone North block already exists within the existing access road, and would be located in vineyard avenues and/or within the proposed clearing limits of the Ecotone South blocks. Wildlife exclusion fencing exists along the northern parcel boundary of APN 021-320-026 and around the existing vineyard; the project proposes new wildlife exclusion fencing to enclose the new blocks (**Exhibit A**).

Entry to the property is from the end of Mund Road, located approximately 0.8 miles southeast of the intersection of Mund Road and Deer Park Road. Access to the Ecotone North project area is via an existing ranch road that starts at the end of Mund Road, continues northerly through an existing vineyard area, and then turns northwesterly, following Cañon Creek, to the Ecotone North project site. Access to the Ecotone South project area is via an existing paved driveway that extends from the terminus of Mund Road to the existing main residence site, which is located immediately adjacent to the Ecotone South project area. All roads required to provide access to the two project sites are existing; no new roads are proposed as part of the project.

Erosion Control Measures: Temporary erosion control measures include silt fence and straw wattle sediment barriers, erosion control blankets, the application of straw mulch and a vegetative cover crop. Permanent erosion control measures include water bars with rock rip-rap energy dissipators and a permanent no-till cover crop maintained at a minimum vegetation cover density of 75% in Blocks Ecotone North and Ecotone South-1, and 80% in Block Ecotone South-2, and 85% in a small, isolated area in the north part of Block Ecotone South-2. Details of the proposed erosion control measures are provided in the Real Thorevilos LLC Vineyard ECP #P21-00170-ECPA, dated July 9, 2021 (revised September 7, 2021), prepared by Michael R. Muelrath (Registered Professional Engineer No. 67435) of Applied Civil Engineering, Inc., Napa, California (**Exhibit A**).

Earthmoving: Earthmoving and grading activities associated with the installation of erosion control measures and subsequent vineyard operation include, but are not limited to vegetation removal, rock breaking and removal as needed, soil ripping as needed to fracture subsoils and rock to a depth of approximately 36 to 48 inches, discing and harrowing, and development of erosion control measures, including vineyard avenues and access roads.

Other Activities and Features: Other activities and features of the proposed project and subsequent vineyard development and operation include:

- a. Installation of new water lines within the vineyard avenues;
- b. Installation of vineyard trellis and drip irrigation systems, and planting rootstock in a 6-foot by 4-foot spacing pattern for an approximate vine density of $\pm 1,815$ vines per acre and a total of approximately 34,485 vines (subject to change);
- c. Ongoing inspection and maintenance of temporary and permanent erosion and runoff control measures; and
- d. Ongoing operation and maintenance of the vineyard, which includes: vine management (pruning, fertilization, pest and disease control), weed control, cover crop mowing, irrigation and trellis system maintenance, and fruit harvesting. No pre-emergent herbicides would be used, and contact or systemic herbicides may be applied in the spring.

Table 1 lists a general annual schedule for the phased multi-year construction of the proposed project as identified in #P21-00170-ECPA and **Table 2** outlines typical general ongoing vineyard operations. The final implementation schedule is pending action on # P21-00170-ECPA.

Table 1 – Implementation Schedule

April 1	Commence clearing and tillage operations.
October 15 ¹	All tillage and erosion control complete. All winterization complete, including seeding, straw mulching, and straw wattle installation, water bars.

¹ During the winter months (October 15 to April 1 of the succeeding year), no earthmoving work is allowed by the Napa County Code (NCC) Section 18.108.070(L).

Table 2 – Annual Operations Schedule

January to April	a. Prune vines. b. Weed control.
April to August	a. Sulfur application to protect against mildew. b. Mow cover crop. c. Weed control.
September to October	a. Harvest. b. Winterize vineyard and vineyard avenues by October 15.
November to April	a. Monitor and maintain erosion control measures and repair as necessary during rain events.

The proposed project is expected to generate approximately 14-30 round trips per day during construction. 8-10 truck trips would deliver and remove heavy equipment at the start and end of project construction. Typical construction equipment anticipated for project implementation includes a medium excavator, D8 or D9 bulldozer, haul trucks, loader, and two to four farm tractors with trailers.

Sulfuring and pruning would occur 10 to 12 days per year and is anticipated to generate up to 15-20 daily employees, resulting in approximately 10-20 round trips per day during pruning/sulfuring. Weed control would occur from January to July under the vines and in April through August between rows, and is anticipated to generate 3 to 4 workers per day for a total of 7 to 14 days, resulting in a total of approximately 28-56 round trips for weeding. Harvest would occur approximately 6 to 8 days per year and is anticipated to generate up to 20 daily employees, resulting in approximately 20 round trips per day during harvest. One 2-ton truck would be used during harvest, and harvest would result in approximately 60 truck/vehicle trips per year. Vehicular equipment for ongoing vineyard maintenance is anticipated to include ATVs, equipment trailers, and passenger cars and/or light trucks.

Implementation of the proposed project would be in accordance with the Real Thorevilos LLC Vineyard ECP #P21-00170-ECPA, dated July 9, 2021 (revised September 7, 2021 - **Exhibit A**). The proposed project is further described in the application materials including the Supplemental Project Information sheets. All documents are incorporated herein by reference and available for review in the Napa County Department of Planning, Building and Environmental Services (PBES).

10. Describe the environmental setting and surrounding land uses.

The project property is comprised of five contiguous parcels located at 180 Mund Road within the Deer Park area of Napa County, located in the hills to the north/northeast of St. Helena, approximately 0.75-mile southeast of the intersection of Mund Road with Deer Park Road (**Figures 1-3**). The property is currently developed with approximately 21.9 acres of existing vineyard, a primary residence, a secondary residence (guest house) and a barn, and associated landscaping and utility infrastructure. The property was heavily impacted by the 2020 Glass Fire, which destroyed the guest house and barn.

Undeveloped areas consist of Douglas fir forest (149 acres), coast live oak woodland (64.9 acres), blue oak woodland (23.2 acres), and chamise chaparral (20.6 acres), with smaller areas of California black oak woodland (5.2 acres), common manzanita chaparral (4.6 acres), coyote brush scrub (1.6 acres) and non-native annual grassland (9.2 acres). Surrounding land uses include undeveloped land, vineyards, rural residential, and wineries.

The vast majority of the existing vineyard and proposed Ecotone North block are located within the Cañon Creek Drainage, while a small portion of the existing vineyard and proposed Ecotone South blocks are located within the Meadowood Creek Drainage, both within the Napa River Watershed. A small portion (0.4-acre) of the far northeastern corner of APN 021-320-028 is located within the Lake Hennessey Sensitive Domestic Water Supply Drainage; however, the closest project area (Block ES-1) is located over 1,500 feet southwest of and over 200 feet in elevation below that portion within the Lake Hennessey Drainage. There are six primary drainages and several ephemeral tributaries within the project parcels; a majority of the flows are intermittent flows, which run during the wet season into the dry season and receive subsurface discharges. Riparian vegetation is present along intermittent portions, but is absent along the ephemeral streams. All of the streams are likely jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC, and therefore are considered sensitive aquatic resources. Cañon Creek meets the Napa County stream definition pursuant to NCC Section 18.108.025, and is located over 70 feet south of the proposed Ecotone North block.

General topography of the parcels is moderately- to steeply-sloped with elevations, with southeast to northwest slopes, and elevations ranging from 600 and 900 feet above mean sea level (msl) within the eastern hills of Napa Valley. The property lies southwest of a prominent ridgeline, and the property itself contains ridge areas bordered by small valleys.

There are no known faults on the parcels; the nearest fault is located over 1.25 miles to the northeast of proposed Ecotone North block. There is a mapped ancient landslide deposit area in the vicinity of Ecotone South project area; however, based on the soil conditions and shallow bedrock depths, the Applicant's Engineer determined that the project will not affect or be affected by this historical landslide feature. Soils in the vicinity of the project site have been classified according to the Soil Survey of Napa County (USDA, 1978) as Aiken loam (#100) with 2 to 15 percent slopes, Boomer gravelly loam (#109) with 30 to 50% slopes, Forward gravelly loam (#138) with 2 to 9% slopes and Forward gravelly loam (#140) with 30 to 75% slopes (Applied Civil Engineering, Revised September 7, 2021 - **Exhibit A**).

11. **Other agencies whose approval may be required** (e.g., permits, financing approval, or participation agreement that may potentially be required from the identified permitting authority/agency). A Less Than 3 Acre Timber Conversion Exemption will be prepared and submitted to the California Department of Forestry and Fire Protection (CAL FIRE).

Responsible (R) and Trustee (T) Agencies

California Department of Fish and Wildlife (CDFW) (T)
California Department of Forestry and Fire Protection (CAL FIRE) (T)
U.S. Army Corps of Engineers (USACE) (R)
Regional Water Quality Control Board (Regional Water Board) (R)

Other Agencies Contacted

Middletown Rancheria
Mishewal Wappo Tribe of Alexander Valley
Yocha Dehe Wintun Nation

11. **California Native American Tribal Consultation:** Have tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?

Notice of the proposed project was sent to Middletown Rancheria, Mishewal Wappo Tribe of Alexander Valley, and Yocha Dehe Wintun Nation on August 24, 2021. The Mishewal Wappo Tribe of Alexander Valley and Middletown Rancheria did not request consultation within the 30-day notification period, and because no response to the consultation invitation was received, the consultation time period elapsed. On February 10, 2022, the County mailed letters to all three of the Tribes notifying them about closure of consultation invitation. Napa County received a response letter from Yocha Dehe Wintun Nation dated February 28, 2022, indicating that the project site is not within the aboriginal territories of the Yocha Dehe Wintun Nation, and declined to comment.

This is discussed in detail in **Section XVIII (Tribal Cultural Resources)**.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input checked="" type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

ENVIRONMENTAL IMPACTS AND BASIS OF CONCLUSIONS

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of the Napa County Environmental Resource Maps, the other sources of information listed in the file, and the comments received, conversations with knowledgeable individuals; the preparer's personal knowledge of the area; and, where necessary, a visit to the site. For further information, see the environmental background information contained in the permanent file on this project.

Other sources of information used in the preparation of this Initial Study include site-specific studies conducted by the applicant and filed by the applicant in conjunction with ECP #P21-00170-ECPA as listed below, and the environmental background information contained in the permanent file on this project. These documents and information sources are incorporated herein by reference and available for review at the Napa County Department of Planning, Building and Environmental Services located at 1195 Third Street, Suite 210, Napa, CA 94559 and on the Napa County Current Projects Explorer website: www.countyofnapa.org/2876/current-projects-explorer.

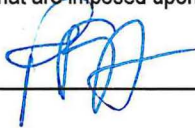
- Applied Civil Engineering, Revised September 2021, Original Submittal July 9, 2021, Erosion Control Plan & Tree Removal Exhibit, Real Thorevilos LLC Vineyard Development Erosion Control Plan (**Exhibit A**).
- WRA, Inc., May 2021, Biological Resources Reconnaissance Survey Report, Real Thorevilos, Unincorporated Napa County, California (APNs 021-320-022, -026, -028), (**Exhibit B-1**).
- WRA, Inc., September 2022, Updated (post-fire) special-status plant survey results – Real Thorevilos (No. P21-00170-ECPA) (**Exhibit B-2**).
- Archaeological Resource Service, July 9, 2021, Cultural Resources Evaluation of Vineyard Additions within the Lands of Heckenlively, Mund Rd, St. Helena, Napa County, California.
- Applied Civil Engineering, Revised August 25, 2021, Soil Loss Analysis, Real Thorevilos Vineyards, Ecotone North and South Blocks, Proposed New Vineyard Development, 180 Mund Road, St. Helena, CA 95476 (APNs 021-320-022, -026 & -028) (**Exhibit C**).
- Applied Civil Engineering, March 22, 2021, Hydrologic Analysis, Real Thorevilos Vineyards, Ecotone North and South Blocks, Proposed New Vineyard Development, 180 Mund Road, St. Helena, CA 95476 (APNs 021-320-022, -026 & -028) (**Exhibit D**).
- Richard C. Slade Associates LLC, June 24, 2021, Results of Napa County Tier I Water Availability Analysis, Real Thorevilos/Mund Road Vineyards Property, 320 Mund Road, Deer Park Area, Napa County, California (**Exhibit E-1**).
- Richard C. Slade Associates LLC, August 31, 2022, Napa County Tier 3 Water Availability Analysis, Real Thorevilos/Mund Road Vineyards Property, 320 Mund Road, Deer Park Area, Napa County, California (**Exhibit E-2**).
- California Department of Forestry and Fire Protection, May 2021, Notice of Emergency Timber Operation, Harvest Document 1-21EM-00205-NAP (**Exhibit F**).
- Application Submittal Materials and Correspondence #P21-00170-ECPA (**Exhibit G**)
- Project Revision Statement (November 18, 2022) (**Exhibit H**)
- Site inspection conducted by Napa County Planning Division staff conducted on August 19, 2021.
- Napa County Geographic Information System (GIS) sensitivity maps/layers.

On the basis of this initial evaluation:

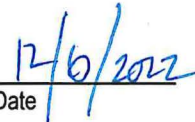
- I find that the proposed project COULD NOT have a significant effect on the environment, and a (SUBSEQUENT) NEGATIVE DECLARATION will be prepared.

- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A (SUBSEQUENT) MITIGATED NEGATIVE DECLARATION will be prepared. Attached as **Exhibit H** is the signed Project Revision Statement.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature



Date



Pamela Arifian
Napa County
Planning, Building and Environmental Services Department

ENVIRONMENTAL CHECKLIST FORM

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a-b. The project parcels are located in the moderately sloping eastern hills of Napa Valley northeast of St. Helena and the Napa River, at the southeastern terminus of Mund Road, approximately 0.6-mile from Deer Park Road. The two proposed project areas, Ecotone North and Ecotone South, are located outside of the scenic corridors for the nearest viewshed roads, which include Deer Park Road (approximately 0.5-mile west of Ecotone North) and Silverado Trail (0.75-mile south/southwest of Ecotone South), (Napa County GIS, Scenic Corridors and Viewshed Road Layers), the latter of which is an eligible State Scenic Highway (Caltrans 2019¹). The topography is such that the project areas are not visible from either road; intervening hillsides block the sightline between both viewshed roads and the project areas. Further, the scale of the proposed project, and the location of the proposed blocks adjacent to similar surrounding vineyards, undeveloped land and residences, would result in the proposed vineyard blending in with surrounding uses if it were visible. The project sites are located on gently to moderately sloping land, with a minor ridgeline separating Ecotone North and the existing vineyard from the proposed Ecotone South blocks (Napa County GIS, Ridgelines Layer). There are no significant visible rock outcroppings or geologic features on the project site that would be impacted by the proposed project. Elevations in the Ecotone South blocks range from approximately 680 feet asl to 710 feet asl and in Ecotone North from approximately 635 feet asl to 730 feet asl. The proposed vineyard development has been designed in a way that would complement the natural contours of the project site, and would avoid the riparian habitat associated with the intermittent blue line stream as it flows northwest from Ecotone North project area. Therefore, the proposed project would have a less than significant impact on a scenic vista, scenic highway, historic buildings, or scenic resources including trees or rock outcrops.
- c. The proposed project would result in the removal of existing vegetation within the proposed development area and the development of vineyard. The proposed project is consistent with the Napa County AWOS land use and with surrounding viticultural, rural residential and undeveloped land uses; therefore, the proposed project is anticipated to result in less than significant impacts to the scenic vistas, scenic resources and public views.
- d. Proposed agricultural operations on the parcel would require some lighted nighttime activities consistent with the nighttime activity already occurring on the project parcel and in the surrounding area, which includes vineyard and agricultural uses. The proposed project would include nighttime harvesting (2 a.m. to 10 a.m.) and applications of pesticide/herbicide and sulfur (from 10 p.m. to 7 a.m.) occurring approximately 22 to 26 nights per year. Lighting would be in the form of headlights or downward direction lights on equipment being used during nighttime activities. While some nighttime activities may occur for limited periods, the project would not introduce a new source of substantial light or glare, and the type of nighttime lighting would be consistent with surrounding land uses; therefore, resulting in a less than significant impact.

¹ <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Important (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code Section 12220(g)), timberland (as defined in Public Resource Code Section 4526), or timberland zoned Timberland Production (as defined in Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

The California Department of Forestry and Fire Protection (CalFire) enforces the laws that regulate logging on privately-owned lands in California. These laws are found in the Forest Practice Act which was enacted in 1973 to ensure that logging is done in a manner that will preserve and protect our fish, wildlife, forests and streams. Additional rules enacted by the State Board of Forestry and Fire Protection are also enforced to protect these resources. CalFire ensures that private landowners abide by these laws when harvesting trees. Although there are specific exemptions in some cases, compliance with the Forest Practice Act and Board rules apply to all commercial harvesting operations for landowners of small parcels, to ranchers owning hundreds of acres, and large timber companies with thousands of acres.

The Timber Harvesting Plan (THP) is the environmental review document submitted by landowners to CalFire outlining what timber is proposed for harvest, how it will be harvested, and the steps that will be taken to prevent damage to the environment. THPs are prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans. CalFire does not have the authority to deny a THP that is in compliance with state and federal rules and laws. A THP that does not comply with all forestry and environmental regulations is returned to the RPF. It is only approved after the RPF and landowner agree to make the changes necessary to ensure compliance with all laws. The Environmental Commitments included in the ECPA application by the owner (i.e. erosion and runoff protection and control, preconstruction surveys, and sensitive species avoidance and protection measures) are intended to ensure compliance with applicable environmental regulations of the Forest Practice Rules.

When a timberland owner proposes to carry out a project that will result in timberland being converted to a non-timber growing use (in this case vineyard), they are also required to submit and secure a Timber Conversion Permit (TCP) in conjunction with the THP. The TCP exempts the timberland owner from the timber stocking requirements of the Forest Practice Rules.

The TCP is a project subject to the California Environmental Quality Act (CEQA) and is not covered by the functional equivalency of the Forest Practice Rules or THP process. Because the proposed project requires an Agricultural Erosion Control Plan (ECPA), Napa County will be acting as the CEQA Lead Agency and will be preparing the environmental document for this project. CalFire may act on the THP/TCP by utilizing (or tiering) the lead agency's final CEQA document or determination. In this case, however, since the amount of coniferous forest proposed for conversion is 2.9 acres, an exemption from the TCP in the form of a Less Than 3 Acre Conversion Exemption pursuant to the Forest Practice Rules Section 1104.1 would be processed after completion of the CEQA process for the proposed project (#P21-00170-ECPA).

- a. The Napa County Important Farmland 2016 map prepared by the California Department of Conservation, Division of Land Resource Protection identifies the development area as Other Land (i.e., not Prime Farmland, Unique Farmland or Farmland of Statewide Importance). Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, resulting in no impact to farmland within Napa County.
- b. The project site has a General Plan designation of Agriculture, Watershed and Open Space (AWOS) and is zoned Agricultural Watershed (AW). Therefore, the establishment of vineyard totaling approximately 23.2 gross acres (19 net acres) is consistent with project site's land use and zoning designations. There are no Williamson Act contracts associated with the project parcels. Therefore, the proposed project would not conflict with its land use designation or a Williamson Act contract resulting in no impact.
- c. The subject parcel and project area are not zoned forest land as defined in Public Resource Code Section 12220(g), timberland as defined in Public Resource Code Section 4526, or a Timberland Production Zone (TPZ) as defined in Government Code Section 51104(g); therefore, no impact is anticipated.
- d. The project proposes to remove approximately 2.9-acres of vegetation classified as Douglas fir forest. "Forest Land" is defined in California Public Resource Code Section 12220(g) as "land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." With respect to timberland, the approximate 2.9-acres of Douglas fir forest is presumed to contain commercial timber species². As stated in the Napa County General Plan, the County has approximately 40,000-acres of land that may contain commercial timber species (Napa County, 2009).

The Napa County General Plan anticipated the conversion of Forest Land, including timberland, to agricultural use, and the program-level EIR for the 2008 General Plan Update analyzed the impacts of up to 12,500 acres of vineyard development between 2005 and 2040, with the assumption that between approximately 950 to 5,700 acres of this development would occur on "Forest Land." In the analysis specifically, and in the County's view generally, the conversion of forest land, including potential timberland, to agricultural use would constitute a potentially significant impact only if there were resulting significant impacts to sensitive species, biodiversity, wildlife movement, sensitive biotic communities listed by the California Department of Fish and Wildlife, water quality, or other environmental resources addressed in this checklist.

The land uses in the region historically included timbering, which was likely in the late 19th or early 20th century (WRA, 2021 – **Exhibit B-1**). The proposed project would result in the conversion of potential timberland to non-timber use, however, the subject property and project area are not located within a TPZ, or within the commercial forest land base of California, and the conversion of approximately 2.9 acres of the property's potential timberland represents a relatively small percentage of the timberland in the County. Therefore, the proposed project is expected to have a less than significant impact on forest and timberland in the County. Also see the discussion in **Section IV (Biological Resources)** for additional discussion and disclosure regarding impacts to forest land.

Furthermore, as discussed in **Sections IV (Biological Resources), VI (Geology and Soils), VIII (Hazards and Hazardous Materials), IX (Hydrology and Water Quality), and XVIII (Mandatory Findings of Significance)** of this Initial Study, project impacts have been analyzed to determine their potential significance, all areas/categories of analysis were found to have a less than significant effect on the environment, and, where necessary, measures have been included to mitigate potentially significant impacts to a less than significant level (see **Section IV.e Biological Resources, Mitigation Measures BR-1 through BR-4**). Therefore, the conversion of approximately 2.9-acres of forest land to vineyard is anticipated to result in less than significant impacts to forest and timberland. Furthermore, as indicated in the **Background/Project History and Environmental Setting Sections** of this Initial Study, the project parcel was significantly damaged by the 2020 Glass Fire and a portion of the burned vegetation (including approximately 2.9 acres of Douglas Fir Forest in the proposed Ecotone North block) was removed in 2021 under Notice of Emergency Timber Operation, Harvest Document 1-21-EM-00205-NAP **Exhibit G**), which does not include a timber restocking requirement, and which has degraded the quality of the site's coniferous forest and timberland. A Less Than 3 Acre Conversion Exemption pursuant to the Forest Practice Rules Section 1104.1 would be processed after completion of the CEQA process for the proposed project (#P21-00170-ECPA).

- e. The proposed project does not include the construction of roadways or other infrastructure that would result in the conversion of existing farmland or forestland in the area to non-agricultural or non-forestland uses. As such, the proposed project would not have an impact on agricultural or forest resources of Napa County.

² California Forest Practice Rules, Title 14, California Code of Regulations, species Group A and those in Group B that are found on lands where the species in Group A now exist or have grown naturally.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

See **Section VIII (Greenhouse Gas Emissions)** for the greenhouse gas (GHG) emissions disclosure and impact assessment.

On June 2, 2010, the Bay Area Air Quality Management District (BAAQMD) Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act (CEQA). These guidelines were updated in May 2017 to address the California Supreme Court’s 2015 opinion in *Cal. Bldg. Indus. Ass’n vs. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369. These thresholds are designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA, and were posted on the BAAQMD website and included in the BAAQMD updated CEQA Guidelines (May 2012). The thresholds are advisory and may be followed by local agencies at their own discretion.

The thresholds were challenged in court. Following litigation in the trial court, the court of appeal, and the California Supreme Court, all of the thresholds were upheld. However, in an opinion issued on December 17, 2015, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the proposed project would exacerbate existing environmental hazards. The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The Supreme Court also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA.

In view of the Supreme Court’s opinion, local agencies may rely on thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA or where the agency has determined that such an analysis would assist in making a decision about the proposed project. However, the thresholds are not mandatory and agencies should apply them only after determining that they reflect an appropriate measure of a project’s impacts. The Guidelines may inform environmental review for development projects in the Bay Area, but do not commit local governments or BAAQMD to any specific course of regulatory action.

The Air District published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court’s 2015 opinion in *Cal. Bldg. Indus. Ass’n vs. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369.

On April 20, 2022, the BAAQMD adopted updated thresholds of significance for climate impacts: CEQA Thresholds for Evaluating the Significance of Climate Impacts, BAAQMD April 2022. The proposed thresholds to evaluate GHG and climate impacts from land use projects are qualitative, therefore there is no bright-line (quantitative) level to mitigate below. Projects that decline to integrate qualitative design elements can alternatively demonstrate consistency with a local Greenhouse Gas (GHG) Reduction Strategy that meets the criteria of the State CEQA *Guidelines* section 15183.5(b).

There is no proposed construction-related climate impact threshold at this time. Greenhouse gas (GHG) emissions from construction represent a very small portion of a project’s lifetime GHG emissions. The proposed thresholds for land use projects are designed to address operational GHG emissions which represent the vast majority of project GHG emissions; refer to **Section VIII, Greenhouse Gas Emissions**.

In short, these thresholds of significance changes can be used by agencies as guidelines for determining climate impacts from projects subject to CEQA. However, agencies are not required to abide by these thresholds, as they are only guidelines.

- a-b. The project site is generally located in the hills bordering the eastern side of the Napa Valley, north and northeast of the City of St. Helena, within the Napa County climatological subregion of the San Francisco Bay Area Air Basin, which is under the jurisdiction of BAAQMD. The topographical and meteorological features of the Napa Valley subregion create the potential for air pollution. In the short term, potential air quality impacts are most likely to result from construction activities. Construction-related emissions, which are temporary in nature, mainly consist of particulate matter (PM) generated from fugitive dust during grading or other earthmoving activities and other criteria pollutants generated through the exhaust from construction equipment, and vehicular haul and worker trips. In the long term, potential air quality impacts would likely result from ongoing activities associated with the operation and maintenance of the proposed vineyard. Operational-related emissions, which are seasonal in nature, are primarily generated from vehicular trips associated with workers going to and from the site and equipment necessary for ongoing vineyard maintenance. Refer to **Section XVII (Transportation)** for the anticipated number of construction- and operation-related trips.

The impacts associated with implementation of the proposed project were evaluated consistent with guidance provided by BAAQMD. Ambient air quality standards have been established by state and federal environmental agencies for specific air pollutants most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation. The criteria air pollutants emitted by development, traffic, and other activities anticipated under the proposed development include ozone (O₃), ozone precursors oxides of nitrogen and reactive organic gases (NO_x and ROG), carbon monoxide (CO), nitrogen dioxide (NO₂), and suspended particulate matter of ten micrometers or less and two and a half micrometers or less (PM₁₀ and PM_{2.5}). Other criteria pollutants, such as lead (Pb) and sulfur dioxide (SO₂), would not be substantially emitted by the proposed development or associated traffic, and air quality standards for them are being met throughout the Bay Area.

BAAQMD has not officially recommended the use of its thresholds in CEQA analyses and CEQA ultimately gives lead agencies the discretion to determine whether a particular environmental impact would be considered significant, as evidenced by scientific or other factual data. BAAQMD also states that lead agencies need to determine appropriate air quality thresholds to use for each project they review based on substantial evidence that they include in the administrative record of the CEQA document. One resource BAAQMD provides as a reference for determining appropriate thresholds is the Guidelines described above. These Guidelines outline substantial evidence supporting a variety of thresholds of significance.

The thresholds of significance identified in **Table 3** are consistent with the BAAQMD 2017 CEQA Air Quality Guidelines, and are used to determine if an air quality impact would be significant.

In order to assess potential air quality and GHG emissions, a review of the emissions analysis associated with vineyard development/construction and operations performed for three certified Environmental Impact Reports (EIR) in Napa County was completed: Suscol Mountain Vineyards³ for an approximately 560-acre vineyard development, Walt Ranch Vineyard⁴ for an approximately 507-acre vineyard development, and Circle-S Ranch Vineyards⁵ for an approximately 400-acre vineyard development.⁶

The analysis within the Circle-S EIR anticipated construction in phases of approximately 150 acres, which would generate approximately 100 15-mile one-way trips per day (75 worker trips and 25 truck trips). The analysis anticipated that maximum operational emissions, occurring during harvest, of an approximately 400-acre vineyard would generate approximately 170 15-mile one-way trips per day (approximately 160 worker trips and eight grape haul truck trips). The Walt Ranch EIR analysis anticipated vineyard development in phases of approximately 127 acres, which would generate approximately 160 15-mile one-way trips per day, and annual vineyard operations generating up to approximately 160 one-way trips of approximately 15 miles per day occurring during harvest. The Suscol Mountain EIR analysis anticipated vineyard development in phases of either approximately 150 or 250 acres, which would generate approximately 50 to 60 15-mile one-way trips per day, and annual vineyard operations generating up to approximately 116 15-mile one-way trips occurring during harvest.

Table 3 shows the approximate anticipated construction emissions associated with the development of vineyards of the sizes described above. Also shown in **Table 3** are the BAAQMD CEQA Guidelines draft thresholds of significance for emission of the following criteria pollutants: ROG, NO_x, PM₁₀, and PM_{2.5}.

Variations or similarities in emissions modeling results between the three projects can be attributed to the modeling platform and version used, and differences in modeling assumptions and inputs such as quantities and types of vegetation to be removed, construction trips, construction equipment and duration of use/operation, and operational equipment operation and trips.

³ #P09-00176-ECPA, Analytical Environmental Services (AES) March 2012, SCH #2009102079 certified February 3, 2013

⁴ #P11-00205-ECPA, AES March 2016, SCH #2008052075 certified August 1, 2016

⁵ #P06-01508-ECPA, AES April 2011, SCH #2007062069 certified December 22, 2011

⁶ These EIRs are incorporated herein by reference and available for review in the Napa County Department of Planning, Building and Environmental Services permanent files.

Table 3 – Emissions from Vineyard Development and Operation

Emissions and Thresholds	Criteria Pollutants – Constituents			
	ROG	NO _x	PM _{2.5}	PM ₁₀
	Construction Emissions			
Pounds per day: 150-acre vineyard development ¹	8.43 to 11.39	34.39 to 52.16	3.93 to 4.47	13.93 to 14.53
Pounds per day: 150- to 250-acre vineyard development ²	9.43 to 11.03	43.85 to 53.16	3.91 to 4.62	12.87 to 17.22
Pounds per day: 127-acre vineyard development ^{3, 4}	4.6	42.3	5.21 ⁴	24.21 ⁴
Construction threshold	54	54	54	82
Operational Emissions				
Pounds per day: 400-acre vineyard operation ¹	7.78	2.85	0.80	4.22
Pounds per day: 560-acre vineyard operation ²	6.58	1.84	0.75	3.91
Pounds per day: 507-acre vineyard operation ³	4.3	22.3	1.4	2.3
Operational threshold (lbs/day)	54	54	54	82
Tons per year (Metric) ^{1,5}	0.78	0.35	0.11	0.58
Operational threshold (tons per year)	10	10	10	15

¹ As identified in Circle-S EIR; ² As identified in Suscol Mountain EIR; ³ As identified in Walt Ranch EIR; ⁴ Includes dust and exhaust emissions; ⁵ Calculation based on 365 days of operation. Project emissions are anticipated to be less than identified as vineyard operations are seasonal in nature.

Sources: Circle-S Ranch Vineyard EIR 2011; Suscol Mountain Vineyard EIR 2013; Walt Ranch Vineyard EIR 2016; BAAQMD CEQA Guidelines May 2017.

Because the proposed project's 23.2 gross acre vineyard (approximately 19 net-planted acres) is smaller than any of the projects presented above, construction and operational emissions from the proposed project that could negatively affect air quality are expected to be less than those identified in **Table 3** and therefore below identified thresholds. Additionally, project approval, if granted, would be subject to the standard Air Quality condition described below, which includes standard air quality and construction best management practices (BMPs) consistent with BAAQMD measures identified in Table 8-1 of the CEQA Guidelines that would further reduce potential air quality impacts associated with construction and ongoing operation of the proposed project. These BMPs would be incorporated into the proposed project.

Air Quality – Conditions of Approval: The owner/permittee shall implement the following air quality BMPs during construction activities and vineyard maintenance and operations:

- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. The BAAQMD's phone number shall also be visible.
- Water all exposed surfaces (e.g., parking areas, staging areas, soil piles, grading areas, and unpaved access roads) two times per day.
- Cover all haul trucks transporting soil, sand, or other loose material offsite.
- Remove all visible mud or dirt tracked onto adjacent public roads by using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- Idling times shall be minimized either by shutting off equipment when not in use or reducing the maximum idling time to five (5) minutes (as required by state regulations). Clear signage shall be provided for construction workers at all access points.
- Water and/or dust palliatives shall be applied in sufficient quantities during grading and other ground disturbing activities onsite to minimize the amount of dust produced. Outdoor construction activities shall not occur when average wind speeds exceed 20 mph.
- All 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. Any portable engines greater than 50 horsepower or associated equipment operated within the BAAQMD's jurisdiction shall have either a California Air Resources Board (ARB) registration Portable Equipment Registration Program (PERP) or a BAAQMD permit. For general information regarding the certified visible emissions evaluator or the registration program, visit the ARB FAQ⁷ or the PERP website⁸.

Installation of the proposed project is expected to generate emissions that are below the thresholds presented in **Table 3**, would contain other features that minimize fugitive dust (such as vineyard cover crop), and would introduce fewer new vehicle trips than the projects shown in **Table 3** during both installation and operation (see **Section XVII [Transportation]** for anticipated project trips). Therefore, implementation of the proposed project would result in less than significant air quality impacts, and it would not conflict with or obstruct implementation of an air quality plan or result in cumulatively considerable effects.

⁷ http://www.arb.ca.gov/portable/perp/perpfaq_04-16-15.pdf

⁸ <http://www.arb.ca.gov/portable/portable.htm>

c-d. Land uses such as schools, playgrounds, child care centers, hospitals and convalescent homes are considered sensitive to poor air quality, 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 to be sensitive to air pollution because residents, which include children and the elderly, tend to be at home for extended periods of time.

Land uses surrounding the project site include agricultural areas, undeveloped land, and rural residential. The closest school (Foothills Adventist Elementary School) is located approximately 0.5-mile northwest of the project site in Angwin (Napa County GIS, School Layer). The closest offsite residences are located approximately 200 feet to the northeast of Ecotone North and approximately 1,000 feet to the west of Ecotone South. The closest residential area to Ecotone North is the Deer Park community, located a minimum of 0.25-mile to the northwest, and the closest residential area to Ecotone South is the City of St. Helena, located approximately 0.25-mile to the south.

During installation of the ECP, vineyard planting, and subsequent vineyard operations, airborne pollutants and odors would be created through the use of grading and farm equipment (e.g., tractors, trucks, and ATV's). These sources would be temporary and/or seasonal in nature and would occur more than 0.5-miles from the closest school and at least 0.25-mile from the closest residential neighborhood, providing dilution of pollutants and odors. For the reasons identified above, the proposed project would not expose sensitive receptors or a substantial number of people to pollutants or objectionable odors, resulting in a less than significant impact.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

The following sources were consulted in this analysis and are incorporated herein by reference and available in the project file for review.

- WRA, Inc., May 2021, Biological Resources Reconnaissance Survey Report, Real Thorevilos, Unincorporated Napa County, California (APNs 021-320-022, -026, -028), (**Exhibit B-1**).
- WRA, Inc., August 11, 2022, Updated (post-fire) special-status plant survey results – Real Thorevilos (No. P21-00170-ECPA) (**Exhibit B-2**)

- Applied Civil Engineering, June 2021, Tree Removal Exhibit, Real Thorevilos LLC (**Exhibit A**)

Additionally, the following Napa County Geographic Information System (GIS) Sensitivity Maps/layers were referenced in this biological resources assessment: Sensitive biotic vegetation groups, U.S. Fish and Wildlife (USFWS) Critical Habitat, California Natural Diversity Database (CNDDB), Owl Habitat, Wetlands and Vernal Pools, Vegetation, Soil types, U.S. Geological Survey Quadrangle (DRG), and Aerial Photos.

A list of special-status plant and animal species that have the potential to occur within the vicinity of the project site was compiled based on data in the CNDDB (CDFW, 2021a), California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS, 2021a), and the USFWS List of Federal Endangered and Threatened Species that may be affected by projects in the Detert Reservoir, Aetna Springs, Walter Springs, Calistoga, Saint Helena, Chiles Valley, Kenwood, Rutherford, and Yountville USGS 7.5 minute quadrangles (USFWS 2021b). Other data sources applicable to this study include National Wetlands Inventory (USFWS, 2021a), California Aquatic Resources Inventory (SFEI 2021), Consortium of California Herbaria (CCH 2021), eBird online database (eBird 2021), California Natural Community List (CDFW 2018a), California Bird Species of Special Concern (CDFW 2008), California Amphibian and Reptile Species of Concern (CDFW 2016), Manual of California Vegetation (2009 and online 2021b).

The applicant's environmental consultant, WRA, conducted a preliminary site visit on April 23, 2020, to evaluate the presence of suitable habitat for special-status species, and conducted focused surveys (denoted as the Botanical Survey Area) on April 23, June 11, and July 17, 2020. The surveys corresponded to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The surveys were completed to determine: the presence of sensitive biological communities; the potential for biological communities on site to support special-status plant or wildlife species; and the presence of sensitive natural resources protected by local, state, or federal laws and regulations. The field surveys were conducted by botanists familiar with the flora of Napa County and surrounding counties.

A general wildlife assessment was performed on April 23, 2020, which consisted of traversing the entirety of the Study Area as well as substantial portions of the project property (which includes all four parcels). A protocol-level survey effort for the federal and state listed northern spotted owl (NSO; *Strix occidentalis caurina*) was performed, following the USFWS methodology. Six surveys were performed through the spring and summer of 2020 to determine if NSO utilize the site.

The site assessment did not constitute a formal wetland delineation; however, the surveys looked for superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales.

Due to the age of the biological resources study and site visits vis a vis the 2020 Glass Fire that heavily impacted the project property, the biologists performed additional floristic surveys to assess the observed populations and habitat supporting special status plant species within the study area (WRA 2022 – **Exhibit B-2**). Additional surveys were performed on May 4, 2022, and June 15, 2022, during typical blooming periods for focal special-status species.

The parcel consists of the following vegetation communities (land cover types): Douglas fir forest (149 acres), coast live oak woodland (64.9 acres), blue oak woodland (23.2 acres), chamise chaparral (20.6 acres), Pacific madrone forest (5.3 acres), California black oak woodland (5.2 acres), common manzanita chaparral (4.6 acres), coyote brush scrub (1.6 acres), and non-native grassland (9.2 acres). The parcels also include a blue-line intermittent stream (Cañon Creek), and six ephemeral drainages. Oak woodlands and streams are considered sensitive habitat types in Napa County; common manzanita chaparral is listed as sensitive by CDFW. The land covers and their acreages are shown in Table 4.

Table 4 – Biological Communities/Land Cover Types on the Project Parcel

Biological Communities/Land Cover Type	Pre-Project Conditions (acres)	Post-Project Conditions (acres)
Douglas Fir Forest	149	146
Coast Live Oak Woodland	64.9	63.8
Blue oak woodland	23.2	16.7
Chamise Chaparral	20.6	20.2
Pacific madrone forest	5.3	5.3
California black oak woodland	5.2	2
Common manzanita chaparral	4.6	4.6
Coyote brush scrub	1.6	1.6
Non-native grassland	9.2	0.4
Developed Area (structures, infrastructure, vineyards)	16.4	39.4

Source: WRA, May 2021

a. Special Status Plants

Of the special-status plants documented from the greater vicinity, the project biologist found that 32 of these plant species have the potential to occur within the project area. Of the 32 plant species with the potential to occur within the project area, two of these were observed on site: Napa false indigo (*Amorpha californica* var. *napensis*) and narrow-anthered Brodiaea (*Grodiaea leptandra*) (WRA 2021 – **Exhibit B-1**).

Napa false indigo is a small deciduous tree in the pea family that blooms from April to July. Approximately 70 individuals were documented in the Botanical Survey Area during the surveys in spring and summer of 2020; none of these were located in the proposed project areas. One population was observed on both sides of the existing dirt access road to the Ecotone North area, though none were within the roadbed itself. The report noted that, if the seedbank survived the Glass Fire, it would be probable that germination would be high, and would contribute to the species' persistence within the Study Area. However, post-fire botanical surveys performed in May and June 2022 by WRA (**Exhibit B-2**) did not result in observations of any Napa false indigo in the Study Area, suggesting that the populations observed in the northern property in 2020 were removed at least temporarily by the Glass Fire.

Narrow-anthered brodiaea is a perennial herb that blooms from May to July. Approximately 84 individuals were documented in the survey area during the surveys in spring and summer of 2020, including nine (9) individuals located within the proposed project area. The species is a bulbiferous perennial adapted to surficial disturbance (e.g., fire, shrub removal); the report noted that a reduction of competition and nutrient input from the fire would likely maintain if not increase the number of individuals of the species, particularly in the chamise chaparral outside of the project area. The post-fire botanical survey performed in May and June 2022 by WRA (**Exhibit B-2**) resulted in observations of multiple populations of narrow-anthered brodiaea plants totaling 1,065 plants within the northern property, including 45% of those plants found within the proposed Ecotone North block (within Douglas fir forest, blue oak woodland and non-native grassland/disturbed habitats), and the remainder located west of the project area in Douglas fir forest habitat. In the southern Ecotone South blocks, a total of 624 narrow-anthered brodiaea plants were observed, with approximately 20% of those plants found within the proposed project area primarily within blue oak woodland habitat, and the remainder found in larger populations to the north and northeast of the proposed blocks, within blue oak, coast live oak woodland and chamise chaparral habitats.

Napa false indigo and narrow-anthered brodiaea are CNPS California Rare Plant Rank (CRPR) List 1B species, which are considered "Rare, Threatened, or Endangered in California and Elsewhere" and are fairly threatened in California (i.e., moderate degree/immediacy of threat). CRPR List 1B species meet the definition of Section 1901, Chapter 10 of the Native Plant Protection Act, or Sections 2062 and 2067 of the California Endangered Species Act of the California Fish and Game Code (CFG), and are eligible for state listing. While Napa false indigo and narrow-anthered brodiaea are not state or federally listed species at this time, these species and their associated habitat are of limited distribution locally within Napa County and warrant protection through applicable General Plan Goals and Policies. Protecting the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats is encouraged by Napa County General Plan Goal CON-39. Additionally, pursuant to Napa County General Plan Policy CON-13, the County shall require that all discretionary agricultural projects consider and address impacts to wildlife habitat and avoid impacts to habitat supporting special-status species to the extent feasible, and where impacts to special-status species and their habitat cannot be avoided, projects shall include effective mitigation measures and management plans to provide protection for habitat supporting special-status species through buffering or other means, and

enhance existing habitat values particularly for special-status species through restoration and replanting as part of the project or its mitigation.

As proposed, the project would result in removal of approximately 36% or approximately 605 of the 1,689 narrow-anthered brodiaea plants observed within the Study Area (note: the Study Area does not include the entirety of the project parcels – refer to **Exhibits B-1 and B-2**). The removal of these special-status plant species and their habitat would be inconsistent with the following Napa County General Plan Conservation Element Goals and Policies and Zoning Ordinance: General Plan Goal Con-3⁹ as it does not protect for the continued presence of special-status plant species or its habitat; Policy CON-13¹⁰ in that impacts to special-status habitat can be avoided while allowing for up to approximately 19 net acres of new agriculture on the project parcel; Policy CON-17¹¹ because the removal and disturbance of a sensitive natural plant community that contains special-status plant species is not prevented; and, the purpose and intent of the Conservation Regulations (NCC Chapter 18.108) in that it does not preserve natural habitat or existing vegetation, and adversely affects sensitive, rare, threatened or endangered plants. This would be a potentially significant impact.

General Plan Policy CON-13(d) and (e) provide protections for habitat through buffering or other means, and by requiring that replacement habitat of like quantity and quality on- or off-site to mitigate impacts on special status species. CON-17 requires that, where avoidance, restoration or replacement of sensitive biotic habitats is not feasible, preserve like habitat at a 2:1 ratio to avoid significant cumulative loss of valuable habitats. A majority of the observed narrow-anthered brodiaea populations were located within fire-impacted Douglas fir forest, blue oak woodland and coast live oak woodland. The discussion regarding impacts on sensitive biotic communities as related to these oak woodland communities is found in more detail in the analysis of question (e), below. As related to the habitat supporting narrow-anthered brodiaea, the project would result in the retention of each habitat supporting the special-status plant at more than 2:1 ratio as identified in the Study Area, which does not encompass the entirety of the property holding; therefore, from this perspective, no significant loss of cumulative impact is anticipated.

From the perspective of removal of identified populations of the special-status plant, County practice requires that a minimum of 80% of special-status populations and their habitat be avoided to ensure consistency with Policy CON-13 and Policy CON-17. Adherence to County practice would require that the project be limited to total vegetation removal of approximately 338 individual narrow-anthered brodiaea plants. The project, as proposed, would result in removal of approximately 605 individual plants or 36% of the total narrow-anthered brodiaea populations on the project property; therefore, implementation of the project as proposed would result in potentially significant direct and cumulative impacts on special-status plant species and their habitat.

To reduce potentially significant impacts on special-status plants to a less than significant level, implementation of **Mitigation Measure BR-1** would increase avoidance and retention of narrow-anthered brodiaea and associated habitat, such that a minimum of 80% of the species and sensitive habitat type is retained and preserved on the property. Implementation of **Mitigation Measure BR-1** would result in approximately reduction of approximately 0.5-acres of vineyard, including approximately 0.4-acre in primarily non-native grassland in Block EN and approximately 0.1-acre in blue oak woodland in Block ES-2, resulting in a total project area of 22.7 gross acres.

Mitigation Measure BR-1: The Owner/Permittee shall revise Erosion Control Plan #P21-00170-ECPA prior to approval to minimize potential impacts to special-status plant species (i.e., narrow-anthered brodiaea) such that a minimum of 80% of the identified populations are preserved on the property, as follows:

- a. The Owner/Permittee shall permanently preserve narrow-anthered brodiaea and associated habitat within the property as outlined in **Mitigated Project Areas and Special Status Plant Preservation Areas Figures (Figures 4a and 4b)**. The Project Special Status Preservation Areas, as depicted, shall encompass a minimum of approximately 1,352 narrow-anthered brodiaea plants as observed by the project biologist in the 2022 floristic surveys (WRA 2022), including approximately 790 plants located immediately west of the mitigated Ecotone North block boundary on APN 021-320-026 and approximately 499 plants located north/northeast of Ecotone South block boundaries on APN 021-320-028, and approximately 63 plants located south and southeast of the mitigated Ecotone-South 2 boundary on APN 021-320-022. The Project Special Status Species Preservation Areas shall be designated for preservation in a deed restriction or conservation mitigation easement or other means of permanent

⁹ 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.

¹⁰ 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: Provide protection for habitat supporting special-status species through buffering or other means, and replacement habitat of like quantity and quality to mitigate impacts to special-status species.

¹¹ 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: Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.

protection acceptable to the County. Land placed in protection shall be restricted from development and other uses that could degrade the quality of the Preservation Area habitat (including, but not limited to conversion to other land uses such as agriculture or urban development and excessive off-road vehicle use that increases erosion) and should be otherwise restricted by the existing goals and policies of Napa County. The Owner/Permittee shall record the enforceable restriction within 90 days of approval of #P21-00170-ECPA by the County; in no case shall earthmoving activities commence until said enforceable restriction is recorded.

- b. Prior to the commencement of earthmoving activities associated with #P21-00170-ECPA, the clearing limits shall be accurately flagged by an engineer using GPS equipment, and the vineyard boundary demarcated with temporary construction flagging/fencing. Those populations immediately adjacent to the vineyard boundary shall be demarcated with construction flagging or fencing, and incursions into the boundary shall be conducted only by qualified personnel. The precise locations of said demarcation shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No equipment or materials shall be laid down in or near the boundary. Any remediation seed mixes for bare ground should not contain species known to be aggressive weeds; non-native grasses shall be sterile varieties. The flagging/fencing may be removed following construction; however, signage at regular intervals shall be installed informing vineyard personnel of the sensitivity of the Preservation Areas and herbicide use shall be limited to those products that pose no negative affect to forbs (i.e., narrow-leaved brodiaea).
- c. In accordance with Napa County Code Section 18.108.100, Erosion hazard areas – Vegetation preservation and replacement) any narrow-anthered brodiaea plants/populations inadvertently removed as a result of vineyard development authorized under #P21-00170-ECPA shall be replaced on-site at a ratio of 2:1 at locations within similar habitat. For such removal, a replacement plan shall be prepared by a qualified botanist or ecologist for review and approval by the Director prior to vineyard planting. At a minimum, the replacement plan shall include i) a site plan showing the locations where replacement plants will be planted, ii) a plant pallet composed of the special-status plant species being removed including sizes and/or application rates: seed mixes shall not contain species known to be noxious weeds and any non-native grasses should be sterile varieties, iii) planting notes and details including any recommended plant protection measures, iv) invasive species removal and management specifications, v) an implementation schedule, vi) performance standards with a minimum success rate of 80%, and vii) a monitoring schedule for a period of at least three years to ensure success criteria are met.

Furthermore, implementation of **Mitigation Measure BR-1** would not substantially affect the feasibility of the proposed project or the continued viability of agricultural use of the project parcel, in that it would allow the Owner/Permittee to develop approximately 22.7 gross acres of new vineyard. With implementation of **Mitigation Measure BR-1**, the proposed project would result in less than significant impacts on special status plants and sensitive habitats.

Special Status Animals

Of the 62 special-status wildlife species that have been documented in Napa County, only six (6) of these species have a potential to occur in the project area or parcels: pallid bat (*Antrozous pallidus*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), olive-sided flycatcher (*Contopus cooperi*), white-tailed kite (*Elanus leucurus*), and purple martin (*Progne subis*).¹²

Northern spotted owl (*Strix occidentalis caurina*) has been documented in the vicinity of the project areas, including a breeding pair located approximately 1.6 miles northwest of the project areas, as well as individuals observed as close as 1 mile to the north of the project areas. The biologists performed protocol-level NSO surveys in 2020 prior to the fire; no individuals were observed. Based on these results, the lack of previous observations on or directly adjacent to the site, and recent fire impacts that had substantial adverse impacts to on-site habitat, NSO was considered absent at the site (WRA 2021 – **Exhibit B-1**).

Regarding pallid bat (of which there are CNDDDB occurrences in the vicinity – CDFW 2020a), fringed myotis and long-legged myotis: the trees within the parcel may contain cavities, snags or exfoliating bark suitable for roosting for all bat species. A targeted bat assessment was not performed by the biologist. While the severe fire impacts likely reduced potential habitat trees, removal and trimming of trees during the bat maternity season (generally April through August) could impact bat breeding and potentially result in a take of bats, which would be considered potentially significant direct, indirect and cumulative impacts on bats. Implementation of **Mitigation Measure BR-2** would avoid or reduce the potential for impacts on bats by requiring a bat habitat assessment prior to tree removal, as well as measures that prioritize avoidance of tree removal during the seasonal periods of bat activity (approximately August 31 through October 15), followed by, if necessary, a pre-construction survey and a phased removal

¹² A typographical error in the biology report (WRA, 2021 – Exhibit B-1) states four species with potential to occur within the study area on page 21 but lists six species.

to avoid accidental take of bats. With implementation of **Mitigation Measure BR-2**, the proposed project would result in less than significant impacts on bats.

Mitigation Measure BR-2: A Qualified Biologist (defined as having demonstrable qualifications and experience with the particular species for which they are surveying) shall conduct a habitat assessment in order to identify suitable bat habitat trees within the project area(s), no more than 6 months and no less than 14 days in advance of the planned tree removal. If the habitat assessment determines that trees proposed for removal contain suitable bat habitat, the following shall apply to potential bat habitat trees:

- a. Tree trimming and/or tree removal shall only be conducted during seasonal periods of bat activity (August 31 through October 15, when young would be self-sufficiently volant and prior to hibernation, and March 1 to April 15 to avoid hibernating bats and prior to formation of maternity colonies), under supervision of a qualified biologist, unless the Measure BR-2b., below, is implemented. Note that these windows may shift with atypical temperatures or rainfall if a qualified biologist determines that bats are likely to still be active based on seasonal conditions. Trees shall be trimmed and/or removed in a two-phased removal system conducted over two consecutive days. The first day (in the afternoon), limbs and branches shall be removed by a tree cutter using chainsaws only, under the supervision of a qualified biologist who has demonstrable experience with supervising tree removal for bats using this technique. Limbs with cavities, crevices and deep bark fissures will be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed.
- b. If removal of bat habitat trees must occur outside the seasonal activities identified above (i.e., between October 16 and February 28/29 of the following year or between April 16 and August 30), a qualified biologist shall conduct a pre-construction survey of all potential bat habitat trees within 14 days of project initiation and/or tree removal to determine absence/presence of special-status bat species. Survey methods, timing, duration, and species shall be provided for review and approval by Napa County prior to conducting pre-construction surveys. A copy of the survey results shall be provided to the County Planning Division and CDFW for review and acceptance prior to commencement of work. If bats are not present, removal can proceed without using the two-phased removal method. If bats are found to be present the qualified biologist shall determine if a maternity colony of winter torpor bats are present. If roosting bats are present but there are no maternity colonies or winter torpor bats, the tree shall be removed using the two-phased removal method outlined in Measure BR-1a, above. If the qualified biologist determines that maternity colonies or winter torpor bats are present, or they cannot confidently determine absence of maternity colonies or winter torpor bats, then tree removal shall be delayed until during the seasonal periods of bat activity outlined in Measure BR-2a.

Regarding special-status bird species, the parcel provides suitable year-round habitat for white-tailed kites, and suitable nesting habitat for the olive-sided flycatcher and purple martin, including stands of coniferous forest for nesting and open areas in close proximity for foraging. There are two documented nesting occurrences of purple martin in CNDDDB within 0.8-mile of the project areas (WRA, 2021 – **Exhibit B-1**). None of these species were observed during the biological assessment; however, a targeted bird survey was not performed. In addition to these special-status bird species, a variety of non-status bird species with baseline protections under the Migratory Bird Treaty Act and California Fish and Game Code may use vegetation within the project areas for nesting.

Removal of trees and grassland vegetation could result in potentially significant direct, indirect and cumulative impacts on special-status and migratory birds through removal of shelter and foraging habitat, and indirect construction-related disturbance (e.g., noise) to nesting birds. Implementation of **Mitigation Measure BR-3** would reduce potential impacts on special-status and migratory birds by requiring that a qualified biologist conduct a preconstruction survey, followed by implementation of avoidance measures and exclusion buffers prior to project initiation. With implementation of **Mitigation Measure BR-3**, the proposed project would result in less than significant impacts on special-status bird species.

Mitigation Measure BR-3: The Permittee shall include in #P21-00170-ECPA the following measures to minimize impacts associated with the loss and disturbance of nesting birds and raptors consistent with and pursuant Fish and Game Code Sections 3503 and 3503.5 and the California Endangered Species Act found in Fish and Game Code Section 2050 et seq.:

- a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 – NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified biologist (defined as knowledgeable and experienced in the biology and natural history of local avian resources with potential to occur at the project site) shall conduct preconstruction surveys for nesting birds and raptors within all suitable habitat in the project area, and within a minimum of 500 feet of all project areas. The preconstruction survey shall be conducted no earlier than 7 days prior to vegetation removal and ground disturbing activities are to

commence. Should ground disturbance commence later than 7 days from the survey date, surveys shall be repeated. A copy of the survey results shall be provided to the Napa County Conservation Division and the CDFW prior to commencement of work.

- b. After commencement of work, if there is a period of no work activity of 5 days or longer during the bird breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.
- c. In the event that nesting birds are found, a qualified biologist shall identify appropriate avoidance methods and exclusion buffers in consultation with the County Conservation Division and the U.S. Fish and Wildlife Service (USFWS) and/or CDFW prior to initiation of project activities. Exclusion buffers may vary in size, depending on habitat characteristics, project activities/disturbance levels, and species as determined by a qualified biologist in consultation with County Conservation Division and the USFWS and/or CDFW.
- d. Exclusion buffers shall be fenced with temporary construction fencing (or the like), the installation of which shall be verified by Napa County prior to the commencement of any earthmoving and/or development activities. Exclusion buffers shall remain in effect until the young have fledged or nest(s) are otherwise determined inactive by a qualified biologist. Additionally, a qualified biologist shall monitor all active nests each day during construction for the first week, and weekly thereafter, to ensure that the exclusion buffers are adequate and that construction activities are not causing nest-disturbance. If the qualified biologist observes birds displaying potential nest-disturbance behavior, the Permittee shall cease all work in the vicinity of the nest and the qualified biologist shall consult CDFW about appropriate avoidance and minimization measures for nesting birds prior to construction activities resuming. In this event, construction activities shall not resume without CDFW's written approval.
- e. Alternative methods aimed at flushing out nesting birds prior to pre-construction surveys, whether physical (i.e., removing or disturbing nests by physically disturbing trees with construction equipment), audible (i.e., utilizing sirens or bird cannons), or chemical (i.e., spraying nesting birds or their habitats) shall be prohibited.

With implementation of **Mitigation Measures BR-1** through **BR-3**, the proposed project would result in less than significant impacts to special-status plant, bird and bat species.

- b-c. The project parcels contain six primary drainages and several ephemeral tributaries. The majority of these streams are ephemeral, with one, Cañon Creek, containing intermittent flows that run during the wet season into the dry season, and receiving subsurface discharges. Riparian vegetation is present along the intermittent portions, but is absent along the ephemeral streams. All of the streams are likely jurisdictional under Section 404/401 of the Clean Water Act and Section 1602 of the California Fish & Game Code and are therefore considered sensitive aquatic resources (WRA 2021 – **Exhibit B**). Cañon Creek is a blue-line stream that travels beside and under (via culverts) the existing access road from the existing vineyard to the proposed Ecotone North block. All on-site streams would be entirely avoided by the proposed project pursuant to the setbacks required by NCC Section 18.108.025, with minimum 35-foot setbacks for the ephemeral drainages and minimum 65-foot setbacks based on existing slope from top-of-bank for Cañon Creek as it runs in a northwesterly direction to the south of the proposed Ecotone North block.

The project, as proposed, would install water bars with rock outfalls and straw wattles on contour on the vineyard block edges above the heads of drainages or paralleling the stream, which, in addition to the cover crops maintained at densities proposed, would reduce the potential for erosion and runoff into the streams. Further, the project would comply with the winter grading deadlines (winter shutdown) found in NCC Section 18.108.070(L), which require that grading and earthmoving activities on slopes greater than 5% be limited to the period between April 1 and October 15. Less than significant impacts are anticipated. As an additional measure to ensure protection of the streams, should rainfall occur outside of the winter shutdown period, the following project-specific condition of approval would be implemented, should the project be approved:

Stream Protection – Condition of Approval: Grading and earthmoving activities associated with installation of #P21-00170-ECPA shall be suspended during unseasonable rainfalls with forecasted accumulation of greater than one-half inch over a 24-hour period. If rainfall is in the forecast, standard erosion control measures (e.g., straw wattles, bales) shall be deployed on the vineyard block edge paralleling or at the head to drainage features. The location of stream setbacks shall be marked with high-visibility flagging or staking prior to construction. No materials or equipment shall be lain down on or near the setbacks, and spill prevention materials shall be deployed for all construction equipment.

The project areas do not contain any designated Critical Habitat or Essential Fish Habitat (WRA 2021 – **Exhibit B-1**); all streams are too narrow, too shallow, and do not have an extended hydrology or run-riffle-pool complexes to support anadromous fishes. Less than significant impacts would result from project implementation on sensitive habitats and aquatic resources.

- d. The project areas are not within a designated wildlife corridor, or within a mapped “Essential Connectivity Area” (CDFW and Caltrans, 2010). The site is located within a much larger tract of forest and lightly-developed land within a rural portion of Napa County east of the Napa Valley. While common wildlife species presumably utilize the site for movement at a local scale, the project parcels themselves do not provide corridor functions beyond connecting similar forested and/or scrub-grown land parcels in surrounding areas. While the proposed project would result in portions of the respective parcels being converted to vineyard, most of these parcels would remain undeveloped and retain connectivity of habitats at a local scale.

Wildlife nursery sites were not identified in the project site; therefore no impacts would occur in this regard.

The project, as proposed, would install wildlife exclusion fencing around the perimeter of the vineyard blocks (fencing for the Ecotone South block would include the adjacent developed areas), which would leave undeveloped interstitial areas intact (**Exhibit A**). Additionally, the on-site streams (primarily ephemeral) are presumably used for highly localized movement, and would also be completely avoided with required setbacks, should the project be approved.

While the proposed fencing would not result in significant impacts to wildlife movement and use, in order to ensure that wildlife exclusion fencing is installed in a manner that is consistent with CDFW recommendations to minimize impacts to wildlife movement, habitat use and availability, and vegetation removal the following condition of approval would be incorporated should the proposed project be approved.

Fencing – Condition of Approval: The Owner/Permittee shall revise Erosion Control Plan #P21-00170-ECPA prior to its approval to include wildlife exclusion fencing detail that shall include the following components:

- New fencing shall use a design that has 6-inch square gaps at the base (instead of the typical 3-inch by 6-inch rectangular openings) to allow small mammals to move through the fence.
 - Exit gates shall be installed at the corners of wildlife exclusion fencing to allow trapped wildlife to escape. Smooth wire instead of barbed wire shall be utilized to top wildlife exclusion fencing to prevent entanglement.
 - Any modifications to the location of wildlife exclusion fencing as specified in Erosion Control Plan #P21-00170-ECPA required by this condition shall be strictly prohibited, and would require County review and approval to ensure the modified wildlife exclusion fencing location/plan would not result in potential impacts to wildlife movement.
- e. The parcel consists of the following vegetation communities (land cover types): Douglas fir forest (149 acres), coast live oak woodland (64.9 acres), blue oak woodland (23.2 acres), chamise chaparral (20.6 acres), Pacific madrone forest (5.3 acres), California black oak woodland (5.2 acres), common manzanita chaparral (4.6 acres), coyote brush scrub (1.6 acres), and non-native grassland (9.2 acres). (**Exhibit B**).

The project parcels are located in three drainages as follows: the Ecotone North Block and a vast majority of the existing vineyard are within the Cañon Creek drainage within the Napa River watershed; a small area of existing vineyard and the two Ecotone South blocks and existing residential development are located within the Meadowood Creek drainage; and a small area (approximately 0.4-acre of APN 021-320-028) within the Lake Hennessey Sensitive Domestic Water Supply Drainage. Table 5, below, identifies the proposed vegetation removal and retention ratios on each parcel.

Table 5 – Vegetation Canopy Cover Retention on the Project Parcels

Assessor's Parcel Number	021-320-022	021-320-026	021-320-028
Vegetation Canopy Cover (pre-project) ¹	52.4 acres	126 acres	63.3 acres
Vegetation Canopy Cover Removed	5.7 acres	7.9 acres	0.1 acre
% Vegetation Canopy Cover Retained	89%	93.7%	99.8%
3:1 Preservation Mitigation Required (total)	41.1 acres		
Brush/Grass Canopy (pre-project)	21.8 acres	8.7 acres	5.5 acres
Brush/Grass Canopy Removed	7.4 acres	1.1 acres	1.0 acre
% Brush/Grass Canopy Retained	66%	87.4%	81.8%

¹ Based on 2016 aerial (Applied Civil Engineering, 2021 – **Exhibit A**) Per project biologist, the 2018 aerial shows no change from the 2016 aerial (**Exhibit B-2**)

The project would result in removal of a total of 10.9 acres of oak woodland, including 6.6 acres of blue oak woodland, 1.1 acres of coast live oak woodland, and 3.2 acres of California black oak woodland, and approximately 2.9 acres of Douglas fir forest, as identified by the project biologist, for a total removal of 13.8 acres of vegetation canopy cover as defined in NCC Section

18.108.030.¹³ Following implementation of **Mitigation Measure BR-1**, the project would result in removal of approximately 6.5 acres of blue oak woodland, for a total removal of 10.8 acres of oak woodland, and 13.7 acres of vegetation canopy cover.

Napa County General Plan Conservation Element Policy CON-24 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat, slope stabilization and soil protection, and species diversity. More specifically, this Conservation Policy strives to: preserve oak trees and other significant vegetation that occurs near the heads of drainages, to maintain diversity of vegetation types and wildlife habitat (CON-24a); 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 existing oak woodland (CON-24b); and provide replacement of lost oak woodlands or preservation of like habitat (on an acreage basis) at a 2:1 ratio, and avoid removal of oak species that are limited in distribution (CON-24c).

To achieve consistency with General Plan Policy CON-24(c), the project, which would remove a total of 10.8 acres of oak woodland, would need to preserve a total of 21.6 acres of oak woodland. As proposed, the project would retain a total of 82.6 acres of oak woodland, including coast live oak, blue oak and California black oak woodlands (Table 4, above, and WRA 2020, **Exhibit B-1**), which exceeds the acreage required by the 2:1 preservation ratio. However, as proposed, the project does not include an oak woodland preservation area to achieve that 2:1 preservation ratio; therefore, project implementation would result in potentially significant impacts related to consistency with General Plan Policy CON-24. Implementation of **Mitigation Measure BR-4** would require that a project biologist identify an Oak Woodland Preservation Area totaling 21.6 acres on the project property for review and approval by the County Conservation Division, and to include that Preservation Area in a deed restriction or conservation mitigation easement or other means of permanent protection on the property. With implementation of **Mitigation Measure BR-4**, impacts to oak woodlands as it relates to consistency with the Napa County General Plan Policy CON-24 would be reduced to a less than significant level.

The Conservation Regulations (Napa County Code Chapter 18.108) intent and purpose is to preserve the natural resources of the County and provide greater environmental protection for natural environmental resources, particularly agricultural lands, forests, wildlife habitat, and water. Additionally, the Conservation Regulations strive to accomplish the following: minimize cut, fill, earthmoving, grading operations and other such man-made effects in the natural terrain; preserve natural habitat by controlling development near streams, rivers and wetlands; minimize impacts on existing land forms by avoiding steep slopes, and preserving existing vegetation; and, reduce the loss of vegetation by protecting vegetation canopy cover and requiring minimum mitigation requirements.

While the vast majority of the project parcels are located within the Cañon Creek and Meadowood Creek drainages, a small portion of APN 021-320-028 is located within the Lake Hennessey Sensitive Domestic Water Supply Drainage. NCC Section 18.108.027(B) (Sensitive domestic water supply drainages – Vegetation clearing) requires that a minimum of 70% of the tree canopy and a minimum of 40% of the brush/shrub cover existing on the parcels within the Lake Hennessey Sensitive Domestic Water Supply Drainage in 1993 is required to be retained as part of the project. The portion of the property that drains to the Lake Hennessey Drainage encompasses approximately 0.4-acre of forested area and is located in the far northeastern corner of the 70-acre parcel (APN 021-320-028), which exhibited no change in vegetation cover from the 1993 aerial. The nearest portion of the proposed project to that small portion within the Lake Hennessey Drainage is the Ecotone South-1 block, which is located over 1,500 feet southwest and over 200 feet in elevation below that Lake Hennessey Drainage. The proposed project would retain approximately 99% of the tree canopy and approximately 82% of the brush/grass canopy on APN 021-320-028 based on the 2018 aerial (Table 5), which showed an overall increase in vegetative cover on the parcel when compared to the 1993 aerial. No further analysis of the vegetation cover related to NCC 18.108.027(B) is required, and the project is considered to be consistent with this portion of the Conservation Regulations.

NCC Section 18.108.020(C) (General Provisions: Vegetation Retention Requirements) requires that parcels within the AW zoning district retain 70% of the vegetation canopy cover (defined as oak woodland, riparian oak woodland or coniferous forest in NCC Section 18.108.030) based on the on-site canopy present on June 16, 2016. Due to the Glass Fire impacts, the project parcels are subject to NCC Section 8.80.130(b), Conservation Regulations for fire-damaged properties and fire-damaged vineyards, which requires that the retention analysis be based on the June 19, 2018 aerial. The vegetation canopy cover analysis provided in the project narrative (**Exhibit A**) utilized the 2016 aerial as a baseline; according to the project biologist, the 2018 aerial shows no change from 2016 aerial (WRA, 2022 – **Exhibit B-2**). Table 5, Vegetation Canopy Cover Retention, outlines the retention ratios

¹³ Table 5 in the ECP (**Exhibit A**), above, identifies a total of 13.7 acres of vegetation canopy cover removal (i.e., oak woodland and coniferous forest), whereas the biological report (**Exhibit B-1**) identifies a total of 13.8 acres of vegetation canopy cover removal. This analysis is based on removal on the biologist's assessment, which provides a more conservative total.

resulting from the proposed project. The project, as proposed, would be consistent with the vegetation canopy cover requirements found in NCC Section 18.108.020(C).

Specific to vegetation canopy cover removal mitigation and preservation, NCC Section 18.108.020(D) (Vegetation Removal Mitigation) requires that the removal of any vegetation canopy cover in the AW zoning district be mitigated by permanent replacement or preservation of comparable vegetation canopy cover, on an acreage basis at a minimum 3:1 ratio. NCC 18.108.020(D) prioritizes where the mitigation replacement and preservation areas should be allowed, whereby the first priority is for onsite replacement and/or preservation areas that generally occur on slopes less than 30% and outside of stream and wetland setbacks; if this cannot be reasonably accomplished, then onsite replacement and/or preservation may occur on slopes up to 50%, in areas that result in the highest biological and water quality protections, etc. NCC Section 18.108.020(E) (Preserved Vegetation Canopy Cover) requires preserved vegetation canopy cover to be protected (or otherwise enforceable restricted) through a perpetual protective easement or deed restriction preserving and conserving the preserved vegetation canopy cover. The project, as proposed and after implementation of **Mitigation Measure BR-1**, would remove an approximate total of 13.7 acres of vegetation canopy cover, which would require that approximately 41.1 acres of eligible vegetation canopy cover (i.e., as prioritized in that section) be permanently preserved.

While the project parcels contain eligible vegetation canopy cover for the purpose of preservation mitigation pursuant to NCC Section 18.108.020(D), the project as proposed does not include a mechanism for permanent preservation as required by subsection (E); therefore, the project, as proposed would result in potentially significant impacts related to inconsistency with NCC Section 18.108.020(E).

Implementation of **Mitigation Measure BR-4** would require that, prior to approval, the project proponent submit for County approval a proposed Vegetation Canopy Cover Preservation Area figure that identifies where on the project property the required 41.1 acres of vegetation canopy cover would be achieved on land that is not already subject to development restrictions (i.e., outside of stream setbacks pursuant to NCC Section 18.108.025 and on land with slopes less than 30%, and, if sufficient vegetation canopy is not available on slopes less than 30%, then it can be accomplished outside of stream setbacks and on land with slopes less than 50% pursuant to NCC Section 18.108.020(D)(1) and (2)). **Mitigation Measure BR-4** would require that a minimum of 13.7 acres of the total required 41.1 acres of vegetation canopy cover be preserved outside of stream setbacks and on land with slopes less than 30% pursuant to NCC Section 18.108.020(D)(1), which would offset the loss of carbon sequestration by preserving on developable land an equivalent amount (at a minimum) of trees as that being removed by the project, if approved. The Preservation Area figure would be prepared prior to project approval in consultation with the project biologist, who would provide guidance on preservation areas that would provide the highest biological and water quality benefits. **Mitigation Measure BR-4** would also require that the Vegetation Canopy Cover Preservation Area figure be attached to the perpetual deed restriction or protective easement, which would be recorded within 90 days of project approval or prior to project initiation. With implementation of **Mitigation Measure BR-4**, project impacts related to consistency with local tree protection policies and regulations would be reduced to a less than significant level. Further, this measure will also address potential greenhouse gas emissions impacts as disclosed in **Section VIII (Greenhouse Gas Emissions)**.

Mitigation Measure BR-4: The Owner/Permittee shall revise Erosion Control Plan #P21-00170-ECPA prior to approval to include the following provisions to reduce potential impacts to oak woodland and vegetation canopy cover (oak woodland and coniferous forest) and to achieve consistency with the Napa County General Plan Policy CON-24(C) and Napa County Conservation Regulations 18.108.020(D):

- a. An Oak Woodland Preservation Area totaling 21.6 acres and a Vegetation Canopy Cover Preservation Area totaling approximately 41.1 acres of vegetation canopy cover (i.e., oak woodland and coniferous forest) located outside of the boundaries of the existing and proposed developed area shall be designated as such in a deed restriction or conservation mitigation easement or other means of permanent protection. Land placed in protection shall be restricted from development and other uses that would degrade the quality of the habitat (including, but not limited to conversion to other land uses such as agriculture or urban development and excessive off-road vehicle use that increases erosion) and should be otherwise restricted by the existing goals and policies of Napa County. The Owner/Permittee shall record the deed restriction or conservation easement prior to construction or within 90 days of project approval, whichever comes first. The area to be preserved shall be of like kind and quality to the oak woodland and coniferous forest being impacted as a result of the proposed project, as follows: areas to be preserved shall take into account the type of vegetation being removed, and species diversity and species that are limited within the project property and Napa County; the acreage included in the preservation areas should be selected in a manner that minimizes fragmentation of forest within the project property, protects special-status species.

- b. The Oak Woodland and Vegetation Canopy Cover Preservation Areas may overlap; however, the 41.1-acre Vegetation Canopy Cover Preservation Area shall be located on land that is not within stream setbacks pursuant to NCC Section 18.108.025 or on slopes over than 30% pursuant to NCC Section 18.108.020(D)(1). To the extent that sufficient vegetation canopy cover preservation cannot be reasonably accomplished on land with slopes less than 30%, the Vegetation Canopy Cover Preservation Area may be located on land outside of stream setbacks and with slopes up to 50% pursuant to NCC Section 18.108.020(D)(2). However, of the total 41.1 acres, a minimum of 13.7 acres of the Vegetation Canopy Cover Preservation Area shall be located on developable land as defined in NCC Section 18.108.020(D)(1); this will ensure that an equivalent amount of canopy that is proposed for removal is preserved on developable land which will offset the loss in carbon sequestration. The area to be preserved shall be determined by a qualified biologist with knowledge of the habitat and species and shall obtain final approval from Napa County Conservation Division prior to project approval.
 - c. Prior to any earthmoving activities temporary fencing shall be placed at the edge of the dripline of trees to be retained that are located adjacent to the project site (typically within approximately 50-feet of the project site). The precise locations of said fences shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated protection areas for the duration of erosion control plan and vineyard installation.
 - d. The Owner/Permittee shall refrain from severely trimming the trees (typically no more than 1/3rd of the canopy) and vegetation to be retained adjacent to the vineyard conversion area.
 - e. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees that are inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P21-00170-ECPA shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the planning director. A replacement plan shall be prepared for county review and approval, that includes at a minimum, the locations where replacement trees will be planted, success criteria of at least 80%, and monitoring activities for the replacement trees. The replacement plan shall be implemented before vineyard planting activities. Any replaced trees shall be monitored for at least three years to ensure an 80 percent survival rate. Replacement trees shall be installed and documented that they are in good health prior to completion and finalization of the erosion control plan.
- f. There are no Habitat Conservation Plans, Natural Community Conservation Plans, or other similar plans applicable to the project site. Therefore, no impact would occur.

	<i>Potentially Significant Impact</i>	<i>Less Than Significant Impact With Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

See **Section XVIII (Tribal Cultural Resources)** for disclosures and the impact assessment pursuant to Pursuant to Public Resources Code 21080.3.1 (Assembly Bill 52 - Gatto).

The following was utilized in this analysis and is incorporated herein by reference, in addition to Napa County GIS Archaeological sensitive areas and Archaeological sites layers: Archaeological Resource Services, July 9, 2021, Cultural Resource Evaluation of Vineyard Additions within the Lands of Heckenlively, Mund Road, St. Helena, Napa County California.

Archaeological Resource Services conducted an archaeological evaluation of the project parcels which included a check of information on file with the California Historical Resources Information System to determine presence or absence of previously recorded historic or prehistoric cultural resources; a check of relevant historic references to determine the potential for historic era archaeological deposits; contact with the Native American Heritage Commission to determine the presence or absence of listed Sacred Lands within the project vicinity; contact with all Native American organizations or individuals designated by the Native American Heritage Commission as interest parties for the project vicinity; and a surface reconnaissance survey of all accessible parts of the project area to locate any visible signs of potentially significant historic or prehistoric cultural deposits.

a-c. During the Sacred Lands inventory undertaken as part of the cultural resource evaluation (Archaeological Resource Services, July 9, 2021) a positive report from the California Native American Heritage Commission indicated that a Native American sacred place is located in the general vicinity of the project area. None of the Tribes that were contacted regarding the sacred place responded. The cultural resource evaluation surface examination resulted in a negative finding, indicating that no artifacts or potentially significant cultural features were observed within the areas to be impacted by the proposed project. Widely separated fragments from shattered projectile points, primarily obsidian, and were determined to be related to hunting. The fragments do not indicate the presence of a settlement, campsite, or archaeological feature, and do not constitute a significant archaeological feature or significant cultural resource, and do not offer new information on the patterns and practices of Native American hunting and gathering beyond what is already known. There are some historic-era features on the property outside of the project areas. The evaluation did not identify any human remains within the project site, and indicated a very slight potential that human remains may be discovered, should the project be approved. Therefore, less than significant impacts related to cultural resources and discovery of human remains are anticipated.

Further, project approval, if granted, would be subject to the standard conditions identified below to protect cultural resources that may be discovered accidentally. Therefore, with incorporation of the condition of approval, below, the proposed project would result in less than significant impacts to historic or archaeological resources.

Cultural Resources – Conditions of Approval: Discovery of cultural, historical or archaeological resources, or human remains during construction, grading, or other earth moving activities:

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other onsite excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) and a Tribal Cultural Monitor have had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
- If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission shall be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- All persons working onsite shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the proposed project to result in a substantial increase in energy demand and wasteful use of energy during project construction, operation and maintenance. The impact analysis is informed by Appendix G of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction and operation energy use estimates for the proposed project would be considered excessive, wasteful, or inefficient.

a. During construction of the proposed project, the use of construction equipment, truck trips for hauling materials, and construction workers' commutes to and from the project site would consume fuel. Project construction is anticipated to occur over six to seven months per phase, with multiple phases anticipated. Construction activities and corresponding fuel energy consumption would be temporary and localized. In addition, there are no unusual project characteristics that would cause the use of construction equipment or haul vehicles that would be less energy efficient compared with other similar agricultural construction sites within Napa County.

Once construction is complete, equipment and energy use would be slightly higher than existing levels and the proposed project would not include any unusual maintenance activities that would cause a significant difference in energy efficiency compared to the surrounding developed land uses. Thus, the proposed project would not result in wasteful, inefficient, or unnecessary energy use. This impact would be less than significant.

b. The transportation sector is a major end-user of energy in California, accounting for approximately 39 percent of total statewide energy consumption in 2014 (U.S. Energy Information Administration 2016). In addition, energy is consumed in connection with construction and maintenance of transportation infrastructure, such as streets, highways, freeways, rail lines, and airport runways. California's 30 million vehicles consume more than 16 billion gallons of gasoline and more than 3 billion gallons of diesel each year, making California the second largest consumer of gasoline in the world (CEC 2016). In Napa County, farm equipment (not including irrigation pumps) accounted for approximately 60% of agricultural emissions in Napa County in 2014, with the percentage anticipated to increase through 2050 (Napa County 2018 - <https://www.countyofnapa.org/DocumentCenter/View/9247/Revised-Draft-Climate-Action-Plan>).

With respect to transportation energy, existing energy standards are promulgated through the regulation of fuel refineries and products such as the Low Carbon Fuel Standard (LCFS), which mandates a 10% reduction in the non-biogenic carbon content of vehicle fuels by 2020. Additionally, there are other regulatory programs with emissions and fuel efficiency standards established by USEPA and the California ARB such as Pavley III/LEV III from California's Advanced Clean Cars Program and the Heavy-Duty (Tractor-Trailer) GHG Regulation. Further, construction sites will need to comply with State requirements designed to minimize idling and associated emissions, which also minimizes use of fuel. Specifically, idling of commercial vehicles and off-road equipment would be limited to five minutes in accordance with the Commercial Motor Vehicle Idling Regulation and the Off-Road Regulation¹³. The proposed project would comply with these State requirements; see the Air Quality conditions of approval. Napa County has not implemented an energy action plan. Therefore, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency or impede progress towards achieving goals and targets, and impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GEOLOGY AND SOILS. Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

¹³ California Code of Regulations (CCR), 2005. Title 13, Chapter 10, 2485, updated through 2014.

- | | | | | | |
|------|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| i. | Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii. | Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. | Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. | Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) | Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

- a. The project site could experience potentially strong ground shaking and other seismic related hazards based on the number of active faults in the San Francisco Bay region. The proposed project consists of earthmoving activities associated with the installation of erosion control measures for agricultural development, but does not include the construction of new residences or other facilities (i.e., enclosed areas where people can congregate) that would be subject to seismic forces. Additionally, the proposed project would not result in a substantial increase in the number of people to the site. Therefore, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, ground shaking, liquefaction, and landslides and less than significant impact would occur. Additional information supporting this conclusion is identified below.
- i) No faults have been mapped on the project parcels, and the project parcels are not located on an active fault or within an “Earthquake Fault Hazard Rupture Zone” designated by the Alquist-Priolo Earthquake Zoning Act. The nearest fault to the project areas occurs approximately 1.25 miles to the northeast. Therefore, no impact would occur.
 - ii) Although the project site is located in an area that may be subject to strong or very strong seismic ground shaking potential during an earthquake (California Geological Society, 2016), the proposed project does not include construction of any new residences or enclosed areas where people would congregate. Therefore, this impact would be less than significant.
 - iii) A majority of Ecotone North and all of the Ecotone South blocks are located in an area identified in the Napa County General Plan as having very low liquefaction potential, while the western portion of Ecotone North block is located in an area identified as having low liquefaction potential (Napa County, 2009). Further, as noted above, the proposed project would not result in a substantial increase in the number of people or add structures onsite. Therefore, this impact would be less than significant.
 - iv) No landslides were identified in the Ecotone North block, while the entirety of the Ecotone South blocks are located on a large landslide deposit (Napa County GIS landslide layer). These landslide deposits were determined to be ancient deposits, and that, given onsite soil conditions and shallow bedrock depths, the project would not affect or be affected by historical landslide features (Applied Civil Engineering, 2021 – **Exhibit A**). Additionally, there were no observed signs of gullies, landslides, slope instability or excessive erosion within the project areas or in close proximity to the project that would affect or be affected by the proposed project. Therefore, less than significant impacts would occur.

- b. The project site's soils are mapped as Aiken loam, 2 to 15 percent slopes (Soil Series #100), Boomer gravelly loam, 30 to 50 percent slopes (Soil Series #109), Forward gravelly loam, 2 to 9 percent slopes (Soil Series #138), and Forward gravelly loam, 30 to 75 percent slopes (Soil Series #140) (Applied Civil Engineering – **Exhibit A**).

Installation and implementation of the ECPA would involve vegetation removal and earthmoving activities within the proposed vineyard areas. Pursuant to NCC Section 18.108.070(L) (Erosion Hazard Areas), earthmoving activities cannot be performed between October 15 and April 1. These activities would take place during the dry season when rainstorms are less likely, resulting in negligible erosion and sedimentation during project installation.

Soil loss calculations were prepared using the Universal Soil Loss Equation (USLE) in order to evaluate potential effects of erosion as a result of the proposed project. The USLE model evaluates the environmental conditions and physical forces that lead to the detachment and potential movement of soil particles through surface erosion. The USLE model does not describe travel distances of soil particles once dislodged. Potential soil loss and sedimentation associated with the proposed agricultural development and operations would primarily be controlled through a permanent no-till cover crop with vegetative cover densities of at least 75% for Ecotone North and Ecotone South-1 and at least 80% for Ecotone South-2 and 85% for a small isolated area in the north part of Block Ecotone South-2. The cover crop provides the ability to trap eroded soils onsite, thereby reducing soil loss and sedimentation potential. Permanent measures also include rolling dips, and rock rip-rap energy dissipators at the outlet of all water bars and rolling dips.

Based on USLE modeling calculations prepared by David A. Steiner, CPESC, CPSWQ (**Exhibit C**), the proposed conversion is anticipated to reduce soil loss, or surface erosion, within the project site as compared to existing conditions (**Table 6**). Under existing conditions, the annual soil loss is anticipated to average approximately 53.7 tons per year (2.3 tons/acre/year) across the development area depending on soil type, slope length, and gradient. Under proposed project conditions, annual soil loss is anticipated to average approximately 23 tons per year (0.99 tons per acre per year), or a reduction of approximately 57.2% as compared to existing conditions.

Table 6 – USLE Soil Loss Analysis

Vineyard Block Transect	Proposed Development Acres	Pre-project Soil Loss (tons/year)	Post-project Soil Loss (tons/year)	Difference	Percent Change (approximate)
Ecotone North NE	0.5	2.23	1.10	-1.13	-50.7%
Ecotone North N	2	6.23	2.29	-3.94	-63.2%
Ecotone North Middle	2	2.77	1.01	-1.76	-63.5%
Ecotone North S	4.5	26.09	11.29	-14.8	-56.7%
ES-1	0.7	0.29	0.24	-0.05	-17.2%
ES-2 NW	4	6.72	1.16	-5.56	-82.7%
ES-2 SW	1.5	0.96	0.8	-0.16	-15.4%
ES-2 Mid	2	1.52	1.66	0.14	9.2%
ES-2 E	5	5.22	1.95	-3.27	-62.6%
ES-2 NE	0.8	1.25	1.06	-0.19	-15.2%
ES-2 N	0.2	0.46	0.44	-0.02	-4.3%
Total	23.2	53.74	23	-30.74	-57.2

Source: David A. Steiner, 2021 **Exhibit C**

Other proposed erosion control features that are anticipated to further reduce potential soil loss as a result of the proposed project, including soil loss experienced during vineyard and cover crop establishment, consist of permanent no-till cover, straw mulching, sediment barriers, erosion control blankets, water bars and energy dissipators, and other practices as needed.

It is not expected that land preparation activities associated with the proposed vineyard, such as removal of rocks from the soil profile, would substantially affect the USLE modeling results. The primary goal of cultivating the soils within the development area during implementation is to prepare the site for planting, including fracturing and mixing layers of compressed soil and rock to facilitate root growth and improve permeability, rather than to remove all the rock within the development area soils. Soil cultivation may result in a greater number of smaller rocks at the soil surface. Smaller rocks that emerge through development would be left within the vineyard, and only larger rocks that surface would be removed. Because the larger rocks that may be removed from the site are generally underneath the soil surface, the removal of larger rocks that emerge during development would not significantly alter the composition of soil. Therefore, the soil type classification utilized in the USLE calculations would remain unchanged (Oster, 2008).

Should the proposed project be approved, the following conditions of approval would be incorporated to ensure that erosion control measures are installed according to plan specifications:

Erosion and Runoff Control (i.e., Hydromodification) Installation and Operation – Conditions of Approval: The following conditions shall be incorporated by referenced into Erosion Control Plan #P21-00170-ECPA pursuant to NCC Chapter 18.108 (Conservation Regulations):

- Permanent Erosion and Runoff Control Measures: Pursuant to NCC Section 18.108.070(L) installation of runoff and sediment attenuation devices and hydromodification facilities including, but not limited to permanent no-till cover crop (or adequate mulch cover applied annually), shall be installed no later than October 15 during the same year that initial vineyard development occurs. This requirement shall be clearly stated on the final Erosion Control Plan. Additionally, pursuant to NCC Section 18.108.135 “Oversight and Operation” the qualified professional that has prepared this erosion control plan (#P21-00170-ECPA) shall oversee its implementation throughout the duration of the proposed project, and that installation of erosion control measures, sediment retention devices, and hydromodification facilities specified for the vineyard have be installed and are functioning correctly. Prior to the first winter rains after construction begins, and each year thereafter until the proposed project has received a final inspection from the county or its agent and been found complete, the qualified professional shall inspect the site and certify in writing to the planning director, through an inspection report or formal letter of completion verifying that all of the erosion control measures, sediment retention devices, and hydromodification facilities required at that stage of development have been installed in conformance with the plan and related specifications, and are functioning correctly.
- Cover Crop Management/Practice: The permanent cover crop shall be managed each year such that any areas which have less than 75% vegetative cover in Blocks Ecotone North and Ecotone South-1, and 80% vegetative cover in Block Ecotone South-2, and 85% vegetative cover in a small, isolated area in the north part of Block Ecotone South-2 shall be reseeded and mulched until adequate coverage is achieved. The permanent cover crop shall be mowed only and not disked. Should the permanent no-till cover crop need to be replanted/renewed during the life of the vineyard, cover crop renewal efforts shall follow the County “Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crops” July 19, 2004, or as amended.

For these reasons the proposed project, with incorporation of specified erosion control measures and conditions of approval, would not increase soil erosion and the loss of topsoil as compared to existing conditions, and maximize the potential for containment of detached soil particles to the project site, resulting in no impact with regard to soil erosion, soil loss, and sedimentation. Also see **Section IX (Hazards and Hazardous Materials)** and **Section X (Hydrology and Water Quality)** for additional disclosures related to water quality. Additionally, as shown in the soil loss modeling following development, overall soil loss is anticipated to be less than pre-development conditions. This is consistent with General Plan Conservation Element Policy CON-48, which requires post-development sediment erosion conditions (i.e., soil loss) be less than or equal to pre-development conditions.

- c. As discussed above, the project site is not located in an area prone to ground failure or liquefaction, and the mapped landslide deposits were determined to be ancient deposits. The proposed project identifies the soil types in the project site and addresses any potential soil instability. Therefore, impacts from offsite landslides, lateral spreading, subsidence, liquefaction or collapse would be less than significant.
- d. The project site's soils are mapped as Aiken loam, 2 to 15 percent slopes (Soil Series #100), Boomer gravelly loam, 30 to 50 percent slopes (Soil Series #109), Forward gravelly loam, 2 to 9 percent slopes (Soil Series #138), and Forward gravelly loam, 30 to 75 percent slopes (Soil Series #140) (Applied Civil Engineering – **Exhibit A**), all of which exhibit low to moderate shrink-swell potential (USDA Soil Survey of Napa County, 1978). In addition, no structures are proposed as part of the project and expansive soils pose little risk to vineyards and related agricultural improvements. Therefore, there would be no impacts associated with expansive soils.
- e. The proposed project involves the development of vineyard. No septic tanks or alternative wastewater disposal systems are needed or proposed at the project site. Therefore, no impact would occur with regard to soils supporting septic tanks or alternative wastewater disposal systems.
- f. Rock outcrops cover approximately 1,700 acres or 0.5% of the County. Over 50% of the County's rock outcrops are located in the Eastern Mountains and are generally located on the steeper ridgelines of the Sonoma Volcanics, including the proposed property. Although rock outcrops are not treated as a biological community because species composition in these sites varies greatly depending on the surrounding biological community, they do provide important habitat for special-status plants and wildlife.

Due to the nature of the soils in the project site and the nature of the proposed project (which would involve relatively shallow vineyard), the probability of encountering paleontological resources within the project site was determined by the Project Archaeologist to be minimal. Furthermore, project approval, if granted, would be subject to the standard conditions described below that would avoid and reduce potential paleontological resource impacts. Therefore, impacts to geologic features and paleontological resources are anticipated to be less than significant.

Paleontological Resources – Conditions of Approval: Discovery of paleontological resources during construction, grading, or other earth moving activities:

- In the event that a discovery of a breas, true, and/or trace fossils are discovered during ground disturbing activities, all work within 100 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that should be followed before ground disturbing activities are allowed to resume at the location of the find.
- All persons working onsite shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate a net increase in greenhouse gas, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

See Section III (Air Quality) for other air quality emissions disclosures and impact assessments.

On April 20, 2022, the BAAQMD adopted updated thresholds of significance for climate impacts (CEQA Thresholds for Evaluating the Significance of Climate Impacts, BAAQMD April 2022).¹⁴ The updated thresholds to evaluate GHG and climate impacts from land use projects are qualitative and geared toward building and transportation projects. Per the BAAQMD, all other projects should be analyzed against either an adopted local Greenhouse Gas Reduction Strategy (i.e., Climate Action Plan (CAP)) or other threshold determined on a case-by-case basis by the Lead Agency. If a project is consistent with the State’s long-term climate goals of being carbon neutral by 2045, then a project would have a less-than-significant impact as endorsed by the California Supreme Court in Center for Biological Diversity v. Department of Fish & Wildlife (2015) *62 Cal. 4th 204). There is no proposed construction-related climate impact threshold at this time. Greenhouse gas (GHG) emissions from construction represent a very small portion of a project’s lifetime GHG emissions. The proposed thresholds for land use projects are designed to address operational GHG emissions which represent the vast majority of project GHG emissions.

Napa County has been working to develop a Climate Action Plan (CAP) for several years. In 2012, a Draft CAP (March 2012) was recommended using the emissions checklist in the Draft CAP, on a trial basis, to determine potential greenhouse gas (GHG) emissions associated with project development and operation. At the December 11, 2012, Napa County Board of Supervisors (BOS) hearing, the BOS considered adoption of the proposed CAP. In addition to reducing Napa County’s GHG emissions, the proposed plan was intended to address compliance with CEQA for projects reviewed by the County and to lay the foundation for development of a local offset program. While the BOS acknowledged the plan’s objectives, the BOS requested that the CAP be revised to better address transportation-related greenhouse gas, to acknowledge and credit past accomplishments and voluntary efforts, and to allow more time for establishment of a cost-effective local offset program. The BOS also requested that best management practices be applied and considered when reviewing projects until a revised CAP is adopted to ensure that projects address the County’s policy goal related to reducing GHG emissions. In addition, the BOS recommended utilizing the emissions checklist and associated carbon stock and sequestration factors in the Draft CAP to assess and disclose potential GHG emissions associated with project development and operation pursuant to CEQA.

In July 2015, the County re-commenced preparation of the CAP to: i) account for present day conditions and modeling assumptions (such as but not limited to methods, emission factors, and data sources), ii) address the concerns with the previous CAP effort as outlined above, iii) meet applicable State requirements, and iv) result in a functional and legally defensible CAP. On April 13, 2016, the County, as the part of the first phase of development and preparation of the CAP, released Final Technical Memorandum #1: 2014

¹⁴ <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, April 2022

Greenhouse Gas Emissions Inventory and Forecast, April 13, 2016. This initial phase included: i) updating the unincorporated County's community-wide GHG emissions inventory to 2014, and ii) preparing new GHG emissions forecasts for the 2020, 2030, and 2050 horizons. On July 24, 2018, the County prepared a Notice of Preparation of a Draft Focused EIR for the Climate Action Plan. The review period was from July 24, 2018, through August 22, 2018. The Draft Focused EIR for the CAP was published May 9, 2019. Additional information on the County CAP can be obtained at the Napa County Department of Planning, Building and Environmental Services or online at <https://www.countyofnapa.org/589/Planning-Building-Environmental-Services>. The County's draft CAP was placed on hold, when the Climate Action Committee (CAC) began meeting on regional GHG reduction strategies in 2019. The County is currently preparing an updated CAP to provide a clear framework to determine what land use actions will be necessary to meet the State's adopted GHG reduction goals, including a quantitative and measurable strategy for achieving net zero emissions by 2045.

For the purposes of this assessment the carbon stock and sequestration factors identified within the 2012 Draft CAP are utilized to calculate and disclose potential GHG emissions associated with agricultural "construction" and development and with "ongoing" agricultural maintenance and operation, as further described below. The 2012 Draft CAP carbon stock and sequestration factors are utilized in this assessment because they provide the most generous estimate of potential emissions. As such, the County considers that the anticipated potential emissions resulting from the proposed project that are disclosed in this Initial Study reasonably reflect proposed conditions and therefore are considered appropriate and adequate for project impact assessment.

Regarding operational emissions, as part of the statewide implementation of Senate Bill (SB) 743, the Governor's Office of Planning and Research (OPR) settled upon automobile vehicle miles of travel (VMT) as the preferred metric for assessing passenger vehicle-related impacts under CEQA and issued revised CEQA Guidelines in December 2018, along with a Technical Advisory on Evaluating Transportation Impacts in CEQA to assist practitioners in implementing the CEQA *Guidelines* revisions. The CEQA *Guidelines* and the OPR Technical Advisory concluded that, absent substantial evidence otherwise, the addition of 110 or fewer daily trips could be presumed to have a less than significant VMT impact.

The County maintains a set of Transportation Impact Study Guidelines (TIS Guidelines) that define situations and project characteristics that trigger the need to prepare a TIS. The purpose of a TIS is to identify whether the project is likely to cause adverse physical or operational changes on a County roadway, bridge, bikeway or other transportation facility, to determine whether the project should be required to implement or contribute to improvement measures to address those changes, and to ensure that the project is developed consistent with the County's transportation plans and policies. Per the County's current TIS Guidelines, a project is required to prepare a TIS if it generates 110 or more net new daily vehicle trips.

The TIS Guidelines also include VMT analysis requirements for projects based on trip generation, which includes a screening approach that provides a structure to determine what level of VMT analysis may be required for a given project. For a new project that would generate less than 110 net new daily vehicle and truck trips, not only is the project not required to prepare a TIS, it is also presumed to have a less than significant impact for VMT. However, applicants are encouraged to describe the measures they are taking and/or plan to take that would reduce the project's trip generation and/or VMT. Projects that generate more than 110 net new passenger vehicle trips must conduct a VMT analysis and identify feasible strategies to reduce the project's vehicular travel; if the feasible strategies would not reduce the project's VMT by at least 15%, the conclusion would be that the project would cause a significant environmental impact.

a-b. Overall increases in GHG emissions in Napa County were assessed in the EIR prepared for the Napa County General Plan Update certified in June 2008. GHG emissions were found to be significant and unavoidable in that document, despite the adoption of mitigation measures incorporating specific policies and action items into the General Plan.

Consistent with these General Plan action items, Napa County participated in the development of a community-wide GHG emissions inventory and "emission reduction framework" for all local jurisdictions in the County in 2008-2009. This planning effort was completed by the Napa County Transportation and Planning Agency in December 2009, and served as the basis for development of a refined inventory and emission reduction plan for unincorporated Napa County.

The County requires project applicants to consider methods to reduce GHG emissions consistent with Napa County General Conservation Element Plan Policy CON-65e. Pursuant to State CEQA Guidelines Section 15183, this assessment focuses on impacts that are "peculiar to the project," rather than the cumulative impacts previously assessed, because this Initial Study assesses a project that is consistent with an adopted General Plan for which an EIR was prepared.

GHGs are the atmospheric gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide (CO₂), methane, ozone, and the fluorocarbons, which contribute to climate change. CO₂ is the principal GHG emitted by human activities, and its concentration in the atmosphere is most affected by human activity. It also serves as the reference gas to which to compare other GHGs. Agricultural sources of carbon emissions include forest clearing, land-use changes, biomass burning, and farm equipment and management activity emissions. Equivalent Carbon Dioxide (CO_{2e}) is the most commonly reported type of GHG emission and a way to get one number that approximates total emissions from all the different gasses that contribute to GHG, as described in BAAQMD's CEQA Guidelines. In this case CO₂ is used as the reference atom/compound to

obtain atmospheric carbon CO₂ effects of GHG. Carbon stocks are converted to CO_{2e} by multiplying the carbon total by 44/12 (or 3.67), which is the ratio of the atomic mass of a carbon dioxide molecule to the atomic mass of a carbon atom (<http://ncasi2.org/COLE/faq.html>).¹⁵

One-time “Construction Emissions” associated with vineyard development projects include: i) the carbon stocks that are lost or released when site vegetation is removed, including any woody debris and downed wood; ii) underground carbon stocks, or soil carbon, released when soil is ripped in preparation for vineyard development and planting (referred to as Project Site Emissions below); and iii) emissions associated with the energy used to develop and prepare the project site and plant vineyard, including construction equipment and worker vehicle trips (referred to as Equipment Emissions below).

As stated above, the April 2022 update to BAAQMD thresholds of significance do not include construction-related impact thresholds, as GHG emissions associated with the energy used to develop, prepare and plant the project area represent a very small portion of a project’s lifetime GHG emissions. The construction emissions analysis below is for disclosure purposes only, as there is no threshold against which to analyze the potential significance of impact.

“Operational Emissions” of the vineyard are quantified and include: i) any reduction in the amount of carbon sequestered by existing vegetation that is removed as part of the project (referred to as Operational Sequestration Emissions below); and ii) ongoing emissions from the energy used to maintain and farm the vineyard, including vehicles (such as haul trucks, pick-up trucks) and worker vehicle trips (referred to as Operational Equipment Emissions below). See **Section XVII (Transportation)** for anticipated number of operational trips.

Construction Emissions:

Equipment Emissions: As discussed in **Section III (Air Quality)**, three County Certified EIRs assessed and analyzed potential air quality and GHG emissions associated with vineyard development. Within those EIRs potential GHG emissions associated with construction equipment were calculated and disclosed. An estimation of potential construction equipment emissions per acre of vineyard development was derived using the most generous emissions results from these EIRs. The Circle-S Ranch EIR anticipated approximately 4,293 metric tons (MT) CO_{2e} of construction equipment emissions for a 459-acre vineyard development, resulting in approximately 9.4 MT CO_{2e} of construction equipment emissions per acre of vineyard development.¹⁶ Using this emission factor it is anticipated that Construction Equipment Emissions associated with the proposed 23.2 gross acres of new vineyard development would be approximately 218 MT CO_{2e} (23.2 acres multiplied by 9.4 MT CO_{2e}).

Project Site Emissions: Project site emissions are emissions resulting from vegetation removal and soil preparation associated with the conversion of approximately 23.2 acres of existing vegetation to vineyard. Because there is not yet a universally accepted scientific methodology or modeling method to calculate GHG emissions due to vegetation conversion and soil disturbance, the Greenhouse Gas Emissions Checklist and associated carbon stock factors developed as part of the 2012 CAP efforts are utilized to determine potential project site carbon stocks and emissions. Utilizing the 2012 Draft CAP carbon stocks and the acreages of vegetation types within the project site, total carbon stocks for the project site are estimated to be approximately 1,349.8 MT C or approximately 4,908.6 MT CO_{2e} (**Table 7**).

Table 7 – Estimated Development Area Carbon Stocks/Storage

Vegetation Type/Carbon Storage	Project Acreage	Carbon Storage/Stock per Acre (MT C/acre) ¹	Total Carbon Storage (MT)	Total Carbon Storage in MT CO _{2e}
Coniferous Forest ¹	3	58.1	174.3	639.7
Coast Live Oak Woodland	1.1	95.1	104.6	383.9
Blue Oak Woodland	6.5	95.1	618.2	2,268.8
California Black Oak Woodland	3.2	95.1	304.3	1,116.8
Shrubland/Chaparral ²	0.4	16.2	136.08	499.4
Grasslands	8.8	1.4	12.3	
Total			1,349.8	4,908.6

¹ For the purpose of these GHG calculations, the carbon stocks associated with coniferous forest is applied to Douglas fir forest

¹⁵ “Carbon stock” refers to the total amount of carbon stored in the existing plant material including trunks, stems, branches, leaves, fruits, roots, dead plant material, downed trees, understory, and soil organic material. Carbon stock is expressed in units of metric tons of carbon per acre. When land is cleared, some percentage of the carbon stored is released back to the atmosphere as CO₂. Land clearing or the loss of carbon stock is thus a type of GHG emission (County of Napa, March 2012, Napa County Draft Climate Action Plan).

¹⁶ As discussed in Section III (Air Quality) variations or similarities in emissions modeling results between the three projects can be attributed to modeling platform and version utilized, variations in modeling assumptions and inputs (such as project acreage and vegetation types removed), and anticipated construction and equipment and duration of use.

² Includes chamise chaparral, common manzanita chaparral and coyote brush scrub vegetation types.
Sources: Napa County Draft Climate Action Plan, March 2012; Napa County Conservation Division, November 2018

There is currently no scientific agreement about the percentage of carbon that would be lost (or emitted) from soils through grading. Some analyses have suggested 20-25% while others have suggested 50%.¹⁷ Using 50% as a more conservative estimate, the proposed project could result in one-time project site construction emissions from vegetation removal and soil preparation (i.e., grading and soil ripping) of approximately 4,173 MT CO_{2e} (Table 8).

Table 8 – Estimated Project Carbon Emissions Due to Vegetation Removal

Vegetation Type/Carbon Storage	Project Acreage	Carbon Loss/Emission per Acre (MT C/acre) ¹	Total Carbon Loss/Emission (MT)	Total Carbon Loss/Emission in MT CO _{2e}
Coniferous Forest ¹	3	52.5	157.5	578
Coast Live Oak Woodland	1.1	89.6	98.6	361.7
Blue Oak Woodland	6.5	89.6	582.4	2,137.4
California Black Oak Woodland	3.2	89.6	286.7	1,052.3
Shrubland/Chaparral ²	0.4	12.1	4.84	17.8
Grasslands	8.8	0.8	7	25.8
Total			1,137.0	4,173.0

¹ Includes 50% of soil carbon stock.

For the purpose of these GHG calculations, the most conservative option was chosen; therefore, carbon stocks associated with olive orchard is applied to the Coniferous Forest vegetation type.

Sources: Napa County Draft Climate Action Plan, March 2012; Napa County Conservation Division November 2018.

Operational Emissions:

Operational Equipment Emissions: The referenced vineyard development EIRs also assessed ongoing vineyard operation emissions associated with vehicles and equipment. Estimated potential construction equipment emissions per acre of vineyard development were derived using the most generous emissions results from these EIRs. The Suscol Mountain Vineyard EIR anticipated approximately 373 MT CO_{2e} of operational emissions for a 560-acre vineyard, resulting in approximately 0.67 MT CO_{2e} of operational emissions per acre of vineyard per year. Using this emission factor, it is anticipated that Operational Equipment Emissions associated with the proposed 23.2 gross-acre agricultural development would be approximately 15.5 MT CO_{2e} (23.2 multiplied by 0.67 MT CO_{2e}).

Operational Sequestration Emissions: Emissions associated with loss of sequestration due to land use change (i.e., the conversions of existing vegetation to vineyard) have been calculated based on the Annual Carbon Sequestration Factors within the 2012 Draft CAP, which indicates that oak woodlands sequester 0.425 CO₂ acre per year, shrubland/chaparral and grassland sequester a negligible quantity of CO₂ acre per year (essentially zero), and coniferous forest sequester 0.666 CO₂ acre per year. Utilizing these factors, it is anticipated that the annual emissions associated with changes in carbon sequestration as a result of land use changes would be approximately 6.58 MT C per year or approximately 24.1 MT CO_{2e} per year.¹⁸

Grapevines are photosynthetic plants and therefore have value in terms of carbon capture. Additionally, the use of cover crops, which are also photosynthetic plants, tends to result in less soil CO₂ loss from vineyard soils. Carbon sequestration loss would be further offset by the proposed vineyard, which would likely act as a sink for atmospheric CO₂, depending on the longevity of grapevine roots and the quantity of carbon stored in deep roots. In addition to vines, the sequestration of atmospheric carbon is also achieved by the soil between vine rows through cover-cropping.

Project Emissions:

Based on the above estimates, the proposed project could result in one-time construction emissions of up to 5,126.06 MT CO_{2e} and annual ongoing emissions associated with vineyard operations (including loss of sequestration) estimated to be approximately 39.6 MT CO_{2e} per year (Table 9).

¹⁷ Napa County, July 12, 2010, Green House Gas Emissions Associated with Vineyard Development & Vineyard Operations, A Compilation of Quantitative Data from Three Recent Projects.

¹⁸ 10.8 acres of oak woodland times 0.425 MTC = 4.59 MT C, 3 acres of coniferous forest times 0.666 = 1.99 MT C, totaling 6.58 MT C

Table 9 – Estimated Overall Project-Related GHG Emissions

Construction Emissions in Metric Tons of CO _{2e}		Annual Ongoing Emissions in Metric Tons of CO _{2e}	
Source	Quantity	Source	Quantity
Vehicles and Equipment	218	Vehicles and Equipment	15.5
Vegetation and Soil	4,908.6	Loss of Sequestration	24.1
Total	5,126.6	Total	39.6

Source: Napa County Conservation Division, November 2018

There is no adopted CEQA significance threshold at the state, regional, or local level for construction-related GHG emissions, and the County has therefore evaluated the significance of one-time project-generated emissions of up to approximately 5,068.06 MT CO_{2e} by considering the size of the proposed vineyard in relation to projected vineyard development in the County. The program level EIR for the 2008 Napa County General Plan Update (SCH#2005102088 certified June 3, 2008) projected 12,500 acres of new vineyard development in the County between 2005 and 2030. The County concluded in the General Plan EIR that emissions from all sources over the planning period would result in significant and unavoidable GHG emissions despite measures adopted to address the impact. Because this determination was based on emissions from all sources, not just agriculture, the General Plan did not determine that emissions solely from projected agricultural development would result in significant unavoidable impacts.

Pursuant to Section 15183(a) of the California Code of Regulation (CCR), projects that are consistent with the general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific effects which are peculiar to the proposed project or its site. Further, the BAAQMD update to the thresholds of significance do not include construction-related climate impact thresholds (April 2022). GHG emissions from construction represent a very small portion of a project’s lifetime GHG emissions, and the updated thresholds for land use projects were designed to address operational GHG emissions, which represent the vast majority of project GHG emissions.

In the context of 12,500 acres of projected vineyard development, the proposed project would constitute less than approximately 0.18% of the vineyard development anticipated in the General Plan EIR. The proposed project also contains measures to reduce and/or offset emissions from vineyard development and vineyard operations such as maintaining a permanent no-till cover crop maintained at a minimum vegetation cover density of 75% in Blocks Ecotone North and Ecotone South-1, and 80% in Block Ecotone South-2, and 85% in a small, isolated area in the north part of Block Ecotone South-2, vegetated vineyard avenues, and the maintenance and establishment of grape vines. These measures in conjunction with the Air Quality conditions of approval (detailed in **Section III [Air Quality]**) would further reduce potential GHG air quality impacts associated with construction and ongoing operation of the proposed project. For these reasons, the County does not consider one-time GHG emissions from the proposed vineyard development to be a significant impact on a project level basis or to be a “considerable” contribution to significant unavoidable cumulative impacts identified in the General Plan EIR.

As described above, total annual GHG emissions from ongoing operations are anticipated to be approximately 39.6 MT CO_{2e} per year. As stated above, the updated BAAQMD thresholds of significance for land use projects are qualitative, with no “bright-line” (quantitative) level below which to mitigate. Projects should be analyzed against either an adopted local Greenhouse Gas Reduction Strategy (i.e., Climate Action Plan (CAP)) or other threshold determined on a case-by-case basis by the Lead Agency. If a project is consistent with the State’s long-term climate goals of being carbon neutral by 2045, then a project would have a less-than-significant impact as endorsed by the California Supreme Court in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) (62 Cal. 4th 204).

As stated in **Section IV, Biological Resources**, with implementation of **Mitigation Measure BR-1**, which would reduce the project size to approximately 22.7 gross acres, the project would result in the removal of approximately 13.7 acres of tree canopy, including oak woodland and coniferous forest canopy, and would retain approximately 89%, 93% and 99% of the tree canopy, respectively, on the project parcels. With implementation of **Mitigation Measure BR-4**, the project would result in the permanent preservation of approximately 41.1 acres of vegetation canopy cover on the project property pursuant to the 3:1 canopy cover preservation requirements found in NCC Section 18.108.020(D), including a minimum of 13.7 acres on land located outside of stream setbacks and on slopes less than 30%, as determined by a qualified biologist and approved by the Napa County Conservation Division prior to project approval. With implementation of **Mitigation Measure BR-4**, the loss in carbon sequestration from the proposed removal of trees would be offset by permanently protecting from development the equivalent amount or more of carbon sequestering trees on developable land as would be removed by the project (if approved), resulting in consistency with the State’s climate neutrality goal by 2045.

Further, as stated above, per the OPR Technical Advisory, the addition of 110 or fewer daily trips could be presumed to have a less than significant VMT impact. As detailed in **Section XVII (Transportation)**, harvest would generate up to approximately 40 one-way worker trips, and 120 one-way truck trips per day, resulting in a total up to 160 trips per day for approximately 6 to 8 days per year. Other typical vineyard operations (including sulfuring, pruning and weed control) are anticipated to generate up to 76 to 152 one-way trips per day during the days these activities occur (approximately 17 to 26 days per year). Over the course of a year, vineyard

operations associated with the proposed project would result in an average of 6 to 14 one-way trips per day. Therefore, daily trips (including passenger vehicle trips and truck trips) generated by the proposed project would be well below the Governor's Office of Planning and Research's recommended screening criterion threshold for small projects generating fewer than 110 trips per day; therefore, less than significant impacts related to operational GHG emissions are anticipated.

Given that, with implementation of **Mitigation Measure BR-4**, the proposed project would result in the permanent preservation of an equivalent amount (at minimum and up to three times the amount) of trees on developable land as it proposes to remove, and that the operational vehicle miles traveled fall well below the established threshold of 110 daily trips, the project is considered to be consistent with the State's long-term climate goals of being carbon neutral by 2045; therefore, a less than significant impact is anticipated.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a-b. Installation of the proposed ECP and subsequent vineyard operation and maintenance would require a variety of equipment and vehicles that use fuel and other petroleum-based products such as oil and transmission fluids, which are considered hazardous materials. Ongoing vineyard operations would also involve the transport and use of chemicals such as herbicides, mildewcides, and fertilizers to the site that are considered hazardous materials. Herbicide applicators must be licensed by the state, and the Napa County Agricultural Commissioner enforces application of pesticides and regulates applicators.

A detailed listing of fertilizers and other chemicals, application methods, application amounts, number of annual applications, and annual amounts of chemicals that are anticipated to be utilized for ongoing vineyard maintenance and operation of the existing and proposed vineyard is provided within Supplemental Project Information forms on file at the Planning Department.

The National Resource Conservation Service (NRCS) recommends a minimum 50-foot wide vegetated buffer from aquatic resources (such as streams, ephemeral drainages, and wetlands) because under most conditions it is generally an adequate buffer width to provide enough vegetation to effectively entrap and filter chemicals, nutrients, and sediment, thereby facilitating degradation within buffer soils and vegetation (USDA 2000).

Chemicals for vineyard operation would be stored at an off-site location and mixed onsite at new overhead fill stations, including one located near the access road to Ecotone North block within the proposed development area and outside of stream setbacks, and another located within the proposed development area of Ecotone South-2 adjacent to the access road. The nearest water source (i.e., Cañon Creek) on the project site is a minimum of 65 feet south of the proposed vineyard as determined by slope pursuant to NCC Section 18.108.025. Fertilizers would be applied as necessary to the vineyard and to ensure the specified percent vegetative cover crop is achieved. No pre-emergent herbicides would be strip sprayed in the vinerows for weed management. Project storage and staging areas would be located within proposed clearing limits.

The risk of potentially hazardous materials reaching or affecting adjacent water courses or other aquatic resources is significantly reduced because: i) the proposed project would maintain buffers greater than 50 feet from the blue-line streams; ii) project staging and storage areas would be a minimum of 50 feet from aquatic resources; and iii) only federal and/or California approved chemicals would be applied to the vineyard in strict compliance with applicable state and federal law. Additionally, the specified erosion control measures (and conditions of approval) are designed to reduce runoff into streams, including runoff that may contain or transport hazardous chemicals. Project approval, if granted, would also be subject to the following standard conditions that would further avoid and/or reduce potential impacts associated with routine transport and use of hazardous materials during project implementation and ongoing vineyard operations and maintenance.

Hazardous Materials – Conditions of Approval: The owner/operator shall implement the following BMPs during construction activities and vineyard maintenance and operations:

- Workers shall follow manufacturer's recommendations on use, storage and disposal of chemical products.
- Workers shall avoid overtopping fuel gas tanks and use automatic shutoff nozzles where available.
- During routine maintenance of equipment, properly contain and remove grease and oils.
- Discarded containers of fuel and other chemicals shall be properly disposed of.
- Spill containment features shall be installed at the project site wherever chemicals are stored overnight.
- All refueling, maintenance of vehicles and other equipment, handling of hazardous materials, and staging areas shall occur at least 100 feet from watercourses, existing groundwater well(s), and any other water resource to avoid the potential for risk of surface and groundwater contamination.
- To prevent the accidental discharge of fuel or other fluids associated with vehicles and other equipment, all workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

For these reasons, and with incorporation of the conditions of approval described above, impacts associated with the use and transport of hazardous materials would be less than significant.

- c. The closest school (Foothills Adventist Elementary School) is located approximately 0.5-mile northwest of the project site in Angwin (Napa County GIS, School Layer). There are no schools proposed within 0.25 mile of the project site. Therefore, no impact would occur.
- d. The project site is not on any of the lists of hazardous waste sites enumerated under Government Code Section 65962.5 (Napa County GIS hazardous facility layer). Therefore, no impact would occur.
- e. The closest public airport to the project site is the Angwin-Parrett Field, located approximately 2.8 miles northeast of the proposed project. No portion of the proposed project is within an airport compatibility zone identified in the Airport Compatibility Plan (Napa County Airport Land Use Compatibility Plan, and Napa County GIS Airport layer). Therefore, no impact would occur.
- f. The proposed project is anticipated to introduce a small number of workers visiting the project site on a temporary basis for ECPA and vineyard installation and on a seasonal basis for subsequent vineyard operations, resulting in a minor increase in the number of people working or residing at the project site. However, given the relatively small size of the proposed project, it is not anticipated that the minor increase would impair implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan; therefore, no impact would occur.
- g. No structures are proposed as part of the project. The proposed Ecotone North block is located in an area identified as having high and very high fire hazard severity, and the proposed Ecotone South blocks are located in an area identified as having moderate fire severity (CALFIRE 2007 - <https://egis.fire.ca.gov/FHSZ/>). The risk of fire in vineyards is very low due to limited amount of fuel, combustibles, and ignition sources that are present. Vineyards are irrigated and cover crops are typically mowed in May and August, thereby reducing the fuel loads within the vineyard. The removal of landscape vegetation and the management of vineyard results in an overall reduction of fuel loads within the project site as compared with existing conditions. Therefore, the proposed project would not increase the exposure of people or structures to wildland fires and impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. 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; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

On April 21, 2021, Governor Gavin Newsom declared a drought emergency in the state of California and as of July 8, 2021, 50 counties are under the drought state of emergency, including Napa County. The Governor directed the Department of Water Resources to increase resilience of water supplies during drought conditions. On June 8, 2021, the Napa County Board of Supervisors adopted a resolution declaring a Proclamation of Local Emergency due to drought conditions that are occurring in Napa County. On October 19, 2021, the Governor issued a proclamation extending the drought emergency statewide. The County requires all discretionary permit applications (such as use permits and ECPAs) to complete necessary water analyses in order to document that sufficient water supplies are available for the proposed project and to implement water saving measures to prepare for periods of limited water supply and to conserve limited groundwater resources.

In March 2022, Governor Newsom enacted Executive Order N-7-22, which requires prior to approval of a new groundwater well (or approval of an alteration to an existing well) in a basin subject to the Sustainable Groundwater Management Act and that is classified as medium- or high-priority, obtaining written verification from the GSA (Groundwater Sustainability Agency) managing the basin that groundwater extraction would not be inconsistent with any sustainable groundwater management program established in any applicable GSP (Groundwater Sustainability Plan) and would not decrease the likelihood of achieving sustainability goals for the basin covered by a GSP, or that the it is determined first that extraction of groundwater from the new/proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure. Because the project contains an existing well that is not being altered, Executive Order N-7-22 does not apply.

On March 8, 2022, and August 9, 2022, the Napa County Board of Supervisors adopted resolutions proclaiming a continued state of Local Emergency due to the 2021-2022 drought. On June 7, 2022, the Napa County Board of Supervisors provided direction regarding interim procedures to implement Executive Order N-7-22 for issuance of new, altered or replacement well permits and discretionary projects that would increase groundwater use during the declared drought emergency. The direction limits a parcel's groundwater allocation to 0.3 acre-feet per acre per year, or no net increase in groundwater use if that threshold is exceeded already for parcels located in the GSA Subbasin. For parcels not located in the GSA Subbasin (i.e., generally located in the hillsides), a parcel-specific Water Availability Analysis would suffice to assess potential impacts on groundwater supplies. Because the project parcels are located

outside of the GSA Subbasin, a parcel-specific Water Availability Analysis was performed. To assess potential impacts of groundwater pumping on hydrologically connected navigable waterways, the County's WAA guidance requires applicants to perform a Tier 3 – Groundwater/Surface Water Interaction analysis for new, altered or replacement wells, or discretionary projects that would result in an increase in groundwater demand on existing wells that are located within 1,500 feet of designated "Significant Streams."¹⁹

The project site is located in the Cañon Creek watershed, a subwatershed of the Napa River watershed. Cañon Creek is an intermittent blue-line stream that flows northwest from the project site into Bell Creek, and thence west into the Napa River. The Napa River is designated as critical habitat for steelhead (Napa County GIS USFWS critical habitat layer). The Napa River is currently listed as an impaired waterbody for nutrients, pathogens, and sediment under Section 303(d) of the Clean Water Act. Historically, the construction of large dams and other impoundment structures between 1924 and 1959 on major tributaries in the eastern Napa River watershed and northern headwater areas of the Napa River has affected sediment transport processes into the mainstem of the Napa River by reducing the delivery of coarse load sediments to the river (Stillwater Science and W. Dietrich, 2002). However, the finer sediments that are not trapped by dams negatively affect salmonid habitat by reducing gravel permeability potentially affecting special-status fish species (Stillwater Science and W. Dietrich, 2002).

In response, the San Francisco Bay Regional Water Board has implemented the following programs. In 2009 the San Francisco Bay Regional Water Board adopted total maximum daily load (TMDL) for the Napa River (Order #R2-2009-0064), which calls for reductions in the amount of fine sediment deposits into the watershed to improve water quality and maintain beneficial uses of the river, including spawning and rearing habitat for salmonid species. Several watershed stewardship groups have developed management plans and are planning or have implemented large-scale projects to enhance water quality and stream-riparian habitat with the watershed (San Francisco Bay Regional Water Board, 2009).

Because vineyard properties may pose threats to water quality by discharging sediment, nutrients, and pesticides and/or by increasing storm runoff, which consequently can cause erosion and sedimentation and otherwise impact aquatic life, in July 2018 the San Francisco Bay Regional Water board adopted a water quality control permit (or General Permit) for vineyard properties in the Napa River and Sonoma Creek watersheds (Order #R2-2017-0033). The General Permit regulates parcels (including contiguous parcels under common ownership) developed with five or more acres of vineyard located in either of these watersheds. The Napa River and Sonoma Creek TMDLs adopted by the San Francisco Bay Regional Water Board have established performance standards for sediment discharge and storm runoff to protect and restore water quality. The General Permit would require actions to control pollutant discharges including sediment and storm runoff from vineyards and unpaved roads, which are located throughout vineyard properties, and pesticides and nutrients from vineyards. The General Permit would require vineyard owners or operators of parcels that meet the enrollment criteria to do the following: develop and certify a "farm plan"²⁰; implement the farm plan to achieve discharge performance standards; submit an annual report regarding plan implementation and attainment of performance standards; and participate in group or individual water quality monitoring programs.

In the General Permit the San Francisco Bay Regional Water Board identified four significant sediment sources that are associated with vineyard properties: i) vineyard soil erosion; ii) offsite erosion caused by vineyard storm runoff increases; iii) road-related sediment delivery; and iv) channel incision. Napa County ECPA requirements and standards primarily address and control two of these sources, vineyard soil erosion and vineyard storm runoff. The General Permit will fill gaps in local regulation so that all four sediment sources are effectively controlled to reduce fine sediment deposition in stream channels that provide habitat for endangered steelhead populations, locally-rare Chinook salmon populations, and exceptionally diverse assemblages of native fish species in these watersheds. Additional details on the Vineyard Properties General Permit can be obtained from the Regional Water Board²¹.

The project parcels contain six primary drainages and several ephemeral tributaries. The majority of these streams are ephemeral, with one, Cañon Creek, containing intermittent flows that run during the wet season into the dry season, and receives subsurface discharges. Riparian vegetation is present along the intermittent portions, but is absent along the ephemeral streams. All of the streams are likely jurisdictional under Section 4.4/4.1 of the Clean Water Act and Section 1602 of the California Fish & Game Code and are therefore considered sensitive aquatic resources (WRA 2021 – **Exhibit B**). Cañon Creek travels beside and under (via culverts) the existing access road from the existing vineyard to the proposed Ecotone North block. All on-site streams would be entirely avoided by the proposed project pursuant to the setbacks required by NCC Section 18.108.025, with minimum 35-foot setbacks for the ephemeral drainages and minimum 65-foot setbacks based on existing slope from top-of-bank for Cañon Creek as it runs in a northwesterly direction to the south of the proposed Ecotone North block.

¹⁹ Refer to Figure 1: Significant Streams for Tier 3, located at www.countyofnapa.org/3074/Groundwater-Sustainability. The "Significant_Streams" and "Significant_Streams_1500ft_buffer" GIS layers are published as publicly-available open data through the County's ArcGIS Online Account.

²⁰ A farm plan documents a vineyard property's natural features, developed areas, and BMPs. Under the General Permit, a "certified" farm plan would mean that upon its full implementation of the plan, that the vineyard property is expected to achieve the performance standards for discharge. The Water Board's Executive Officer would approve third-party programs or certify a farm plan.

²¹ https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/agriculture/vineyard/

- a. Waste discharge is not anticipated as part of the proposed project or ongoing vineyard operations; therefore, the proposed project would not violate waste discharge requirements.

The proposed project has been designed with site-specific temporary and permanent erosion control measures and features to prevent sediment, runoff, and pollutants from leaving the project site. Agricultural Erosion Control Plan #P21-00170-ECPA includes BMPs that are consistent with NCC Section 18.108.080(c), as well as with Regional Water Board guidance from the Stormwater Best Management Practice Handbooks for Construction and for New Development and Redevelopment, and the Erosion and Sediment Control Field Manual. Therefore, the proposed project is not anticipated to violate any water quality standards or otherwise substantially degrade surface or groundwater quality, and this impact would be less than significant.

- b. The County requires all ECPA applicants to complete necessary water analyses to document that sufficient water supplies are available for a proposed project.

A Water Availability Analysis (WAA) was prepared to determine the increase in water demand resulting from the proposed project (Richard C. Slade & Associates, June 24, 2021 - **Exhibit E-1**). The WAA estimates the onsite groundwater recharge, overall availability, and existing and proposed use, to assess potential impacts on groundwater.

The project property has three wells existing onsite, including Well 1-2020, the Vineyard Well and the Domestic Well. The Vineyard Well historically served the existing vineyard, and the Domestic Well will continue to serve the residential uses on the property, once rebuilt. The Vineyard Well is located within 50 feet of Well 1-2020, which was constructed to meet the irrigation demands of the proposed project, and replace the Vineyard Well as the primary water source for the existing vineyard; if the proposed project is approved, the Vineyard Well will serve as redundant and/or emergency backup irrigation water supply only. The existing water demand for the property for the residential uses and existing 21.9 acres of vineyard is 12.3 acre-feet per year (AF/yr). There are no known offsite wells located within 500 feet of the project wells; therefore a Tier 2 WAA was not conducted. Following County request, a Tier 3 WAA was performed (Richard C. Slade & Associates, August 31, 2022 – **Exhibit E-2**) to determine whether the project wells are hydraulically connected to Cañon Creek, a designated “Significant Stream.” The Tier 3 WAA determined that the project wells are not hydraulically connected to Cañon Creek, based on well construction, water levels in the wells vis a vis the elevation of the thalweg of Cañon Creek, and observations and data regarding intermittent water levels in Cañon Creek, which is typically dry with surficial flow dependent on rainfall events, rather than groundwater. Therefore, no impacts are anticipated in regard to groundwater demand interacting with surface water flows.

The proposed vineyard (approximately 19 new net-acres) is anticipated to use approximately 9.5 AF/yr. Typically, the annual irrigation season ranges from late May to September. After development (if approved), the proposed project in conjunction with existing groundwater use would result in approximately 21.8 AF/year of groundwater demand (RCS June 2021 – **Exhibit E-1**). Water pipeline for irrigation of Ecotone North block already exists within the existing access road, and would be located in vineyard avenues and/or within the proposed clearing limits of the Ecotone South blocks.

Groundwater Recharge: Long-term average groundwater recharge can be estimated as the percentage of rainfall that falls on the parcel that percolates into the underlying aquifer. The percentage of rain that has the potential to infiltrate varies depending on factors such as rates of evaporation and transpiration, soil type and geology that exists at the site, and average annual rainfall. Based on available climatological data, site-specific information, and other available data and analysis relevant to potential recharge, the Tier I WAA used an average annual rainfall of 38.2 inches per year over the approximate 389.6 acres²² of the property parcels’ land area available for recharge, and a 14% deep percolate recharge estimate. Using these factors, the WAA estimated the average annual groundwater recharge of the property parcels at a total of approximately 197.1 AF/year (**Exhibit E-1**). The project as proposed, in conjunction with existing use, is estimated to have an annual onsite future groundwater demand of 21.8 AF/year, which is well below the estimated average annual recharge volume of 197.1 AF/year.

While the average annual rainfall utilized in the recharge analysis includes times of below-average and above-average rainfall, and therefore inherently includes drought year conditions, the project WAA also anticipated total potential recharge during a theoretical six-year drought of ±379.8 AF (63.3 AF/yr), where ±32% of the average precipitation occurs (see **Exhibit E-1** for details and calculations). The conservative estimate of the theoretical six-year period of prolonged drought year conditions (63.3 AF/y of groundwater recharge; 379.8 AF total over six years) is more than the estimated groundwater demand of the proposed project (21.8 AF/y; 130.8 AF over the six-year prolonged drought period). Additionally, the WAA estimated that there exists approximately 577 AF of groundwater in storage within the rocks of the Sonoma Volcanics beneath the property (RCS, June 2021 – **Exhibit E**).

County practice currently utilizes the PRISM Climate Group data for the 10 most recent years (Water Year [WY] 2012 through WY 2021) to analyze potential recharge on a property, as this data provides a clearer picture of recent precipitation trends in the context of the ongoing drought experienced in the region. The 10-year PRISM data for the project parcels shows an average of

²² The WAA included a fifth parcel under same ownership: APN 021-320-024, which totals approximately 5.4 acres.

approximately 31.5 inches of precipitation (Napa County GIS Avg. Rainfall – 10yr [WY2012_2021] PRISM layer), which equates to an approximate 17.7% reduction in precipitation compared to the 30-year average precipitation data (38.2 inches) detailed above. It is anticipated that the estimated annual groundwater recharge volume would be reduced proportionally with the reduction in annual precipitation estimate; as such, the estimated annual groundwater recharge volume would be reduced to 162.2 AF/y²³. This estimated groundwater recharge allocation is well above the water demand resulting from existing and proposed uses (21.8 AF/y) on this holding, and is above the conservative estimate of the theoretical six-year period of prolonged drought year conditions (63.3 AF/y of annual groundwater recharge)

Based on the above analysis, which indicates that i) anticipated annual water use of the project parcels for existing and proposed use of approximately 21.8 AF/year is below (approximately 13.4% of) the parcel's anticipated annual groundwater recharge rate of approximately 162.2 AF/year; ii) implementation of **Mitigation Measure BR-1** would reduce the project size and resulting groundwater demand; iii) there is no evidence to date indicating that there are groundwater problems or declining well production in this area of the County; iv) the project well and backup well are not hydraulically connected to Cañon Creek; and v) incorporation of the standard water use condition below to monitor water use as a result of vineyard establishment and ongoing vineyard operations and maintenance (if approved), the proposed project is anticipated to result in less than significant impacts to groundwater supplies, groundwater recharge, and local groundwater aquifer levels.

Groundwater Management, Wells – Conditions of Approval:

- The owner/permittee shall be required (at the permittee's expense) to record well monitoring data (specifically, static water level no less than quarterly, and the volume of water no less than monthly). Such data shall be provided to the County, if the PBES Director determines that substantial evidence indicates that water usage is affecting, or would potentially affect, groundwater supplies. If data indicates the need for additional monitoring, and if the owner/permittee is unable to secure monitoring access to neighboring wells, onsite monitoring wells may need to be established to gauge potential impacts on the groundwater resource utilized for the project. Water usage shall be minimized by use of best available control technology and best water management conservation practices.
 - In order to support the County's groundwater monitoring program, well monitoring data as discussed above shall be provided to the County if the Director of Public Works determines that such data could be useful in supporting the County's groundwater monitoring program. The project well shall be made available for inclusion in the groundwater monitoring network if the Director of Public Works determines that the well could be useful in supporting the program.
 - In the event that changed circumstances or significant new information provide substantial evidence that the groundwater system referenced in the ECPA would significantly affect the groundwater basin, the PBES Director shall be authorized to recommend additional reasonable conditions on the owner/permittee, or revocation of this permit, as necessary to meet the requirements of the Napa County Code and to protect public health, safety, and welfare.
- c. Earthmoving activities have the potential to alter the natural pattern of surface runoff, which could lead to areas of concentrated runoff and/or increased erosion. The conversion of existing vegetation to vineyard would alter the composition of the existing land cover and infiltration rates, which could affect erosion and runoff. The proposed project does not propose any alteration to a stream, river, or drainage course, or include the creation of impervious surfaces that would concentrate runoff.

Temporary erosion control measures include straw wattles, silt fence, erosion control blankets, water bars and rock rip-rap energy dissipators, vegetative cover crop and the application of straw mulch. Permanent erosion control measures, which are not anticipated to affect drainage patterns but would assist in minimizing the potential for increased erosion and water runoff include a permanent no-till cover crop maintained at a minimum vegetation cover density of 75% for Ecotone North and Ecotone South-1 and 80% for Ecotone South-2 and 85% for a small, isolated area in the north part of Ecotone South-2, and the annual application of straw mulch cover. These features would slow and filter surface runoff water, thereby minimizing sediment, nutrients, and chemicals from leaving the project site and entering nearby aquatic resources. Refer to **Exhibits A, C and D** for details related to the following discussion.

Proposed erosion control and project features that have the potential to alter natural drainage patterns include straw wattles, water bars and rock rip-rap energy dissipators. Straw wattles would be placed on contour at various locations around the perimeter of the vineyard blocks and within the proposed blocks to slow and maintain surface/sheet flow. Straw wattles are spaced according to the USLE to maintain soil losses below the tolerable levels for the soil types found on the site and to ensure (in conjunction with the cover crop and other runoff control features) that no net increase in erosion sediment conditions occurs beyond pre-development conditions as a result of the project. The design and location of straw wattles would have a negligible effect on existing drainage patterns in that they would not alter the existing topographic contours of the site. Erosion control features would maintain soil losses

²³ 162.2 AF/y = 197.1 AF/y – 17.7%

below the tolerable levels for the soil types found on the site and ensure (in conjunction with the cover crop) that no net increase in erosion sediment conditions occurs beyond pre-development conditions as a result of the proposed project. The erosion control features would not alter the existing topographic contours of the site.

A Hydrologic Analysis for the proposed project was prepared by the David A. Steiner, CPESC, CPSWQ (March 22, 2021 - **Exhibit D**). The development area is contained within three watershed basins, including Watershed A (46.9 acres) and Watershed B (19.3 acres) in the Ecotone South blocks and Watershed C (23.2 acres). The Hydrologic Analysis utilized the USDA Technical Release 55 (TR-55) method to conclude that there would be no change in runoff time of concentration for all three watersheds (**Table 10**).

Table 10 – Hydrologic Modeling Calculations (WinTR-55) Results: Runoff Rates

	Peak Discharge Flow (cfs) by 24-hour Storm Event Frequency Return Interval (cubic feet/second)			
	2-year	10-year	50-year	100-year
Watershed A				
Pre-project conditions	10.85	21.21	32.59	37.48
Post-project conditions	10.85	21.21	32.59	37.48
Change (cfs)	0	0	0	0
Change (%)	0%	0%	0%	0%
Watershed B				
Pre-project conditions	4.08	8.29	12.97	14.99
Post-project conditions	4.08	8.29	12.97	14.99
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
Watershed C				
Pre-project conditions	6.02	11.66	17.78	20.45
Post-project conditions	6.02	11.66	17.78	20.45
Change (cfs)	0	0	0	0
Change (%)	0%	0%	0%	0

Source: Steiner, March 2021, Hydrologic Analysis, Real Thorevilos, LLC, Ecotone North and South Blocks Proposed New Vineyard, 180 Mund Road, St. Helena CA 95476 APN 021-320-022, -026, -028 (**Exhibit D**)

Following implementation of the proposed erosion control features as designed (**Exhibit A**), the Hydrologic Analysis concluded that there would be no net increase in peak flows compared to pre-project conditions (**Exhibit D**).²⁴

As the proposed project would not increase runoff flow rates, it is consistent with General Plan Conservation Element Policy CON-50c, which states peak runoff following development cannot be greater than predevelopment conditions. Additionally, as discussed in **Section VII (Geology and Soils)**, the proposed project is anticipated to reduce the soil loss when compared to existing conditions. Therefore, the proposed project would have a less than significant impact with respect to alterations of existing drainage patterns of the site or area that would result in increased runoff, or considerable on or offsite erosion, siltation, or flooding.

The project site is not located in an area of a planned stormwater drainage system, nor is it directly served by a stormwater drainage system. As discussed above, no increase in runoff volume or increase in time of concentration is anticipated under post-project conditions. Therefore, the proposed project would not contribute a substantial amount of additional runoff to an existing stormwater drainage system or provide substantial additional sources of polluted or sediment-laden runoff, resulting in a less than significant impact.

In addition, pursuant to NCC Section 18.108.135 (Oversight and Operation) projects requiring an erosion control plan would be inspected by the County after the first major storm event of each winter until the proposed project has been completed and stable for three years to ensure that the implemented erosion control plan is functioning properly²⁵. Furthermore, pursuant to NCC Section 18.108.135 (Oversight and Operation) projects requiring an erosion control plan will be inspected by the County after the first major storm event of each winter until the proposed project has been completed and stable for three years to ensure that the implemented erosion control plan is functioning properly.

- d. The project site is not located within a Federal Emergency Management Agency (FEMA) 100-year flood zone, in a dam or levee failure inundation area, or in an area subject to seiche or tsunami (Napa County GIS FEMA flood zone and dam levee inundation areas layers; Napa County General Plan - Safety Element. pg. 10-20). Therefore, no impact would occur.
- e. The proposed project would not have an adverse impact on water quality because the ECPA has been designed to keep polluted runoff and sediment from leaving the project site. As discussed in **Section IX (Hazards and Hazardous Materials)**, the project

²⁴ Napa County Engineering Division approved the project Hydrologic Analysis on September 16, 2021 (**Exhibit F**)

²⁵ Compliance with Section 18.108.135 is achieved by including their provisions as conditions of approval for a project, if granted.

proposes the use of potentially hazardous materials during implementation activities (i.e., oil, gasoline, and transmission fluids associated with construction equipment) and the application of chemicals (i.e., fertilizers) for ongoing vineyard maintenance. Only federal and/or California approved chemicals would be applied to the vineyard in strict compliance with applicable state and federal law. As discussed in **Sections IV (Biological Resources)** and **IX (Hazards and Hazardous Materials)**, buffers provided in the ECP adjacent to watercourses would facilitate increased water infiltration so that chemicals and potentially hazardous materials associated with project implementation and operation can be trapped and degraded in buffer vegetation and soils to protect water quality. The limited application of agricultural chemicals generally occurring during the non-rainy season would also minimize the amounts of chemicals that could affect on or offsite water resources. Because the proposed project as designed is not expected to increase runoff rates or times of concentration in relation to existing conditions (as discussed in question c above), the proposed cover crop and buffers would be able to effectively trap and filter sediments, thereby minimizing their entry into nearby water resources.

As discussed above and in **Section VII (Geology and Soils)**, the proposed project has been designed with site-specific temporary and permanent erosion and runoff control measures and features to prevent sediment, runoff, and pollutants from leaving the project site. As such, the proposed project is not anticipated to change the existing soil loss and sedimentation and would have no effect on runoff rates, and maintain project site drainage characteristics as compared to existing conditions. The ECPA includes BMPs that are consistent with NCC Section 18.108.080(c), as well as with Regional Water Board guidance from the Storm Water Best Management Practice Handbooks for Construction and for New Development and Redevelopment, and the Erosion and Sediment Control Field Manual.

Furthermore, project approval, if granted, would be subject to the following condition of approval, which would further reduce and avoid potential impacts to water quality as a result of the proposed project and ongoing operations.

Water Quality – Condition of Approval: The owner/permittee shall refrain from disposing of debris, storage of materials, or constructing/operating the vineyard, including vineyard avenues, outside the boundaries of the approved plan, or within required setbacks pursuant to Napa County Code Section 18.108.025 (General Provisions – Intermittent/perennial streams). Furthermore, consistent with the standard conditions identified in the Hazards and Hazardous Materials Section (Section IX), all operational activities that include the use or handling of hazardous materials, such as but not limited to agricultural chemical storage and washing, portable restrooms, vehicular and equipment refueling/maintenance and storage areas, soil amendment storage and the like, shall occur at least 100 feet from groundwater wells, water courses, streams and any other water resource to avoid the potential risk of surface and groundwater contamination, whether or not such activities have occurred within these areas prior to this ECPA approval.

Therefore, the proposed project as designed, in conjunction with identified conditions of approval, would not adversely conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. The proposed site is in a rural area of Napa County and the nearest established community, Deer Park, is approximately 0.4 miles northwest of the project site. Therefore, the proposed vineyard and subsequent vineyard operations would not physically divide an established community and no impact would occur.
- b. Surrounding land uses include undeveloped land, rural residences, wineries and vineyards. Parcels surrounding the vast majority of the project parcels are zoned Agricultural Watershed (AW) and designated Agriculture, Watershed and Open Space (AWOS) in the Napa County General Plan Land Use Element. Vineyards and associated improvements are permitted uses under these designations. The City of St. Helena is adjacent to the southeast parcel line of project parcel 021-320-022 where the Ecotone South-2 block is proposed. The City of St. Helena parcel is zoned and designated in the City of St. Helena General Plan as Woodlands & Watershed (WW).

The proposed project has been analyzed for consistency with applicable sections of the NCC and with the Napa County General Plan. With inclusion of the identified mitigation measures and conditions of approval, the proposed project would be consistent with applicable code requirements and General Plan Goals and Policies, including but not limited to the following:

- The project as proposed is consistent with NCC Section 18.108.010, which requires that soil loss and runoff as a result of a project be minimized to protect water quality. As discussed in **Sections VII (Geology and Soils) and X (Hydrology and Water Quality)**, the proposed project would reduce soil loss, potential sedimentation and runoff conditions as compared to existing conditions.
- The proposed project is consistent with Policies CON 48 and CON 50c, which require sediment erosion conditions and runoff characteristics following development not be greater than predevelopment conditions. As discussed in **Section VII (Geology and Soils) and Section X (Hydrology and Water Quality)** the project as proposed would reduce soil loss, potential sedimentation and runoff conditions as compared to existing conditions.
- The proposed project is consistent with Policies CON-13 and CON-16, which require discretionary projects consider and avoid impacts to fisheries, wildlife habitat, and special-status species through evaluation of biological resources. A Biological Resources Reconnaissance Survey was prepared for the proposed project (**Exhibit B-1 and B-2**). The proposed project, following implementation of **Mitigation Measure BR-1** would avoid potential direct, indirect, and cumulative impacts to special-status plant species and associated habitat occurring on the project site. With implementation of **Mitigation Measure BR-2 and BR-3**, potential impacts to bats and special-status bird species would be avoided.
- With implementation of **Mitigation Measures BR-1 through BR-3**, the proposed project is consistent with Goals CON-2 and CON-3, which require the continued enhancement of existing levels of biodiversity and protection of special-status species and habitat, and the County Conservation Regulations through preservation of natural habitats and existing vegetation. With these measures and conditions, the proposed project would maintain levels of biodiversity and would avoid impacts to special-status plant and animal species.
- With implementation of **Mitigation Measures BR-1 through BR-4**, the proposed project is consistent with Policy CON-13, which requires discretionary projects to consider and avoid potentially significant impacts to fisheries, wildlife habitat, and special-status species, and Policy CON-17, which requires the preservation and protection of native grasslands, sensitive biotic communities, and habitats of limited distribution and no net loss of sensitive biotic communities.
- The project as proposed and as mitigation by **Mitigation Measure BR-4** is consistent with Policy CON-24, which requires the retention of oak woodland at a 2:1 ratio by acreage. The project would remove 10.8 acres of oak woodland and would permanently preserve a minimum of 21.6 acres of oak woodland following implementation of **Mitigation Measure BR-4**.
- The proposed project is consistent with Policy CON-30, which encourages the avoidance of wetlands.
- The proposed project is consistent with Policy CON-18, which encourages the reduction of impacts to habitat conservation and connectivity.
- The project as proposed and mitigation through **Mitigation Measure BR-4**, is consistent with Policy CON-65b. Due to the proposed project's scope and scale, its construction and operational GHG emissions, as disclosed in **Section VIII (Greenhouse Gas Emissions)**, are anticipated to be less than significant following implementation of **Mitigation Measure BR-4**.
- The project as proposed is consistent with Policy AG/LU-1, which states that agricultural and related activities are the primary land uses in Napa County, as the proposed project is vineyard development and would increase agriculture uses in the County.
- The project as proposed is consistent with General Plan land use designation of Agricultural, Watershed and Open Space (AWOS), and is therefore consistent with Policy AG/LU-20.

For these reasons, the proposed project, with the mitigation measures and conditions of approval incorporated, would not conflict with applicable County regulations, policies, or goals and is anticipated to have a less than significant impact with respect to applicable County regulations, policies, or goals.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a-b. The project site is not in an area with a known mineral resource of value to the region or state or within a known mineral resource recovery area (Napa County Baseline Date Report, Figure 2-2 and Map 2-1, Version 1, November 2005; Napa County General Plan Map, December 2008; Special Report 205, Update of Mineral Land Classification, Aggregate Materials in the North San Francisco Bay Production-Consumption Region, Sonoma, Napa, Marin and Southwestern Solano Counties, California Geological Survey, 2013). The nearest known mineral resource area in Napa County is located over 20 miles to the southeast of the project site. Proposed site improvements and development of vineyard on the parcel would not physically preclude future mining activities from occurring. Therefore, no impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For project located within the vicinity of a private airstrip or 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, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a-b. The project site is located in a rural setting where surrounding parcels consist of rural residential, vineyards, wineries and undeveloped land. The closest offsite residences are located approximately 200 feet to the northeast of Ecotone North and approximately 1,000 feet to the west of Ecotone South. Additionally, adjacent properties and properties in the immediate area contain vineyard.

Activities associated with installation of the proposed project, including earthmoving and subsequent vineyard operations, could generate noise levels above existing conditions. Several different types of equipment would be necessary for implementation and operation of the proposed project, including a bulldozer, excavator, dump truck, trencher, backhoe, and small trucks. **Table 11** characterizes typical equipment noise levels at a reference distance of 50 feet. As identified in **Table 11**, equipment used for vineyard development could produce a maximum of 89 (A-weighted decibels) dBA at a distance of 50 feet.

Table 9 – Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source	Equipment	Typical Noise Level (dBA) 50 feet from Source
Backhoe	80	Roller/Sheep's Foot	74
Bulldozer	85	Scarifier	83
Chainsaw	86	Scraper	89
Compactor	82	Shovel	82
Excavator/Shovel	82	Spike driver	77
Grader	85	Truck	88
Loader	85	Wood Chipper	89

Sources: Cowan 1994, Federal Transit Administration 1995, Nelson 1987, United States Department of Agriculture Forest Service 1980, and Napa County Baseline Date Report Chapter 6 (Noise Resources) November 2005 (Version 1)

Table 12 characterizes the typical reduction in construction equipment noise levels as the distance increases from the source, based on a source noise level of 90 dBA.

Table 12 – Estimated Distance to dBA Contours from Construction Activities ¹

Distance from Construction Source	Calculated Noise Level
50 feet	90 dBA
180 feet	75 dBA
300 feet	70 dBA
450 feet	65 dBA
700 feet	60 dBA
1,100 feet	55 dBA
1,700 feet	50 dBA

¹Based on a source noise level of 90 dBA

Source: Napa County Baseline Date Report, Noise Section Table 6-13, Version 1, November 2005

Based on distances to existing residences, noise associated with project construction would be approximately 70 to 75 dBA at the nearest existing offsite residences.

Noise related to farming activities and equipment typically ranges from 75 dBA to 95 dBA, with an average of approximately 84 dBA (Toth 1979 and Napa County Baseline Date Report, Version 1, November 2005). These noise levels should be reasonably representative of noise levels from wheeled and tracked farm equipment. Noise sources associated with ongoing vineyard operation and maintenance include a variety of vehicles and equipment, such as ATV's, tractors, grape haul trucks, passenger cars, and light trucks, which would occur on a temporary and seasonal basis. **Table 13** characterizes the typical reduction of farming activity noise levels as the distance increases from the source using a noise source level of 84 dBA.

Table 13 – Estimated Distance to dBA Contours from Farming Activities ¹

Distance from Farming Source	Calculated Noise Level
50 feet	84 dBA
115 feet	75 dBA
175 feet	70 dBA
275 feet	65 dBA
400 feet	60 dBA
650 feet	55 dBA
1,000 feet	50 dBA

¹Based on a source noise level of 84 dBA

Source: Napa County Baseline Date Report, Noise Section Table 6-14, Version 1, November 2005.

Based on distances to existing residences, it is anticipated that noise due to operation and maintenance agricultural activities would be 65-70 dBA or below at the closest existing offsite residences.

Napa County considers construction noise levels up to 75 dBA during daytime hours (7 a.m. to 7 p.m.) and 60 dBA during nighttime hours (7 p.m. to 7 a.m.) as compatible with residential uses (NCC Section 8.16.080), and ongoing (or established use) noise levels of approximately 55 dBA as compatible with residential uses (NCC Section 8.16.070). Noise levels from routine operation and maintenance activities at the nearest offsite residence would be less than typical for compatible uses, and the temporary and ongoing noise sources and levels are considered typical and reasonable for agricultural development and operational activities, consistent with the County's "Right to Farm" ordinance (NCC Chapter 2.94 and General Plan Agricultural Preservation and Land Use Policy AG/LU-15), and are therefore exempt from compliance with the noise ordinance. NCC Section 8.16.090.E (Exemptions to Noise Regulations) exempts agricultural operations from noise regulations. Additionally, the proposed project would not result in

a permanent increase in ambient noise levels over what currently exists in the project vicinity, resulting in a less than significant impact on ambient noise levels of the area.

During site preparation and vineyard installation, the use of heavy equipment could result in a temporary increase in ambient noise levels in the vicinity of the project site as described above. Compliance with measures identified in the County's noise ordinance for construction-related noise, such as a limitation of hours of construction activity and muffling of equipment, would result in temporary less than significant noise and vibration impacts, and would result in no permanent increase in ambient noise levels in the vicinity of the proposed project in excess of County standards.

- c. The project site is neither located within an area covered by an airport land use plan, nor is it within 2 miles of a public, public-use, or private airport (Napa County GIS: Napa Airport Compatibility Zones and USGS Quad layers). Therefore, no impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a. The proposed project involves earthmoving activities and the installation and maintenance of erosion control measures in connection with the development and cultivation of vineyard. It does not involve the construction of new homes, businesses, roads, or infrastructure (e.g., water, sewer or utility lines) that would directly or indirectly induce substantial unplanned population growth. Construction and installation activities of the proposed project would generate a minimal number of employees to the project site on a temporary basis, and ongoing vineyard operation and maintenance would generate a minimal number of employees to the project site on an ongoing basis. It is anticipated that these employees would come from the existing labor pool in the region. Therefore, the proposed project would not induce unplanned population growth in the proposed project vicinity or greater region, either directly or indirectly. No impact would occur.
- b. The proposed project would not displace any existing housing or people and it does not involve the construction of new homes. Therefore, no impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

iii.	Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv.	Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v.	Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a. The proposed project does not include the construction of residential or commercial structures, as discussed in **Section XIV (Population and Housing)**, resulting in no substantial population growth in the area. It is anticipated that these temporary employees would come from the existing labor pool in the local region and, would not result in an increase in population over existing conditions. As a result, there would be no need to construct any new government facilities. Therefore, there would be no change in the demand for the listed services and amenities. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION. Would the project:				
a)				
Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)				
Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a-b. The proposed project does not include any recreational facilities. As discussed in **Sections XIV (Population and Housing)** and **XV (Public Services)**, the proposed project would not result in substantial population growth, resulting in no increase in the use of recreational facilities and requiring no construction or expansion of recreational facilities. Therefore, no impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a)				
Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)				
Would the project conflict or be inconsistent with CEQA guidelines § 15064.3 subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)				
Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)				
Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a-b. Existing development on the property consists of a primary residence, a secondary residence (guest house) and a barn (the 2020 Glass Fire destroyed the guest house and barn), and approximately 21.9 acres of vineyards. The existing vineyards were installed prior to 1993, and were approved for replanting under a Track 1 Replant Erosion Control Plan #P20-00306-ECPA (approved April 23, 2021).

The proposed project is expected to generate approximately 14-30 round trips per day during construction. 8-10 truck trips would deliver and remove heavy equipment at the start and end of project construction. Typical construction equipment anticipated for

project implementation includes a medium excavator, D8 or D9 bulldozer, haul trucks, loader, and two to four farm tractors with trailers. Sulfuring and pruning would occur 10 to 12 days per year, and is anticipated to generate up to 15-20 daily employees, resulting in approximately 10-20 round trips per day during pruning/sulfuring. Weed control would occur from January to July under the vines and in April through August between rows, and is anticipated to generate 3 to 4 workers per day for a total of 7 to 14 days, resulting in a total of approximately 28-56 round trips for weeding. Harvest would occur approximately 6 to 8 days per year and is anticipated to generate up to 20 daily employees, resulting in approximately 20 round trips per day during harvest. One 2-ton truck would be used during harvest, and harvest would result in approximately 60 truck/vehicle trips per year. Vehicular equipment for ongoing vineyard maintenance is anticipated to include ATVs, equipment trailers, and passenger cars and/or light trucks. Construction traffic would be intermittent during non-peak hours, generally arriving between 6 a.m. and 7 a.m. and departing between 2 p.m. and 3 p.m. Traffic associated with routine vineyard operation and maintenance, including harvest, would also be intermittent during the non-peak hours, generally arriving around 6 a.m. and departing around 3 p.m.

The project site is accessed from Mund Road, approximately 0.5 miles from its intersection with Deer Park Road. Trucks and other equipment would use County roads or State highways for very short periods during construction and subsequent vineyard operation.

Traffic generated by construction of the proposed project and subsequent vineyard operation, including harvest, would increase traffic on area roadways and result in additional vehicle miles traveled compared to current conditions. These activities would occur on a temporary and/or seasonal basis, and they would generally occur during non-peak hours. Trips already occur due to the existing vineyard and it is anticipated that a number of existing employees would be utilized to develop and manage the proposed vineyard. The proposed project would result in a minimal increase in traffic levels along the local roadways compared to existing conditions, and would not result in decreased travel times on roads in the vicinity of the proposed project or a substantial increase in vehicle miles traveled given the scale of the proposed project. Further, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, or designated bicycle and pedestrian facilities or with CEQA Section 15064.3(b). Therefore, the impact would be less than significant.

- c. The project proposes to utilize the existing site access at Mund Road for project development (**Figures 1-3**). The proposed project does not include roadway improvements and/or modifications to existing roads, or include any other design feature that would result in hazardous conditions due to a geometric design feature or incompatible uses. The installation of the vineyard is consistent with the allowed use of the property and other agricultural uses in the area. Therefore, the potential for the creation, substantial increase in hazards or hazards due to a geometric design feature and incompatible uses would be a less than significant impact.
- d. The existing roads would continue to provide adequate emergency access to the project site, resulting in no impact.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES. Would the project:				
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, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a) 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a-b. As discussed in **Section V (Cultural Resources)**, the proposed project’s Cultural Resource Reconnaissance did not identify any historical or archaeological resources within the project area. Notice of the proposed project was sent to Middletown Rancheria, Mishewal Wappo Tribe of Alexander Valley, and Yocha Dehe Wintun Nation on August 24, 2021. The Mishewal Wappo Tribe of Alexander Valley and Middletown Rancheria did not request consultation within the 30-day notification period, and because no

response to the consultation invitation was received, the consultation time period elapsed. On February 10, 2022, the County mailed letters to all three of the Tribes notifying them about closure of consultation invitation. Napa County received a response letter from Yocha Dehe Wintun Nation dated February 28, 2022, indicating that the project site is not within the aboriginal territories of the Yocha Dehe Wintun Nation, and declined to comment. Impacts are anticipated to be less than significant in this regard.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a. The proposed project would generate a negligible number of new employees to the property; it is expected that the existing vineyard workforce would be employed for the installation and ongoing management of the new and existing vineyards. It is anticipated that any additional employees for the proposed project would come from the existing labor pool in the region and would not generate an increase in the population relative to the existing conditions. Therefore, the proposed project would not create a need to construct new or modified utilities and service systems. Further, implementation of the proposed project would not result in the construction or expansion of a water or wastewater treatment facility; the proposed project would not generate wastewater and one existing groundwater well would provide irrigation water to the vineyard.

Irrigation pipelines would be located within existing roadways, vineyards and vineyard avenues, and/or within proposed clearing limits. The proposed project would include the installation of a limited number of onsite storm water drainage features such as water bars, straw wattles and a permanent no-till vineyard cover crop, which have been designed to meet project-related storm water drainage needs. The effect of the proposed storm water drainage system is described in **Sections IV (Biological Resources), VII (Geology and Soils), and X (Hydrology and Water Quality)**. As discussed in the referenced sections, the environmental impacts of construction of these features, with incorporation of standard conditions identified in **Sections III (Air Quality), IV (Biological Resources), V (Cultural Resources) and IX (Hazards and Hazardous Materials)**, would result in a less than significant impact.

b. The proposed 19 net acres of vineyard in conjunction with the 21.9 acres of existing vineyard installed prior to the enactment of the Conservation Regulations and residential uses would be supplied by the existing onsite wells. The WAA (RCS, **Exhibit E**) concluded that, after full development, water use for the project parcels is estimated to be approximately 21.8 AF/y. Based on the site-specific recharge analysis, the project parcels are estimated to have a groundwater recharge allotment of approximately 162.2 AF/y; less than significant impacts on water supplies would result.

c. Given the small number of employees that the proposed project would generate for construction and operation, wastewater generation by the proposed project would not be substantial enough to affect wastewater treatment capacity. The proposed project would generate no wastewater that would require treatment, resulting in no impact on wastewater treatment providers.

d-e. Rock generated during vineyard preparation would be utilized onsite primarily in erosion control features (i.e., rip rap energy dissipaters) and landscaping. Rock that is not used immediately would be stockpiled for future use inside the proposed clearing limits. Solid waste generated during construction activities (e.g., broken pipe, fittings, trellis, end posts, etc.) would be negligible. Implementation of the proposed project would include pruning and harvesting activities which would generate waste material (cane). This material would generally be disposed of by being chipped and disposed of onsite. Therefore, the proposed project would not generate a volume of waste that would need to be disposed of at a landfill that would exceed the permitted capacity of applicable landfills serving the project area. Furthermore, all waste would be disposed of in accordance with federal, State, and local statutes and regulations. Therefore, no impact would occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

The project sites are located in a State Responsibility Area (SRA) that is designated as a Very High, High and Moderate Fire Hazard Severity Zones (CALFIRE, 2007, Napa County GIS Fire Hazard Layer). The project site is gently to steeply sloped on generally northern-facing slopes and elevations range from approximately 600 to 900 feet above msl.

- a. Project construction and operation would not require any road closures and would not substantially increase traffic in the area compared to current conditions. Existing roads would continue to provide adequate emergency access to the project site. Therefore, the proposed project would not impact an adopted emergency response plan or emergency evacuation plan.
- b-c. Project construction would require the use of vehicles and heavy equipment for grading and other activities, and these vehicles and equipment could spark and ignite flammable vegetation. During construction, the risk of igniting a fire would be low because vegetation would be cleared prior to developing the vineyard, and the risk would be temporary due to the short duration of construction (approximately six months). Operation and maintenance activities would be similar to activities already occurring on the project site with the existing vineyard. The proposed project does not include any infrastructure that would exacerbate fire risk. The proposed project would not exacerbate wildfire risk and this impact would be less than significant.
- d. Although the proposed project would alter land cover, the proposed project includes temporary and permanent erosion control measures which would reduce the impact of stormwater runoff or drainage changes being discharged on or offsite and there would be a decrease in peak flow in the development area (see **Section X [Hydrology and Water Quality]**). The onsite residences are located on relatively flat terrain and upslope from the proposed vineyards. Therefore, there are no structures or people that would be exposed to downslope or downstream flooding or landslides and the impact would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:				

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have the impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

Project impacts have been analyzed to determine potential project-specific and cumulatively considerable significant impacts. All areas of impact analysis were found to have a less than significant negative effect on the environment or human beings due to project design with incorporation of identified mitigation measures and conditions of approval.

- a. As discussed in this Initial Study, implementation of #P21-00170-ECPA, with the incorporation of identified mitigation measures and conditions of approval (should the proposed project be approved), would not have the potential to significantly degrade the quality of the environment. Special-status plant species narrow-anthered brodiaea has been identified on the subject parcels (as well as pre-fire populations of Napa false indigo that were removed by fire) and within the project area. Narrow-anthered brodiaea is a CNPS List 1B.2 species. With incorporation of **Mitigation Measure BR-1**, a minimum of 80% of the observed special-status plants and their habitat within the Study Area would be avoided and preserved.

Implementation of **Mitigation Measures BR-1 through BR-3** would avoid potential direct and cumulative impacts to special-status plant, bat and bird species and minimize impact to sensitive habitats, and would allow for direct connectivity with similar habitats and special status species on neighboring properties, including the adjacent preservation areas in the parcels to the south of the project. As such, the proposed project would maintain wildlife movement and cumulative impacts are anticipated to be less than significant. Following implementation of **Mitigation Measure BR-1**, which would preserve an additional 0.1-acre of oak woodland that contains narrow-anthered brodiaea populations, a total of 13.7 acres of oak woodland and Douglas fir forest would be removed by the proposed project, with a resulting retention of 89%, 93.7% and 99.8%, respectively, on the three project parcels. With implementation of **Mitigation Measure BR-4**, a minimum of 21.6 acres of oak woodland and a minimum of 41.1 acres of vegetation canopy cover located on developable land would be preserved in a deed restriction or other means of permanent protection, which would result in less than significant direct and cumulative impacts on vegetation canopy cover on the property and would result in no net increase in loss of carbon sequestration. With incorporation of standard cultural resources conditions, would result in the protection of tribal cultural resources that may be discovered accidentally; as a result, potentially significant impacts to cultural resources and Tribal cultural resources are not expected. (**Section V, Cultural Resources and Section XVIII Tribal Cultural Resources**). Therefore, the proposed project as designed with incorporation of **Mitigation Measures BR-1 through BR-4** and in conjunction with the project's Environmental Commitments and conditions of approval, the proposed vineyard development project would have a less than significant potential to degrade the quality of the environment.

- b. The subject property is located within the Cañon Creek and Meadowood Creek drainages. The Cañon Creek Drainage contains approximately 1901 acres. In 1993, vineyard acreage within this drainage was approximately 85 acres, or 4.5% of the drainage. Since 1993, approximately 64 acres of additional vineyard (or 3.4% of the drainage) have been developed to vineyard, resulting in approximately 7.8% of the drainage (or approximately 149 acres) containing vineyard.

It is estimated, based on evaluation of the County's GIS layer identifying Potentially Productive Soils (PPS) within the Cañon Creek Drainage, that there are approximately 945 acres (50% of the drainage) having the potential to be developed to vineyard. This, in conjunction with existing and approved vineyard development (approximately 149 acres), results in a total potential build out of approximately 1,094 acres or approximately 57.5% of the drainage. The PPS layer includes lands with characteristics that have been found to be suitable for potential future vineyard development; however this total does not take into consideration other site-specific limitations such as water courses requiring setbacks, wetlands, other water features, rare or special-status plants and animal species, or cultural resources, nor does the layer take into account other factors influencing vineyard development, such as sun exposure, soil type, water availability, or economic factors.

The Meadowood Creek Drainage contains approximately 865.5 acres. In 1993, vineyard acreage within this drainage was approximately 53 acres, or 6% of the drainage. Since 1993, approximately 12 acres of additional vineyard (or 1.4% of the drainage) have been developed to vineyard, resulting in approximately 7.5% of the drainage (or approximately 65 acres) containing vineyard. It is estimated, based on evaluation of the County's GIS layer identifying PPS within the Meadowood Creek Drainage, that there is approximately 333 acres (38.5% of the drainage) having the potential to be developed to vineyard, this in conjunction with existing and approved vineyard development (approximately 65 acres) results in a total potential build out of approximately 398 acres or approximately 46% of the drainage.

There are currently three other pending Erosion Control Plans in the two drainages, including Mund Estate #P20-00273-ECPA and Ryla #P22-00167-ECPA in Cañon Creek Drainage and Matthes #P21-00047-ECPA in the Meadowood Creek Drainage, which together would convert a total of approximately 21.4 acres to vineyard.²⁶ These pending ECPs are included in the watershed conversion rates.

While it is not possible to quantify precisely the acreage and location of additional vineyard development that may be proposed by property owners in these drainages in the future, it is possible to make a conservative estimate based on previous trends. To estimate the amount reasonably foreseeable vineyard that may be developed over time, the acreage of vineyard development including approved vineyard projects in the cumulative environment (i.e., Cañon Creek and Meadowood Creek drainages) over the last 28 years (1993-2021) were used to project an estimation of vineyard development for the next three to five years. Over the past 28 years within the Cañon Creek and Meadowood Creek drainages, approximately 2.7 acres of agriculture were developed per year (64 plus 12 divided by 28).

Combined with Napa County policies and other site selection factors that limit the amount of land that can be converted to vineyard, the development of approximately 8 to 13.5 acres over the next three to five years within the Cañon Creek and Meadowood Creek drainages are considered reasonable estimates. NCC Chapter 18.108 includes policies that require setbacks of 35 to 150 feet from watercourses (depending on slopes), and General Plan Conservation Policy CON 24c that requires the retention of oak woodland at a 2:1 ratio, which limits the amount of potential vineyard acreage that could be converted within the watershed. It has been the County's experience with ECP projects that there are generally site-specific issues, such as oak woodland preservation, wetlands, other water features, special-status plant and animal species, or cultural resources that further reduce areas that can be developed to other land uses. Additionally, the vineyard acreage projections for the next three to five years do not consider environmental factors that influence vineyard site selection, such as sun exposure, soil type, water availability, slopes greater than 30%, or economic factors such as land availability, cost of development or investment returns.

Air Quality and GHG - Sections III and VII:

The project (#P21-00170-ECPA) includes the removal of vegetation and installation of vineyard and erosion control measures concurrent with other projects in the air basin that would generate emissions of criteria pollutants, including suspended particulate matter (PM) and equipment exhaust emissions. For construction-related dust impacts the BAAQMD recommends that significance be based on the consideration of the control measures to be implemented (BAAQMD, May 2017). As discussed in **Section III (Air Quality)** and shown in Table 3 (Emissions from Vineyard Development and Operation) criteria pollutant emissions associated with development and operations are anticipated to be well below identified thresholds, and therefore are not expected to result in project or cumulatively significant impacts. Additionally, the project would be subject to standard air quality conditions of approval (should the project be approved) that requires implementation of Air Quality BMPs to further reduce potential less than significant air quality effects of the project and ongoing operation. Conversion of existing vegetation and disturbance of soil would result in releases of carbon dioxide, one of the gasses that contribute to climate change (Tables 7 and 8). As discussed in **Section VIII (Greenhouse Gas Emissions)**, the proposed project is not anticipated to result in substantial or significant GHG emissions, and includes the installation of grapevines and a permanent no-till cover crop, which may off-set (in whole or in part) potential impacts related to reductions in carbon sequestration, and, with implementation of **Mitigation Measure BR-4**, an equivalent amount (at a minimum) of tree canopy as proposed for removal would be permanently preserved on developable land, which would offset the loss of carbon sequestration due to tree removal. Potential contributions to air quality impacts associated with the proposed project, including GHG emissions and loss of sequestration, would be considered less than cumulatively significant through project design (i.e., scope and scale) and implementation of **Mitigation Measures BR-4** and standard conditions of approval.

Biological Resources - Section IV:

A project specific Biological Resources Reconnaissance Survey and Addendum (WRA, May 2021 and September 2022 - **Exhibits B-1 and B-2**) were performed for the project to evaluate potential habitat loss and disturbance to plant and wildlife species as a result of the project. The reconnaissance survey included a records search to identify the presence or potential presence of special-

²⁶ Total proposed conversion for each pending project: Mund Estate #P20-00273-ECPA – 3.9 acres; Ryla #P22-00167 – 2 acres; Matthes #P21-00047-ECPA – 15.5 acres)

status species within the project area. The records search included the CNDDDB and CNPS databases. As discussed in **Section IV (Biological Resources)**, one special-status plant species (narrow-anthered brodiaea) was identified within the project areas during the post-fire floristic surveys. With implementation of **Mitigation Measure BR-1**, the project would avoid and preserve a minimum of approximately 80% of the special-status plant populations occurring on the project property and would provide the opportunity for these species to maintain viable populations both on the property and, more broadly, in the region, reducing potentially significant impacts to special-status plant species and their habitat to a less than significant level. Implementation of this mitigation measure would also effectively offset the loss of special-status plants and habitat located within the mitigated project and protect sensitive habitat. Potential direct and indirect impacts to special-status plant and animal species and their habitat would be avoided and reduced through implementation of **Mitigation Measures BR-1 through BR-4**, and the standard conditions of approval for fencing. Cañon Creek and other ephemeral streams within the project property are outside of the proposed development area, and avoided with the required minimum setbacks pursuant to NCC Section 18.108.025, resulting in less than significant impacts. Therefore, the project would not contribute to a cumulatively significant impact to special-status plants and animals or habitats.

NCC Section 18.108.020 requires the permanent protection of a portion of the property's vegetation canopy cover and General Plan Policy CON-24 requires protection at a 2:1 ratio of oak woodland. Potential direct, indirect and cumulative impacts to vegetative canopy cover and oak woodlands and associated habitat would be reduced through implementation of **Mitigation Measures BR-4**, which would permanently preserve oak woodland and vegetation canopy cover at the required 2:1 and 3:1 by acreage ratios, as detailed in **Section IV, Biological Resources**. Therefore, the project as proposed, with implementation of its environmental commitments, standard and project specific conditions of approval, and mitigation measures would not contribute to a cumulatively significant impact to woodlands, and achieve compliance with applicable General Plan Conservation Polices and the Conservation Regulations.

Cultural and Tribal Resources – Sections V and XVIII

The Cultural Resource Reconnaissance Survey (Archaeological Resource Survey, 2021) indicated that no artifacts or potentially significant cultural features were observed within the areas to be impacted by the proposed project. Incorporation of standard conditions to protect cultural resources that may be discovered accidentally would ensure that less than significant project-specific and cumulative impacts to cultural and tribal resources would result are not expected (see **Section V [Cultural Resources] and Section XVII [Tribal Cultural Resources]**).

Geology and Soils - Section VII:

Soil loss and associated sedimentation resulting from implementation of the proposed project is anticipated to be reduced by approximately 57% as compared to existing conditions (**Table 6**). The reasons for this reduction is due to the increased vegetative cover conditions within the proposed vineyard development areas and the installation of temporary and permanent erosion control measures, including water bars, rock energy dissipaters, straw wattles, and silt fences that reduce overland flow velocities and erosive power, and trap eroded soil on-site, thereby reducing soil loss potential. Because the project would reduce soil loss as compared to existing conditions the project is not anticipated to contribute cumulatively to sediment production within the Cañon Creek and Lake Hennessey drainages; therefore, impacts associated with soil loss and associated sedimentation are not considered cumulatively significant.

Because geologic impacts associated with future agricultural projects would receive the same scrutiny under CEQA, the County's General Plan Goals and Policies, in particular General Plan Conservation Element Policy CON-48 requires development projects to result in no net increase in sediment erosion conditions and soil loss as compared to existing conditions, it is not unreasonable to anticipate that those projects would also have a less than significant project specific and cumulative impact on erosion and associated sedimentation.

Hydrology and Water Quality - Section IX:

Water use calculations provided in the WAA prepared by RCS (June 2021 - Exhibit E) indicate that the proposed development consisting of approximately 19 net acres of new vineyard would result in approximately 9.5 AF/year of groundwater use.

The average annual rainfall utilized in the groundwater recharge analysis includes times of below-average and above-average rainfall, and therefore inherently includes drought year conditions. Based on annual average annual rainfall for the area (approximately 38.2 inches per year) and the size of the subject property (approximately 389.6 acres available for recharge), and other conditions that affect the amount of precipitation that has the potential to recharge the groundwater aquifer, such as geological conditions, runoff characteristics, and evapotranspiration, it was anticipated that approximately 14% of the average rainfall or 162.2 AF/year would be available for groundwater recharge.

The WAA (RCS, **Exhibit E-1**) concluded that, after full development, water use for the project parcels is estimated to be approximately 21.8 AF/y. As discussed in **Section X (Hydrology and Water Quality)**, implementation of **Mitigation Measure BR-**

1 would reduce the proposed new vineyard from 23.2 gross acres by 0.5 acres, resulting in an incremental reduction in groundwater demand. The proposed total groundwater demand is less than the conservative estimate of 162.2 AF/y of groundwater recharge; less than significant impacts on water supplies would result.

Considering: i) anticipated annual water use of the project parcel for existing and proposed (mitigated) use of approximately 21.8 AF/year is below the parcel's anticipated annual groundwater recharge rate of approximately 162.2 AF/year; ii) there is no evidence to date indicating that there are groundwater problems or declining well production in this area of the County; and iii) incorporation of the standard water use condition to monitor water use as a result of vineyard establishment and ongoing vineyard operations and maintenance (if approved), the proposed project is anticipated to result in less than significant impacts to groundwater supplies, groundwater recharge, local groundwater aquifer levels, and well interference or drawdown effects on nearby wells.

As described in the Water Availability Analysis for the proposed project, the hydrogeology of the region, including Sonoma Volcanics, results in wide ranges of pumping capacity and availability due to many site-specific factors. Pending and future projects within the watershed are required to provide a site-specific Water Availability Analysis, to ensure that the project can be sustained with the water resources anticipated to be available; therefore, the proposed project, in conjunction with other existing and pending projects within the watershed would not result in significant cumulatively considerable impacts related to groundwater.

As discussed in **Section X.c. (Hydrology and Water Quality)** a Hydrologic Analysis utilizing WinTR-55 has been prepared by David A. Steiner, CPESC, CPSWQ (March 2021 - **Exhibit D**). Because the project does not include diversions, create concentrated flows or otherwise alter site drainage patterns, and does not materially alter site slopes no net increase in runoff volumes or time of concentrations are expected as compared to pre-project conditions (**Exhibit D**), therefore no significant impacts due to changes in hydrology are expected.

Not increasing runoff rates is consistent with General Plan Conservation Element Policy CON-50c that requires that peak runoff following development is not greater than predevelopment conditions. Additionally, as discussed in **Section VII (Geology and Soils)** the proposed project is anticipated to decrease soil loss as compared to existing conditions. Therefore, the proposed project would have a less than significant impact with respect to alterations of existing drainage patterns of the site or area that would result in increased runoff, considerable on or off-site erosion, siltation or flooding. Additionally, implementation of **Mitigation Measures BR-1**, which would reduce the project by approximately 0.5 gross acres, is anticipated to result in similar hydrologic effects/rates.

Furthermore, because hydrologic impacts associated with future agricultural projects would receive the same scrutiny under CEQA and County General Plan Policy CON-50(c), which requires development projects be designed so that peak runoff following development is not greater than predevelopment conditions, it is not unreasonable to anticipate that those projects would also have a less than significant project specific and cumulative impact on hydrologic conditions.

Land Use and Planning - Section XI:

As discussed in Section XI (Land Use and Planning), the proposed project, with implementation of the mitigation measures and conditions of approval identified in this Initial Study, achieves compliance with applicable NCC requirements and General Plan Goals and Policies (also see Section VIII [Greenhouse Gas Emissions]).

Proposed Project Impacts found to be Less Than Significant

In addition to the impact categories identified above, the following discussion summarizes those impacts considered to be less than significant with development of the project: Aesthetics, Agriculture and Forestry Resources, Energy, Hazards and Hazardous Materials, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire. The periodic use of lighting at the site would not create a substantial source of light and lighting would be in the form of headlights or downward directional lights on equipment being used during nighttime harvest. The potential contribution to aesthetic impacts associated with the project is considered to be less than cumulatively considerable. The project does not conflict with any current zoning for agricultural or forestry use, nor does the project conflict with the any applicable land use plan, policies, or regulation as mitigated and conditioned. There are no known mineral resource areas within the project site or immediate vicinity. This project would generate noise levels that are considered normal and reasonable for agricultural activities and consistent with the County's "Right to Farm" Ordinance. The potential contribution to noise or vibration impacts is considered less than cumulatively considerable. Traffic related to construction and farm worker trips would not increase by a discernible amount and the relatively low and off-peak vehicle trips associated with the project are considered less than cumulative considerable. The project does not include the construction of structures that would result in population growth or displacement of people, the project would not adversely impact current or future public services, or require the need to utilities and service systems. For these reasons, impacts associated with the project that may be individually limited, but cumulatively considerable, would be less than significant.

Considering the project site's characteristics, surrounding environment, and the scope and scale of the proposed project, the project with incorporation of identified mitigation measures and conditions of approval, as discussed throughout this Initial Study, is not anticipated to result in either project specific or cumulatively considerable negative impacts; therefore, impacts associated with this project that may be individually limited, but cumulatively considerable, would be less than significant.

Implementation of the project would not have any potentially significant negative effects on human beings (see discussions under **Sections III [Air Quality], IX [Hazards and Hazardous Materials], X [Hydrology and Water Quality], XIII [Noise], XIV [Population and Housing], XVII [Transportation], and XX [Wildfire]**). The proposed project, the use of the property, and reasonably foreseeable projects would be activities at a level of intensity considered normal and reasonable for a property within Agricultural Watershed zoning district. Therefore, less than significant impacts on human beings are anticipated.

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- Figure 1 Site Location Map (USGS)
- Figure 2 Site Location Map (2018 Aerial)
- Figure 3a Ecotone North Project Area (ECP Boundaries)
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- Figure 4a Ecotone North Mitigated Project Area & Special Status Plant Preservation Areas
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- Table 6 USLE Soil Loss Analysis
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- Table 11 Construction Equipment Noise Emission Levels
- Table 12 Estimated Distance to dBA Contours from Construction Activities
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LIST OF EXHIBITS:

- Exhibit A Applied Civil Engineering, Revised September 2021, Original Submittal July 9, 2021, Erosion Control Plan & Tree Removal Exhibit, Real Thorevilos LLC Vineyard Development Erosion Control Plan.
- Exhibit B-1 WRA, Inc., May 2021, Biological Resources Reconnaissance Survey Report, Real Thorevilos, Unincorporated Napa County, California (APNs 021-320-022, -026, -028)
- Exhibit B-2 WRA, Inc., September 2022, Updated (post-fire) special-status plant survey results – Real Thorevilos (No. P21-00170-ECPA)
- Exhibit C Steiner, David A, Revised August 25, 2021, Soil Loss Analysis, Real Thorevilos Vineyards, Ecotone North and South Blocks, Proposed New Vineyard Development, 180 Mund Road, St. Helena, CA 95476 (APNs 021-320-022, -026 & -028)
- Exhibit D Steiner, David A, March 22, 2021, Hydrologic Analysis, Real Thorevilos Vineyards, Ecotone North and South Blocks, Proposed New Vineyard Development, 180 Mund Road, St. Helena, CA 95476 (APNs 021-320-022, -026 & -028)
- Exhibit E-1 Richard C. Slade Associates LLC, June 24, 2021, Results of Napa County Tier I Water Availability Analysis, Real Thorevilos/Mund Road Vineyards Property, 320 Mund Road, Deer Park Area, Napa County, California
- Exhibit E-2 Richard C. Slade Associates LLC, August 31, 2022, Napa County Tier III Water Availability Analysis, Real Thorevilos/Mund Road Vineyards Property, 320 Mund Road, Deer Park Area, Napa County, California
- Exhibit F California Department of Forestry and Fire Protection, May 2021, Notice of Emergency Timber Operation, Harvest Document 1-21EM-00205-NAP
- Exhibit G Application Submittal Materials and Correspondence #P21-00170-ECPA
- Exhibit H Project Revision Statement, dated XXX