TRACK I ECPA
for
SEBASTIEN MARINEAU-MES
Vineyard Development

Project Site Address:
APN 021-010-079
4000 Silverado Trail N
Calistoga, CA 94515

Preparation Date: June 13, 2022

REVISED: February 21, 2024

Prepared for:
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Erosion Control Plan

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A. Narrative

The applicant submits the enclosed development plan for 1.24 net acres of vineyard at the subject site, APN 021-010-079, 4000 Silverado Trail N, Calistoga, CA 94515. Prior to a lot line adjustment (W21-00497) the parcel number was APN 021-010-077, which is still referenced on some application materials and associated reports. Access to the site is via Silverado Trail North, about 1/3 mi south of Larkmead Lane. The property is gated; please call ahead for entry.

The property was heavily impacted by the 2020 Glass Fire that damaged vegetation throughout the subject parcel and surrounding properties. HDVine LLC provided winterization specifications (fiber roll, native seed, and straw mulch) in November 2020 to stabilize portions of the property most vulnerable to erosion and sediment transport. The property owner preserved as many trees as possible and decided an irrigated vineyard would be a good investment for the property to serve as a fire-break and harden the site against future fire damage. The proposed vineyard development includes preservation of remaining canopy at a 3:1 ratio.

1. Land Clearing, Grading or Earthmoving Activity

This vineyard permit application will require clearing of about 1.24 acres of land in order to plant about 1.09 acres of vines. Slopes range from 22% to 40% with an average of 30%. The need for spoils and disposal areas is not anticipated but would remain within the disturbed areas. Minimal rocks are expected, but any encountered will be stored within the disturbed area or may be buried, or used for vineyard avenues or landscaping. Other activities planned include trellising, installing end posts; disking; ripping (up to 4'); vineyard layout; drip system installation; erosion control BMP installation; planting and seeding; and mulching of areas with no cover. Vineyard area is summarized as follows:

Area	VB Gross	VB NET	Area >30% slope
-	(ac)	(ac)	(ac)
Vineyard	1.24	1.09	0.64

TABLE 1 Vineyard Block Summary

2. Existing Site Conditions

Topography: The property is within the "Calistoga" USGS quadrangle and is positioned on the east side of Napa Valley. The parcel contains about ¾ ac of existing vineyard. The central portion of the parcel is planned for a residence. The upland portion of the site gets steepest at the top (eastern) end with elevation range of 300 ft to 400 ft asl.

Vegetation was heavily impacted by the 2020 Glass Fire. The proposed vineyard development area lies on a slightly concave area with average slopes from 22% to 40%, with an overall average of 30% slopes.

Vegetation: Current groundcover in the development area is described as coast live oak woodland and non-native grasses [1].

The subject parcel contains about 4.66 acres of canopy and about 0.2 acres of shrub/grassland. See TABLE 2 for canopy retention calculations. Canopy impacts were mitigated in accordance with Napa County Code (NCC) and Napa County General Plan (CON-24), as amended in Emergency Ordinace No. 1463, which defines a baseline for evaluating canopy impacts of June 19, 2018.

	Canopy	
Area	**Canopy TBR**	**Perservation Area[1]**
-	(ac)	(ac)
Vineyard	1.15	
Pool House	0.02	
Total	**1.17**	**2.34**
% of Total Canopy	**25%**	**50%**
Total Canopy on Parcel[2]	**4.66**	

[2]Preservation at 2:1 ratio of Canopy To Be Removed (TBR), per *Napa County General Plan (CON-24)*

[1]from WRA June 2022 BRRS Report

TABLE 2 Canopy Retention Summary

Infeasibility Statement: The parcel is located in land zoned *Agricultural Watershed* on the border of *Agricultural Preserve*. The Napa County General Plan states, "*Right to Farm* provisions ensure that agriculture remains the primary land use in Napa County and is not threatened by potentially competing uses or neighbor complaints." The applicant prepared a vineyard plan to develop their property in alignment with property zoning and County General Plan stated uses. The applicant minimized removal oak woodland habitat and mitigated impacts in accordance with Napa County General Plan (CON-24) and Napa County Conservation Regulations. The following considerations were made when evaluating project scope and design:

- Mitigation for combined canopy impacts, in reference to the 2018 baseline, were achieved with preservation of oak woodlands to the maximum extent feasible. The undeveloped land on the project parcel is almost entirely covered in oak woodland so complete avoidance was impractical in order to proceed with the project in line with allowable use of the property.

- The lastest revision of the proposed vineyard layout removed low slope areas on the west side of the block to maximize preservation of live trees on slopes less than 30%. Preserved canopy on other lands over 30% provide added benefit by

reducing erosive losses from underlying soils as well supporting understory habitats. Preservation of canopy on lands greater than 30% was supported by biologist recommendations in Section 6.1.1 [1].

- Landcover on the property was identified as Coast Live Oak Woodland, which is not recognized by CDFW as a sensitive natural community [1].

- Removal of oak woodland was limited to 25% of total canopy identified on the parcel (compared to 2018 baseline).

- A specific Preservation Area was indentified for protection in perpetuity, to mitigate impacts from canopy removal associated with the project, at a 2:1 ratio in conformance with Napa County General Plan CON-24. The preservation area will be documented in a Declaration of Restrictive Covenant and filed with the Napa County Recorder's Office.

Watershed: The project is located within the Dutch Henry Creek watershed that flows into the Napa River, and ultimately to San Francisco Bay. The closest blueline stream, Dutch Henry Creek, is location about 650 ft west of the project site. The project is not located in a municipal watershed nor a water-deficient area.

Cultural Resources: The Cultural Resources Study, prepared May 2, 2022 by Wolfcreek Archaeology, did not identify any "significant" historic resources on the parcel and recommended that the project be approved [2].

The plan preparer, Sarah Pistone of HDVine LLC (CPESC #9225), visited the site on the following occasions:

DATE	PURPOSE
12/22/2020	GPS Survey markers and assist with winterization after Glass Fire
2/16/2022	Pre-Application site visit w/ Alexei Belov, Dana Morrison, & Daniel Zador
5/31/2022	Site visit to flag vineyard blocks and take photos

GIS contours were used based on data points collected by Sebastien Marineau 1-19-21 using Emlid Reach RS2 Multiband RTK GNSS receiver (RTK Precision, H: 0.28 in, V: 0.55 in). Surfaces, contours, and slopes were interpolated by HDVine LLC in ArcMap. Item 7 (Photos) contains photographs documenting existing conditions.

3. Natural and Man-Made Features

The parcel contains about ¾ ac of existing vineyard. The central portion of the parcel is planned for a residence. Fencing will be limited to vineyard block perimeter.

4. Location and Source of Water

Two wells are located on the property with use and construction details summarized below (TABLE 3). See Attachment 8D for full Water Availability Analysis.

Year	Status	Casing Diam. *in*	Flow Rate *GPM*	Annular Seal *ft: type*	Total Depth *ft bg*	Screened Interval *ft bg*
2012	"Upper Well" (future vineyard & residence)	5	22.5[1]	0-50: cement	340	200 – 220 and 260 – 340
2001	"Lower Well" (existing vineyard)	6	10[2]	0-24: cement	340	120 – 300 and 320 – 340

[1]Well pump test by Ray's Well Testing Service Inc., 8/11/21
[2]Well pump test by McLean & Williams, 8/14/13

TABLE 3 Well Summary

5. Soil Types/Soil Series

The NRCS web soil survey lists the soil type in the vineyard area as 109, Boomer gravelly loam, volcanic bedrock, 14 to 60 percent slopes, MLRA 15 [5]; see Site Plan – Aerial Map and engineering reports for soil boundaries. The Napa County Soil Survey [6] describes the Boomer series as well-drained soils on uplands derived from weathered mixed igneous rocks. Plant cover is typically Douglas-fir, ponderosa pine, black oak, manzanita, poison oak, and madrone. Run-off is rapid and the hazard of erosion is moderate. The 109 series generally contains the addition of 15%-20% pebbles 2 mm to 5 mm in diameter.

6. Critical Areas of Erosion and Slope Instability

No critical areas of erosion or slope instability were identified on this site.

7. Erosion Calculations

See Attachment 8H Soil Loss Analysis for evaluation of soils and erosion potential [4].

8. Erosion Control Methods

Fiber rolls will be placed as noted on Site Plan, along topographic contours to distribute concentrated flow and break up slope lengths. Disturbed areas will be straw mulched at a rate of 2 tons per acre.

Vegetative erosion control areas are designated on the Site Plan: Topo Map and ECP Detail. Post-cover conditions will establish a 75% cover throughout. Cover crop will be fertilized with 16-20-0 at a rate of 100 lbs/acre the first year and as needed in future years. All seeding and mulching of disturbed areas will be completed by October 15. Any areas of cover crop that have less than their designated cover, will be seeded and mulched annually until adequate cover is reached. As an alternative, an annual cover crop may be used in the first three years. In the first three years, cover may be disked or otherwise cultivated to develop healthy soil structure; after three years a permanent, no-till cover shall be established. Please note that every year that ground is tilled will extend

winterization inspection requirements by one year. Post-emergent herbicide may be applied so long as 75% cover is maintained throughout the vineyard. For example, with a 6 ft row spacing, up to 18" strip may be sprayed, or spot spraying may be more effective with a spot diameter up to about 32". For at least the first winter after construction, it is advised to stage on-site silt fence or straw bales for use as emergency measure in case repairs are needed due to storm damage; installation specifications are depicted on ECP Site Plan.

9. Storm Water Stabilization Measures

One watershed was defined for the project area. The vineyard development will result in a slight reduction to the weighted average Cn in the watershed. No changes to surface drainage is proposed. See Hydrology Report for full analysis [3].

10. Implementation Schedule

The following is the proposed implementation schedule. Unless prior approval has been obtained, construction must occur within the grading season (April 1 – October 15) of any given year. Development schedule may shift earlier or later due to permit approval timeline.

DATE	ACTIVITY
April 1, 2024 to Oct 15, 2024	Clear and prepare planting area Install erosion control BMPS, seed cover crop and straw mulch disturbed areas. Install drip, trellis system and plant

BMP installation must be complete prior to October 15 of any given year. The following inspections will be conducted by the plan preparer as required in Napa County Code Chapter 18.108.135 - Oversight and Operation:

- Pre-construction meeting with vineyard owner/operator and contractor
- Mid-construction meeting with contractor to review placement and installation of BMPs
- Winterization inspection to document that site is stable and all BMPs are installed

Winterization inspections are required for three years following planting of the vineyard. If tilling or discing is conducted in the first three years after planting, then the winterization schedule will be extended for each year that tilling occurs, up to a total of six years, or more if adequate cover has not been established. Final inspections may be conducted after all work has been completed in relation to the permit and the site has been found to be stable, with minimum cover achieved, for three consecutive years. Finalization is dependent on approval by the director of the Planning Department or his/her agent (NCC 18.108.135.E.1).

11. Anticipated Vehicle Trips

Vehicle trips were estimated to aid in anlysis of potential impacts of greenhouse gas emissions associated with the project. Types of equipment and approximate trips per day (round-trip) are noted for each phase of development:

- Land Preparation (vegetation clearing, oversight, monitoring, ripping, smoothing, debris disposal, etc.): Equipment will likely include backhoe, front loader, bull dozer. Workers will range from 1 to 10 and a maximum number of trips per day of about 5.
- ECP Installation (drainage infrastructure, fiber roll, seeding, mulch, silt fence, etc.): Equipment will include excavator, tractor, quad. Work crew will be about 4 with a maximum number of trips per day of about 3.
- Vineyard Installation (markout, staking, trellis, irrigation, planting, etc.): Installation equipment will include a tractor and quad. Work crew will be about 4 with a maximum number of trips per day of about 3.
- Vineyard Operations (cover maintenance, pruning, harvest, transport, etc.): Equipment will include tractor, quad, weed-whackers, 2-ton truck and trailer. About 2 workers, with a maximum number of trips per day of about 2.

12. Estimated Cost

The estimated cost of implementing the erosion and sediment control measures defined in this plan is about $2000-$3000 per acre. Costs are based on estimates outlined in the CA Stormwater BMP Handbook [7] and industry experience. Copies of BMP Fact Sheets were presented to site contact.

B. Site Plan

The site plan for this project is included as Item 6: Site Plan, which includes the 7 ½ min USGS vicinity map, Topographic map and ECP detail, and Aerial Image Map. The Site Plan also includes specifications for erosion control BMPs and all items set forth in the document titled “Erosion Control Plan (ECP) Review Application Packet,” dated 02/11/2008 and created by the Napa County Conservation, Development and Planning Department.

C. Scale and Contour Intervals for Erosion Control Plans

The site plan was prepared in accordance with the scale and contour requirements set forth in the document titled “Erosion Control Plan (ECP) Review Application Packet,” dated 02/11/2008 and created by the Napa County Conservation, Development and Planning Department.

GIS contours were used based on data points collected by Sebastien Marineau 1-19-21 using Emlid Reach RS2 Multiband RTK GNSS receiver (RTK Precision, H: 0.28 in, V: 0.55 in). Surfaces, contours, and slopes were interpolated by HDVine LLC in ArcMap.

D. References

1. Attachments B&C, *Biological Resource Reconnaissance Survey, Marineau Property: 4000 Silverado Trail, Napa County, CA*, prepared by WRA, Inc., June 2022
2. Attachment E, *Cultural Resources Evaluation of 4000 Silverado Trail North, Calistoga, APNs 021-010-079 and a portion of 021-030-062*, prepared by Wolfcreek Archaeology, May 2, 2022.
3. Attachment G, *Hydrology Report – Sebastien Marinea-Mes Vineyard*, prepared by Sarah Pistone with HDVine LLC, June 2022
4. Attachment H, *Soil Loss Analysis – Sebastien Marinea-Mes Vineyard, USLE Calculations*, prepared by Sarah Pistone with HDVine LLC, June 2022
5. *Custom Soil Resource Report for Napa County, California, Sebastien Marineau-Mes*, from USDA NRCS Web Soil Survey, May 2022
6. Lambert, G., Kashiwagi, J. et al., *Soil Survey of Napa County, California*, USDA in cooperation with UC Agricultural Experiment Station, August 1978
7. *Stormwater Best Management Practice Handbook Portal: Construction*, California Stormwater Quality Association, November 2009