A Tradition of Stewardship
A Commitment to Service

COUNTY OF NAPA
CONSERVATION, DEVELOPMENT, AND PLANNING DEPARTMENT
1195 3rd Street, Suite 210
Napa, CA 94559
707.253.4417

Notice of Intent to Adopt a Mitigated Negative Declaration

1. Project Title & Number: Black Forest Vineyard Conversion and Creek Setback Exception
   Agricultural Erosion Control Plan (ECPA) #P09-00385-ECPA
   Conservation Regulation Use Permit Exception (UP) #P09-00243-UP

2. Property Owner: Anthony and Herta Peju

3. County contact person: Donald Barrella, Planner III, (707) 299-1338, donad.barrella@countyofnapa.org

4. Project location and APN: 321 Dutch Henry Canyon Road, Calistoga, CA 94515: APN 018-060-068

5. Project Sponsor: Anthony Peju, 8466 St. Helena Highway, Rutherford, CA 94573
   c/o Jeff Redding, 2423 Renfrew Street, Napa, CA 94558

6. General Plan designation: Agriculture, Watershed & Open Space (AWOS)

7. Zoning: Agricultural Watershed (AW)

8. Brief Description of the Project: Agricultural Erosion Control Plan (#P09-00385-ECPA) for a proposed ±14.2-acre vineyard (±12 net vine acres) and Use Permit Exception (#P09-00343-UP) to reduce the stream setbacks required pursuant to Chapter 18.108.025 of the Napa County Code (Conservation Regulations – Stream setbacks) of 85 feet and 105 feet down to between 61 and 42 feet for the retention of approximately ±0.44-acres (±19,710 square feet) to ±0.5-acres (±21,780 square feet) of existing vineyard located within required stream setbacks, and subsequent vineyard operation and maintenance.

9. The project site is not located on the lists enumerated under Section 65962.5 of the Government Code, including, but not limited to lists of hazardous waste facilities.

PRELIMINARY DETERMINATION:

The Napa County Director of Conservation, Development, and Planning has tentatively determined that the project analyzed in the attached initial study checklist would not have a significant effect on the environment and the County intends to adopt a mitigated negative declaration. Copies of the proposed mitigated negative declaration and all documents referenced are available for review at the offices of the Napa County Conservation, Development, and Planning Department, 1195 Third St., Suite 210, Napa, CA 94559 between the hours of 8:00 AM and 4:45 PM Monday through Friday (excepting holidays).

December 30, 2010
DATE OF THIS NOTICE

BY: Donald Barrella

WRITTEN COMMENT PERIOD: January 3, 2011 – February 1, 2011

Please send written comments to the attention of Donald Barrella at 1195 Third St., Suite 210, Napa, CA. 94559, or via e-mail to donlad.barrella@countyofnapa.org.

COUNTY OF NAPA
CONSERVATION, DEVELOPMENT & PLANNING DEPARTMENT
1195 THIRD ST., ROOM 210
NAPA, CA 94559
(707) 253-4416

Initial Study Checklist
(Reference CEQA, Appendix C)

1. **Project title:** Black Forest Vineyard Conversion and Creek Setback Exception
   Agricultural Erosion Control Plan (ECPA) #P09-00385-ECPA
   Conservation Regulation Use Permit Exception (UP) #P09-00243-UP

2. **Property owner:** Anthony and Herta Peju

3. **Contact person and phone number:** Donald Barrella, Planner III, (707) 299-1338, donald.barrella@countyofnapa.org

4. **Project location and APN:** 321 Dutch Henry Canyon Road, Calistoga, CA 94515: APN 018-060-068 (**Figure 1**)

5. **Project sponsor's name and address:** Anthony Peju, 8466 St. Helena Highway, Rutherford, CA 94573
   c/o Jeff Redding, 2423 Renfrew Street, Napa, CA 94558

6. **General Plan description:** Agriculture, Watershed & Open Space (AWOS)

7. **Zoning:** Agricultural Watershed (AW)

8. **Description of Project.** (including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation.)

   The proposed ±14.2-acre (±12 net acre) vineyard project includes the following: 1) maintenance of erosion control measures associated with an existing ±7.8-acre vineyard (±6.2 vine acres) within two vineyard blocks planted without benefit of an approved erosion control plan; 2) earthmoving activities and installation and maintenance of erosion control measures associated with development of ±6.4-acres of new vineyard (±5.8 net vine acres) within four vineyard blocks; 3) a Use Permit Exception request to reduce the stream setbacks required pursuant to Chapter 18.108.025 of the Napa County Code (Conservation Regulations – Stream setbacks) of 85 feet and 105 feet down to between 61 feet and 42 feet for approximately ±0.44-acres (±19,170 square feet) to ±0.5-acres (±21,780 square feet) of existing vineyard, and 4) subsequent vineyard operations, on a ±87.68-acre parcel. Typical slopes within the project boundaries range from 5% to 25%, with an average slope of approximately 11%. Approximately 30 additional trees would be removed as a result of the proposed project[1]. Rock generated from vineyard preparation activities would primarily be utilized on-site in the construction of erosion control measures (primarily outfalls/energy dissipaters), surfacing of vineyard avenues, the construction of walls, or stored on-site. Water from an existing well would be used for vineyard irrigation.

   Erosion Control Measures: Temporary erosion control measures include straw mulch applied at 4,000 pounds per acre, fiber roll dikes (straw wattles), and water bars. Permanent erosion control measures include vegetative or rock lined diversion ditches (referred to in this plan as mid vineyard diversion ditches or diversion channels), energy dissipaters/rock protected outfalls (referred to in this plan as rocked lined chute), a tile drain line (i.e. French drain line), and a permanent no-till cover crop maintained at a plant residue density of approximately 70%. Details of the proposed erosion control measures are provided in the Black Forest Vineyard Agricultural Erosion Control Plan #P09-00385-ECPA and Use Permit Exception #P09-00293-UP[2], dated May 22, 2009 (date stamped June 7, 2010), prepared under the direction of Royce Cunningham (RPE #00411985) of Monticello Engineering, Vacaville, California (**Figure 2**).

   Earthmoving: Earthmoving and grading activities associated with the installation of erosion control measures and subsequent vineyard include, but are not limited to, tree and vegetation removal, ripping to a depth of no greater than 36 inches, land smoothing and contouring, and approximately 40 cubic yards of cut and fill (balanced on-site).

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

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[1] See **Section 9 Environmental Setting** for discussion of current condition of trees on the subject site.
[2] Application materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.

a. Installation of a 10,000 gallon water tank within proposed Vineyard Block #6 for irrigation purposes.
b. Installation of wildlife exclusion fencing (8 foot tall deer fencing) around the perimeter of proposed vineyard blocks 3, 4, 5, and 6.
c. Installation of vineyard trellis and drip irrigation systems, and planting rootstock.
d. The planting of 24 native trees on-site.
e. Ongoing inspection and maintenance of temporary and permanent erosion control measures.
f. Ongoing operation and maintenance of the vineyard, which includes: vine management (pruning, fertilization, pest, and disease control), weed control, irrigation and trellis system maintenance, and fruit harvesting. Fertilization, pest and disease control would utilize state and/or federally approved fertilizers, pesticides, and herbicides.
g. A set aside of approximately 28,620 square feet (0.66 acres) of land outside the required stream setback (located on the west side of Dutch Henry Creek adjacent to proposed Vineyard Block 4) to offset potential impacts of the project, primarily the proposed retention of existing vineyard development and associated improvements (i.e. end posts, irrigation lines, vineyard avenues) currently located in the required stream setbacks along the eastern side of Vineyard Block #2.

Requirements of Stipulated Judgment, Case No. NSC 26-39559.

Pursuant to Stipulated Judgment NSC 26-39559, as a result of ±13.3-acres of earthmoving and vegetation removal, and subsequent installation of ±7.8-acres vineyard (±6.2 vine acres), that occurred between 2006 and 2007 without the benefit of an approved Agricultural Erosion Control Plan (ECPA), the following activities are required to be implemented:

- Installation of a 5 foot wide vegetated buffer/setback between an existing drainage channel/water course located along the southern property line (herein referred to as Unnamed Tributary No. 1: **Figure 4**) and existing Vineyard Block 1;
- Re-routing of a presumed drainage channel/water course located at the northwest corner of Vineyard Block 1 (herein referred to as Unnamed Tributary No. 2: **Figure 4**), starting at an existing flow-diffusion basin and associated 24 inch culvert, that was removed as part of the earthmoving activities that occurred between 2006 and 2007. The drainage channel/water course will be re-routed from the flow diffusion basin in a south-westerly direction around the perimeter of existing Vineyard Block 1 and shall connect with Unnamed Tributary 1. There will be a minimum 10 foot setback from the re-routed drainage channel/water course from any portion of the vineyard including vineyard avenues. The re-routed drainage channel/water course shall be located wholly on the subject property; and,
- Removal of an existing flow-diffusion basin and associated 24 inch culvert (removal of the culvert can be accomplished by permanently sealing the ends).

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

The proposed project would occur on a ±87.68-acre parcel (the "subject parcel") located on Dutch Henry Canyon Road approximately 0.25 miles north of its intersection with Silverado Trail (**Figure 1**). The ±14.2-acre project site is located predominately within the southern portion of the subject parcel west of Dutch Henry Creek. An existing paved roadway/drive (Dutch Henry Canyon Road) bisects the parcel in a north south direction and provides access to the subject parcel from Silverado Trail (**Figures 1 and 2**). The subject parcel is bordered to the south by existing vineyard, and to the north, east and west by undeveloped woodlands and shrub-lands.

The subject parcel is located in the northeastern end of the Napa Valley approximately 2.25 miles east of the City of Calistoga. Specifically the subject parcel and project site is located in the southern end of Dutch Henry Canyon, which is within the foothills of the Eastern mountain range. General topography of the area consists of the Napa Valley floor to the south (approximate elevation 360-feet); to the north, east, and west are more severely sloped terrain containing canyons and peaks (elevations +2700 feet) of the Eastern mountain range and associated prominent geologic features of the area (i.e. Dutch Henry Canyon, Rattle Snake Ridge, Simmons Canyon, and the Palisades). The project site is located at elevations between 390 and 490. General topography of the subject parcel consists of gentle to moderate slopes (approximately 5 to 30%) within the western half of the parcel (west of Dutch Henry Creek) and more severe slopes (30% and greater) with the eastern half of the parcel (east of Dutch Henry Creek). General topography of the project site consists of gentle to moderate south facing slopes (5% to 29%) with an approximate average slope of 18%.

The Napa County Soil Survey generally classifies the soils within the project site as Boomer-Forward-Felta Complex 5 to 30% slopes (Soil series 110). Soils in this series have medium runoff potential and slight to moderate erosion hazard.

General vegetation of the area consists predominately of vineyards to the south within the Napa Valley and a mix of oak woodlands, coniferous forest, chaparral/shrubland, and isolated hillside vineyards to the north, east, and west. General vegetation of the subject parcel consists of annual non-native grassland (±1.5-acres), oak woodland and riparian oak woodland (±21.6-acres), coniferous forest (±39 acres), chaparral/shrubland (±9 acres), existing vineyard (±7.8-acres), and cover crop (±5.5-acres) that was planted for erosion control purposes due to previous clearing. Other existing development of the parcel consists of a residence and associated landscaping, a pond, and access drive that cover ±3.3-acres. Vegetation of the project site currently consists of the ±7.8-acres of existing vineyard, ±5.5-acres of existing cover crop, and ±0.9-acres of oak woodland: it is estimated that ±13.3-acres of the project site that was previously cleared (i.e. areas currently in vineyard or cover crop) consisted of ±7.2-acres non-native grassland and ±6.2-acres oak woodland

containing ±90 trees (Napa County GIS, ICE Vegetation layer and Monticello Engineering). It is estimated that there are approximately 630 trees within the remaining ±21.6-acres of oak woodland and riparian oak woodland on the parcel: overall it is estimated that that there are approximately 1,800 trees within the remaining woodlands and forest (oak, riparian oak and coniferous) on the parcel, which cover ±60-acres. The remaining woodlands appear to contain at least approximately 30 trees per acre; however, some areas especially within the riparian woodland contain a higher density of trees per acre: the ±6.4-acres of oak woodland that has already been cleared is typified by scattered oak trees more reminiscent of an oak savanna rather than that of a woodland, thus the minimal number of trees in the cleared area as opposed to the remaining woodlands on the parcel (see **Figure 3** - air photos 2002 and 2007). Additionally, of the woodland cleared potentially ±0.2-acres (containing between 5 and 7 trees) may have been coniferous forest (**Figure 5**).

The owner/applicant has indicated that approximately 30 oak trees have been replanted between 2007 and 2009 along the roadway/driveway that bisects the subject parcel.

There are two primary seasonal drainage features occurring subject parcel. Dutch Henry Creek bisects the parcel in a north south direction. The second drainage enters the central portion of the parcel from the west and flows to an existing pond located in the southwest portion of the parcel. From the pond the drainage course flows in a southerly direction toward the western end of existing Vineyard Block 1 where it enters an existing flow-diffusion basin and 24 inch culvert that outfalls on the southern side of Vineyard Block 1 into Unnamed Tributary No.1. As detailed above (Requirements of Stipulated Judgment, Case No. NSC 26-39559) the flow-diffusion basin and culvert will be removed and the drainage course (Unnamed Tributary No. 2) will be re-established/ re-routed to ultimately connect to Unnamed Tributary No. 1 (**Figures 2 and 4**). This drainage course (including Unnamed Tributaries No. 1 and No. 2: **Figure 4**) connects to Dutch Henry Creek at the southeastern end of the parcel (i.e. just southeast of Vineyard Block 1). Dutch Henry Creek (a perennial creek) ultimately connects with the Napa River located approximately 1.8-miles to the south of the project site.

Land uses to the south, within the Napa Valley floor, generally consist of vineyards and rural residences: the nearest residence is located approximately 100 feet south of the project site and the next closest residences are approximately 1,000 feet to the south. Land uses to the north, east and west predominately consist of undeveloped land (in particular to the north and east) with widely scattered vineyards and rural residences. The Clover Flat Landfill is located approximately 0.5 miles to the west of the parcel and the Calistoga Ranch Club is located approximately 0.5 miles to the east of the parcel.

Existing development on the subject property includes a single-family residence, well, water tank, 9 acre foot pond, paved access drive, and approximately 7.8-acre of existing vineyard: the existing and proposed vineyard is the subject of this application and review. Existing fencing currently consists of 8 feet deer fence (i.e. wildlife exclusion fencing) around the perimeter of existing Vineyard Block 1 and around the perimeter of existing Vineyard Block 2 and the area of proposed Vineyard block 4 that has already been cleared (**Figure 2)**

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

Regional Water Quality Control Board – North Coast Section (Section 401 Water Quality Certification)
Army Corps of Engineers (404 Permit)
California Department of Fish and Game (1601 permit)
Napa County Conservation, Development and Planning Commission (Use Permit Exception)
California Department of Forestry and Fire Protection (Timber Harvest Plan and Timber Conversion Plan)

Responsible (R) and Trustee (T) Agencies

California Department of Fish and Game (T)
US Army Corps of Engineers (T)
Regional Water Quality Control Board (R)
California Department of Forestry and Fire Protection (T)

Other Agencies Contacted

Napa County Resource Conservation District

ENVIRONMENTAL IMPACTS AND BASIS OF CONCLUSIONS

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

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a 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 MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

December, 30, 2010
Date

Donald Barrella
Printed Name

Napa County Conservation, Development & Planning
For

ENVIRONMENTAL CHECKLIST FORM

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:				
	a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
	b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
	c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
	d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion:

a-b. The project site is located at the northern end of the Napa Valley within the foothills of the Eastern mountain range. The parcel is not located on a major or minor ridgeline or scenic vista; more prominent topographic and geologic features are located to the north. There are no significant rock outcroppings or geologic features on the parcel that would be impacted by the project[3]. The project is not visible from a scenic highway: there are no scenic highways in the area (CA Dept. of Transportation: http://www.dot.ca.gov/hq/LandArch/scenic/schwy). There are no historic buildings on the subject parcel. Therefore, the project would have a less than significant effect on a scenic vista or a state scenic highway.

c. The project sited is located 0.3 miles north of Silverado Trail. Existing stands of trees between Silverado Trail and the project site provide screening of the project site from Silverado Trail. There are other vineyards located immediately to the south and southeast. Trees previously removed (approximately 90) and proposed for removal (approximately 30) were/are predominately located in the southern end of the parcel and do not provide a significant visual resource; the larger intact woodland associated with Dutch Henry Creek and of the higher elevations in the northern end of the parcel currently provide a more prominent visual resource. Existing trees would screen and obscure visual effects of tree removal and vineyard. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the site or its surroundings resulting in a less than significant impact. Also see **Mitigation Measure BR-1**, which would reduce impacts related to the tree removal.

d. Earthmoving activities associated with erosion control plan installation and maintenance, and vineyard installation would not involve the introduction of nighttime lighting or sources of glare to the site, resulting in no impact. Subsequent vineyard operation and maintenance requires seasonal operation of equipment using small downward directional lights during pre dawn and post dusk activities: primarily during harvest and the application of sulfur for mildew control. The periodic seasonal use of lighting related to vineyard operations would not create new sources of substantial light and glare, resulting in a less than significant impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FOREST RESOURCES[4].** Would the project:				
	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?	☐	☐	☐	☒

[3] Site inspections Napa County Staff July 2008 , September 2009, and August 2010

[4] "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 Resource 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 the 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 Game, water quality, or other environmental resources addressed in this checklist.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resource Code Section 12220(g), timberland as defined in Public Resource Code Section 4526, or timberland zoned Timberland Production as defined in Government Code Section 51104(g)?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a-e. The project site is not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Important on the April 2005 map prepared by the California Department of Conservation. The parcel has a General Plan designation of Agriculture Watershed and Open Space (AWOS), and is zoned Agriculture Watershed (AW); therefore, the continued operation and establishment of vineyard totaling ±14.2-acres is consistent with the property's land use and zoning designations. The parcel does not have a Williamson Act contract associated with it. The proposed project does not include the rezoning of forest land. The proposed project may result in the removal and conversion of ±0.2-acres (containing between 5 and 7 trees) of potential forest land – the Napa County Geographic Information System (GIS) Vegetation Layer (I.C.E. UC Davis) are mapped as coniferous forest (**Figure 5**). The project does not include the construction of roadways or other infrastructure that would result in the conversion of existing farmland or forest land in the area to non-agricultural uses. As such, the project would not have an impact on the agricultural or forest resources of Napa County.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

a-c. The proposed project has the potential to violate construction-related and operational-related air quality standards and plans as adopted by the Bay Area Air Quality Management District (BAAQMD). The project site is within the northern end of the Napa Valley, which forms one of the climatologically distinct sub regions (Napa County Sub region) within the San Francisco Bay Area Air Basin. The topographical and meteorological features of the Napa Valley create a relatively high 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, consist mainly of particulate matter (PM) generated from fugitive dust during grading or other earthmoving activities and other criteria pollutants generated through the exhaust from construction related equipment and vehicular haul and worker trips. In the long term, potential air quality impacts are most likely to 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 (including grape haul trucks) and equipment necessary for ongoing vineyard maintenance. Refer to **Section XVI, Transportation/Traffic**, for the anticipated number of construction-related and operational-related trips.

In a recently certified Environmental Impact Report (EIR) for an approximate 100-acre vineyard development/expansion (Stagecoach Vineyards #P06-0042-ECPA, AES 2007, SCH #2006082143 certified October 7, 2008[5]) potential air quality emissions associated with vineyard development and operations were analyzed. That analysis utilized the URBEMIS 2002 air quality-modeling program and anticipated a total of 40 one-way trips of 25 miles for workers and 4 one-way trips of 25 miles associated with grape haul trucks. **Table 1** shows the operational emissions for worker and grape haul trucks associated with a 100-acre vineyard development. Thresholds of significance for the emission of criteria pollutants, including reactive organic gas (ROG), nitrogen oxide (NOx), and ten-micron particulate matter (PM10), are included in the recently adopted *2010 BAAQMD CEQA Guidelines* and shown in **Table 1**.

Table 1 – Operational Increase in Emissions from Vineyard Development

Emission Source or BAAQMD Threshold	Reactive Organic Gasses (ROG)	Nitrogen Oxides (NOx)	Particulate Matter (PM10)
	Pounds per Day		
Employee Trips and Grape Haul Trucks	<0.82	<2.35	<1.7
BAAQMD Construction-related threshold	54	54	82
BAAQMD Operational-related threshold	54	54	82

Source: Stagecoach Vineyard EIR 2007 and the BAAQMD CEQA Guidelines 2010

Since in this case, the proposed vineyard is much smaller than 100-acres, its construction and ongoing emissions of constituents that could negatively affect air quality are expected to be much less that those identified in **Table 1** and well below identified thresholds. Furthermore, project approval, if granted, would be subject to the following standard conditions, which are consistent with the measures identified in Table 8-2 of the *BAAQMD CEQA Guidelines (2010)*, and would further reduce potential air quality impacts associated with construction and ongoing operation.

Air Quality - Conditions of Approval:
The owner/operator shall implement the following Best Management Practices (BMPs) during construction activities and vineyard maintenance and operations:

- All exposed surfaces (graded areas, staging areas, stockpiles, and unpaved roads) shall be covered or water twice per day.
- All trucks hauling soil, sand and other loose materials shall be covered in accordance with Section 23114 of the California Vehicle Code during transit to and from the site.
- The site access road and adjacent public roads shall be swept daily with wet power vacuum street sweepers, if visible soil material is carried/tracked out onto roadways.
- Traffic on unpaved areas and roads shall be limited to 15 mph.
- Grading and earthmoving activities shall be suspended when winds exceed 25 mph.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Signs clearly indicating this provision shall be installed at all access points.
- All construction equipment shall be maintained and properly tuned in accordance in manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be visibly posted at the site. The contact person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Given that installation of the proposed project results in minimal temporary construction emissions, contains other features that minimize fugitive dust (cover crop), and that ongoing vineyard operations would introduce a minimal number of new vehicle trips or emission sources to the subject parcel or immediate area, in conjunction with standard Air Quality conditions, the implementation of the proposed project would result in a less than significant impact on the implementation of applicable air quality plans, air quality standards, and cumulatively considerable effects.

For a discussion of potential air quality impacts associated with Greenhouse Gas Emissions see **Section VII (Greenhouse Gas Emissions)** of this Initial Study.

d-e. Land uses such as schools, 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,

[5] This EIR is incorporated herein by reference and available for review in the Napa County Department of Conservation, Development and Planning (CDPD) permanent files.

which include children and the elderly, tend to be at home for extended periods of time. There are widely scattered residential uses located in the vicinity of the proposed project; the nearest off-site residence to the site is approximately 100-feet away, the next closest are approximately 1,000 feet away, some of which contain vineyard. There are no schools, hospitals or convalescent homes within the project vicinity: the closest schools are located over 3 miles to the west within the City of Calistoga (Napa County GIS Sensitivity Maps: Schools layer), which is also the closest residential area. The Clover Flat Landfill is located approximately 0.5 miles to the west of the parcel. During installation of the erosion control plan, vineyard planting, and subsequent vineyard operations airborne pollutants and odors would be created through the use of gas powered farm equipment or by wettable sulfur applied to control mildew. Because these sources are temporary and would occur at a substantial distance from sensitive receptors and residential areas, which would provide for dilution of pollutants and odors, in addition to the fact that many of the surrounding land uses include vineyards, and that construction activities would be subject to the feasible and applicable dust control measures describe in **Section III.a-c** above, the proposed project would have a less than significant impact to sensitive receptors or a substantial number of people.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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 Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, Coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Discussion:

A Biological Assessment was prepared by Brian Mayerle (Principal Biologist) of Foothill Associates (July 2009). The assessment included site inspections by Mr. Mayerle on March 11, 2009 and June 23, 2009. The Foothill Associates assessment also included a review of the latest California Natural Diversity Data Bank (CNDDB) and California Native Plant Society (CNPS) sensitive species list in effect on June 26, 2009. Additionally, the following Napa County Geographic Information System (GIS) Sensitivity Maps/layers were utilized in this biological resources assessment: Natural Diversity Database, Biological Points and Areas, Wetlands and Vernal Pools, Biological Critical Habitat Areas, Sensitive Biological Groups, Spotted Owl Habitat, Biological Areas, and Soil types.

a. No special status plant or animal species were observed on the project site during of the surveys conducted by Foothill Associates. Additionally, the Biological Assessment focused on assessing pre-existing conditions within the vineyard development areas to determine any adverse effects to biological resources due to the recent vegetation clearing, concluding that no special-status species or other sensitive habitats appeared to have been adversely affected due to previous clearing activities. Additionally, Napa County GIS sensitivity maps do not identify any special-status animal species within the parcel. Therefore, less than significant impacts to special status plants or animals are anticipated.

b. There are two primary seasonal drainage features occurring within the subject parcel. Dutch Henry Creek, which roughly bisects the subject parcel in a north south direction. The second drainage course enters the central portion of the parcel from the west and flows southward to an existing pond located in the southwest portion of the parcel: from the pond the drainage course flows in a southerly direction toward the

western end of existing Vineyard Block 1 where it enters an existing flow-diffusion basin and 24 inch culvert that outfalls on the southern side of Vineyard Block 1 into Unnamed Tributary No. 1 (**Figure 4**) as described in the environmental setting section of this document.

Riparian woodland associated with Dutch Henry Creek has been identified within the subject parcel. The Biological Assessment (Foothill Associates 2009) indicates that the existing vineyard and cleared areas, in particular along the eastern edge of Vineyard Blocks 1 though 4 and along the western edge of proposed Vineyard Block 6 appear to have been confined to upland areas avoiding encroachment into riparian areas.

However, approximately 0.35-acres of area to be cleared, located in two areas along the eastern side of proposed Vineyard Block 4 (±0.25-acres projecting off the northeaster side and ±0.1-acres at the southeastern corner), occur within an area mapped as Riparian Woodland (**Figure 5**): the specific biotic community is designated as White Alder Woodland (Napa County GIS: Vegetation ICE layer). It is estimated based on aerial photos these areas contain a minimum of 30 trees. Additionally, approximately 0.2-acres located at the southeastern corner of Vineyard Block 4 and approximately 0.2-acres located in the southeastern corner of Vineyard Block 1 that has already been cleared, is also within an area mapped as riparian woodland (**Figure 5**); however, as noted above the Biological Assessment (Foothill Associates 2009) indicates that the existing vineyard and cleared areas have been confined to upland areas avoiding encroachment into riparian areas. Riparian woodlands and forests are relatively rare but highly valuable biotic communities: overall riparian woodlands make up approximately 1.59% of the County's land cover, of that approximately 0.19% (or ±967-acres) is classified as White Alder Woodland[6]. General Plan Conservation Element Policies CON 50a, CON 26, and CON-14, in part, requires the preservation of riparian areas through adequate buffering and retention of existing native vegetation along all streams. Therefore, the loss of riparian woodland and associated riparian habitat is considered a potentially significant impact due to the direct loss of riparian vegetation and habitat function, as well as, the potential decrease in the ability for the riparian area to filter out sediments that could negatively affect Dutch Henry Creek, which is known to contain native fish (Napa County GIS: Known Fish Presence layer). Implementation of **Mitigation Measure BR-1** requires reconfiguration of proposed Vineyard Block 4 to preserve the areas within mapped riparian woodlands that have not already been cleared (±0.35-acres) and protect existing riparian woodland and associated trees. The existing wildlife exclusion fencing located along the eastern side of Vineyard Block 4, which is currently located along the dripline of the existing trees (i.e. the extent of the area that has already been cleared for Vineyard Block 4) shall serve as the limits of mitigated Vineyard Block 4 and the protection fencing described in **Mitigation Measures BR-1a** and **BR-1b** below.

Implementation of **Mitigation Measure BR-1** would reduce potentially significant impacts to riparian woodland and associated riparian habitat to a less than significant level. Additionally, implementation of **Mitigation Measure BR-1** would result in consistency with Napa County General Plan Conservation Element Policies CON 50a, CON 26, and CON-14, which encourages the avoidance of possible losses of fishery and riparian habitat and the avoidance of riparian woodland. Furthermore, the implementation of the Fencing Conditions of Approval in **Section IVd** (below) will further reduce potential impacts to riparian woodland and associated riparian habitat. Also see **Sections IVe (Biological Resources)** and **Xb (Land Use and Planning)** for additional discussion regarding general plan consistency.

Additionally, the potential encroachment into creek setbacks required pursuant to Section 18.108.025 (General provisions – Intermittent/perennial streams) of the Napa County Code, that have not already occurred, due to development activities is considered a potentially significant impact because it has the potential to negatively affect any riparian habitat and/or riparian woodland associated with the creek setback area. These areas primarily occur along the west side of Vineyard Blocks 3, 5, and 6, and along the east side of Vineyard Block 4 (as described above). Implementation of **Mitigation Measure BR-2**, which would require installation of construction fencing along specified creek setbacks so that further encroachments within creek setbacks do not occur, would reduce this potentially significant impact to a less than significant level. Implementation of this measure is also consistent with General Plan Policy CON-27.

Mitigation Measures

Measure BR-1: The applicant/owner shall reduce impacts to riparian woodlands and habitat through the following means:

a. Revise proposed Vineyard Block 4 of #P09-00385-ECPA/#P09-00342-UP prior to County approval along its eastern boundary to remove ±0.35-acres of proposed vineyard located within mapped riparian woodland and avoid the removal of any additional trees within this proposed vineyard block
b. For protection of the remaining riparian woodland and associated trees during construction, temporary protective construction fencing shall be placed at the edge of the dripline of existing trees to be retained along the eastern boundary of Vineyard Block 4 to ensure construction related activities do not result in the inadvertent removal or damage of the riparian habitat during construction. Temporary fencing shall be installed: the precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving activities. No disturbance, including grading, planting, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation and vineyard installation and maintenance.

[6] Napa County Baseline Date Report, Biological Resources Section, Table 4-3, Version 1, November 2005

Measure BR-2: The applicant/owner shall avoid impacts to specified creek setbacks and associated riparian habitat and/or woodland as follows:

a. The location of creek setbacks shall be clearly demarcated in the field with temporary construction fencing, which shall be placed at the outermost edge of required setbacks shown on the project plans. Prior to any earthmoving activities, temporary fencing shall be installed: the precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving and/or development activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation and vineyard installation. The protection fencing shall remain in place during the duration of project implementation and until wildlife exclusion fencing is installed as shown on the plans.
b. All construction and related traffic will remain on the inside (vineyard block side) of the protective fencing to ensure that the creek, buffer zones, and associated riparian habitat and/or woodland remains undisturbed.
c. Construction activities allowed to occur outside this area shall be limited to the installation of the proposed rock protected outfalls (i.e. rocked lined chutes) associated with vineyard division ditches. Any removal or damage of the construction fencing incurred by the installation of these features shall be replaced immediately. Additionally, disturbed areas shall be seeded and mulched as needed immediately after installation.
d. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees that are inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00385-ECPA and #P09-00243-UP shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the planning director.

According to the Biological Assessment and Napa County GIS sensitivity maps (ICE Vegetation), there is no riparian habitat associated with the water course located in the western portion of the parcel. As discussed in the Environmental Setting Section of this Initial Study (page 2) and above, a portion of this drainage course has been altered due to the development of Vineyard Block 1. Historic topographic maps of this area (Napa County GIS: Contours 02 and DRG quad layers) indicate this drainage course may have flowed through the western end of Vineyard Block 1. Unnamed Tributary No. 2 (**Figure 4**) is required to be reestablished as part of the Stipulated Judgment (Case No. NSC 26-39559). This stipulation requires that the existing flow-diffusion basin and associated 24 inch culvert be removed and abandoned and that Unnamed Tributary No. 2 be re-established from the flow diffusion basin in a south-westerly direction around the perimeter of existing Vineyard Block 1 to connect with Unnamed Tributary No. 1 (**Figure 4**). As part of this re-establishment a minimum 10 foot setback from the re-routed tributary from any portion of the vineyard including vineyard avenues shall be required. To ensure that the provisions of the judgment are included in any approval, the following condition (should the project be approved) shall be implemented. Should the proposed project not be approved the owner/ applicant is still required to abide by the provisions of the Stipulated Judgment.

Re-establishment of Unnamed Tributary No. 2 – Conditions of Approval:

- Prior to commencement of earthmoving activities associated with #P09-00385-ECPA and P09-00243-UP, the owner/applicant shall provide detailed plans and documentation (i.e. Watercourse Plan) that the re-routed watercourse (i.e. Unnamed Tributary #2) is designed and installed to have sufficient capacity to handle maximum downstream flows calculated for the watershed of Unnamed Tributary #2.
- Prior to commencement of earthmoving activities associated with #P09-00385-ECPA and P09-00243-UP, the owner/applicant shall provide documentation that the re-routed watercourse (i.e. Unnamed Tributary #2) and associated 10 foot setback from the vineyard (including vineyard avenues) is located wholly on the subject property.
- The owner/applicant shall include with the Watercourse Plan a re-vegetation plan and documentation, showing that the re-routed watercourse has been designed, and installed, to minimize any sedimentation arising from water flow into and though it. The re-vegetation plan shall include the following design details: planting details and notes, plant pallet with seeding and planting specifications, implementation and monitoring schedule and management plan for the re-routed watercourse. The plant pallet shall utilize native plant species that are appropriate for the site and intended purpose and shall have a minimum 80% survival rate. Restoration vegetation shall be installed and documented that it is good health prior to completion and finalization of the erosion control plan by the Napa County RCD.
- The Watercourse Plan and Re-vegetation Plan described herein shall be subject to review and approval by the Planning Director.

As proposed the project would include reduced stream setbacks, required pursuant to Chapter 18.108.025 of the Napa County Code (Conservation Regulations – Stream setbacks), of 61 feet for approximately ±0.44-acres (±19,170 square feet) of existing vineyard where 85 feet and 105 feet are required (**Figure 2**). The encroachment areas are located along the east side of Vineyard Block 2. As discussed in **Section X.b (Land Use and Planning)** the owner/applicant included, as part of this project, the removal and restoration of ±2,610 square feet (0.06 acres) of existing vineyard located in the southeastern corner of Vineyard Block 2 that currently encroaches into the required stream setback. As an alternative to vineyard removal, the County and the RCD considered potential measures that could reduce soil loss below required tolerances (as required by Use Permit findings in Section 18.108.040B) and ultimately allow for the retention of existing vineyard. The primary measure includes installing and maintaining a rock surface along the entirety of the eastern avenue of Vineyard Block 2, in addition to relocation of fencing along the eastern perimeter of Vineyard Block 2 as specified in #P09-00243-UP and #P09-00385-ECPA, which is no greater than 20 feet from the end of vine rows (see Fencing – Conditions of Approval below). The minimum creek setback

provided with this alternative would be 42 feet resulting in ±21,780 square feet of vineyard (including vineyard avenues) located with required stream setbacks. Considering the relatively small area of encroachment into the stream setbacks (either as proposed or configured in conformance with the alternative described above), the substantial setbacks provided from Dutch Henry Creek (either a minimum of 42 feet or 61 feet), and that the encroachments would not remove riparian woodland or habitat (as discussed above and with implementation of **Mitigation Measure BR-1**) no significant impacts to the creek setback area or water quality are anticipated. All other required stream setbacks of the proposed project conform to Section 18.108.25 NCC, which range from 45 feet to 105 feet.

Therefore, the project as proposed or configured in conformance with the alternative described above, in conjunction with the implementation of **Mitigation Measures BR-1, BR-2** and identified conditions would not result in significant impacts to riparian habitat, sensitive natural communities, or stream setbacks.

c. There are no wetlands that have been identified on the subject property or within the project area (Foothill Associates 2009, and Napa County GIS sensitivity maps/layers: Wetlands & Vernal Pools, Sensitive Biotic Groups Aquatic, and Soil types). Therefore, no impacts to wetlands are anticipated.

d. Presently wildlife exclusion fencing on the subject property is limited to the periphery of existing Vineyard Block 1 and the main body of proposed Vineyard Block 4 (i.e. excluding a small 0.35-acrea off the eastern side of proposed Vineyard Block 4) and around the periphery of existing vineyard Block 1 (see **Figure 2**). Proposed wildlife exclusion fencing would be limited to the periphery of proposed Vineyard Blocks 2, 3, 5, and 6 and extension of the fence currently around proposed Vineyard Block 4 to include the ±0.35-acre area of the eastern side of this block, which would be fenced at the periphery of the vineyard block.

Existing north south movement corridors/areas in the area primarily consist of Dutch Henry Creek, and Biter Creek (located approximately 0.5 miles to the east of the subject parcel),and undeveloped areas to the west. These movement corridors lead to Silverado Trial and the Napa Valley floor, which is developed primarily in vineyard. East west movement corridors/areas primarily consist of the undeveloped areas north of Silverado Trail and the agricultural development of the Napa Valley, including the subject parcel prior to fencing being installed, as described above. Additionally, the three parcels abutting the subject parcel to the south have been in agricultural production since at least 1940 (Napa County GIS sensitivity maps/layers: 1940 Napa Valley Image Air Photo). As proposed the primary north south movement corridors/areas would be maintained and the edge of the east west movement corridors/areas would be affected by vineyard development and associated fencing. However, to maintain east west movement corridors/areas, vineyard blocks have been proposed to be individually fenced at their periphery leaving the northern third of the subject parcel available for wildlife movement. Future development in the northern portion of the parcel is not anticipated due to environmental constraints (i.e. creek setbacks and slopes exceeding 30%). Therefore, the proposed project would not substantially interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites, resulting in a less than significant impact.

Furthermore, as stipulated in **Mitigation Measure BR-1**, proposed vineyard development along the eastern side of Vineyard Block 4 that has not already been cleared will be excluded from #P09-00385-ECPA and #P09-00243-UP. To ensure that wildlife exclusion fencing is located along the eastern periphery of Vineyard Blocks 2 and 4 as modified through project design and mitigation the following condition of approval shall be implemented, should the project be approved.

Fencing – Conditions of Approval:

- The existing wildlife exclusion fencing located along the eastern side of Vineyard Block 4 shall be maintained in its current location and as specified in **Mitigation Measure BR-1** to coincide with the eastern limits of this vineyard block as mitigated.
- The existing wildlife exclusion fencing located along the eastern periphery of Vineyard Block 2, bordering the existing vineyard plantings and associated vineyard avenue, shall be relocated as specified in #P09-00243-UP and #P09-00385-ECPA, which is no greater than 20 feet from the end of vine rows. The location of said fencing shall be shown on revised plans prior to approval by the County.
- All other existing and proposed fencing shall be subject to #P09-00243-UP and #P09-00385-ECPA, and be installed and maintained as shown therein: installation of proposed deer exclusion fencing shall be limited to the perimeter of the proposed vineyard areas only as specified in approved Use Permit #P09-00243-UP and Erosion Control Plan P09-00385-ECPA.

e. Chapter 18.108 of the Napa County Zoning Code (Conservation Regulations) in part, encourages the preservation of natural resources through project design that minimizes grading operations (cut, fill, earthmoving) and other such man-made effects in the natural terrain, preserves natural habitat, minimizes impacts on existing land forms, avoids steep slopes, and preserves existing vegetation. Oak woodland is the most common land cover in the County, occurring on approximately 167,000-acres (33% of the County's area): approximately 733-acres of oak woodland or 0.5% of the total area of oak woodland in the County have been cleared for residential and agricultural purposes between 1993 and 2002[7]. Napa County General Plan Conservation Element Policy CON-24 requires projects to maintain oak woodland habitat to provide slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including the preservation of oak woodland (or like habitat) at a 2:1 ratio. Additionally, as discussed above, General Plan Conservation Element Policies

[7] Napa County Baseline Date Report, Biological Resources Section, pages 4-22 and 4-25, Version 1, November 2005

CON 50a, CON 26, and CON-14, in part, encourages the avoidance of possible losses of fishery and riparian habitat and the avoidance of riparian woodland loss.

The oak woodland and riparian woodland remaining on the subject parcel is anticipated to contain a minimum of approximately 630 trees. Approximately 120 trees (19%) have and/or would be removed as part of the project; approximately 90 of the ±120 trees were removed between 2006 and 2007. The proposed project would ultimately remove approximately 120 trees (predominately oaks) covering approximately 7.2-acres. The woodland areas proposed for removal (or that have already been removed) have a low density of trees as compared to the on-site woodlands to remain. Overall tree and woodland retention would consist of approximately 1800 trees covering 60-acres, of this overall total approximately 630 oak trees within approximately 21-acres oak woodland and riparian oak woodland would be retained. Additionally, implementation of **Mitigation Measure BR-1** would retain ±0.35- acres of woodland containing approximately 30 trees. Considering the relatively low number of oak trees to be removed (or that have been removed) within ±7.2-acres of oak woodland, impacts to oak trees and oak woodland have been determined to be less than significant. Additionally the project would retain/preserve both oak trees and oak woodland at greater than a 2:1 ratio: approximately 630 oak trees (or 84%) and 21-acres of oak woodland (or 75%) would be preserved as proposed.

Considering the oak woodland and riparian woodland and associated habitat to remain on-site with incorporation of **Mitigation Measures BR-1,** and the area within the Dutch Henry Creek Drainage that is not anticipated to be developed (±2,000-acres: see **XVIII.b Mandatory Findings of Significance** for a detailed discussion), potential cumulative impacts to oak woodlands are considered to be less than significant. Additionally, because the existing trees to be retained on-site provide a natural means of erosion control, especially in the areas immediately adjacent to the proposed vineyard, the project shall be subject to the provisions of Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement).

Furthermore, to ensure that the proposed planting of 24 replacement trees occurs, which will further reduce potential impacts to oak woodlands, the following condition of approval will be implemented, should the project be approved.

Tree Replacement – Condition of Approval:

- The applicant/owner shall provide a tree replacement plan showing the location of the 24 replacement trees for review and approval by the Planning Division. The tree planting plan shall include the location, species, planting details, irrigation notes, and management plan to ensure the survival of the trees. The 24 replacement trees shall be five-gallon trees (or larger) of a native species comparable to those occurring on-site and native to Napa County: replacement trees shall have a 100% survivability rate. Replacement trees shall be installed and documented that they are in good health prior to completion and finalization of the erosion control plan by the Napa County RCD. Documentation of the health and survivability of replacement vegetation shall be prepared by a qualified professional and submitted to the Planning Division for review prior to finalization of the erosion control plan.

f. There are no Habitat Conservation Plans, Natural Community Conservation Plans or other similar plans applicable to the project site; therefore, there would be no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☐	☐	☐	☒
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines§15064.5?	☐	☐	☒	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion:

a. An Archaeological Inventory Survey was conducted for the project area by Genesis Society (June 29, 2009). No historic-period resources or historic-period buildings or structures were identified on the subject parcel (Genesis Society, 2009); therefore, there will be no impact on historical resources.

b. The closest known archeological sites occur over 0.25 to the southeast of the subject parcel. There have been no archeological resources identified within the project area (Genesis Society., 2009: Napa County Geographic Information System Sensitivity Maps/layers: Arch

Sensitive Areas, Archaeological Surveys, and Arch Sites); therefore, impacts to archaeological resources as a result of the proposed project would be less than significant. Furthermore, project approval, if granted, would be subject to the following standard conditions, that would further avoid and/or reduce potential cultural resource impacts.

Cultural Resources –Conditions of Approval:

Discovery of historical, archaeological, paleontological resources, or human remains during construction, grading, or other earth moving activities:

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) 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 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 will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- 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 fined shall be temporarily halted of 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 on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

c. There are no unique geologic features on the project site[8]. Because vineyard ripping depth would be limited to 36-inches the probability of encountering paleontological resources on the project site is minimal. Therefore, impacts to geologic features and paleontological resources are anticipated to be less than significant. Furthermore, project approval if granted would be subject to the standard condition above, which would ensure that potential impacts to paleontological resource will be less than significant.

d. The Archaeological Inventory Survey did not locate any human remains in the project area and does not anticipate the discovery of human remains due to the proposed project. Therefore, impacts on human remains are anticipated to be less than significant. Furthermore, project approval, if granted, would be subject to the standard condition above, which would ensue that potential impacts on human remains will be less than significant.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI.	**GEOLOGY AND SOILS.** Would the project:				
	a) Expose people or structures to 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.	☐	☐	☒	☐
	ii) Strong seismic ground shaking?	☐	☐	☒	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv) Landslides?	☐	☐	☒	☐
	b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
	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?	☐	☐	☒	☐

[8] Site visits conducted by Napa County Staff July 2008, September 2009, and August 2010.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒

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 project consists of maintenance of erosion control measures and earthmoving activities associated with the installation of erosion control measures for vineyard development: it 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 project would not result in a substantial increase in the number of people to the site. Therefore, the potential for the proposed project to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, ground shaking, liquefaction, and landslides would be less than significant. Additional information supporting this conclusion is identified below:

i) The project area is not located on an active fault and is not within an "Earthquake Fault Hazard Rupture Zone" designated by the Alquist-Priolo Earthquake Zoning Act (Napa County GIS: Alquist-Priolo fault and West Napa Fault layers). No faults have been mapped on the project site. The nearest mapped fault is located over 2.5 miles west of the subject parcel (Napa County GIS: Faults layer).
ii) The proposed project does not include construction of any new residences or enclosed areas where people can congregate.
iii) The project site is not in an area subject to high liquefaction potential (Napa County GIS: Liquefaction Layer).
iv) Land slides have not been identified within the project site (Napa County GIS: Landslide Layers).

b. The Napa County Soil Survey (USDA, Soil Survey of Napa County, 1978) classifies the soil within a majority of the project area as Boomer-Forward-Felta complex (Soil Series #110): a portion of existing Vineyard Block 1 is mapped as Bale clay loam (Soil Series #105) and proposed Vineyard Block 6 is mapped as Perkins gravelly loam (Soil Series #169). However, based on field surveys the by the county and RCD (November 2009) the predominant soil type within the entire project area, as identified in the field, is the Boomer-Forward-Felta complex: the characteristics of this soil type have been applied across the entire project area as it accurately represents the soil type within the project area and results in the most conservative soil loss modeling results for the entire development. The Boomer-Forward-Felta complex soils generally exhibit a moderate erosion hazard and medium runoff potential.

Installation and implementation of the erosion control plan would involve earthmoving activities and vegetation removal within the proposed project area. Pursuant to Section 18.108.070.L of the County Code (Erosion Hazard Areas) earthmoving activities cannot be preformed from October 15th to April 1st of the proceeding year; therefore, they would take place during the dry season when rain storms are less likely, resulting in negligible erosion and sedimentation during project installation.

Potential erosion and soil loss associated with vineyard installation, operation and maintenance would be controlled through the implementation and maintenance of the erosion control measures which include straw mulch applied at 4,000 pounds per acre, fiber roll dikes (straw wattles), water bars, vegetative or rock lined diversion ditches, mid vineyard diversion ditches, energy dissipaters/rock protected outfalls (referred to in this plan as rocked lined chute), and a no-till cover crop maintained at a plant residue density of approximately 70%.

Based upon soil loss modeling/calculations prepared by Royce Cunningham (R. P. E.) of Monticello Engineering, using the Universal Soil Loss Equation (USLE) the estimated annual soil loss of the proposed vineyard, based on a permanent no till cover crop with a proposed density of 70%, ranges from 0.37 to 1.54 tons/acre/year depending on soil type and slope length and gradient (see **Table 2**). The USLE model evaluates the environmental conditions and physical forces that lead to the detachment and movement of soil particles, it does not describe travel distances of soil particles once dislodged. Additionally, the annual application of straw mulch cover on all seeded and disturbed areas at 4,000 pounds per acre would offset any soil loss increases experienced during vineyard and cover crop establishment. Soil loss is not increased above existing conditions because implementation of the proposed erosion control plan includes a cover crop with an anticipated density of 70% and other features (vegetative or rock lined diversion ditches and surfaced vineyard avenues) that would reduce overland flow velocities and erosive power, and trap eroded soil on-site (pre project calculations are based on vegetative cover prior to the clearing conducted in 2006-2007, which consisted of grassland with mix brush/canopy cover). Erosion control features decrease slope length; thereby, reducing overland flow velocities and erosive power, in addition to allowing sediment to settle out of runoff. Energy dissipaters/rock protected outfalls return any concentrated flow back to sheet flow. Therefore, the erosion control measures would minimize soil erosion and the loss of topsoil, as well as maximize the potential for containment of detached soil particles to the project site, resulting in a less than significant impact with regard to soil erosion, soil loss, and sedimentation. Additionally, implementation of **Mitigation Measure BR-1** would reduce proposed Vineyard Block 4 by ±0.35-acres, which would reduce potential soil loss.

Table 2: USLE Soil Loss Analysis

Block	Pre-Project Soil Loss (tons/acre/year)	Post Project Soil Loss (tons/acre/year)	Difference	Percent Change (approximate)
1	0.41	0.37	-0.04	-10%
2	1.39	1.26	-0.13	-9%
3	2.42	1.54	-0.88	-36%
4	3.53	1.19	-2.34	-66%
5	1.15	0.79	-0.36	-31%
6	2.05	1.17	-0.88	-43%

Source: Monticello Engineering January 2010

As described soil loss modeling is based on a permanent no till cover crop with a plant residue density of 70%. To ensure the anticipated soil loss is consistent with the soil loss modeling results the following condition of approval shall be implemented, should the project be approved.

Vineyard Cover Crop Management/Practice – Conditions of Approval:

- The permanent vineyard cover crop shall not be tilled (i.e. managed as a no till cover crop) for the life of the vineyard and the applicant/owner shall maintain a plant residue density of 70%.
- Perimeter Vineyard Roads and Vineyard Avenues that are not surfaced with rock shall maintain a minimum plant residue density of 70%.
- 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.

c. The project 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, this project will not result in any significant impacts of on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

d. As stated in **Section VI.b.** above soils within the project area consist of Boomer-Forward-Felta complex (Soil Series #110), which has a low to moderate shrink potential (USDA, Soil Survey of Napa County, 1978). A minor structure (10,000 gallon water tank) is being proposed as part of this project and expansive soils pose little risk to vineyards and related agricultural improvements. Therefore, impacts associated with expansive soils are anticipated to be less than significant.

e. The proposed project involves the development of vineyards, no septic tanks or alternative wastewater disposal systems are needed or proposed at the project site. Therefore, there would be no impact with regard to soils supporting septic tanks or alternative wastewater disposal systems.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII.	**GREENHOUSE GAS EMISSIONS.** Would the project:				
a)	Generate a net increase in greenhouse gas emissions in excess of applicable thresholds adopted by the Bay Area Air Quality Management District or the California Air Resources Board which may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with a county-adopted climate action plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion:

a-b. Napa County is currently updating and revising a Green House Gas (GHG) emissions inventory and "Climate Action Framework" prepared by the Napa County Transportation and Planning Agency (NCTPA) to better account for agricultural emissions. It is expected that the updated Climate Action Plan will be a "qualified" plan meeting criteria established by the Bay Area Air Quality Management District (BAAQMD), and will contain specific measures to reduce emissions from vineyard development and operations.

One time (or "construction") emissions associated with vineyard development includes the carbon that is lost when site vegetation (including any woody debris and downed wood) is removed and soil is ripped in preparation for planting. One time or "construction" emissions also include energy used to prepare the site and plant the vineyard, including any farm equipment and worker vehicles (refer to **Section XVI, Transportation/Traffic**, for anticipated number of construction trips).

Ongoing or operational emissions of the vineyard would include any reduction in the amount of carbon sequestered by soil and vegetation on the site when the proposed project is compared to a "no project" scenario over an extended period of time (usually 100 years). Ongoing emissions are also derived from the energy used to maintain the vineyard, including any farm equipment, pumps, frost protection, worker vehicles, etc. Refer to **Section XVI, Transportation/Traffic**, for anticipated number of operational trips.

Ongoing emissions from the proposed vineyard would be modest when compared to one time ("construction") emissions (see below), and a quantitative estimate would require many assumptions about what would happen during the next 100 years on site 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.).

Carbon Dioxide (CO_2) is the greenhouse gas whose concentration is being most affected directly by human activities (i.e. is the principal greenhouse gas being emitted by human activities) and also serves as the reference to compare all other greenhouse gases (see carbon dioxide equivalents the most commonly reported type of GHG emission[9]): sources of carbon emissions include forest clearing, land-use changes and biomass burning (http://www.climatechange.ca.gov/glossary/letter_c.html). As a comparison, three large vineyard projects were recently analyzed to determine annual emissions associated with changes in carbon sequestration on site.[10] Assumptions varied, yet the analyses all concluded that the change in annual sequestration, even for vineyards of over 150 acres, was no more than around 300 metric tons of Carbon Dioxide equivalents (MT CO_2e) per year. This is equivalent to the energy used annually by about 19 households in Napa County, and well below the threshold of 1,100 MT CO_2e that BAAQMD has defined as significant for CEQA purposes when considering land development projects. Since in this case, the proposed vineyard is much smaller than 150-acres, its ongoing annual emissions associated with loss of sequestration are expected to be much less that than 300 MT CO_2e per year. Additionally, one study included vehicular equipment emissions associated with construction and ongoing operation. It was anticipated that vehicular and equipment related emissions associated with construction of an approximate 150-acre vineyard would be approximately 405 metric tons of carbon (or ±1,485 MT CO_2e) and ongoing vineyard operation emissions associated with vehicles and equipment would be approximately 24 metric tons of carbon per year (or ±88 MT CO_2e per year): resulting in approximately 9.9 MT CO_2e of vehicular and equipment emissions per acre of vineyard development (1,485 CO_2e divided by 150-acres) and approximately 0.59 MT CO_2e of vehicular and equipment emissions per acre of vineyard associated with ongoing operation (88 CO_2e divided by 150-acres). Based on these calculations it is anticipated that equipment related emissions associated with construction of the proposed 14.2-acre vineyard would be approximately 140.6 MT CO_2e (14.2-acres times 9.9 MT CO_2e) and on-going vehicular and equipment emissions would be approximately 8.4 MT CO_2e per year (14.2-acres times 0.59 MT CO_2e): see **Table 3**.

Furthermore, grapevines are photosynthetic plants and therefore have value in terms of carbon capture. Additionally, the use of cover crops, which are also photosynthetic plants, as proposed, tend to result in less soil CO_2 loss from vineyard soils[11]. Carbon sequestration loss would be partially offset by the proposed vineyard, which would likely act as a sink for atmospheric CO2, depending on the longevity of grapevine roots and the quantity of carbon stored in deep roots. In addition to vines, the sequestration of atmospheric carbon is also achieved by the soil between vinerows through cover-cropping and from the breakdown of leaves and vine pruning material.

Regarding construction emissions associated with vegetation removal and soil preparation the proposed project has converted approximately 14.2-acres of existing annual grassland and oak woodland to vineyard. While there is scientific research remaining to be done before it will be possible to easily and precisely calculate emissions due to vegetation conversion and soil disturbance, there are some tools that allow for a reasonable estimate. These include a Carbon On Line Estimator (COLE)[12] and a variety of technical studies of soil carbon, including studies specific to the Napa Valley[13]. Due to the current site conditions it is difficult to ascertain the potential carbon storage of the project area vegetation prior to its removal. However, using the referenced data sources and the acreage of the project site the County has estimated project site soil carbon stocks may have been approximately 159 metric tons (±582 MT CO_2e) or about ±11.16 metric tons per acre (±41 MT CO_2e per acre). This estimation is based on soil carbon stocks only using the more conservative estimates of the referenced data[10] which concludes that soil carbon within different vegetative communities is approximately 11.16 metric tons per acre (±41 MT CO_2e

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[9] Carbon Dioxide Equivalents (CO2e) are the most commonly reported type of GHG emission and a way to get one number that represents total emissions from all the different greenhouse gases (BAAMD CEQA Air Quality Guidelines, June 2010), in this case carbon dioxide (CO2). Carbon is converted to carbon dioxide equivalents (CO2e) 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://www.ncasi2.org/COLE/index.html).

[10] Copies of three studies, together with an "apples to apples" comparison of their findings are included in the project file and are available for review during normal business hours at the Department of Conservation, Development and Planning, 1195 Third Street, Suite 210, Napa, California.

[11] See Carlisle et al., Effects of Land Use on Soil Respiration: Conversion of Oak Woodlands to Vineyards, *J. Environ Qual.*2006; 35: 1396-1404. Pierce, D.L., Steenwerth, K.L., Harris, D., Smart, D.R. 2005. Vineyard management methods for carbon sequestration in soil: a stable isotope approach. Soil Science Society of America Annual Meeting.
Carlisle, Eli A. etal., The Influence of Land Conversion on Carbon Mineralization and CO2 Emissions from Vineyard and Adjacent Oak Woodland in the Napa Valley, Department of Viticulture and Enology, University of California, Davis.

[12] COLE is a collaborative project produced by the US Forest Service and the National Council for Air and Stream Improvement (NCASI) designed to enable users to analyze forest carbon characteristics anywhere in the US. The estimator can be filtered to use data from plots in Napa County and surrounding areas.

[13] See the three studies cited earlier.

per acre): in this case no carbon stock for pre-existing vegetation was included in this calculation. Ripping of site soils would have been the primary source of carbon emissions due to the project. Presently there is no scientific agreement about the percentage of carbon that would be lost/emitted through grading; some recent analyses have suggested 20-25% while others have suggested 50%[10]. Using 50% as a more conservative estimate, it has been estimated that one time emissions from soil preparation may have been approximately 79.5 metric tons of carbon (or ±291 MT CO_2e): **Table 3**. As mitigated (**Mitigation Measure BR-1**) oak woodland removal would be reduced to ±0.5-acres containing 3 trees.

Table 3 - Estimated Project Related GHG Emissions

Construction Emissions in Metric Tons of C02e		Annual On-Going Emissions in Metric Tons of C02e	
Vehicles and Equipment	±140.6	**Vehicles and Equipment**	±8.4
Soils	±291	**Loss of Sequestration** [10]	<300
Total	±431.6	**Total**	<308.4

Source: Napa County

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 ±431.6 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 there would be 12,500 acres of new vineyard development in the County between 2005 and 2030[14]. The County's conclusion in the General Plan EIR was that emissions from all sources (i.e. land uses and development), not just agriculture, over the planning period would result in significant and unavoidable GHG emissions despite measures adopted to address the impact. Therefore, the General Plan did not determine that emissions solely from projected agricultural development would result in significant unavoidable impacts. Pursuant to Section 15183(a) of the California Code of Regulation (CCR) projects which 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 project or its site.

In the context of 12,500 acres of projected vineyard development, the proposed project would constitute less than ±0.12 percent of the total. The proposed project also contains measures to reduce and/or offset emissions from vineyard development and vineyard operations such as the vineyard cover crop, vegetated surfaced vineyard avenues, the maintenance and establishment of grape vines, the planting of 24 replacement trees, and the negligible removal of significant vegetation (only 3 additional trees would be removed with the implementation of **Mitigation Measure BR-1**). Additionally, if approved the project would be subject to standard air quality conditions (as detailed in **Section III Air Quality**) that would further reduce potential GHG air quality impacts associated with construction and ongoing operation. 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 the significant unavoidable impact identified in the General Plan EIR.

With regard to ongoing GHG emissions, as described above total annual emissions are anticipated to be much less than ±308.4 MT CO_2e per year which is well below the threshold of 1,100 MT CO_2e per year that BAAQMD has defined as significant for CEQA purposes when considering land development projects (BAAQMD CEQA Guidelines June 2010). Therefore, ongoing emissions, including loss of sequestration, due to the proposed project are considered less than significant. Also see the discussion in **Section III (Air Quality)**.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

[14] A copy of the General Plan EIR is available for review during normal business hours at the Department of Conservation, Development and Planning, 1195 Third Street, Suite 210 in Napa, CA.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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 for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, 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 for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wild-land fires, including where wild-lands are adjacent to urbanized areas or where residences are intermixed with wild-lands?	☐	☐	☐	☒

Discussion:

a-b. Installation of the proposed erosion control plan and subsequent vineyard operation and maintenance would require a variety of equipment and vehicles that would 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 pesticides, herbicides, mildewcides, and fertilizers that are considered hazardous materials.

Vehicles and equipment necessary typically require a bull-dozer (D-8 or smaller), small tractor/trailer, backhoe, ATVs, pickup trucks, a flatbed truck, and grape haul truck. Equipment and vehicles are utilized on-site either on a short term temporary basis (plan implementation and vineyard installation) or short term seasonal basis (ongoing vineyard operation). See **section XVI.a-b Transportation/Traffic** for a detailed description of anticipated vehicles and equipment associated with the project. Due to the minimal number of vehicles and equipment anticipated on the project site and their limited use (seasonal and/or temporary), a large scale spill of hazardous materials associated with vehicle and/or equipment use is highly unlikely.

The storage of agricultural chemicals would occur in an existing accessory structure (garage/barn) located in close proximity to the existing residence located approximately 200 feet north of existing Vineyard Block 2. The mixing of agricultural chemicals and the cleaning and washing of chemical application equipment would occur on-site within a turf area located between existing Vineyard Block 2 and the existing residence or in the vineyard development area. These locations are over 100 feet from Dutch Henry Creek and the existing on-site pond. According to #P09-00385-ECPA, pesticides, herbicides, and fertilizers (fertilizers are primarily delivered via the drip irrigation system) are typically applied 1 to 2 times per year on a varying schedule. Annual sulfuring for frost protection may occur up to 6 times per year from March through May. A detailed listing of fertilizers and pesticides, in addition to application methods, application amounts, numbers of annual applications and annual amounts of chemicals that would be used for on-going vineyard maintenance and operation is provided within Supplemental Project Information on file at the Planning Department. Due to the limited amount of pesticides, herbicides, mildewcides, and fertilizers anticipated for on-going vineyard operation and their seasonal use, a large scale spill of hazardous materials associated with vineyard operation is highly unlikely. Furthermore, herbicide applicators must be licensed by the state, and the Napa County Agricultural Commissioner enforces application of pesticides and regulates applicators.

The potential migration of agricultural chemicals that have been applied to the vineyard reaching adjacent properties would be minimized by maintaining vegetated buffers around vineyard blocks. The National Resource Conservation Service (NRCS) recommends a minimum 50-foot wide vegetated buffer from water resources because under most conditions it is a generally adequate buffer width to provide enough vegetation to adequately filter chemicals and facilitate degradation within buffer soils and vegetation (USDA 2000). Fertilizers would be applied through the drip irrigation system, thereby, reducing the needed volume by applying fertilizers directly to the roots rather than broadcast spraying the entire vineyard area. Additionally, fertilizers are typically applied during the late spring and summer months when site surface runoff is at a minimum. As proposed setbacks/buffers of at least 55 feet are provided from all watercourses and aquatic resources except for existing Vineyard Block 1 and the southeast corner of existing Vineyard Block 2. Setbacks/buffers provided around Vineyard Block 1 consist of the following; a 45 foot setback from Dutch Henry Creek along the eastern side that is consistent with the required creek setback of NCC 18.108.025.B.1, a 5 foot vegetated buffer from Unnamed Tributary No. 1 along the southern vineyard boundary (as required per the

Stipulated Judgment, Case No. NSC 26-39559), and a 10 foot vegetated buffer from Unnamed Tributary No. 2 along the western vineyard boundary (as required per the Stipulated Judgment, Case No. NSC 26-39559). Setbacks/buffers provided along the eastern side of Vineyard Block 2 range from 61 to 140 feet (typically 70 feet) except for an approximate 180 foot stretch at the southeast corner of the block which ranges from 42 to ±110 feet.

Furthermore, project approval, if granted, would be subject to the following standard conditions, that would further avoid and/or reduce potential impacts associated with routine transport and use of hazardous materials during project implementation and ongoing vineyard operations and maintenance.

Hazardous Materials – Conditions of Approval:
The owner/operator shall implement the following Best Management Practices (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 Dutch Henry Creek and its unnamed tributaries, existing groundwater well(s), the existing pond, and any other watercourses to avoid the potential for risk of surface and groundwater contamination; and,
- 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.

Because of the: 1) limited number of vehicles and equipment necessary for project installation and on-going vineyard operation , 2) limited quantity of agricultural chemicals that will stored, mixed, or cleaned on the subject parcel, 3) the extensive buffers/setbacks provided from adjacent water resources in the project design, most of which are a minimum of 50 feet, 4) seasonal and limited use of agricultural chemicals, 5) regulation of pesticide and herbicide applicators, and 6) implementation of standard conditions to avoid/reduce incidental spills and their affect; impacts associated with the routine use and transport of hazardous materials are considered to be less than significant.

c. The closest schools are located over 3 miles to the west of the project site within the City of Calistoga (Napa County GIS: Schools layer). There are no schools proposed within one-quarter mile of the project site. Therefore, there would be no impact to existing or proposed schools.

d. No portion of the project site is included on a hazardous materials site (Napa County GIS: Hazardous Facilities layer); therefore, there is no impact.

e-f. The project site is neither located within an airport land use plan area, nor within two miles of a public or private airstrip; therefore, there is no impact (Napa County GIS: Napa Airport Compatibility Zones and DRG Quads layers).

g. The proposed project would not impair implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan, in that there would be no permanent substantial increase in the number of people working or residing at the project site (there would only be negligible numbers of workers visiting the parcel on either a temporary or seasonal basis for erosion control plan and vineyard installation and subsequent vineyard operations) therefore, a less than significant impact is anticipated.

h. Only minor structures are proposed as part of the project (a 10,000 gallon water tank). The risk of fire in vineyards is very low due to limited amount of fuel, combustibles, and ignition sources present. Vineyards are irrigated and cover crops are mowed in March; thereby reducing the fuel loads within the vineyard. Additionally, the project area is not located in an area identified as having suitable conditions for a severe fire (Napa County Baseline Data Report, Map 18-4, Version 1, Nov., 2005: Napa County GIS: Fire Hazard Severity Zones SRA/LRA layer). Therefore, the project would not increase the exposure of people or structures to wild-land fires, resulting in no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
	a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	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?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:

a. Waste discharge is not anticipated as part of the project or ongoing vineyard operations; therefore, there is no impact anticipated on waste discharge requirements.

The proposed project has been designed with site specific temporary and permanent erosion control measures and features to prevent sediment, runoff, and pollutants from leaving the project area. Agricultural Erosion Control Plan #P09-0385-ECPA and P09-00243-UP includes Best Management Practices (BMPs) that are consistent with County Code Section 18.108.080C, as well as, with Regional Water Quality Control 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 Manuel. The combination of erosion control measures would ensure that potential impacts to water quality of the site and to downstream receptors would be at less than significant levels. Additionally, as discussed in **VIIIa-b** above (**Hazards and Hazardous Materials**), the project has been designed to include buffers/setbacks from Dutch Henry Creek, its unnamed tributaries, and other watercourses and water resources, most of which are a minimum of 50 feet.

b. The subject parcel and project area are located within the Dutch Henry Creek drainage basin (±2,570-acres). A Phase I Water Study was conducted for the parcel. The allowable groundwater allotment for this parcel is 43.84 acre-feet per year (af/yr) based on the "fair-share" standards established by the Napa County Department of Public Works: which allows 0.5 acre feet per acre per year in mountain areas (0.5 af/yr times 87.68-acres equals 43.84 af/yr). The estimated water use on the parcel for the existing residence and ±14.2-acre vineyard (±12 net vine acres) is anticipated to be approximately 6.45 acre-feet/year: 6.2 acre-feet/year per year for the vineyard once established and approximately 0.25 acre-feet/year for the existing residence. The applicant has indicated that the existing on-site well produces approximately 120 gallons per minute, based on past and present field operations conducted by the vineyard manager and anecdotal evidence. Based on the Well Completion Report for the existing on-site well (e020595, January 25, 2005) a yield of this rate could be expected.

Based on the analysis contained in the Phase 1 Water Availability Analysis and production of the existing well, water use on the parcel for the existing and proposed vineyard development in conjunction with existing residential uses would be below both the "fair-share" standards and

within the daily yield of the existing well, and have a less than significant impact on the groundwater supply. Implementation of **Mitigation Measures BR-1 (Section IV – Biological Resources)** would reduce the vineyard development acreage, thereby, slightly reducing the anticipated water use for the proposed development. Furthermore, project approval, if granted, would be subject to the following standard condition, that would further reduce potential impacts associated with water use as a result of ongoing vineyard operations and maintenance:

Water Use – Condition of Approval:

- The permittee may be required (at the permittee's expense) to provide well monitoring data if the Director of Environmental Management determines that water usage at the vineyard is affecting, or would potentially affect groundwater supplies or nearby wells. Data requested could include, but may not be limited to, water extraction volumes and static well levels. If applicant is unable to secure monitoring access to neighboring wells, onsite monitoring wells may need to be established to gage potential impacts on the groundwater resource utilized for the project proposed. Water usage shall be minimized by use of best available control technology and best water management conservation practices. In the event that changed circumstances or significant new information provide substantial evidence that the groundwater system referenced in the permit would significantly affect the groundwater basin, the director of environmental management shall be authorized to recommend additional reasonable conditions on the permittee, or revocation of this permit, as necessary to meet the requirements of the Napa County Groundwater Ordinance and protect public health, safety, and welfare. That recommendation shall not become final unless and until the director has provided notice and the opportunity for hearing in compliance with the County Code section 13.15.070.G - K.

c-d. 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 oak woodland and grassland to vineyard would alter the composition of the existing land cover and infiltration rates, which could affect erosion and runoff.

The project does not propose any alteration to a stream or river or include the creation of impervious surfaces that would concentrate runoff. However, as required pursuant to the Stipulated Judgment (Case No. NSC 26-39559) the owner/applicant is required to re-establish a drainage course that was presumed to run through the western portion of existing Vineyard Block 1. The re-established water course would commence at an existing flow-diffusion basin and associated 24 inch culvert and run in a south-westerly direction around the western perimeter of existing Vineyard Block 1 ultimately connecting with Unnamed Tributary 1 (**Figure 4**) located along the southern side of Vineyard Block 1. As part of re-establishing the drainage course the existing flow-diffusion basin and associated 24 inch culvert would be removed. As discussed in **Section IV.b (Biological Resources)** the owner/applicant will need to provide a plan and documentation, showing that the re-routed watercourse has been designed, and will be installed, to minimize any sedimentation arising from water flow into and though it.

Proposed erosion control features that could alter natural drainage patters include: vineyard avenues, drainage swales, a tile drain line (i.e. French drain line), and water bars. Vineyard avenues are outsloped, generally conforming to existing topography, to maintain existing sheet flow patterns. Avenues will also be surfaced with a vegetative cover crop to slow sheet flow and prevent concentration of runoff, in addition to allowing sediment to drop from runoff. The design of the vineyard avenues would have a negligible effect on existing drainage patterns. Water bars that would be placed on perimeter vineyard avenues are designed to channel runoff from vineyard avenues into graded swales to slow sheet flow along perimeter vineyard avenues. Water bars would include rock protected outfalls to slow concentrated flows and return them back to sheet flow. Water bar design and location would have a negligible effect on existing drainage patterns.

Drainage swales (vegetative or rock lined diversion ditches or mid vineyard diversion ditches) and tile drain line have a greater potential to alter drainage patterns in that they are designed to capture sheet flow before it reaches erosive velocities and divert it to other locations within the project area. The drainage swales are typically designed with a gentle gradient (2% to 5%) to prevent erosive velocities from occurring in the swale and allow water infiltration. Drainage swale outfalls/energy dissipaters are designed to slow concentrated flows and return them back to sheet flow. The tile drain line located along the eastern edge of proposed Vineyard Block 6 would include a protected outfall. While these features would divert sheet flow to other locations within the project area they will not substantially alter the drainage patters of the site as they collect sheet flow from relatively small areas and would not divert water to other watersheds or drainage/water courses. Additionally, due to their design (gentle gradient, vegetative or rock lining, and protect outfall) these features would not result in substantial on or off-site erosion, sedimentation, or flooding. Also see the discussion below and in **Section VI.b (Geology and Soils)**.

Additional erosion control measures that will assist in minimizing the potential for increased erosion, sedimentation, and water runoff include: the annual application of straw mulch applied at 4,000 pounds per acre on all seeded areas and disturbed slopes, fiber roll dikes (straw wattles), and a no-till cover crop maintained at a plant residue density of approximately 70%. These features will assist in slowing runoff, increasing infiltration, and trapping sediment.

Runoff calculations generated from the Technical Release 55 (TR 55) model showing hydrologic changes provided by Royce Cunningham, R.P.E, of Monticello Engineering, indicate that peak runoff rates are not anticipated to change in comparison to existing conditions due to the project (**Table 4**). The project is not anticipated to increase the rate of soil loss as compared to existing conditions, thereby, limiting the potential for on or off-site siltation. Furthermore, pursuant to County Code Section 18.108.135 "Oversight and Operation" (**Figure 6**), projects requiring an erosion control plan will be inspected by the county after the first major storm event of each winter until the project has been

completed and stable for three years to ensure that the implemented erosion control plan is functioning properly[15]. The modeling results do show a slight reduction in the time of concentration of runoff within the development areas for modeled storm events: these decreases in time of storm runoff concentration average approximately- 0.06 hours (3 to 5 minutes) or -7% as compared to pre development conditions. However, as shown peak runoff of the modeled storm events following development is not anticipated to be greater than predevelopment conditions, which is consistent with General Plan Conservation Element Policy CON-50c. Therefore, the proposed project is anticipated to 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.

TABLE 4 – HYDROLOGIC CALCULATIONS (TR-55) RESULTS

Summary of Pre Develop and Post Development Runoff Conditions in Cubic Feet per Second								
Storm Event	**2 year / 24 hour**		**10 year / 24 hour**		**50 year / 24 hour**		**100 year / 24 hour**	
Drainage area	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
1	0.27	0.27	0.78	0.78	1.63	1.63	2.03	2.03
2	0.36	0.36	1.00	1.00	2.10	2.01	2.62	2.62
3	0.25	0.25	0.72	0.72	1.51	1.51	1.89	1.89
4	0.19	0.19	0.56	0.56	1.17	1.17	1.46	1.46
5	0.08	0.08	0.24	0.24	0.51	0.51	0.63	0.63
6	0.06	0.06	0.16	0.16	0.34	0.34	0.43	0.43

Source: Monticello Engineering

e. The project site is not located in an area of a planned stormwater drainage system. The project site is not directly served by a stormwater drainage system; however, drainage of the project site ultimately reaches Dutch Henry Creek, or unnamed tributaries of Dutch Henry Creek, or drainage courses thereof. As discussed in **subsection c-d** above, peak flow runoff is not anticipated to change as compared to existing conditions due to the project. The implementation of **Mitigation Measure BR-1** would reduce the proposed development area, further reducing peak flow runoff rates and any potential direct, indirect, and cumulative impacts of the proposed project. Furthermore, the re-routed watercourse (i.e. Unnamed Tributary 2) will need to be designed and installed to minimize any sedimentation arising from water flow into and though it. Therefore, the project would not contribute a substantial amount of additional runoff to existing drainage courses, resulting in a less that significant impact. Also see the discussion in **subsection f** below regarding impacts related to polluted runoff.

f. The project would not have an adverse impact on water quality because #P09-00385-ECPA has been designed to keep polluted runoff and sediment from leaving the project area and subject parcel. As discussed in **Section VIII – Hazard and Hazardous Materials**, the project proposes the use of potentially hazardous materials during implementation activities (i.e. oil, gasoline, and transmission fluids) and the application of chemicals (i.e. fertilizers, herbicides, pesticides) 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. Buffer areas provided in the plan would facilitate increased water infiltration so that chemicals associated with implementation and operation can be trapped and degraded in buffer soil and vegetation. The limited application of agricultural chemicals generally occurring during the non-rainy season will also minimize the amounts of chemicals that could affect any on or off-site water resources. Furthermore, because the project would not increase runoff in relation to existing conditions, as discussed in **Subsection c-d** above, the proposed cover crop and buffers/setbacks would be able to effectively trap and filter sediments minimizing their entry into nearby water resources. The affect of the proposed project on water quality would be less than significant.

g-j. The project involves the maintenance and development of vineyard totaling ±14.2-acres and therefore, would not create housing. The project area is not located within a FEMA 100-year flood zone (Napa County GIS, FEMA Flood Zone layer); therefore, there would be no impacts within flood hazard areas to people or structures due to flooding. The project area is not located within in a dam or levee failure inundation area (Napa County GIS, Dam Levee Inundation Areas Layer); therefore, no impacts to people or structures due to dam or levee failure inundation are anticipated. The project area is not located in an area subject to seiche or tsunami (Napa County General Plan - Safety Element. pg. 10-20). The hillsides on which the vineyard blocks would be developed would not expose people or improvements to mudflows; therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:				
	a) Physically divide an established community?	☐	☐	☐	☒

[15] Conformance with the provisions of Section 18.108.135 is achieved by including it as a condition of approval for the project, if granted.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

a. The proposed project and subsequent vineyard operation would not physically divide an established community. The subject parcel and adjacent parcels are zoned Agricultural Watershed (AW) and designated Agriculture, Watershed and Open Space (AWOS) in the Napa County General Plan Land Use Element. Vineyards and associated improvements are permitted uses under these designations: therefore no impact is anticipated.

b. Napa County's General Plan Conservation Element includes goals and policies for managing and preserving biological resources within the County. With respect to new vineyards, Conservation Element Policy CON-24 encourages maintaining oak woodland as part of agricultural development. As discussed in **Section IV.b (Biological Resources)** Conservation Element Policies CON 50a, CON 26, and CON-14 requires the avoidance of possible losses of fishery and riparian habitat and the avoidance of riparian woodland loss. Chapter 18.108 of the Napa County Zoning Code (Conservation Regulations) in part, encourages the preservation of natural resources through project design that minimizes impacts on riparian areas and other natural habitats, avoids steep slopes, and preserves existing vegetation.

As proposed, in conjunction with the implementation of **Mitigation Measures BR-1** and **BR-2** and proposed conditions of approval, the project appears consistent with applicable General Plan Conservation Element Policies as it retains oak woodland and oak trees at a minimum 2:1 ratio (±630 oak trees or 84% and ±21-acres or %75 of oak woodland would be retained as proposed) and avoids the possible loss of riparian habitat and riparian woodland. Additionally, as specified in Stipulated Judgment Case No. NSC 26-39559 the presumed watercourse adjacent to Vineyard Block 1 would be re-established/restored to further reduce potential riparian habitat and woodland loss.

With respect to the Use Permit Exception request to allow the retention of existing vineyard within required creek setbacks, Napa County Code Section 18.108.040.B (Exceptions) requires that such agricultural developments meet specific findings: which include post project soil loss/erosion rates that do not exceed the specified soil loss tolerance of the Napa County Soil Survey, that impacts to watercourse are minimized and adequate setbacks are maintained, and that the project does not adversely impact sensitive plant or animal habitats. As originally installed, a portion of the southeast corner of existing Vineyard Block 2, would not meet the soil loss/erosion rate of 2.4 tons per acre per year. The soil loss tolerance is a weighted average based on the loss tolerances of the individual components of the Boomer-Forward-Felta soil type, and the proportions of that soil type assigned to each in the Soil Survey's description (RCD personal communication March 24, 2010). The owner/applicant has included, as part of this project, the removal and restoration of ±2,610 square feet (0.06 acres) of existing vineyard located in the southeastern corner of Vineyard Block 2 that currently encroaches into the required stream setback so that required soil loss/erosion rates could be achieved. As discussed in Section **VI.b (Geology and Soils)** the vineyard development as proposed would result in soil loss/erosion rates below the specified tolerance of 2.4 tons per acre, as well as, reducing predicted soil loss below pre-development rates: pre project calculations are based on vegetative cover prior to the clearing conducted in 2006-2007, which consisted of grassland with mix brush/canopy cover (see **Table 2**). As an alternative to vineyard removal to reduce soil loss below specified tolerances, the County and the RCD considered potential measures that could reduce soil loss below required tolerances (as required by Use Permit findings in Section 18.108.040(B) and ultimately allow for the retention of existing vineyard. The primary measure includes installing and maintaining a rock surface along the entirety of the eastern avenue of Vineyard Block 2, in addition to relocation of fencing along the eastern perimeter of Vineyard Block 2 as specified in #P09-00243-UP and #P09-00385-ECPA, which is no greater than 20 feet from the end of vine rows (see Fencing – Conditions of Approval). Review of the setback encroachment areas in conjunction with this alternative would result in a development that meets the soil loss tolerance required by Section 18.108.040.B.1 (Exceptions) of the County Code (Napa County RCD Memorandum, September 28, 2010). Anticipated soil loss of this alternative would be consistent with those shown in **Table 2**. Furthermore, this alternative measure would result in a more effective long term vineyard practice (as opposed to a vegetative covered vineyard avenue) in reducing soil loss, erosion and associated sediment delivery to Dutch Henry Creek by providing a more permanent filtering mechanism and by armoring and protecting the avenue itself from turnaround and through traffic. The minimum creek setback provided with this alternative would be 42 feet resulting in ±21,780 square feet of vineyard (including vineyard avenues) located with required stream setbacks. To ensure that the resulting development achieves post project soil loss/erosion rates that are consistent with those shown in **Table** 2 and do not exceed the specified soil loss tolerance the following condition of approval shall be implemented should the project be approved and the owner/applicant choose this alternative (also see Vineyard Cover Crop Management/Practice – Conditions of Approval, page 18). Should, the owner/applicant elect to implement this alternative (to retain existing vineyard) revised plans showing these measures and as well as other conditions and mitigation measures will need provided prior to approval by the County.

Vineyard Avenue Management/Practice – Conditions of Approval:

- Perimeter Vineyard Roads and Vineyard Avenues that are not surfaced with rock shall maintain a minimum plant residue density of 70%.
- The entirety of the perimeter vineyard avenue along the eastern side of Vineyard Block 2 shall be surfaced and maintained with rock, as specified by the RCD. This surfacing treatment shall be shown on revised plans prior to approval by the County.

As noted above, the implementation of the Fencing Conditions of Approval (**Section IVd, Biological Resources** - page 15), which requires the existing fencing along the entire eastern side of Vineyard Block 2 be relocated as specified in P09-00243-UP and P09-00385-ECPA (a maximum of 20 feet from the end of vine rows) will ensure disturbance adjacent to Dutch Henry Creek associated with ongoing vineyard operations are minimized to the maximum extent practical; thereby, further reducing soil loss, erosion, and associated sedimentation.

Therefore, the project as proposed, or configured in conformance with the alternative described above, in conjunction with the implementation of **Mitigation Measures BR-1, BR-2,** and identified conditions, would result in consistency with applicable General Plan policies and the Conservation Regulations by: 1) preserving riparian woodland; 2) preserving oak trees and oak woodland at a minimum 2:1 ratio; 3) providing adequate setbacks from Dutch Henry Creek; 4) meeting the specified soil loss tolerance for vineyard that encroaches into the required creek setbacks; and 5) not increasing post development runoff conditions above pre-project conditions, resulting in a less than significant impact.

c. There are no habitat conservation plans or natural community conservation plans applicable to project site or adjacent parcels. Therefore, no impact would result.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a-b. The project does not take place in the area of a known mineral resource of value to the region or state or within the area of a known mineral resource recovery area[16]. Proposed site improvements and development of vineyard on the property would not physically preclude future mining activities from occurring. Therefore, no impacts to mineral resources are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:				
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

[16] Napa County Baseline Date Report, Figure 2-2 and Map 2-1, Version 1, November 2005

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

a. The project site is located in a rural setting where a number of the surrounding parcels are planted with vineyards. The nearest residences to the project area are between 100 and 1,000 feet to the south: these residences have associated vineyard. The Calistoga Ranch Club, located approximately 0.5 miles to the east, contains vineyard and is immediately adjacent to existing vineyards. The project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Noise associated with the vineyard would be at a level that is considered normal and reasonable for agriculture and would not substantially increase the noise levels over what currently exists in the project vicinity. Activities associated with vineyard installation, including earthmoving and subsequent vineyard operations could generate noise levels above existing conditions. However, increases in noise levels would be temporary and seasonal, not a long-term permanent increase, and are considered typical and reasonable for construction and agricultural activities and consistent with the County's 'Right to Farm' ordinance. Implementation of measures contained in the County Noise Ordinance for construction-related noise, such as muffling equipment would minimize the temporary increases in noise; thus, there would be a less than a significant impact.

b. Activities associated with the installation and subsequent vineyard operation would not result in the generation of excessive groundborne vibration or groundborne noise levels. The closest sensitive land uses are the schools located in the City of Calistoga, which is located over 3 miles to the west of the project site (Napa County GIS: Schools layer). Therefore, no impact is expected.

c. Noise associated with on-going vineyard operation and maintenance would include a variety of vehicles and equipment. These noise sources, which are considered normal and reasonable for agricultural activities and consistent with the County's Right to Farm ordinance, would occur on a temporary and seasonal basis, thereby, not resulting in a permanent increase in ambient noise levels in the project vicinity. Furthermore, **Section 8.16.090.E** of the County Code (Exemptions to noise regulations) exempts agricultural operations from compliance with the noise ordinance. Therefore, there would be no significant impact.

d. During erosion control plan implementation and vineyard installation, the use of heavy equipment could result in a temporary increase in ambient noise levels in the vicinity of the project site. Implementation of 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 noise impacts that are less than significant. Routine vineyard operation and management would result in short-term temporary increases in noise during certain times of the year, which are considered consistent with existing activities on surrounding parcels containing vineyard. Temporary increases in noise associated with the seasonal and temporary agricultural activities are anticipated to be at a less than significant level.

e-f. The project is neither located within an area covered by an airport land use plan, nor is it within two miles of a public, public-use, or private airport (Napa County GIS: Napa Airport Compatibility Zones). Therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII.	**POPULATION AND HOUSING.** Would the project:				
a)	Induce substantial 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)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

a. The project involves earthmoving and the installation and maintenance of erosion control measures in connection with cultivation of vineyard: it does not involve the construction of new homes, business, new roads or infrastructure (water, sewer, utility lines) that would directly or indirectly induce population growth. Construction and installation activities of the proposed project would generate employees to the parcel on a temporary basis. Ongoing vineyard operation and maintenance activities would generate employees to the parcel on a permanent basis. The owner/applicant operates other vineyards in Napa County and it is anticipated that existing employees would be utilized to manage the vineyard (see **Section XVI, Transportation/Traffic** for anticipated number of employees). Therefore, no impacts are expected.

b-c. There would be no impact because the project would not displace any existing housing or people.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. **PUBLIC SERVICES.** Would the project result in:				
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:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion:

a. The proposed project does not include the construction of residential or commercial structures, and as discussed in Section **XIII. Population and Housing,** the project does not result in substantial population growth in the area; and therefore would not increase the need or use of the listed services and amenities; resulting in no impacts to public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. **RECREATION.** Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a-b. The proposed project does not include any recreational facilities. As discussed in Sections **XIII. Population and Housing and XIV. Public Services** the project does not result in substantial population growth, which would increase the use of recreational facilities or require the construction or expansion of recreational facilities. Therefore, there would be no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI.	**TRANSPORTATION/TRAFFIC.** Would the project:				
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system and/or conflict with General Plan Policy CIR-16, which seeks to maintain an adequate Level of Service (LOS) at signalized and unsignalized intersections, or reduce the effectiveness of existing transit services or pedestrian/bicycle facilities?	☐	☐	☒	☐
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the Napa County Transportation and Planning Agency for designated roads or highways?	☐	☐	☒	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature, (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☐	☒
f)	Conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or activity exceeding the sites capacity?	☐	☐	☐	☒
g)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities ?	☐	☐	☐	☒

Discussion:

a-b. The existing Average Daily Traffic (ADT) volume for this portion of Silverado Trail is approximately 4,735 vehicles: peak hour traffic volume is approximately 473 vehicles. Daily and peak hour traffic capacity for this portion of Silverado Trail is approximately 22,300 vehicles and 2,230 vehicles respectively. Currently this portion of Silverado Trail operates at a Level of Service (LOS) B for daily traffic and a LOS of B for peak hour traffic[17].

Construction traffic, which is temporary in nature occurring over one season between April and October of the same year, is anticipated to generate up to 12 vehicle/truck trips per day during installation of the ECPA and additional vineyard. Construction traffic would be intermittent throughout the non-peak hours: work crews are anticipated to vary in size generally not exceeding 18 people, generally arriving around 6-7 a.m. and departing around 2-3 p.m. Vehicular equipment typically necessary for project implementation includes a bulldozer, backhoe, ATV's, pickup trucks, and a flatbed truck for equipment and materials delivery. After ECPA and vineyard installation, ongoing routine vineyard maintenance activities are anticipated to generate between 1 to 4 employees per week resulting in approximately 1 to 2 trips per week. Other vineyard maintenance activities such as weed control, mildew control, and pruning, are anticipated to occur between 6 and 10 times per year generating up to approximately 18 employees resulting in up to 12 trips per day on the days when these activities occur. The greatest volume of traffic generated to and from the site would take place during harvest, which occurs in September and October. Harvest activities, which typically commence in the mornings between 3-5 a.m. and end in the early afternoon between 2-3 p.m., are anticipated to generate up to 18 employees resulting in approximately 15 to 20 trips per day including grape haul trucks. Harvest activities are anticipated to occur on various days over a 30 day period. Vehicular equipment anticipated for ongoing vineyard maintenance and harvest includes ATV's, tractor, 8-ton grape truck, and passenger cars and/or light trucks.

Considering traffic generated by either construction of the proposed project or subsequent vineyard operation, including harvest, would introduce a negligible number of new trips to the subject parcel (up to approximately 12 trips during harvest) and that these activities would occur on a temporary and/or seasonal basis that generally commence prior to and end before peak hours, traffic impacts are considered to be less than significant in that they would not substantially increase the traffic load or negatively affect the current LOS of Silverado Trail and/or surrounding roadways.

c. The project would not affect existing air traffic and thus no impacts are anticipated on either air traffic patterns and/or air traffic safety.

[17] Napa County Baseline Date Report, Transportation/Circulation Technical Report, Version 1, November 2005

d. The project does not include roadway or driveway improvements and/or modifications or other design feature that would result in a hazardous condition. The installation of the vineyard is consistent with the allowed use of the property and other agricultural uses in the area. Therefore, there would be a less than significant impact of the project creating or substantially increasing hazards.

e. The existing access and paved roadway/driveway would continue to provide adequate emergency access to the subject parcel and project area, result in no impact.

f. The project would generate its largest demand for parking (up to approximately 12 vehicles) during the harvest period which occurs on various days over a 30 day period. The current county ordinances do not require formal parking for agricultural projects. Parking along the access roadway/driveway and within the existing/proposed vineyard avenues would satisfy the expected short-term seasonal parking demand of project implementation and ongoing vineyard maintenance and operation. Therefore there is no impact.

g. There are no adopted policies, plans, or programs supporting alternative transportation that applies to agricultural vineyard projects. Thus, the project would have no impact in this area.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII.	**UTILITIES AND SERVICE SYSTEMS.** Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b)	Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c)	Require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	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?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion:

a. The proposed project would not generate wastewater; therefore, there would be no impact.

b. Implementation of the project would not result in the construction or expansion of water or wastewater treatment facilities because it would not generate wastewater and an existing well would provide irrigation water to the vineyard: resulting in no impact.

c. The proposed project involves the installation of a limited number of on-site storm water drainage features. These features include, diversion/drainage swales, tile drain line (i.e. French drain line), and rock protected outfalls (i.e. rock-lined chute) that have been designed and spaced to meet project-related storm water drainage needs. The effect of the proposed storm water drainage system is discussed in **Sections IV. Biological Resources, VI. Geology and Soils,** and **IX. Hydrology and Water Quality**. As discussed in the referenced sections, the environmental affect of the construction of this system with incorporation of **Mitigation Measures BR-1** and **BR-2,** and conditions identified in **Sections VI. Geology and Soils** and **VIII. Hazards and Hazardous Materials**, would be less than significant.

d. Discussion of water availability and water use is discussed in greater detail in **Section IX.b. Hydrology** and **Water Quality**. The proposed retention of ±7.8-acres of existing vineyard and development of ±6.4-acres of vineyard (totaling ±12 net vine acres) would be supplied by an existing on-site well. As discussed in **Section IX.b (Hydrology and Water Quality)**, the subject parcel's estimated water use would be

below the established "fair share" threshold for this property. Therefore, the project would have a less than significant impact on water supplies.

e. The project generates no wastewater that would require treatment; therefore, it will have no impact on wastewater treatment providers.

f. Implementation of the project would have no impact on existing landfills because the only significant solid waste generated by the project is cane generated during vine pruning. Materials generated during pruning or harvest activities are generally disposed of on-site by spreading back into the vineyard, burning it, or a combination of the two. Rock generated during vineyard preparation would be utilized on-site in the construction of erosion control measures or on-site decorative rock walls. Solid waste generated during construction activities (i.e. broken pipe, fittings, trellis, end posts, etc.) would be negligible.

g. The California Integrated Waste Management Board is responsible for guaranteeing the proper storage and transportation of solid waste, by providing standards for storage and transportation of solid waste containing toxic materials generated by urban and industrial users. The applicant/owner would be required to compliance with these regulations, to the extent that they apply to agricultural projects, which will ensure that the project would have no impact in this area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. **MANDATORY FINDINGS OF SIGNIFICANCE**				
a) Does the project have the potential to 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, 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?	☐	☐	☒	☐
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)?	☐	☒	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion:

a. As discussed in this Initial Study, implementation of #P09-00385-ECPA and #P09-00243-UP would not have the potential to degrade the quality of the environment. No sensitive or special status species have been identified on the property, wildlife corridors have not been identified and would not be obstructed, and the area not considered regionally unique or rare. The proposed development with the incorporation of **Biological Resources Mitigation Measures BR-1 and BR-2** and identified conditions would ultimately result in the conversion or modification of ±13.85-acres of mixed oak woodland and grassland to vineyard. Overall tree and woodland retention would consist of ±1800 trees covering ±60-acres, of this overall total ±630 oak trees within ±21.6-acres oak woodland and riparian oak woodland would be retained in their existing condition, resulting in direct, indirect, and cumulative impacts to the quality of the environment and wildlife species being reduced to a less than significant level. No cultural resources or examples of California history or prehistory have been identified within the project area. Therefore, the proposed project would have a less than significant potential to degrade the quality of the environment.

b. The subject parcel is located in the Dutch Henry Creek drainage (±2,570-acres) based on Napa County GIS, ±180-acres (7%) of the Dutch Henry Creek drainage area has been developed to vineyard. Of this total acreage approximately ±111-acres (or 4.3% of the drainage) were in vineyard prior to 1993 and ±69-acres (or 2.7% of the drainage) were developed to vineyard between 1993 and 2009. Currently, there are no other pending Agricultural Erosion Control Plan applications within the Dutch Henry Creek drainage. It is estimated that approximately 600 acres of the ±2,570-acres within the Dutch Henry Creek Drainage occurs on slopes of 30% or less: in addition to the technical challenges of developing and farming vineyard on land with slopes over 30%, vineyard development on slopes of 30% or greater requires a Use Permit Exemption. Considering existing, approved, and future potential vineyard development in conjunction with development constraints, approximately 2,000 acres (or 78%) of the total watershed would be expected to remain undeveloped with vineyards or other agricultural crops.

As discussed in this Initial Study, project impacts have been analyzed to determine potential individual or cumulatively considerable impacts. All areas/categories of analysis were found to have a less than potentially significant effect on the environment or human beings: where necessary measures have been included to mitigate potentially significant impacts to a less than significant level (see **Section IV Biological Resources Mitigation Measures BR-1 and BR-2**, which also applies to **Section X Land Use and Planning)**.

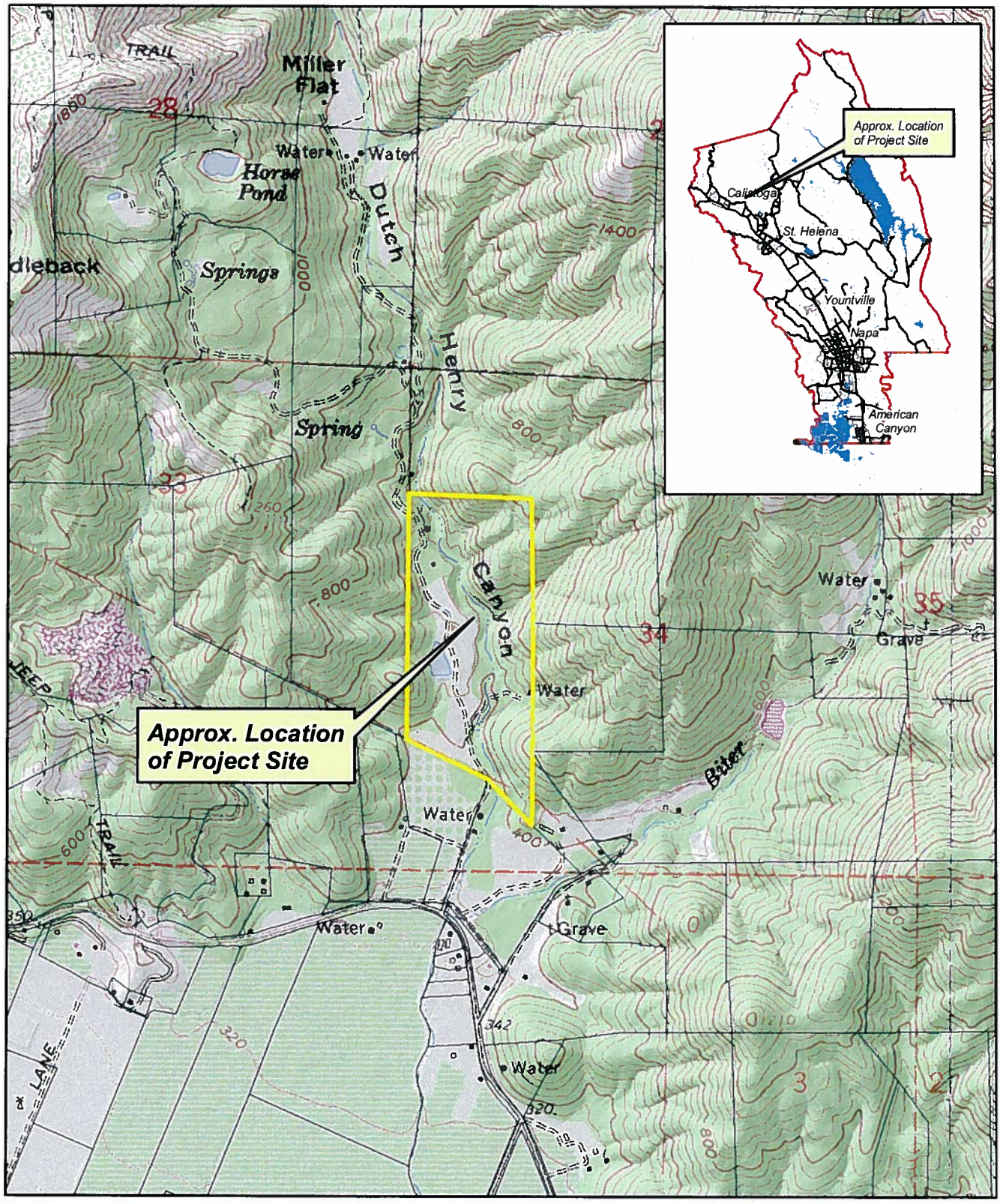
The potential contribution to air quality impacts associated with this project would be rendered less than cumulatively considerable through implementation of the standard conditions of approval (refer to **Section III, Air quality**). As discussed in **Section IV, Biological Resources,** the proposed project would not result in the permanent removal of natural habitat or result in adverse impacts to biological resources with the implementation of **Mitigation Measures BR-1** and **BR-2**. Impacts to cultural resources have not been identified and any unforeseen impacts to cultural resources would be rendered less than cumulatively considerable through implementation of standard conditions of approval (**Section V, Cultural Resources**). Past, present and reasonably foreseeable future projects are not anticipated to significantly alter existing natural habitat within the watershed: approximately 2,000 acres (or 78%) of the total watershed would be expected to remain undeveloped. The proposed project would not result in increases in soil loss, sedimentation, or runoff, resulting in less than significant impacts related to soil loss or sediment production either on a project or cumulative basis (**Section IX, Hydrology/Water Quality**). Water use on the parcel for the proposed development in conjunction with existing agricultural and residential uses would be below both the "fair-share" standards established by the Napa County Department of Public Works and within the daily yield of the existing well, therefore, water use associated with the parcel would have a less than significant impact on the groundwater supply and would not be cumulatively considerable (see **Section IX, Hydrology/Water Quality**). This project would generate noise levels that are considered normal and reasonable for agricultural activities and consistent with the County's "Right to Farm" policy. The potential contribution to noise impacts is considered less than cumulatively considerable. The proposed project would increase traffic by a negligible amount, the effect of the relatively low and off-peak vehicle trips associated with the project is considered less than cumulative considerable.

c. The implementation of #P09-00385-ECPA/#P09-00243-UP would not have any potentially significant negative effects on human beings (see discussions under **Section III, Air Quality; Section VIII Hazards & Hazardous Materials; Section IX, Hydrology/Water Quality; Section XII, Noise; Section XIII, Population and Housing;** and **Section XVI, Transportation and Traffic**). The proposed project, the use of the property, and reasonably foreseeable projects would be activities at a level of intensity considered normal and reasonable for a parcel with an Agricultural Watershed zoning district. Therefore, less than significant impacts are anticipated on human beings.

Exhibits:

Figure 1 – Site Location Map
Figure 2 – Erosion Control Plan #P09-0385-ECPA / Use Permit Exception #P09-00243-UP (w/o Figures or Appendices[18])
Figure 3 – Subject Parcel Aerial Photos 2002 and 2007
Figure 4 – Unnamed Tributaries No.1 and No.2 - Pursuant to Stipulated Judgment Case No. NSC 26-39559
Figure 5 – Vegetation map
Figure 6 – Napa County Code Section 18.108.135 (Oversight and Operation)
Figure 7 – Project Revision Statement

[18] Application materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.



Source: Napa County Conservation Division - 09/2009

Peju - Black Forest Vineyard #P09-00385 Track I New Vineyard

Figure 1

Project Location

BLACK FOREST VINEYARD

321 Dutch Henry Canyon Road
Napa County, California

VINEYARD DEVELOPMENT PROJECT

SITE IMPROVEMENT AND EROSION CONTROL PLANS

PROJECT NARRATIVE and BACKUP DATA

JULY 2009

(Revised October 2009)

(Revised January 2010)

(Revised May 2010)

Napa County
Resource Conservation District
Finds
Plan # P09-00243-UP
Technically Adequate for Erosion and Sediment Control
Mitchell K
Date 7/28/10

Prepared By:

MONTICELLO ENGINEERING
Vacaville, California

FIGURE 2

TABLE OF CONTENTS

CERTIFICATION

All engineering information, conclusions, and recommendations in this document were prepared under the direct supervision of, and were reviewed by a Monticello Engineering California Professional Engineer.

Royce W. Cunningham, P.E.
Principal Engineer
Civil Engineer 41985

5/27/10
Date

General Project Description

The Project consists of the development of 12.0 acres of vineyard on 14.2 acres of cleared land on property owned by Tony Peju. There are currently 6.2 acres of existing vineyard on 7.8 acres of cleared land, developed in 2006, consisting of two separate vineyard blocks, 2.9 acres in Block #1 and 3.3 acres in Block #2. The Project includes clearing an additional 6.4 acres of brush, meadow, and woodland, and conversion to new vineyard in Blocks #3, #4, #5, and #6. The Project area is presently in a mixture of small, immature oak trees, manzanita, and modrone, with underlying scrub brush and grass meadow on terrain with mild to steep slopes of from 5 to 25 percent. The Project is located in Dutch Henry Canyon, off Silverado Trail, south of Calistoga, in the Napa Valley. The existing vineyard blocks have vine rows in a southwest to northeast direction. The new vineyard blocks will generally be farmed with row directions in an uphill-downhill direction, with the exception of Block #4 and Block #6, which will be cross-slope vineyard. No terracing is proposed.

A new channel will be constructed to bypass the western half of Block #1, replacing a previous 24-inch diameter culvert installed through the vineyard block. The culvert will be plugged and abandoned in-place. The new channel will carry runoff from 54 acres of steep, heavily vegetated watershed (Drainage Area #7), which includes an existing 9.2 acre-foot pond on the property. The pond is known to naturally leak, and therefore rarely overflows except after fairly significant storm events. Minimal other improvements, including perimeter roads, cross-slope diversion ditches, and fiber-role dikes, will be required. These improvements are shown on Sheet C3 of the Project improvement plans. A drip irrigation system will also be installed as part of the vineyard development project. The project will be completed in two phases. The first phase already took place in the form of clearing of trees and brush that took place in approximately 2006 and 2007.

Project Location

The project site is located approximately five miles southeast of Calistoga, California (Figure 1). The project is located on Assessor's Parcel 018-060-068 (Figure 2). The property has an address of 321 Dutch Henry Canyon Road, Napa, California. The property consists of 87.7 acres, of which there is presently approximately 6.9 acres planted in existing vineyard.

Existing Topography, Vegetation, and Soils

The proposed project is located along the western side of Dutch Henry Canyon. Elevations range from approximately 400 feet msl to 500 feet msl. Topographic conditions consist of mild slopes between 5 and 25 percent in the proposed vineyard area. The six vineyard blocks have average slopes ranging from 2.8% to 19.3%. The average slope of each vineyard block is shown in Appendix A.

Vegetative cover in the project area consists primarily of scrub brush, small-scattered immature oaks, manzanita, and madrone. Much of the vegetative cover in Blocks #1, #2, #3, and #5 included poorly vegetated grassland with scattered small trees. A large portion of Block #4 also included poorly vegetated grassland with small trees. The newer portion of Block #4 includes approximately 0.4 acres of dense mixed woodland. Block #6 is a former orchard that has not been maintained, and is now in poor condition. The amount of vegetative cover being removed as a percentage of the total vegetative

cover is shown in Appendix B. A circa 2005 photograph of pre-project vegetative conditions prior to any clearing is shown in Figure 3. A circa 2007 photograph showing some of the clearing of Block #2 and Block #4 is shown in Figure 4.

The soil type on the property consists of Boomer-Forward-Felta Complex in both the proposed development area and in the contributing watershed. Preliminary soil investigations indicate soil depths of between 36 and 42 inches in the proposed development area.

Previous clearing activities for the planting of Block #1 and Block #2, and for preparation of Block #3 and Block #4 occurred in 2007. These activities consisted primarily of the removal of scrub brush, small tan oaks and manzanitas, and other immature deciduous trees. Figure 3 is an aerial photograph of the property from prior to the clearing activities, and Figure 4 is an aerial photograph from 2008, after these activities started.

Appendix B includes a breakdown of land cleared, and to be cleared, by vineyard block, including trees removed or to be removed. Additionally, Appendix B includes two April 2008 aerial photographs that show current vegetative cover conditions. These photographs were compared to the 2005 photograph, under magnification, and trees removed during previous land-clearing operations have been marked on the two figures. From this information, an estimated 90 trees of significant size to show up in the magnified photos have previously been removed for vineyard development. An additional 9 trees are anticipated for removal to complete the project. The types of trees previously removed are difficult to ascertain. However, the predominant species on the property in the vineyard block are oaks.

The Owner has an aggressive tree re-planting program, and has already re-planted an estimated 30 small oak trees along the common driveway through the property that is shared by several property owners. The Owner proposes to plant an additional two-dozen trees in the future.

Stream Setbacks

Dutch Henry Canyon Creek is located within a deeply incised canyon, ranging from 15 feet deep at the Property's southern boundary, to over 50 feet deep at the northern end of vineyard development. The canyon walls consist of a series of complex slopes in several locations. Therefore, in the areas of vineyard development along Block #2 and Block #4, complex setback calculations were required to determine adequate setback distances. A series of cross sections of Dutch Henry Canyon were developed from field data collected using a Topcon GMS-2 Global Positioning Satellite (GPS) hand-help receiver. The average value of the complex slope of the area between the top of bank and the proposed vineyard development area was then calculated. The canyon cross-sections, the complex slope calculations, and the required stream setback distances are shown in Sheets C-4 through C-6 of the Project improvement plans. Trial setback calculations are also presented in Appendix C.

Portions of Block #2 were previously installed, in two separate locations, within the stream setback zone for Dutch Henry Canyon Creek. These two stream setback encroachments consist of narrow strips, ranging from 10 feet to 40 feet in width. The two areas encroach within the setback zone 8,450 square feet and 10,720 square feet, respectively, totaling approximately 19,170 square feet in area (See

Sheet C-3). The Project proposes to mitigate these two encroachment areas by increasing stream setbacks along proposed Block #4, providing a mitigation area of 28,620 square feet, significantly larger than the sum of the two encroachment areas. The calculated existing stream setback encroachments and proposed mitigation are shown on Sheet C3 of the Project improvement plans.

Additionally, a portion of existing vineyard in the southeast corner of Block #2, approximately 2,610 square feet in area, will be restored to it's pre-vineyard development condition of grassland. Due to topographic conditions, this area within the stream setback zone could not be farmed and concurrently meet the required soil loss requirements. Therefore, restoration is required. The restoration area is also shown on Sheet C-3 of the Project improvement plans.

Drainage and Hydrology

There is virtually no contributing watershed into each of the vineyard areas other than the 6.9 acres of existing vineyard and the 6.4 acres to be planted. The development area occupies a small ridge running parallel to the property's central access road. Block #1 sheet flows to an existing perimeter ditch to the south. Block #2 sheet flows to the southeast, directly to Dutch Henry Canyon Creek. Block #3 sheet flows south, directly down the ridge, and through Block #1 to the existing drainage ditch south of Block #1. Block #4, sheet flows to the southeast, directly to Dutch Henry Canyon Creek. Block #5 sheet flows to the west to a small natural drainage channel and into the existing pond. Block #6 sheet flows to the southwest, directly to Dutch Henry Canyon Creek. All of the vineyard areas drain into the existing roadside and vineyard perimeter ditches that drain to Dutch Henry Canyon Creek, and ultimately to the Napa River. Site topography and drainage features are shown on Sheet C3 of the Project improvement plans.

Pre-project and post-project hydrologic calculations for the 2-year 24-hour, 10-year 24-hour, 50-year 24-hour, and 100-year 24-hour storms were performed using the Natural Resource Conservation Service (NRCS) hydrologic manual Technical Release 55 (TR-55). Hydrologic calculations show very small reductions in the time of concentration for runoff in the developing areas. However, the Project does not result in increases in runoff peaks and volumes. The following tables shows a comparison of pre- and post-project runoff peak flows for the 24-hour storms evaluated.

Table 1: Summary of Hydrology Calculations

	2-Year 24-Hour Storm		10-Year 24-Hour Storm	
Block No.	Pre-Project Peak Discharge	Post-Project Peak Discharge	Pre-Project Peak Discharge	Post-Project Peak Discharge
1	0.27 cfs	0.27 cfs	0.78 cfs	0.78 cfs
2	0.36 cfs	0.36 cfs	1.00 cfs	1.00 cfs
3	0.25 cfs	0.25 cfs	0.72 cfs	0.72 cfs
4	0.19 cfs	0.19 cfs	0.56 cfs	0.56 cfs
5	0.08 cfs	0.08 cfs	0.24 cfs	0.24 cfs
6	0.06 cfs	0.06 cfs	0.16 cfs	0.16 cfs

Table 1: Summary of Hydrology Calculations (Continued)

	50-Year 24-Hour Storm		100-Year 24-Hour Storm	
Block No.	Pre-Project Peak Discharge	Post-Project Peak Discharge	Pre-Project Peak Discharge	Post-Project Peak Discharge
1	1.63 cfs	1.63 cfs	2.03 cfs	2.03 cfs
2	2.10 cfs	2.10 cfs	2.62 cfs	2.62 cfs
3	1.51 cfs	1.51 cfs	1.89 cfs	1.89 cfs
4	1.17 cfs	1.17 cfs	1.46 cfs	1.46 cfs
5	0.51 cfs	0.51 cfs	0.63 cfs	0.63 cfs
6	0.34 cfs	0.34 cfs	0.43 cfs	0.43 cfs

The hydrologic calculations show that development of the existing and new vineyard areas have resulted in no net increases to rainfall runoff and drainage. Hydrologic calculations of runoff are presented in Appendix D.

Preliminary Environmental Evaluation

A review of environmental sensitivity maps maintained by the Napa County Conservation, Development, and Planning Department was conducted to determine if the project is located in an area of known environmental sensitivity. The County's sensitivity maps include highlighted areas for high landslide potential, spotted-owl nesting sites, rare and endangered species habitat, archaeological finds, potential for flooding or inundation, seismic faults or other geologic hazards, high fire areas, and historical significance. The maps indicated the site was in an area of high fire hazard. The sensitivity maps did not show any other known areas of environmental sensitivity in the immediate vicinity of the project.

A biologist and a cultural anthropologist were retained by the Owner to evaluate environmental impacts on biological resources resultant from the project, and an evaluation of any impacts to cultural or archaeological resources. Appendix E is a copy of the Biological Assessment. Appendix F is a copy of the Cultural Resources Evaluation.

Description of Vineyard Development Activities

Site development activities initially will consist of clearing of trees and grubbing of surface vegetation using bulldozers equipped with blades and brush rakes. The cleared area will then be ripped to a depth of between 30 and 36 inches. Any rocks dislodged during clearing and grubbing activities will be used to expand or maintain existing rock walls on the property. Rock will not be hauled off-site for disposal, or piled on-site. Perimeter roads will be constructed around the area to be cleared and converted to vineyard. Perimeter roads will be dirt roads, but will be seeded with both the temporary and permanent cover crops specified. The portion of the road where tires track will likely not sustain vegetative cover though.

The vineyard rows will then be laid out, and the drip irrigation system will be installed. Drainage features, including the new drainage channel above Block #1, and the plugging of the existing 24-inch culvert, will also be installed. Erosion control measures, including installation of fiber-roll dikes, mid-vineyard diversion ditches, and vegetative seeding will occur prior to planting.

To perform the vineyard development activities, several pieces of construction equipment will be brought to the property. These are anticipated to include a bulldozer with ripping blades, and a backhoe. These pieces of equipment will be mobilized to the site, and de-mobilized, on the backs of transport vehicles, one trip per vehicle, each way. The majority of vineyard development activities will be performed by the approximately eighteen (18) vineyard workers employed by the Applicant. The workers typically arrive at the property three or four employees per vehicle, which will result in approximately 12 total vehicle trips per day during vineyard development activities.

For ongoing vineyard operations, the same crew is employed. Equipment used primarily consists of hand tools, and small, all-wheel-drive, off-road vehicles for hauling, spraying, etc. The most labor-intensive periods are pruning, in January and February; and harvest, in September and October. During pruning, all 18 employees will be working, resulting in approximately 12 total vehicle trips per day. During harvest, the same employees will be working, plus an additional six to eight total vehicle trips per day for the grape trucks (8 ton trucks).

Construction Schedule

The project will be completed in two phases. Some clearing and grubbing of brush and trees in Block #3 and Block #4 was initiated under Phase 1 in 2007 without an approved Erosion Control Plan (ECP). These activities were halted at the direction of Napa County while an ECP Application was to be prepared and submitted. Completion of clearing and grubbing, and soil preparation is anticipated in Phase 2, during the first six weeks of construction in May and June of 2010, pending ECP approval. Planting will occur in Phase 2, in late spring or early summer 2010. Final erosion control preparations will be made during the final few weeks of the 2010 construction season, prior to October 15, 2010.

The proposed project schedule estimates the construction period to be approximately eleven (11) weeks. Clearing and grubbing will occur during the first four (4) weeks. The soil in the project area will then be ripped, tilled, and prepared for planting in the following two (2) weeks. The next three (3) weeks will consist of planting and final improvements to the vineyard areas and installation of an irrigation system. Seeding, mulching, and implementation of erosion control measures prior to the onset of winter will be performed in the final two (2) weeks. Planting of the vineyard will be dependent on the availability of sufficient rootstock and weather. Following is a list of key construction activities.

Activity	Duration
Clearing/grubbing	4 weeks
Ripping/tilling/soil preparation	2 weeks

Planting/irrigation system installation	3 weeks
Erosion control measures	2 weeks
Total Construction Period	11 weeks

Vineyard development activities are considered complete after the rootstock has been planted, the temporary erosion control cover crop has been seeded, and the erosion control measures have been installed, prior to the onset of the first winter. Subsequent post-completion activities include seeding of the permanent cover crop, and grafting of the vine stock. The permanent cover crop will be established the following spring, after the threat of erosive rains has passed, and maintenance and adjustment of erosion control measures has been performed to reflect winter performance. The vine stock will be grafted at the appropriate time to maximize survival, as determined by the vineyard manager.

Erosion Control Measures

Vegetative Measures. All areas cleared for planting vineyard will be seeded with temporary vegetative cover for erosion protection. A National Resource Conservation District (NRCS) recommended Hillside Quick Erosion Control "Soil Builder" seed mixture of Red Oats (60 lbs./acre), Austrian Winter Pea (20 lbs/acre), and Crimson Clover (12 lbs./acre) will be used, utilizing the broadcast method. Fertilizer (16-20-0) will be applied at 200 lbs. per acre. Straw mulching, at a broadcast rate of 50 bales or 4,000 pounds per acre, will also be performed in any cleared areas exceeding 100 square feet. Disturbed slopes of greater than 25 percent will have the straw crimped into place.

The vineyard management team is also proposing to utilize permanent cover cropping practices in the normal vineyard operation once vineyard development is complete. A NRCS recommended Hillside-Shallow Soils seed mixture of Zorro Fescue (10 lbs./acre), Blando Brome (7 lbs/acre), Hykon Rose Clover (6 lbs./acre), and a Wildflower Blend of Yarrow, California Poppy, Paper Poppy, and Tidy Tips (5 lbs./acre) will be used. Strip spraying will be performed along a narrow strip along each vine row, ensuring a minimum of 70 percent ground cover.

The soil type on the property consists of Boomer-Forward-Felta Complex in both the proposed development area and in the contributing watershed. Appendix G includes potential soil disturbance calculations using the Universal Soil Loss Equation (USLE). The USLE, as defined by the National Resource Conservation Service (NRCS), estimates soil movement in the form of sheet erosion, "the thin, uniform wearing away of the uppermost surface layers in the soil profile". The USLE takes into account topographic, orographic, soil, and vegetative conditions, as well as farming practice information, to compare the tons per acre of sheet soil movement for a given set of existing conditions, or proposed vineyard conditions, against established recommended maximum values developed by the NRCS. USLE calculations are used to determine the best farming practices for a given site to minimize sheet soil loss.

The recommended maximum value from the NRCS literature (or T value) for the Project site is

3.0 tons per acre. For new vineyard areas, calculated soil losses are compared against T+2, or 5.0 tons per acre. For existing vineyard areas encroaching within a stream setback zone, calculated soil losses are compared against T, or 3.0 tons per acre. In all cases, post-project calculated soil loss must be less than or equal to pre-project soil losses, to ensure n net environmental impact due t soil loss.

The USLE calculations included in Appendix G indicate that post-project soil mobility potential is within the recommended values, and are less than pre-project values, if the proposed erosion control measures are implemented. The following table shows a comparison of pre- and post-project USLE calculations for the proposed vineyard areas.

Table 2: Summary of USLE Calculations

Block No.	Pre-Project Soil Loss	Post-Project Soil Loss	Soil Type	Recommended Max. Soil Loss
1	0.41 t/a	0.37 cfs	Boomer-Forward-Felta	5.0 Tons/Acre
2	1.39 t/a	1.26 cfs	Boomer-Forward-Felta	3.0 Tons/Acre
3	2.42 t/a	1.54 cfs	Boomer-Forward-Felta	5.0 Tons/Acre
4	3.53 t/a	1.19 cfs	Boomer-Forward-Felta	5.0 Tons/Acre
5	1.15 t/a	0.79 cfs	Boomer-Forward-Felta	5.0 Tons/Acre
6	2.05 t/a	1.17 cfs	Boomer-Forward-Felta	5.0 Tons/Acre

The results of the USLE calculations show that, with the implementation of erosion control measures, very slight decreases in soil disturbance potential will occur from pre-project to post-project conditions.

Structural Measures. Structural erosion control measures primarily consist of storm drainage improvements to be installed in such a manner as to minimize the effects of increases in runoff peak discharges and velocities due to concentration of runoff in channels and culverts at road crossings. Row directions in the new vineyard will be approximately up and down slope.

Water Bars on Roads. The slopes of vineyard perimeter roads in the Project do not appear to require the installation of water bars to minimize erosion along the roads. However, the Engineer may determine during construction that water bars are necessary on perimeter roads at specific locations to minimize erosion potential. If water bars are installed, roads will be sloped approximately 2 percent into the hillside at these locations to prevent development of rills across the road.

Grass- or Rock-Lined Drainage Channels. Grass-lined drainage channels will be utilized wherever possible. Rock-lining of channels will only occur if determined necessary by the Engineer during construction, usually in areas where runoff may concentrate and reach velocities in excess of five feet per second, and soils are highly erosive. Lined channels will be constructed of shallow depth (approximately one or two feet). If in the vineyard interior, these channels will be constructed with flat side slopes (4 horizontal to 1 vertical), or even parabolically, so farming equipment can cross directly across the channels in dry weather. The Project improvement plans currently do not anticipate the rock-lining of ditches as necessary. However, the Engineer may require the rock-lining of drainage channels if conditions in the field at the time of construction indicate excessive erosion potential may

exist if rock-lining is not performed.

Mid-Vineyard Diversion Ditches. Small diversion ditches will be constructed within the vineyard area to collect and convey runoff from the vineyard to other drainage facilities. These diversion ditches reduce the length of uninterrupted slopes and therefore reduce soil erosion. Mid-vineyard diversion ditches are spaced approximately one hundred to one hundred fifty feet apart, as measured down the slope

Mid-Vineyard Fiber-Roll Dikes or Wattles. Fiber-roll wattles will be installed within the vineyard area to slow sheet-flow runoff and prevent concentration of flow into rill and gully erosion. The fiber-roll wattles reduce the length of uninterrupted slopes and therefore reduce soil erosion. Mid-vineyard fiber-roll wattles are spaced approximately seventy-five feet (75') to one hundred feet (100') apart, as measured down the slope

Construction Cost Estimates

A List of Materials and Engineer's Estimate for the cost of construction is included in Appendix H.

Black Forest Vineyard

Napa County, California

Vineyard Improvement Project

EROSION CONTROL PLAN

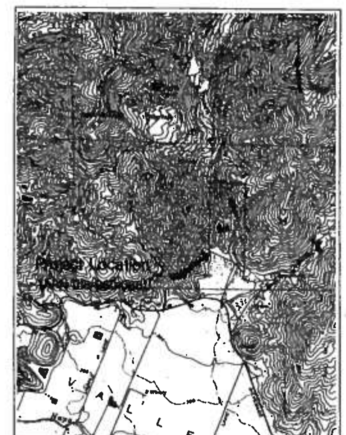
PROPERTY OWNER
BLACK FOREST VINEYARD
321 DUTCH HENRY CANYON ROAD
ST. HELENA, CALIFORNIA 94574
(707) 963-3600

CIVIL ENGINEER
MONTICELLO ENGINEERING
825 CORTE MALAGA
VACAVILLE, CALIFORNIA 95688
(707) 448-2066

Vicinity Map
SCALE : 1" = 12 MILES

SHEET INDEX

Sheet	Description
1	TITLE SHEET
2	SITE PLAN, LEGEND, AND CONSTRUCTION NOTES
3	PROPOSED SITE IMPROVEMENT AND EROSION CONTROL PLAN
4	CROSS SECTIONS SHOWING STREAM SETBACK REQUIREMENTS
5	CROSS SECTIONS SHOWING STREAM SETBACK REQUIREMENTS
6	CROSS SECTIONS SHOWING STREAM SETBACK REQUIREMENTS
7	EROSION CONTROL DETAILS



Location Map
SCALE : 1" = 2000'

Napa County
Resource Conservation District
Finds
Plan # ...
Technically Adequate for Erosion and Sediment Control

Date ...

Monticello Engineering

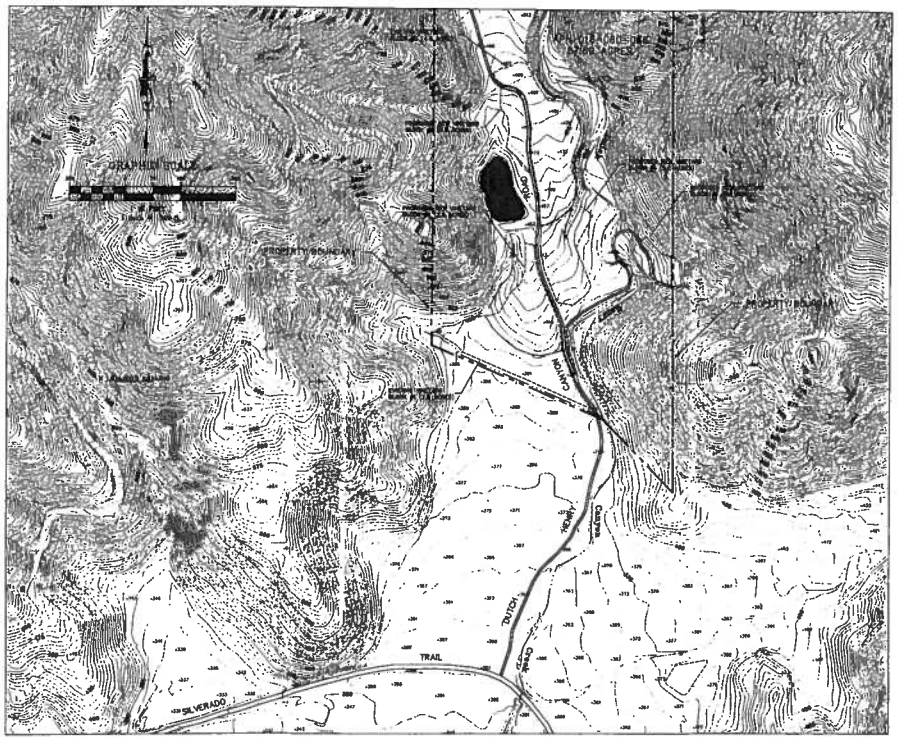
Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan
321 Dutch Henry Canyon Road
St. Helena, California

Project Engineer: R. Cunningham
Designed by: R. Cunningham
Drawn by: R. Cunningham
Checked by: R.W.C.
Topographic Surveys: Napa County GIS Orthophoto Data

Title Sheet

RECEIVED
JUN 7 2010
NAPA CO. CONSERVATION DEVELOPMENT & PLANNING

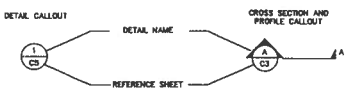
Date	Project No.	Sheet	
May 22, 2009	110-07-01	C-1	1 of 7 sheets



Site Plan

SCALE : 1" = 300'

Detail Key



Construction Notes

GENERAL:

1. HORIZONTAL AND VERTICAL INFORMATION BASED UPON ORTHOGRAPHIC MAPPING CONDUCTED BY NAPA COUNTY.
2. ALL IMPROVEMENTS ARE TO BE CONSTRUCTED ACCORDING TO THE FOLLOWING DOCUMENTS. IN CASE OF DISCREPANCY, THE FOLLOWING ORDER WILL GOVERN THE INTERPRETATION OF CONSTRUCTION DOCUMENTS:
   A. PROJECT IMPROVEMENT PLANS AND SPECIFICATIONS
   B. NAPA COUNTY STANDARDS
   C. CALTRANS STANDARD SPECIFICATIONS
3. THE CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION OF ANY PROPOSED IMPROVEMENTS CONNECTING TO OR IN THE VICINITY OF SAID PROPOSED IMPROVEMENTS.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES AND FEES, AND GIVE ALL NOTICES PRIOR TO THE START OF CONSTRUCTION.
5. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION ON THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS ON THE JOB SITE DURING THE COURSE OF CONSTRUCTION.
7. THE CONTRACTOR SHALL TAKE EXTREME CARE TO PROTECT EXISTING SITE AND ADJACENT IMPROVEMENTS FROM DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THE CONSTRUCTION AND SHALL REPAIR OR REPLACE ANY DAMAGED PROPERTY TO PRE-DAMAGED CONDITION AT THEIR OWN EXPENSE.
8. FENCING TO BE INSTALLED AROUND NEW VINEYARD AREAS SHALL MATCH EXISTING 8-FOOT DEER FENCE WITH TREATED WOOD POSTS AND 4 X 4 WIRE MESH.

GRADING AND DRAINAGE:

1. THE NAPA COUNTY STANDARDS ARE TO BE APPLIED FOR ALL GRADING AND DRAINAGE CONSTRUCTION EXCEPT AS HEREIN MODIFIED OR SUPPLEMENTED.
2. ALL GRADING SHALL CONFORM TO CHAPTER 70 UBC, LATEST EDITION, AND TO THE REQUIREMENTS OF THE NAPA COUNTY STANDARDS.
3. MATERIAL RESULTING FROM CLEARING AND/OR GRADING OPERATIONS WHICH IS NOT USED AS BACKFILL SHALL BE DISPOSED OF OFF-SITE, OR AS APPROVED BY THE ENGINEER.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT DUST CONTROL MEASURES DURING CONSTRUCTION ACTIVITIES. NON-POTABLE WATER SHALL BE SPRAYED ON ALL EXPOSED EARTH SURFACES DURING CLEARING, GRADING, EARTH MOVING, AND OTHER SITE PREPARATION ACTIVITIES. THE EXPOSED EARTH SHALL BE WATERED AS NECESSARY TO MINIMIZE DUST.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL CONSTRUCTION EQUIPMENT AND VEHICLES LEAVING THE SITE ON A DAILY BASIS TO PREVENT DUST, SILT, AND DIRT FROM BEING RELEASED OR TRACKED OFF-SITE.

TREE PRESERVATION:

1. THE CONTRACTOR'S OPERATIONS SHALL BE LIMITED TO WITHIN THE AREA MARKED ON THE CONSTRUCTION PLANS AS "LIMITS OF WORK". DISTURBANCE OF VEGETATION OUTSIDE OF THIS AREA SHALL BE AVOIDED.
2. ANY GRADING IN THE AREA OF TREES TO REMAIN SHALL BE LIMITED TO OUTSIDE OF THE DRIPLINE. NO TRENCHING SHALL OCCUR BENEATH THE DRIPLINE OF ANY OAK UNLESS PRE-APPROVED BY THE ENGINEER.

EROSION CONTROL:

1. ALL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND FULLY OPERATIONAL BY OCTOBER 15.
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE REQUIREMENTS OF THE COUNTY AND STATE SPECIFICATIONS.
3. ANY DIVERSION DITCHES TO BE CONSTRUCTED ON THE UPHILL SIDE OF THE WORK AREA SHALL BE ROCK LINED IN AREAS OF SEVERE EROSION POTENTIAL, TO BE DETERMINED BY THE ENGINEER IN THE FIELD DURING CONSTRUCTION.
4. ALL DISTURBED AREAS SHALL HAVE SEED FOR TEMPORARY COVER APPLIED BY THE BROADCAST METHOD AT THE FOLLOWING RATES:

RED OATS	60 LBS/ACRE
AUSTRIAN WINTER PEAS	20 LBS/ACRE
CRIMSON CLOVER	12 LBS/ACRE

   16-20-0 FERTILIZER, OR EQUIVALENT, SHALL BE APPLIED AT A RATE OF 200 LBS/ACRE ON SEEDED AREAS.
5. ANY DISTURBED AREA GREATER THAN 100 SQ. FT. SHALL BE COVERED WITH BROADCAST STRAW AT A RATE OF 50 BALES OR 4,000 LBS. PER ACRE. ON DISTURBED SLOPES GREATER THAN 25%, STRAW SHALL BE PRESSED IN PLACE.
6. ALL DISTURBED AREAS, REGARDLESS OF SLOPE, WITHIN 75 FEET OF THE TOP OF BANK OF A NATURAL DRAINAGE CHANNEL SHALL BE COVERED WITH STRAW AND PRESSED IN PLACE.
7. NO GRADING OR TRENCHING, EXCEPT AS REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL OCCUR WITHIN 50 FEET FROM A PERMANENT OR INTERMITTENT DRAINAGE WAY BETWEEN APRIL 1 AND OCTBER 15 UNLESS APPROVED IN WRITING BY THE ENGINEER.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE, OR CAPABLE OF BEING PLACED WITHIN 24 HOURS, FOR ANY CONSTRUCTION ACTIVITIES OCCURING BETWEEN OCTOBER 15 AND APRIL 1.
9. THE CONTRACTOR SHALL ENSURE THAT THE CONSTRUCTION SITE IS FULLY PREPARED PRIOR TO THE ONSET OF WINTER. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED FOLLOWING EACH STORM TO VERIFY THAT MEASURES ARE FUNCTIONING PROPERLY.
10. A PERMANENT COVER CROP SHALL BE PLANTED FOLLOWING VINEYARD PLANTING, CONSISTING OF THE FOLLOWING MIX:

ZORRO FESCUE	10 LBS/ACRE
BLANDO BROME	7 LBS/ACRE
HYKON ROSE CLOVER	8 LBS/ACRE
WILDFLOWER BLEND (YARROW, CA POPPY, PAPER POPPY, TIDY TIPS)	5 LBS/ACRE

Legend

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
	LIMITS OF WORK AREA	
100	PRIMARY TOPOGRAPHIC CONTOUR	125
	INTERMEDIATE TOPOGRAPHIC CONTOUR (5 FOOT INTERVAL)	
	PROJECTED TOPOGRAPHIC CONTOURS THROUGH HEAVY VEGETATION	
	FOREST / TREE VEGETATION LINE	
	FENCE LINE	
	PAVED ROAD	
	UNPAVED ROAD	
	BUILDING OR STRUCTURE	
	SEASONAL CREEK OR DITCH	
PWR	POWER OR TELEPHONE POLE	
	EDGE OF TREELINE	
WELL W	WATER SUPPLY WELL	
	IRRIGATION MAINLINES	

EXISTING		PROPOSED
103.6	SPOT ELEVATION	
TBM #2 77.08	BENCH MARK	
STA 'X' 148.88	SURVEY STATION	
	TOP OF CREEK BANK	
	CALCULATED STREAM SETBACK	
	DRAINAGE FLOW DIRECTION	
	WATER BARS	
	UN-LINED DRAINAGE CHANNEL WITH DIRECTION OF FLOW	
	ROCK LINED DRAINAGE CHANNEL WITH DIRECTION OF FLOW	
	FIBER ROLL EROSION CONTROL BARRIER	
	AREA OF STREAM SETBACK ENCROACHMENT	
	AREA OF STREAM SETBACK ENCROACHMENT MITIGATION	
	AREA OF EXISTING VINEYARD TO BE REMOVED AND RESTORED AS GRASSLAND	

Revision No.	Description	By	Date
2	ECP REVISIONS BASED ON NAPA COUNTY COMMENTS (12/09/09)	TMC	01/04/10
1	ECP REVISIONS BASED ON FIELD REVISIONS W/NAPA COUNTY ON (10/02/09)	TMC	10/22/09

Monticello Engineering
625 Corte Malaga Vacaville, CA 95688
Phone (707) 448-8288
Fax (707) 448-6482
E-Mail: monticello.engineering@yahoo.com

REGISTERED PROFESSIONAL ENGINEER — No. 60418 — Exp. 3-31-10 — CIVIL — STATE OF CALIFORNIA

Date 1/7/10

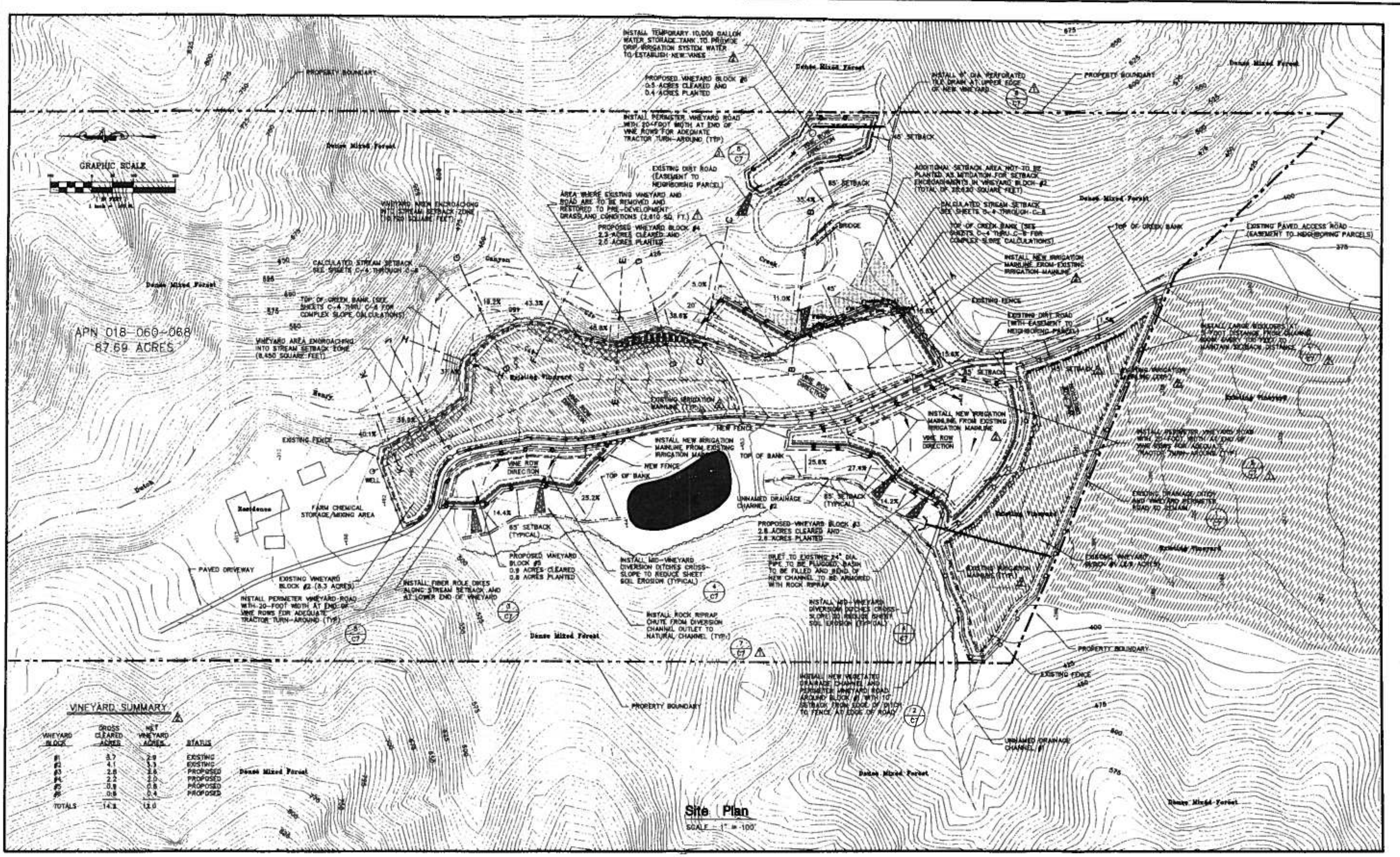
Geotechnical	
Structural	
Mechanical	
Electrical	
Architectural	
Project Engineer	R. Cunningham
Designed by	R. Cunningham
Drawn by	R. Cunningham
Checked by	T.M.C.
Topographic Survey	Napa County GIS Orthophoto Data

Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan

321 Dutch Henry Canyon Road
Napa County, California

Site Plan, Legen, and Construction Notes

Date	Project No.	Sheet
May 22, 2009	110-07-01	C-2 — 2 of 7 sheets



VINEYARD SUMMARY

VINEYARD BLOCK	GROSS CLEARED ACRES	NET VINEYARD ACRES	STATUS
#1	3.7	2.9	EXISTING
#2	4.1	3.3	EXISTING
#3	2.8	2.6	PROPOSED
#4	2.2	2.0	PROPOSED
#5	0.9	0.8	PROPOSED
#6	0.6	0.4	PROPOSED
TOTALS	14.3	12.0	

Revision	Description	By	Date
2	ECP REVISIONS BASED ON NAPA COUNTY COMMENTS (12/09/09)	RWC	01/04/10
1	ECP REVISIONS BASED ON FIELD REVISIONS W/NAPA COUNTY ON (10/02/09)	RWC	10/22/09

Monticello Engineering
535 Corte Malaga Vacaville, CA 95688
Phone (707) 448-2068
Fax (707) 448-4482
E-Mail monticello.engineering@yahoo.com

1/7/10

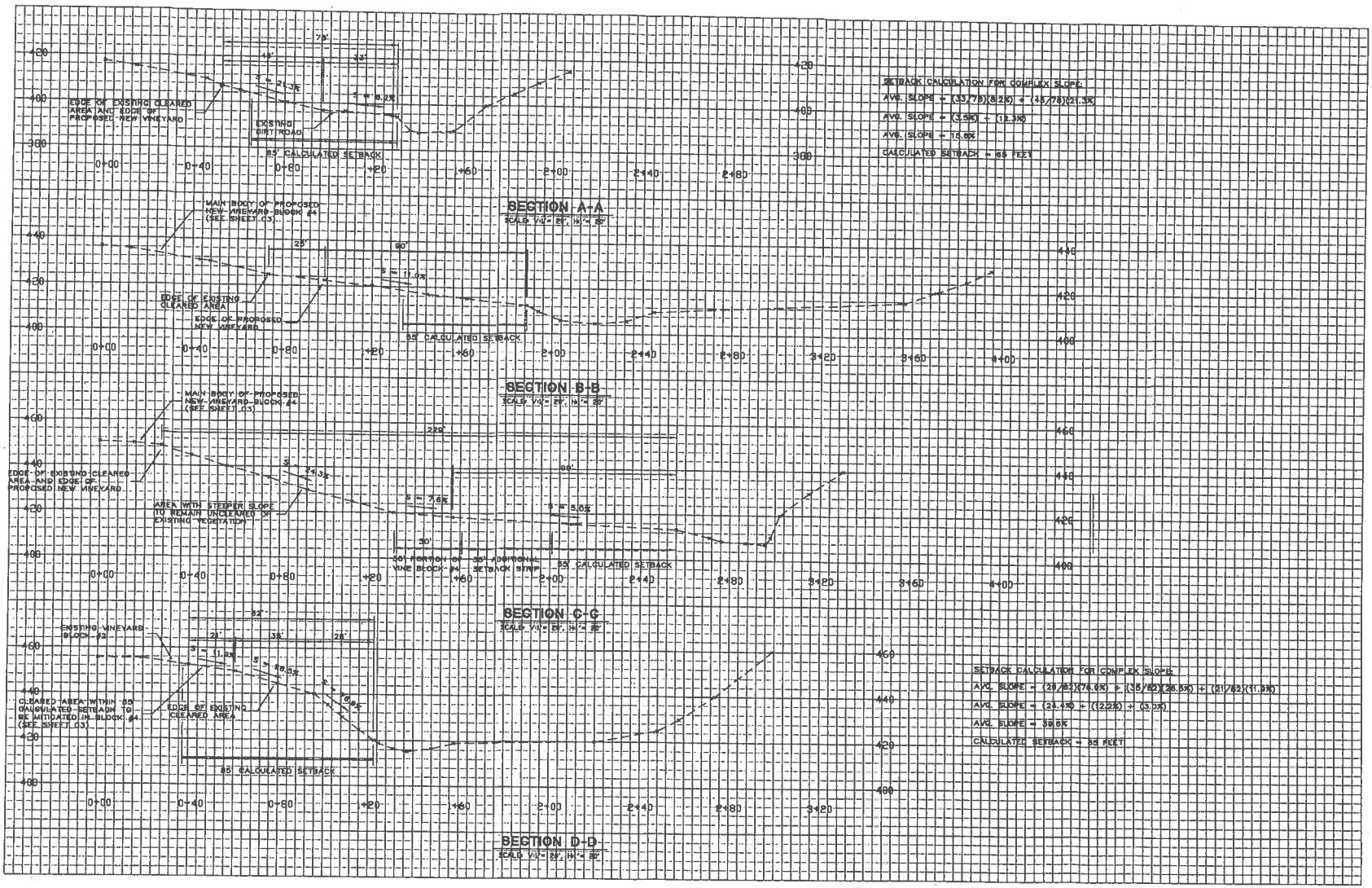
Project Engineer: R. Cunningham
Designed by: R. Cunningham
Drawn by: R. Cunningham
Checked by: RWC

Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan

321 Dutch Henry Canyon Road
Napa County, California

Proposed Site Improvement and Erosion Control Plan

Date: May 22, 2009
Project No. 110-07-01
Sheet C-3
3 of 7 sheets



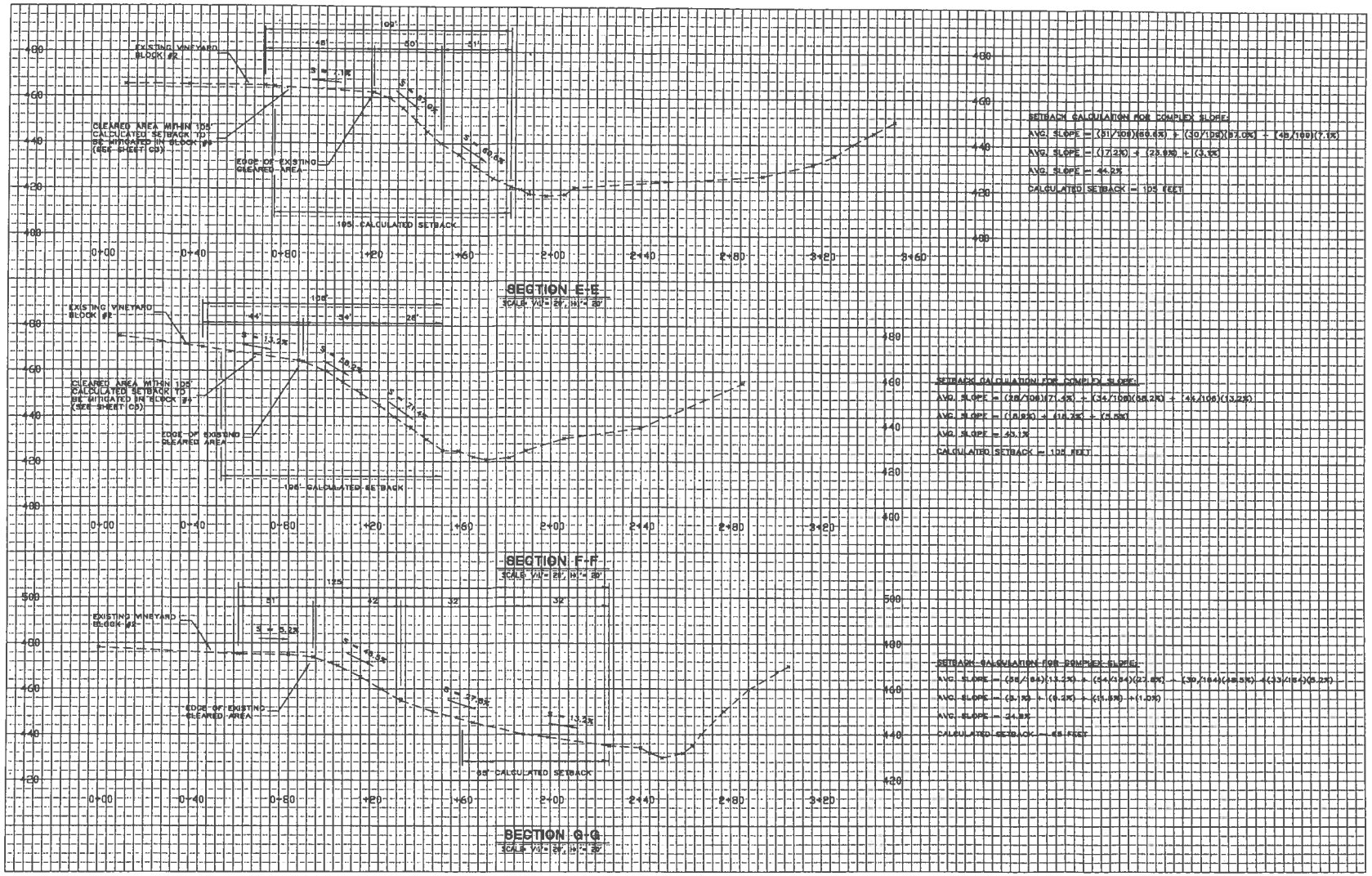
Monticello Engineering
828 Corte Malaga Vacaville, CA 95688
Phone: (707) 448-8288
Fax: (707) 448-4482
E-Mail: monticello_engineering@yahoo.com

Project Engineer: R. Cunningham
Designed by: R. Cunningham
Drawn by: R. Cunningham
Checked by: RandC
Topographic Surveys: Napa County GIS
Orthophoto Data:

Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan
321 Dutch Henry Canyon Road
Napa County, California

Cross Sections Showing
Stream Setback Requirements

Date: May 22, 2009
Project No.: 110-07-01
Sheet: C-4
4 of 7 sheets



No.	Description	By	Date

Monticello Engineering
888 Corte Malaga Vacaville, CA 95688
Phone: (707) 448-8088
Fax: (707) 448-4488
E-Mail: monticello_engineering@yahoo.com

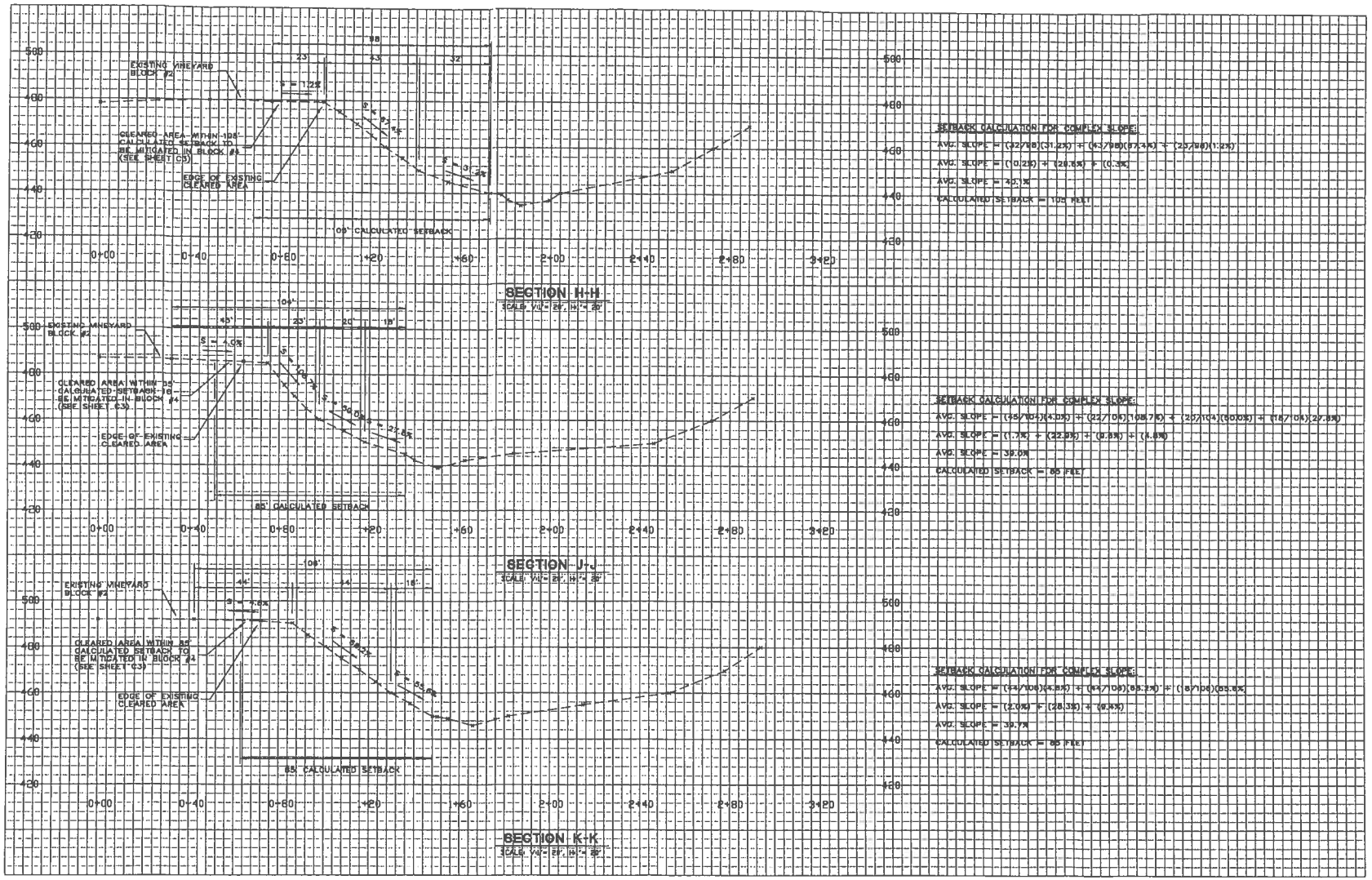
REGISTERED PROFESSIONAL ENGINEER — R. CUNNINGHAM — No. 041886 — CIVIL — STATE OF CALIFORNIA
Date: 1/7/10

Mechanical	Project Engineer: R. Cunningham
Structural	Designed by: R. Cunningham
Plumbing	Drawn by: R. Cunningham
Electrical	Checked by: EAAC
Architectural	Topographic Surveys: Napa County GIS Orthophoto Date

Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan
321 Dutch Henry Canyon Road
Napa County, California

Cross Sections Showing Stream Setback Requirements

Date	Project No.	Sheet	
May 22, 2009	110-07-01	C-5	5 of 7 sheets



Monticello Engineering
685 Carla Malaga Vacaville, CA 95688
Phone: (707) 448-8088
Fax: (707) 448-4488
E-Mail: monticello_engineering@yahoo.com

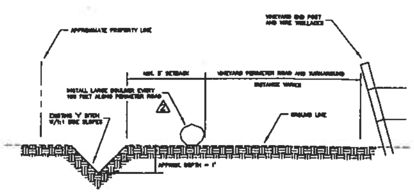
Date: 1/7/10

Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan

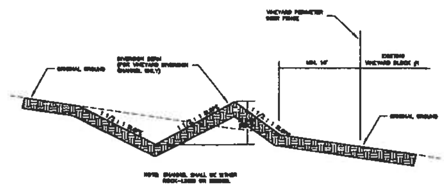
321 Dutch Henry Canyon Road
Napa County, California

Cross Sections Showing Stream Setback Requirements

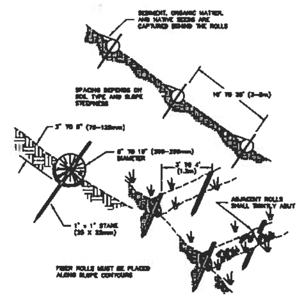
Date: May 22, 2009
Project No.: 110-07-01
Sheet: C-6 of 7 sheets



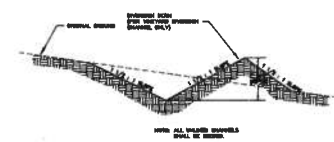
1 / C3 EXISTING DITCH AND PERIMETER ROAD
NOT TO SCALE



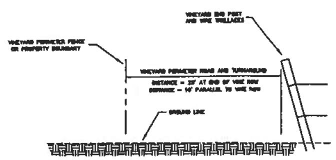
2 / C3 NEW DRAINAGE CHANNEL
NOT TO SCALE



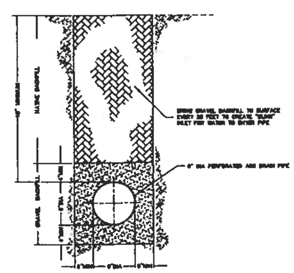
3 / C3 FIBER ROLL DIKE DETAIL
NOT TO SCALE



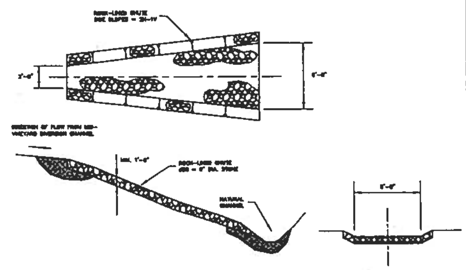
4 / C3 'V' DIVERSION CHANNEL DETAIL
NOT TO SCALE



5 / C3 PROPOSED NEW VINEYARD PERIMETER ROAD
NOT TO SCALE



6 / C3 TILE DRAIN DETAIL
NOT TO SCALE



7 / C3 ROCK-LINED CHUTE DETAIL
NOT TO SCALE

Symbol No.	Description	By	Date
2	ECP REVISIONS BASED ON NAPA COUNTY COMMENTS (12/09/09)	RWC	01/04/10
1	ECP REVISIONS BASED ON FIELD REVISIONS W/NAPA COUNTY ON (10/02/09)	RWC	10/22/09

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Fax: (707) 448-4462
E-Mail: monticello_engineering@yahoo.com

Date: 1/7/10

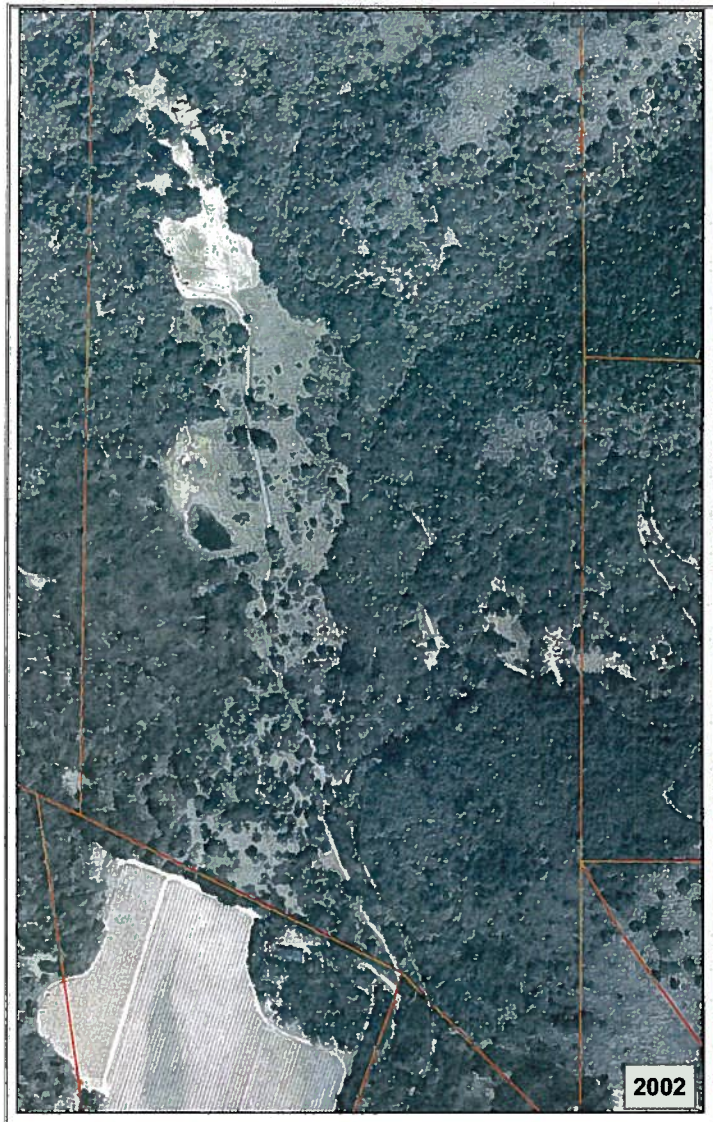
Project Engineer: R. Cunningham
Designed by: R. Cunningham
Drawn by: R. Cunningham
Checked by: RWC
Topographic Survey: Napa County GIS Orthophoto Data

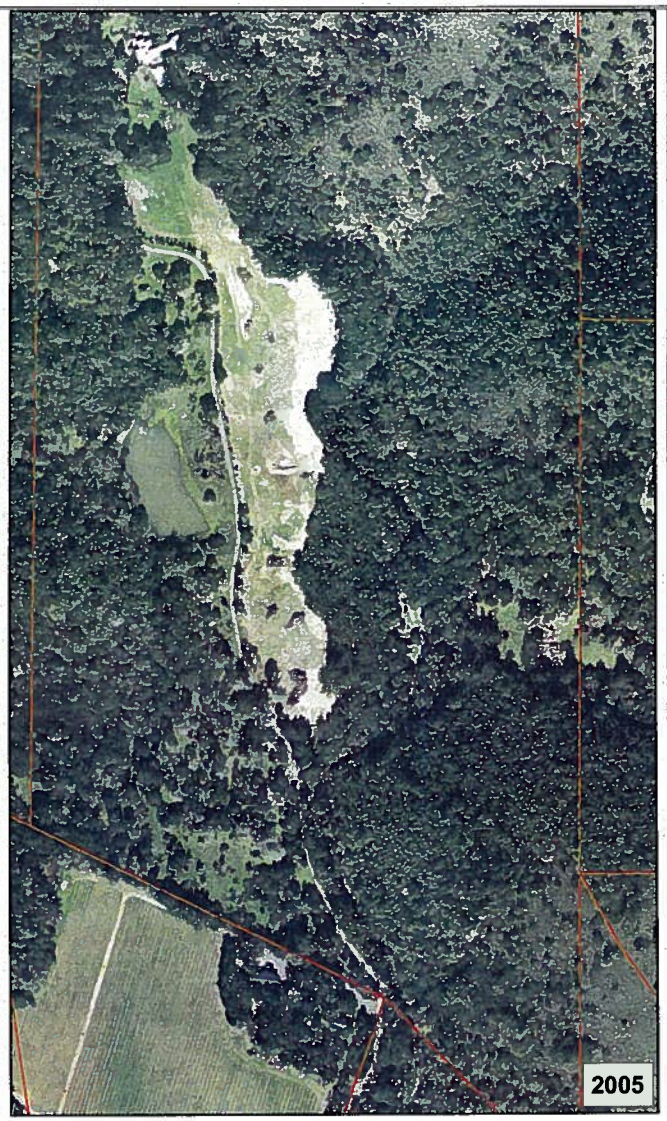
Black Forest Vineyard
Vineyard Improvement Project
Erosion Control Plan

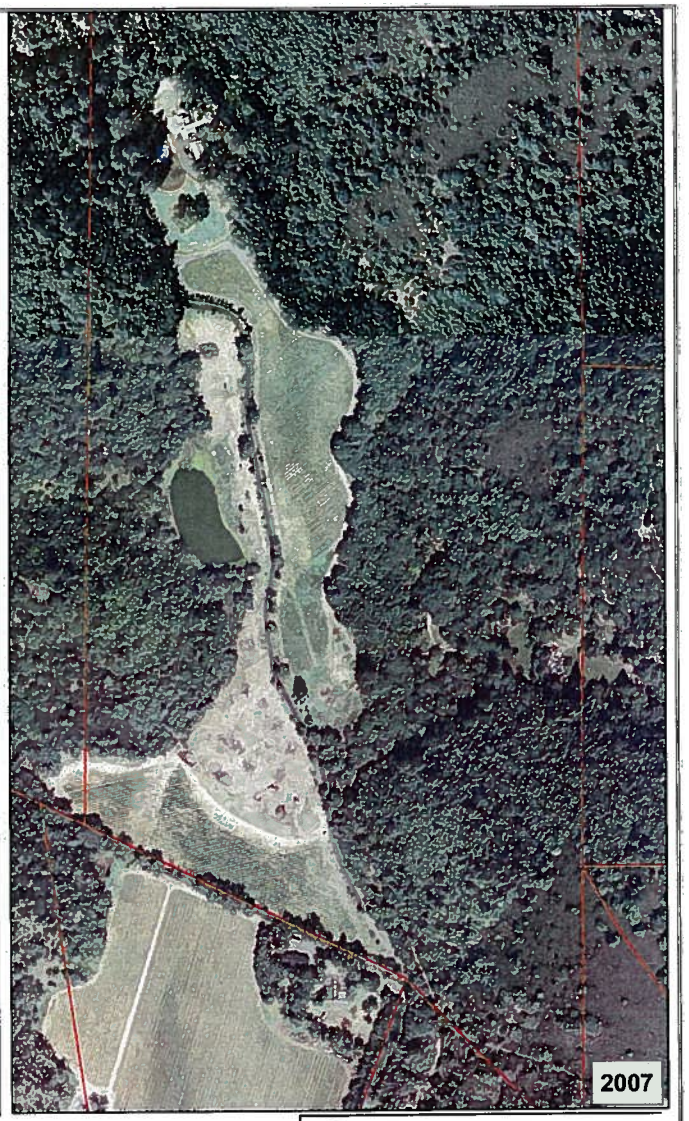
321 Dutch Henry Canyon Road
Napa County, California

Erosion Control Details

Date: May 22, 2009
Project No. 110-07-01
Sheet C-7 7 of 7 sheets







Disclaimer: This map was prepared for informational purpose only. No liability is assumed for the accuracy of the data delineated hereon.
Horizontal Datum: NAD 83,
CA State Plane Coordinates,
Zone II, feet

0 137.5 275 550 825 1,100 Feet

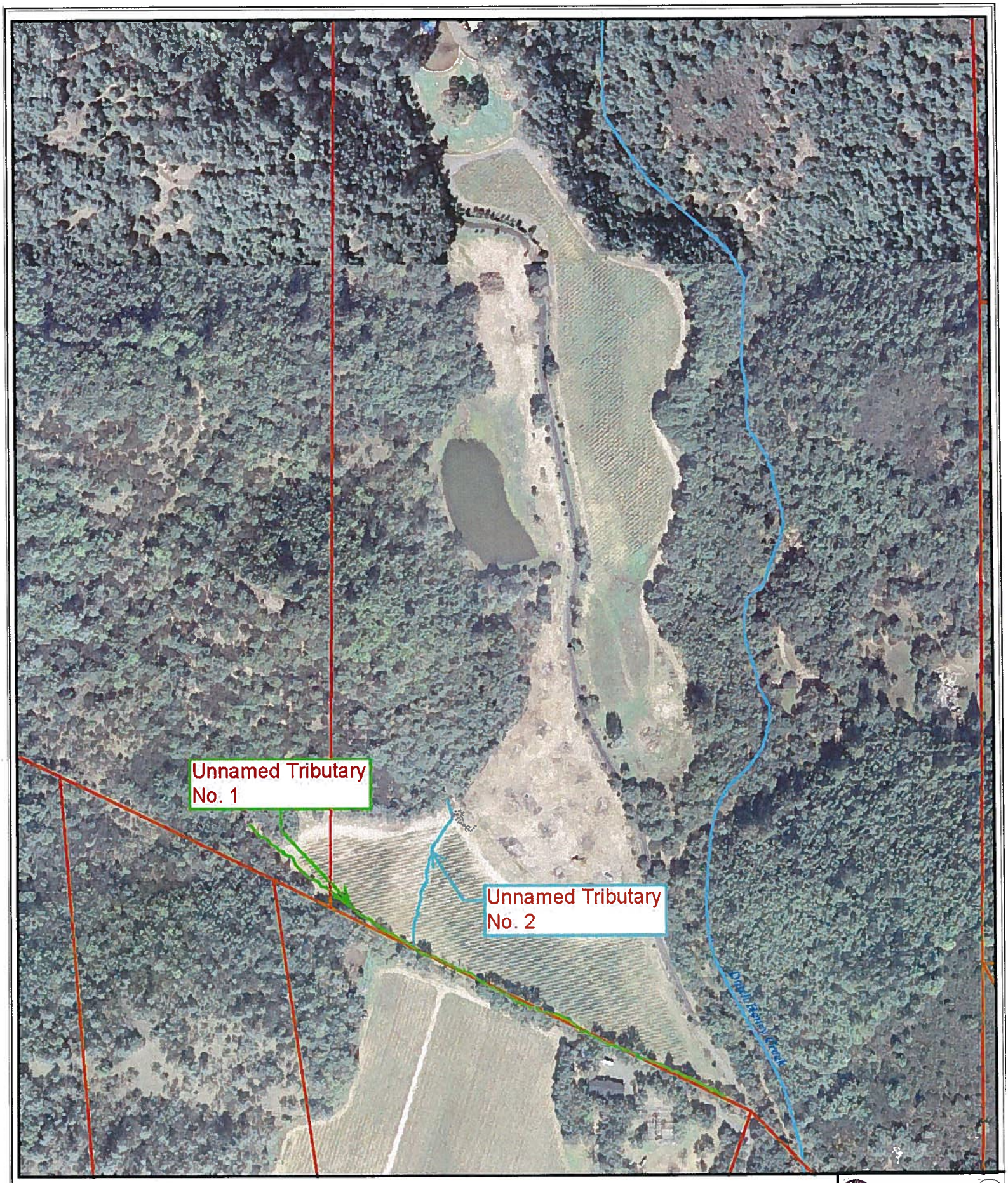
Created Date: 08/2010

County of Napa

Conservation, Development & Planning

Aerial Photographs 2002, 2005, & 2007

Figure 3



Peju - Dutch Henry

March 2007 Air Photo

Parcels

USGS Blueline Streams

0 75 150 300 450 600 Feet

Disclaimer: This map was prepared for informational purpose only. No liability is assumed for the accuracy of the data delineated hereon.

FIGURE 4

County of Napa

Conservation, Development & Planning

018-060-068-000

Legend

- Parcels
- Grassland
- Riparian woodland
- Coniferous forest
- Wetlands
- Streams and reservoirs
- Developed
- Shrubland
- Oak woodlands
- Other
- Rock Outcrop

Disclaimer: This map was prepared for informational purpose only. No liability is assumed for the accuracy of the data delineated hereon.

Horizontal Datum: NAD 83, CA State Plane Coordinates, Zone II, feet

0 90 180 360 540 720 Feet

Created Date: 08/2010

County of Napa

Conservation, Development & Planning

Vegetation Map

Figure 5

Title 18 ZONING*

Chapter 18.108 CONSERVATION REGULATIONS

18.108.135 Oversight and operation.

A. Installation Oversight. The qualified professional preparing an erosion control plan shall oversee its implementation. Prior to the first winter rains after construction begins and each year thereafter until the 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 director that all of the erosion control measures required at that stage of development have been installed in conformance with the plan and related specifications.

B. Maintenance. The property owner is responsible for insuring that the erosion control measures installed operate properly and are effective in reducing to a minimum erosion and related sedimentation. The property owner shall either personally or have personnel inspect and repair/clean as necessary the erosion control measures installed at least weekly during the period between October 1st and April 1st of each year. Moreover, the property owner shall either be onsite him/herself or have personnel on site as required when it is raining to inspect the erosion control measures present and take those actions necessary to keep them functioning properly.

C. Monitoring. For projects disturbing more than one acre of land or with an average slope greater than fifteen percent, the property owner shall implement, prior to the first winter rains after installation of the planned facilities is commenced, a permanent, on-going program of self-monitoring of ground cover condition, and erosion control facility operation. The ground cover monitoring shall follow the procedures promulgated by the National Resource Conservation Service (NRCS, formerly the SCS) for determining rangeland condition for hydrologic assessment.

For projects involving disturbance of more than forty acres of land or containing areas with slopes greater than thirty percent totaling a quarter acre or more, an Annual Erosion Control Plan Operation Status Report specifying ground cover condition and how the erosion control measures involved are operating shall be provided to the director and, if in a sensitive domestic water supply drainage, the owner/operator(s) of any public-serving drinking water supply reservoir present by September 1st of each year. This report shall specify the proposed management and cultural measures to be used the following year to return or maintain the ground cover in good condition in all parts of the area disturbed including vineyard avenues and any remedial actions that will be taken to get the other erosion control measures present to operate in such a manner as to minimize erosion and resultant sedimentation.

D. Failures. The following provisions shall apply where erosion control measures have failed or are in imminent danger of failing.

1. Property Owner Duties—Temporary Measures. The property owner shall:

a. Notify the director in writing of the failure or pending failure of any erosion control measures within twenty-four hours of discovery and indicate the temporary measures taken to stabilize the situation;

b. Modify, within twenty-four hours of the time that they receive comments from the independent engineer hired by the county to review the adequacy of these temporary measures, the temporary measures in the manner deemed necessary by the property owner's engineer so as to make them adequate to prevent further damage and problems;

2. Property Owner Duties—Permanent Remedial Measures. The property owner shall:

a. Submit within ninety-six hours after the discovery of a failure or pending failure:

i. An engineered plan for the remedial measures necessary to permanently correct the problem and an engineer's estimate of the cost thereof, and

ii. A plan for cleanup of the damage done with an engineer's estimate for the cost of this work;

b. Resubmit to the county, within forty-eight hours of the time comments are received from the independent engineer hired by the county to review the temporary measures installed, the plan, and engineer's cost estimates revised plans and estimates;

c. Pay the county the costs of this review within forty-eight hours of demand;

d. Post a security in one of the forms specified by subsection (A)(1) through (4) of Section

FIGURE 6

17.38.030 in the amount equal to one hundred percent of the accepted estimated total cost to do the work required to correct the situation and cleanup the damage done within forty-eight hours of demand; and

e. Insure that the revised plan prepared is fully implemented within ninety-six hours of its approval.

The time frames specified in this subsection are maximums. The director may in the case of an immediate threat to public health and/or safety require performance in shorter time periods.

3. Plan Preparer Duties. The plan preparer shall provide a notice to the county within twenty-four hours of full implementation of the plan prepared to permanently correct the problem certifying that the measures shown have been installed in conformance with said plan and related specifications.

4. Noncompliance. Failure to adhere to the provisions of subsections (D)(1) and (2) above may be considered a threat to public health and safety. The director may in such instances take immediate action without further notice or hearing to remedy the situation and bill the property owner for the remedial work done. The director shall keep an itemized account of the costs incurred in remedying the situation. The board shall conduct a hearing on the costs in accordance with Sections 1.20.090 through 1.20.130 of this code and shall give the property owner an opportunity to object to the costs prior to recording a lien against the property or pursuing other cost-recovery actions.

E. Inspection.

1. Each project requiring an erosion control plan that has not received a final inspection and been found complete by the director or his/her agent shall be inspected by the county or its agent after the first major storm event of each winter until the project has been completed and stable for three years. If it is found that the erosion control program implemented is not functioning properly or is ineffective the property owner shall take such remedial measures as the director deems necessary to reduce erosion and related sedimentation to minimal levels. The full costs of said measures and the related inspections shall be borne by the property owner.

2. Five percent of projects that have received a final inspection and been found complete by the director or his/her agent shall be spot checked by the director or his/her agent each year to confirm groundcover condition and the proper operation of other erosion control measures. The director, in cooperation with the Napa County Resource Conservation District (RCD) and other county departments and agencies, will develop a remedial program to address any deficiencies that may be identified as the result of these spot checks. The property owner shall implement this program, which may include re-seeding all or some portions of the site or changing agricultural or management practices. He/she shall pay all costs associated with these spot-checks.

F. Right of Entry. With the property owner's consent, with a warrant, or in an emergency, the property owner shall give the director and his/her agents full and complete access to and throughout the project area so as to allow:

1. Inspection of the erosion control and any remedial measures installed there to insure that they are functioning properly,

2. The making of necessary repairs or corrections to alleviate an erosion control problem or potential erosion control problem, or

3. The performance of needed maintenance.

(Ord. 1219 § 4, 2003)

PROJECT REVISION STATEMENT

Black Forest Vineyard
Anthony Peju
Conservation Regulation Use Permit Exception #P10-00234-UP and
Agricultural Erosion Control Plan #P09-00385-ECPA

I hereby revise Use Permit P09-00243-UP and Agricultural Erosion Control Plan #P09-00385-ECPA for Black Forest Vineyard, to convert to vineyard up to ±14.2-acres (±12 net vine acres) of existing annual grassland and oak woodland within a 87.68-acre parcel (Assessor's Parcel # 018-060-068) located at 321 Dutch Henry Canyon Road to include the 2 measures specified below:

Measure BR-1: The applicant/owner shall reduce impacts to riparian woodlands and habitat through the following means:

a. Revise proposed Vineyard Block 4 of #P09-00385-ECPA/#P09-00342-UP prior to County approval along its eastern boundary to remove ±0.35-acres of proposed vineyard located within mapped riparian woodland and avoid the removal of any additional trees within this proposed vineyard block
b. For protection of the remaining riparian woodland and associated trees during construction, temporary protective construction fencing shall be placed at the edge of the dripline of existing trees to be retained along the eastern boundary of Vineyard Block 4 to ensure construction related activities do not result in the inadvertent removal or damage of the riparian habitat during construction. Temporary fencing shall be installed: the precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving activities. No disturbance, including grading, planting, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation and vineyard installation and maintenance.

Measure BR-2: The applicant/owner shall avoid impacts to specified creek setbacks and associated riparian habitat and/or woodland as follows:

a. The location of creek setbacks shall be clearly demarcated in the field with temporary construction fencing, which shall be placed at the outermost edge of required setbacks shown on the project plans. Prior to any earthmoving activities, temporary fencing shall be installed: the precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving and/or development activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation and vineyard installation. The protection fencing shall remain in place during the duration of project implementation and until wildlife exclusion fencing is installed as shown on the plans.
b. All construction and related traffic will remain on the inside (vineyard block side) of the protective fencing to ensure that the creek, buffer zones, and associated riparian habitat and/or woodland remains undisturbed.
c. Construction activities allowed to occur outside this area shall be limited to the installation of the proposed rock protected outfalls (i.e. rocked lined chutes) associated with vineyard division ditches. Any removal or damage of the construction fencing incurred by the installation of these features shall be replaced immediately. Additionally, disturbed areas shall be seeded and mulched as needed immediately after installation.
d. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees that are inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00385-ECPA and #P09-00243-UP shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the planning director.

Black Forest Vineyard further commits itself and successors-in-interest to (a) inform any future purchasers of the property of the above commitments; (b) include in all property leases a provision that informs the lessee of these restrictions and binds them to adhere to them, and (c) inform in writing all persons doing work on this property of these limitations.

Black Forest Vineyard understands and explicitly agrees that with regards to all CEQA and Permit Streamlining Act (Government Code Sections 63920-63962) deadlines, this revised application will be treated as a new project. The new date on which said application will be considered complete is the date on which an executed copy of this project revision statement is received by the Napa Co Conservation, Development and Planning Department.

Signature of Owner(s) | Print Name: ANTHONY PEJU | Interest

FIGURE 7