

**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:** Project Pioneer Vineyard Agricultural Erosion Control Plan Application (ECPA) #P20-00304-ECPA
2. **Property Owner:** Pacific Union College
3. **County Contact Person, Phone Number and email:** Pamela Arifian, Planner III, (707) 259-5934, Pamela.Arifian@countyofnapa.org
4. **Project Location and Assessor's Parcel Number (APN):** 1 Angwin Avenue, Angwin CA, 94508, APN's 024-080-040, -044, -048, and -049 (**Figure 1** and **Figure 2**)
5. **Project Sponsor:** Pacific Union College  
 Attn: Brandon Parker  
 1 Angwin Avenue  
 Angwin, CA 94508                      **Agent:** James R. Bushey (Registered Professional Engineer No. 49931)  
 PPI Engineering  
 2800 Jefferson Street  
 Napa, CA 94558
6. **General Plan description:** Agriculture, Watershed & Open Space (AWOS), Public-Institutional and Urban Residential
7. **Zoning:** Agricultural Watershed (AW), Airport Compatibility Combination (AC), Airport (AV), Affordable Housing Combination (AH), and Planned Development (PD)
8. **Background/Project History:** Pacific Union College owns nearly 1600 acres, including approximately 200 acres planted with oats, annual rye, and other forbs on an annual basis since the 1970s. The proposed project would be developed entirely on land that has been farmed in this manner since before the enactment of the Napa County Conservation Regulations in 1991.
9. **Description of Project:** The proposed project involves the clearing of existing hay fields and associated vegetation, earthmoving, and installation and maintenance of erosion control measures associated with the development of approximately 42.2 gross acres of vineyard (i.e., development area or proposed clearing limits) with approximately 35.9 net planted acres, within three vineyard blocks located on an approximately 485.2-acre property (i.e., project site). Proposed Block 2 consists of four subblocks (i.e., 2A, 2B, 2C, and 2D); refer to **Figure 3** and **Table 1**.

**Table 1 – Proposed Vineyard Block Acreage**

Block Number	Gross Acreage	Net Acreage
1	3.5	2.5
2A	17.1	15.4
2B	1.6	1.1
2C	8.9	7.6
2D	1.2	1.0
3	9.9	8.3
<b>Total</b>	<b>42.2</b>	<b>35.9</b>

Average slopes within the development area range from 5% to 12%. There are no slopes within the development area that are over 30%. No trees are proposed for removal as part of the project. Rock removed during the clearing and development of the land would be crushed and returned to the field or used to surface existing roads where needed. There would be no transport of spoils off-site. The vineyard would be irrigated with groundwater from an existing irrigation well (Well 8), and irrigation pipelines would be located in existing roads, vineyards and vineyard areas and/or within the proposed clearing limits. Deer fencing would be installed around individual proposed vineyard blocks (with proposed Blocks 2A through 2D fenced together) (refer to Figure 4 in **Exhibit A**).

**Erosion Control Measures:** Temporary erosion control measures include water bars, straw wattles, application of straw mulch at a rate of 3,000 pounds per acre, straw bale dikes, and other practices as needed. Permanent erosion control measures include: installation of rolling dips within the existing roadway and a permanent cover crop maintained at a minimum vegetation cover density of 75% for proposed Blocks 1 and 3 and 80% for proposed Blocks 2A, 2B, 2C, and 2D. Details of the proposed erosion control measures are provided in the Project Pioneer Erosion Control Plan (ECP), November 2020, prepared by James R. Bushey (RPE No. 49931) of PPI Engineering, Inc. (**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, soil ripping, rock removal and temporary storage, disking, trenching for irrigation pipelines, and the development of erosion and runoff control measures.

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

- a. Installation of vineyard trellis and drip irrigation systems, and planting rootstock in a 4-foot by 7-foot spacing pattern for an approximate vine density of ±1,556 vines per acre.
- b. Ongoing inspection and maintenance of temporary and permanent erosion and runoff control measures.
- c. Ongoing operation and maintenance of the vineyard, including: vine management (pruning, fertilization, pest and disease control, and frost protection), weed control, cover crop mowing, irrigation and trellis system maintenance, and fruit harvesting. No pre-emergent herbicides would be used for weed management. Contact or systemic herbicides may be applied in the spring (no earlier than February 15) to ensure adequate vegetative cover in the spray strips for the remainder of the rainy season. The width of the spray strips would be no wider than 17 inches in order to achieve 75% vegetative cover in proposed Blocks 1 and 3. The width of the spray strips would be no wider than 12 inches in order to achieve 80% vegetative cover in proposed Blocks 2A, 2B, 2C, and 2D.

**Table 2** lists a general schedule for the construction of the proposed project as identified in #P20-00304-ECPA and **Table 3** outlines typical general ongoing vineyard operations. The final implementation schedule is pending action on #P20-00304-ECPA.

**Table 2 – Implementation Schedule**

April 1	Commence clearing and tillage operations.
September 1 <sup>1</sup>	All tillage and erosion control complete.
September 15 <sup>2</sup>	All winterization complete, including seeding, straw mulching, and straw wattle installation.

<sup>1</sup> During the winter months in municipal watersheds (September 1 to April 1 of the succeeding year), no earthmoving work is allowed by the Napa County Code (NCC) Sections 18.108.027(C) and 18.108.070(L).

<sup>2</sup> All winterization measures must be in place by September 15 of any given year in municipal watersheds pursuant to NCC Section 18.108.027(C).

**Table 3 – Annual Operations Schedule**

March	a. Prune vines.
April to July	a. Sulfur application to protect against mildew.
February/July	a. Weed control under vines.
May/July	a. Weed control between rows. b. Mow cover crop.
September to October	a. Harvest. b. Winterize vineyard and vineyard avenues.
November to April	a. Monitor and maintain erosion control measures and repair as necessary during rain events.

Implementation of the proposed project would be in accordance with the Project Pioneer Erosion Control Plan prepared by James R. Bushey (RPE No. 49931) for PPI Engineering (November 2020 - **Exhibit A**). The proposed project is further described in the application materials including the Supplemental Project Information sheets (**Exhibit G**). All documents are incorporated herein by reference and available for review in the Napa County Department of Planning, Building and Environmental Services (PBES), and at <https://www.countyofnapa.org/2876/Current-Projects-Explorer>.

**10. Describe the environmental setting and surrounding land uses.**

The development area is located in four parcels totaling approximately 485.2 acres located at 1 Angwin Avenue in Angwin, California (**Figures 1-3**). The development area consists of approximately 42.2 gross acres of farmland (hay fields), access roads, and an existing groundwater well. The fields have been planted since the 1970s. Surrounding land uses include the core Pacific Union College (PUC) campus which includes developed land such as campus buildings, staff and student housing, roadways, croplands, livestock grazing, a pond, stables and an airstrip (the Angwin-Parrett Airfield). The runway for the Angwin-Parrett Airfield is located immediately adjacent to

proposed Block 1 and is in the vicinity of proposed Blocks 2 and 3. Rural residential, vacant rural parcels, and agricultural land, including vineyards, surround the project site. The land cover types in the development area include planted crops, mostly oats (*Avena sativa*) and perennial rye (*Bromus perennis*), and non-crop and introduced species, mostly wild radish (*Raphanus sativus*) and vetch (*Vicia sativa* and *V. villosa*). The area is currently grazed and mowed for hay. The development area is not currently fenced with wildlife exclusion fencing.

The project site is in the Town of Angwin and approximately 5 miles north of central St. Helena. It is situated on the eastern slope of Howell Mountain, northwest of Atlas Peak, within the Conn Creek (Upper Reach) and Moore Creek subwatersheds within the Lake Hennessey Reservoir Domestic Water Supply Drainage. One ephemeral drainage is located immediately west of proposed Block 2 and is avoided with a minimum 35-foot setback.

General topography of the project site is gently north- and south- dipping plateau surface with the northern end of the site consisting of plateau surface that is gently rolling with 100 feet of vertical relief. Elevations range from approximately 1,805 to 1,920 feet above mean sea level (msl). The closest active fault to the project site is the Hunting-Berryessa Fault located approximately 8 miles east. No landslides or areas of instability have been identified within the development area (Napa County GIS Landslide Layers). Soils on the project site have been classified according to the Soil Survey of Napa County (USDA 1978) as Aiken loam, 2 to 15% slopes and Aiken loam, 15 to 30% slopes.

11. **Other agencies whose approval is required** (e.g., permits, financing approval, or participation agreement that may potentially be required from the identified permitting authority/agency).

**Responsible (R) and Trustee (T) Agencies**

California Department of Fish and Wildlife (CDFW) (T)  
Regional Water Quality Control Board (Regional Water Board) (R)

**Other Agencies Contacted**

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

12. **Tribal Cultural Resources.** Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resource, procedures regarding confidentiality, etc.?

Notice of the proposed project was sent to the Middletown Rancheria, Mishewal Wappo Tribe of Alexander Valley, and Yocha Dehe Wintun Nation on January 4, 2021. The County received a response letter from Yocha Dehe Wintun Nation on February 17, 2021, indicating that the project area is not located within the aboriginal territories of the Yocha Dehe Wintun Nation, and requested that correspondence be deferred to Middletown Rancheria. On August 16, 2021, the County replied to Yocha Dehe Wintun Nation and closed the consultation invitation because the Tribe did not request consultation and more than 30 days had elapsed since the County's consultation invitation was received.

The County conducted a site visit with Middletown Rancheria on February 16, 2021. The County received a letter from Middletown Rancheria on February 18, 2021, providing periodic and spot-check monitoring mitigation measures to be incorporated into the project due to the possibility of unearthing tribal cultural resources. On February 19, 2021, the County received an email from Middletown Rancheria stating that the mitigation measures provided (i.e., on February 18, 2021) should be incorporated into the environmental document and project approval, if granted. On August 16, 2021, the County replied to Middletown Rancheria affirming that the requested periodic and spot-check monitoring mitigation measures provided by the Tribe would be included in the environmental document and project approval, if granted.

The County sent consultation closure notices to Middletown Rancheria and Mishewal Wappo Tribe of Alexander Valley on August 16, 2021. 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 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 checked="" 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 visit(s) to the project site and development area.

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 #P20-00304-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, or at <https://www.countyofnapa.org/2876/Current-Projects-Explorer>.

- PPI Engineering Inc., November 2020, Project Pioneer, 1 Angwin Avenue, Erosion Control Plan (**Exhibit A**).
- Floyd Hayes, Ph.D. and Aimee Wyrick-Brownworth, M.Sc., November 2020, Biological Resource Survey, Project Pioneer Track I ECP (**Exhibit B**).
- PPI Engineering, November 18, 2020, Memorandum Re: Project Pioneer, Track I ECP, APNs 024-080-040, -044, -048, & -049, Soil Loss Analysis (**Exhibit C**).
- Richard C. Slade and Associates LLC, December 4, 2020, Draft Memorandum Re: Results of Napa County Tier 1 Water Availability Analysis, Project Pioneer Vineyard Development Project, Angwin, Napa County, California (**Exhibit D**).
- PPI Engineering Inc., November 18, 2020, Memorandum Re: Project Pioneer, Track I ECP, APNs 024-080-040, -044, -048, & -049, Hydrologic Analysis (**Exhibit E**).
- Flaherty Cultural Resource Services, February 27, 2020, Cultural Resource Reconnaissance of 42 +/- Acres Near Angwin, Napa County, California
- Gilpin Geosciences, Inc., September 22, 2020, Engineering Geological and Geotechnical Evaluation, Project Pioneer, APN 024-080-040, -044, -048, & -049, 1 Angwin Avenue, Angwin, California (**Exhibit F**)
- Application Submittal Materials and Correspondence (**Exhibit G**)
- Project Revision Statement (**Exhibit H**)
- Site inspection conducted by Napa County Planning and Engineering Staff on January 8, 2021 and February 16, 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.

*Pamela Arifian*

Signature

*February 1, 2022*

Date

Name: Pamela Arifian, Planner III  
Napa County  
Planning, Building and Environmental Services Department

**ENVIRONMENTAL CHECKLIST FORM**

I. <b>AESTHETICS.</b> Except as provided in Public Resources Code Section 21099, would the project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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) In non-urbanized areas, 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 a 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 development area is approximately 450 feet east of Howell Mountain Road, the closest County viewshed road. A majority of the development area is located within the scenic corridor of Howell Mountain Road (Napa County GIS, Scenic Corridors Layer). However, the development area is not visible from Howell Mountain Road or the surrounding area due to the topography and woodland between them. Additionally, visual impacts related to construction equipment and activities at the development area would be short-term and temporary in nature.

The project site is located in the hills to the northeast of St. Helena, adjacent to the Angwin-Parrett Airfield. The development area lies west of a prominent ridgeline, and ground surface is relatively flat, with a gentle slope to the west towards the town of Angwin. The development area is not located on a prominent hillside or a major or minor ridgeline (Napa County GIS, Ridgelines Layer) and there are no historic buildings on the site. There are no significant rock outcroppings or geologic features on the project site that would be impacted by the project. Therefore, for the reasons described above the proposed project would have a less than significant impact on a scenic vista, scenic highway, or scenic resources such as historic buildings, scenic trees, or rock outcrops.

c. The proposed project would result in the removal of existing vegetation within the development area and it includes the development of new vineyard. The proposed project is consistent with the Napa County AWOS, Public-Institutional, and Urban Residential land use designations and with adjacent land uses, which include other vineyards, vacant rural parcels, rural residential uses and the Angwin-Parrett Airfield. Agriculture is an allowed use in the airport zones and no trees are proposed for removal. For these reasons, the impact would be less than significant.

d. Proposed agricultural operations on the project site would require some lighted nighttime activities consistent with the nighttime activity already occurring on the project site and in the surrounding area, which includes vineyard and agricultural uses. Lighting would be in the form of headlights or downward direction lights on equipment being used during nighttime harvest. The proposed project would include sulfur applications that would occur at about 10 p.m. approximately eight times per year. Although some nighttime activity would occur for limited periods, the proposed 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, the proposed project would result in a less than significant impact.

II.	AGRICULTURE AND FOREST RESOURCES. <sup>1</sup> Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 Resources Code Section 12220(g), timberland as defined in Public Resources 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 in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?	<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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

- a. The California Department of Conservation’s Important Farmland Finder identifies the project site as Farmland of Local Importance, Urban and Built-up Land, and Other Land. The proposed project would result in continued agricultural use; therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and no impacts are anticipated.
- b. The project site has AWOS, Public-Institutional, and Urban Residential General Plan designations and is zoned Agricultural Watershed (AW), Airport Compatibility Combination (AC), Airport (AV), Affordable Housing Combination (AH), and Planned Development (PD). Agriculture is an allowed use in the airport zones. Therefore, the establishment of vineyard totaling approximately 42.2 gross acres (35.9 net acres) is consistent with project site’s land use and zoning designations. The project site does not have a Williamson Act contract associated with it. Therefore, the proposed project would not conflict with its land use designation or a Williamson Act contract, resulting in no impact.
- c-d. “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.” The project site does not contain forest land or coniferous forest (Napa County GIS). The project site is 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 would occur.
- 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 have no impact on agricultural or forest resources of Napa County.

<sup>1</sup> “Forest land” is defined by the State as “land that can support 10-percent 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.” (Public Resources Code Section 12220(g)) The Napa County General Plan anticipates and does not preclude conversion of some “forest land” 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 2030, with the assumption that some of this development would occur on “forest land.” In that analysis specifically, and in the County’s view generally, the conversion of forest land 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.



III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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**

On June 2, 2010, the Bay Area Air Quality Management District's (BAAQMD) Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act. 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 BAAQMD's website and included in BAAQMD's updated CEQA Guidelines (updated 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 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 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. These 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.

BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The Air District is currently working to revise any outdated information in the Guidelines as part of its update to the CEQA Guidelines and thresholds of significance.

a-b. The project site is generally situated on the hillsides of Howell Mountain, northwest of Atlas Peak on the eastern side of Napa Valley, 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 (O<sub>3</sub>), ozone precursors oxides of nitrogen and reactive organic gases (NO<sub>x</sub> and ROG), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and suspended PM of ten micrometers or less and two and a half micrometers or less (PM<sub>10</sub> and PM<sub>2.5</sub>). Other criteria pollutants, such as lead (Pb) and sulfur dioxide (SO<sub>2</sub>), 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 BAAQMD CEQA Guidelines described above, which outline substantial evidence supporting a variety of thresholds of significance.

The thresholds of significance identified in **Table 4** are consistent with the BAAQMD CEQA 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 Vineyards<sup>2</sup> for an approximately 560-acre vineyard development, Walt Ranch Vineyard<sup>3</sup> for an approximately 507-acre vineyard development, and Circle-S Ranch Vineyards<sup>4</sup> for an approximately 400-acre vineyard development<sup>5</sup>.

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 4** shows the approximate anticipated construction emissions associated with the development of vineyards of the sizes described above. Also shown in **Table 4** are the BAAQMD CEQA Guidelines draft thresholds of significance for emission of the following criteria pollutants: ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

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.

**Table 4 – Emissions from Vineyard Development and Operation**

Emissions and Thresholds	Criteria Pollutants – Constituents			
	ROG	NO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
	<b>Construction Emissions</b>			
<b>Pounds per day: 150-acre vineyard development<sup>1</sup></b>	8.43 to 11.39	34.39 to 52.16	3.93 to 4.47	13.93 to 14.53
<b>Pounds per day: 150- to 250-acre vineyard development<sup>2</sup></b>	9.43 to 11.03	43.85 to 53.16	3.91 to 4.62	12.87 to 17.22
<b>Pounds per day: 127-acre vineyard development<sup>3, 4</sup></b>	4.6	42.3	5.21 <sup>4</sup>	24.21 <sup>4</sup>

<sup>2</sup> #P09-00176-ECPA, Analytical Environmental Services (AES) March 2012, SCH #2009102079 certified February 3, 2013

<sup>3</sup> #P11-00205-ECPA, AES March 2016, SCH #2008052075 certified August 1, 2016

<sup>4</sup> #P06-01508-ECPA, AES April 2011, SCH #2007062069 certified December 22, 2011

<sup>5</sup> These EIRs are incorporated herein by reference and available for review in the Napa County Department of Planning, Building and Environmental Services permanent files.

<b>Construction threshold</b>	54	54	54	82
	<b>Operational Emissions</b>			
<b>Pounds per day: 400-acre vineyard operation<sup>1</sup></b>	7.78	2.85	0.80	4.22
<b>Pounds per day: 560-acre vineyard operation<sup>2</sup></b>	6.58	1.84	0.75	3.91
<b>Pounds per day: 507-acre vineyard operation<sup>3</sup></b>	4.3	22.3	1.4	2.3
<b>Operational threshold (lbs/day)</b>	54	54	54	82
<b>Tons per year (Metric)<sup>1,5</sup></b>	0.78	0.35	0.11	0.58
<b>Operational threshold (tons per year)</b>	10	10	10	15

<sup>1</sup> As identified in Circle-S EIR; <sup>2</sup> As identified in Suscol Mountain EIR; <sup>3</sup> As identified in Walt Ranch EIR; <sup>4</sup> Includes dust and exhaust emissions; <sup>5</sup> 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 42.2 gross acre vineyard (35.9 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 4** 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 8-2 of the BAAQMD 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 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 FAQ<sup>6</sup> or the PERP website<sup>7</sup>.

Installation of the proposed project is expected to generate emissions that are below the thresholds presented in **Table 4**, 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 4** 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 would not conflict with or obstruct implementation of an air quality plan or result in cumulatively considerable effects.

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 adjacent to the development area include the core PUC campus which includes developed land such as campus buildings, staff and student housing, roadways, croplands, livestock grazing, stables and an airstrip. The project site consists of approximately 485.2 acres of land. The closest schools are located approximately 0.6 mile west (Howell Mountain Elementary) within Angwin (Napa County GIS, Schools Layer). The closest offsite residences are located approximately 500 feet of proposed Block 2 (to the southwest) and 600

<sup>6</sup> [http://www.arb.ca.gov/portable/perp/perpfaq\\_04-16-15.pdf](http://www.arb.ca.gov/portable/perp/perpfaq_04-16-15.pdf)

<sup>7</sup> <http://www.arb.ca.gov/portable/portable.htm>

feet of proposed Block 1 (to the west). The closest residential area in the Town of Angwin is located approximately 0.2 mile west of the development area.

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 approximately 0.6 mile from the closest school and 0.2 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.

IV.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 Wildlife or the 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 U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 were utilized in this analysis and are incorporated herein by reference and available in the project file for review:

- Floyd Hayes, Ph.D. and Aimee Wyrick-Bronworth, M.Sc., November 2020, Biological Resource Survey Project Pioneer Track I ECP (**Exhibit B**)

Floyd Hayes, Ph.D. and Aimee Wyrick-Bronworth, M.Sc. conducted surveys on April 23 to April 25, April 29 and 30, May 30, June 2, June 5, and June 23, 2019 to document biological resources that occur on and adjacent to the three agricultural fields that encompass the development area (referred to in Exhibit B as Stump [PUC07], Parrett-Lower [PUC08], and Belleau [PUC09]). The surveys were completed to document: biological communities; existing conditions and to determine if suitable habitat to support special-status plant or wildlife species exists; aquatic natural communities; and any special-status species that may be present onsite. The survey dates corresponded to blooming periods sufficient to observe and identify special-status plant species determined to have the potential to occur in the development area. The field surveys were conducted by botanists familiar with the flora of Napa County and surrounding counties. Areas surrounding the development area include the core PUC campus. The entire development area is developed in agriculture: mostly oats (*Avena sativa*) and perennial rye (*Bromus perennis*), and non-crop and introduced species, mostly wild radish (*Raphanus sativus*) and vetch (*Vicia sativa* and *V. villosa*). A wetland delineation was completed by WRA, Inc. in Spring 2019 (referenced in **Exhibit B**).

Vegetation surveys of the development area were conducted following CNPS and CDFW protocols and as dictated by the Napa County Planning, Building, and Environmental Services guidelines. The CNPS MCV was used to classify and describe vegetation alliances (Sawyer et al. 2009). A vegetation survey was also conducted within 500 meters of the development area. The vegetation adjacent to the development area is dominated by coniferous forest with chaparral/scrub at some forest edges (**Exhibit B**).

Napa County Geographic Information System (GIS) Sensitivity Maps/layers were utilized in this biological resources assessment: Sensitive biotic vegetation groups, California Native Plant Society (CNPS), California Department of Fish and Wildlife (CDFW) protocols, and the CNPS Manual of California Vegetation (MCV) were used to classify and describe vegetation alliances (Sawyer et al. 2009).

- a. Based upon a review of the resources databases listed in **Exhibit B**, 131 special-status plant species have been documented in Napa County, 18 of which have the potential to occur in project site; however, no special-status plant species were found during the floristic surveys. Therefore, the proposed project would not impact special-status plants or habitat, and is consistent with the following Napa County General Plan Conservation Element Goals and Policies and Zoning Ordinance: Goal CON-2<sup>8</sup> because it would not affect the existing level of biodiversity in the County and contribute to minimization of potential cumulative impacts associated with the loss of special-status plant species and associated habitat due to agricultural conversion projects; Goal CON-3 as it would not affect the continued presence of special-status plant species or its habitat; Policy CON-13 in that no impacts to special-status habitat would occur with the development of up to approximately 42.2 acres of agriculture on the project site; Policy CON-17<sup>9</sup> because no removal or disturbance of a sensitive natural plant community that contains special-status plant species would occur; and, the purpose and intent of the Conservation Regulations (NCC Chapter 18.108) in that it would not affect natural habitat or existing vegetation, and adversely affect sensitive, rare, threatened or endangered plants.

Five special-status animals have the potential to occur in the general area of the project site: steelhead (*Oncorhynchus mykiss irideus*), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana draytonii*), bald eagle (*Haliaeetus leucocephalus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). No special-status animal species were encountered during surveys within the development area, and there is no habitat for the potentially occurring special-status animals within the development area (**Exhibit B**).

An ephemeral stream located immediately west of proposed Block 2 contains potential habitat for special-status animals. The stream flows for approximately 0.03 mile downslope from northeast to southwest as shown in Figure 3 of **Exhibit B**. To protect this habitat, the ECP maintains minimum 35-foot setbacks from the ephemeral stream.

Migratory birds and raptors with protections under the Migratory Bird Treaty Act and California Fish and Game Code may nest within the trees adjacent to the development area. Temporary and intermittent increases in noise levels during construction may cause nest abandonment and death of young or loss of reproductive potential at active nests located near project activities. This is considered a potentially significant impact.

To reduce potentially significant indirect impacts to nesting birds, **Mitigation Measure BR-1** would be implemented to include a preconstruction nesting bird survey and measures to avoid any nests, such as an exclusion buffer, as appropriate.

**Mitigation Measure BR-1:** The owner/permittee shall revise Erosion Control Plan #P20-00304-ECPA prior to approval to include the following measures to minimize impacts associated with the potential loss and disturbance of special-status and nesting birds and raptors consistent with and pursuant to California 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

<sup>8</sup> Goal CON-2: Maintain and enhance the existing level of biodiversity.

<sup>9</sup> 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.

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 Conservation Division 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 qualified biologist shall cease all work in the vicinity of the nest and CDFW shall be consulted 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 Measure BR-1**, the proposed project, if approved, would result in less than significant impacts related to birds.

- b-c. As stated previously, the development area is currently used for farming hay and surveys found no sensitive habitats within the development area. The wetland delineation (completed by WRA, Inc., and referenced in **Exhibit B**) confirmed that the development area lacks perennial streams or seasonal wetland activity. However, an ephemeral stream (as defined in NCC 18.108.025) is located immediately adjacent to proposed Block 2, and is considered a sensitive natural resource. The proposed project has been designed to avoid the ephemeral stream with a minimum 35-foot setback in accordance with NCC 18.108.025. The proposed project has also been designed to maintain existing soil loss (sedimentation) and hydrologic/runoff characteristics (i.e., result in no net increase in soils loss or runoff as compared to existing conditions); therefore, the proposed project would not result in significant impacts to this drainage.

The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community, or on state or federally protected wetlands and impact would be less than significant.

- d. The proposed project involves the installation of three vineyard blocks totaling approximately 42.2 gross acres (35.9 net acres) across portions of four parcels comprising the project site. The development area has no existing deer fencing and proposed deer fencing would fence proposed blocks individually (with proposed Blocks 2A through 2D fenced together) (Figure 4, **Exhibit A**). The project site is not located within a mapped "Essential Connectivity Area" (Conservation Biology Institute, 2021). The project site is located over 5 miles west of mapped essential connectivity area. At the scale of landscape linkages, the nearest connectivity area provides wildlife connectivity between baylands of San Pablo Bay and areas from northern Napa County northward. Given the relatively small size of the development area and it being located over 5 miles west of an essential connectivity area, and the lack of apparent development impacts within the more central portion of the nearest connectivity area, agricultural expansion within the development area is in and of itself unlikely to result in any significant impacts to wildlife movement or migration at the landscape linkage scale. At a more local scale, the project site provides connectivity between a patchwork of undeveloped lands consisting primarily of woodland and grassland, and low-density residential and agricultural developments. While the proposed vineyard blocks would result in portions of the site having reduced potential for on-site wildlife movement, the preservation/avoidance of the ephemeral stream adjacent to the development area, as well as the condition of the surrounding lands, would continue to allow for movement through the vicinity. The proposed wildlife exclusion fencing would not interfere substantially with wildlife movement and impacts would be less than significant. Maintaining this connectivity should provide for continued cross-pollination and gene flow, as well as local wildlife movement. The proposed project would be consistent with General Plan Policy CON-18, which encourages the reduction of impacts to habitat conservation and connectivity.

Because wildlife nursery sites were not identified in the project site, there would be no impacts to wildlife nursery sites.

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 #P20-00304-ECPA prior to its approval to include an updated Deer Fencing Plan (**Exhibit A, Appendix F, Figure 4**). The Wildlife Exclusion

Fencing Plan shall be submitted to the Planning Department for review and approval prior to its incorporation into #P20-00304-ECPA. Deer fencing (i.e. Wildlife Exclusion Fencing) 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 #P20-00304-ECPA pursuant to the Vineyard Fencing Plan 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 project site is located in the Lake Hennessey Sensitive Domestic Water Supply Drainage; as such, pursuant to NCC Section 18.108.027(B) (Sensitive domestic water supply drainages – Vegetation Clearing), a minimum of 70% of the tree canopy and a minimum of 40% of the grass/brush cover existing on the parcel in 1993 is required to be retained as part of the project. Based on information provided in the ECP (Appendix C of **Exhibit A**), the project site contained 316.5 acres of tree canopy cover and 68.4 acres of brush/shrub cover in 1993. While the proposed project would not result in removal of any trees, other development unrelated to this project occurred since 1993 that resulted in removal of tree canopy and brush/shrub cover; this vegetation removal was incorporated into the analysis for the proposed project. Thus, 5.5 acres of tree canopy removed since 1993 due to previous development and 15.9 acres of brush/shrub cover removal was included in the analysis. The proposed project would result in the retention of approximately 98% of the tree canopy cover and 77% of the brush/shrub cover in 1993; therefore, the proposed project would be in compliance with Section 18.108.027(B).

Areas adjacent to the development area include coniferous forest. To ensure that no trees are inadvertently removed as part of the project, and because the project will also be subject to the provisions of Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement), the following provisions will be included as conditions of approval should the proposed project be approved:

**Tree/Woodland Protection – Conditions of Approval:**

- 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 development area (typically within approximately 50-feet of the development area). No trees are proposed for removal within the development area. 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.
- Trees removed shall be replaced onsite with fifteen-gallon trees at a ratio of 2:1 at locations approved by the PBES director.
- The owner/permittee shall refrain from severely trimming the trees and vegetation to be retained adjacent to the vineyard conversion area.

Additionally, as discussed in questions (a) through (c) above, the proposed project is designed to incorporate the mitigation measure and conditions of approval, and impacts to sensitive natural communities and special-status species would be less than significant. Therefore, the proposed project with conditions incorporated is consistent with applicable Napa County General Plan Policies and NCC Chapter 18.108.

- 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.

V. CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §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 CEQA Guidelines §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 dedicated 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 Archeological sensitive areas and Archeological sites layers:

- Flaherty Cultural Resources Services, February 27, 2020, Cultural Resource Reconnaissance of 42+/- Acres Near Angwin, Napa County, California

Flaherty Cultural Resource Services conducted an archeological evaluation of the project site which included a check of information on file with the California Historical Resources Information System Northwest Information Center 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 or structure; and a surface reconnaissance survey of approximately 42 acres on the project site to locate any visible signs of potentially significant historic or prehistoric cultural deposits.

- a-b. The cultural resource reconnaissance (Flaherty Cultural Resource Services, February 2020) identified no cultural resources within the development area.

Although no cultural resources were found within the development area, there is the possibility that buried archaeological deposits could be present and accidental discovery could occur. Therefore, the proposed project would be subject to the standard conditions of approval identified below to protect cultural resources that may be discovered accidentally.

- c. The cultural resource reconnaissance survey did not locate any human remains in the proposed development area and does not anticipate the discovery of human remains due to implementation of the proposed project. Therefore, impacts on human remains are anticipated to be less than significant. Furthermore, the following conditions of approval would be incorporated should the proposed project be approved, which would ensure that potential impacts on human remains would be less than significant.

**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 obsidian, chert, basalt flakes and artifacts, groundstone (i.e., mortars and pestles), glass bottles, privy's, ceramics, and human graves, 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 has 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 and a qualified archaeologist 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.



VI.	ENERGY. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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"/>
	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 approximately six months. 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 when 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 39.4% of total statewide energy consumption in 2019 (U.S. Energy Information Administration 2021). 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 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 mandated 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 United States Environmental Protection Agency and the California ARB such as Pavley II/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 Regulation.<sup>13</sup> The proposed project would comply with these State requirements and the Air Quality conditions of approval presented in **Section III (Air Quality)**. 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.

<sup>13</sup> California Code of Regulations, 2005. Title 13, Chapter 10, 2485, updated through 2014.

VII.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 creating substantial direct or indirect risks to life or property? Expansive soil is defined as soil having an expansive index greater than 20, as determined in accordance with ASTM (American Society of Testing and Materials) D 4829.	<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) The project site is not located on or near an active fault or within an “Earthquake Fault Hazard Rupture Zone” designated by the Alquist-Priolo Earthquake Zoning Act. The closest active fault is the Hunting-Berryessa Fault located approximately 8 miles east of the project site (Gilpin Geosciences, Inc., September 2020). Given the agricultural nature of the proposed project, it would not directly or indirectly cause potential substantial adverse effects involving fault rupture and less than significant 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) The project site is not in an area subject to high liquefaction potential. The Napa County General Plan identifies the project site as having very 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) Active landslides have not been identified within the development area (Gilpin Geosciences, Inc., September 2020 – **Exhibit G** and Napa County GIS, Landslide Layers) and therefore is considered to be a less than significant impact (also see question c below for additional discussion regarding slope stability and landslides).
- b. The project site is underlain by two soil mapping units: the Aiken Loam, 2 to 15% slopes and Aiken Loam, 15 to 30% slopes (Gilpin Geosciences, Inc., September 2020 – **Exhibit F**). 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; in municipal watersheds earthmoving activities cannot be performed between September 15 and April 1 pursuant to NCC Section 18.108.027(C). 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 no-till cover crops with vegetative cover densities of at least 75% to 80% as specified in the ECP. The cover crop provides the ability to trap eroded soils onsite, thereby reducing soil loss and sedimentation potential.

Based on USLE modeling calculations prepared by PPI Engineering (**Exhibit C**), the proposed conversion of approximately 42.2 gross acres of crop land is anticipated to reduce soil loss, or surface erosion, within the project site as compared to existing conditions (**Table 5**). Under existing conditions, the annual soil loss is anticipated to average 44.98 tons per year across the development area depending on soil type, slope length, and gradient. Under proposed project conditions, annual soil loss is anticipated to average 41.34 tons per year, or a reduction of approximately 8% as compared to existing conditions.

**Table 5 – USLE Soil Loss Analysis**

Vineyard Block	Pre-project Soil Loss (tons/year)	Post-project Soil Loss (tons/year)	Difference	Percent Change (approximate)
1	2.08	1.88	0.20	-10%
2A – 2D	29.40	27.26	2.14	-7%
3	13.50	12.20	1.30	-10%
<b>Total</b>	<b>44.98</b>	<b>41.34</b>	<b>3.64</b>	<b>-8%</b>

Source: PPI Engineering, November 18, 2020, Soil Loss Analysis (**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 development and establishment, consist of rock filled avenues and rock filled level spreaders (used in tandem or individually), rocked crossing, and permanent no-till cover, straw mulching, straw wattles, and other practices as needed.

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 #P20-00304-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 rock filled avenues, rolling dips, and 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 #P20-00304-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 vineyard cover crop shall not be tilled (i.e., shall be managed as a no till cover crop) for the life of the vineyard and the owner/permittee shall maintain a plant residue density of 75% within proposed Blocks 1 and 3 and 80% within proposed Blocks 2A, 2B, 2C, and 2D and the associated vineyard avenues. The cover crop may be strip sprayed, with a strip no wider than 17 inches wide at the base of vines in proposed Blocks 1 and 3 and 12 inches wide at the base of vines in proposed Blocks 2A, 2B, 2C, and 2D, with post-emergent herbicides: no pre-emergent sprays shall be used. Contact or systemic herbicides in proposed Blocks 1, 2A, 2B, 2C, 2D, and 3 may occur in the spring (no earlier than February 15) if the 75% or 80% vegetative is achieved. 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.

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 USLE model evaluates the environmental conditions and physical forces that lead to the detachment and movement of soil particles. 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).

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 development area is not in an area prone to landslides, ground failure or liquefaction. The proposed project identifies the soil types in the project area and addresses any potential soil instability. Therefore, the proposed project would not result in any significant impacts of on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.
- d. Soils of the project site consist of Aiken Loam, which exhibit low to moderate shrink-swell potential (USDA, 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 a 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. There are no unique geologic features on the project site. Due to the nature of the soils in the project site and the nature of the proposed project (which would involve a relatively shallow vineyard), the probability of encountering paleontological resources within the project site is 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.

VIII.	GREENHOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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:**

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 Board 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 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 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. Additional information on the County CAP can be obtained at the Napa County Department of Planning, Building and Environmental Services or <https://www.countyofnapa.org/2876/Current-Projects-Explorer>.

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.

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 (CO<sub>2</sub>), methane, ozone, and the fluorocarbons, which contribute to climate change. CO<sub>2</sub> 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<sub>2e</sub>) 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 CO<sub>2</sub> is used as the reference atom/compound to obtain atmospheric carbon CO<sub>2</sub> effects of GHG. Carbon stocks are converted to CO<sub>2e</sub> 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>).<sup>10</sup>

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 development area and plant vineyard, including construction equipment and worker vehicle trips (referred to as Equipment Emissions below). For the purpose of this analysis, it is assumed that all removed vegetation would be burned, even though some may be chipped/mulched. Refer to **Section XVII (Transportation)** for anticipated number of construction trips and equipment associated with project construction and operations.

In addition to the one-time Construction Emissions, "Operational Emissions" of the vineyard are also 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 farm equipment and vehicles (such as tractors, haul trucks, backhoes, pick-up trucks, and ATVs) and worker vehicle trips (referred to as Operational Equipment Emissions below). See **Section XVII (Transportation)** for anticipated number of operational trips. Operational Emissions from the proposed vineyard would be modest when compared to one-time construction emissions (as discussed below), and a quantitative estimate would require many assumptions about what would happen during the next 100 years onsite under "project" and "no project" conditions (e.g., the life expectancy of the proposed vineyard and existing site vegetation, incidences of disease and fire, etc.).

**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<sub>2e</sub> of construction equipment emissions for a 459-acre vineyard development, resulting in approximately 9.4 MT CO<sub>2e</sub> of construction equipment emissions per acre of vineyard development.<sup>11</sup> Using this emission factor it is anticipated that Construction Equipment Emissions associated with the proposed 42.2 gross acres of vineyard development would be approximately 396.7 MT CO<sub>2e</sub> (42.2 acres multiplied by 9.4 MT CO<sub>2e</sub>).

Project Site Emissions: Project site emissions are emissions resulting from vegetation removal and soil preparation associated with the conversion of approximately 42.2 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 GHG Emissions Checklist and associated carbon stock factors developed as part of the 2018 Draft CAP efforts are utilized to determine potential project site carbon stocks and emissions. Utilizing the 2018 Draft CAP carbon stocks and the acreages of vegetation types within the development area, total carbon stocks for the development area are estimated to be approximately 59.08 MT C or approximately 216.82 MT CO<sub>2e</sub> (**Table 6**).

**Table 6 – Estimated Development Area Carbon Stocks/Storage**

Vegetation Type/Carbon Storage	Development Area Acreage	Carbon Storage/Stock per Acre (MT C/acre) <sup>1</sup>	Total Carbon Storage (MT)	Total Carbon Storage in MT CO <sub>2e</sub>
Grasslands	42.2	1.4	59.08	216.82
<b>Total</b>			<b>59.08</b>	<b>216.82</b>

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 to 25% while others have suggested 50%.<sup>12</sup> Using 50% as a more conservative estimate, the

<sup>10</sup> "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 CO<sub>2</sub>. 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).

<sup>11</sup> 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.

<sup>12</sup> Napa County, July 12, 2010, Green House Gas Emissions Associated with Vineyard Development & Vineyard Operations, A Compilation of Quantitative Data from Three Recent

proposed project could result in one-time development area construction emissions from vegetation removal and soil preparation (i.e., grading and soil ripping) of approximately 123.90 MT CO<sub>2e</sub> (Table 7).

**Table 7 – Estimated Project Carbon Emissions Due to Vegetation Removal**

Vegetation Type/Carbon Storage	Development Area Acreage	Carbon Loss/Emission per Acre (MT C/acre) <sup>1</sup>	Total Carbon Loss/Emission (MT)	Total Carbon Loss/Emission in MT CO <sub>2e</sub>
Grasslands	42.2	0.8	33.76	123.90
<b>Total</b>			<b>33.76</b>	<b>123.90</b>

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<sub>2e</sub> of operational emissions for a 560-acre vineyard, resulting in approximately 0.67 MT CO<sub>2e</sub> of operational emissions per acre of vineyard per year. Using this emission factor it is anticipated that Operational Equipment Emissions associated with the proposed 42.2-acre agricultural development would be approximately 28.3 MT CO<sub>2e</sub> (42.2 multiplied by 0.67 MT CO<sub>2e</sub>).

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 CO<sub>2</sub> acre per year, while grasslands, shrublands and developed are essentially zero. 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 2.41 MT C per year or 8.84 MT CO<sub>2e</sub> per year.<sup>13</sup>

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 CO<sub>2</sub> loss from vineyard soils. Carbon sequestration loss would be further offset by the proposed vineyard, which would likely act as a sink for atmospheric CO<sub>2</sub>, 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 520.6 MT CO<sub>2e</sub> and annual ongoing emissions associated with vineyard operations (including loss of sequestration) estimated to be approximately 37.1 MT CO<sub>2e</sub> per year (Table 8).

**Table 8 – Estimated Overall Project-Related GHG Emissions**

Construction Emissions in Metric Tons of CO <sub>2e</sub>		Annual Ongoing Emissions in Metric Tons of CO <sub>2e</sub>	
Source	Quantity	Source	Quantity
Vehicles and Equipment	396.7	Vehicles and Equipment	28.3
Vegetation and Soil	123.9	Loss of Sequestration	8.8
<b>Total</b>	<b>520.6</b>	<b>Total</b>	<b>37.1</b>

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 520.6 MT CO<sub>2e</sub> 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, 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.

Projects.

<sup>13</sup> 42.2 acres of grasslands times 0.057 MT C = 2.41 MT C



In the context of 12,500 acres of projected vineyard development, the proposed project would constitute less than approximately 0.3% 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 density of a minimum 75%, 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 37.1 MT CO<sub>2e</sub> per year, which is well below the threshold of 1,100 MT CO<sub>2e</sub> per year that BAAQMD has defined as significant for CEQA purposes when considering land development projects. Therefore, ongoing project emissions, including loss of sequestration, due to the proposed project are considered less than significant.

IX.	HAZARDS AND HAZARDOUS MATERIALS. Would the project	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
	g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wild-land 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 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 mixed and equipment would be cleaned in an existing barn located south of proposed Block 1 and more than 100 feet from the nearest water course (Figure 4 in Exhibit A: *Chemical Mixing and Loading Area*). Fertilizers would be applied, up to twice a year, 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 staging areas would be located within proposed clearing limits.

One ephemeral drainage is located immediately adjacent to the western edge proposed Block 2 (outside of the proposed clearing limits) and would be avoided with a minimum 35 foot setback.

The risk of potentially hazardous materials reaching or affecting adjacent water courses or other aquatic resources is significantly reduced because: i) there are no wetlands located within the development area and therefore, the proposed project would maintain buffers of at least 50 feet from potential wetlands; ii) the proposed project would provide setbacks buffers of 35 feet to ephemeral streams in conformance with code provisions; and iii) only federal and/or California approved chemicals would be applied to the vineyard in strict compliance with applicable state and federal law. Project approval, if granted, would also be subject to the following standard conditions of approval 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 (Howell Mountain Elementary) is located approximately 0.6 mile west of the project site. There are no schools 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 Airfield, located immediately adjacent to the development area (east of proposed Blocks 1, 2A, 2B, 2C, and 2D) and located approximately 567 feet west of proposed Block 3. However, 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, impacts would be less than significant.
- f. During construction, there would be negligible numbers of workers visiting the project site on a temporary basis to implement the ECP and install vineyards. Up to 12 workers would also visit the site on a seasonal basis for subsequent vineyard operations. No road

closures would be required to implement the project, and there would not be a permanent substantial increase in the number of people working or residing at or near the project site. Therefore, the proposed project would not impair implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan, and the impact would be less than significant.

- g. No structures are proposed as part of the project. The project site is located in an area identified as having moderate fire severity adjacent to forest with high fire severity (CALFIRE 2007 - <https://egis.fire.ca.gov/FHSZ/>). The risk of fire in vineyards is 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 vegetation and the management of vineyards 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 the impact would be less than significant.

X.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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 checked="" type="checkbox"/>	<input 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 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?	<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. The County of Napa has not adopted or implemented any mandatory water use restrictions. 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 general, recent studies have found that groundwater levels in the Napa Valley Floor exhibit stable long-term trends with a shallow depth to water. Historical trends in the Milliken-Sarco-Tulucay (MST) area, however, have shown increasing depths to groundwater, but recent stabilization in many locations. Groundwater availability, recharge, storage and yield are not consistent across the County. More is known about the resource where historical data have been collected. Less is known in areas with limited data or unknown geology. In order to fill existing data gaps and to provide a better understanding of groundwater resources in the County, the Napa County Groundwater Monitoring Plan recommended 18 Areas of Interest (AOIs) for additional groundwater level and water quality monitoring. Through the well owner and public outreach efforts of the Groundwater Resources Advisory Committee (GRAC,) approximately 40 new wells have been added to the monitoring program within these areas. Groundwater Sustainability Objectives were developed and recommended by the GRAC and adopted by the Board. The recommendations included the goal of developing sustainability objectives, providing a definition, and explaining the shared responsibility for Groundwater Sustainability and the important role of monitoring as a means to achieving groundwater sustainability.

In 2009, Napa County began a comprehensive study of its groundwater resources to meet identified action items in the County's 2008 General Plan update. The study, by Luhdorff and Scalmanini Consulting Engineers (LSCE), emphasized developing a sound understanding of groundwater conditions and implementing an expanded groundwater monitoring and data management program as a foundation for integrated water resources planning and dissemination of water resources information. The 2011 baseline study by LSCE, which included over 600 wells and data going back over 50 years, concluded that "the groundwater levels in Napa County are stable, except for portions of the MST district". Most wells elsewhere within the Napa Valley floor with a sufficient record indicate that groundwater levels are more affected by climatic conditions, are within historical levels, and seem to recover from dry periods during subsequent wet or normal periods. The LSCE Study also concluded that, on a regional scale, there appear to be no current groundwater quality issues except north of Calistoga (mostly naturally occurring boron and trace metals) and in the Carneros region (mostly salinity). The project site is located in the Angwin subarea according to the Napa County Groundwater Monitoring Plan 2013.

Minimum thresholds for water use have been established by the Department of Public Works using reports by the United States Geological Survey (USGS). These reports are the result of water resources investigations performed by the USGS in cooperation with the Napa County Flood Control and Water Conservation District. Any project which reduces water usage or any water usage which is at or below the established threshold is assumed not to have a significant effect on groundwater levels.

- a. The project site is located in the Conn Creek (Upper Reach) and Moore Creek subwatersheds, upstream of the Napa River. The Napa River is designated 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 CWA. 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"<sup>14</sup>; 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.

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<sup>14</sup> 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.

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 Board<sup>15</sup>.

There is one ephemeral stream that is avoided by the proposed project with a minimum 35-foot setback. The stream is located just west of the proposed development area (Block 2).

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 development area. Agricultural Erosion Control Plan #P20-00304-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.

Because the project site is located within the Lake Hennessey Reservoir Domestic Water Supply Drainage, a copy of the ECP was mailed to the City of Napa Public Works Division on January 4, 2021 for review. The City replied on January 29, 2021, that the proposed erosion control measures are sufficient to safeguard against an increase (by no more than 1% individually or 10% cumulatively) of sediment or other pollutants into the City's reservoir (Lake Hennessey)(**Exhibit G**).

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 or otherwise substantially degrade surface or groundwater quality. Less than significant impacts are anticipated.

- b. The proposed vineyard would be irrigated using groundwater from the one existing well on the project site, located immediately north of proposed Block 1 boundaries and over 1,200 feet from the nearest water course. A Water Availability Analysis (WAA) was prepared in order to determine the effects of the increase in water demand on groundwater as a result of the proposed project (Richard C. Slade and Associates, December 2020 - **Exhibit E**). The WAA estimates the onsite groundwater recharge, overall availability, and use, both existing and proposed, in order to assess potential impact on groundwater. There are no wells within 500 feet of the project well; therefore, a WAA that includes a Tier 2 analysis (Well and Spring Interference Criterion) is not necessary for this project.

There are no existing well water demands for the development area as the hay fields are irrigated using treated wastewater. Typically, the annual irrigation season ranges from late May to September. Water use for frost protection is not proposed. After full development, the proposed project would result in approximately 18 acre-feet of water per year (AF/year) of new groundwater demand to irrigate the approximately 35.9 net acres of new vineyard (**Table 9**).

**Table 9 – Pre- and Post-Development Area Water Use**

Development Area Water Use	Pre-project (acre-feet/year)	Post-project (acre-feet/year)
Vineyard irrigation	0	18
<b>Total</b>	<b>0</b>	<b>18</b>

Source: Richard C. Slade and Associates, December 2020 - **Exhibit D**

Groundwater Recharge: Long-term average groundwater recharge can be estimated as the percentage of rainfall that falls on the project site 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 WAA, which uses an average annual rainfall of 38.8 inches per year over the approximately 103.8 acres<sup>16</sup> of the project site's land area available for recharge and a 21% deep percolate recharge estimate, estimates the average annual groundwater recharge of project site to be approximately 70.4 AF/year (see **Exhibit E** for details and calculations). 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.

To determine the annual average rainfall in the WAA, several data sources were considered as identified in **Table 10** (Comparison of Rainfall Date Sources). The use of 38.8 inches per year is based on the data source (Angwin PUC) with a relatively long period of record (80 years), and is more site-specific (i.e., closer to the project site), when compared to the other rainfall data sources listed in Table 11,

<sup>15</sup> [https://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/agriculture/vineyard/](https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/agriculture/vineyard/)

<sup>16</sup> The WAA assumed infiltration in areas with slopes greater than 30% on the project site was 0%.

which exist at different elevations than the project site, and/or are located at a significant distance from the project site, and/or have a shorter period of available data (Richard C. Slade and Associates, December 2020 – **Exhibit E**). If the more conservative average annual rainfall (38.8 inches) were utilized the estimated annual average recharge would be approximately 70.4 AF/yr.

**Table 10 – Comparison of Rainfall Data Sources**

Rain Gauge / Data Source	Years of Available Rainfall Record	Average Annual Rainfall in Inches (feet)	Elevation of Rain Gauge (feet msl) <sup>1</sup>	Distance from Project Site <sup>1</sup>
WRCC Angwin PUC	Water Year (WY) 1943-44 through WY 2019-20 <sup>3</sup>	38.8 (3.23)	1,715	0.5 mile
WRCC St Helena	WY 1907-08 through WY 2019-20 <sup>2</sup>	33.3 (2.78)	225	5.5 miles
CDEC Atlas Peak	WY 1988-89 through WY 2019-20 <sup>4</sup>	40.0 (3.33)	1,660	14.7 miles
PRISM	1981 to 2010	42.3 (3.53)	--	--
Napa County Isohyetal Map	1900 to 1960	35.0 (2.92)	--	--

<sup>1</sup> The subject property is located at elevations between ±1,800 and ±1,840 feet above sea level (asl).

<sup>2</sup> Missing and/or erroneous rainfall data in: 1907; 1915-1922; 1979-1980; 1985-1988; 1992; and 2011-2012.

<sup>3</sup> Missing and/or erroneous rainfall data in: 1940-1943; 1946-1947; 1975; 1987; and in 2011.

<sup>4</sup> Missing and/or erroneous rainfall data in: 1987-88; 1994-95; 1995-96; 2004-05; and 2006-07.

Source: Richard C. Slade and Associates, December 2020 - **Exhibit D**

As proposed the project is estimated to have an annual onsite future groundwater demand of 18 AF/year, which is below the estimated average annual recharge volume of 70.4 AF/year identified in the WAA (**Exhibit E**).

The WAA also estimated the potential groundwater in storage and the effects of a prolonged drought to assist in evaluating potential groundwater impacts of the project. The estimated groundwater in storage beneath the project site (as of October 2020) is approximately 874 AF, and a “prolonged drought period” would last six years where rainfall would be 32% of the average annual rainfall.

To meet six years of proposed groundwater demand for the proposed project water uses, a total onsite groundwater extraction of 108 AF is estimated to be required for the subject property (18 AF/yr times 6 years). Assuming groundwater recharge is reduced to 32% of the average annual recharge during such a theoretical “prolonged drought period”, the resulting total of groundwater recharge that might occur during the six-year drought period for the subject property is estimated to be approximately 135 AF (22.5 AF/yr times 6 years). Therefore, assuming a theoretical six-year drought period during which only 32% of the average annual rainfall might occur, a conservative estimate of the total drought-period recharge at the subject property (135 AF) would be greater than the estimated total onsite groundwater demand (108 AF) that may occur over the same six-year period (**Exhibit E**).

Considering: i) anticipated annual water use of the project site for proposed use of approximately 18 AF/year is below the project site’s anticipated annual groundwater recharge rate of approximately 70.4 AF/year; ii) proposed water use (18 AF/yr) is below a more conservative groundwater recharge rate of approximately 22.5 AF/yr based on lower annual rainfall (32% of average); iii) overall water use during a theoretical six year drought period (108 AF) would be less than anticipated recharge of approximately 135 AF during the same period; iv) there is no evidence to date indicating that there are groundwater problems or declining well production in the this area of the County; and v) incorporation of the standard water use condition below to reduce potential impacts associated with 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:** This condition is implemented jointly by the Public Works and PBES Departments:

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.

Erosion control measures and plan features that are not anticipated to affect drainage patterns but would assist in minimizing the potential for increased erosion and water runoff include a no-till cover crop with vegetative cover densities of between 75% and 80% (including vegetated avenues and turnaround avenues), and the annual application of straw mulch cover on all disturbed areas at a rate of 3,000 pounds per acre. Cover densities as specified for the individual vineyard blocks are as follows: 75% for proposed Blocks 1 and 3 and 80% for proposed Blocks 2A, 2B, 2C, and 2D. These features would slow and filter surface runoff water, thereby minimizing sediment, nutrients, and chemicals from leaving the development area and entering nearby aquatic resources. Refer to **Exhibit E** for details related to the following discussion.

Proposed erosion control and project features that have the potential to alter natural drainage patterns include rock filled avenues and rock filled level spreaders (used in tandem or individually), drop inlets and surface drainline, the repair and maintenance of diversion ditches, and straw wattles. These features are not anticipated to significantly alter the exiting topography or drainage patterns of the project site, or direct surface flows into other watersheds (as further described below). As discussed in **Section VII (Geology and Soils)**, erosion control features would maintain soil losses below the tolerable levels for the soil types found on the project site and ensure (in conjunction with the cover crop) that no net increase in erosion sediment conditions occurs as a result of the proposed project, and that the proposed project is anticipated to decrease soil loss as compared to existing conditions.

A Hydrologic Analysis for the proposed project was prepared by the PPI Engineering (PPI Engineering, November 2020 - **Exhibit E**). The development area is contained within eleven watershed basins. Watershed 1 drains into an unnamed swale that flows towards Howell Mountain Road. Watershed 2 flows into an unnamed ephemeral stream that flows out of the project area towards Howell Mountain Road. Watershed 3 flows into a roadside ditch along the east side of Howell Mountain Road. Runoff in Watershed 4 flows in a ditch west of the runway and enters a series of culverts under the dirt road. From here, runoff flows into an unnamed swale that outlets to the roadside ditch east of Howell Mountain Road. Watershed 5 flows to an unnamed swale, and Watershed 6 flows into a separate unnamed swale, both of which flow toward Howell Mountain Road. Watershed 7 flows through proposed Block 3 and into a nearby reservoir. Watershed 9 flows south into a swale that dissipates into a meadow south of proposed Block 3. Watershed 10 flows east to a meadow, and Watershed 11 flows east to another separate meadow (**Exhibit E**). The Hydrologic Analysis utilized the Natural Resource Conservation Service Technical Release 20 (TR-20) method to conclude that there would not be an increase in peak flow for all watersheds in the development area (**Table 11**).

**Table 11 – HydroCAD Hydrologic Modeling Calculations (TR-20) 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
<b>Watershed 1</b>				
Pre-project conditions	2.02	4.23	6.70	7.77
Post-project conditions	2.02	4.23	6.70	7.77
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 2</b>				
Pre-project conditions	9.38	19.64	31.09	36.07
Post-project conditions	9.38	19.64	31.09	36.07
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 3</b>				
Pre-project conditions	2.28	5.15	8.45	9.91
Post-project conditions	2.28	5.15	8.45	9.91
Change (cfs)	0	0	0	0



Change (%)	0	0	0	0
<b>Watershed 4</b>				
Pre-project conditions	8.45	17.34	27.20	31.51
Post-project conditions	8.45	17.34	27.20	31.51
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 5</b>				
Pre-project conditions	2.50	4.88	7.45	8.57
Post-project conditions	2.50	4.88	7.45	8.57
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 6</b>				
Pre-project conditions	2.16	4.22	6.44	7.41
Post-project conditions	2.16	4.22	6.44	7.41
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 7</b>				
Pre-project conditions	4.56	9.32	14.57	16.87
Post-project conditions	4.56	9.32	14.57	16.87
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 8</b>				
Pre-project conditions	0.68	1.39	2.18	2.52
Post-project conditions	0.68	1.39	2.18	2.52
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 9</b>				
Pre-project conditions	1.07	2.31	3.72	4.34
Post-project conditions	1.07	2.31	3.72	4.34
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 10</b>				
Pre-project conditions	1.36	2.90	4.64	5.41
Post-project conditions	1.36	2.90	4.64	5.41
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0
<b>Watershed 11</b>				
Pre-project conditions	1.02	2.23	3.59	4.18
Post-project conditions	1.02	2.23	3.59	4.18
Change (cfs)	0	0	0	0
Change (%)	0	0	0	0

Source: PPI Engineering, November 2020 (Exhibit E)

The proposed project would not increase runoff flow rates, consistent with General Plan Conservation Element Policy CON-50c, which states peak runoff following development cannot be greater than predevelopment 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 not directly served by a stormwater drainage system. As discussed above, no overall increase in runoff volume or decrease in time of concentration is anticipated under post-project conditions. Furthermore, as discussed in **Section VII (Geology and Soils)**, a reduction in soil loss and sedimentation 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 properly.<sup>17</sup> 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

<sup>17</sup> Compliance with Section 18.108.135 is achieved by including their provisions as conditions of approval for a project, if granted, as indicated in **Section VII (Geology and Soils)**.

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 development area. As discussed in **Section IX (Hazards and Hazardous Materials)**, the project 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 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 impact on or offsite water resources. Because the proposed project as designed is not expected to increase overall runoff rates or decrease 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 development area. As such, the proposed project is anticipated to reduce soil loss and sedimentation by approximately 3.64 tons/year, have no effect on runoff rates, and maintain development area 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, watercourses, 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.

XI.	LAND USE AND PLANNING. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 project site is in an area of Napa County with residential and agricultural land uses in the Town of Angwin. The proposed project would be located on existing farmland and, therefore, the proposed vineyard and subsequent vineyard operations would not physically divide an established community and no impact would occur.
- b. The project site is zoned as Agricultural Watershed (AW), Airport Compatibility Combination (AC), Airport (AV), Affordable Housing Combination (AH), and Planned Development (PD) and is designated under the Napa County General Plan as Agriculture, Watershed & Open Space (AWOS), Public-Institutional, and Urban Residential. Vineyards and associated improvements are permitted uses under these designations. PUC owns nearly 1,600 acres in unincorporated Angwin, Napa County. Land uses surrounding the development area consist of developed areas with residences and buildings associated with the PUC campus to the west and south and the Angwin-Parrett Airfield located adjacent to proposed Blocks 1, 2 and 3. Areas north of the development area and east of the airfield are predominantly naturally vegetated or wooded hillsides (i.e., undeveloped areas) with some areas developed with vineyards.

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 mitigation measures and conditions of approval, the proposed project has been found consistent with applicable code requirements and General Plan Goals and Policies, including but not limited to the following:

- The proposed project 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 is anticipated to decrease soil loss and potential sedimentation by approximately 3.64 tons per year and maintain runoff conditions as compared to existing conditions.
- The proposed project is consistent with Policies CON-48 and CON-50c, which require pre-development 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, sedimentation, and maintain runoff characteristics as compared to existing conditions.
- The proposed project with implementation of **Mitigation Measure BR-1** 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 Survey was prepared for the proposed project and it was determined that there are no special-status plant or animal species and associated habitat that occurs in the development area and no significant impact to fisheries, wildlife habitat, and special-status species would occur.
- With implementation of **Mitigation Measure BR-1**, and the fencing and tree/woodland conditions of approval, 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 this measure 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 Measure BR-1** and the fencing and tree/woodland conditions of approval, the proposed project is consistent with Policy CON-13, which requires discretionary projects to consider and avoid 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 proposed project is consistent with CON-16, which requires discretionary projects prepare an evaluation of biological resources. A Biological Resources Survey was prepared for the proposed project (**Exhibits B**).
- The proposed project is consistent with Policy CON-30, which encourages the avoidance of wetlands, as there are no wetlands within the development area.
- The proposed project is consistent with Policy CON-18, which encourages the reduction of impacts to habitat conservation and connectivity. With incorporation of the fencing conditions of approval, and the proposed project's small amount of proposed new fencing, wildlife movement would not be impaired.
- The proposed project is consistent with Policies CON-48 and CON-50c, which require pre-development sediment erosion conditions and runoff characteristics following development to be no greater than pre-project conditions. As discussed in **Section VII (Geology and Soils)** and **Section X (Hydrology and Water Quality)**, with incorporation of the Permanent Erosion and Runoff Control Measures condition of approval, the proposed project would reduce soil loss and sedimentation, and result in no change to runoff.
- The proposed project 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.
- The proposed project 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 proposed project is consistent with the General Plan land use designations of AWOS, Public-Institutional, and Urban Residential and is therefore consistent with Policy AG/LU-20.

For these reasons, the proposed project, with the mitigation measure and conditions of approval incorporated, would not be in 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.

XII.	MINERAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 the Syar Napa Quarry, located approximately 22 miles southeast of the project site. Proposed site improvements and development of vineyard on the project site would not physically preclude future mining activities from occurring. Therefore, no impact would occur.

XIII.	NOISE. Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 a 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 checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

a-b. The project site is located in a rural setting east of urban development in the Town of Angwin, where surrounding parcels to the east are generally undeveloped. The nearest residences are located approximately 500 feet from the development area to the west. Additionally, adjacent properties and other properties in the immediate area include the core PUC campus with campus buildings, staff and student housing, and roadways. 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 12** characterizes typical equipment noise levels at a reference distance of 50 feet. As identified in Table 12, equipment used for vineyard development could produce a maximum of 89 (A-weighted decibels) dBA at a distance of 50 feet.

**Table 12 – 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 13** 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 13 – Estimated Distance to dBA Contours from Construction Activities<sup>1</sup>**

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

<sup>1</sup> Based 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 between approximately 50 and 65 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 14** 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 14 – Estimated Distance to dBA Contours from Farming Activities<sup>1</sup>**

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

<sup>1</sup> Based 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 approximately 50 to 60 dBA 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). As the closest offsite residence would experience construction noise levels between approximately 50 to 65 dBA, noise and vibration impacts associated with project development are anticipated to be less than significant. 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 development area 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 located adjacent to the Angwin-Parrett Field Airfield; however, it is not covered by an airport land use plan (Napa County GIS: Napa Airport Compatibility Zones and USGS Quad layers). Additionally, existing fields surrounding the airfield are predominately crop lands and it is anticipated that there would be no significant change in long-term noise levels that would result in an increase in noise from the airport that could expose workers on the project site to excessive noise compared to existing conditions. Therefore, impacts would be less than significant.

XIV. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 associated with the proposed project would generate a minimal number of workers to the project site on a temporary basis, and ongoing vineyard operation and maintenance would generate a minimal number of workers to the project site on an ongoing basis. It is anticipated that these workers 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.

XV. PUBLIC SERVICES. Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) 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 workers 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.

XVI.	RECREATION. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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.



XVII. TRANSPORTATION. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 section 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. Currently, the development area is developed in hay fields. The development area is accessed from a private road from Howell Mountain Road to the west. Trucks and other equipment would use County roads or State highways for short periods during construction and subsequent vineyard operation.

In accordance with Senate Bill 743, the California Natural Resources Agency adopted the new State CEQA Guidelines Section 15064.3(b) in December 2018. These revisions to the State CEQA Guidelines' criteria for determining the significance of transportation impacts focus primarily on projects in transit priority areas. The revisions shift the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person. The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of Section 15064.3(b) immediately. The provisions of Section 15064.3(b) became effective statewide on July 1, 2020.

Although General Plan Policy CIR-7 addresses VMT reduction efforts specific to development projects or modifications, Napa County has not yet formally adopted updated transportation significance thresholds or updated procedures for analyzing transportation impacts related to VMT. Because Napa County has not finalized or adopted the regulations of Senate Bill 743, this initial study analysis relies on guidance from the California Governor's Office of Planning and Research's December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Guidelines) to determine the significance of transportation impacts (OPR 2018).

The transition to VMT was required of lead agencies as of July 1, 2020. The Circulation Element includes new policies that reflect this new regulatory framework for transportation impact assessment, along with a draft threshold of significance that is based on reduction of VMT compared to the unmitigated project rather than the regional average VMT (Draft Policies CIR-7 through CIR-9). Staff believes this alternative approach to determining the significance of a project's transportation impacts would be better suited to this County's rural context, while still supporting the efforts of the County to achieve the greenhouse gas emissions goals of its pending Climate Action Plan. The reduction in VMT and, correspondingly, GHG emissions from the transportation sector, is also necessary for Napa County, the region, and the state to achieve long-term, statewide mandates targeted toward reducing GHG emissions. Such mandates include, but are not limited to Executive Orders S-3-05 and B-16-12, which respectively, set a general statewide GHG emissions reduction target of 80 percent below 1990 levels by 2050, and an 80 percent GHG emissions reduction below 1990 levels (also by 2050) specifically for the transportation sector.

As defined in State CEQA Guidelines Section 15064.3(a), VMT refers to the amount and distance of automobile travel attributable to a project. The Technical Guidelines further explain that in Section 15064.3, the "automobile" "refers to on-road passenger vehicles, specifically cars and light trucks." For this reason, the focus of this VMT analysis is on trips by passenger vehicles (i.e., cars and light trucks) generated by the proposed project. However, this Initial Study also includes an analysis of greenhouse gas emissions associated with heavy truck traffic generated by the proposed project (as well as other traffic); it also addresses potential impacts of all project vehicles, including heavy trucks, related to air quality and greenhouse gas emissions (See Section III *Air Quality*, and Section VIII *Greenhouse Gas Emissions*, respectively.)

Vineyard construction would require six truck trips delivering heavy equipment during the first two weeks of construction and over the last two months of the construction. The proposed project is expected to generate approximately six passenger vehicle/truck round trips per

day during construction, six days a week from April to October. Six truck trips would deliver and remove heavy equipment at the start and end of project construction. Typical construction equipment anticipated for construction includes a tractor and disk, excavators, bulldozers, loaders, water truck, and farm tractors with trailers. Pruning would occur in March approximately seven days of the year and is anticipated to require up to eight workers, resulting in approximately two round trips per day during pruning. Weed control would occur in February, May, and July (outside of pruning months) four times a year and would require up to eight workers. Harvest would occur on approximately ten days during the year and is anticipated to require up to 12 workers, and two grape haul trucks during harvest resulting in up to 20 round trips per day during harvest. Vehicular equipment for ongoing vineyard maintenance is anticipated to include a tractor with trailer, an ATV, and passenger vehicles 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 3 a.m. and departing around 6 a.m.

As indicated above, Technical Guidelines provide a screening criterion that could be used to determine whether a VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause less-than-significant transportation impacts. As indicated above, construction of the proposed project would generate up to approximately six round trips per day, and periodically up to eight one-way truck trips per day. And vineyard operation would generate during harvest up to approximately 10 to 12 one-way worker trips, and two one-way truck trip per day (resulting in up to 20 round trips per day). Other typical vineyard operations (as outlined above) are anticipated to generate up to six one-way trips per day during the days these activities occur. 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. Additionally, daily trips associated with the project would be temporary and seasonal in nature, further supporting conformance and observance of this screening criterion.

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. 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 proposed project would utilize the existing site access off Howell Mountain Road for project development (**Figures 1-3**). The proposed project does not include roadway improvements and/or modifications to Howell Mountain Road, 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 project site and other agricultural uses in the area. Therefore, the potential for the creation of or substantial increase in hazards due to a geometric design feature or 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. Refer to **Section IX, Hazards and Hazardous Materials**, for additional discussion related to emergency access.

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:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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"/>
b) 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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

consider the significance of the resource to a California Native American tribe.

**Discussion:**

Notice of the proposed project was sent to the Middletown Rancheria, Mishewal Wappo Tribe of Alexander Valley, and Yocha Dehe Wintun Nation on January 4, 2021. The County received a response letter from Yocha Dehe Wintun Nation on February 17, 2021, indicating that the project area is not located within the aboriginal territories of the Yocha Dehe Wintun Nation, and requested that correspondence be deferred to Middletown Rancheria. On August 16, 2021, the County replied to Yocha Dehe Wintun Nation and closed the consultation invitation because the Tribe did not request consultation and more than 30 days had elapsed since the County's consultation invitation was received.

The County conducted a site visit with Middletown Rancheria on February 16, 2021. The County received a letter from Middletown Rancheria on February 18, 2021, providing periodic and spot-check monitoring mitigation measures to be incorporated into the project due to the possibility of unearthing tribal cultural resources. On February 19, 2021, the County received an email from Middletown Rancheria stating that the mitigation measures provided (i.e., on February 18, 2021) should be incorporated into the environmental document and project approval, if granted. On August 16, 2021, the County replied to Middletown Rancheria affirming that the requested periodic and spot-check monitoring mitigation measures provided by the Tribe would be included in the environmental document and project approval, if granted.

The County sent consultation closure notices to Middletown Rancheria and Mishewal Wappo Tribe of Alexander Valley on August 16, 2021.

a-b. As discussed in **Section V (Cultural Resources)** the proposed project's cultural resource reconnaissance survey (Flaherty Cultural Resource Services, February 2020), identified no cultural resources within the vineyard blocks and clearing boundaries. Additionally, no resources that may be significant pursuant to Public Resources Code Section 5024.1(c) have been identified or are anticipated onsite. The Cultural Resources conditions of approval discussed in **Section V (Cultural Resources)** would avoid and reduce potential impacts to unknown resources.

Based on the site visit that the County conducted with Middletown Rancheria on February 16, 2021, **Mitigation Measure TR-1** would be implemented to minimize the potentially significant impacts on tribal cultural resources to a less than significant level.

**Mitigation Measure TR-1:** The owner/permittee shall revise Erosion Control Plan #P20-00304-ECPA prior to approval to include the following measures to minimize the potential to impact tribal cultural resources:

- a. Prior to the initial ground disturbance, the applicant shall retain a project Tribal Cultural Advisor designated by the Tribe, to direct all mitigation measures related to tribal cultural resources.
- b. Ground disturbing activities occurring in conjunction with the project (including surveys, testing, concrete pilings, debris removal, rescrapes, punch lists, erosion control (mulching, waddles, hydroseeding, etc.), pot-holing or auguring, boring, grading, trenching, foundation work and other excavations or other ground disturbance involving the moving of dirt or rocks with heavy equipment or hand tools within the project area) shall be monitored on a periodic basis by qualified tribal monitor(s) approved by the Tribe. The tribal monitoring shall be supervised by the project Tribal Cultural Advisor. Tribal monitoring should be conducted by qualified tribal monitor(s) approved by the Tribe, who is defined as qualified individual(s) who has experience with identification, collection and treatment of tribal cultural resources of value to the Tribe. The duration and timing of the monitoring will be determined by the project Tribal Cultural Advisor. If the project Tribal Cultural Advisor determines that monitoring is no longer warranted, he or she may recommend that tribal monitoring be reduced or cease entirely. Tribal monitoring would be reinstated or increased in the event of any new or unforeseen ground disturbances or discoveries.
- c. The project Tribal Cultural Advisor and tribal monitor(s) may halt ground disturbance activities in the immediate area of discovery when known or suspected tribal cultural resources are identified until further evaluation can be made in determining their significance and appropriate treatment or disposition. There must be at minimum one tribal monitor for every separate area of ground disturbance activity that is at least 30 meters or 100 feet apart unless otherwise agreed upon in writing between the Tribe and applicant. Depending on the scope and schedule of ground disturbance activities of the project (e.g., discoveries of cultural resources or simultaneous activities in multiple locations that requires multiple tribal monitors, etc.) additional tribal monitors may be required on-site. If additional tribal monitors are needed, the Tribe shall be provided with a minimum of three (3) business days advance notice unless otherwise agreed upon between the Tribe and applicant. The onsite tribal monitoring shall end when the ground disturbance activities are completed, or when the project Tribal Cultural Advisor have indicated that the site has a low potential for tribal cultural resources.
- d. All on-site personnel of the project shall receive adequate cultural resource sensitivity training approved by the project Tribal Cultural Advisor or his or her authorized designee prior to initiation of ground disturbance activities on the project. The training must also address the potential for exposing subsurface resources and procedures if a potential resource is identified. The project applicant will coordinate with the Tribe on the cultural resource sensitivity training.

- e. The project applicant must meet and confer with the Tribe, at least 45 days prior to commencing ground disturbance activities on the project to address notification, protection, treatment, care and handling of tribal cultural resources potentially discovered or disturbed during ground disturbance activities of the project. All potential cultural resources unearthed by project activities shall be evaluated by the project Tribal Cultural Advisor. The Tribe must have an opportunity to inspect and determine the nature of the resource and the best course of action for avoidance, protection and/or treatment of tribal cultural resources to the extent permitted by law. If the resource is determined to be a tribal cultural resource of value to the Tribe, the Tribe will coordinate with the project applicant to establish appropriate treatment and disposition of the resources with appropriate dignity which may include reburial or preservation of resources. The project applicant must facilitate and ensure that the determination of treatment and disposition by the Tribe is followed to the extent permitted by law. No laboratory studies, scientific analysis, collection, curation, or video recording are permitted for tribal cultural resources without the prior written consent of the Tribe.

Therefore, with implementation of **Mitigation Measure TR-1**, and the Cultural Resources conditions of approval discussed in **Section V (Cultural Resource)**, potential impacts on tribal cultural resources would be reduced to a less than significant level.

XIX.	UTILITIES AND SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	a) Require or result in the relocation or construction of a 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 wastewater 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 minimal number of workers to the project site on a temporary basis, and for ongoing vineyard operation and maintenance. It is anticipated that these workers 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 roads, vineyard and vineyard areas and/or within proposed clearing limits.

The proposed project also would include the installation of a limited number of onsite storm water drainage features such as straw wattles and a permanent vineyard cover crop, which have been designed to meet project-related storm water drainage needs. The effects of the proposed storm water drainage features 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 42.2 gross acres of vineyard (approximately 35.9 net acres) would be irrigated by an existing groundwater well located within the project site. There are currently no existing groundwater demands for the project site as the parcels are developed with hay fields that are irrigated using treated wastewater. The WAA conducted by Richard C. Slade and Associates (**Exhibit D**) concluded that after full development, water use for the 35.9 net acres of vineyard is estimated to be 18 AF/year. Based on site-specific recharge and analysis the project site is estimated to have a total average annual groundwater recharge of 70.4 AF/year. The project site's estimated water demand of 18 AF/year with the proposed project represents approximately 26% of the average annual groundwater allotment. The WAA estimated approximately 874 AF of groundwater is currently in storage beneath the project site, and that during a prolonged drought (estimated to last six years), groundwater recharge would be reduced to 32% of the average annual recharge, or 22.5 AF/year (135 AF in six years). To meet six years of groundwater demand, the proposed project (with existing and future water demands) would require 108 AF over the six-year drought period. Based on these estimates, there would be no recharge deficit during a prolonged drought. Therefore, the proposed project would have a less than significant impact on water supplies. Water availability and water use are discussed in greater detail in **Section X (Hydrology and Water Quality)**.
- c. Given the small number of workers 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 and either returned to the fields or used to surface existing roads where needed. Solid waste generated during construction activities (e.g., trash, discarded building materials, debris, etc.) would be negligible and would be cleared daily, or as necessary. Implementation of the proposed project would include pruning and harvesting activities which would generate waste material (cane). This material would generally be disposed of onsite by spreading it back into the vineyard, burning it, or a combination of the two. 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.

XX.	WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 site is located in a State Responsibility Area (SRA) that is designated as Moderate and adjacent to Very High Fire Hazard Severity Zones (CALFIRE, 2007; Napa County GIS CalFire Layers, Fire Protection Responsibility Areas and Fire Hazard Severity Zone). The project site is generally located on the eastern slope of Howell Mountain, located northeast of St. Helena, and is characterized by the near-level plateau in the vicinity of Angwin-Parrett Airfield (**Exhibit D** and **Exhibit G**). Proposed Block 1 lies just west of the runway and slopes gently toward the west. Proposed Block 2 lies adjacent to the northwestern end of the airport runway and is characterized by rolling pasture

land that slopes into gentle swales that drain to the west. Proposed Block 3 lies on a gently west-sloping pasture adjacent and south of a treated wastewater reservoir. Elevations within the project site range from approximately 1,805 to 1,920 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. Refer to **Section IX (Hazards and Hazardous Materials)** for additional discussion related to emergency access.
- 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 hay field.. The proposed project does not include any infrastructure that would exacerbate fire risk and this impact would be less than significant.
- d. Although the proposed project would alter land cover, temporary and permanent erosion control measures would be implemented for the proposed project which would reduce the impact of stormwater runoff or drainage changes being discharged on or offsite and there would not be an increase in peak flow in the development area (see **Section X [Hydrology and Water Quality]**). 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.

XXI.	MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
	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 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 that 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 #P20-00304-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.

Implementation of **Mitigation Measure BR-1** and conditions of approval would avoid potential direct and indirect impacts to potential special-status species and their habitat that could occur within the area. The proposed new vineyard blocks would be fenced individually (with proposed Blocks 2A through 2D fenced together). Given the relatively small size of the project site (relative to the width of the



nearest connectivity area) and the lack of apparent development impacts within the more central portion of the connectivity area, agricultural expansion within the project site is in and of itself unlikely to result in any significant impacts to wildlife movement or migration at the landscape linkage scale. While the proposed project (vineyard blocks) would result in portions of the site having reduced potential for on-site wildlife movement, the retention of blocks of vegetation with direct connectivity with similar habitats on neighboring properties would allow for continued local wildlife movement. As such, the proposed wildlife exclusion fencing would not introduce any new movement barriers to wildlife and impacts to wildlife movement are expected to be less than significant, and the range of special-status plant species would not be restricted, cumulative impacts are anticipated to be less than significant. One ephemeral stream is located immediately adjacent to the development area. To reduce impacts on water quality within the drainage, the proposed project has been designed to avoid the ephemeral stream with a minimum 35 foot setback in accordance with NCC 18.108.025. With incorporation of **Mitigation Measure TR-1** and standard conditions to protect cultural resources that may be discovered accidentally, significant impacts to cultural and tribal cultural resources are not expected (**Section V [Cultural Resources]**). Therefore, the proposed project as designed with the incorporation **Mitigation Measures BR-1 and TR-1** and conditions of approval, would have a less than significant potential to degrade the quality of the environment.

The project site is located within the Conn Creek (Upper Reach) and Moore Creek drainages. The Conn Creek (Upper Reach) Drainage contains approximately 2,623 acres. In 1993, vineyard acreage within this drainage was approximately 234 acres, or 8.9% of the drainage. Since 1993 approximately 204 acres of additional vineyard (or 7.8% of the drainage) have been developed to vineyard, resulting in approximately 16.7% of the drainage (or approximately 437 acres) containing vineyard.

It is estimated, based on evaluation of the County's GIS layer identifying Potentially Productive Soils (PPS) within the Conn Creek (Upper Reach) Drainage, that there are approximately 1,163 acres (44.3% of the drainage) having the potential to be developed to vineyard, this in conjunction with existing and approved vineyard development (approximately 437 acres) results in a total potential build out of approximately 1,600 acres or approximately 60.1% 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.

While it is not possible to quantify precisely the acreage and location of additional vineyard development that may be proposed by property owners in this drainage 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., Conn Creek [Upper Reach] Drainage) over the last 25 years (1993-2018) were used to project an estimation of vineyard development for the next three to five years. Over the past 25 years within the Conn Creek (Upper Reach) Drainage, approximately 17.5 acres of agriculture were developed per year (437 divided by 25).

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 52.5 to 87.5 acres over the next three to five years within the Conn Creek (Upper Reach) Drainage 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.

The Moore Creek Drainage contains approximately 4,571 acres. In 1993, vineyard acreage within this drainage was approximately 80 acres, or 1.8% of the drainage. Since 1993 approximately 54 acres of additional vineyard (or 1.2% of the drainage) have been developed to vineyard, resulting in approximately 2.9% of the drainage (or approximately 134 acres) containing vineyard. It is estimated, based on evaluation of the County's GIS layer identifying Potentially Productive Soils (PPS) within the Moore Creek Drainage, that there are approximately 870 acres (19.0% of the drainage) having the potential to be developed to vineyard, this in conjunction with existing and approved vineyard development (approximately 134 acres) results in a total potential build out of approximately 1,004 acres or approximately 22.0% of the drainage. 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., Moore Creek Drainage) over the last 25 years (1993-2018) were used to project an estimation of vineyard development for the next three to five years. Over the past 25 years within the Moore Creek Drainage, approximately 5.4 acres of agriculture were developed per year (134 divided by 25). 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 16.2 to 27 acres over the next three to five years within the Moore Creek Drainage are considered reasonable estimates.

### ***Air Quality and GHG - Sections III and VIII:***

The proposed project (#P20-00304-ECPA) includes the removal of vegetation and installation of vineyard and erosion control measures concurrent with other projects in the San Francisco Bay Area Air Basin that would generate emissions of criteria pollutants, including suspended PM and equipment exhaust emissions. For construction-related dust impacts, the Regional Water Board recommends that significance be based on the consideration of the control measures to be implemented (Regional Water Board, May 2017). As discussed in **Section III (Air Quality)** and shown in **Table 4** (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 proposed project would be subject to standard air quality conditions of approval (should the proposed project be approved) that requires implementation of Air Quality BMPs to further reduce potential less than significant air quality effects of the proposed 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. 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 standard conditions of approval.

### ***Biological Resources - Section IV:***

A project-specific Biological Resource Survey (Floyd Hayes, Ph.D. and Aimee Wyrick-Brownworth, M.Sc. November 2020 - **Exhibit B**) was performed for the proposed project to evaluate potential habitat loss and disturbance to plant and wildlife species as a result of the proposed project. The survey included a records search to identify the presence or potential presence of special-status species within the project area. The records search included the USFWS, CNDDDB, and CNPS databases. As discussed in **Section IV (Biological Resources)**, no wetlands or streams were identified in the development area. No special-status plant species are present within the development area and no special-status animal species have the potential to occur within the development area. Furthermore, with the implementation of **Mitigation Measure BR-1** and conditions of approval, impacts on species that could occur within the area (i.e., nesting birds) would be less than significant. Therefore, the proposed project would not contribute to a cumulatively significant impact to special-status plants and animals or habitats.

### ***Cultural and Tribal Resources – Sections V and XVIII:***

The cultural resource reconnaissance survey (Flaherty Cultural Resource Services, February 2020) identified no cultural resources in the development area. However, a site visit conducted with Middletown Rancheria on February 16, 2021 resulted in the request to include periodic and spot-check monitoring mitigation measures to reduce the possibility of unearthing tribal cultural resources, as discussed in **Section XVII (Tribal Cultural Resources)**. Implementation of **Mitigation Measure TR-1** and the incorporation of standard conditions to protect cultural and tribal cultural resources that may be discovered accidentally, significant impacts to cultural and tribal cultural resources would be less than significant (see **Section V [Cultural Resources]** and **Section XVII [Tribal Cultural Resources]**). Therefore, with the incorporation of **Mitigation Measure TR-1** and the identified conditions of approval, the proposed vineyard development project would have a less than significant project-specific and cumulative impact on cultural and 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 3.64 tons/year as compared to existing conditions (**Table 5**). The reasons for this reduction is due to the increased vegetative cover conditions within the proposed vineyard development areas and the installation of straw wattles that reduce overland flow velocities and erosive power, and trap eroded soil on-site, thereby reducing soil loss potential. Because the proposed project would reduce soil loss as compared to existing conditions, the proposed project is not anticipated to contribute cumulatively to sediment production within the Lake Hennessey Reservoir Domestic Water Supply Drainage. 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 and the County's General Plan Goals and Policies (in particular General Plan Conservation Element Policy CON-48, which 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 X:***



Water use calculations provided in the WAA prepared by Richard C. Slade and Associates (December 2020 - **Exhibit D**) indicate that the proposed development consisting of approximately 35.9 net acres of planted vineyard would result in approximately 18 AF/year of groundwater use (**Table 9**).

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 rainfall for the area (approximately 38.8 inches per year) and the size of the project site (approximately 103.8 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 21% of average rainfall or 70.4 AF/year would be available for groundwater recharge.

Considering the anticipated water use for existing uses and proposed vineyard of 18 AF/year is below the project site's anticipated annual groundwater recharge rate of approximately 70.4 AF/year, and with implementation of the standard water use condition, potential impacts associated with groundwater use would be further reduced and 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 discussed in **Section X.c (Hydrology and Water Quality)** a Hydrologic Analysis utilizing the TR-20 Runoff Model has been prepared by PPI Engineering (PPI Engineering, November 2020 - **Exhibit E**). Because the proposed project does not include new 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 E**). 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, which 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.

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 to 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 proposed 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. Periodic use of lighting at the site would not create a substantial source of light and lighting would be in the form of heat lights or downward directional lights on equipment being used during nighttime harvest. The potential contribution to aesthetic impacts associated with the proposed project is considered to be less than cumulatively considerable. The proposed project does not conflict with any current zoning for agricultural or forestry use, nor does the proposed 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 proposed project are considered less than cumulative considerable. The proposed project does not include the construction of structures that would result in population growth or displacement of people, would not adversely impact current or future public services, and would not require the need for utilities and service systems. For these reasons, impacts associated with the proposed 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 proposed 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 the proposed project that may be individually limited, but cumulatively considerable, would be less than significant.

- c. Implementation of the proposed 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 project site, 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.

**LIST OF FIGURES:**

- Figure 1 Site Location Map (USGS)
- Figure 2 Site Location Map (Aerial)
- Figure 3 Project Site and Project Area Air Photo

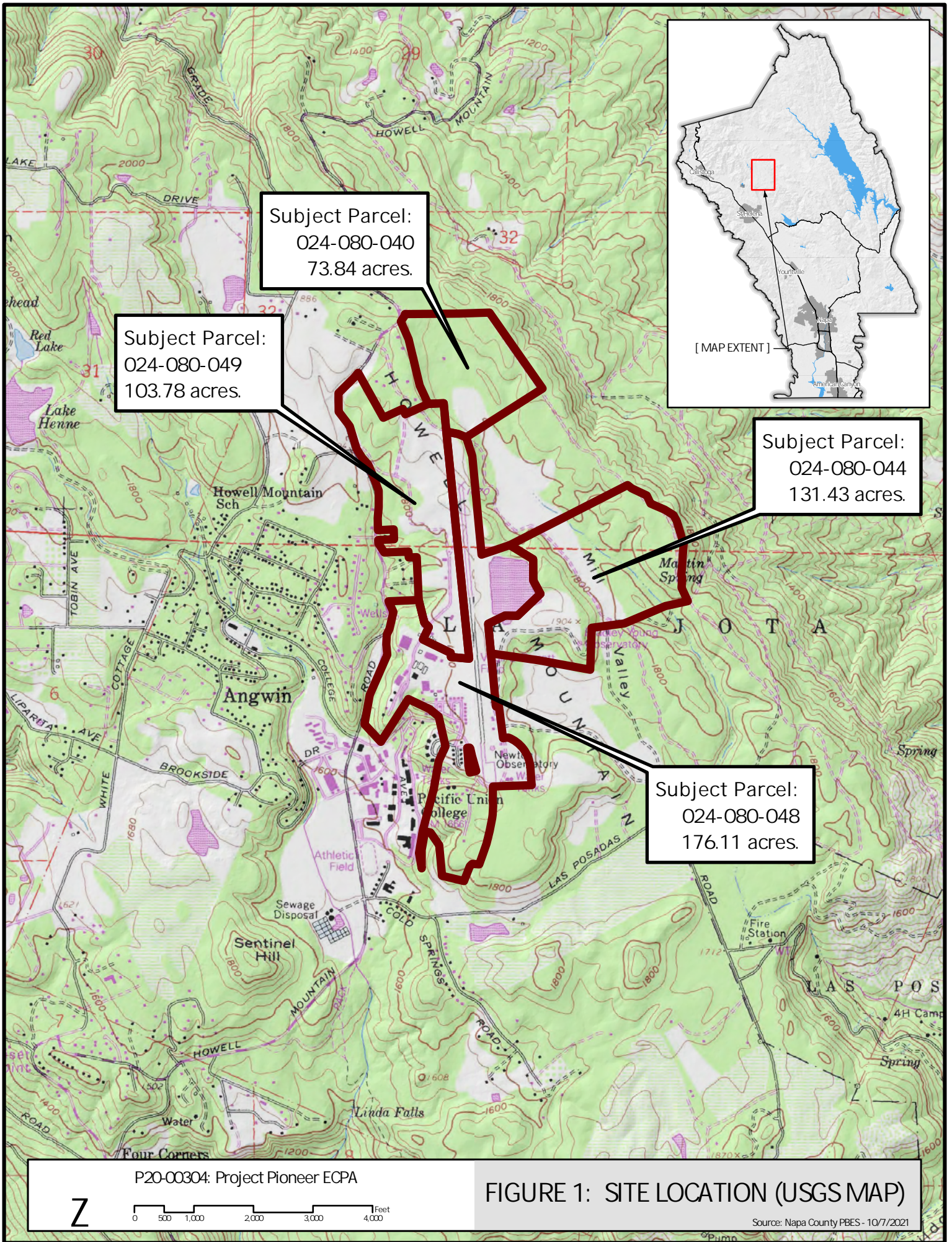
**LIST OF TABLES:**

- Table 1 Proposed Vineyard Block Acreage
- Table 2 Implementation Schedule
- Table 3 Annual Operations Schedule
- Table 4 Emissions from Vineyard Development and Operation
- Table 5 USLE Soil Loss Analysis
- Table 6 Estimated Development Area Carbon Stocks/Storage
- Table 7 Estimated Project Carbon Emissions Due to Vegetation Removal
- Table 8 Estimated Overall Project-Related GHG Emissions
- Table 9 Pre- and Post-Development Area Water Use
- Table 10 Comparison of Rainfall Data Sources
- Table 11 Hydrologic Modeling Calculations (TR-20) Results: Runoff Rates
- Table 12 Construction Equipment Noise Emission Levels
- Table 13 Estimated Distance to dBA Contours from Construction Activities
- Table 14 Estimated Distance to dBA Contours from Farming Activities

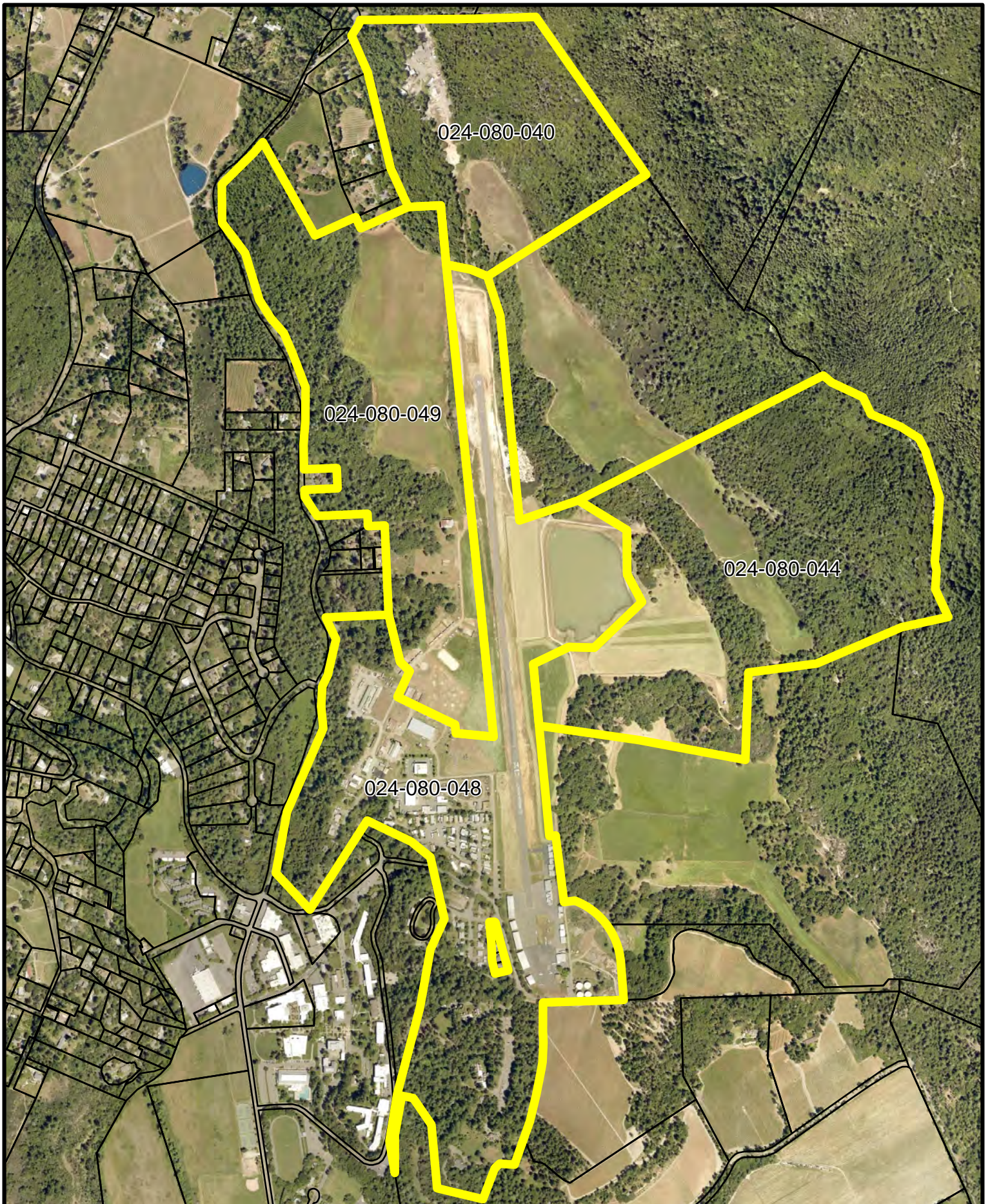
**LIST OF EXHIBITS:**

- Exhibit A Agricultural Erosion Control Plan # P20-00304-ECPA
- Exhibit B Biological Resources Survey
- Exhibit C Soil Loss Analysis
- Exhibit D Water Availability Analysis
- Exhibit E Hydrologic Analysis
- Exhibit F Engineering Geological and Geotechnical Evaluation
- Exhibit G Application Submittal Materials and Correspondence
- Exhibit H Project Revision Statement









P20-00304: Project Pioneer ECPA

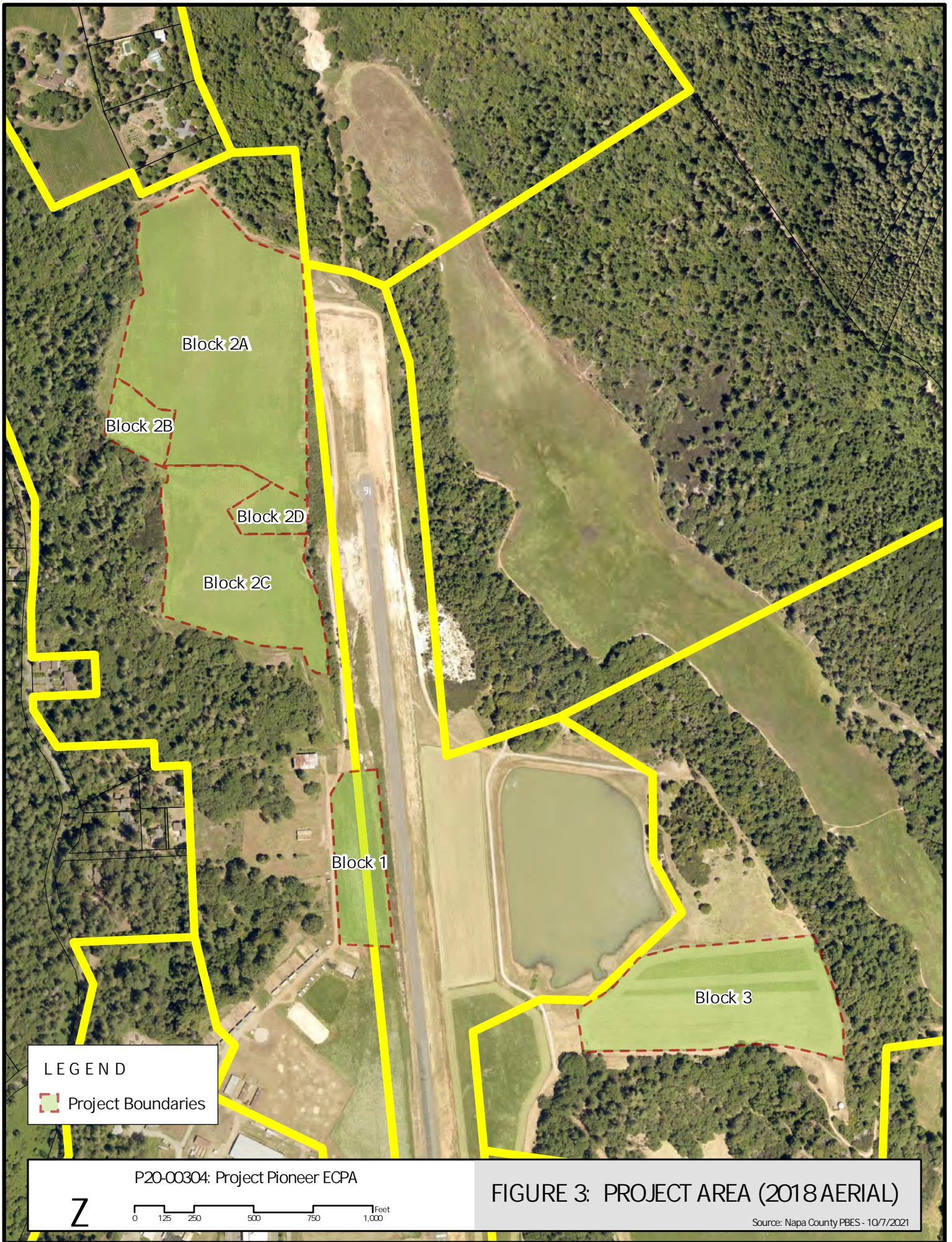


0 250 500 1,000 1,500 2,000 Feet

FIGURE 2: SITE LOCATION (2018 AERIAL)

Source: Napa County PBES - 10/7/2021





LEGEND  
Project Boundaries

P20-00304: Project Pioneer ECPA



0 125 250 500 750 1,000 Feet

FIGURE 3: PROJECT AREA (2018 AERIAL)

Source: Napa County PBES - 10/7/2021